

CLERMONT COUNTY



Project XLC

Phase I Project Agreement

Table of Contents

<u>GLOSSARY OF ACRONYMS AND TERMS</u>	iv
<u>EXECUTIVE SUMMARY</u>	1
What Is the Phase I Project Agreement?	2
Why Is Project XLC Necessary?	2
What Is the Flexibility Being Requested?	3
Smart Growth	3
I. <u>PARTIES</u>	7
II. <u>PURPOSE OF THE PHASE I PROJECT AGREEMENT</u>	7
III. <u>OVERVIEW OF THE PROJECT</u>	7
A. The Project and Its Purpose	7
B. Description of Clermont County	9
IV. <u>STAKEHOLDER INVOLVEMENT PROCESS</u>	11
V. <u>DETAILED DESCRIPTION OF CLERMONT COUNTY PROJECT</u>	12
A. Potential Watershed Management Options	13
B. Watershed Quality Management Plan	18
C. Watershed Modeling Tools	20
D. Monitoring and Sampling Methodologies	22
E. Land Controls for Water Quality Protection	24
VI. <u>PROJECT XLC ACCEPTANCE CRITERIA</u>	25
A. Environmental Results	25
B. Stakeholder Involvement, Support, and Capacity for Community Participation	27
C. Economic Opportunity	28
D. Feasibility	28
E. Transferability	28
F. Monitoring, Reporting, and Evaluation	28
G. Equitable Distribution of Environmental Risks	29
H. Community Planning	29
I. Innovative Approaches	30
VII. <u>INTENTIONS, PERFORMANCE MEASURES, AND MILESTONES</u>	30
A. Clermont Intentions	30
B. EPA Intentions	31
C. OEPA Intentions	31

D. Performance Targets	32
E. Watershed Project Milestones (for Entire Project, including Phase I)	34
F. Phase I Milestones (for Phase I Agreement Only)	36
VIII. <u>PROJECT IMPLEMENTATION</u>	36
A. Legal Basis	36
B. Non-Party Participants	37
C. Legal Mechanism	37
D. Other Laws or Regulations That May Apply	40
E. Authority to Enter Agreement	40
F. Rights to Other Legal Remedies Retained	41
G. Reporting	41
H. Unavoidable Delay	41
I. Dispute Resolution	42
J. Duration	42
IX. <u>WITHDRAWAL OR TERMINATION</u>	43
A. Expectations concerning Withdrawal or Termination	43
B. Withdrawal or Termination Procedures	43
X. <u>FAILURE TO ACHIEVE EXPECTED RESULTS</u>	44
XI. <u>PERIODIC REVIEW</u>	44
XII. <u>AMENDMENTS</u>	44
XIII. <u>SIGNATORIES, DESIGNATED REPRESENTATIVES, AND EXECUTION</u>	45
A. Signatories	45
B. Designated Representatives	45
C. Execution	46
SUPPORTING SIGNATORIES	47
APPENDIX A - Stakeholder Involvement Plan for Clermont County XLC	48
APPENDIX B - Public Comments and Responses	54
ILLUSTRATIONS, TABLES, AND PHOTOGRAPHS (Furnished Courtesy of Clermont County)	

Cover Page: Stonelick Creek Falls, a major tributary to the East Fork of the Little Miami River. The falls illustrate typical area geology of thin limestone layers sandwiched with soft shale.

Figure 1 - Eastgate Mall 5
Figure 2 - Harsha Lake 5
Map of Clermont County and the East Fork of the Little Miami River 6
Table 1. NPDES Permits in Clermont County’s Watershed 13
Table 2. Summary of Chemical Monitoring Stations (Clermont County)..... 22

GLOSSARY OF ACRONYMS AND TERMS

BMPs	Best Management Practices
CBOD	Carbonaceous Biochemical Oxygen Demand
CE-QUAL-W2	COE's Two Dimensional Water Quality model
CFR	Code of Federal Regulations
COE	United States Army Corps of Engineers
DNA	<i>deoxyribonucleic acid</i>
DQO's	Data Quality Objectives
EFDC	Environmental Fluid Dynamics Code
EFLMR	East Fork of the Little Miami River
EPA	United States Environmental Protection Agency
EWH	Exceptional Warmwater Habitat
FORTRAN	<i>"formula translation"</i> computer programming language
FR	Federal Register
GIS	Geographic Information System
HSPF	Hydrological Simulation Program-FORTRAN model
HTML	<i>Hypertext Markup Language</i>
LMR	Little Miami River
MGD	<i>million gallons per day</i>
NPDES	National Pollutant Discharge Elimination System
OEPA	Ohio Environmental Protection Agency
OEQ	Clermont County Office of Environmental Quality
PAUSE	<i>Preliminary Assessment of Use Attainability</i>
P&G	Procter and Gamble
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
QMP	Quality Management Plan
QUAL2E	Enhanced Stream Water Quality model
SAC	Science Advisory Committee
SAS	Site Assessment System
SEP	Superior Environmental Performance
SIP	Stakeholder Involvement Plan
TMDL	Total Maximum Daily Loads
U.S.C.	United States Code
USGS	United States Geological Survey
WAM	Watershed Analysis and Management
WMS	Watershed Modeling System
WWTP	<i>wastewater treatment plant</i>

XL
XLC

eXcellence and *Leadership*
eXcellence and *Leadership* for *Communities*

CLERMONT COUNTY XLC PROJECT

EXECUTIVE SUMMARY

The United States Environmental Protection Agency (EPA) created Project XL, which stands for *eXcellence and Leadership*, to give companies, communities, and State and local agencies, as well as Federal facilities and industrial sectors, the opportunity to propose more effective and efficient ways of protecting the environment. Project XL provides real world tests of these innovative strategies. EPA may, after careful evaluation of the Project, propose to replace or modify regulatory requirements, policies or procedures if it is determined that the innovation piloted in the XL Project will produce superior environmental benefits and promote accountability to the public.

Project XLC, *eXcellence and Leadership for Communities*, was developed to bestow special attention on communities and local governmental or regional organizations that are interested in creating an XL Project. Like Project XL, Project XLC is designed to test environmental management actions that deliver better or more cost-effective environmental and public health protection. XLC focuses, however, on actions tailored to the conditions and needs of specific geographic areas. This could include an ecologically-defined area such as a watershed, a politically-defined jurisdiction such as a city or tribal land, or any other community identified area such as a neighborhood. Project XLC encourages participation from entities such as:

- ! local governments;
- ! regional area consortia or governments;
- ! neighborhood and community organizations;
- ! empowerment zones and enterprise communities;
- ! community development corporations; and
- ! other local entities, both public and private.

Project XLC encourages potential sponsors to come forward with new approaches to demonstrate community-designed and directed strategies for achieving greater environmental quality consistent with community economic goals. To participate in Project XLC, applicants must develop alternative pollution reduction strategies pursuant to nine criteria: superior environmental results; local Stakeholder involvement, support, and capacity for community participation; economic opportunity; test of an innovative multi-media strategy; transferability; feasibility; community planning; identification of monitoring, reporting and evaluation methods; and equitable distribution of environmental risks. Under Project XLC, EPA provides an opportunity to test flexible and innovative strategies for advancing our nation's environmental goals.

What Is the Phase I Project Agreement?

The Phase I Project Agreement outlines the planning phase for an anticipated multi-phased approach. It describes the intentions of EPA, Clermont County (Clermont) and the Ohio Environmental Protection Agency (OEPA), the Parties to this Agreement, related to the development and implementation of this Project. The Agreement will be made available for a fourteen-day (14) public comment period. Comments received on the Agreement during that period and EPA responses will be included in Appendix B.

The Phase I Agreement does not create legal rights or obligations and is not an enforceable contract or a regulatory action such as a permit or a rule. This applies to both the substantive and the procedural provisions of this Agreement. While the Parties to the Agreement fully intend to follow these procedures, they are not legally obligated to do so. See Section VIII.A (Legal Basis) for more detail.

Due to the complexity of the Project and the numerous processes and analyses necessary to implement it, EPA, Clermont and OEPA have adopted a multi-phased approach to the Project XLC Agreement. This Phase I Agreement, which focuses on the overall planning aspects of the Project, contains as much detail as possible at this time regarding the Project and the intentions of each Party. The Parties hope that additional Project Agreements covering subsequent and more specific phases will be signed in the future. The Phase I Agreement indicates likely areas to be covered in these future phases for which further details are needed or additional discussions are necessary between EPA, Clermont, OEPA and the Project Stakeholders.

The Phase I Agreement is intended to be a joint statement of plans, intentions, and commitments of the Parties with regard to the Project approved for implementation. The purpose of this Agreement is to establish, for Phase I, the goals, benefits, and Stakeholder involvement of the Project. It also identifies criteria for requesting regulatory flexibility in future phases, as well as conditions and criteria for assessing the Project's successes. This Agreement also identifies milestones and schedules, reporting requirements, and roles and responsibilities of each party, capturing the spirit of a constructive working partnership, which with collaboration and support of all Parties can bring the testing of this innovative approach to watershed management to a successful conclusion.

Why Is Project XLC Necessary?

Project XLC was identified as the best mechanism for developing an innovative Project involving EPA, Clermont and OEPA. Clermont is participating in Project XLC because a major goal of this Project is to demonstrate Superior Environmental Performance (SEP) through greater local responsibility and control for permitted and unpermitted facilities. This Project should demonstrate the development and application of locally developed water quality standards that are based on local environmental conditions while recognizing Federal and Statewide objectives. This Project should lead to the design of a local water quality program that will achieve more

environmental objectives and performance standards than can be obtained using Federal and Statewide standards. As stated above, because of its comprehensive scope, the Project must also encompass other development issues closely tied to water quality including land use, development procedures, open space and farmland preservation, and economic development to name a few. Methods and results will be applicable to other local jurisdictions wishing to develop targeted, locally-driven, water quality management programs.

Through the Project XLC framework, Clermont is asking EPA to collaborate with OEPA and interested Stakeholders to establish in this Phase I Agreement the goals, benefits, and Stakeholder involvement of the Project; possible requested regulatory flexibility; conditions and criteria for assessing the Project's successes, milestones and schedules, reporting requirements, and roles and responsibilities of each party. Successful implementation of the Phase I Agreement will provide the Project with the necessary groundwork for development of subsequent Phase Agreements.

What Is the Flexibility Being Requested?

No regulatory flexibility is needed for the initial planning phase of this Project. More specific details regarding such flexibility will be identified in the development of subsequent phases. The following summary provides a general overview of the process for assessing regulatory flexibility options as they apply to this Project.

While regulatory flexibility is and has been a primary motivation for the County's interest in the XL process, it is premature to address specific regulatory changes in the Phase I planning stage for this XLC. Instead, this Agreement will delineate guiding principles or "filters" to be used in evaluating the likely effectiveness of innovative approaches as they are developed. Community XL projects must deal with a number of private, industrial, and municipal activities and processes in an informed and balanced fashion to achieve SEP. There are numerous uncertainties in such complex situations that affect the impact of regulatory changes, and it is therefore prudent for all Parties to agree on how to weigh these uncertainties against the potential benefits (or disadvantages).

Smart Growth

Smart growth is not slow growth or no growth. Rather, smart growth is development that serves the economy, community, and the environment. It shifts the debate from "whether to grow" to "how to grow." It is smart economically -- paying for itself while providing high quality services, promoting competitiveness, livability, and resource efficiency; socially -- creating a sense of place for isolated areas by linking inner city and suburban communities into one unified entity; and environmentally -- protecting air and water quality, habitat, human health and decreasing wasteful consumption of land.

Unplanned growth adversely affects water quality. An increase in the amount of impervious

surfaces (roofs, driveways, roads, and parking lots) from land development has the consequence of increased amounts of runoff (nonpoint source pollution) to receiving waters during wet weather. When development alters the natural hydrology of the land, streambed erosion and sedimentation are often the result.

In thinking of smart growth as pollution prevention and as a timely and much-supported means of achieving sustainability, EPA is supporting Smart Growth as a forward-thinking, active, and non-regulatory strategy that supports EPA's watershed approach. Specifically, Smart Growth exemplifies the watershed management approach. Clean water is the product of a healthy watershed – where urban, suburban, agricultural and forest lands, and all other parts of the landscape are well-managed to prevent pollution and to “sustain” a good quality of life for the residents.

EPA, OEPA, and Clermont recognize that development, due to increased population growth, will occur within Clermont County and is necessary. Development, however, can be conducted in a sustainable manner that does not result in degradation of natural resources. Clermont's watershed management project is an excellent example of a local community understanding the dynamics of how development changes the landscape and alters the natural hydrology of the land. Clermont's watershed management plan provides an effective framework for addressing water quality issues because it does not focus on a single issue or responsible party. This Project allows consideration of the range of goods and services watersheds supply and how they are related. Examples of this include water supply and quality, flood and sediment control, navigation fisheries, recreation, and habitat preservation. Furthermore, this Project may also call attention to problems that affect the watershed but may be not located directly in that watershed or immediately affect the watershed.

Focusing on the watershed, strikes the best balance among efforts to control point and nonpoint sources of pollution and efforts to protect drinking water sources and sensitive natural resources such as wetlands. Clermont's watershed focus helps identify most cost-effective solutions. It also provides opportunity for the public and various levels of government to come together to look at problems and issues and collaboratively seek solutions. Additionally, this Project provides a mechanism for local governments and the public to work together across political boundaries.

Clermont's intergovernmental collaboration, as part of this XLC Project, is playing a key role in transcending political barriers by helping EPA, OEPA and Clermont itself, look more comprehensively at issues, solutions, and funding sources. Further, Clermont's set of watershed modeling tools, is fostering intergovernmental collaboration between EPA and OEPA by forecasting potential scenarios of development. This analysis will help Clermont understand the potential of Smart Growth and the consequences of sprawl for its community, including impacts on resource conservation and preservation, environmental quality, and overall quality of life. The stakeholder involvement process also helps build community consensus around development decisions, gives a greater sense of public empowerment and ability to engage constructively in

issues
to smart
and may
incorpora
sustainab
principles
resource
ation
into
and
hensive

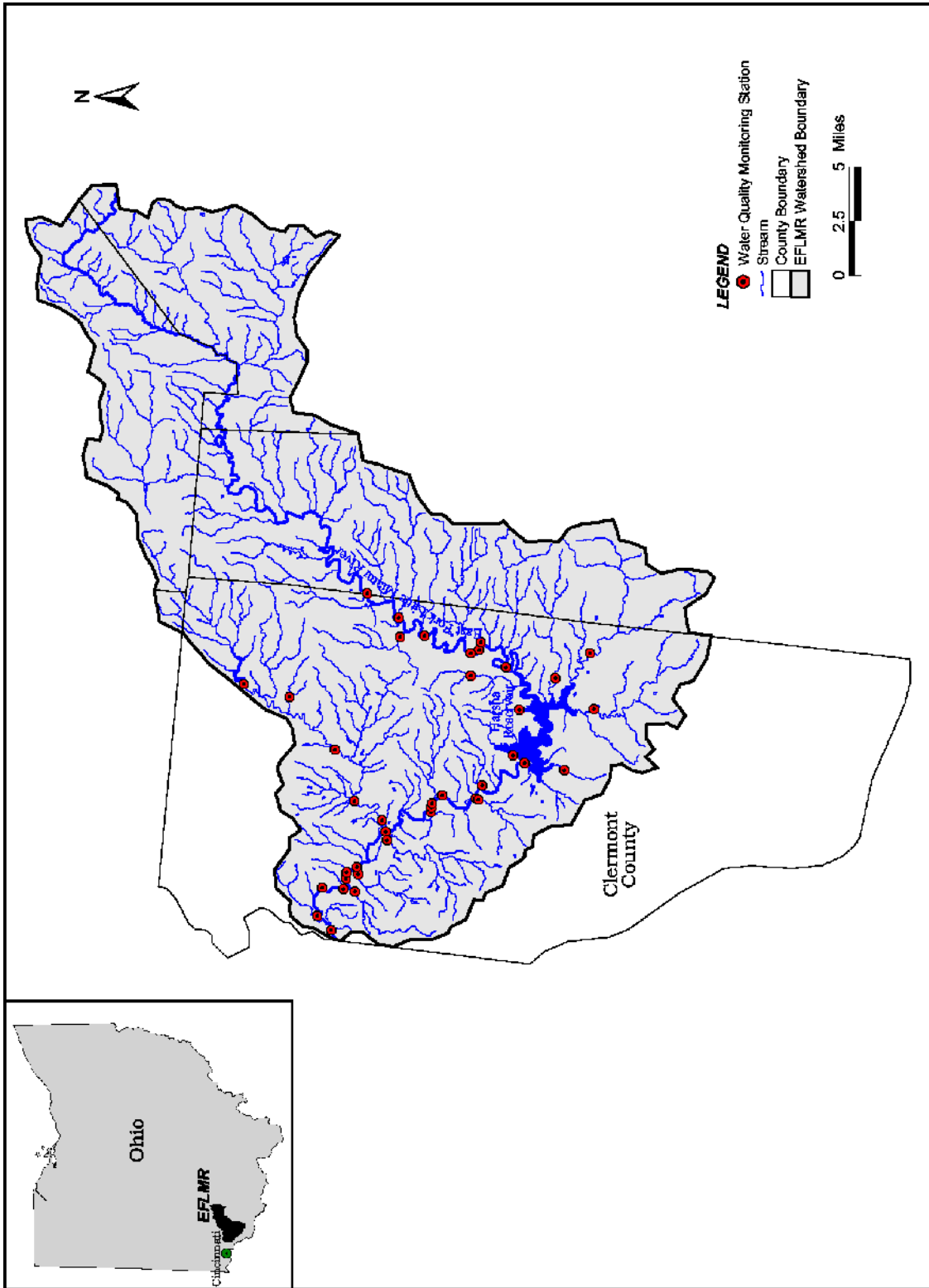


related
growth,
lead to
ting
ility
and
conserv
goals
master
compre
plans.

Figure 1 - Eastgate Mall, a retail hub on the western side of Clermont County along the I-275 beltway around greater Cincinnati.



Figure 2 - Harsha Lake with the Clermont County drinking water intake structure in the background.



I. PARTIES

The Parties to this Phase I Agreement are EPA, Clermont, and OEPA.

II. PURPOSE OF THE PHASE I PROJECT AGREEMENT

Project XLC is a pilot program to test flexible and innovative strategies for meeting environmental goals and responsibilities. This site-specific Agreement will allow EPA to gather data and evaluate experiences that will inform Agency decision making in considering ways to improve the current regulatory system. As with all XLC Projects, the opportunities granted in connection with this Agreement, in and of itself, establish no precedent with regard to other Projects.

The Parties enter into this Agreement to accomplish the following seven principal purposes.

- ! Develop and implement a Watershed Quality Management Plan (QMP);
- ! Identify and describe potential watershed management options - part of QMP;
- ! Identify and verify monitoring and sampling methodologies - part of QMP;
- ! Review and evaluate proposed set of Watershed Modeling Tools;
- ! Identify and describe potential rules, permits, or other mechanisms by which EPA, Clermont, and OEPA intend to implement later phases of the Project;
- ! Identify the procedures, processes and approvals necessary to allow this Project to move forward; and
- ! State that the Parties do not intend to create legal rights or obligations by this Agreement.

III. OVERVIEW OF THE PROJECT

A. The Project and Its Purpose

As one of the fastest growing counties in Ohio, Clermont is experiencing significant changes in population density and rural demographics. In response to development, the land use patterns, transportation infrastructure, wastewater treatment, and drinking water needs will be affected as well. Changes in the infrastructure can result in increased impervious areas, more runoff volume or intensity, higher pollutant loadings, increased stream temperatures, and reduction of riparian areas. The impacts of growth could result in degradation of the water resources of the County by affecting the stream's ability to support an exceptional warm water fishery. A major reservoir in Clermont, Harsha Lake, serves as an essential water supply. Inputs of nutrients and pesticides from land uses upstream of the reservoir could adversely impact the use of the reservoir for recreational, aquatic life and water supply. The County intends to address environmental management of its resources with an aggressive and innovative approach so that it can maintain a balance between economic growth and the

preservation of its rural character and environment, and where possible strive to improve the environment and protection of the area's natural resources. Types of tools needed to manage and protect the water resources include land use planning, stormwater ordinances, erosion and sediment control measures, riparian and buffer zone management, and implementation of urban and agricultural best management practices (BMPs). Some of the current impediments are lack of authority in land use planning, and limited ordinances for stormwater and sediment and erosion control. The County also needs flexibility in determining measures of environmental conditions which are sensitive to the site specific impacts within the watershed.

The Clermont XLC Project (Project) addresses these constraints by Clermont accepting additional responsibility for protection of the environmental quality of its waters. The specific waters within the County considered under this agreement include the East Fork of the Little Miami River (EFLMR) mainstem and tributaries, and Harsha Lake which is located centrally within the EFLMR basin. The EFLMR is a major waterbody within Clermont and is considered a high quality warm water fishery.

Clermont has established a framework for Stakeholder involvement in the development of the EFLMR watershed management plan. The County has engaged the stakeholders in identifying problems, establishing goals, determining data needs, reviewing monitoring results, and identifying potential management actions. The stakeholders are kept informed through periodic meetings and briefings, focus groups, web site postings, and mailings. The County has also established a Science Advisory Committee (SAC), including academic, environmental action groups, and industry, to provide technical review of the analysis supporting the watershed management plan.

The development of a comprehensive watershed management plan will empower the local community to work with OEPA on reviewing current water quality standards and establishing meaningful measures of environmental conditions that are based on the specific characteristics of the EFLMR and its tributaries. This project will enable the County to develop a water resource management plan that is tailored to meet the specific conditions of the County that will achieve the intent of the current Federal and State regulations.

The Interim Project Agreement/Framework (*draft 10/08/97*) outlined an ongoing Stakeholder involvement process. The process built on the concept of creating an open process, identifying key interest groups and decision-makers, commitment to communicating honestly and frequently, and establishing goals with stakeholder input. Careful planning and involvement is necessary to build consensus with the stakeholders.

The following steps were identified to build a successful Stakeholder involvement program:

- ! Establish Goals of the Stakeholder Involvement Program
- ! Identify Stakeholders

- ! Develop a Strategy
- ! Implement the Strategy

The above steps have been successful in involving a significant number representing a broad cross section of the community. Stakeholder forums, focus groups, questionnaires, events, and meetings are used to collect input, share information, and foster discussion. In addition, the Clermont County Office of Environmental Quality (OEQ) hosts a web site (www.oeq.net) posting information regarding the watershed and other community related environmental activities. There is also an e-mail link to the OEQ Coordinator for questions or input. The Stakeholders are identified in the Stakeholder Involvement Plan (SIP), Appendix A.

Clermont has developed diverse Stakeholder contacts in the community and has completed multiple targeted mailings in addition to coverage of the public meetings in the local newspaper. One local environmental group has indicated significant interest and support for this Project. Outreach to national Stakeholders has been done and will continue as Phase I is implemented and during the development and implementation of subsequent phases.

Public meetings will be held to inform all Stakeholders about the Project and to invite their comments and participation. Clermont has already held several public meetings to introduce and update the public to the Project. Other public meetings will be held during implementation of the Agreement for Phase I, as well as any Agreements covering subsequent phases. Public meeting locations will be chosen to provide adequate size and accessibility to all who wish to attend.

B. Description of Clermont County

Clermont is at the edge of the rapidly developing area east of Cincinnati. The County includes a diversity in land use, with low to high density urban areas in the western portions of the County and agriculturally dominated areas in the eastern and northern portions of the County. The eastern two-thirds of the County residents are not on centralized sewer systems, while the third of the County on the western edge is more suburban and on centralized sewers. A large reservoir, Harsha Lake, is centrally located in the EFLMR watershed which impounds upstream loadings and regulates downstream flow conditions. Several municipal wastewater treatment plants discharge to the EFLMR. Water quality cannot be maintained solely by development of sewer systems, because there are currently failing on-site systems and nonpoint sources that contribute to changes in flow conditions and pollutant loadings.

With only 19 percent of the land area in Clermont currently served by centralized wastewater collection and disposal, on-site wastewater treatment and disposal will continue to serve a large percentage of the population in Clermont. Currently about 35 percent of the County's population, or approximately 54,000 individuals, use individual on-site systems for wastewater treatment and disposal. The systems currently in use have been divided into two

main categories: 44 percent are non-discharging systems (i.e., soil absorption fields for disposal) and 56 percent are discharging systems. With soils throughout the County severely limited in their ability to provide adequate treatment using soil absorption for wastewater disposal, the County in the past has permitted a number of aerobic treatment systems with discharge to nearby surface waters. The Clermont County Wastewater Master Plan estimated that more than 10,000 of the 19,000 active residential on-site wastewater treatment systems have direct discharges to streams and watercourses in the County. More than 4,000 systems, or 20 percent, have known problems with system performance, and an additional 5,400 presents a potential problem because they are sited on lots less than 1 acre.

New development is expected to expand from the western portions of the County, converting rural uses (agricultural and forested areas) to a mixture of suburban land uses. This new development will significantly increase the impervious cover within the western portion of the County. Expected impacts from new development includes the loss of terrestrial and aquatic habitat, increased runoff volume and intensity, increased pollutant loading, loss of riparian areas and stream warming. Examination of existing water quality problems and potential growth related impacts have led the County to believe that more holistic management approaches are needed. The County has moved from relying upon traditional centralized sewer systems and treatment facilities to considering more innovative approaches such as on-site practices (e.g., on-site tank management), riparian zone management, and changes to the stormwater and erosion and sediment control practices.

Clermont has experienced tremendous growth. The population of the County has increased rapidly and continues to increase at a rate of about 18 percent. This makes Clermont one of the fastest growing counties in the State. In 1990 the County's population was estimated at 150,000 and is expected to increase to 255,000 by the year 2020.

This project focuses on the EFLMR. The EFLMR watershed is approximately 320,000 acres and incorporates portions of five Counties. The EFLMR is a major tributary to the Little Miami River (LMR) which is a designated State and National Scenic River and is the State of Ohio's largest Exceptional Warmwater Habitat (EWH) stream. All but the headwater areas of the EFLMR are also designated as EWH streams. Harsha Lake, a 2,200 acre reservoir, is centrally located in the EFLMR watershed, draining 66% of the overall watershed. The EFLMR's drainage basin straddles two eco-regions: the interior plateau in the lower portion of the basin and the eastern corn belt plain in which the upstream areas are located.

The Clermont portion of the EFLMR is approximately 155,000 acres or almost half of the watershed. The land areas of the EFLMR are representative of Clermont with urbanizing areas in the southwestern portions and agriculturally dominated areas to the north and east. More than 20% of the watershed is forested with significant forest cover in the vicinity of Harsha Lake. The areas downstream of the lake are a mixture of suburban, forest, open space, and agricultural. The watershed upstream of the lake is dominated by agricultural land uses with more than 88% of the land area in a combination of corn, soybeans and smaller

amounts of forages, tobacco, and wheat.

The County has instituted a comprehensive surface water monitoring system in the EFLMR to evaluate the existing conditions, detect trends in water quality, and support calibration of a set of watershed modeling tools. The County monitoring program includes the following components:

- ! Ten (10) biological sites are being monitored using the Index of Biological Integrity, the Invertebrate Community Index, and fish genetics. The County is also working with Miami University on DNA identification of midges in the EFLMR.
- ! Twenty-six (26) chemical sites are being monitored for a wide range of parameters at stations in both the mainstream EFLMR and the tributaries.
- ! Five (5) stations are monitoring effectiveness of BMPs within the watershed.
- ! Five (5) wet weather stations with flow meters, automatic samplers, and continuous data sensors were established to further evaluate the effects of stormwater runoff on water quality.

The County has also instituted a series of technical analyses to support decision making, identify environmental measures, and determine future impacts. Some of the related studies include:

- ! The County has sponsored the development of a comprehensive set of watershed modeling tools. These modeling tools, calibrated to available data in the EFLMR, will evaluate watershed loading, tributary loading, and river transport processing under long term conditions. The modeling tools, driven by precipitation data, predicts conditions under both wet and dry weather conditions on an hourly basis.
- ! The County has a unique working relationship with the Procter and Gamble (P&G) Stream Research Facility located on the EFLMR in Clermont. Currently, Clermont and P&G are cooperating on a project to establish a statistical approach connecting biology and water chemistry. This innovative approach could provide a valuable link since tradition is to measure water quality by biology and regulate by chemistry.

IV. STAKEHOLDER INVOLVEMENT PROCESS

As part of this plan, Clermont will continue to develop a Stakeholder involvement program. Adequate long-range water resources planning and management require the identification and involvement of many different individuals, special interest groups and agencies. Watershed Stakeholders must be included in all aspects of the process, from initial planning, to development and implementation of the management plan. It is crucial to set up the Stakeholder Involvement

Program early in the process to ensure strong future support for the water resources management plan.

Ultimately, through the Stakeholder process, the County hopes to achieve collaborative goal setting for water resources management. This will place the responsibility for making decisions on water resources at the local level. The Stakeholder involvement program will provide the forum for these decisions to be made.

The Stakeholder involvement program will also serve as the outreach component to the water resources management plan. Many watershed issues in the County will best be addressed by a combination of regulatory and voluntary controls. These issues include sedimentation, failing on-site systems, increased pesticide applications, and excess nutrients. In many cases the Stakeholders will be the best conduit to reach out to their constituents on voluntary practices for pollutant reductions. For example, the landscaping interests can best formulate a strategy to encourage lawn care companies to optimize their management of fertilizer applications on lawns and golf courses for the benefit of the environment.

The SIP, Appendix A, for this Project, is intended to describe the basic method by which input has been and will continue to be solicited and received throughout the duration of the Project. Stakeholder input and community goals have been and will continue to be considered throughout implementation of the Project. Clermont will maintain and update the SIP to provide for continued Stakeholder involvement over the duration of this XLC Project.

V. DETAILED DESCRIPTION OF CLERMONT COUNTY PROJECT

The Project includes the following key components: development of a Watershed QMP, collaborative goal setting, sampling and monitoring, development of a computer-based set of watershed modeling tools, development of a County Environmental Protection Plan, and the development of a community framework for local permitting and public policy formulation that improves the quality of the local watershed. As part of the watershed management plan, the County hopes to use an effluent trading system in which pollution credits may be exchanged between point and nonpoint sources. The County is developing a set of watershed modeling tools designed to predict changes in water quality due to changes in land use. This type of data will help the County in its planning and zoning decisions. Using this information, Clermont may also revise or develop ordinances regarding subdivision regulations, sediment and erosion control, and sewer and water regulations. Consequently, successful completion of this Project should enable Clermont to develop a comprehensive water resource plan that is tailored to meet both specific local conditions and current Federal and State requirements.

Through Project XLC, Clermont is asking EPA to collaborate with OEPA and interested Stakeholders to establish in this Phase I Agreement the goals, benefits, and Stakeholder involvement of the Project; conditions and criteria for assessing the Project's successes,

milestones and schedules, reporting requirements, and roles and responsibilities of each party. Successful implementation of the Phase I Agreement should provide the Project with the necessary groundwork for development of subsequent Phase Agreements. The overall potential

environmental benefits of this Project, which should provide useful planning tools for defining the optimal parameters for Clermont’s future sustainable growth, include:

- ! Full attainment of the State’s EWH designation;
- ! Enhanced ecological benefits due to stream corridor management;
- ! Better growth management - Smart Growth;
- ! Improved habitat protection;
- ! Improvement of water quality and biological conditions in sensitive waterways;
- ! Enhanced wildlife protection;
- ! Wetlands protection and restoration;
- ! Conservation easements;
- ! Flow augmentation;
- ! Riparian habitat improvements;
- ! Protection of drinking water supply for County; and
- ! Transferability to other communities and governmental organizations.

A. Potential Watershed Management Options

1. Renew and periodically review NPDES permits in the County’s watershed (Milford WWTP, Lower East Fork WWTP, Middle East Fork WWTP, Batavia WWTP, Williamsburg WWTP) based on new water quality findings and determinations.

Table 1. NPDES Permits in Clermont County’s Watershed

WWTP	OEPA Permit #	Permitted Flow	Average Daily Flow	Expiration Date
Lower East Fork	OH0049379	7.0 MGD	4.25 MGD	March 31, 2000
Middle East Fork	OH0049387	4.08 MGD	2.2 MGD	March 31, 2000
Milford	OH0020451	0.75 MGD	0.687 MGD	January 28, 2001
Batavia	OH0024023	0.24 MGD	0.332 MGD	March 28, 1998
Williamsburg	OH0021571	0.5 MGD	0.27 MGD	January 28, 2004

Renewals for several of the permits, noted in the table above, are currently being drafted. However, they have not yet been submitted for public review and comment. Clermont has expended considerable resources (financial and staff time) from 1996 to

1999 on developing a comprehensive water quality monitoring program. In addition, the County has supported several researchers (Miami University of Ohio, University of Cincinnati, P&G, PAUSE Study) to conduct investigations of biological and chemical conditions in the EFLMR. Review of the current discharge permits will provide EPA, Clermont, and OEPA with a much better database and understanding of water quality and biological conditions in the EFLMR, which should result in more effective permits.

Clermont is currently developing a set of watershed modeling tools for the EFLMR which should permit better water quality-based analyses and basin-wide loading assessments in the vicinity of the permitted discharges. The model(s) will provide the assessment tools so that EPA, Clermont, and OEPA can explore alternative load management options for receiving waters.

2. Evaluate the feasibility of point/point trades within the EFLMR to optimize nutrient control between facilities.

Clermont wishes to evaluate opportunities to better manage nutrient inputs to the EFLMR through more efficient control over the current five WWTPs. A river-basin planning and permitting approach should be conducted pursuant to the Five-Year Basin Approach for Monitoring and NPDES Reissuance. Opportunities are available to evaluate possible elimination and consolidation of several point sources in the watershed. For example, the Milford WWTP could be combined with the Lower East Fork WWTP, with the County assuming responsibility for wastewater treatment in the City of Milford. In addition, the Village of Batavia WWTP should be evaluated for possible consolidation/treatment trading with the existing County wastewater treatment plants. Regulatory flexibility will be required to synchronize NPDES permit renewals and to potentially consolidate discharges.

3. Consider the development of point/nonpoint source trading to achieve better controls of nutrients in the watershed, possibly in coordination with OEPA's EFLMR Total Maximum Daily Loads (TMDL) project.

Clermont proposes to explore opportunities to achieve a higher level of nutrient control in the watershed by identifying specific point/non-point source trading options. Agriculture, on-site systems, soil erosion, stormwater runoff, and other nonpoint sources are contributing nutrients to tributaries and the main stem of the Lower EFLMR. Management controls over these nonpoint sources can possibly be used in lieu of more stringent effluent limits expected for existing WWTPs. Nonpoint source controls could include management measures such as: buffer strips along riparian corridors; crop land erosion controls; fertilizer management plans; construction related erosion controls; stream bank restoration; on-site system management; and stormwater controls. It is also anticipated that basin-wide nutrient

controls will result in improved water quality throughout the entire basin, versus water quality improvements to only the lower portion of the watershed. The phase of this Project, which will implement trading, should provide an explanation of the trading procedures including elaborations concerning the roles of credits, permits, and trading ratios.

Trading Options

Nutrient trading options between point and nonpoint sources will be developed under this Project. Trading options could be established between point sources (WWTPs) and also between point and nonpoint sources.

The following list of permitted point sources are potential participants for trading:

- ! Milford WWTP,
- ! Lower East Fork WWTP,
- ! Middle East Fork WWTP,
- ! Batavia WWTP, and
- ! Williamsburg WWTP

Nonpoint sources may also a part of possible trading scenarios. Point/nonpoint source trading could result in significant water quality benefits while potentially incurring low capital and operation and maintenance costs. The following nonpoint source activities should be evaluated for trading:

- ! On-site system controls
- ! Stormwater management controls
- ! Agricultural nutrient/pesticide/and erosion controls
- ! Development controls

4. Explore summer low flow augmentation from Lake Harsha to release higher dissolved oxygen waters to improve biological conditions and reduce stress.

Lake Harsha is an impoundment of the EFLMR formed by the flood control structure operated by the U.S. Army Corps of Engineers (COE). During summer low flow periods minimal releases occur from the control structure. Lake Harsha currently supplies 6 MGD of drinking water to the County. Clermont has water rights that exceed this current withdrawal rate. Although the provisions of Clean Water Act Section 301(b)(1)(C) are a regulatory constraint, consideration of flow augmentation as a method of achieving water quality standards on a case-by case basis is allowed under the provisions of 40 CFR 125.3(f). The County proposes to evaluate the options and regulatory requirements of increased releases during low flow periods to increase dissolved oxygen, lower temperature, and reduce stress on aquatic biota. The

County also proposes to evaluate various discharge management strategies at the dam, such as determining the optimal level at which water may be discharged from the lake or aeration baffles in the spillway to improve water quality.

5. Review permit options to include seasonal nutrient removal limits.

Water quality sampling since 1996 on the EFLMR has revealed that summer low flow conditions present the only time during the year when water quality criteria are of concern. Continued sampling could provide further insight into this condition. One option for treatment plant upgrades could be seasonal nutrient removal only. Additional water quality samples, as well as a review of historical sampling results, are necessary to confirm the efficiency of seasonal limits. Seasonal nutrient removal in conjunction with nonpoint source control measures could form the basis of point/nonpoint source trades as described under issue three (3) above.

6. Expedite possible innovative on-site wastewater treatment, disposal and management options for areas of failing or discharging on-site systems.

Failing on-site systems typically create high concentrations of nitrogen, phosphorus, Carbonaceous Biochemical Oxygen Demand (CBOD), and bacteria. These high concentrations are frequently assimilated quickly in a flowing stream. Consequently, measurement of the impact downstream in the mainstem, where water quality is typically measured, might find the impact undeterminable. Therefore, although the local area near the failing on-site system may have offensive odors and be unhealthy for contact, the overall impact on the EFLMR is undetectable. It is, however, a nuisance, to local residents. In many cases failing on-site discharges are deposited in headwater streams that may or may not be flowing. The non-flowing stream on-site deposits only become mobile during storm events. Hence, they only become nuisances occasionally.

On-site wastewater disposal will continue to serve a large percentage of the population in Clermont. Currently, about 35% of the County's population, or approximately 54,000 individuals use on-site systems for wastewater treatment and disposal. About 80% of the land area in the County is not served by centralized wastewater collection and treatment systems. Soils throughout the County are severely limited in their ability to absorb and treat wastewater. The wastewater master plan estimated that more than 10,000 of the 19,000 active on-site systems have direct discharges to streams and watercourses in the County. More than 4,000 systems have on-site problems, and an additional 5,400 present a problem because they are sited on lots less than 1 acre. On-site systems can be major contributors of nutrients (nitrogen, phosphorus), bacteria, viruses, protozoa, biodegradable organics, metals, and

inorganic contaminants (sodium, chlorides, potassium, calcium, magnesium, and sulfates).

Clermont is evaluating alternative on-site treatment designs, as well as other discharge options. Treatment/collection options such as cluster systems, small package treatment plants, small-diameter collection systems, etc. can be used to address the on-site disposal issue. To solve the on-site system problem, the County will evaluate the option to require owners of existing on-site systems to connect to centralized wastewater treatment systems, or to decentralized semi-public point source discharges, based on environmental benefits and costs. This may ultimately require several new NPDES discharge permits.

7. Review the possibility of new discharge to the LMR to accommodate treatment of wastewater from areas with known failing on-site systems.

An additional regulatory flexibility issue to address is the possibility of removing some wastewater volume from the EFLMR through new discharges to the LMR. Areas of failing on-site systems along Stonelick Creek and O'Bannon Creek are possible candidates for out-of-basin discharges. Serious consideration should be given to the evaluation of a new collection/treatment/discharge system with a surface water discharge to the LMR.

8. Explore potential for County ownership and management of on-site systems.

One management approach to improve on-site system operations is for the County to assume ownership and management responsibility for all on-site systems. Many areas of the country have adopted this approach to ensure that inspections, pump-outs, upgrades, and maintenance are conducted. Currently, pumped septage is discharged to the Middle East Fork WWTP for treatment. This option should be explored for adoption in Clermont including an analysis of the potential regulatory impacts.

9. Evaluate riparian land controls for water quality protection.

Control over stream buffers can be a successful management control to maintain and improve water quality. Controls can be obtained through direct purchase, easements, donations, or land use restrictions. Land acquisitions are typically used in the water supply industry as a part of a multiple barrier approach to water quality protection. Tributary stream shading may serve as an important temperature and dissolved oxygen control measure. Current water quality and biological sampling will help evaluate this potential management option. Future water quality impacts could be minimized through an active stream corridor control program. Water quality models under development will be used to help evaluate the potential water quality benefits

from such a program.

10. Non-traditional nonpoint source control of water quality.

Clermont is moving toward the development of a wide range of nonpoint source control measures for water quality protection. For example, the County is drafting water quality-based subdivision standards. These standards, when implemented, will incorporate performance criteria that must be met for all future subdivisions.

Performance and operating standards focus on measurable environmental standards that protect human health or the environment. Performance standards do not specify how performance should be achieved but rather what the expected results should be. Another example is the site plan review process. The local governments have latitude to revise their site plan review regulations to incorporate environmental performance standards. These and other types of land control measures will be evaluated for adoption in Clermont.

B. Watershed Quality Management Plan

The Watershed QMP, a work product of the initial planning phase of the Project, is designed to document and provide a comprehensive Program and Quality Assurance (QA) guidance for the Clermont XLC Project Team. It includes a systematic planning process that is based on the scientific method and provides a common sense, graded approach to ensure that the level of detail in planning is commensurate with the importance and intended use of the work and the available resources. This approach combines the most appropriate elements of program planning and management with applicable EPA QA guidance, providing a more unique and appropriate QA approach for watershed level programs than a typical, more narrowly-focused Quality Assurance Project Plan (QAPP). It attempts to directly combine Program Management and QA aspects to ensure the day-to-day effectiveness of the project, while maintaining the individual integrity of the QA process.

An important component of this process is the collaboration of the project principals, sponsors, Stakeholders, technical, and QA experts to ensure the utility and credibility of the process, information utilized, and findings for the established objectives. This Watershed QMP requires the approval, via written agreement, of all project principals. Another important component of this process is for the EPA Clermont XLC Project Team to clearly define and clarify all of EPA's technical requirements and QA terms, including EPA's use of such terms as Data Quality Objectives (DQO's) and Quality Performance Criteria. (Experience in such projects as this, demonstrates the criticality of the EPA team clarifying EPA requirements in a manner understandable and useful to those responsible for conducting the project.) QA requirements should support conduct of an effective project - not simply impose an additional requirement on the project. Thus, the proposed Watershed QMP is

designed to merge program management with effective QA.¹ Finally, this Watershed QMP will incorporate all beneficial QA and DQO's guidance developed under contractor support to Clermont, as well as guidance developed in EPA's Office of Water for watershed development, including *QA/QC for the OWOW/AIEO Watershed Analysis and Management Project*.

The contents of the proposed Watershed QMP developed in the initial phase of this Project will include the following elements subject to modification based on the implementation of this Agreement:

- 1) A statement of policy - agreed to by all principal participants - involving commitment to the Watershed QMP process.
- 2) The project team must identify how it will ensure effective program integrity and quality - incorporating both independent oversight and peer review. This includes the organization to ensure effective program integrity and quality.
- 3) A comprehensive description of the project, its objectives, and goals as well as a listing of questions and issues to be addressed.
- 4) A description of all the principal project participants' responsibilities, including Clermont, OEPA, the EPA XLC Team, QA officer(s), consultants, advisors, etc. Also, the level of competence/experience needed for each principal project team member and the qualifications of these individuals.
- 5) A description of the approach for accomplishing the project - specifically how the project team will incorporate required QA controls and requirements.
- 6) Identification of a project schedule and milestones, resources (including budget), and any applicable requirements (e.g., regulatory requirements and contractual requirements).
- 7) The project team must identify how it will ensure effective program integrity and quality - incorporating both independent oversight and peer review. (Covered in step 2 above- included here to ensure clarification of relationship between steps 6 and 7.)
- 8) Identification of the type of data needed and how the data will be used to support the

¹It is desirable that EPA's QA "experts" also have extensive program management experience to help ensure practical and effective implementation of QA in the project.

project's objectives.

- 9) Determination of the quantity of data needed and specification of performance criteria for measuring quality.
- 10) Description of how, when, and where the data will be obtained (including existing data) and identification of any constraints on data collection.
- 11) Description of how the acquired data will be analyzed (either in the field or in the laboratory), evaluated (i.e., QA review, validation, verification) and assessed against its intended use and its defined Quality Performance Criteria.
- 12) Specification of needed Quality Assurance/Quality Control (QA/QC) activities to assess the Quality Performance Criteria (e.g., QC samples for both the field and laboratory, audits, technical assessments, performance evaluations, etc.).

C. Watershed Modeling Tools

Clermont is developing, with the assistance of COE, EPA, and OEPA, a set of watershed modeling tools specifically designed to meet the County's local watershed management requirements. To select the best combination of environmental simulation models, the County has designed a Watershed Modeling System (WMS). The WMS will evolve over time to encompass more detailed environmental settings in an iterative process, to address the range of stressors and sources considered in the EFLMR system.

This Project's set of watershed modeling tools should provide the objective framework for EPA, Clermont and OEPA to select and evaluate the effectiveness of watershed management options (capital projects), as well as policy changes, in achieving established water quality goals. As specific actions are undertaken, procedures for monitoring the impacts of the action will be incorporated into the Watershed QMP. As a result, the process will be iterative. If actions do not achieve the predicted and desired results, changes will be made, and the watershed modeling tools will be recalibrated, allowing modification of the Project. Development of the watershed modeling tools in Phase I of this Project will address baseline simulation, applicability of the models to surface water, the requirements of data gathering for calibration and verification, as well as any reverification or recalibration, as needed. The following components are key to the development of an effective set of simulation models.

- 1) Watershed Modeling System. A comprehensive WMS has been developed to support the assessment of existing and future conditions within the EFLMR. The WMS will document the selected computer models and identify any linkages between them. The modeling system includes the following components:

- ! Watershed loading model (continuous simulation)

- ! River transport model (continuous simulation; low flow)
- ! Harsha Lake model (continuous simulation model; application developed by COE)

Specific assessment tools the County is considering include (but are not limited to): (1) the Hydrological Simulation Program-FORTRAN model (HSPF), (2) the Enhanced Stream Water Quality model (QUAL2E), (3) COE's Two Dimensional Water Quality model (CE-QUAL-W2), and (4) the Environmental Fluid Dynamics Code (EFDC). These models, however, will most likely require some adjustments in order to provide the County with an effective array of locality-specific simulation tools.

- 2) Model Calibration and Validation. The models are being calibrated using available information collected by Clermont, COE, OEPA, United States Geological Survey (USGS), and others. The model development process is being reviewed by Clermont's SAC, a loosely formed consortium of representatives from OEPA, Miami University, University of Cincinnati, P&G, consultants working for the County, and a local environmental advocacy group, Little Miami, Inc. Through open discussion and evaluation of diverse perspectives and encouragement of the peer review process, SAC strives to assure that "good science" is used in developing the best available alternatives for addressing Clermont's environmental needs. Model output and briefings are periodically presented to Stakeholder groups. Further discussion of the model testing and calibration will also be available during the implementation phases of the Project. Model output will be evaluated based on comparison with flow gaging and water quality monitoring at available monitoring stations. Model validation will determine if predictions are reasonable and make explicit the range of conditions over which the model can be used to determine cause-and-effect relationships.
- 3) Model Recalibration. Recalibration of the watershed modeling tools will be performed when sufficient additional monitoring data is available.
- 4) Model Results. Model output is used to support development of a baseline conditions and evaluation of future states under various management scenarios. Key components for interpretation of the model output include:
 - ! Pollutant loading (annual, individual storm event) by subwatershed
 - ! Imperviousness by subwatershed
 - ! Flow frequency for tributaries
 - ! In-stream water quality (annual, seasonal, and critical low flow)
 - ! Harsha Reservoir water quality (mean summer chlorophyll-a)

Model results will also be used to develop a Site Assessment System (SAS) to

support evaluation of the development impacts on a small scale. The system will be used to evaluate management controls to determine if these measures are sufficient to maintain pre-development conditions.

- 5) **Schedule.** The schedule for initial development and implementation of the set of watershed modeling tools will be determined during Phase I of this Project. This schedule will allow the Parties to this Agreement, as well as other interested Stakeholders, sufficient opportunity to examine the modeling techniques to attain buy-in to the validity of its results.

D. Monitoring and Sampling Methodologies

Clermont developed a set of monitoring goals in 1997. These goals were presented to the Stakeholders and SAC in 1997. Based on acceptance of these goals a monitoring program was designed. The monitoring program was also presented to the Stakeholders and SAC for review and comment. The monitoring program includes a combined program of chemical and biological monitoring at numerous locations throughout the watershed. Ambient water quality sampling is performed at 26 stations on a biweekly basis. Biological sampling was performed at 12 stations. Since 1999 Clermont also has five (5) wet weather monitoring stations specifically targeted to collection of information on stormwater runoff. These stations will be used to further evaluate the impacts under wet weather conditions and support future reverification of the watershed modeling tools.

Table 2. Summary of Chemical Monitoring Stations (Clermont County)

StationID	1996	1997	1998	1999	2000
BARNES	Mar-Nov (22)	Jun-Nov (25)			
CABINRUN	Mar-Nov (23)	Jun-Nov (24)	Apr-Oct (31)	May-Oct (9)	
CCITYINN				Jul-Sep (3)	
CCITYINS				Jul-Sep (3)	
CCITYOUT				Jul-Sep (3)	
CLOVE		Jun-Nov (22)			
EFDAM	Jul-Nov (17)	Jun-Nov (24)	Apr-Oct (29)	May-Sep (11)	
EFLMR	Jan-Nov (30)				
EFRM0.5	Feb-Nov (28)	Jun-Nov (26)	Apr-Oct (32)	May-Oct (12)	
EFRM12.3	Jan-Dec (47)	Jan-Nov (36)	Apr-Oct (32)	May-Oct (11)	
EFRM12.7	Jan-Dec (47)	Jan-Nov (36)	Apr-Oct (31)	May-Oct (11)	
EFRM13.6		Jun-Nov (23)	Apr-Oct (31)	May-Oct (13)	
EFRM15.6	Feb-Nov (27)	Jun-Nov (26)			
EFRM34.8			Apr-Oct (32)	May-Sep (15)	

EFRM34.9	Jan-Nov (29)				
EFRM3481				Apr-Dec (5)	Feb-Mar (2)
EFRM3482				Apr-Dec (4)	Feb-Mar (2)
EFRM3483				Apr-Dec (4)	Feb-Mar (2)
EFRM348T				May-Oct (5)	
EFRM4.00	Jan-Dec (49)	Jan-Nov (36)	Apr-Oct (33)	May-Oct (10)	
EFRM41.0	Jan-Jun (12)				
EFRM44.1		Jun-Nov (25)	Apr-Oct (31)	May-Sep (10)	
EFRM5.5	Apr-Dec (37)	Jan-Nov (36)	Apr-Oct (33)	May-Oct (10)	
EFRM6.57	Jan-Nov (25)	Jun-Nov (26)	Apr-Oct (32)	Jul-Oct (7)	
EFRM9.10	Jan-Nov (34)	Jun-Nov (26)		May-Sep (11)	
FOURMICR	Mar-Nov (23)	Jun-Nov (26)	Apr-Oct (31)	May-Oct (11)	
HALLRUN	Mar-Nov (23)	Jun-Nov (26)	Apr-Oct (31)	May-Sep (9)	
HALLRUNB		Jun-Nov (25)	Apr-Oct (30)		
HALLRUNE				May-Aug (6)	
StationID	1996	1997	1998	1999	2000
HARSHAUS		Jun-Nov (27)			
HORNER		Jun-Nov (17)			
HOSEAIN				Aug-Sep (2)	
HOSEAOUT				Aug-Sep (2)	
KAINRUN	Mar-Nov (22)	Jun-Nov (24)	Apr-Oct (14)	May-Aug (7)	
KAINRUN1				Feb-Dec (8)	Feb-Mar (3)
KAINRUN2				Feb-Dec (8)	Feb-Mar (3)
KAINRUN3				Feb-Dec (8)	Feb-Mar (3)
KAINRUNT				May-Oct (4)	
LICKFORK	Mar-Nov (23)	Jun-Nov (24)			
LUCYRUN		Aug-Nov (16)	Apr-Oct (33)	May-Oct (10)	
NEWTON		Jun-Nov (23)	Apr-Oct (26)	May-Aug (6)	
NEWTON1				Feb-Dec (12)	Feb-Mar (3)
NEWTON2				Feb-Dec (11)	Feb-Mar (3)
NEWTON3				Feb-Dec (11)	Feb-Mar (3)
NEWTONT				May-Oct (4)	
PLEASANT	Mar-Nov (22)	Jun-Nov (24)	Apr-Oct (30)	May-Oct (9)	
POPLAR	Jul-Oct (14)	Jun-Nov (24)			
SALTRUN	Jul-Nov (17)	Jun-Nov (24)	Apr-Oct (30)	May-Sep (11)	
SHAYLER		Jun-Nov (23)	Apr-Oct (25)	May-Sep (9)	
SHAYLER1				Feb-Dec (11)	Feb-Mar (3)
SHAYLER2				Feb-Dec (8)	Feb-Mar (3)
SHAYLER3				Feb-Dec (10)	Feb-Mar (3)
SHAYLERT				May-Oct (4)	
STBF	Jul-Nov (18)	Jun-Nov (24)			
STDAM	Jul-Nov (18)	Jun-Nov (24)	Apr-Oct (31)	May-Aug (7)	
STEFLMR	Jul-Nov (18)	Jun-Nov (24)	Apr-Oct (16)	May-Oct (13)	
STEFLMR1				Feb-Dec (11)	Feb-Mar (3)
STEFLMR2				Feb-Dec (10)	Feb-Mar (3)
STEFLMR3				Feb-Dec (11)	Feb-Mar (3)

STEFMRT				May-Oct (5)	
ULREYRUN	Mar-Nov (22)	Jun-Nov (24)	Apr-Oct (29)	May-Sep (10)	
WILLDAM		Jun-Nov (23)	Apr-Oct (14)		
WOLFPEN	Jul-Nov (16)	Jun-Nov (9)	Apr-Oct (9)	May-Oct (11)	

Clermont prepares annual updates on the result of the monitoring program. These results are presented to the Stakeholder group and are made available on the Clermont web site.

Other analyses sponsored by the County include:

1. The County is working with P&G research facility on a statistical approach to connect biology and water chemistry. This study builds on previous analysis performed by P&G and incorporates new data collected by Clermont. The linkage analysis will help identify causative factors for changes in the biological community at monitoring stations within the EFLMR. Results, if conclusive, will be used to guide the County in the selection of control measures.
2. The County is working with the University of Cincinnati on studying isotope distribution of metals in water and sediments.

E. Land Controls for Water Quality Protection

The results of the modeling study, monitoring analysis, and future analyses of the biological linkage to watershed indicators, will be used to identify the suite of land use controls that will be required to meet the stated goals and maintain water quality in the EFLMR. The following activities are expected to be performed in determining the land use controls.

- 1) Develop recommendations for land use controls. Controls will be identified based on modeling, monitoring, and assessment. Controls are expected to include:
 - ! On-site management;
 - ! Off-site detention facilities;
 - ! Stream corridor management, riparian buffers, conservation easements;
 - ! On-site system management;
 - ! Erosion and sediment controls; and
 - ! Agricultural nutrient management plans and conservation tillage.
- 2) Assess control opportunities and constraints. Areas where control opportunities can be implemented will be identified.
- 3) Determine if additional authorities are needed to implement identified controls. Identify the institutional arrangements required to implement the land use controls identified.

- 4) Identify funding and/or cooperative agreements required to implement land use controls. Implementation of controls may require additional funding for cost share incentives. Flexibility may be needed to authorize funding under a variety of incentive programs, grants, or State and Federal programs.
- 5) Phase in land controls based on identified opportunities and institution of controls as new development projects are constructed.
- 6) Develop an ongoing schedule for the assessment and implementation of land use control options in areas under development, as well as the review of prior land use control decision impacts on water quality in the watershed.

VI. PROJECT XLC ACCEPTANCE CRITERIA

The Clermont Project, as described in this Agreement, meets EPA's Project XLC criteria as indicated in 60 FR. 55569, November 1, 1995. The criteria and the basis for stating that they are met are summarized below.

A. Environmental Results

EPA's first Project XLC criterion states that Projects should achieve environmental performance that is superior compared to the performance that should be obtained through compliance with current and reasonably anticipated future regulations. EPA, OEPA, and Clermont believe that the successful completion of this Project (Phase I and the subsequent phases) should achieve SEP. Since Phase I is a planning phase, designed to support and supplement the more specific goals of the subsequent phases, evidence of the Project's SEP will not be measurable until the implementation of those subsequent phases.

1. Environmental Baseline

The County has estimated that due to development pressures and increased population growth, the County's water quality will most likely decline over time if no new measures or controls are developed for the watershed -- resulting in either non-attainment of EWH standards or the need to reclassify the EFLMR to a lower use class. The current water quality standards are based on the requirements for EWH, resulting in the EFLMR being designated as a State Resource Water. Thus, the baseline this Project will use to measure SEP will be an estimated future degraded water quality condition that will most likely happen given current control measures and reasonably anticipated future regulations. Since the Project team members will be working together as part of Phase I implementation to identify the best approaches to predict future water quality, a clearer picture of the

environmental baseline should emerge during this initial Project phase.

2. Project Equivalency

An important component in measuring SEP of an XLC project is to determine if the Project is at least as protective of the environment as what will happen absent the XLC Project. Project equivalency serves as a quantitative benchmark from which the SEP of the Project can be measured. Similar to identifying the Project's baseline, the Project team members will be working together as part of Phase I implementation to identify the best approaches to measure the Project's environmental equivalency. The Project team predicts that despite the degradation to water quality that can be expected due to population growth, the Project will

maintain the EFLMR as a State Resource Water by maintaining the current water quality required by today's standards.

3. Superior Environmental Performance

Since SEP is one of the most scrutinized components of an XLC project, it is important that this Project clearly demonstrate environmental results. Similar to identifying the Project's baseline and equivalency, the Project team members will be working together as part of Phase I implementation to identify the best approaches to measure the Project's SEP.

Clermont intends to develop and apply locally developed water quality standards based on local environmental conditions and goals, while still recognizing Statewide water quality standards. This multi-phased Project is expected to achieve SEP through greater local responsibility and management of point and nonpoint sources. Further, this Project is comprehensive in scope and will include development issues closely tied to water quality such as land use, development procedures, open space and farmland preservation, and economic development. Most important, the County is being proactive--investing in watershed management controls not currently regulated by NPDES permits much sooner than would otherwise be required under a waste load allocation and TMDL developed by OEPA. Consequently, this innovative Project should result in environmental benefits sooner than would be realized under current and anticipated regulations.

Potential environmental benefits of this Project include:

- ! Enhanced ecological benefits due to stream corridor management;
- ! Better growth management;
- ! Improved habitat protection;

- ! Improvement of water quality and biological conditions in sensitive waterways;
- ! Enhanced wildlife protection;
- ! Wetlands protection and restoration;
- ! Conservation easements;
- ! Flow augmentation;
- ! Riparian habitat improvements;
- ! Protection of drinking water supply for County; and
- ! Transferability to other communities and governmental organizations.

There might also be additional environmental benefits from the County's comprehensive set of watershed modeling tools. This model, calibrated to available data in the EFLMR, evaluates watershed loading, tributary loading, and river transport processing under long term conditions. The model, driven by precipitation data, predicts conditions under both wet and dry weather conditions on an hourly basis.

Another additional environmental benefit is the working relationship the County has with the P&G Stream Research Facility located on the EFLMR in Clermont. Currently, Clermont and P&G are cooperating on a project to establish a statistical approach connecting biology and water chemistry. This innovative approach should provide a valuable link since tradition is to measure water quality by biology and regulate by chemistry. With assistance from Miami University, the County is proposing to assess the variability of genes in populations of fish to determine whether water quality is degraded. A lack of variation in fish population genetics would be perceived as an indication that the population might be affected by environmental stressors. The County is hoping that the above referenced set of modeling tools and the work with P&G will increase the environmental community's knowledge concerning biological indicators.

B. Stakeholder Involvement, Support, and Capacity for Community Participation

Stakeholder involvement is essential for the success of an ecosystem-wide community environmental program. The SIP (Appendix A) is intended to describe basic community goals. Stakeholder input will also help to further develop the program specifics and evaluate Project performance for both Phase I and the subsequent phases of the Project.

This Project is providing the local community with the opportunity to collaborate with EPA, Clermont, and OEPA to establish water quality goals for the County's watershed. Clermont also anticipates that implementation of this Project should increase public access to information on the County's water quality.

Clermont has developed diverse Stakeholder contacts in the community and completed

multiple targeted mailings in addition to coverage of public meetings in the local newspaper. One local environmental group has indicated significant interest and support for this Project. Outreach efforts continue using local news and a website maintained by the County located at the following address: www.oeq.net. Outreach to national Stakeholders has been done and will continue as Phase I is implemented, as well as during the development and implementation of subsequent phases.

Public meetings will be held to inform the general public about the Project and to invite their comments and participation. Clermont has already held several public meetings to introduce the public to the Project. Other public meetings will be held during Project implementation of Phase I and the subsequent phases. Public meeting locations will be chosen to provide adequate size and accessibility to all who wish to attend.

C. Economic Opportunity

Implementation of the Clermont XLC Project will provide a planning blueprint for sustainable development, enabling economic opportunity in conjunction with improved environmental quality. The Parties anticipate that completion of the phases of this Project will address the specific water quality issues facing the County as it continues to support economic growth. Successful implementation of this Project should not only protect water quality but also provide greater recreational use of the valuable water resources in this area.

D. Feasibility

Phase I of the Project is both technically and administratively feasible. Clermont also anticipates that the subsequent phases of the Project should be technically and administratively feasible. The County Board Members have endorsed this Project and strongly believe it fits squarely into the County's initiatives to seek out better ways of managing the environment. This multi-phased Project aims to produce a more cost-effective means of meeting water quality goals than reliance on traditional point source controls. EPA, OEPA, and the County have assigned staff to work on implementing and evaluating the phases of the Project. Technical expertise in support of this Project will be provided by the County and an outside contractor. At this time, the County has the financial capacity to implement all the phases of the Project.

E. Transferability

This Project offers many opportunities for transferability to other communities and governmental organizations. The specific components that are transferable are as follow:

- ! Identify a better way of measuring water quality in the Little Miami, which could

- ! be potentially used across the State of Ohio;
- ! Further test and compare testing of biological and chemical measures of water quality;
- ! EPA is interested in applying the innovative Watershed QMP approach to Clermont as a case study. It will take what it learns from this Project and possibly apply it nationwide;
- ! The County is using an innovative set of watershed modeling tools, which can be used by other localities nationwide; and
- ! The watershed management approach is readily transferable to other rapidly developing counties or watersheds.

F. Monitoring, Reporting, and Evaluation

Projects should have clear and measurable environmental objectives that will allow EPA and the public to evaluate the success of the project. As stated earlier, due to the magnitude and complexities of this Project, the Project team has decided to implement the Project in phases. Each phase will be a collaborative effort by the Parties to this Agreement. Phase I of this Project, a planning phase, will develop the overarching Watershed QMP and begin to investigate the County's numerous watershed management options. This first phase will also lay the groundwork for the modeling techniques to be refined and customized for use in subsequent phases. Phase I of this Project will be considered a success if the Watershed QMP provides the Project team with an effective road map to (1) select a combination of optimum watershed management options and (2) establish a basis of sufficient information for making regulatory decisions.

The County will provide all interested Stakeholders with information on the Watershed QMP and any information regarding the initial investigation of management options. This information will be furnished in a format that is easy to understand. Monitoring, reporting, and evaluation in subsequent phases may also include customized reporting requirements for ongoing water quality sampling and monitoring. This type of water quality data will provide all interested parties with information on the selected management options. Information about this Project can be found on the Project XLC web site at <http://www.epa.gov/projectxl> as well as at <http://www.oeg.net> on the Clermont web site.

G. Equitable Distribution of Environmental Risks

EPA, OEPA, and Clermont have analyzed Executive Order No. 12898 on Environmental Justice and do not expect the Phase I Agreement to result in unjust or disproportionate environmental impacts. During the development of subsequent phases, the Project team will reconsider the impacts that any potential environmental risks to the surrounding community might pose in this context. During implementation of subsequent phases, Clermont plans ongoing monitoring of both its actions and the community response not only to verify

Project benefits but also to identify and make any equitable adjustments that might be needed in the implementation of the Project.

H. Community Planning

XLC Projects should use participatory community planning and consensus-based goals to build constituencies and marshal resources for community improvement. This Project brings together community planning efforts related to wastewater management and land use planning/zoning under the umbrella of water quality protection. The County will use the skills and lessons learned from this Project as a foundation for future community planning efforts. This foundation also provides the County with an adaptable set of modeling tools that can be used to address future water quality issues. Local planning efforts will involve such Stakeholders as the County, municipal, and township officials, members of the Board of Health, environmental groups, the development community, and the general public.

Throughout the development of this Agreement, Clermont has recognized the importance of its leadership in helping to realize current and future planning goals. The mechanisms set up through this Project, for example, a scientific advisory committee, will facilitate participation for environmental problem solving by Stakeholders within the community.

I. Innovative Approaches

EPA's pollution prevention criterion expresses the Agency's preference for protecting the environment by preventing the generation of pollution rather than by controlling pollution once it has been created. This Project is structured to make use of innovative watershed management approaches such as (1) small diameter gravity sewers, (2) seasonal discharging/non-discharging small community wastewater sewage systems, (3) creative farming practices, and (4) alternative small business operations. Innovative approaches will be used where they provide cost-effective and realistic solutions to critical problems. Additional innovative management approaches will be solicited from Stakeholders and other participants as the Project progresses and will be further evaluated for possible implementation.

VII. INTENTIONS, PERFORMANCE MEASURES, AND MILESTONES

This section describes the intentions of Clermont, EPA, and OEPA in regard to performance measures to determine the success of the Agreement and establish milestones for completion of the Agreement.

A. Clermont Intentions

- # Clermont will comply with all applicable regulatory requirements during implementation of this Agreement.
- # Clermont will work with EPA and OEPA to complete the following items: (1) development and implementation of the Watershed QMP, (2) identify and describe potential watershed management options, (3) identify and verify monitoring and sampling methodologies, and (4) develop and implement the watershed modeling tools.
- # Clermont will work with EPA and OEPA to identify and describe potential rules, permits, or other mechanisms that EPA, Clermont, and OEPA intend to propose to implement the Project and provide reasonable approaches to regulatory flexibility, consistent with applicable notice and public comment requirements.
- # Clermont will work with Stakeholders and the appropriate local, regional, and State agencies to facilitate the process.
- # Clermont intends to continue to provide resources, subject to funding, to maintain progress in achieving the milestones set forth in Sections VII. E. and F.

B. EPA Intentions

- # EPA will provide technical support for the following areas: (1) development and implementation of the Watershed QMP, (2) identification and description of potential watershed management options, (3) identification and verification of monitoring and sampling methodologies, and (4) the development and implementation of the watershed modeling tools.
- # EPA will work with Clermont and OEPA to identify and describe potential rules, permits, or other mechanisms that EPA, Clermont, and OEPA intend to propose to implement the Project and provide reasonable approaches to regulatory flexibility, consistent with applicable notice and public comment requirements.
- # EPA will work with Stakeholders and the appropriate local, regional, and State agencies to facilitate the process.
- # EPA intends to continue to provide resources, subject to the availability of resources based on appropriated funds, to maintain progress in achieving the milestones set forth in Sections VII. E. and F.

C. OEPA Intentions

- # OEPA will provide technical support for the following areas: (1) development and implementation of the Watershed QMP, (2) identify and describe potential watershed management options, (3) identify and verify monitoring and sampling methodologies, and

(4) develop and implement the watershed modeling tools.

- # OEPA will work with Clermont and EPA to identify and describe potential rules, permits, or other mechanisms that EPA, Clermont, and OEPA intend to propose to implement the Project and provide reasonable approaches to regulatory flexibility, consistent with applicable notice and public comment requirements.
- # OEPA will work with Stakeholders and the appropriate local, regional, and State agencies to facilitate the process.
- # OEPA intends to continue to provide resources, subject to the availability of resources based on appropriated funds, to maintain progress in achieving the milestones set forth in Sections VII. E. and F.

D. Performance Targets

1. Project Performance Targets (Entire Watershed Project)

The County has identified the following vision statement:

Clermont should continue to be allowed to evolve as a desirable place to live and work: where "quality of life" factors are high; where a sound balance is maintained between short-term wants and long-term needs; where inevitable changes over time are managed so as to enhance, rather than degrade, the human environment; where quality, sustainable development, and growth are supported and encouraged; and where irreplaceable natural resources are protected and recognized as critical to the aesthetic character and long-term well-being of the County.

This vision statement sets out the overarching goals of the County in protection of the watershed. In meeting this vision statement the County is committed to preserving and maintaining the beneficial uses of the waters of the County. Fully maintaining the uses of the EFLMR, including Harsha Lake, requires the development of comprehensive assessment techniques that consider impacts from a variety of sources and development pressures. The following describes four (4) key areas of commitment to SEP.

- a) Goal for No Adverse Trends in Water Quality Indicators. Clermont commits

to continued monitoring and evaluation of long term trends in water quality indicators. The evaluation of trends will consider a combination of the meteorologic, seasonal, and time variable conditions present in the waters of the EFLMR. Initial indicators include fecal coliforms, sediment, nutrients, and metals. Monitoring since 1996 has begun the establishment of a baseline condition for comparison on an annual basis. Since 1996 Clermont has performed annual evaluation at approximately 30 chemical monitoring stations for the purposes of identifying adverse trends and areas in need of remediation. Clermont has also initiated biological assessments to evaluate and compare environmental conditions at 12 stations in the EFLMR. COE performs water quality monitoring in the reservoir which can be used to evaluate conditions in Harsha Lake.

Meeting the goal of no adverse trends in water quality indicators will likely require a combination of management of existing uses as well as measures for new development. The set of watershed modeling tools will be used to identify potential management options and provide early warning of areas where new development is likely to cause adverse impacts.

- b) Goal for Maintenance of Flow Regime. Clermont commits to continued support of stormwater and growth management techniques to minimize the changes in flow regime resulting from increased development and impervious areas. This goal targets preservation of headwater streams, which provide essential aquatic habitat. These tributary streams are threatened by development.

Clermont has developed five (5) wet weather monitoring stations which are used to evaluate the flow and pollutant loading during runoff events. Clermont has also developed land use coverages and parcel boundary geographic information system (GIS) coverages that were used to determine the baseline imperviousness of the land area within Clermont's portion of the EFLMR. This baseline impervious condition provides an indicator of where areas with sensitivity to development pressure are located. The imperviousness coverage was used as the basis for beginning development of the comprehensive watershed modeling tools. Predictions of the impacts of future land use conditions can be evaluated through the use of the model. The County is also developing a SAS, which will be used to evaluate new development projects. The SAS will be used to determine if new development incorporates management techniques that will minimize any changes in the post development hydrograph (and related pollutant loading).

- c) Goal for Support of High Quality Fishery. Clermont commits to continued evaluation and support for measures to enhance the warm water habitat of the

EFLMR. Condition of the fishery will be measured by periodically evaluating the amount and diversity of fish population. Clermont's ongoing monitoring program will be used to evaluate and support the EWH designation for the EFLMR and tributaries. Management techniques to support the fishery include new development mitigation, riparian buffers, and in-stream habitat enhancement in the vicinity of Harsha Lake.

- d) Goal for Improvement in Trophic State of the Harsha Lake. Clermont commits to supporting and encouraging support from neighboring counties, in the reduction of nutrient loads to improve the trophic condition of Harsha Lake. Improvement in the trophic state should result in higher quality water, improved recreational use, maintenance of the lifespan of the reservoir, and reduction in water supply treatment costs. An additional benefit is improved quality of the water discharged to the lower EFLMR. The selected indicator for trophic state is chlorophyll-a. Water quality monitoring is performed at tributary stations by the County. COE performs periodic sampling of the reservoir. Since the upstream watershed is dominated by agricultural land uses, anticipated controls include nutrient management plans and conservation tillage practices. In addition to water quality monitoring, periodic tracking of agricultural land use, fertilizer application rates, and management practices will be needed. The County will work with other regional Stakeholders in providing periodic summaries of BMP implementation progress within the Lake Harsha watershed. This work will build on the 1997 land use report prepared by Ohio State University. A baseline assessment of the current best management practice adoption within the watershed is needed.

2. Phase I Performance Targets

Performance targets under the implementation of this Agreement include:

- ! development and implementation of a Watershed QMP;
- ! identification and description of potential watershed management options;
- ! review and evaluation of proposed set of watershed modeling tools;
- ! identification and verification of monitoring and sampling methodologies; and
- ! to begin to identify and describe potential rules, permits, or other mechanisms by which EPA, Clermont, and OEPA intend to implement the Project.

Although Phase I does not require elements of regulatory flexibility, this initial phase will establish agreement on the overall methodology for approaching regulatory flexibility in subsequent phases of the Project.

E. Watershed Project Milestones (for Entire Project, including Phase I)

The Watershed Analysis and Management (WAM) Approach provides a five step process from initiation of a watershed project through implementation and long term adaptive management of the watershed. The essential five steps of the WAM Approach also provide a useful template for the XLC project and a basis for establishing rugged and useful milestones. Thus the five step process provides the project team a set a milestones for review and assessment of progress. Inherent in implementation is the need for flexibility in application as new issues are uncovered in the process. The Phase I Agreement incorporates the first step, scoping, in the WAM process and is defined as the First Milestone. The five step process is:

1) Scoping

The primary purpose of this step is to resolve and agree on specific objectives of the project. This Phase I Agreement addresses these issues. Components of this step include:

- ! Stakeholders identified and involved;
- ! Scope and level of detail resolved in consideration of objectives, funding and criticality;
- ! roles and responsibilities of participants defined;
- ! baseline and target watershed performance agreed upon;
- ! critical issues defined and agreed on; and
- ! development of a Watershed QMP.

As part of this scoping step, the key elements of this Phase I Agreement will be incorporated into the Watershed QMP.

2) Assessment

This step provides the team with a complete analysis of proposed actions and impact on environment. Components of this step include:

- ! detailed data acquisition;
- ! evaluation of alternate "scenarios"; and
- ! use of models and engineering, as well as economic and *Quality of Life* analysis.

3) Synthesis

This step integrates the results of the watershed assessment step, consolidating a range of different studies and assessments to evaluate multiple impacts. It is also the most difficult of all steps. For example, information from numerous sources within the project and elsewhere--often conducted independently--must be consolidated to

evaluate the combined impact of development and actions on water quality. This step typically results in a watershed assessment report.

4) Prescriptions

This step involves the development of the final watershed management plan. In the case of this project, it will be the final project report including the long range implementation plan. It also includes approval, in writing, from the key principals in the XLC project.

5) Adaptive Management

This step involves the monitoring and evaluation of selected management plans. Upon the completion of an evaluation, adaptations to the management plan (if required) are developed and implemented. In extreme cases adjustments to the management plan may require comprehensive new efforts.

F. Phase I Milestones (for Phase I Agreement Only)

Implementation of this Phase I Agreement is anticipated to be completed by October 31, 2000. Anticipated milestones for implementation of this Phase I Agreement are as follows:

- 1) completion of the following items: (a) development and implementation of the Watershed QMP, (b) identify and describe potential watershed management options, (c) identify and verify monitoring and sampling methodologies, and (d) develop and implement the set of watershed modeling tools;
- 2) to begin to identify and describe potential rules, permits, or other mechanisms that EPA, Clermont, and OEPA intend to propose to implement the Project and provide reasonable approaches to regulatory flexibility, consistent with applicable notice and public comment requirements; and
- 3) work with Stakeholders and the appropriate local, regional, and State agencies to facilitate the process.

VIII. PROJECT IMPLEMENTATION

A. Legal Basis

This Agreement states the intentions of the Parties with respect to the Phase I Agreement for the Clermont XLC Project. The Parties have stated their intentions seriously and in good faith, and they expect to carry out their stated intentions.

This Agreement does not create or modify legal rights or obligations, is not a contract or a regulatory action such as a permit or a rule, and is not legally binding or enforceable against any Party. This Agreement expresses the plans and intentions of the Parties without making those plans and intentions into binding requirements. This applies to the provisions of this Agreement that concern procedural as well as substantive matters. Thus, for example, the Agreement establishes procedures that the Parties intend to follow with respect to dispute resolution and termination under the Agreement. While the Parties fully intend to adhere to these procedures, they are not legally obligated to do so.

This Agreement is not a “final Agency action” by EPA, because this Agreement does not create or modify legal rights or obligations and is not legally enforceable. This Agreement is not subject to judicial review or enforcement. Nothing any party does or does not do that deviates from a provision of this Agreement--or that is alleged to deviate from a provision of this Agreement--can serve as the basis for any claim for damages, compensation, or other relief against any Party.

B. Non-Party Participants

It is important to note that various aspects of this Phase I Agreement will remain subject to the approval of other regulatory entities even after this Agreement is signed. The Parties have actively sought input and participation from those entities throughout the development of this Agreement, and much progress has been made in clarifying the roles each will play in the ongoing process of making this Project possible.

C. Legal Mechanism

No regulatory flexibility is needed for the initial planning phase of this Project. More specific details regarding regulatory flexibility will be identified in the development of subsequent phases. The following summary provides a general overview of the process for assessing regulatory flexibility options as they apply to this Project.

While regulatory flexibility is--and has been--a primary motivation for the County’s interest in the XLC process, it is premature to address specific regulatory changes in the Phase I planning stage for this XLC Project. Instead, this section of the Agreement will delineate guiding principles or “filters” to be used in evaluating the likely effectiveness of innovative approaches as they are developed. XLC projects must deal with a number of activities and processes--private, industrial, and municipal--in an informed and balanced fashion to achieve SEP. There are numerous uncertainties in such complex situations that affect the impact of regulatory changes, and it is, therefore, prudent for all Parties to agree on how to weigh these

uncertainties against the potential benefits (or disadvantages).

1. Criteria for Evaluating Regulatory Flexibility

In reviewing proposals of regulatory flexibility, the following questions must be answered:

- a. Will regulatory flexibility result in environmental improvement compared to either the current ambient measurements or the anticipated ambient conditions that will occur if the change is not made?
- b. Will the proposed changes under regulatory flexibility work within the goals, objectives, and restrictions of the Clean Water Act, as well as applicable State law and local ordinances?
- c. Will the uncertainties of any predicted outcomes of flexibility be identified, as well as any expectations of response(s) and/or obligation(s) of the responsible Parties if the outcomes fall short of their desired expectations?
- d. Will the resource and staffing requirements of all affected Parties be fully evaluated prior to implementation?
- e. Will affected Parties be given the opportunity to comment on any changes prior to implementation?
- f. Will all reasonable opportunities for improved water quality be considered?
- g. Can sufficient flexibility be provided within the framework of existing statutory requirements to accommodate such water quality improvement opportunities?
- h. Will there be adequately defined methods of measurements, agreed to by all Parties, that can be used to evaluate the success of any changes within a reasonable margin of error or variability?
- i. Will the implementation of changes involving regulatory flexibility provide for periodic review of progress and allow for adjustment/improvement as conditions warrant?
- j. Is the proposed regulatory flexibility supported by data which all the Parties believe to be of sufficient quality?

2. Potential Areas of Regulatory Flexibility

The following areas have been discussed in the past as potential points for regulatory flexibility. The questions noted above will be used to evaluate these and other such concepts, prior to implementation, once the specifics have been more fully developed. Additional areas of flexibility may be added in subsequent phases.

- a) Point/Nonpoint “Trading” -- The only regulatory mechanism available in the East Fork to date has been the control of point sources via the NPDES permit program. This has been effective, but is reaching a point of diminishing returns due to the limitations of treatment technology and the influences of nonpoint sources. The project will be exploring methods for reducing the nonpoint impacts and possibly incorporating those reductions when developing new effluent limits for the point sources, or allowing point sources to receive credit for nonpoint source reductions through trades in order to help them achieve additional nutrient reductions that may be required of them. It appears that a likely first target will be the control of nutrients.
- b) Land Use Management -- The project will explore potential water quality improvements that could be achieved through the modification of current development practices. The immediate issue will be adjustment of the County’s subdivision regulations. Over the longer term, other avenues to be explored include working with local (Township) zoning officials and transportation planning to increase the sensitivity of these decisions to potential water quality impacts. As noted above, a major goal will be to redirect part of the current obligation/burdens away from the point sources.
- c) County/State Relationship -- Clermont has expressed a strong interest in realigning the relationship between the County and OEPA relative to the day-to-day oversight of water quality in the County. In general, the State and County will jointly develop water quality objectives and standards, as well as expectations of performance for meeting those objectives. The County will assume primary responsibility for implementing those objectives and standards, with the State adopting more of an oversight role. It is still early in this process for pursuing this idea on a large scale. However, as a more modest first effort, discussions are currently underway between the County and the State for the delegation of the State’s plan review function (for new development) to the County.
- d) Hydromodification -- The EFLMR has current impacts from hydromodification due to the presence of Harsha Lake on the mainstem of the river. Harsha Lake is operated by COE to provide flood control and water supply for the region. The EFLMR is impacted immediately below the

reservoir based on dissolved oxygen observations made by--and biological sampling results obtained by--OEPA (OEPA, 2000). The presence of the dam has resulted in altering the hydrologic regime downstream from the reservoir. Future development is also likely to result in additional fluctuations in the hydrologic regime downstream of the reservoir. One avenue of regulatory flexibility to explore is the influence of slight changes in operating rules on the water quality habitat downstream of the reservoir. Some options include seasonal changes in operation rules to optimize temperature, dissolved oxygen, and flow conditions downstream of the reservoir to preserve and enhance the warm water fishery below. Clermont will also continue to pursue management of stormwater in order to preserve predevelopment hydrographs and minimize adverse impacts.

- e) Discretion in Allocation of Funding to Support Implementation of Control Measures -- In developing innovative management technique to address impacts associated with development, the County will be redirecting resources to implementation of a variety of innovative land use control measures. The County wants to work with EPA and OEPA in providing flexibility in the direction of funding sources such as grants and cost share incentives to innovative new development practices, on-site practices, and stream buffer protection.
- f) Locally developed water quality standards -- This Project will consider the development and application of locally developed water quality standards that are based on local environmental conditions while recognizing Federal and Statewide objectives.

3. Accountability for Watershed-Based Trading

To be acceptable to and/or usable by EPA, the States, regulated persons, communities, and environmental activists, watershed-based trading mechanisms must, besides being efficient, ensure compliance, performance, measurement, and accountability. Consequently, any such program should include at least the following elements:

- a) A mechanism for monitoring benefits and results;
- b) Screening criteria for project participants to ensure “bad actors” who are already in noncompliance or have a poor compliance history are excluded in order to give the process credibility and a likelihood of success;
- c) A means of assessing and avoiding, or if that not possible or fails, addressing, the potential for significant localized impacts within the watershed as a result

of the trading system;

- d) A strategy with techniques for tracking compliance with applicable laws, standards, and regulations, as well as voluntary commitments, through activities of groups established to implement the Project and also the ongoing activities, such as inspections and ambient monitoring, conducted by the individual Parties to this Agreement; and
- e) A plan for minimizing the inevitable size-related management problems that occur when the number of participants in the trading system becomes large.

D. Other Laws or Regulations That May Apply

The Parties do not intend that this Phase I Agreement will modify the applicability of any existing or future laws or regulations to the Project sponsor.

E. Authority to Enter Agreement

By signing this Phase I Agreement, EPA, Clermont, and OEPA acknowledge and agree that they have the respective authorities, discretion, and resources to enter into this Agreement. Nothing in this agreement shall be construed as obligating any of the Parties, their officers, employees, or agents to expend any funds in excess of appropriations authorized for such purposes in violation of the Federal Anti-Deficiency Act (31 U.S.C. Section 1341).

F. Rights to Other Legal Remedies Retained

Nothing in this Agreement affects or limits any legal rights EPA, Clermont, and OEPA may have to seek legal, equitable, civil, criminal or administrative relief regarding the enforcement of present or future applicable Federal and State statutes, rules, regulations, codes, or permits.

G. Reporting

For the duration of this Phase I Agreement, Clermont will provide quarterly summary reports to EPA and OEPA, and upon request, to Stakeholders. Clermont will make all Project data and reports available to Stakeholders on request. The first quarterly report will be due three months following the signing of this Agreement. With the initiation of subsequent phases of this multi-phase XLC Project, any and all reporting will follow the procedures and timing indicated in the Project Agreement(s) governing those phases.

In each quarterly report Clermont will provide a summary of activities and will describe the progress toward completing the commitments of the Phase I Agreement. The report should describe progress on all of the enforceable and voluntary commitments contained in Section VII. A. of this Agreement as well as information on the status of meeting the performance

targets in Section VII. D. and achieving the milestones in Sections VII. E. and F. Other reports produced as part of this Phase I Agreement, which address these subjects, may be used as appropriate.

A public meeting will be held, after each quarterly report has been submitted. A final Phase I public meeting will be held after the commitments outlined in the Phase I Agreement have been successfully completed. Reasonable advance notice of the public meetings will be provided to the Parties and Stakeholders. Clermont or its representative will present the most recent quarterly report to the Stakeholders at the public meeting. The report may include the following items: Stakeholder activities, achieved milestones, important announcements, and a schedule for activities through the next reporting period. Inclusion of all relevant information in one report will streamline reporting for the Phase I Agreement and make information about progress available on a reliable schedule in a consistent format. Nothing in this Agreement reduces or affects Clermont's rights to copyright, patent, or license the use of any proprietary or business confidential information or data contained in or created in the course of the implementation of this Phase I Agreement.

H. Unavoidable Delay

“Unavoidable delay” (for purposes of this Agreement) means any event beyond the control of any Party that causes delays or prevents the implementation of the Project described in this Agreement, despite the Parties' best efforts to put their intentions into effect. A fire or an act of war, for example, could cause an unavoidable delay.

When an event occurs that may delay or prevent the implementation of this Phase I Agreement, whether or not it is unavoidable, the Party with knowledge of the event will provide notice to the designated representatives of the remaining Parties. Within ten (10) days after that written notice, the Party should confirm the event in writing. The confirming notice should include: 1) the reason for the delay; 2) its anticipated duration; 3) all actions taken to prevent or minimize the delay; and 4) why the delay was considered unavoidable, accompanied by appropriate documentation.

If the Parties, after reasonable opportunity to confer, agree that the delay is unavoidable, then the time for performance of obligations that are affected will be extended to cover the period lost due to the delay. If the Parties agree, they will document their agreement in a written amendment to this Agreement as provided in Section XII of this Agreement. If the Parties do not agree, the following provisions for Dispute Resolution will be followed.

This section applies only to provisions of this Agreement that are not implemented by legal implementing mechanisms. Legal mechanisms, such as permit provisions or rules, will be subject to modification or enforcement as provided under applicable law.

I. Dispute Resolution

Any dispute which arises under or with respect to this Agreement will be subject to informal negotiations between the Parties to the Agreement. The period of informal negotiations will not exceed twenty (20) calendar days from the time the dispute is first documented, unless that period is extended by a written agreement of the Parties. The dispute will be considered documented when one of the Parties sends a written Notice of Dispute to the other Parties.

If the Parties cannot resolve a dispute through informal negotiations, the Parties may invoke non-binding mediation by describing the dispute with a proposal for resolution in a letter to the Regional Administrator for EPA Region 5. The Regional Administrator will serve as the non-binding mediator and may request an informal mediation meeting to attempt to resolve the dispute. He or she will then issue a written opinion that will be non-binding and does not constitute a final EPA action. If this effort is not successful, the Parties still have the option to terminate or withdraw from the Agreement, as set forth in Section IX below.

J. Duration

It is the intention of the Parties to this Phase I Agreement that its duration will be one year, unless it is superseded or terminated. It is also the intention of the Parties to complete the tasks described in the Phase I Agreement by October 31, 2000, unless it is terminated earlier. This Agreement does not affect the term of any permit or rule or other enforceable regulatory mechanism, and the duration of the planning strategy developed in this phase is expected to remain viable for the life of the entire multi-phased Project.

IX. WITHDRAWAL OR TERMINATION

A. Expectations concerning Withdrawal or Termination

This Phase I Agreement is not a legally binding document, and any Party may withdraw from the Agreement at any time. However, it is the desire of the Parties that this Agreement should remain in effect through the expected duration and be implemented as fully as possible. Accordingly, it is the intent of the Parties that they will not withdraw and that this Agreement will not be terminated unilaterally during its expected duration of one year unless one of the conditions set forth below occurs:

1. Failure (taking into account its nature and duration) by any Party to act in accordance with the provisions of this Agreement.
2. Discovery of the failure of any Party to disclose material facts during development of the Agreement.

3. Enactment or promulgation of any environmental, health or safety law or regulation after execution of the Agreement which renders the Project legally, technically or economically impracticable.

In addition, neither EPA, Clermont, nor OEPA intends to withdraw from the Phase I Agreement if Clermont does not act in accordance with this Agreement unless Clermont's actions constitute a substantial failure to comply with intentions expressed in this Agreement, taking into account its nature and duration. Clermont will be given notice and a reasonable opportunity to remedy any "substantial failure" prior to a withdrawal by any of the signatory Parties. If there is a disagreement between the Parties over whether a "substantial failure" exists, the Parties will use the dispute resolution mechanism identified in Section VIII. I. of this Agreement. The signatory agencies retain full authority to use existing enforcement authorities, including withdrawal or termination of this Phase I Agreement, as appropriate.

B. Withdrawal or Termination Procedures

The Parties agree that the following procedures will be used to withdraw from or terminate the Phase I Agreement prior to the minimum Agreement term.

1. Any Party desiring to terminate or withdraw from the Phase I Agreement is expected to provide written notice to the other Parties at least sixty (60) days prior to withdrawal or termination.
2. If requested by any Party during the sixty-day (60) period noted above, the dispute resolution proceedings provided in this Agreement may be initiated to resolve any dispute relating to the intent to withdraw or terminate. If, following any dispute resolution or informal discussion, the Party still desires to withdraw or terminate, the withdrawing or terminating Party will provide written notice of final withdrawal or termination to the other Parties.
3. The withdrawal or termination procedures set forth in this section apply only to the decision to withdraw or terminate participation in the Agreement. Procedures to be used in modifying or rescinding any legal implementing mechanisms will be governed by the terms of those legal mechanisms and applicable law.

X. FAILURE TO ACHIEVE EXPECTED RESULTS

Failure of the Project to achieve the described commitments may be addressed through the amendment and termination procedures described respectively in Sections XII and IX of the Agreement.

XI. PERIODIC REVIEW

The Parties will confer, on a periodic basis, to assess their progress in implementing this Phase I Agreement. Unless it is agreed otherwise, the date for review will occur concurrently with the submittal of the quarterly report. No later than ten (10) days following a review, Clermont will provide a summary of the minutes of that meeting to all direct Stakeholders. Any additional comments of participating Stakeholders will be reported to EPA.

XII. AMENDMENTS

This Phase I Agreement is an experiment designed to test new approaches to environmental protection, and there is a degree of uncertainty regarding the environmental benefits and costs associated with activities to be undertaken in this Agreement. Therefore, it may be appropriate to amend this Agreement at some point during its duration.

This Agreement may be amended by mutual agreement of all Parties at any time during the duration of the Agreement. If the Parties agree to make a material amendment to this Agreement, notice of the amendment and an opportunity to participate in the process will be provided to the general public as appropriate.

In determining whether to amend the Agreement, the Parties will evaluate whether the proposed amendment meets Project XLC criteria and any other relevant considerations agreed on by the Parties. All Parties to the Agreement will meet within thirty (30) days following submission of any amendment proposal (or within a shorter or longer period if all Parties agree) to discuss evaluation of the proposed amendment. If all Parties support the proposed amendment, the Parties will (after appropriate Stakeholder involvement) amend the Agreement. If all Parties do not support the proposed amendment, the Parties will proceed with the Dispute Resolution

procedures under Section VIII. I. and, as appropriate, the Withdrawal or Termination Procedures under Section IX.

The amendment procedure will follow a two-tier approach. Modifications to this Agreement which do not significantly change its scope or vision may be completed by the designated representatives of each Party to the Agreement (Section XIII.B). Significant changes affecting the scope and vision of the Agreement must be completed through a more formal review process and will require the concurrence of all the signatories to the Agreement (Section XIII. A). Amendments will become effective on the date when all Parties have signed them.

XIII. SIGNATORIES, DESIGNATED REPRESENTATIVES, AND EXECUTION

A. Signatories

The signatories to this Agreement will be the EPA Regional Administrator for Region 5, the County Commissioners for Clermont, and the Director for OEPA.

United States Environmental Protection Agency
Region 5

Clermont County Commissioners

Christopher Jones, Director
Ohio Environmental Protection Agency

Richard Martin, Vice President
Clermont County Commissioner

Martha Dorsey, Member

Clermont County Commissioner

SUPPORTING SIGNATORIES

The Clermont County XLC Phase I Agreement enjoys the support of a broad range of public and private organizations and individuals. The Project incorporates Federal, State, and local partnerships and will serve as an example that will benefit the economy, the community, and the environment.

The signatures below express support for this Phase I Agreement and the contribution it will make to the environment and the community.

Signed: _____

Affiliation: _____

Signed: _____

Affiliation: _____

APPENDIX A

Stakeholder Involvement Plan for Clermont County XLC

I. Introduction

Stakeholder involvement is considered essential for the success of an ecosystem-wide environmental strategy. This Stakeholder Involvement Plan (SIP) is intended to describe basic community goals and will be incorporated into the Phase I Agreement. Stakeholder input will also help develop the Project specifics and evaluate Project performance for Phase I and subsequent phases of the Project.

II. Goals and Objectives

Long-range water resources planning and management requires the identification and involvement of many different individuals, special interest groups and agencies. Watershed Stakeholders must be included in all aspects of the process, from initial planning, to development and implementation of the watershed management plan. It is crucial to set up the Stakeholder involvement process (Involvement Process) early in the development of the water resources management plan to gain support for the plan down the road.

Ultimately, through the Involvement Process, Clermont hopes to achieve collaborative goal setting for water resources management. This will place the responsibility for making decisions regarding water resources at the local level. The Involvement Process will provide the forum for these decisions to be made.

The Involvement Process will also serve as the outreach component to the water resources management plan. Many watershed issues in Clermont will best be addressed by voluntary controls. These issues include sedimentation, failing on-site systems, increased pesticide applications and excess nutrients. In many cases the Stakeholders will be the best representative to reach out to their constituents on voluntary practices for pollutant reductions. For example, the landscaping interests can best formulate a strategy to encourage lawn care companies to reduce fertilizer applications on lawns and golf courses.

III. Stakeholder Involvement Process

A. Outline of Involvement Process

The following outline provides a procedure for the County to develop an Involvement

Process and maximize Stakeholder involvement to incorporate their recommendations and concerns into the development and implementation of the water resources management plan. An effective SIP outlines the techniques and practices which can focus dialogue and local involvement in a productive and useful way. A successful Involvement Process builds on the following activities.

1. **Create an open process** -- an open process encourages different sectors of the public to participate and builds public confidence in the County. Openness is gained by approaching the Stakeholders as partners during the earliest stages of the project.
2. **Identify key interest groups and decision-makers** who will have a stake in the outcome of the project. Stakeholders include those individuals who are both affected by and interested in water resources management, as well as those who are affected but NOT interested.
3. **Communicate honestly and frequently** with the Stakeholders using methods that seem most appropriate to their needs. The Stakeholders should decide how often to meet and how they want to communicate (i.e., through conference calls, workgroup meetings, and/or faxes).
4. **Establish goals** that are attainable and have been developed with Stakeholder input. The goals for the Project will include both long-range goals, such as improved water quality, and short-range goals, such as development of a brochure on proper on-site system maintenance.

B. Consensus-Building

A major function of the Stakeholder group will be to build consensus on various issues. Consensus doesn't just happen. Through careful planning and participation, a well-organized Stakeholder group can move forward on difficult issues. There are several ways to maintain consensus need to be recognized early in the process.

- T Actively involve a broad range of Stakeholders as partners in the development and implementation of the watershed management plan.
- T Recognize obstacles up front and address them early on. Possible obstacles include: lack of time or other resources, low levels of commitment or interest and conflicting goals.
- T Ensure each Stakeholder has the opportunity and responsibility for meaningful contributions.

- T Document, publicize, and celebrate the successes through a communications effort.
- T Designate an effective and respected leader who can maintain the activities of the partnership.

C. Steps to Building the Involvement Process

1. Establish Goals

Clermont staff first must outline the general goals of the Involvement Process. The goals will be flexible enough for the Stakeholders to suggest modifications, but there must first be a basis for discussion. Possible goals include the following:

- T Identify project issues and problems.
- T Ensure broad community representation in the development of the management plan.
- T Encourage public education on water resources issues.
- T Develop and implement public outreach strategies on specific issues in the watershed.
- T Improve and support public decision-making for the project.
- T Resolve controversies.
- T Develop public acceptance and support for the water resources management plan.

2. Identify Stakeholders

A Stakeholder is a person or group with an interest or investment in the way an issue is resolved. Stakeholders perceive that they may lose or gain something of value as a result of the water resources management plan. Stakeholders can include the following:

- T Chamber of Commerce
- T Local Officials
- T Developers
- T Industry
- T Businesses
- T Environmental Organizations

- T Agricultural Interests
- T State Government Agencies
- T Municipalities
- T Citizens

The process for identifying Stakeholders must be inclusive in terms of numbers as well as the variety of interests represented. The County will build upon the list that was used to invite participants to an initial Stakeholder meeting on June 4, 1997. The Stakeholders that participated will be asked whether or not they felt certain groups were not represented. If any groups/individuals are identified, they will be invited.

When recruiting Stakeholders to participate, they will probably ask several questions before committing themselves. Clermont representatives should be prepared to provide the following information when recruiting Stakeholders to participate:

- T What are the goals of this Project?
- T What will my responsibilities be?

3. Formulate an Agenda for Stakeholders

As part of setting the goals for the Involvement Process, it is important to define the roles of the participants. Any individual or group that feels they have a useful contribution to make to the development and implementation of the water resource management plan should have an opportunity to do so. This does not guarantee that there will not be conflict over issues, but it does help to ensure that what conflict may take place will be over the real issues that have to be resolved, rather than over the question of whether an honest intent to resolve them is the real objective of the Involvement Process.

Unless the Stakeholder's role is clearly defined, there is an increased chance for tensions to arise. It is important to stress that the sooner their concerns are made known, the more likely they can be accommodated. It also must be made clear at the outset that the final decisions for the water resources management plan rests with the county.

4. Data Gathering

After the key Stakeholders are identified, we will develop a set of questions and discussion topics that will be used as a foundation at the first Stakeholder meeting. The questionnaire will serve to capture concerns, issues, interests, objectives, and willingness to participate. The questionnaire will be administered in the form of a mail survey as well as in HTML format for posting on the County's web page. After the questionnaires are returned, follow-up focus group interviews with like-minded

Stakeholders will be conducted to establish a baseline of knowledge on the project and identify common interests and potential concerns. It is important to document their attitudes, perceptions, interest in participation, communication channels, and level of knowledge on the water resource management issues.

5. Develop a Strategy

Once the Stakeholders have been identified, and their values and concerns have been assessed, a strategy will be developed that is tailored to the objectives of the Involvement Process. Specific techniques will be selected based on the identified objectives and Stakeholder interests.

As techniques are developed, it is important to determine how effective they will be in meeting the information goals of the project. The techniques or approaches selected must have credibility with the target audiences. The strategy must also be flexible to allow changes in response to changing needs and priorities.

An evaluation component must be built into the Project to periodically review the effectiveness of the Involvement Process and ensure that it is providing full and open access to its participants. New issues may arise that will require the county to modify its approach to Stakeholder involvement.

6. Implement Strategy

The implementation of the Involvement Process will be an iterative approach to achieve the goals identified. Through Stakeholder forums and the development and execution of various action items, the goals of the Project can be attained. Critical to the success of the Project will be the use of effective communication tools. Effective communication is essential both among the Stakeholders as well as with the public-at-large.

IV. Communication Tools

The selection of specific tools and techniques for involving the Stakeholders is dependent on several factors such as cost, demands on staff time, level of skills needed, and past experience. The Stakeholders will be asked to identify what communication avenues they have access to for disseminating information (i.e., company newsletters, association meetings).

Several different approaches and tools should be implemented at different phases of the Project to capture the largest range of Stakeholder views. It may be necessary, at times, to target certain audiences within the Stakeholder group.

A. Stakeholder Forums

The primary communication tool among the Stakeholders will be through forums. At a minimum, the Stakeholders will convene periodic meetings (quarterly) to review progress on goals, discuss action items put before them, and provide a forum for public input. Ideally, these meetings should be well-publicized and open to the public to allow for additional input. The agenda for the first Stakeholder meeting should address the following issues:

- T Background on the Project
- T Goals of the Involvement Process as seen by Clermont Staff (Stakeholder input to agree on goals and provide additional goals)
- T Representation of the Stakeholders (are there any gaps?)
- T Roles and responsibilities of Stakeholders
- T Road map of the process and areas for input, action (when to meet again, best ways to communicate)
- T Set action items to accomplish by next meeting
- T Forum for comments and questions

The agenda for subsequent meetings will be driven in large part by the goals and action items set by the Stakeholders at the first meeting. Specific tasks (such as the development and dissemination of a brochure on the water quality monitoring stations in the county) will be reviewed at these forums.

B. Outreach Tools

An outreach component will be developed and implemented by the Stakeholder group once the overall goals and objectives are determined. It is here where specific products will be identified to reach various target audiences. Specific formats and distribution mechanisms will be identified to best satisfy the objectives. These outreach products may include newspaper articles on various issues, brochures, fact sheets, public service announcements, festivals, technical workshops, or other means of communicating with target audiences.

APPENDIX B

Public Comments and Responses

August 21, 2000 Comment from . . . Natasha Landell-Mills, Research Associate
International Institute for Environment and Development
London, United Kingdom

“I recently came across a brief overview of the Clermont County project aimed at improving water quality through effluent trading. The scheme is of great interest for me in relation to research I am undertaking for the International Institute for Environment and Development (IIED). My research aims to explore options for payments mechanisms for forest watershed protection services whereby beneficiaries (e.g. downstream water users) of these services agree to pay suppliers (e.g. upstream landowners). Examples of forest watershed protection services include water quality maintenance, regulation of dry season water supply, reduced flooding, reduced sedimentation, etc. Having read the summary of the Clermont project, I am keen to know whether this scheme incorporates forest land use or protection options as mechanisms for controlling non-point pollution and generating ‘credits’. If so I would be grateful for any literature on this issue. I look forward to hearing from you soon.”

August 28, 2000 Response from Paul Braasch, Clermont County Project XLC Coordinator
Office of Environmental Quality, Clermont County, Ohio

“Clermont County project XL does include forested areas and riparian protection as part of the trading options. Although I cannot provide much literature on the issue, I would suggest contacting Hale Thurston at USEPA Laboratory in Cincinnati, Ohio. He is the economist at the Cincinnati lab interested in trading issues. His e-mail address is: thurston.hale@epa.gov. Bernie Daniel is another individual working at USEPA in Cincinnati, who is working on riparian measurement and impact on water quality. His e-mail address is: daniel.bernie@epamail.epa.gov.”