Item	Components	Unit	Unit Cost	0 - 10-yr		10 - 20-yr	
				Units	Cost	Units	Cost
1	10" force main* (Providence PS) **(16%)****	LF	$23	22800	$80,000		$0
2	12" force main* (Park PS) **(44%)****	LF	$30	17700	$240,000		$0
3	Providence Pump Station **(16%)**** **(Includes Salvisa Service Area, New Providence PS & Providence discharge) (Sharing 10"FM with McAfee PS & Mundys PS)** (500 gpm @ 181ft TDH-10yrs) & (680gpm @ 200ft TDH-20yrs) with all associated appurtenances, wet well & valve vault	LS	$300,000	1	$50,000	0	$20,000
4	Air Release Valves w/Manholes **(16%)****	EA	$5,000	7	$10,000	0	$0
5	Park Pump Station **(44%)**** **(Includes Salvisa Service Area, McAfee Service Area & Heritage Ctr)** (2 pumps+1backup, each 425 gpm @ 116ft TDH, EA-10yrs) & (3pumps+1backup, each 425 gpm @ 145ft TDH, EA-20yrs) with all assoc. appurtenances, wet well, generator & valve vault	LS	$450,000	1	$200,000	0	$80,000
6	Air Release Valves w/Manholes **(44%)****	EA	$5,000	5	$10,000	0	$0
7	Odor Control Equipment@ Providence P.S. **(16%)**** & Park P.S. **(44%)****	LS	$26,450	2	$20,000		$0
8	Portable Generator	LS	$35,000	1	$35,000	0	$0
9	Stream Crossings (8) (Providence PS **(16%)**& Park PS **(44%)**)	LF	$100	400	$20,000	0	$0
10	Easements- 10"Force Mains (Providence PS **(16%)**& Park PS **(44%)**)	LF	$1.75	40500	$20,000	0	$0
11	Boring & Jack w/ Casing for 12-inch Force Main (Providence PS **(16%)**& Park PS **(44%)**) (~21 w/ 15 Large Bores)	LF	$300	1800	$310,000		$0
12	Harrodsburg WWTP Upgrade [(1)] (McAfee Service Area w/Heritage Ctr. Only)	Avg. GPD	$0	104000	$0	28000	$0
	Total				$995,000		$100,000
	Total footage of force main			40500		0	
	Restoration-pavement and driveways (5%)				$50,000		
	Erosion and Sediment Control (2%)				$20,000		$2,000
	General conditions (5%)				$50,000		$5,000
	Subtotal construction costs				$1,115,000		$107,000
	Construction contingencies and engineering (35%)				$390,000		$37,000
	Total capital costs				$1,510,000		$140,000

*Assumed using SDR 21 PVC.
Indicates **% shared cost with other Service Areas based on % total gallons needed in shared system.
[(1)] **Capacity available today, no upfront cost.**

Table 9.03-20 Opinion of Probable Construction Cost for McAfee Service Area Alternative B- Conveying to Harrodsburg WWTP. (w/ Heritage Ctr. & Salvisa Service Area Considered)

Alternate	Description	Total Projected Capital Cost -2016 (1)	Total Projected Capital Cost -2026 (1)
Brightleaf Service Area			
A	No Change	$0	$0
B	Conveyance to Harrodsburg Collection System with Upgrades to their System.	$876,000	$73,000
Burgin Service Area (with Paradise Camp Service Area)			
A	Conveyance to Danville Collection System. Sizing Consideration for Paradise Camp Service Area.	$1,915,000	$145,000
B	Conveyance to Danville Collection System. Sizing Consideration for All Herrington Lake Combined Communities.	$2,142,000	$362,000
Stringtown Service Area			
A	No Change	$0	$0
B	Conveyance to Harrodsburg Collection System with Upgrades to their System.	$350,000	$0
Herrington Lake Service Area (Chimney Rock Service Area & Dix Dam Service Area)			
A	Conveyance to and treatment at Herrington Lake Subsurface Discharge Treatment Facility from (STEP) Collection System Only.	$3,650,000	$1,940,000
B	Conveyance to Danville Collection System with Upgrades to their System.	$3,131,000	$454,000
Salvisa Service Area			
A	Conveyance to and treatment at Salvisa WWTP.	ND[1]	ND[1]
B	Conveyance to Harrodsburg Collection System with Upgrades to their System. Sizing Consideration for McAfee Service Area including Heritage Center.	$4,530,000	$510,000
McAfee Service Area			
A	No Change	$0	$0
B	Conveyance to Harrodsburg Collection System with Upgrades to their System. Sizing Consideration for Salvisa Service Area and Heritage Center.	$1,510,000	$140,000

(1)Presented in September 2006 Dollars.
ND[1] – No Wasteload Data Provided from KDOW.

Table 9.04-1 Projected Wastewater Conveyance & Treatment Capital Costs

Alternative	O & M Costs	Projected Different O &M Capital Cost – 2016 (1)	Projected Different O&M Capital Cost -2026 (1)
A -STEP Collection, Conveyance and Treatment at Herrington Lake Subsurface Discharge Treatment System			
1	Septic Tank Pumping (500 each)	$49,000	$108,000
2	Labor-2 Full Time Staff	$83,000	$83,000
3	Labor-1 Part Time Staff	$0	$16,000
		$132,000	$207,000
B -Conveyance to Danville Collection System and WWTP			
1	Danville Rate for Treatment $1.87/1000 gal.)	$67,000	$133,000
2	Labor-2 Full Time Staff	$83,000	$83,000
		$150,000	$216,000

[1]-Presented in September 2006 Dollars. Cost is relative to different expenses.
*** Electrical Cost were considered but found comparable for each alternative.**

Table 9.04-2 Projected Herrington Lake Service Area Wastewater Treatment O&M Costs

9.05 COST-EFFECTIVE ANALYSIS

A cost-effective analysis was performed for the alternatives identified where alternate forms of treatment were considered. The purpose of the cost-effective analysis was to compare the 20-year present worth costs among the alternatives. The discount rate used in the evaluation was 7.0%.

Table 9.05-1 summarizes the 20-year present worth costs for Herrington Lake Service Area alternative. The analysis considers only treatment related costs (collection and conveyance costs are omitted). The present worth analysis considers initial capital costs, staged capital costs including replacement of items if their useful life expires within the 20-year planning period, salvage value at end of 20 years, and O&M costs for the 20-year period. All capital costs were projected in September 2006 dollars. The alternative with lowest total present worth for Herrington Lake Service Area is Alternative B. Details of the present worth evaluation are included in Appendix F.

Aspects of Treatment Present Worth	Alternative A – Conveyance to Herrington WWTP & Treatment	Alternative B – Conveyance to Danville Collection System & treatment at DWWTP
Capital Cost[1] - Present Worth	$5,152,000	$4,235,000
Equipment Replacement - Present Worth	$670,000	$536,000
Operation & Maintenance – Present Worth	$951,000	$1,200,000
Salvage Value of Initial Construction - Present Worth	($309,000)	($200,000)
Total Present Worth*	$6,464,000	$5,771,000
Ranking	2	1

[1]-Discount Rate = 7%

Table 9.05-1 Herrington Lake Service Area - All Alternatives Present Worth Costs For 20 Years

9.06 EVALUATION OF NON-MONETARY FACTORS

The cost-effective analysis previously presented considers only cost implications of each alternative. Often there are non-monetary factors that can influence the selection of an alternative as well. The non-monetary factors for each of the treatment alternatives are discussed within this section.

The evaluation of conveyance and treatment non-monetary factors is documented in Table 9.06-1, Table 9.06-2, Table 9.06-3, Table 9.06-4, Table 9.06-5 and Table 9.06-6.

Reliability

An evaluation of the process reliability for each of the service areas was performed. The Do Nothing Alternative would result in the continued use of septic tank systems and package treatment plants of which were identified previously in this planning study to be in various states of failure. Gravity sewers and centralized pumping systems for collection and conveyance of wastewater for treatment is reliable, with adequate sizing, backup pumps, 2 hours of available emergency storage or generator for pumps on-site. Low pressure collection systems are considered less reliable because they have a large number of small pump stations without emergency electrical power. For the Herrington Lake Service area, treatment at Danville was considered more reliable because this option reduces the number of discharges.

Factor	Alternative A Do Nothing	Alternative B Conveyance to Harrodsburg Collection System for treatment at HWWTP
Reliability	1	2
Ability to Expand	1	2
Constructability	2	1
Improve the Environment	1	2
Total Average	5	7

2 = Most Favorable Rating
1 = Least Favorable Rating

Table 9.06-1 Brightleaf Service Area–Evaluation of Non-Monetary Factors

Factor	Alternative A Do Nothing	Alternative B Conventional Gravity Collection System	Alternative C Low Pressure, Small Diameter Force Main Collection System
Reliability of Process	1	2	1
Ability to Expand	1	1	2
Constructability	2	1	2
Improve The Environment	1	2	2
Total Average	5	6	7

2 = Most Favorable Rating
1 = Least Favorable Rating

Table 9.06-2 Burgin Service Area–Evaluation of Non-Monetary Factors

Factor	Alternative A Do Nothing	Alternative B Conveyance to Harrodsburg Collection System for treatment at HWWTP
Reliability	1	2
Ability to Expand	1	2
Constructability	2	1
Improve The Environment	1	2
Total Average	5	7

2 = Most Favorable Rating
1 = Least Favorable Rating

Table 9.06-3 Stringtown Service Area–Evaluation of Non-Monetary Factors

Factor	Do Nothing	Alternative A Conveyance to Herrington WWTP (subsurface discharge) and treatment	Alternative B Conveyance to Danville Collection System for treatment at DWWTP
Reliability of Process	1	1	2
Ability to Expand	1	2	2
Constructability	1	1	2
Improve The Environment	1	2	2
Total Average	4	6	8

2 = Most Favorable Rating
1 = Least Favorable Rating

Table 9.06-4 Herrington Lake Service Area–Evaluation of Non-Monetary Factors

Factor	Do Nothing	Alternative A Conveyance to Salvisa WWTP & treatment	Alternative B Conveyance to Harrodsburg WWTP for treatment
Reliability	1	ND[1]	2
Ability to Expand	1	ND[1]	2
Constructability	2	ND[1]	1
Improve The Environment	1	ND[1]	2
Total Average	5	ND[1]	7

2 = Most Favorable Rating
1 = Least Favorable Rating
ND[1]-No data on WLA limits to complete.

Table 9.06-5 Salvisa Service Area–Evaluation of Non-Monetary Factors

Factor	Alternative A No Nothing	Alternative B Conveyance to Harrodsburg Collection System for treatment
Reliability	1	2
Ability to Expand	1	2
Constructability	2	1
Improve The Environment	1	2
Total Average	5	7

2 = Most Favorable Rating
1 = Least Favorable Rating

Table 9.06-6 McAfee Service Area–Evaluation of Non-Monetary Factors

Ability to Expand

The ability to expand the proposed facilities for increased design flows was evaluated for all Service Areas. The Brightleaf, Stringtown, Salvisa, and McAfee Service Areas long term ability to effectively expand is through the implementation of a public sewer system with conveyance to the Harrodsburg WWTP. The Burgin Area (with Paradise Camp Service Area) has a long term ability to effectively expand through the implementation of a public sewer system with conveyance to the Danville WWTP. Future growth was considered over the next 20 years in sizing the necessary sewer infrastructure from these locations to the Harrodsburg and Danville WWTPs. The Herrington Lake Service Area Alternatives also accounted for future growth over the next 20 years. Providing reliable sewer service to all areas will offer the opportunity for growth and economic development.

Constructability

The ease of construction for the alternatives in each Service Area was evaluated. All three alternatives are going to require considerable care during construction in dealing with any existing infrastructure including housing and especially piping. Doing nothing requires the least construction and would be most favorable. All Service Areas, except Stringtown, utilize conveyance of wastewater to a point of treatment via force main. Given the force main is used to transfer wastewater under pressure, this form of conveyance can be placed relative to existing infrastructure at relatively shallow depths (30-inch minimum cover) and is easier to construct than gravity sewers. Low pressure collection systems are easier to construct compared to gravity sewers. The Herrington Lake Service Area would require less construction on behalf of MCSD if wastewater is pumped to Danville for treatment.

Improve the Environment

Continued use of private disposal systems (both package plant and on-site systems) will continue to result in environmental contamination. Conversely, by collecting, conveying and treating wastewater from these locations the environmental will benefit. Doing nothing is always less favorable.

SECTION 10
RECOMMENDED PLAN

The Regional Wastewater Facilities Plan evaluated various collection, conveyance and treatment alternatives for six distinct geographical Service Areas. The alternatives were evaluated for capital costs, cost-effectiveness (present worth), and non-monetary features. The following plan is recommended to the MCSD.

10.01 RECOMMENDED PLAN

The recommended plan for wastewater collection, conveyance and treatment was developed through evaluations documented in Sections 8 and 9. The plan will be presented for each geographical Service Area.

A. Brightleaf Service Area

The recommended plan includes assumption of ownership and operation of the four existing collection systems and elimination of the four package treatment plants. MCSD should investigate and rehabilitate the collection system in the Brightleaf Estates system using some limited grant funding provided by a line item appropriation in the 2006 State Budget. Further, MCSD should eliminate all four treatment plants and construct the Brightleaf Regional Pumping Station and force main to deliver wastewater to the Harrodsburg collection system for treatment at the existing Harrodsburg WWTP. In eliminating the package treatment plants, a few small trunk sewer extensions and pump stations/force main extensions will be required. These improvements are shown in Figures 8.03-1 and 9.03-1. Design criteria for the project elements were presented in Table 9.03-2.

The capital cost for the proposed improvements are projected to be $1,755,000.

It is recommended this area receive the highest priority for service by MCSD. Construction is expected to proceed as early as 2007. As mentioned, MCSD has a $1,000,000 grant available for this project. Additional funding should be pursued. The regionalized nature of this project makes funding attractive.

B. Burgin Service Area

The recommended plan includes construction of a conventional gravity collection system in lieu of continued operation of septic tanks and the two operational package treatment plants. The gravity collection system would utilize gravity sewer pipe to convey wastewater to a regional pumping station. The regional pumping station would then pump the wastewater to Danville for treatment. Wastewater will be discharged into the Danville system at a connection to their existing 14-inch North Point force main. The pump station and force main system should be sized to accommodate future Service Areas along Herrington Lake. These improvements are shown in Table 8.04-2a and Figure 9.03-2a. Design criteria for the project elements were presented in Table 9.03-5.

The capital cost for the proposed improvements are projected to be $11,847,000.

It is recommended this area receive the third highest priority for service by MCSD. Discussions with the City of Burgin Mayor, Council and citizens will be necessary prior to undertaking this project. Design and pursuit of funding should begin in 2007, with construction proceeding as early as 2008.

C. Agricultural Heritage Center (Part of McAfee Service Area)

The recommended plan includes construction of a pumping station and force main to transport the wastewater to the Harrodsburg collection system. The Harrodsburg Brentwood Pumping Station would then pump the wastewater to the Harrodsburg WWTP for treatment. An intermediate pump station would be required between Burgin and Harrodsburg. Utilization of the Brentwood station is only anticipated to occur for a limited time until the MSCD installs regional pumping infrastructure to deliver all wastewater to the Harrodsburg WWTP. The regional infrastructure would be installed with the McAfee and Salvisa Service Area projects. The force main installation should consider installation of a parallel force main for future use. These improvements are shown in Figure 8.03-6 and 9.03-7. Design criteria for the project elements were presented in Table 9.03-19.

The capital cost for the proposed improvements are included in the McAfee total cost.

D. Paradise Camp Service Area (on Herrington Lake)

The recommended plan includes construction of a low pressure grinder pumping station in lieu of continued operation of septic tanks and the one operational package treatment plant. The low pressure collection system would include simplex grinder pumps at each residence and small diameter force mains to transport the wastewater to a regional pumping station near Paradise Camp. The regional pumping station would then pump the wastewater to Burgin for pumping to Danville for treatment. It is anticipated the Burgin infrastructure will be in place prior to the Paradise Camp project. These improvements are shown in Figure 8.03-3b and 9.03-6. Design criteria for the project elements were presented in Table 9.03-14.

The capital cost for the proposed improvements are projected included in the Herrington Lake total cost.

Discussions with the citizens will be necessary prior to undertaking this project. Design and pursuit of funding should begin in 2010, with construction proceeding as early as 2012.

E. Herrington Lake Service Area

The recommended plan includes construction of a low pressure grinder pumping system in lieu of continued operation of septic tanks and the one operational package treatment plant. The low pressure collection system would include simplex grinder pumps at each residence and small diameter force mains to transport the wastewater to several regional pumping stations. The regional pumping stations would then pump the wastewater to Burgin for pumping to Danville for treatment. It is anticipated the Burgin infrastructure will be in place prior to the Herrington Lake projects. These improvements are

shown in Figures 8.03-3 and 9.03-6. Design criteria for the project elements were presented in Table 9.03-14.

The capital cost for the proposed improvements are projected to be $15,925,000.

Discussions with the citizens will be necessary prior to undertaking this project. Design and pursuit of funding should begin after 2012, with construction proceeding as early as 2014.

F. Stringtown Service Area

The recommended plan includes construction of a gravity collection system to collect wastewater and a trunk sewer to deliver wastewater to the Harrodsburg collection system for treatment at the existing Harrodsburg WWTP. Minor improvements to the existing Harrodsburg infrastructure may be required near the point of connection. These improvements are shown in Figures 8.03-4 and 9.03-3. Design criteria for the project elements were presented in Table 9.03-10.

The capital cost for the proposed improvements are projected to be $2,210,000.

Discussions with the citizens will be necessary prior to undertaking this project. Design and pursuit of funding should begin in 2014, with construction proceeding as early as 2016.

G. Salvisa Service Area

The recommended plan includes construction of a low pressure grinder pumping station in lieu of continued operation of septic tanks and the one operational package treatment plant. The low pressure collection system would include simplex grinder pumps at each residence and small diameter force mains to transport the wastewater to a regional pumping station. The regional pumping station will deliver wastewater to the Harrodsburg treatment plant for treatment. Collection and pumping would eliminate existing on-site disposal systems and one package treatment plant. Pumping to Harrodsburg entails two pumping stations between Salvisa and Harrodsburg where wastewater would be repumped given the distance between the areas. These improvements are shown in Figures 8.03-5b and 9.03-7. Design criteria for the project elements were presented in Table 9.03-17.

The capital cost for the proposed improvements are projected to be $11,300,000.

Construction of this infrastructure is closely tied to the McAfee Service Area infrastructure. Discussions with the citizens will be necessary prior to undertaking this project. In addition, the alternatives of constructing a new Salvisa treatment plant and pumping to Lawrenceburg should be considered. Lawrenceburg may have infrastructure much closer to Salvisa by then and KDOW to evaluate the feasibility of this option. Further, KDOW will have provided a wasteload allocation to help consider the costs associated with construction and operation of a treatment plant in the area. Design and pursuit of funding should begin in 2014, with construction proceeding as early as 2016.

H. McAfee Service Area

The recommended plan includes construction of a gravity collection system to collect wastewater to a series of regional pumping stations and deliver wastewater to the Harrodsburg treatment plant for treatment. Collection and pumping would eliminate existing on-site disposal systems and one package treatment plant. Pumping to Harrodsburg entails two pumping stations between Salvisa and Harrodsburg where wastewater would be repumped given the distance between the areas. These improvements are shown in Figures 8.03-6 and 9.03-7. Design criteria for the project elements were presented in Table 9.03-19.

The capital cost for the proposed improvements are projected to be $10,141,000.

Construction of this infrastructure is closely tied to the Salvisa Service Area infrastructure. Discussions with the citizens will be necessary prior to undertaking this project. Design and pursuit of funding should begin in 2014, with construction proceeding as early as 2016.

I. Summary

The recommended plan includes an ambitious effort to provide reliable wastewater service to many densely populated and unsewered areas of the County. The completion of these projects will take many years and require substantial funding. In total, the capital costs total over $53,000,000 for the recommended plan.

10.02 WORKING WITH HARRODSBURG AND DANVILLE

MCSD has engaged the City of Harrodsburg and the City of Danville in dialogue concerning regional opportunities for wastewater treatment. Both sewer service providers worked successfully with MCSD, and the provider that makes sense economically for each Service Area will be selected for each service area. Harrodsburg's treatment plant has adequate capacity to treat up to 1 mgd more than it receives today, while the total 20 year needs of the MCSD are expected to generate only 0.93 mgd of wastewater (assuming Herrington Lake Service Area wastewater is treated remotely). Harrodsburg has welcomed the concept of providing wholesale treatment of the MCSD wastewater if MCSD helps to prevent any overloaded conditions within the Harrodsburg collection system caused by MCSD flow. The terms and conditions of the working relationship between Harrodsburg and MCSD, including rates, should be documented in an Interlocal Agreement. Correspondence with Harrodsburg is included in Appendix E.

An agreement is in place with Danville to provide sewer service to MCSD. The Burgin and Herrington Lake service areas can be served most effectively by Danville based on the distance from Burgin to the nearest Danville connection point. Danville's existing pump station/ conveyance system and WWTP have sufficient capacity to service the Burgin Area. A copy of this service agreement between MCSD and Danville is included in Appendix H.

10.03 FUNDING SOURCES

Funding for the proposed projects can be through many sources. Anticipated funding sources at this time include the following:

- Community Development Grant (CDBG)
- Rural Development (RD) - 25% Grant/75% Loan
- State Revolving Fund Loan
- Tap Fees (System Development Charges)
- Direct Grants

MCSD should work closely with developers to help pay for or offset some of the capital costs for conveyance infrastructure. Many regional sewering agencies have been able to fund portions of their infrastructure in this manner.

As previously mentioned, the regional nature of the proposed projects and the environmental benefit that will result make the projects very attractive for grant funding. MCSD should prepare project profiles and regularly discuss these projects with funding agencies and elected officials to maximize the funding with grants.

10.04 USER CHARGE EVALUATION

The potential user charge rates for the Brightleaf Service Area were computed based on several assumptions. An official rate study should be prepared to establish fair and equitable rates once the project is near completion. The following assumptions were made in this cursory evaluation:

- The existing infrastructure in the Brightleaf Service Area is turned over to the MSCD.

- MCSD uses grant monies ($1,000,000) and an additional 25% grant / 75% loan package from Rural Development to provide funding for the $1,656,000 project.

- The entire life of the loan would be over 40 years.

- The estimated annual payment is approximately $27,000 per year.

- Rates would collect 10% additional revenue for debt service coverage.

- The anticipated interest rate for the 75% Loan is expected to be approximately 4.5%.
- A replacement fund account would be funded at $5000 per year.

- An operational budget would include the following:
  - $10,000 in administrative expense
  - $25,000 for part time employees
  - $10,000 for electric and chemicals

  - $10,000 for emergency expenses (clogs, etc)
  - $5000 for billing expense through LVWA

- The Brightleaf area generates 50,000 gpd of wastewater (assumes nominal I/I).

- MCSD pays Harrodsburg rates of approximately $4.80 per 1000 gallons.

- Each customer discharges 4000 gallons per month of wastewater.

- Customers would be billed based on their metered water usage.

Based upon the above assumptions, a customer discharging 4000 gallons per month would be charged about $39 per month to become an annual total of $470 per year.

Any additional grants or customers above the existing number of homes will help to reduce these future costs.

A more extensive rate evaluation study would need to be completed at the time of the project.

MCSD will have to evaluate rates for each specific Service Area and determine the equitability of charging rates that vary by area or rates that are universal.

Rate determinations for other Service Areas are too dependent on actual project costs and funding scenarios to be predicted in this report. There is risk in under and over projecting potential rates.

10.05 IMPLEMENTATION PLAN

General

Because of the number of projects and regulatory and funding agencies that will be involved in the projects, and the length of time required for each, implementation of the recommended plan should begin immediately in order to achieve a timely, cost-effective completion of the proposed projects.

Statement of Local Resources

The MCSD will oversee the implementation of the recommended plan. As projects proceed, at least one operator will need to be hired or retained by the MCSD to maintain the District's infrastructure.

Action Plan

The MCSD should initiate the following actions:

1. Review, approve, and adopt this Regional Wastewater Facilities Plan report.

2. Conduct a public hearing to discuss the Regional Wastewater Facilities Plan Report and Recommended Plan.

3. Submit the adopted Regional Wastewater Facilities Plan to the Kentucky Department for Environmental Protection – Division of Water for review, comment, and approval.

4. Continue dialogue with Harrodsburg and Danville to arrive at a final interlocal agreement that comprises the terms of your mutually-beneficial working relationship including rates, ordinances, etc.

5. Continue design and construction of the Brightleaf Service Area recommended plan already underway.

6. Pursue sources of grant monies for the proposed year 0-5 projects.

7. Study and implement a rate structure to begin equitably charging new customers for their share of the proposed infrastructure. Rates may include system development charges, tap on fees, and user rates. Some of these rates are highly dependent on final negotiated rates with Harrodsburg and cannot be considered until that effort is complete.

8. Proceed with the design of remaining year 0-5 projects including Burgin and the Agricultural Heritage Center.

9. Continue dialogue with the water service providers (Lake Village Water Association, North Mercer Water District) to monitor the trends in water distribution and create procedures to invoice future sewer customers based on their actual water used.

An Implementation Schedule is provided in Table 10.05-1.

Table 10.05-1
Mercer County Sanitation District
Implementation Schedule

Date	Action Plan
	Planning Study:
	Approve 201 Facilities Plan
	Submit Adopted Facilities Plan Update to DOW for review and approval
	Public Hearing
	Obtain KY DOW approval of Facilities Plan
	Interlocal Agreement:
	Negotiate terms and conditions with Harrodsburg
	Execute Interlocal Agreement
	Brightleaf Service Area Project:
	Complete Preliminary Engineering Report
	Select route and pump station site
	Obtain easements
	Obtain ownership of privite collection systems
	Investigate and repair known defects in the collection systems
	Complete design, preparation of bid document
	Authorize funding applications to various funding agencies
	Obtain funding confirmation from various sources
	Obtain KY DOW approval of project
	Send out to bid
	Award bid
	Begin construction
	Initiate a rate study
	Complete construction
	Begin operation of new facilities
	Agricultural Heritage Center:
	Confirm wastewater flows from center
	Pursue and obtain funding for project
	Follow same sequence as for Brightleaf Service Area
	Burgin:
	Generate support from local government and citizens
	Pursue and obtain funding for project
	Follow same sequence as for Brightleaf Service Area
	Future Service Areas:
	Follow same sequence as for Burgin Service Area

SECTION 11
CROSS-CUTTER CORRESPONDENCE AND MITIGATION

11.01 INTRODUCTION AND BACKGROUND

On behalf of the MCSD, SAI sent letters to the following cross-cutting agencies to request documentation of "no-impact" from the proposed project, or a statement of the concerns that should be addressed prior to implementation of the project: U.S. Fish and Wildlife Service, Kentucky Department of Fish and Wildlife Resources (KDFWR), Kentucky Heritage Council, U.S. Army Corps of Engineers, and the Natural Resources and Conservation Service. The agencies were asked to review the provided information for an environmental review of the Regional Wastewater Facilities Plan Amendment, KY 33 Sewer Line Installation for Mercer County, Kentucky. Pre-development discussions with the cross-cutting agencies helps to avoid, minimize, or compensate for potential adverse effects to social, historical, or environmental resources and unnecessary project delays.

11.02 U.S. FISH AND WILDLIFE SERVICE

The U.S. Fish and Wildlife Service (Service) reviewed the proposed project and offered the following comments in accordance with the Endangered Species Act of 1973, the Migratory Bird Treat Act, and the Fish and Wildlife Coordination Act. The Service expressed concern for interrelated and interdependent actions as a result of the project and recommended project plans to be developed to avoid impacting wetlands and/or jurisdictional waters for proposed and future projects in the area. The Service also provided a federal list of protected species that have the potential to occur within the project vicinity. These species include the Indiana bat, the gray bat, the globe bladderpod and the running buffalo clover, all of which are endangered species with the exception of the globe bladderpod, which is a candidate species.

In regards to the Indiana bat, the Service recommends the proposed project to be designed or modified to eliminate or reduce impacts to potential Indiana bat roost trees. If this is not possible, potential roost trees within the project area should only be removed between October 15 and March 31. The project area should also be surveyed for caves, rock shelters, and underground mines, to identify any such habitats that may exist on-site, and avoid impacts to those sites pending an analysis of their suitability as Indiana bat habitat by the Service. If the project schedule requires the clearing of potential bat roosting trees between April 1 and October 14, the project site can be surveyed by a qualified biologist to determine the presence or absence of Indiana bats in an effort to determine if potential effects are likely. Further coordination and consultation would be required with the Service. Another option would be for MCSD to enter into a Conservation Memorandum of Agreement (MOA) with the Service to gain flexibility in project timing with regard to removal of suitable Indiana bat habitat by providing recovery-focused conservation benefits to the Indiana bat through implementation of minimization and migration measures.

Similar to the Indiana bat, the Service recommends a survey of the project area be completed for the Gray bat. The survey should assess caves, rock shelters, and underground mines, identify any such habitats that may exist on-site, and avoid impacts to those sites pending analysis for their suitability as gray bat habitat by the Service. Additionally, a plan for Sediment Best Management Practice (BMP) implementation should be submitted to the Service for approval to minimize siltation of the streams located within the project area, as these streams represent potential foraging habitat for the gray bat.

The globe bladderpod is a federal candidate species and may warrant future protection. For this reason, the Service recommends an assessment to be completed for the project area to determine if suitable globe bladderpod habitat would be impacted as a result of proposed project. Should the proposed project alter habitat required for this species, MCSD should notify the Service with the results of any assessments or surveys for this species.

The Service recommends an on-site inspection or survey of the area for the running buffalo clover by qualified personnel to determine if the listed species is present or occurs seasonally. The Service should be notified of the results of any surveys and an analysis of the "effects of the action" on any listed species including consideration of direct, indirect, and cumulative affects. A survey for running buffalo clover would not be necessary if sufficient site-specific information was available that showed there is no suitable habitat within the project area or its vicinity, or the species would not be present within the project area.

A copy of the letter from the U.S. Fish and Wildlife Service elaborating on these recommendations is attached in Appendix I. Before implementing the proposed project, MCSD will comply with the required measures recommended in the letter.

11.03 KENTUCKY DEPARTMENT OF FISH AND WILDLIFE RESOURCES

The KDFWR reviewed the project information and indicated the federally endangered Gray Myotis occurs within proximity to the proposed project site. Because existing plans for the project show new water line installation in highway rights-of-way or within private property easements, KDFWR does not expect impact to this species or their critical habitat. KDFWR does recommend strict erosion control measures to be developed and implemented prior to construction to minimize indirect impacts to aquatic resources. A copy of the letter from KDFWR is attached in Appendix I. Before implementing the proposed project, MCSD will comply with the recommended measures.

11.04 KENTUCKY HERITAGE COUNCIL

After reviewing the proposed project and past files, the Kentucky Heritage Council indicated that the entire proposed project area has not been surveyed for archeological resources. Additionally, there is at least one previously documented archeological site that could be impacted by the proposed project. Under these circumstances, the Heritage Council recommends that the undisturbed areas of the proposed project be surveyed by a professional archeologist, any potential impacts to previously documented archeological sites be assessed, and that the resulting report of these investigations be submitted to the Heritage Council for review and comment. MCSD may file documentation of prior disturbance within the proposed project area with the State Historic Preservation Officer and request an opinion concerning the need of an archaeological survey. A copy of the letter from the Kentucky Heritage Council is attached in Appendix I. Before implementing the proposed project, MCSD will comply with the required measures recommended in the letter.

11.05 U.S. ARMY CORPS OF ENGINEERS

The U.S. Army Corps of Engineers reviewed the proposed project and offered the following comments in accordance with Section 404 of the Clean Water Act. The proposed conveyance of wastewater from Burgin to Danville, Kentucky paralleling KY 33 with a force main will involve impacts to unnamed tributaries to Cane Run and the Dix River. Under Section 404, the Corps may require authorization prior to construction. To determine whether a Department of the Army (DA) permit is required the Corps will need additional detail on the project's design, scope, construction methods, and purpose. The Corps recommends this information be submitted in a formal permit application. A copy of the letter from the U.S. Army Corps of Engineers is attached in Appendix I. Before implementing the proposed project, MCSD will comply with the required measures recommended in the letter.

11.06 NATURAL RESOURCES CONSERVATION SERVICE

The Natural Resource Conservation Service (NRCS) reviewed the proposed project and offered the following comments. The proposed sewer line will cross through soils designated as "Prime Farmland" and "Farmland of Statewide Importance." Any activities involved in federal funding and conversion of Prime or Statewide Important soils must complete a NRCS-CPA-106 form as part of the Farmland Protection Policy Act. The NRCS expressed a concern for the possible wetlands that could exist along the route of the sewer line and recommended this should be considered prior to any construction. The NRCS also documented fairly shallow soil depths from the bedrock to the soil surface along the route of the proposed sewer line. The lack of soil depth could cause for increased costs to get the sewer installed. Additionally, NRCS recommends soil conservation measures to be in place prior to construction due to the presence of highly erodible soils along the proposed route. A copy of the letter and reference maps from the Natural Resource Conservation Service elaborating on these recommendations are attached in Appendix I. Before implementing the proposed project, MCSD will comply with the recommended measures.

SECTION 12
DOCUMENTATION OF PUBLIC PARTICIPATION

12.01 INTRODUCTION AND BACKGROUND

KDOW requires a public participation process as part of the review/approval of a Regional Wastewater Facilities Plan. MCSD has accomplished the following efforts:

1. Held Brightleaf Estates Public Meeting in 2005 prior to formation of the MCSD.

2. Held a series of stakeholders meetings prior to the formation of the MCSD. Participants included the County-Judge-Executive, Water Providers (Lake Village, North Mercer), the City of Harrodsburg, the Health Department, and periodic representation from KDOW and KIA.

3. Upon formation of the MCSD, all monthly meetings are open to the public.

4. A public Hearing on the Draft Regional Wastewater Facilities Plan was conducted on December 7, 2006 at 7 P.M. at Youngs Park Shelter in Harrodsburg. A copy of the Public Notice is included in Appendix G. The public comment period ran for 30 days from the date of first publication (November 23, 2006).

5. A public Hearing on the revised Regional Wastewater Facilities Plan will be conducted in April 2012. A record of the public hearing will be prepared and submitted to KDOW after the public comment period is closed.

APPENDIX H
DANVILLE AGREEMENT

Revised March 2013

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
3032 Alvey Park Drive West, Suite 2
Owensboro, KY 42303

Phone: (270) 685-1707 ext.131
Fax: (270) 926-7808

January 29, 2013

Michael L. Davis
Strand Associates, Inc.
1525 Bull Lea Road, Suite 100
Lexington, KY 40511

Mr. Davis:

Enclosed with this letter please find information pertaining to the Mercer County Sanitation District (MCSD) sewer line installation amendment between Burgin, KY and Danville, KY. I am unaware if this project is receiving federal funds, but if it is, then you must complete the two NRCS-CPA-106 forms and notify this office of such. The reason for these forms to be completed is that this proposed route for the sewer line is crossing through soils designated as "Prime Farmland" and "Farmland of Statewide Importance". Any activities involving federal funding and conversion of Prime or Statewide Important soils must complete AD-1006 or CPA-106 as part of the Farmland Protection Policy Act (FPPA). I included the two forms (one for each county involved), so that you would have NRCS' portion completed if it is necessary.

I used the provided map to identify the location of the route that the proposed sewer line would take. Since no corridor width was given, I used a corridor width of 75 feet on either side of the road (150 feet wide total) to come up with 51.6 acres of ground potentially involved in the project.

As for the concerns on this project, there are three main concerns that I see and they are:

A) **Wetlands** – As you can see on the map with the legend titled *Hydric Soils Legend*, that this sewer line is crossing two creeks and the soils around those creeks are partially hydric soils. This means that possible wetlands could exist along this route that should be taken into account. USDA-NRCS does not conduct wetland determinations for non-USDA program participants, but this should be considered before construction begins.

B) **Depth to bedrock** – The map with the legend titled *Depth to Lithic Bedrock (cm)* shows the soil depth along the proposed route of the sewer line. As shown in the map, the proposed sewer line will be crossing through soils with a fairly shallow depth from the bedrock to the soil surface (less than 50 cm or 20 inches in some areas). This lack of soil depth could cause for increased costs to get the sewer line installed.

C) **Soil erosion during construction** – As for soil erosion on this project, the following soil types are considered **HIGHLY ERODIBLE** soils:

- FaC – Fairmount-Rock outcrop complex, 6 to 12 percent slopes
- FaD – Fairmount-Rock outcrop complex, 12 to 30 percent slopes
- McB – McAfee silt loam, 2 to 6 percent slopes
- McC – McAfee silt loam, 6 to 12 percent slopes
- uMlmC – Maury-Bluegrass silt loams, 6 to 12 percent slopes

With these soils, conservation measures, such as silt fences and soil cover, should be taken to reduce the amount of soil erosion from the construction site.

If this office may be of additional assistance, please do not hesitate to contact our office in Harrodsburg, KY by calling the District Conservationist, Brandon Campbell at 859-734-6889 ext. 3, or myself in Owensboro, KY at 270-685-1707 ext. 131.

David Gehring

DAVID GEHRING
Resource Soil Scientist, Owensboro, KY

Cc:
Brandon Campbell, District Conservationist, Harrodsburg, KY

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request 1/18/13	4. Sheet 1 of _____
1. Name of Project **MCSD Sewer Lines from Burgin to Danville**	5. Federal Agency Involved	
2. Type of Project **Sewer Line Installation**	6. County and State **Mercer, KY**	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS 1/18/13	2. Person Completing Form **David Gehring**
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐		4. Acres Irrigated | Average Farm Size
5. Major Crop(s) **Corn, Soybeans**	6. Farmable Land in Government Jurisdiction Acres: **108,712** % **68**	7. Amount of Farmland As Defined in FPPA Acres: 71,804 % **45**
8. Name Of Land Evaluation System Used **LESA**	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS **1/31/13**

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment _____			
	Corridor A	**Corridor B**	**Corridor C**	**Corridor D**
A. Total Acres To Be Converted Directly	**51.6**			
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	**51.6**			
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	**27.3**			
B. Total Acres Statewide And Local Important Farmland	**13.4**			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	**0.06%**			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	**45.01%**			
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	63			
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* — **Maximum Points**				
1. Area in Nonurban Use — **15**				
2. Perimeter in Nonurban Use — **10**				
3. Percent Of Corridor Being Farmed — **20**				
4. Protection Provided By State And Local Government — **20**				
5. Size of Present Farm Unit Compared To Average — **10**				
6. Creation Of Nonfarmable Farmland — **25**				
7. Availablility Of Farm Support Services — **5**				
8. On-Farm Investments — **20**				
9. Effects Of Conversion On Farm Support Services — **25**				
10. Compatibility With Existing Agricultural Use — **10**				
TOTAL CORRIDOR ASSESSMENT POINTS — **160**				
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — **100**	**63**			
Total Corridor Assessment (From Part VI above or a local site assessment) — **160**				
TOTAL POINTS *(Total of above 2 lines)* — **260**				

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
			YES ☐ NO ☐

5. Reason For Selection:

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request **1/18/13**	4. Sheet 1 of _____
1. Name of Project **MCSD Sewer Lines from Burgin to Danville**	5. Federal Agency Involved	
2. Type of Project **Sewer Line Installation**	6. County and State **Boyle, KY**	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS **1/18/13**	2. Person Completing Form **David Gehring**
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐		4. Acres Irrigated | Average Farm Size
5. Major Crop(s) **Corn, Soybeans**	6. Farmable Land in Government Jurisdiction **Acres: 84,020 % 73**	7. Amount of Farmland As Defined in FPPA **Acres: 66,409 % 57**
8. Name Of Land Evaluation System Used **LESA**	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS **1/31/13**

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment _____			
	Corridor A	**Corridor B**	**Corridor C**	**Corridor D**
A. Total Acres To Be Converted Directly	**17.9**			
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	**17.9**			
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	**10.7**			
B. Total Acres Statewide And Local Important Farmland	**3.3**			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	**0.02%**			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	**57.4%**			
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	60			
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* — **Maximum Points**				
1. Area in Nonurban Use — **15**				
2. Perimeter in Nonurban Use — **10**				
3. Percent Of Corridor Being Farmed — **20**				
4. Protection Provided By State And Local Government — **20**				
5. Size of Present Farm Unit Compared To Average — **10**				
6. Creation Of Nonfarmable Farmland — **25**				
7. Availablility Of Farm Support Services — **5**				
8. On-Farm Investments — **20**				
9. Effects Of Conversion On Farm Support Services — **25**				
10. Compatibility With Existing Agricultural Use — **10**				
TOTAL CORRIDOR ASSESSMENT POINTS — **160**				
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — **100**	**60**			
Total Corridor Assessment (From Part VI above or a local site assessment) — **160**				
TOTAL POINTS *(Total of above 2 lines)* — **260**				

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES ☐ NO ☐

5. Reason For Selection:

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points