United States Department of Agriculture

NRCS Natural Resources Conservation Service

1925 Old Main Street
Suite 2
Maysville, KY 41056
1-606-759-5570

SUBJECT: KY Highway 32 Improvement Project
Rowan and Elliott Counties, Ky

July 09, 2012

TO: Doug Heberle, Planning Department, Qk4
Architechure Engineering Planning
815 West Market Street, Suite 300
Louisville, KY 40202

Mr. Heberle,

Enclosed are the completed CPA-106's for each county with soils maps – a separate soil map for each alternate by county, a composite farmland legend, and the brief soil descriptions for those soil map units in the composite corridor for each county as outlined on the shape-file and map forwarded by your office. This information is based on the USDA published soil surveys for Rowan and Elliot Counties, KY. Additional soils information is available on USDA's Web Soil Survey for these counties.

Prior converted:
These are estimated areas, identified by yellow on the attached soils maps, that according to NRCS 2010 aerial photography should considered prior converted where disturbed, built up or comerical uses, and are not prime or unique farmland, statewide important farmland, or locally important farmland.

If you need additional information or assistance please contact Tony Burnett, District Conservationist for Rowan County at 606-845-6291, Marty McCleese District Conservationist for Elliott County at 606-743-3194, or me at the above address and number.

Steve Jacobs
Resource Soil Scientist, NRCS
Maysville, Ky
cc:
Tony Burnett, DC, NRCS, Flemingsburg, KY
Marty McCleese, DC, NRCS, West Liberty, 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 6/27/12	4. Sheet 1 of 1
1. Name of Project KY 32 Improvement Project	5. Federal Agency Involved FHWA	
2. Type of Project Right-of-Way Corridor Project	6. County and State Elliott, KY	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS 6/27/12	2. Person Completing Form Steve Jacobs, RSS
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 N/A	Average Farm Size 131 acres
5. Major Crop(s) Corn, tobacco, hay	6. Farmable Land in Government Jurisdiction Acres: 46,638 % 31.09	7. Amount of Farmland As Defined in FPPA Acres: 13,120 % 9.75
8. Name Of Land Evaluation System Used NRCS - Elliott County	9. Name of Local Site Assessment System None	10. Date Land Evaluation Returned by NRCS 7/9/12

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	85	274	231	337
B. Total Acres To Be Converted Indirectly, Or To Receive Services	85	274	231	337
C. Total Acres In Corridor	85	274	231	337
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	0.0	0.4	0.2	0.0
B. Total Acres Statewide And Local Important Farmland	3.2	9.5	7.6	20.1
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.01	0.02	0.02	0.04
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	100	100	100	100
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)*	19	14	16	15
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	15	15	15	15
2. Perimeter in Nonurban Use — 10	10	10	10	10
3. Percent Of Corridor Being Farmed — 20	5	5	5	10
4. Protection Provided By State And Local Government — 20	0	0	0	0
5. Size of Present Farm Unit Compared To Average — 10	3	3	3	3
6. Creation Of Nonfarmable Farmland — 25	10	10	10	15
7. Availablility Of Farm Support Services — 5	0	0	0	0
8. On-Farm Investments — 20	10	10	10	10
9. Effects Of Conversion On Farm Support Services — 25	0	0	0	0
10. Compatibility With Existing Agricultural Use — 10	0	0	0	0
TOTAL CORRIDOR ASSESSMENT POINTS — 160	53	53	53	63
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100	19	14	16	15
Total Corridor Assessment (From Part VI above or a local site assessment) — 160	53	53	53	63
TOTAL POINTS *(Total of above 2 lines)* — 260	72	67	69	78

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:

Part III: For the purposes of this form, the four build alternatives for KY 32 are as follows: Corridor A = Alternative 1A, Corridor B = Alternative 1B, Corridor C = Alternative 2A, and Corridor D= Alternative 3.

Acreage figures represent total ROW (existing + required).

Signature of Person Completing this Part: | DATE

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

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FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request 6/27/12	4. Sheet 1 of 1
1. Name of Project KY 32 Improvement Project	5. Federal Agency Involved FHWA	
2. Type of Project Right-of-Way for Corridor Project	6. County and State Rowan, KY	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS 6/27/12	2. Person Completing Form Steve Jacobs, RSS
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 N/A	Average Farm Size 116 acres
5. Major Crop(s) Corn, tobacco, hay	6. Farmable Land in Government Jurisdiction Acres: 58,710 % 32.52	7. Amount of Farmland As Defined in FPPA Acres: 36,140 % 20.0
8. Name Of Land Evaluation System Used NRCS - Rowan County	9. Name of Local Site Assessment System None	10. Date Land Evaluation Returned by NRCS 7/9/12

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	79	147	140	227
B. Total Acres To Be Converted Indirectly, Or To Receive Services	79	147	140	227
C. Total Acres In Corridor	79	147	140	227
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	0.1	1.8	2.0	3.0
B. Total Acres Statewide And Local Important Farmland	0.0	0.8	0.6	0.6
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0	0	0	0.01
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	100	100	100	100
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)*	16	23	21	12
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	15	15	15	15
2. Perimeter in Nonurban Use — 10	10	10	10	10
3. Percent Of Corridor Being Farmed — 20	5	5	5	10
4. Protection Provided By State And Local Government — 20	0	0	0	0
5. Size of Present Farm Unit Compared To Average — 10	3	3	3	3
6. Creation Of Nonfarmable Farmland — 25	10	10	10	15
7. Availablility Of Farm Support Services — 5	0	0	0	0
8. On-Farm Investments — 20	10	10	10	10
9. Effects Of Conversion On Farm Support Services — 25	0	0	0	0
10. Compatibility With Existing Agricultural Use — 10	0	0	0	0
TOTAL CORRIDOR ASSESSMENT POINTS — 160	53	53	53	63
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100	16	23	21	12
Total Corridor Assessment (From Part VI above or a local site assessment) — 160	53	53	53	63
TOTAL POINTS *(Total of above 2 lines)* — 260	69	76	74	75

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:

*** Part III: For the purposes of this form, the four build alternatives for KY 32 are as follows: Corridor A = Alternative 1A, Corridor B = Alternative 1B, Corridor C = Alternative 2A, and Corridor D= Alternative 3.**

Acreage figures represent total ROW (existing + required).

Signature of Person Completing this Part: | DATE

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

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PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request 6/27/12	4. Sheet 1 of 1
1. Name of Project KY 32 Improvement Project	5. Federal Agency Involved FHWA	
2. Type of Project Right-of-Way Corridor Project	6. County and State Elliott, KY	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS 6-27-12	2. Person Completing Form Steve Jacobs, RSS
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 [X] NO [ ]	4. Acres Irrigated –	Average Farm Size 131 ac.
5. Major Crop(s) Corn, Tobacco, Hay	6. Farmable Land in Government Jurisdiction Acres: 46,638 % 31.09	7. Amount of Farmland As Defined in FPPA Acres: 13,120 % 8.75
8. Name Of Land Evaluation System Used NRCS - Elliott Co.	9. Name of Local Site Assessment System NONE	10. Date Land Evaluation Returned by NRCS 7-9-12

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment			
	Corridor A 1A	Corridor B 1B	Corridor C 2A	Corridor D 3
A. Total Acres To Be Converted Directly	85	274	231	337
B. Total Acres To Be Converted Indirectly, Or To Receive Services	85	274	231	337
C. Total Acres In Corridor	85	274	231	337
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	0.0	0.4	0.2	0.0
B. Total Acres Statewide And Local Important Farmland	3.2	9.5	7.6	20.1
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.01	0.02	0.02	0.04
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	100	100	100	100
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)*	19	14	16	15
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	0	0	0	0
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100	0	0	0	0
Total Corridor Assessment (From Part VI above or a local site assessment) — 160	0	0	0	0
TOTAL POINTS *(Total of above 2 lines)* — 260	0	0	0	0

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:

Part III: For the purposes of this form, the four build alternatives for KY 32 are as follows: Corridor A = Alternative 1A, Corridor B = Alternative 1B, Corridor C = Alternative 2A, and Corridor D= Alternative 3.

Acreage figures represent total ROW (existing + required).

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

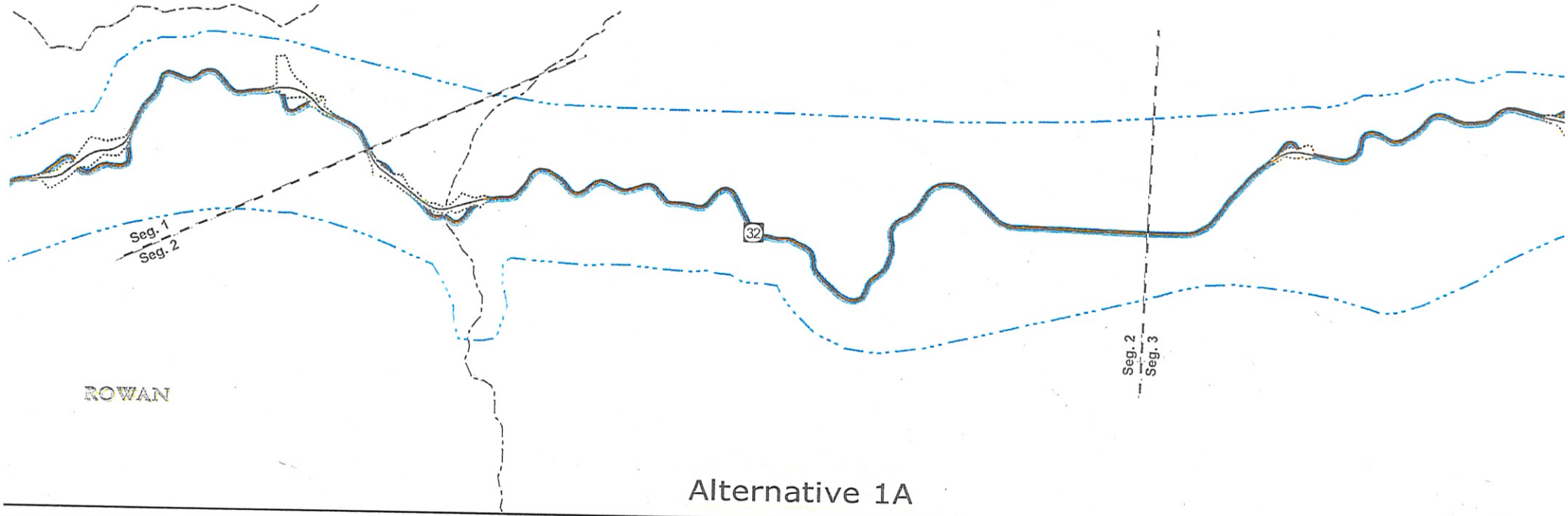
(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres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

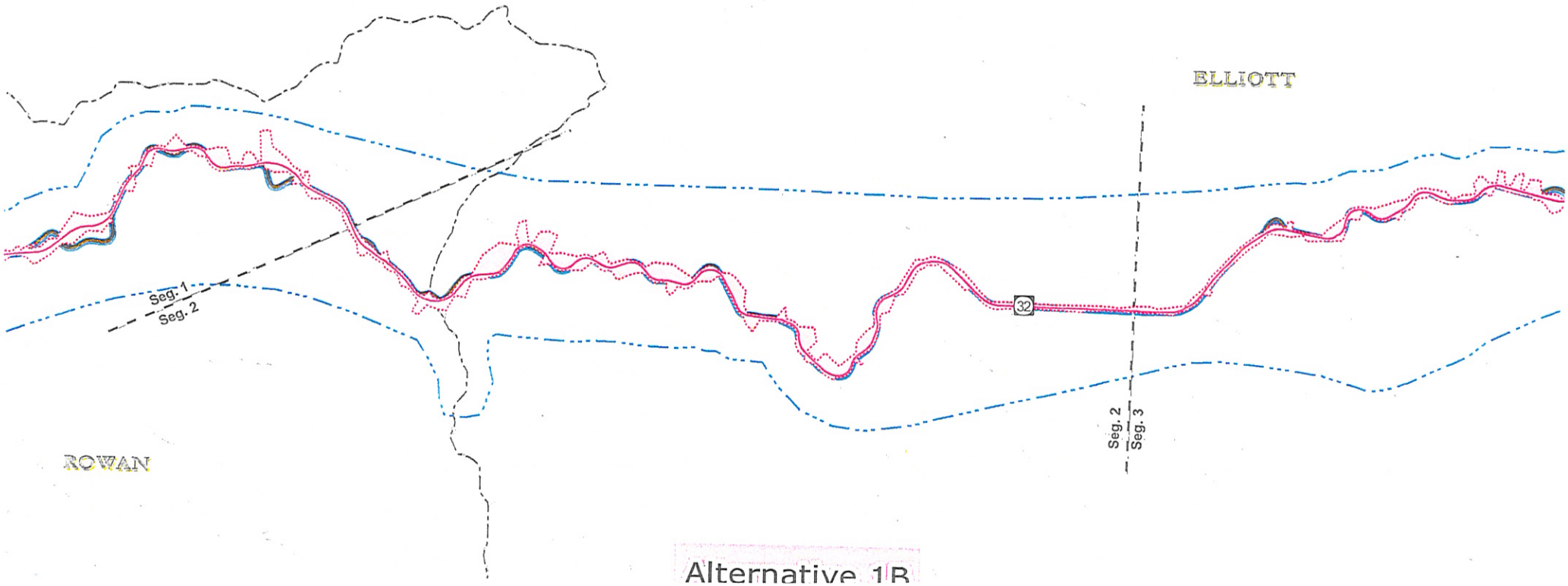
(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm 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

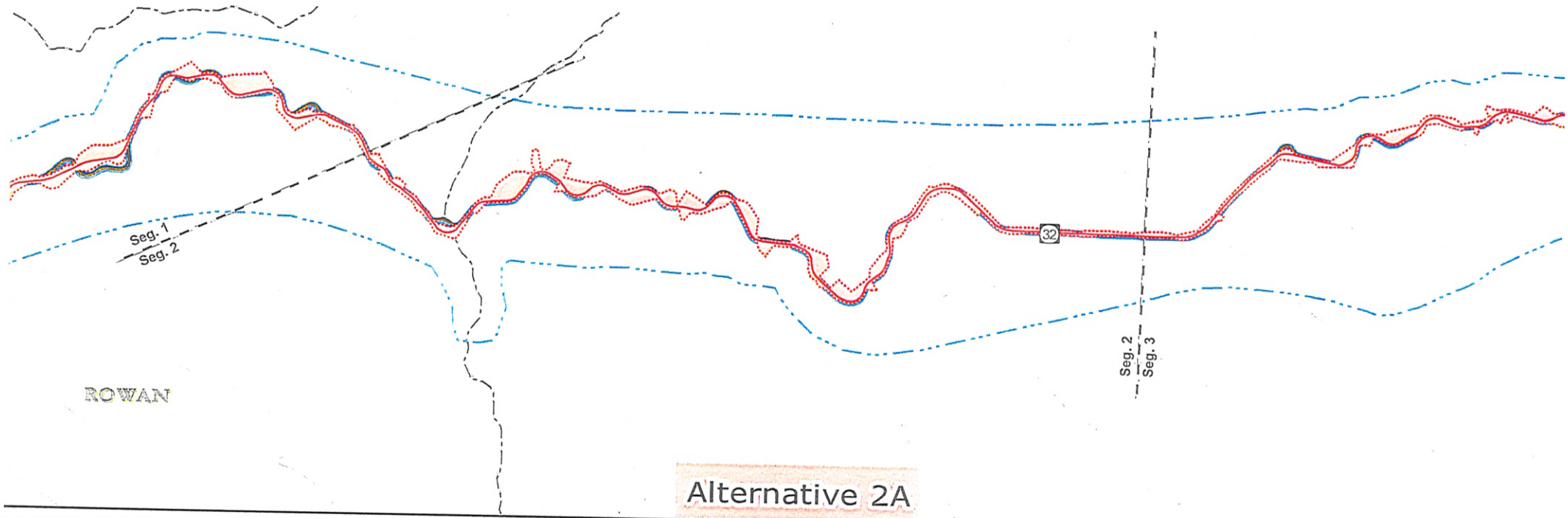
(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 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



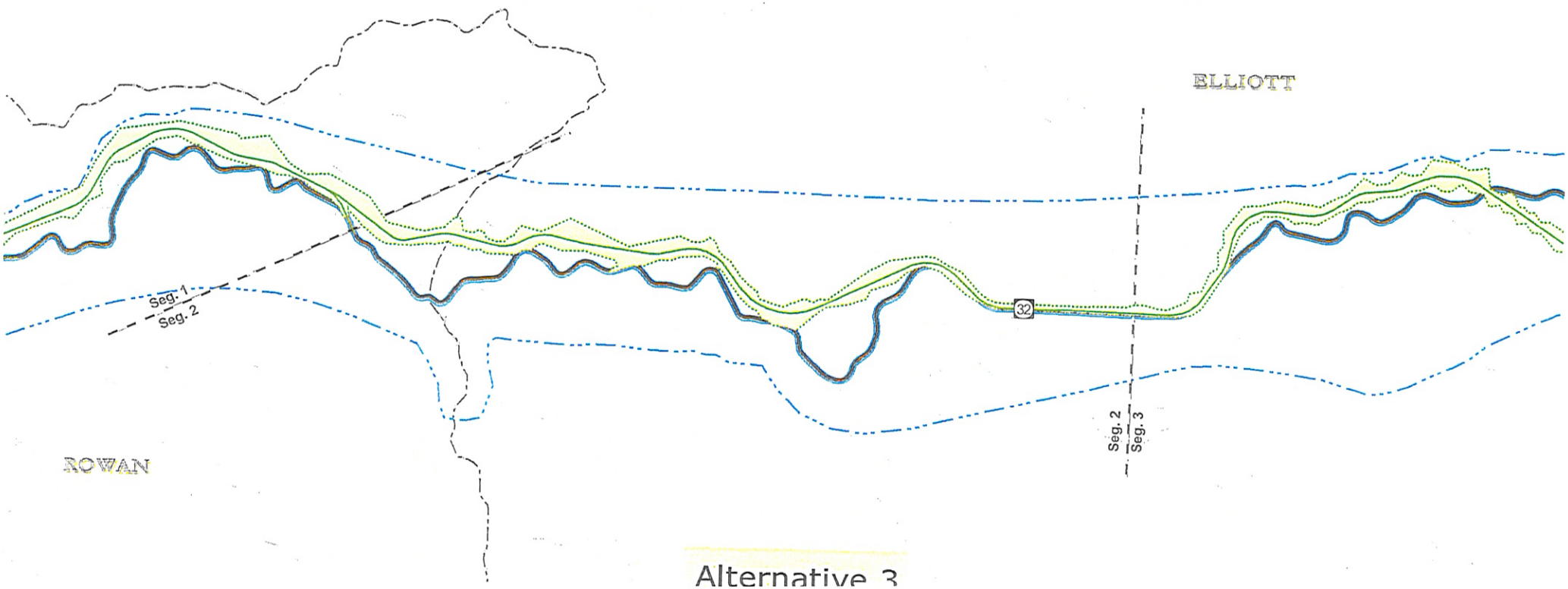
Alternative 1A



Alternative 1B



Alternative 2A



Alternative 3

Prime and other Important Farmlands

Elliott County, Kentucky

Map symbol	Map unit name	Farmland classification
GeB	Gilpin-Ezel-Cotaco complex, 0 to 6 percent slopes	All areas are prime farmland
GbC	Gilpin-Blairton-Ramsey complex, 2 to 12 percent slopes	Farmland of statewide importance
SoC	Shelocta-Grigsby-Orrville complex, 2 to 15 percent slopes	Farmland of statewide importance

Map Unit Description (Brief, Generated)

Elliott County, Kentucky

[Minor map unit components are excluded from this report]

Map unit: GbC - Gilpin-Blairton-Ramsey complex, 2 to 12 percent slopes

Component: Gilpin (45%)

The Gilpin component makes up 45 percent of the map unit. Slopes are 2 to 12 percent. This component is on ridges on hills. The parent material consists of fine-loamy residuum weathered from interbedded sedimentary rock. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Blairton (26%)

The Blairton component makes up 26 percent of the map unit. Slopes are 2 to 12 percent. This component is on ridges on hills. The parent material consists of fine-loamy residuum weathered from shale and siltstone. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 22 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Ramsey (16%)

The Ramsey component makes up 16 percent of the map unit. Slopes are 2 to 12 percent. This component is on ridges on hills. The parent material consists of loamy residuum weathered from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map unit: GeB - Gilpin-Ezel-Cotaco complex, 0 to 6 percent slopes

Component: Gilpin (45%)

The Gilpin component makes up 45 percent of the map unit. Slopes are 0 to 6 percent. This component is on stream terraces on valleys. The parent material consists of fine-loamy alluvium derived from sedimentary rock and/or fine-loamy residuum weathered from sandstone and siltstone. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Ezel (25%)

The Ezel component makes up 25 percent of the map unit. Slopes are 0 to 6 percent. This component is on stream terraces on valleys. The parent material consists of fine-loamy alluvium derived from sedimentary rock. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Cotaco (20%)

The Cotaco component makes up 20 percent of the map unit. Slopes are 0 to 6 percent. This component is on stream terraces on valleys. The parent material consists of fine-loamy alluvium derived from sedimentary rock. Depth to a root restrictive layer, bedrock, lithic, is 45 to 80 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 32 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Elliott County, Kentucky

Map unit: GrD - Gilpin-Ramsey complex, 6 to 25 percent slopes

Component: Gilpin (58%)

The Gilpin component makes up 58 percent of the map unit. Slopes are 6 to 25 percent. This component is on stream terraces on valleys. The parent material consists of fine-loamy alluvium derived from sedimentary rock and/or fine-loamy colluvium derived from sandstone and siltstone. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Component: Ramsey (18%)

The Ramsey component makes up 18 percent of the map unit. Slopes are 6 to 25 percent. This component is on hillslopes on hills. The parent material consists of loamy colluvium derived from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria.

Map unit: GsE - Gilpin-Shelocta complex, 25 to 45 percent slopes

Component: Gilpin (46%)

The Gilpin component makes up 46 percent of the map unit. Slopes are 25 to 45 percent. This component is on hillslopes on hills. The parent material consists of fine-loamy colluvium derived from interbedded sedimentary rock and/or fine-loamy residuum weathered from interbedded sedimentary rock. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Component: Shelocta (35%)

The Shelocta component makes up 35 percent of the map unit. Slopes are 25 to 45 percent. This component is on hillslopes on hills. The parent material consists of fine-loamy colluvium derived from shale and siltstone. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map unit: GtD - Gilpin-Steinsburg-Blairton complex, 12 to 25 percent slopes

Component: Gilpin (40%)

The Gilpin component makes up 40 percent of the map unit. Slopes are 12 to 25 percent. This component is on ridges on hills. The parent material consists of fine-loamy residuum weathered from interbedded sedimentary rock. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Component: Steinsburg (25%)

The Steinsburg component makes up 25 percent of the map unit. Slopes are 12 to 25 percent. This component is on ridges on hills. The parent material consists of coarse-loamy residuum weathered from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 60 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Elliott County, Kentucky

Map unit: GtD - Gilpin-Steinsburg-Blairton complex, 12 to 25 percent slopes

Component: Blairton (15%)

The Blairton component makes up 15 percent of the map unit. Slopes are 12 to 25 percent. This component is on ridges on hills. The parent material consists of fine-loamy residuum weathered from shale and siltstone. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 22 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: RgF - Rigley-Rock outcrop complex, 30 to 70 percent slopes

Component: Rigley (65%)

The Rigley component makes up 65 percent of the map unit. Slopes are 30 to 70 percent. This component is on hillslopes, hills. The parent material consists of coarse-loamy colluvium derived from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 60 to 80 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 69 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Rock outcrop (15%)

Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.

Map unit: ShD - Shelocta loam, 12 to 30 percent slopes

Component: Shelocta (90%)

The Shelocta component makes up 90 percent of the map unit. Slopes are 12 to 30 percent. This component is on structural benches on hills. The parent material consists of fine-loamy colluvium derived from shale and siltstone. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 69 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map unit: SoC - Shelocta-Grigsby-Orrville complex, 2 to 15 percent slopes

Component: Shelocta (40%)

The Shelocta component makes up 40 percent of the map unit. Slopes are 2 to 15 percent. This component is on alluvial fans on hills, hillslopes on hills. The parent material consists of fine-loamy colluvium derived from shale and siltstone. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 69 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Grigsby (35%)

The Grigsby component makes up 35 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on hills. The parent material consists of coarse-loamy alluvium derived from sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 45 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

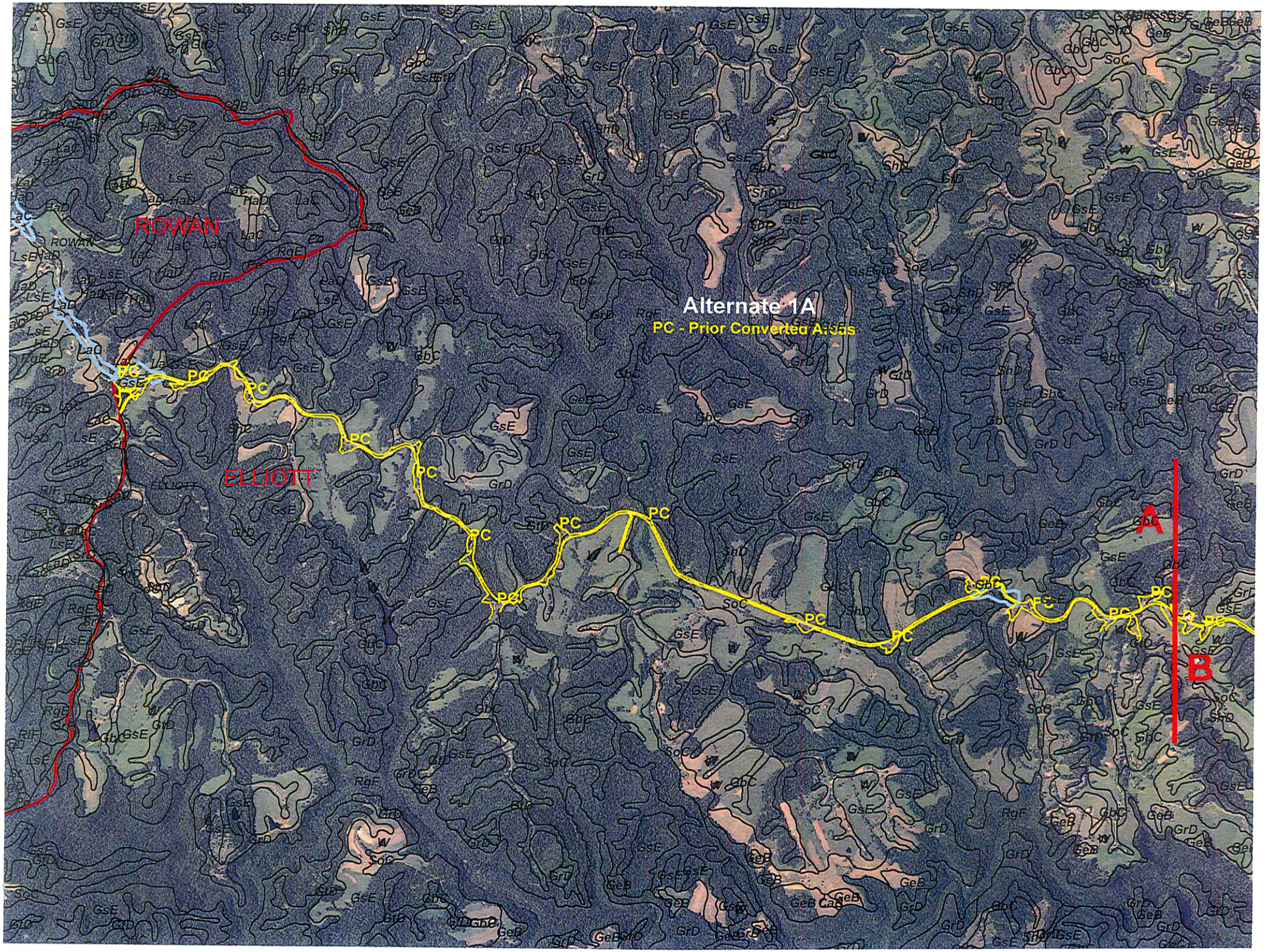
Map Unit Description (Brief, Generated)

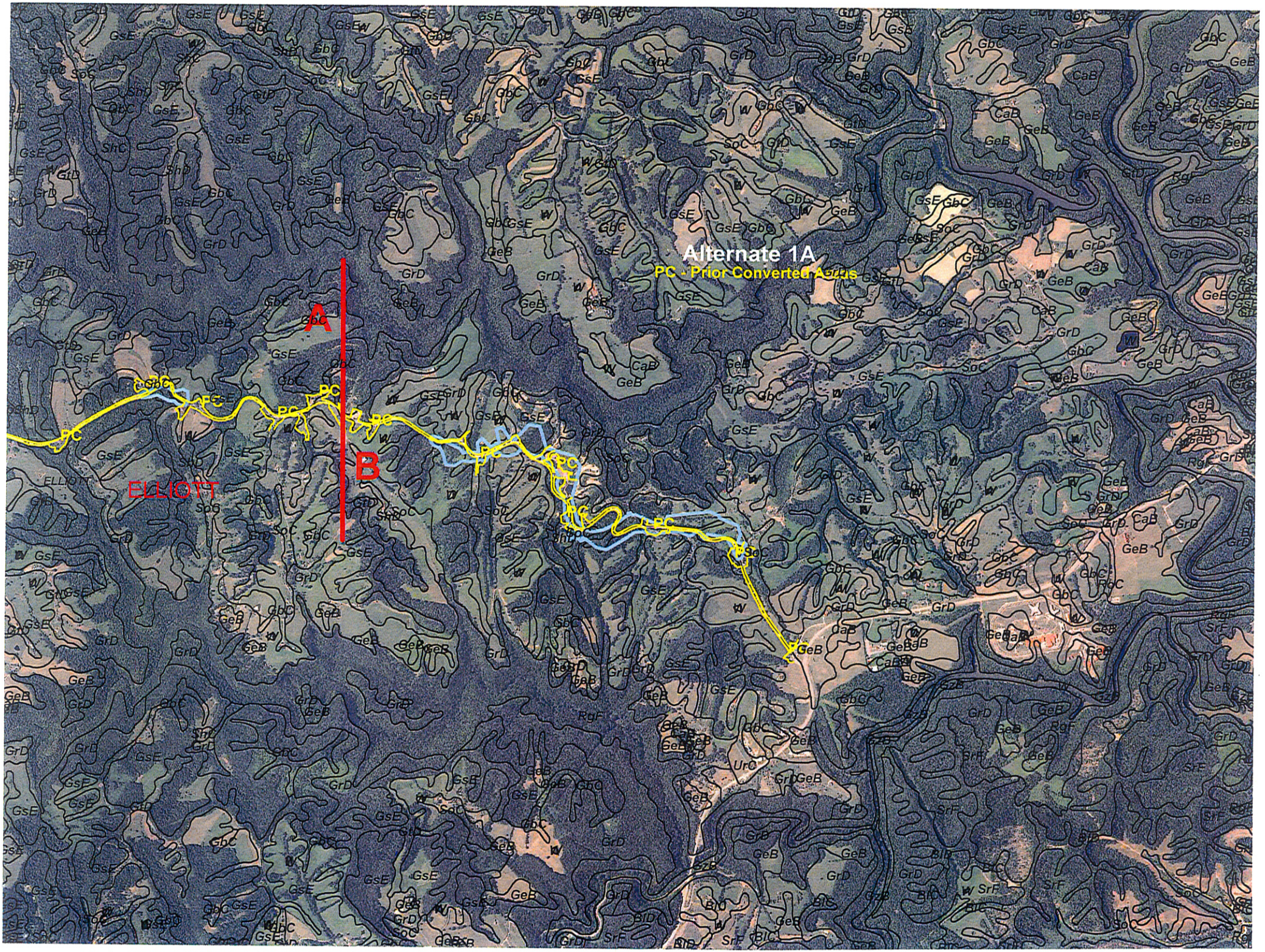
Elliott County, Kentucky

Map unit: SoC - Shelocta-Grigsby-Orrville complex, 2 to 15 percent slopes

Component: Orrville (15%)

The Orrville component makes up 15 percent of the map unit. Slopes are 0 to 3 percent. This component is on flood plains on hills. The parent material consists of fine-loamy alluvium derived from sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 10 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.


ROWAN
ELLIOTT
Alternate 1A
PC - Prior Converted Areas
PC
A
B


Alternate 1A
PC - Prior Converted Acres
A
B
ELLIOTT
PC

Completed By: SEJ

Agricultural Land
Evaluation Worksheet 1 and 4
for Site or Corridor
Ky 32 Improvement Project 1A

Date: 7/9/2012

County and State Elliott Co. KY
Indicator Crop: Corn

MLRA 124

Acres in Site = 85.0

Map Symbol	Ac. Prime Farmland	Ac Statewide Farmland	Ac Not Important Farmland	Ag. Group
GsE			45.0	6
GtD			23.8	5
ShD			0.4	6
SoC		3.2		3
PC			12.6	
Totals	0.0	3.2	81.8	85.0

Ag Groups and Relative Value from County Data

Ag group	Relative Value	Site acres per group	Product of Relative Value & Acres
1			0.00
2			0.00
3	72	3.2	230.40
4			0.00
5	49	23.8	1166.20
6	0	45.4	0.00
7			0.00
8			0.00
9			0.00
10			0.00
Totals		72.4	1396.60

Average Site Value **19**

Summaries

Acres Prime and Unique Farmland **0.0**

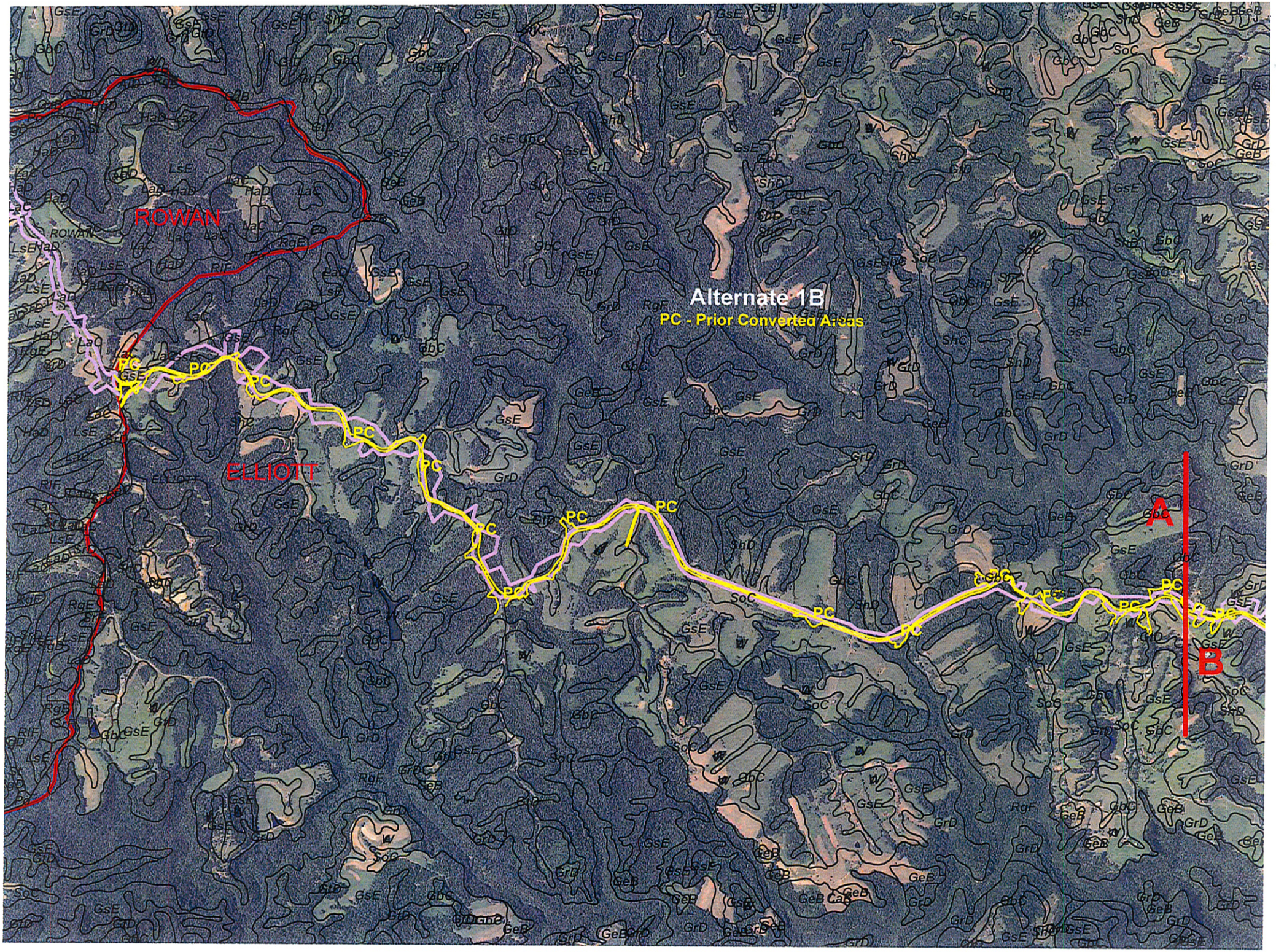
Acres Statewide & Local Important Farmland **3.2**

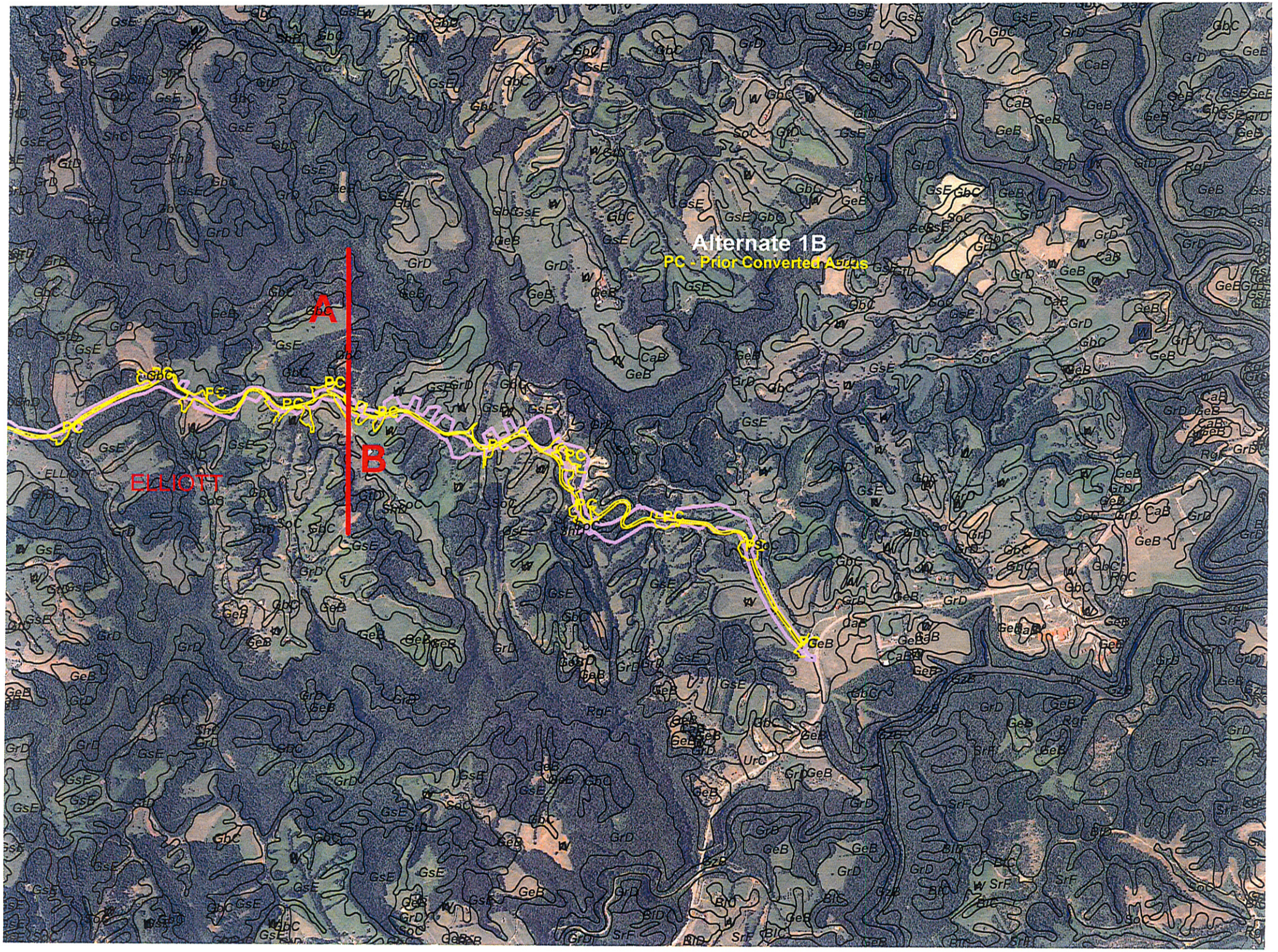
% of Farmland in County or Local Gov. unit to be Converted **0.01**

% of Farmland in Gov Jurisdiction with same or higher relative value to be converted **100.00**

Co. Data: Part II No. 6 Acres 46,638

Co. Data: Work sheet 2 same or higher value Acres 46,638


ROWAN
ELLIOTT
Alternate 1B
PC - Prior Converted Areas
PC
A
B


Alternate 1B
PC - Prior Converted Acres
A
B
ELLIOTT
PC

Completed By: SEJ

Agricultural Land
Evaluation Worksheet 1 and 4
for Site or Corridor
Ky 32 Improvement Project 1B

Date: 7/9/2012

County and State Elliott Co. KY
Indicator Crop: Corn

MLRA 124

Acres in Site = 274.0

Map Symbol	Ac. Prime Farmland	Ac Statewide Farmland	Ac Not Important Farmland	Ag. Group
GsE			148.6	6
GtD			45.3	5
ShD			1.0	6
SoC		9.5		3
GeB	0.4			4
PC			69.2	
Totals	0.4	9.5	264.1	274.0

Ag Groups and Relative Value from County Data

Ag group	Relative Value	Site acres per group	Product of Relative Value & Acres
1			0.00
2			0.00
3	72	9.5	684.00
4	75	0.4	30.00
5	49	45.3	2219.70
6	0	148.6	0.00
7			0.00
8			0.00
9			0.00
10			0.00
Totals		203.8	2933.70

Average Site Value **14**

Summaries

Acres Prime and Unique Farmland **0.4**

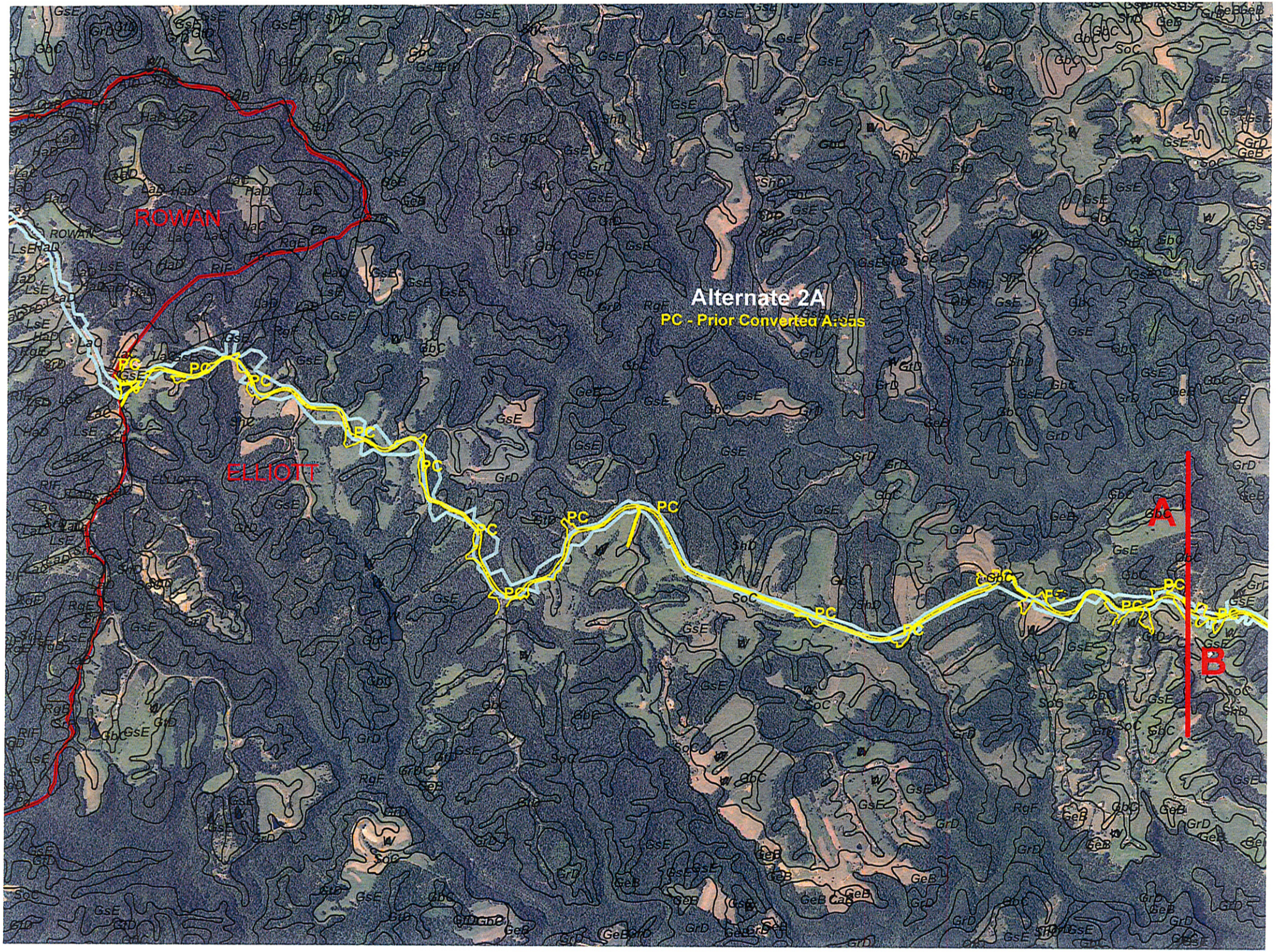
Acres Statewide & Local Important Farmland **9.5**

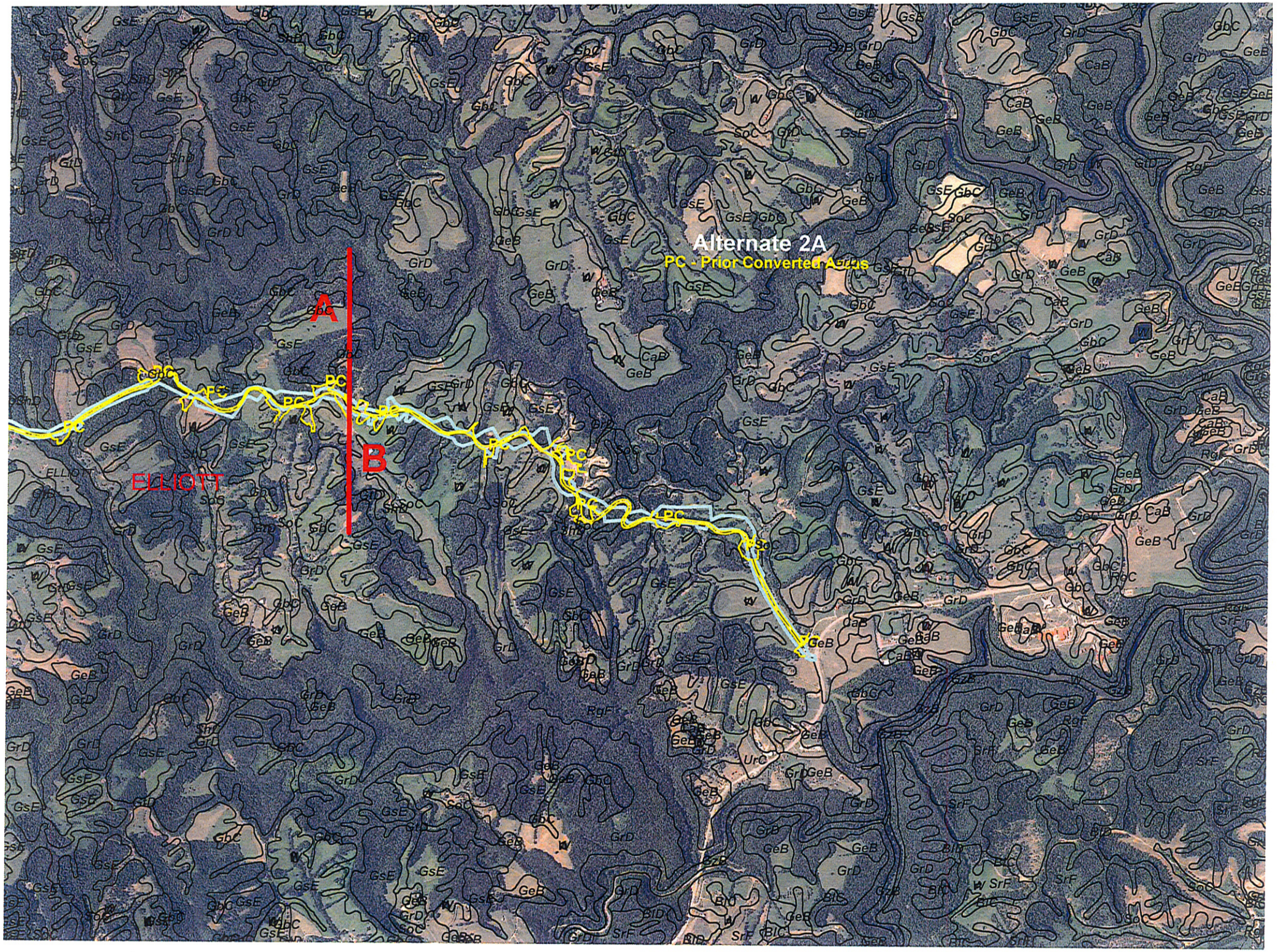
% of Farmland in County or Local Gov. unit to be Converted **0.02**

% of Farmland in Gov Jurisdiction with same or higher relative value to be converted **100.00**

Co. Data: Part II No. 6 Acres 46,638

Co. Data: Work sheet 2 same or higher value Acres 46,638


ROWAN
ELLIOTT
Alternate 2A
PC - Prior Converted Acres
PC
A
B


Alternate 2A
PC - Prior Converted Acres
A
B
ELLIOTT
PC

Completed By: SEJ

Agricultural Land
Evaluation Worksheet 1 and 4
for Site or Corridor
Ky 32 Improvement Project 2A

Date: 7/9/2012

County and State Elliott Co. KY
Indicator Crop: Corn

MLRA 124

Acres in Site = 231.0

Map Symbol	Ac. Prime Farmland	Ac Statewide Farmland	Ac Not Important Farmland	Ag. Group
GsE			117.8	6
GtD			42.9	5
ShD			0.5	6
SoC		7.4		3
GbC		0.2		3
GeB	0.2			4
PC			62.0	
Totals	0.2	7.6	223.2	231.0

Ag Groups and Relative Value from County Data

Ag group	Relative Value	Site acres per group	Product of Relative Value & Acres
1			0.00
2			0.00
3	72	7.6	547.20
4	75	0.2	15.00
5	49	42.9	2102.10
6	0	118.3	0.00
7			0.00
8			0.00
9			0.00
10			0.00
Totals	169.0		2664.30

Average Site Value **16**

Summaries

Acres Prime and Unique Farmland **0.2**

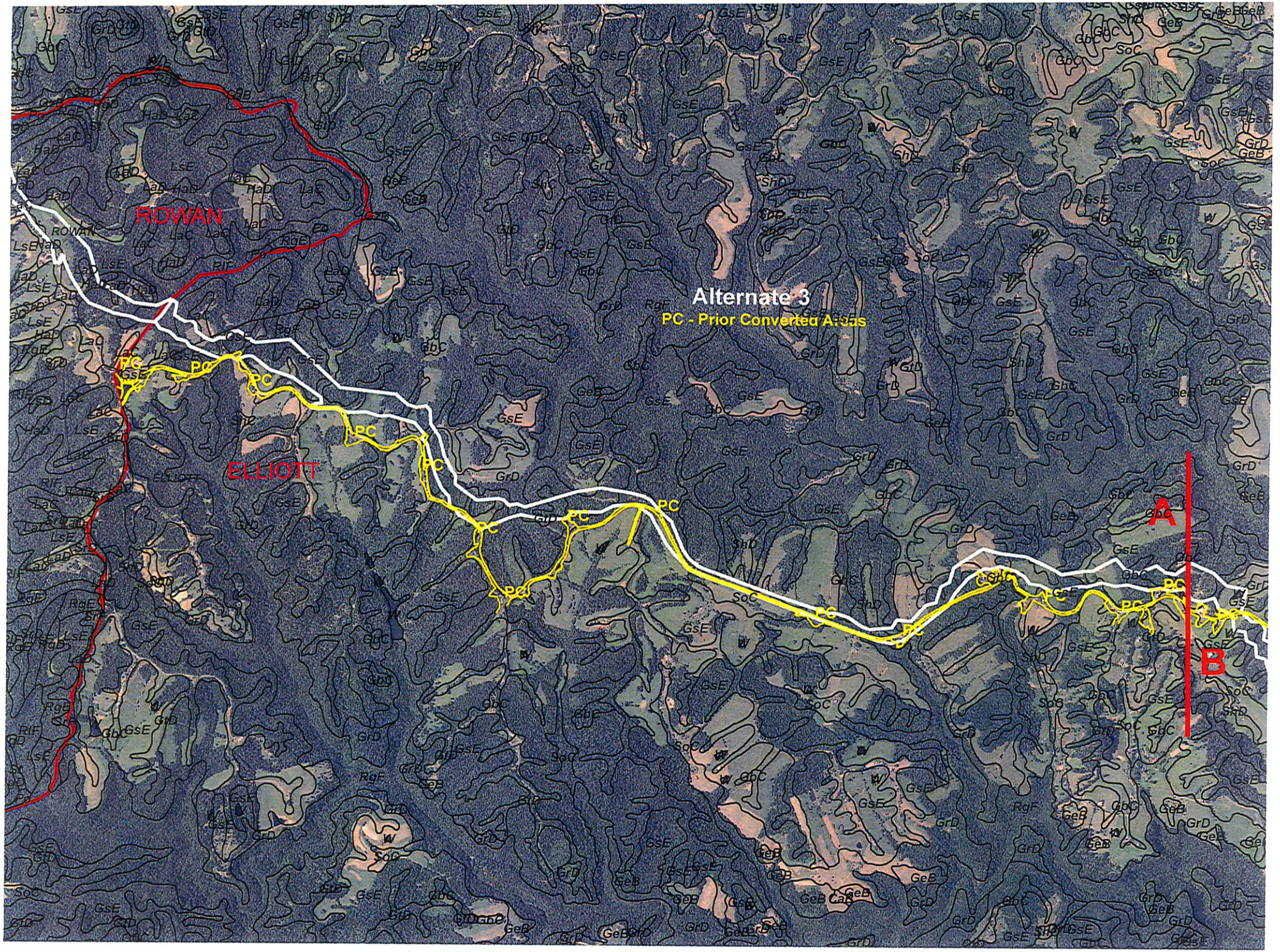
Acres Statewide & Local Important Farmland **7.6**

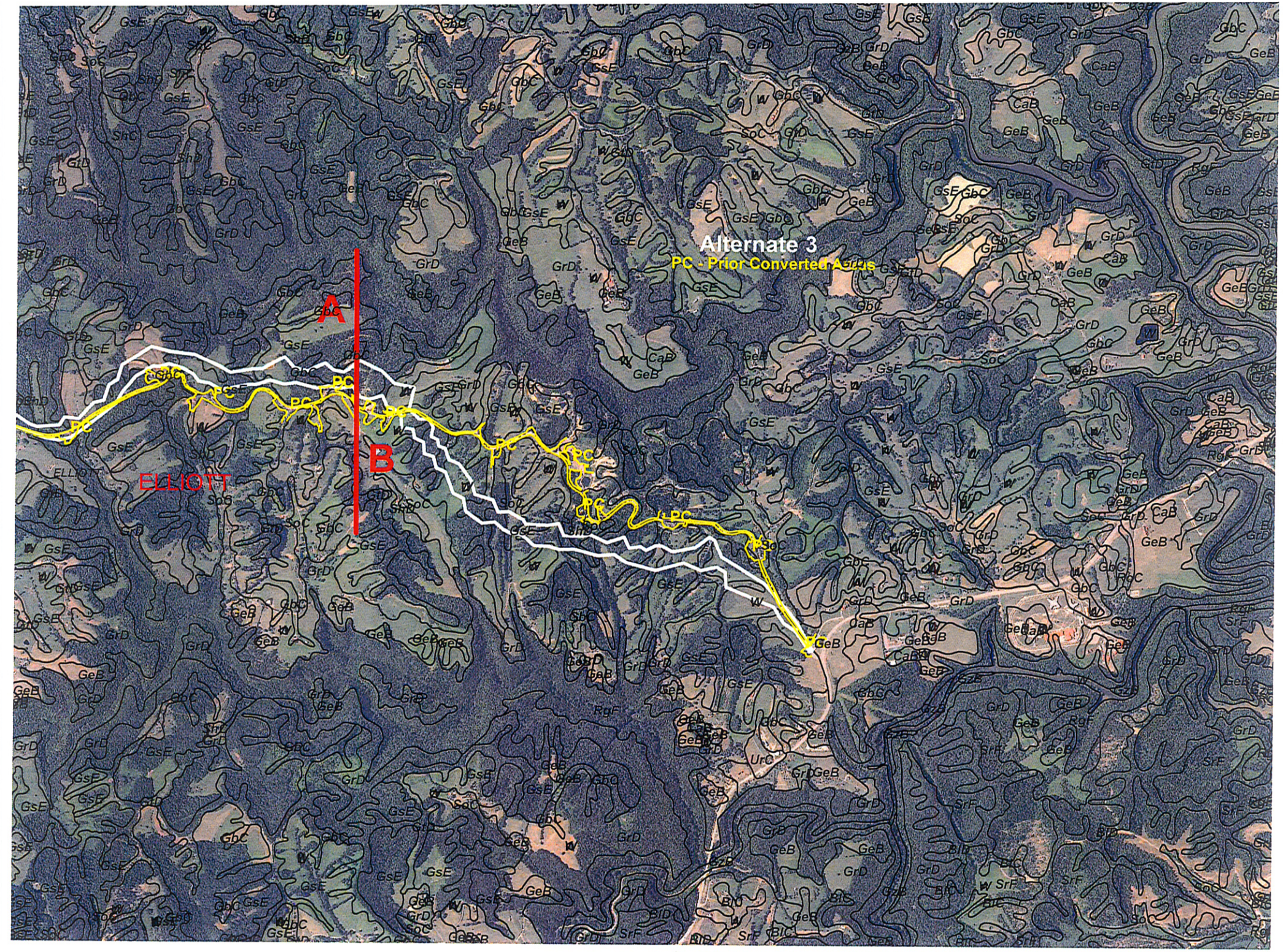
% of Farmland in County or Local Gov. unit to be Converted **0.02**

% of Farmland in Gov Jurisdiction with same or higher relative value to be converted **100.00**

Co. Data: Part II No. 6 Acres 46,638

Co. Data: Work sheet 2 same or higher value Acres 46,638


ROWAN
ELLIOTT
Alternate 3
PC - Prior Converted Area
PC
A
B


Alternate 3
PC - Prior Converted Acres
A
B
ELLIOTT
PC

Completed By: SEJ

Agricultural Land
Evaluation Worksheet 1 and 4
for Site or Corridor
Ky 32 Improvement Project 3

Date: 7/9/2012

County and State Elliott Co. KY
Indicator Crop: Corn

MLRA 124

Acres in Site = 337.0

Map Symbol	Ac. Prime Farmland	Ac Statewide Farmland	Ac Not Important Farmland	Ag. Group
GbC		9.6		3
GrD			6.5	5
GsE			222.7	6
GtD			61.4	5
RgF			3.2	7
ShD			3.1	6
SoC		10.5		3
PC			20.0	
Totals	0.0	20.1	316.9	337.0

Ag Groups and Relative Value from County Data

Ag group	Relative Value	Site acres per group	Product of Relative Value & Acres
1			0.00
2			0.00
3	72	20.1	1447.20
4			0.00
5	49	67.9	3327.10
6	0	225.8	0.00
7	0	3.2	0.00
8			0.00
9			0.00
10			0.00
Totals		317.0	4774.30

Average Site Value **15**

Summaries

Acres Prime and Unique Farmland **0.0**

Acres Statewide & Local Important Farmland **20.1**

% of Farmland in County or Local Gov. unit to be Converted **0.04**

% of Farmland in Gov Jurisdiction with same or higher relative value to be converted **100.00**

Co. Data: Part II No. 6 Acres 46,638

Co. Data: Work sheet 2 same or higher value Acres 46,638

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 6/27/12	4. Sheet 1 of 1
1. Name of Project **KY 32 Improvement Project**	5. Federal Agency Involved **FHWA**	
2. Type of Project **Right-of-Way for Corridor Project**	6. County and State **Rowan, KY**	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS 6-27-12	2. Person Completing Form Steve Jacobs, RSS
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 116ac.
5. Major Crop(s) Corn, Tobacco, hay	6. Farmable Land in Government Jurisdiction Acres: 58,710 % 32.52	7. Amount of Farmland As Defined in FPPA Acres: 36,140 % 20.02
8. Name Of Land Evaluation System Used NRCS - Rowan Co.	9. Name of Local Site Assessment System NONE	10. Date Land Evaluation Returned by NRCS 7-9-12

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment			
	Corridor A 1A	Corridor B 1B	Corridor C 2A	Corridor D 3
A. Total Acres To Be Converted Directly	79	147	140	227
B. Total Acres To Be Converted Indirectly, Or To Receive Services	79	147	140	227
C. Total Acres In Corridor	79	147	140	227
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	0.1	1.8	2.0	3.0
B. Total Acres Statewide And Local Important Farmland	0.0	0.8	0.6	0.6
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0	0	0	0.01
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	100	100	100	100
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)*	16	23	21	12
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	0	0	0	0
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100	0	0	0	0
Total Corridor Assessment (From Part VI above or a local site assessment) — 160	0	0	0	0
TOTAL POINTS *(Total of above 2 lines)* — 260	0	0	0	0

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:

*** Part III: For the purposes of this form, the four build alternatives for KY 32 are as follows: Corridor A = Alternative 1A, Corridor B = Alternative 1B, Corridor C = Alternative 2A, and Corridor D= Alternative 3.**

Acreage figures represent total ROW (existing + required).

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

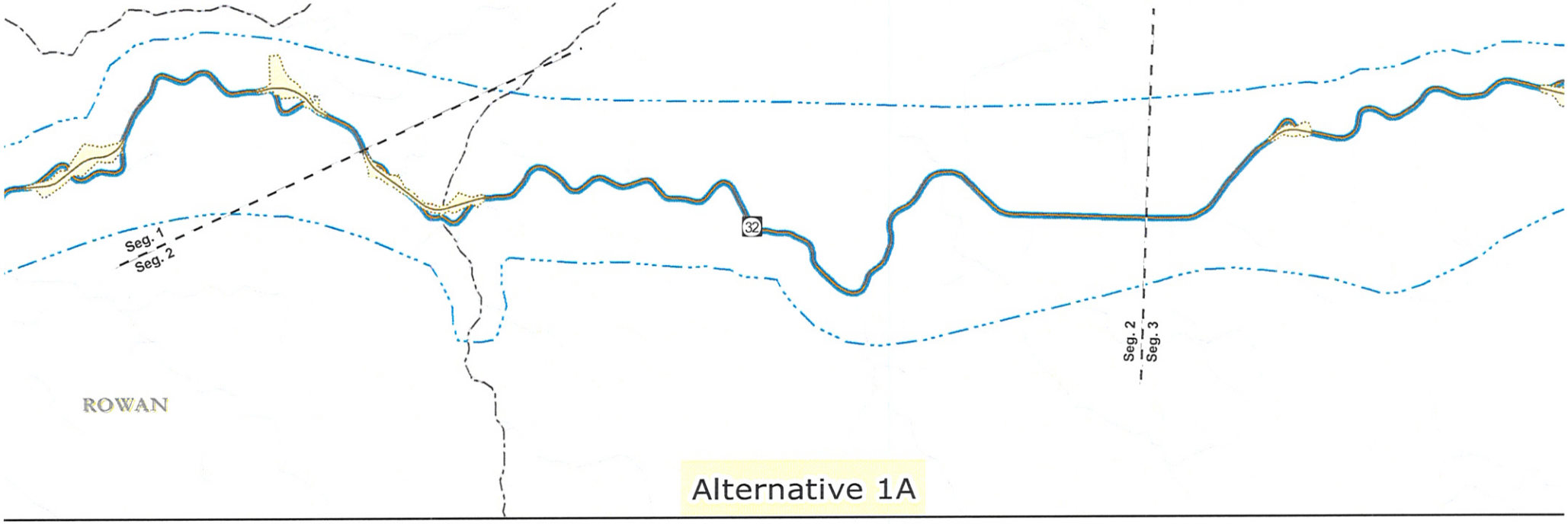
(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres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

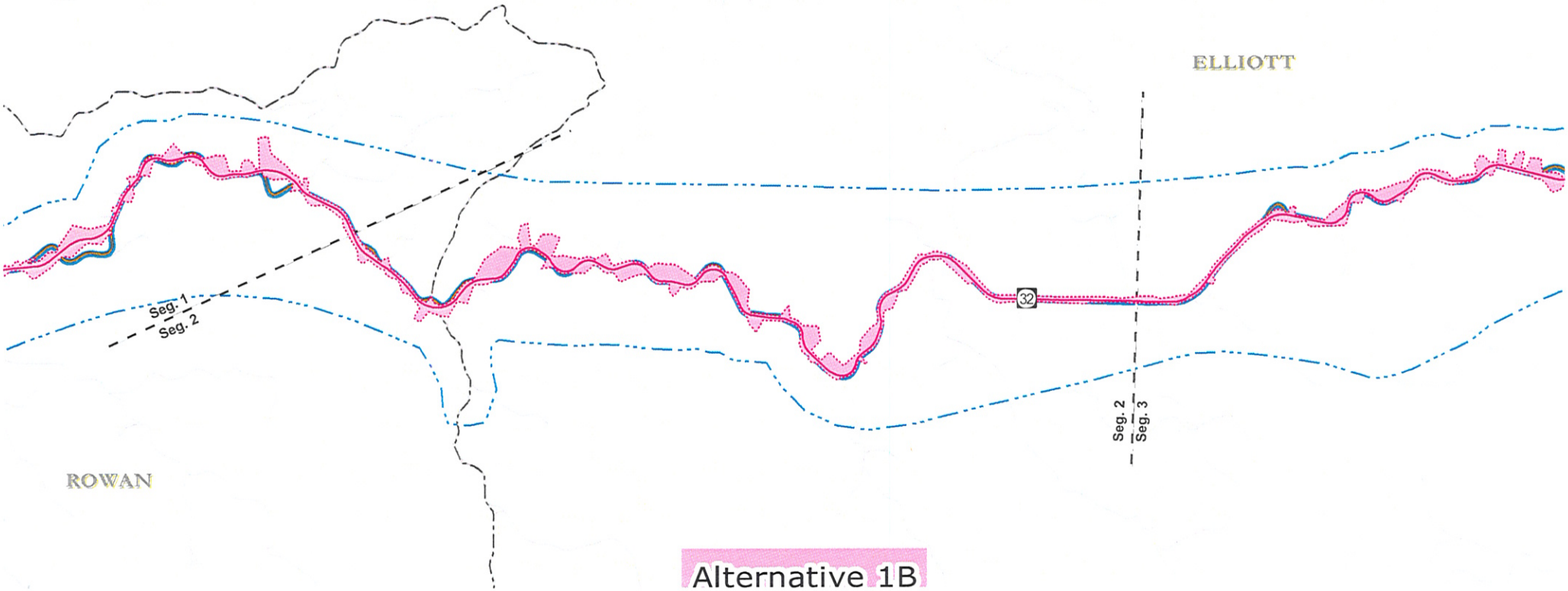
(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm 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

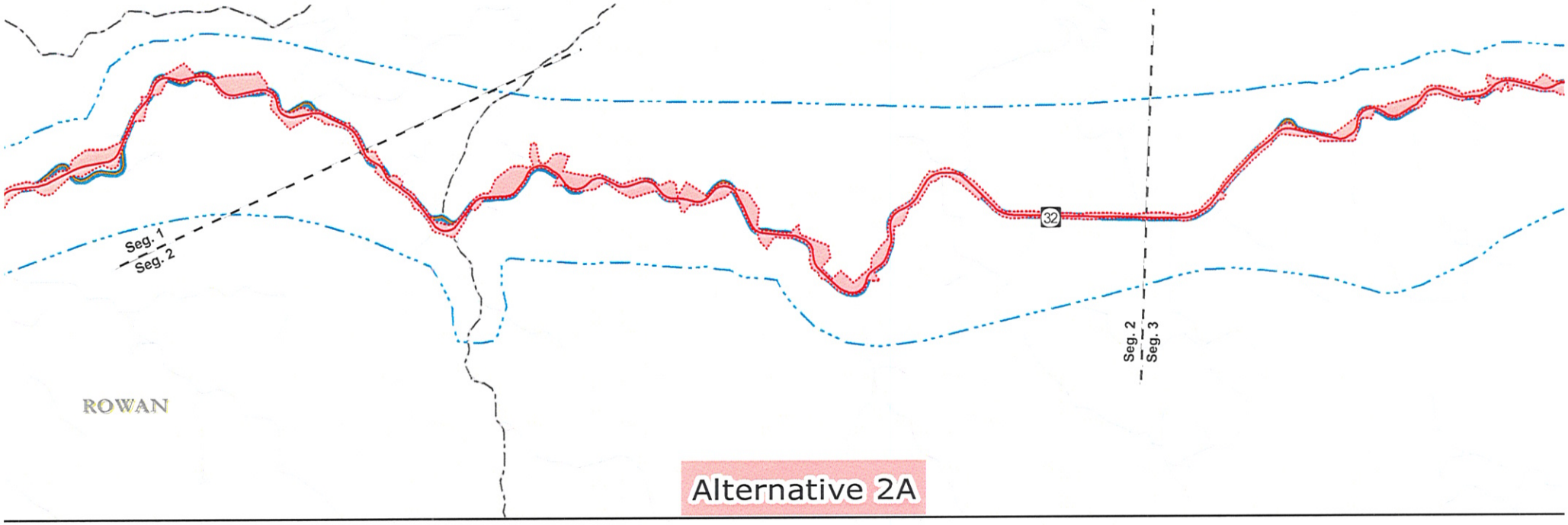
(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 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



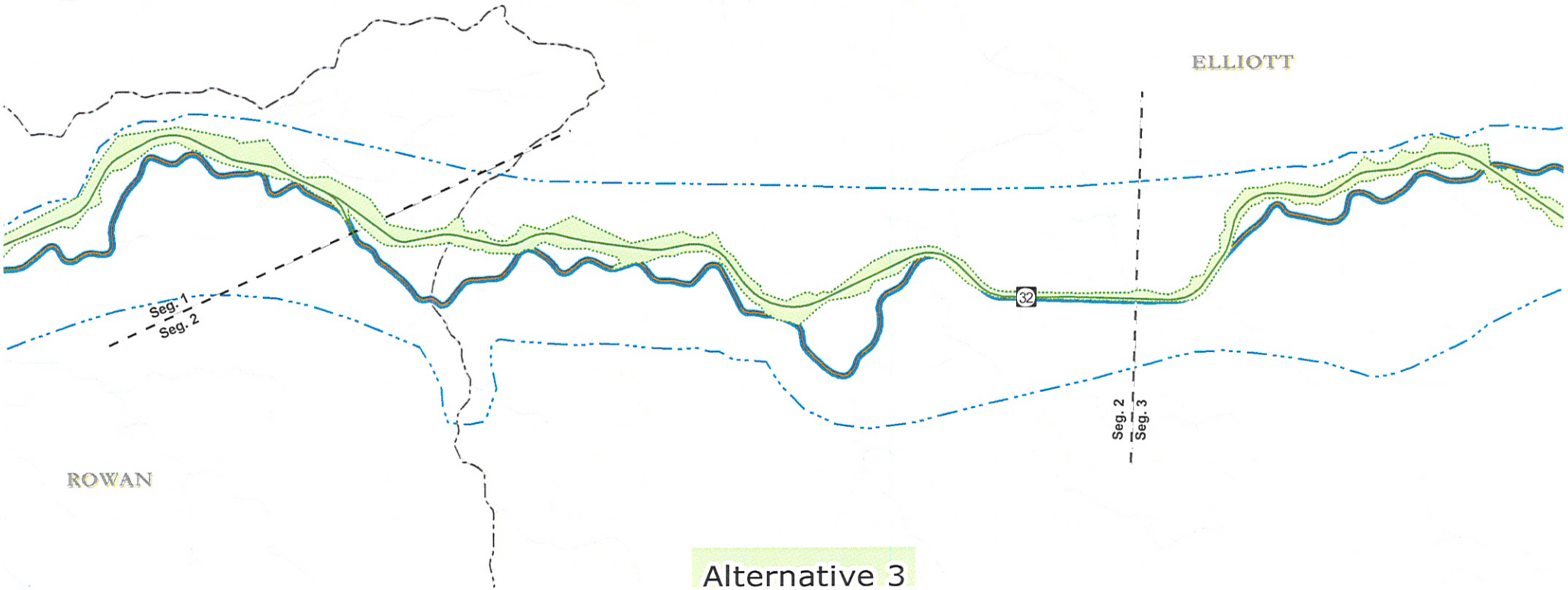
Alternative 1A



Alternative 1B



Alternative 2A



Alternative 3

Prime and other Important Farmlands

Menifee and Rowan Counties, Kentucky

Map symbol	Map unit name	Farmland classification
Mp	Morehead silt loam	All areas are prime farmland
CrC	Cranston gravelly silt loam, 6 to 12 percent slopes	Farmland of statewide importance
HaC	Hartsells fine sandy loam, 6 to 12 percent slopes (lily)	Farmland of statewide importance
LaC	Latham silt loam, 6 to 12 percent slopes	Farmland of statewide importance
St	Stendal silt loam	Prime farmland if drained

Map Unit Description (Brief, Generated)

Menifee and Rowan Counties, Kentucky

[Minor map unit components are excluded from this report]

Map unit: CrC - Cranston gravelly silt loam, 6 to 12 percent slopes

Component: Cranston (85%)

The Cranston component makes up 85 percent of the map unit. Slopes are 6 to 12 percent. This component is on alluvial fans on hills. The parent material consists of coarse-loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: CrD - Cranston gravelly silt loam, 12 to 20 percent slopes

Component: Cranston (85%)

The Cranston component makes up 85 percent of the map unit. Slopes are 12 to 20 percent. This component is on hillslopes on hills. The parent material consists of coarse-loamy colluvium derived from shale and siltstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: GlD - Gilpin silt loam, 12 to 20 percent slopes

Component: Gilpin (90%)

The Gilpin component makes up 90 percent of the map unit. Slopes are 12 to 20 percent. This component is on ridges on hills. The parent material consists of fine-loamy residuum weathered from interbedded sedimentary rock. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: HaC - Hartsells fine sandy loam, 6 to 12 percent slopes (lily)

Component: Lily (85%)

The Lily component makes up 85 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on hills. The parent material consists of fine-loamy residuum weathered from interbedded sedimentary rock. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: HaD - Hartsells fine sandy loam, 12 to 20 percent slopes (lily)

Component: Lily (90%)

The Lily component makes up 90 percent of the map unit. Slopes are 12 to 20 percent. This component is on ridges on hills. The parent material consists of fine-loamy residuum weathered from interbedded sedimentary rock. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Menifee and Rowan Counties, Kentucky

Map unit: LaC - Latham silt loam, 6 to 12 percent slopes

Component: Latham (85%)

The Latham component makes up 85 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on hills. The parent material consists of clayey residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: LaD - Latham silt loam, 12 to 20 percent slopes

Component: Latham (90%)

The Latham component makes up 90 percent of the map unit. Slopes are 12 to 20 percent. This component is on ridges on hills. The parent material consists of clayey residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map unit: LaE - Latham silt loam, 20 to 30 percent slopes

Component: Latham (85%)

The Latham component makes up 85 percent of the map unit. Slopes are 20 to 30 percent. This component is on hillslopes on hills. The parent material consists of clayey residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map unit: LsD - Latham-Shelocta silt loams, 12 to 20 percent slopes

Component: Latham (55%)

The Latham component makes up 55 percent of the map unit. Slopes are 12 to 20 percent. This component is on ridges on hills. The parent material consists of clayey residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Component: Shelocta (35%)

The Shelocta component makes up 35 percent of the map unit. Slopes are 12 to 20 percent. This component is on ridges on hills. The parent material consists of fine-loamy colluvium derived from interbedded sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Menifee and Rowan Counties, Kentucky

Map unit: LsE - Latham-Shelocta silt loams, 20 to 30 percent slopes

Component: Latham (55%)

The Latham component makes up 55 percent of the map unit. Slopes are 20 to 30 percent. This component is on hillslopes on hills. The parent material consists of clayey residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Component: Shelocta (35%)

The Shelocta component makes up 35 percent of the map unit. Slopes are 20 to 30 percent. This component is on hillslopes on hills. The parent material consists of fine-loamy colluvium derived from interbedded sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map unit: LsF - Latham-Shelocta silt loams, 30 to 50 percent slopes

Component: Latham (60%)

The Latham component makes up 60 percent of the map unit. Slopes are 30 to 50 percent. This component is on hillslopes on hills. The parent material consists of clayey residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Shelocta (35%)

The Shelocta component makes up 35 percent of the map unit. Slopes are 30 to 50 percent. This component is on hillslopes on hills. The parent material consists of fine-loamy colluvium derived from interbedded sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: Mp - Morehead silt loam

Component: Morehead (90%)

The Morehead component makes up 90 percent of the map unit. Slopes are 0 to 4 percent. This component is on stream terraces on river valleys. The parent material consists of fine-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March, April, May, June, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Menifee and Rowan Counties, Kentucky

Map unit: RIF - Rigley stony fine sandy loam, 30 to 60 percent slopes

Component: Rigley (85%)

The Rigley component makes up 85 percent of the map unit. Slopes are 30 to 60 percent. This component is on hillslopes on hills. The parent material consists of coarse-loamy colluvium derived from sandstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map unit: SrD - Steinsburg-Ramsey rocky sandy loams, 6 to 20 percent slopes

Component: Steinsburg (65%)

The Steinsburg component makes up 65 percent of the map unit. Slopes are 6 to 20 percent. This component is on ridges on hills. The parent material consists of coarse-loamy residuum weathered from sandstone. Depth to a root restrictive layer, bedrock, paralithic, is 24 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

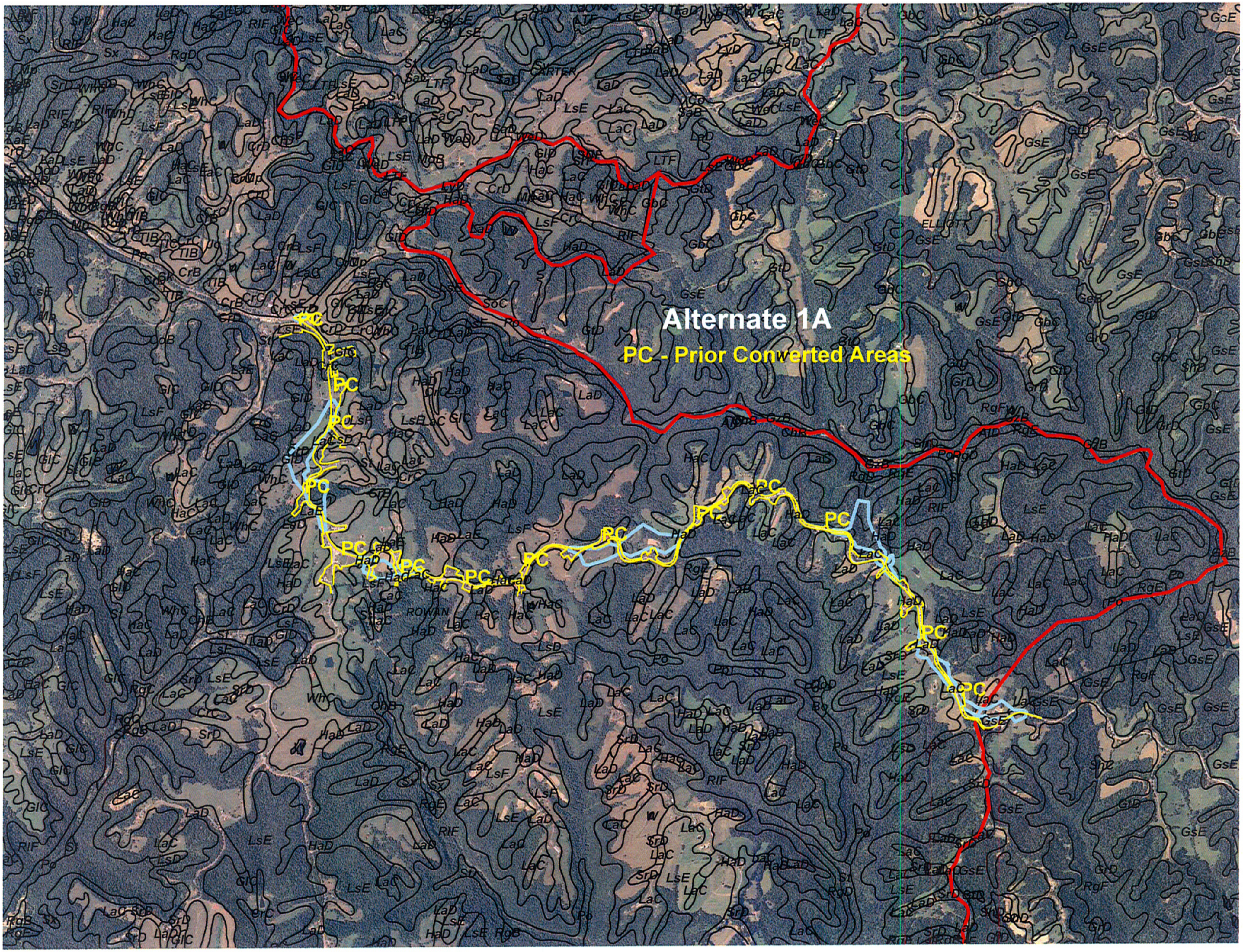
Component: Ramsey (25%)

The Ramsey component makes up 25 percent of the map unit. Slopes are 6 to 20 percent. This component is on ridges on hills. The parent material consists of loamy residuum weathered from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map unit: St - Stendal silt loam

Component: Stendal (90%)

The Stendal component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on hills. The parent material consists of fine-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.


Alternate 1A
PC - Prior Converted Areas

Completed By: SEJ

Agricultural Land Evaluation Worksheet 1 and 4 for Site or Corridor
KY 32 Improvement Project - 1A

Date: 7/9/2012

County and State Rowan Co, KY

MLRA 124

Indicator Crop: Corn

Acres in Site = 79.0

Map Symbol	Ac. Prime Farmland	Ac Statewide Farmland	Ac Not Important Farmland	Ag. Group
CrD			1.6	5
GlD			3.9	5
HaC			1.5	4
HaD			3.9	5
LaC			3.4	5
LaD			3.0	5
LaE			12.5	6
LsD			0.0	5
LsE			13.1	6
LsF			17.3	7
RlF			3.1	7
SrD			0.1	6
St	0.1			2
PC			15.5	
Totals	0.1	0.0	78.9	79.0

Ag Groups and Relative Value from County Data

Ag group	Relative Value	Site acres per group	Product of Relative Value & Acres
1			0.00
2	91	0.1	9.10
3			0.00
4	74	1.5	111.00
5	57	15.8	900.60
6	0	25.7	0.00
7	0	20.4	0.00
8			0.00
9			0.00
10			0.00
Totals		63.5	1020.70

Average Site Value **16**

Summaries

Acres Prime and Unique Farmland **0.1**

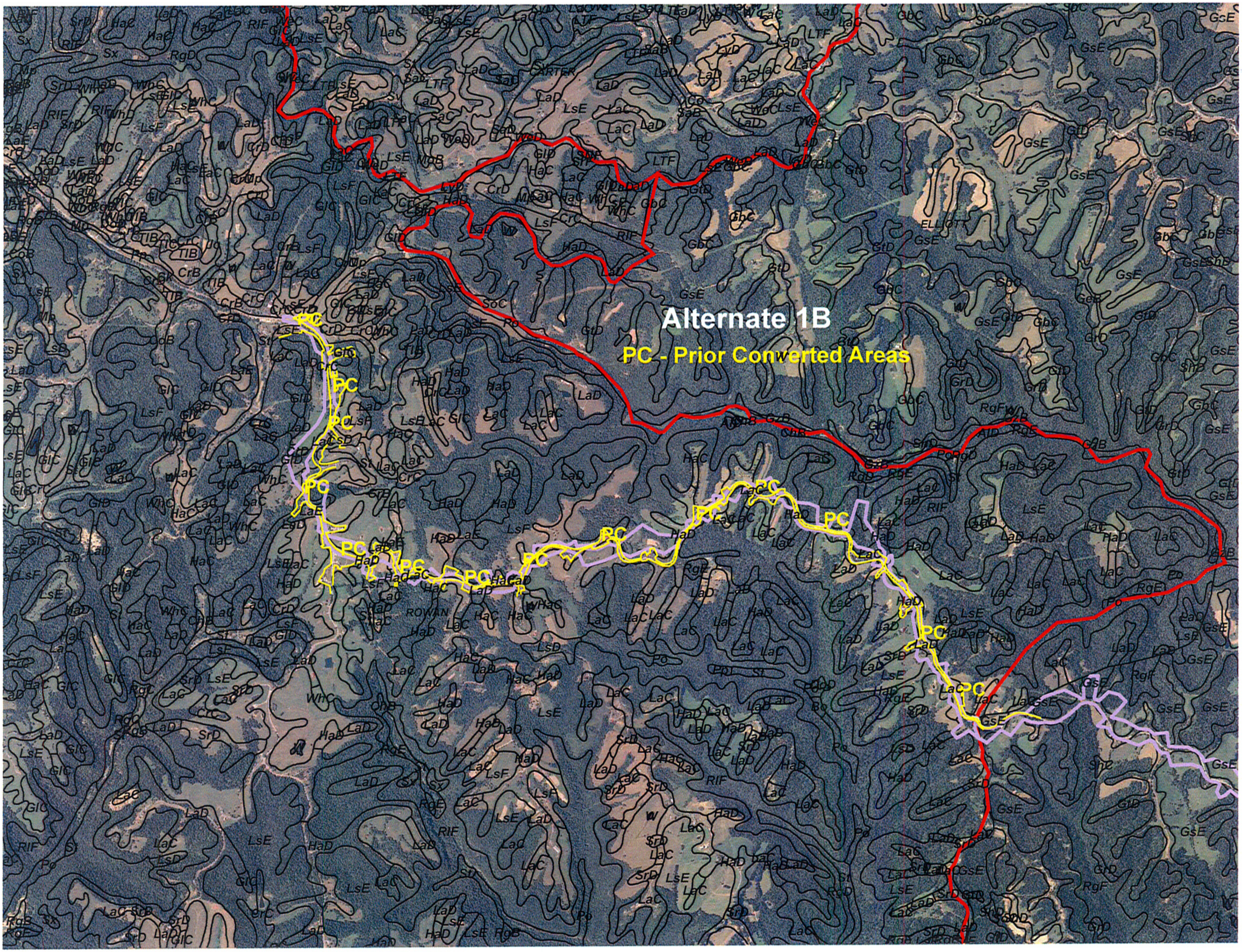
Acres Statewide & Local Important Farmland **0.0**

% of Farmland in County or Local Gov. unit to be Converted **0.00**

% of Farmland in Gov Jurisdiction with same or higher relative value to be converted **100.00**

Co. Data: Part II No. 6 Acres 58,710

Co. Data: Work sheet 2 same or higher value Acres 58710


Alternate 1B
PC - Prior Converted Areas

Completed By: SEJ

Agricultural Land Evaluation Worksheet 1 and 4 for Site or Corridor
KY 32 Improvement Project - 1B

Date: 7/9/2012

County and State Rowan Co, KY

MLRA 124

Indicator Crop: Corn

Acres in Site = 147.0

Map Symbol	Ac. Prime Farmland	Ac Statewide Farmland	Ac Not Important Farmland	Ag. Group
CrC		0.8		4
CrD			1.4	5
GlD			3.8	5
HaC			2.0	4
HaD			18.1	5
LaC			5.8	5
LaD			7.4	5
LaE			1.0	6
LsD			0.2	5
LsE			37.3	6
LsF			20.8	7
Mp	0.1			3
RlF			2.8	7
SrD			3.3	6
St	1.7			2
PC			40.5	
Totals	1.8	0.8	144.4	147.0

Ag Groups and Relative Value from County Data

Ag group	Relative Value	Site acres per group	Product of Relative Value & Acres
1			0.00
2	91	1.7	154.70
3	75	0.1	7.50
4	74	2.8	207.20
5	57	36.7	2091.90
6	0	41.6	0.00
7	0	23.6	0.00
8			0.00
9			0.00
10			0.00
Totals		106.5	2461.30

Average Site Value **23**

Summaries

Acres Prime and Unique Farmland **1.8**

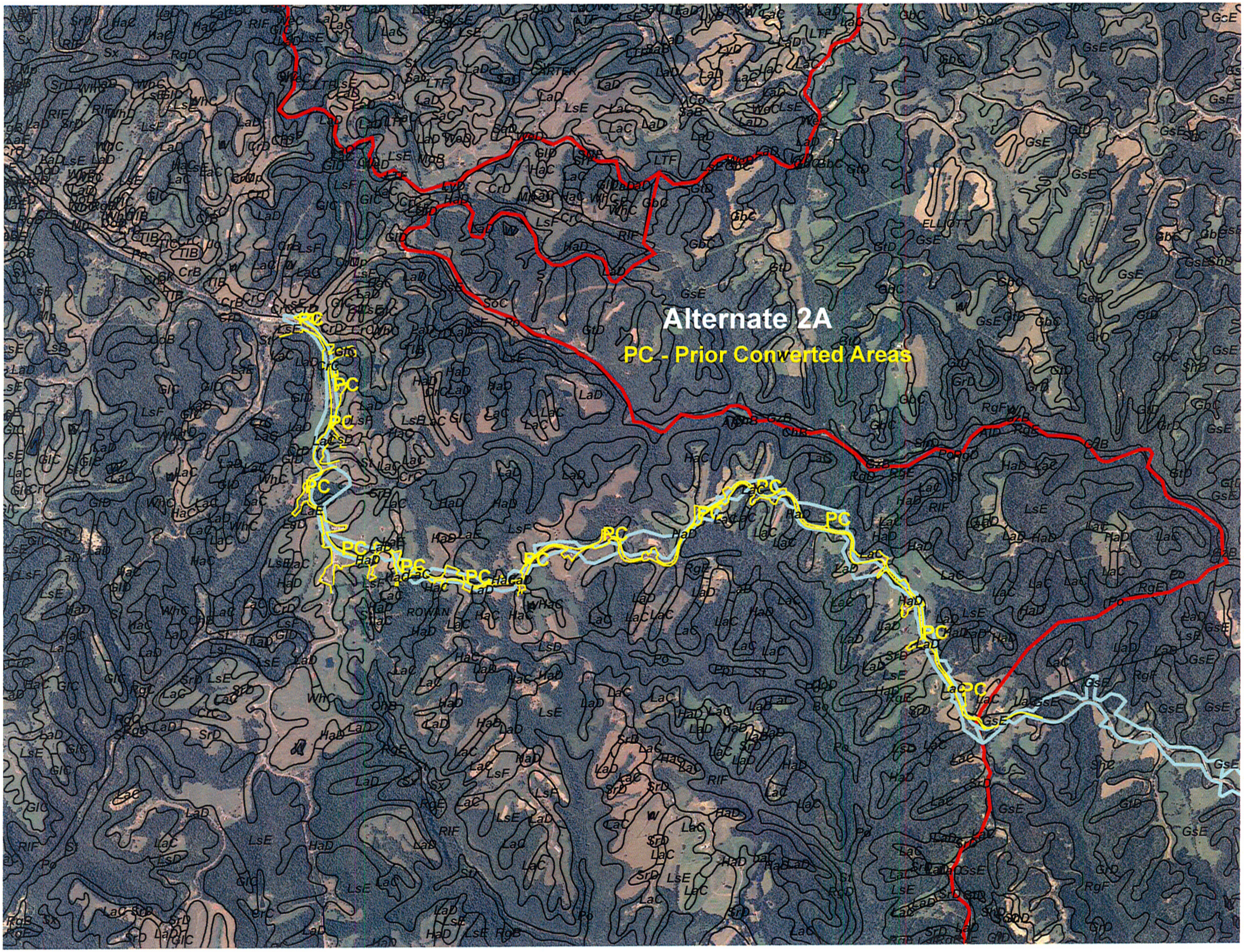
Acres Statewide & Local Important Farmland **0.8**

% of Farmland in County or Local Gov. unit to be Converted **0.00**

% of Farmland in Gov Jurisdiction with same or higher relative value to be converted **100.00**

Co. Data: Part II No. 6 Acres 58,710

Co. Data: Work sheet 2 same or higher value Acres 58710


Alternate 2A
PC - Prior Converted Areas

Completed By: SEJ

Agricultural Land
Evaluation Worksheet 1 and 4
for Site or Corridor
KY 32 Improvement Project - 2A

Date: 7/9/2012

County and State Rowan Co, KY

MLRA 124

Indicator Crop: Corn

Acres in Site = 140.0

Map Symbol	Ac. Prime Farmland	Ac Statewide Farmland	Ac Not Important Farmland	Ag. Group
CrC		0.6		4
CrD			0.1	5
HaC			1.9	4
HaD			16.8	5
LaC			4.8	5
LaD			8.7	5
LaE			0.2	6
LsE			40.0	6
LsF			23.2	7
RlF				7
SrD			2.6	6
St	2.0			2
PC			39.1	
Totals	2.0	0.6	137.4	140.0

Ag Groups and Relative Value from County Data

Ag group	Relative Value	Site acres per group	Product of Relative Value & Acres
1			0.00
2	91	2.0	182.00
3			0.00
4	74	2.5	185.00
5	57	30.4	1732.80
6	0	42.8	0.00
7	0	23.2	0.00
8			0.00
9			0.00
10			0.00
Totals		100.9	2099.80

Average Site Value **21**

Summaries

Acres Prime and Unique Farmland **2.0**

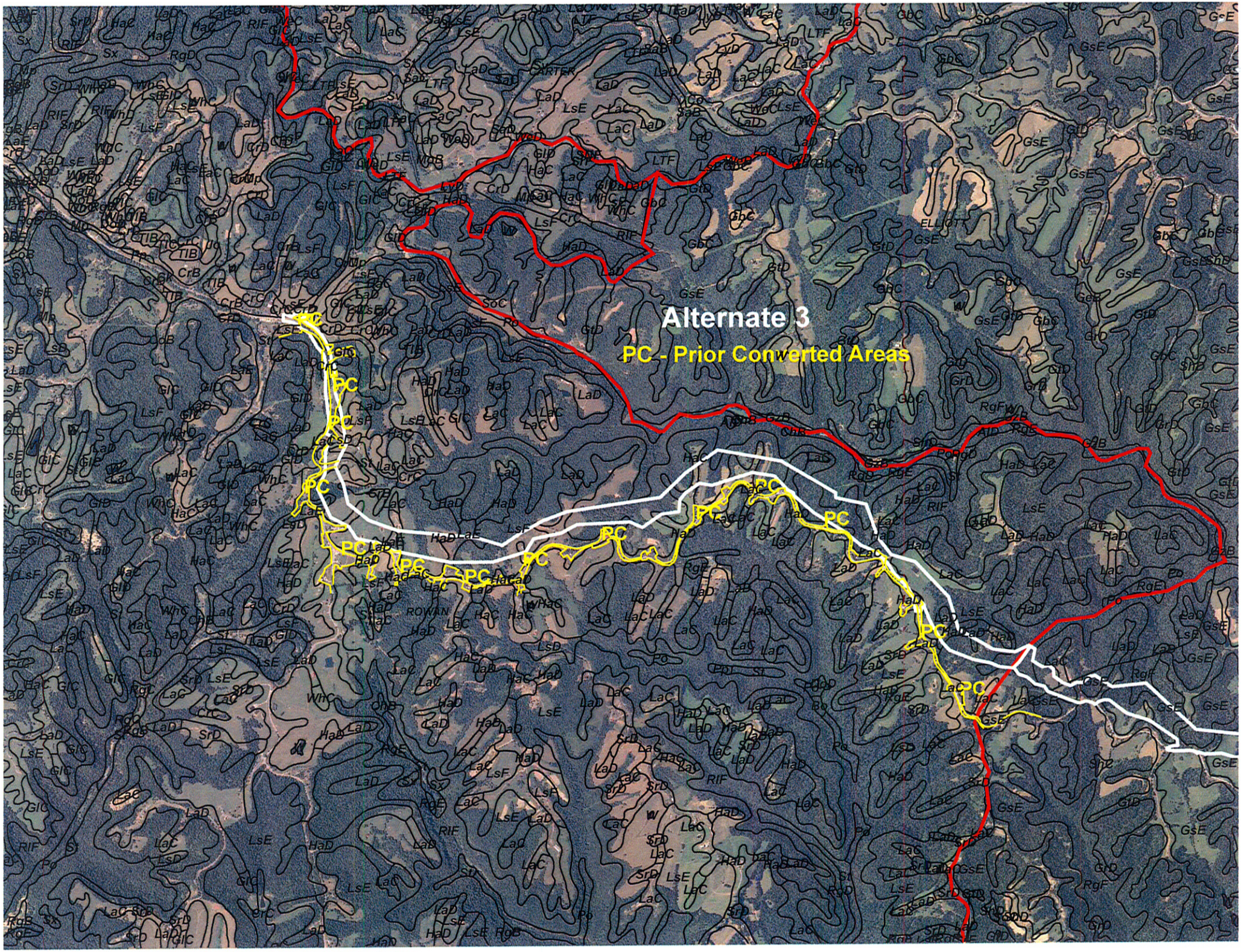
Acres Statewide & Local Important Farmland **0.6**

% of Farmland in County or Local Gov. unit to be Converted **0.00**

% of Farmland in Gov Jurisdiction with same or higher relative value to be converted **100.00**

Co. Data: Part II No. 6 Acres 58,710

Co. Data: Work sheet 2 same or higher value Acres 58710


Alternate 3
PC - Prior Converted Areas
PC

Completed By: SEJ

Agricultural Land
Evaluation Worksheet 1 and 4
for Site or Corridor
KY 32 Improvement Project - 3

Date: 7/9/2012

County and State Rowan Co, KY

MLRA 124

Indicator Crop: Corn

Acres in Site = 227.0

Map Symbol	Ac. Prime Farmland	Ac Statewide Farmland	Ac Not Important Farmland	Ag. Group
CrC		0.6		4
CrD			0.1	5
HaC			1.4	4
HaD			21.7	5
LaC			2.7	5
LaD			9.1	5
LaE			7.5	6
LsD			2.2	5
LsE			70.7	6
LsF			79.9	7
RlF			12.5	7
St	3.0			2
PC			15.6	
Totals	3.0	0.6	223.4	227.0

Ag Groups and Relative Value from County Data

Ag group	Relative Value	Site acres per group	Product of Relative Value & Acres
1			0.00
2	91	3.0	273.00
3			0.00
4	74	2.0	148.00
5	57	35.8	2040.60
6	0	78.2	0.00
7	0	92.4	0.00
8			0.00
9			0.00
10			0.00
Totals		211.4	2461.60

Average Site Value **12**

Summaries

Acres Prime and Unique Farmland **3.0**

Acres Statewide & Local Important Farmland **0.6**

% of Farmland in County or Local Gov. unit to be Converted **0.01**

% of Farmland in Gov Jurisdiction with same or higher relative value to be converted **100.00**

Co. Data: Part II No. 6 Acres 58,710

Co. Data: Work sheet 2 same or higher value Acres 58710

United States Department of Agriculture

NRCS Natural Resources Conservation Service

1925 Old Main Street
Suite 2
Maysville, KY 41056
1-606-759-5570

SUBJECT: KY Highway 32 Reconstruction Project
Rowan and Elliott counties, Ky
Redwing Project 09-076
KYTC Item No. 9-192.00

Dec. 07, 2010

TO: Neil Guthals
Senior Ecologist
Redwing Ecological Services, Inc.
1139 South Fourth Street
Louisville, KY 40203
Phone: 502-625-3009

Mr. Guthals,

Enclosed are soils maps (four separate color coded maps – a soils map, prime farmland map, a hydric soils map, and a highly erodible map), with descriptive soils legends, and soil tables for the Highway 32 corridor as outlined on the shape-file and topographic map forwarded by your office. These maps and documents show the soils, prime farmland soils, statewide farmland soils, hydric soils, and highly erodible soils within the corridor as shown on the USDA published soil surveys for Rowan, Menifee, and Elliot Counties, KY.

Hydric soils / Farmed Wetlands:
Soils identified within the defined area on the soils map that are considered hydric or have hydric inclusions are shown according to the published soils surveys for Rowan, Menifee, and Elliott Counties, KY. This does not replace an on-site investigation for such soils or properties. However, NRCS does not conduct wetland on-site soils investigations or determinations for anything other than agricultural purposes for Farm Bill compliance which must be requested in writing by the landowner and even that may be subject to review by the U.S. Corps of Engineers in certain cases.

Prior converted cropland:
These areas are not identified during soil survey work and currently not compiled by NRCS.

If you need additional information or assistance please contact Curtis Rosser, District Conservationist at 606-845-6291 or myself at the above address and number.

Steve Jacobs
Resource Soil Scientist, NRCS
Maysville, Ky
cc:
Curtis Rosser, DC, NRCS, Morehead, KY.

U.S. Fish & Wildlife Service
Kentucky Ecological Services Field Office

U.S. Fish & Wildlife Service
330 West Broadway, Rm 265
Frankfort, KY 40601
Phone: 502-695-0468
Fax: 502-695-1024

Endangered, Threatened, & Candidate Species in _____ELLIOTT_____ County, KY

Group	Species	Common name	Legal* Status	Known** Potential	Special Comments
Mammals	*Myotis grisescens*	gray bat	E	K	
	Myotis sodalis	Indiana bat	E	K	
	Corynorhinus townsendii viginianus	Virginia big-eared bat	E	P	

NOTES:

* Key to notations: E = Endangered, T = Threatened, C = Candidate, CH = Critical Habitat

**Key to notations: K = Known occurrence record within the county, P = Potential for the species to occur within the county based upon historic range, proximity to known occurrence records, biological, and physiographic characteristics.

U.S. Fish & Wildlife Service
Kentucky Ecological Services Field Office

U.S. Fish & Wildlife Service
330 West Broadway, Rm 265
Frankfort, KY 40601
Phone: 502-695-0468
Fax: 502-695-1024

Endangered, Threatened, & Candidate Species in _____ROWAN_____ County, KY

Group	Species	Common name	Legal* Status	Known** Potential	Special Comments
Mammals	*Myotis sodalis*	Indiana bat	E	K	
	Myotis grisescens	gray bat	E	K	
	Corynorhinus townsendii viginianus	Virginia big-eared bat	E	K	
Mussels	*Epioblasma torulosa rangiana*	Northern riffleshell	E	K	
	Lampsilis abrupta	pink mucket	E	K	
Birds	*Haliaeetus leucocephalus*	bald eagle	Delisted	K	species was delisted July 9, 2007

NOTES:

* Key to notations: E = Endangered, T = Threatened, C = Candidate, CH = Critical Habitat

**Key to notations: K = Known occurrence record within the county, P = Potential for the species to occur within the county based upon historic range, proximity to known occurrence records, biological, and physiographic characteristics.

STEVEN L. BESHEAR
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

LEONARD K. PETERS
SECRETARY

November 4, 2010

Ms. Laura A. Danell
Redwing Ecological Services, Inc.
1139 South Fourth Street
Louisville, Kentucky 40203

RE: Information Request on Significan Aquatic Resources
Kentucky Highway 32 Reconstruction Project
Rowan and Elliott Counties, Kentucky
Redwing Project 09-076
KYTC Item No. 9-192.00

Dear Ms. Danell:

In reviewing the maps supplied with your letter of October 27, 2010 for this project, two streams of special classification and designation were identified. Laurel Creek in Elliott and Rowan counties is within the reconstruction corridor. This stream is a coldwater aquatic habitat (CAH) from river mile 0.0 to 7.6 (mouth to Carter School Road Bridge) and a CAH, Reference Reach, OSRW (outstanding state resource water) from river mile 7.6 to 14.7 (Carter School Road Bridge to source [headwaters]). The second stream of interest is Big Caney Creek in Elliott and Rowan counties. This stream is a CAH, Reference Reach and OSRW from river mile 1.8 to 15.3 (Grayson Lake to source). The designated uses of CAH and OSRW must be protected per regulation in 401 KAR 10:031 (http://www.lrc.state.ky.us/kar/titles.htm). Enhanced BMPs and careful maintenance of the riparian zone is critical to the temperature regime of the CAH, as well as protection to pollutants carried by stormwater runoff.

If you have any further questions please contact me at (502) 564-3410. Thank you for the opportunity to comment on specific aquatic resources in this project area.

Sincerely,

Randall G. Payne

Randall G. Payne
Environmental Scientist

KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES
TOURISM, ARTS, AND HERITAGE CABINET

Steven L. Beshear
Governor

#1 Sportsman's Lane
Frankfort, Kentucky 40601
Phone (502) 564-3400
1-800-858-1549
Fax (502) 564-0506
fw.ky.gov

Marcheta Sparrow
Secretary

Dr. Jonathan W. Gassett
Commissioner

22 July 2011

Neil A. Guthals
Senior Ecologist
Redwing Ecological Services, Inc.
1139 South Fourth Street
Louisville, KY 40203

RE: Request for Information
Kentucky Highway 32 Reconstruction Project
Rowan and Elliot Counties, Kentucky
Redwing Project 09-076
KYTC Item No. 9-192.00

Dear Mr. Guthals:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received your request for information regarding the subject project. The Kentucky Fish and Wildlife Information System indicates that no federally-listed species are known to occur within the boundaries of the study area as described in the project description. The Trout-perch *(Percopsis omiscomaycus)* is a state-listed species known to occur within Big Caney Creek. This species lives in streams containing sand, cobble, and large rocky substrates, and their major food items include crustaceans, insects, and small fish. Impacts to aquatic systems inhabited by the Trout-perch may reduce spawning and feeding habitat, with potential for population reduction as a result. Please be aware that our database system is a dynamic one that only represents our current knowledge of various species distributions.

As mentioned in the project description, this study area encompasses several streams, with Laurel Creek and Big Caney Creek being listed as Designated Use Waters by the Kentucky Division of Water (KDOW). These are streams that are representative of the least-impacted streams within a bioregion, and avoidance of impacts to these areas is highly recommended. Additionally, both Clifty Creek and Laurel Creek run through the boundaries of the Ed Mabry-Laurel Gorge Wildlife Management Area (WMA), with Laurel Creek further classified as Cold Water Aquatic Habitat by the KDOW. These streams are stocked with trout by the KDFWR, and provide excellent recreational opportunity. Streams providing suitable habitat for trout are becoming increasingly rare in Kentucky, and therefore it is imperative to protect habitats that can support this guild.

As mentioned, the Ed Mabry-Laurel Gorge Wildlife WMA is within the boundaries of the study area. This WMA is an existing, approved preservation site purchased with In-Lieu Fee mitigation dollars by the KDFWR Wetland and Stream Mitigation Program. Only tracts of exceptional quality are granted approval to be purchased as preservation-based

mitigation areas, and this WMA holds great ecological and recreational value. The KDFWR stresses the importance of avoidance of this area, and developing alignments that do not impact the WMA in any way. Permanent protection is an important element to these mitigation site, and the Clean Water Act 2008 Final Mitigation Rule, 33 CFR 332.7 (a) states "The aquatic habitats, riparian areas, buffers, and uplands that compromise the overall compensatory mitigation project must be provided long-term protection through real estate instruments or other available mechanisms, as appropriate…". Additionally, this area may qualify under the 4(f) designation of the U.S. Department of Transportation Act of 1966. This designation protects publicly-owned recreational areas, parks, wildlife/waterfowl refuges, or historic sites from being converted to transportation uses. "Use" described in section 4(f) law includes both direct and indirect effects on public lands.

The KDFWR recommends that you look at the appropriate US Department of Interior National Wetland Inventory Map (NWI) and the appropriate county soil surveys to determine where the proposed project may impact wetlands and/or stream habitats. Field verification may be needed to determine the extent and quality of wetland habitats within the project area. Any planning should include measures designed to eliminate and/or reduce impacts to wetland and stream habitats. If impacts cannot be avoided, mitigation should be properly designed and proposed to offset the losses. The KDFWR recommends continued coordination with the KDOW, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, and the U.S. Fish and Wildlife Service to ensure proper compliance under the Clean Water Act and all federal and state policies that govern this project.

To minimize indirect impacts to aquatic resources, strict erosion control measures should be developed and implemented prior to construction to minimize siltation into streams and storm water drainage systems located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed.

I hope this information is helpful to you, and if you have questions or require additional information, please call me at (502) 564-7109 extension 4453.

Sincerely,

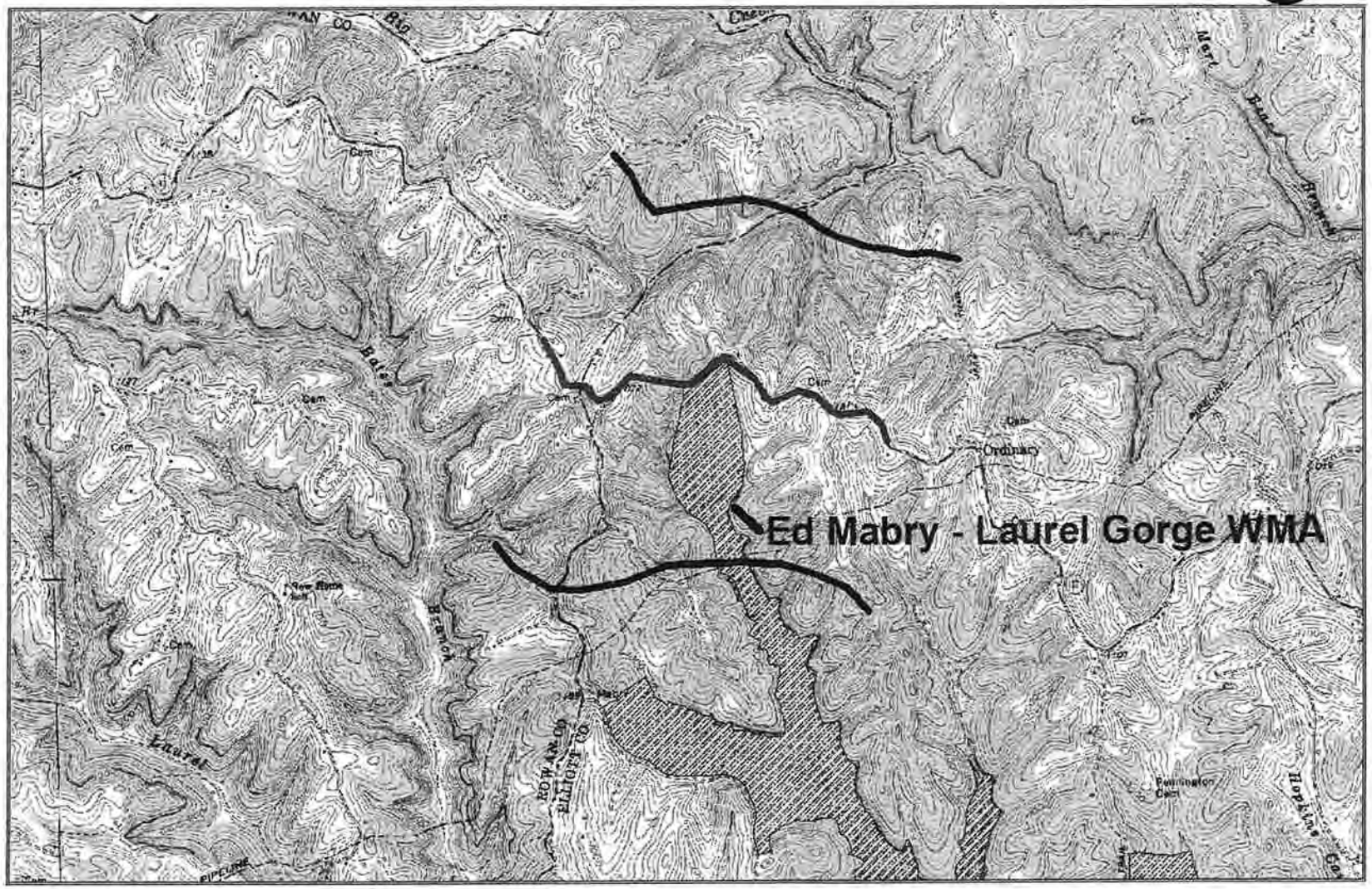
Dan Stoelb
Wildlife Biologist

Cc: Environmental Section File

1-mile Buffer Study Area

Existing Alignment

KY 32 Reconstruction Project



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Dan Stoelb
Wildlife Biologist - KDFWR
21 July 2011

ENERGY AND ENVIRONMENT CABINET

Steven L. Beshear
Governor

Division of Forestry
627 Comanche Trail
Frankfort, Kentucky 40601
www.forestry.ky.gov

Leonard K. Peters
Secretary

Leah W. MacSwords
Director

Redwing Ecological Services, Inc.
1139 South Fourth Street
Louisville, KY 40203

Subject: **Request for Information**
Kentucky Highway 32 Reconstruction Project
Rowan and Elliott Counties, Kentucky
Redwing Project 09-076
KYTC Item No. 9-192.00

Dear Redwing Ecological Services:

This letter is in response to your Oct 27th letter requesting information regarding significant forestry resources, including Champion trees and State forests, within the proposed Kentucky Highway 32 (KY32) Reconstruction study area located in Rowan and Elliott Counties.

Our research has shown that no Champion trees are listed as being discovered in Elliott or Rowan Counties (http://forestry.ky.gov/ChampionTrees/Documents/bigtreesbycounty.pdf).

Our research has also shown that no Kentucky State Forests are located in Elliott or Rowan Counties (http://forestry.ky.gov/Kentuckysstateforests).

Sincerely,

Floyd Willis
District Forester
Kentucky Division of Forestry

UNIVERSITY OF KENTUCKY

November 8, 2010

Kentucky Geological Survey
Research
228 Mining & Mineral Resources Bldg.
Lexington, KY 40506-0107
Phone: (859) 257-5500
Fax: (859) 257-1147
www.uky.edu/kgs

Ms Laura Darnell and Mr. Richard Clausen
Redwing Ecological Services
1139 South Fourth Street
Louisville, KY 40203

Re: Kentucky Highway 32 Reconstruction Project
Rowan and Elliott Counties, Kentucky

Dear Ms. Darnell and Mr. Clausen:

I have received your letter of November 3rd requesting geologic information regarding groundwater and geologically significant areas for the KY 32 improvements. Because of liability issues and cost constraints, the Kentucky Geological Survey cannot perform interpretive analyses of site-specific projects such as Redwing's Project No. 09-076. However, we have gone to great lengths to make information available online that will assist you in answering the questions posed in your letter. A water-well and spring data search for the areas in question can be performed online at the following link: http://kgs.uky.edu/kgsweb/DataSearching/Water/WaterWellSearch.asp. Note that if there are public wells in the vicinity of your site(s), you must check with the Kentucky Division of Water to see whether the site is located within a well-head protection area. You will find DOW's wellhead protection program contact information at http://water.ky.gov/groundwater/Pages/WellheadProtection.aspx.

The geology of the site can be seen online by viewing the USGS 7.5-minute geologic quadrangle maps. Digital images of these maps may be viewed online at the Kentucky Department of Geographic Information website at http://kymartian.ky.gov/gqmaps/. These maps are available in paper format from our Publication Sales office here at the Survey (859-257-3896 or toll-free at 877-778-7827)

The Rowan and Elliott County Groundwater Resource Reports by KGS summarize the occurrence and availability of groundwater in the county, and can be viewed (respectively) at http://www.uky.edu/KGS/water/library/gwatlas/Rowan/Foreword.htm and http://www.uky.edu/KGS/water/library/gwatlas/Elliott/Foreword.htm

In addition to the above report, two older but still useful publications are the USGS Hydrologic Atlas 17 for Rowan County, which can be viewed at http://kgs.uky.edu/kgsweb/download/wrs/ha17.pdf, and HA 37 for Elliott County at http://kgs.uky.edu/kgsweb/download/wrs/ha37.pdf.

Finally, a "simplified geology for land-use map" has been completed for Rowan County in 2007 by KGS, and can be viewed online at http://kgs.uky.edu/kgsweb/olops/pub/kgs/mc154_12.pdf and for Elliott County at http://kgs.uky.edu/kgsweb/olops/pub/kgs/mc161_12.pdf. These maps provide general information about geologic bedrock conditions that may affect the selection of sites for construction and development purposes. Hard copies are available at the KGS Publication Sales Office.

We do not have records on caves, mine portals or adits. You may be able to find the latter two through the Kentucky Mine Mapping Information System at http://minemaps.ky.gov/.

As with any new construction site, it is strongly recommended that appropriate testing be conducted for geotechnical and engineering properties on all earth materials at the site. If you will send me your e-mail address, I will be glad to forward this letter via e-mail so that you can click on the links directly.

Sincerely,

Bart Davidson

Bart Davidson, Geologist
KGS Water Resources Section
E-mail: bdavidson@uky.edu
Phone: 859.257.5500 x30524

KGS

Steven L. Beshear
Governor

Leonard K. Peters
Secretary
Energy and Environment Cabinet

Donald S. Dott, Jr.
Director

Commonwealth of Kentucky
Kentucky State Nature Preserves Commission
801 Schenkel Lane
Frankfort, Kentucky 40601-1403
502-573-2886 Voice
502-573-2355 Fax

October 29, 2010

Laura Darnell
Redwing Ecological Services, Inc.
1139 South Fourth Street
Louisville, KY 40203

Data Request 11-053

Dear Ms. Darnell:

This letter is in response to your data request of October 27, 2010 for the Ky Hwy 32 Reconstruction project. We have reviewed our Natural Heritage Program Database to determine if any of the endangered, threatened, or special concern plants and animals or exemplary natural communities monitored by the Kentucky State Nature Preserves Commission occur near the project area on the Ault, Bruin, and Haldeman USGS Quadrangles, as shown on the map provided. Please see the attached reports for more information, which reflect analysis of the project area with three buffers applied:

1-mile for all records – 10 records
5-mile for aquatic records – 12 records
5-mile for federally listed species – no records
10-mile for mammals and birds – 23 records

Laurel Creek Gorge is a significant ecological site which harbors several rare aquatic and terrestrial species. The Ed Mabry-Laurel Gorge Wildlife Management area contains a portion of the site, but most is privately owned land. Efforts should be made to avoid impacts to this area.

Several occurrences of rare aquatic organisms are known to occur in area waters. These include: *Alasmidonta marginata* (Elktoe, KSNPC threatened, federal species of management concern), *Ichthyomyzon fossor* (Northern brook lamprey, KSNPC threatened), and *Percopsis omiscomaycus* (Trout-perch, KSNPC Special Concern, federal species of management concern). Aquatic species and habitats in the area are sensitive to increased turbidity, sediment, and other adverse influences on water quality. A written erosion control plan should be developed that

includes stringent erosion control methods (i.e., straw bales, silt fences and erosion mats, immediate seeding and mulching of disturbed areas), which are placed in a staggered manner to provide several stages of control. All erosion control measures should be monitored periodically to ensure that they are functioning as planned. Our data are not sufficient to guarantee absence of endangered, threatened or sensitive species from the sites of proposed construction disturbance. We recommend that impacted streams be thoroughly surveyed by a qualified biologist prior to any in-stream disturbance.

Accipiter striatus (Sharp-shinned Hawk, KSNPC special concern) can be found in a variety of habitats from semi-open farmland to woodland openings and borders. This species typically nests in areas of extensive forest, especially areas with some evergreen trees.

Corynorhinus rafinesquii (Rafinesque's big-eared bat, federal species of management concern, KSNPC special concern), *Corynorhinus townsendii virginianus* (Virginia big-eared bat, federally listed endangered, KSNPC endangered), *Myotis leibii* (Eastern small-footed myotis, federal species of management concern, KSNPC threatened), *Myotis grisescens* (Gray myotis, federally listed endangered, KSNPC threatened), and *Myotis sodalis* (Indiana myotis, federally listed endangered, KSNPC endangered) are known to occur within ten miles of the proposed project. A thorough survey for these species should be conducted by a qualified biologist if suitable habitat will be disturbed. The survey should include a search for potential roost and winter sites, and a mistnetting census at numerous points within the proposed corridor, particularly in preferred summer habitat. Summer foraging habitats include upland forests, bottomland forests and riparian corridors. Suitable roost and winter sites include sandstone and limestone caves, rockhouses, clifflines, auger holes, and abandoned mines. In order to avoid impacts to bats, bottomland forests and riparian corridors, particularly near caves, should not be disturbed.

I would like to take this opportunity to remind you of the terms of the data request license, which you agreed upon in order to submit your request. The license agreement states "Data and data products received from the Kentucky State Nature Preserves Commission, including any portion thereof, may not be reproduced in any form or by any means without the express written authorization of the Kentucky State Nature Preserves Commission." The exact location of plants, animals, and natural communities, if released by the Kentucky State Nature Preserves Commission, may not be released in any document or correspondence. These products are provided on a temporary basis for the express project (described above) of the requester, and may not be redistributed, resold or copied without the written permission of the Kentucky State Nature Preserves Commission's Data Manager (801 Schenkel Lane, Frankfort, KY, 40601. Phone: (502) 573-2886).

Please note that the quantity and quality of data collected by the Kentucky Natural Heritage Program are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in Kentucky have never been thoroughly surveyed, and new plants and animals are still being discovered. For these reasons, the Kentucky Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of Kentucky. Heritage reports summarize the existing information known to the Kentucky Natural Heritage Program at the time of the request regarding the biological elements or locations in

question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. We would greatly appreciate receiving any pertinent information obtained as a result of on-site surveys.

If you have any questions or if I can be of further assistance, please do not hesitate to contact me.

Sincerely,

Sara Hines
Data Manager

SLD/SGH

Enclosures: Data Report and Interpretation Key

KY 32—Item No.: 09-192.00
Resource Agency Meeting Minutes
November 22, 2010

Project:	KY 32, Rowan and Elliot Counties
Item No.	9-192.00
Purpose:	Coordination meeting with KDFWR re: Ed Mabry Laurel Gorge WMA
Place:	KY Department of Fish and Wildlife Resources (KDFWR) Headquarters, Frankfort, KY
Meeting Date:	November 22, 2010
Prepared By:	Jane Wehner (12-21-10)

Attendance:

Joseph Zimmerman	KDFWR
Doug Dawson	KDFWR
Darrin Eldridge	Kentucky Transportation Cabinet (KYTC) – District 9
Karen Mynhier	KYTC – District 9
Dave Harmon	KYTC – Department of Environmental Analysis (DEA)
Kevin Dant	URS
Tom Springer	Qk4
Jane Wehner	Qk4

The purpose of the meeting was to coordinate with KDFWR regarding potential impacts, including Section 4(f) use, to the Ed Mabry Wildlife Management Area (WMA) as a result of the proposed KY 32 project.

The following issues were discussed:

<u>General discussion</u>

- The 2009 "KY 32 Alternatives Study" included substantial public involvement to identify a project corridor. The identified corridor is along existing KY 32 and will be the corridor evaluated for the KY 32 project.
- A map of the proposed project corridor showed the WMA boundary and other features.
- The intention is to identify Sections of Independent Utility (SIUs) within the corridor so sections having critical safety problems could be evaluated for environmental impacts and mitigation for such (if needed), and let for construction in a timely manner, i.e., without having to wait for environmental approval of the entire project.
- It is anticipated that an Environmental Assessment (EA) would evaluate overall impacts within the entire corridor, while Categorical Exclusions (CEs) are developed for the SIUs. This approach would allow the flexibility to identify, obtain environmental clearance for, and move ahead with fixes to critical spots needing remedies for unsafe conditions while dealing with other sections that have difficult issues that require more time to solve.
- A "Red Flag Report" has been prepared to identify environmental issues such as the presence of cemeteries, historic properties, streams, threatened/endangered species, critical/protected habitat, recreation areas, etc.
- The intention is to stay up on the ridges as much as possible to avoid impacts, particularly to streams.
- The proposed corridor is located in the Big Caney Creek and Laurel Creek watersheds. These streams are classified as Cold Water Aquatic Habitats, Exceptional Waters, and Reference Reach Streams. Design options should be aware of areas where runoff can enter the streams.

- Some officials want a road on new alignment rather than fixes to the existing road. New road and improving existing KY 32 options will be evaluated, and reasons for the recommendation of a preferred option will be documented.

Ed Mabry WMA

- The WMA is publicly owned in fee simple and was purchased using USACE "in lieu fee" funds. Both KDFWR and U.S. Army Corps of Engineers (USACE) have jurisdiction.
- Uses of the WMA include hunting, fishing, and hiking. There are no trails as yet; only logging roads. The terrain is very rugged and not easily accessed.
- Habitat preservation is a goal. Try to avoid the WMA and if can't, then mitigate for impacts to obtain a "no adverse effect" determination and Section 4(f) *de minimis* impact determination.
- If "adverse effect" is determined, might be able to prepare a Programmatic Section 4(f) Evaluation, but must show a "net benefit."
- In addition to potential Section 4(f) involvement, stream impacts along the entire corridor would require separate mitigation: impacts to USACE jurisdictional streams would require USACE Section 404 and KY Division of Water (KDOW) Section 401 permits.
- Many of the streams are ephemeral; therefore, a jurisdictional determination may be required from the USACE regarding 404 applicability. Also, KDOW may not be involved if a milepost-to-milepost identification of "outstanding" stream sections is used and there is no impact to a section(s) of the stream that is not designated as outstanding.
- Mitigation might involve elevated mitigation ratios, or the purchase of land contiguous to the existing WMA.
- Avoidance of impacts and Section 4(f) use of WMA property may be possible; however, in case of such or use impact, mitigation options could be explored now and include obtaining suitable land to replace that affected by the project. This may be feasible for mitigation of both Section 4(f) and 404-related impacts.
- KDFWR has identified several properties. Two property owners have expressed interest in selling. One property would not require restoration, but could be acquired for the purpose of preservation of the Laurel Creek Gorge. This would result in preservation credits, only. The other property, at the end of Big Stone Road, is heavily grazed by cattle and has restoration potential—reforestation and grade control structures. Restoration receives more credit than preservation.
- KDFWR prefers KYTC to do the mitigation (i.e., buy and restore property) for impacts to the WMA and transfer the property to KDFWR.

Next Steps

- Doug Dawson will handle contact with USACE to arrange a meeting.
- Dave Harmon will pursue with KYTC the possibility of advanced mitigation and options for same.
- Kevin Dant will provide KDFWR with stream location data from the ecological baseline study conducted by Redwing for the project.

END OF MINUTES

JAW/jaw
cc: Attendees
File No. U:\10403 - KY 32\Docs\Environmental\Agency Coord
File ID: 2010-12-21_KDFWR Coord Mtg Mins - To All.doc

Project:	KY 32 Reconstruction, Rowan and Elliott Counties, KYTC Item No.: 9-192.00	
Purpose:	Kentucky Division of Water - Early Coordination Meeting	
Place:	KYTC Central Office, Room 503	
Meeting Date:	April 21, 2011 1:30 p.m. (EDT)	
Prepared By:	Tom Springer	
In Attendance:	Adam Jackson	DOW
	Dave Harmon	KYTC, DEA
	Derek Adams	KYTC, DEA
	Darrin Eldridge	KYTC, District 9
	Karen Mynhier	KYTC, District 9
	Ted Withrow	Kentuckians For The Commonwealth-(KY 32 Stakeholder)
	Doug Doerrfield	Kentuckians For The Commonwealth (KY 32 Stakeholder)
	Neil Guthals	Redwing Ecological Services
	Kevin Dant	URS
	Mitch Thomas	URS
	Tom Springer	Qk4

- The meeting began with an overview of the project. The proposed reconstruction of KY 32 is a 14 mile long project starting in Elliottville in Rowan County and ends at Newfoundland in Elliott County. Existing KY 32 runs along a ridge top that separates two Exceptional Waters—Laurel Creek and Big Caney Creek. In addition, both streams have been identified as Cold Water Aquatic Habitat Streams. The streams are within the Little Sandy Watershed. In addition, KY 32 near KY 173 drains into Laurel Fork which then drains into Craney Creek. Craney Creek is identified as an Exceptional Water and Cold Water Aquatic Habitat stream and is in the Licking River Watershed.
- Due to the location of the project and because KYR 10, the General Permit for Stormwater Discharges associated with Construction Activities, has a focus on Exceptional Waters and Cold Water Aquatic Habitat streams, and Individual KPDES permit may be required for this project. Projects which discharge to these Special Use Waters (SUW) are excluded from coverage under KYR 10 and require an Individual KPDES permit to meet the antidegradation requirements of the Division of Water (DOW). Although the project does not directly discharge to these resources KYTC has decided to take a proactive approach to erosion and sediment control for the project.
- Based on past KYTC experience incorporation of temporary or permanent erosion prevention and sediment control (EPSC) measures has been found to be beneficial early in

project development rather than at completion of final design. These measures should be incorporated within the existing or proposed right of way.

- The purpose of the project is to improve existing geometric deficiencies of KY 32. The proposed roadway will be two lanes. Consideration of scenic qualities and implementing the recommended spot improvements of the planning study were requested by the KY 32 stakeholders in attendance. Incorporation of a bicycle facility was requested for consideration.
- The possible identification of a state endangered mussel in Caney Creek by the Kentucky State Nature Preserves was discussed. Further information will be provided by the KY 32 stakeholders in attendance.
- An example of a potential sediment control pond was provided to meeting attendees. It was requested by the KY 32 stakeholders consideration be given for using native vegetation and potential for making ponds have natural wetland characteristics.
- The KYTC typical process for erosion and sediment control plans on projects was discussed. Typically, design drainage areas are provided with generic erosion and sediment control quantities provided in the plans. The resident engineer and contractor work to develop a storm water pollution prevention plan for the project. District 9 noted the development of specific erosion prevention and sediment control plans for this KY 32 project would be beneficial. KDOW agreed this approach would help in achieving the goal preventing of any impact to the Exceptional Waters and their tributaries. If this approach is followed KDOW did not believe extraordinary EPSC measures will be required for the project.
- Discussion was had regarding future requirements possibly enacted by the Environmental Protection Agency (EPA) regarding antidegradation. It is too early to assess the ramifications this legislation would have on the project moves closer to construction.
- Other considerations include increased frequency for EPSC inspections, temporary mulching during construction, tree clearing and construction phasing. The Project Team will seek input from the KY 32 Stakeholders regarding monitoring standards after construction. These requirements may be included in the final permit.
- For purposes of the NEPA document consideration of EPSC measures will be at a general level. Such as enhanced EPSC measures will be considered for the project to minimize potential for sediment impacts to tributaries to Big Caney, Laurel Creek, and Craney Creek.

The Aquatic/Terrestrial Baseline report can include EPSC recommendations to be included as part of the Administrative Record.

- Redwing Ecological will be conducting water quality, fish and aquatic sampling on the tributaries near the roadway and a sample will be collected from Laurel and Big Caney Creeks. A Biological Assessment, if required by USFWS/FHWA, will be conducted prior to construction.
- The Kentucky Division of Water will be added to the KY 32 Stakeholders group and be sent minutes from previous meetings. In addition, the KY 32 stakeholders in attendance noted the water quality and subsequent ecology of these two streams were some of the best in the state, and that is why they are interested in the KY 32 project and requesting KDOW and KYTC work to protect these resources while meeting the needs of the traveling public.

END OF MINUTES

URS

Project:	KY 32 Reconstruction, Rowan and Elliott Counties, KYTC Item No.: 9-192.00
Purpose:	Kentucky Division of Water, Kentucky Dept. of Fish and Wildlife Resources - Agency Coordination Meeting
Place:	KYTC Central Office, Room 512
Meeting Date:	February 29, 2012 1:30 p.m. (EDT)
Prepared By:	Kevin Dant

In Attendance:

Adam Jackson	KDOW
Doug Dawson	KDFWR
Dave Harmon	KYTC, DEA
Tony Vinegar	KYTC, DEA
Darrin Eldridge	KYTC, District 9
Karen Mynhier	KYTC, District 9
Rachel Catchings	KYTC, District 9
Greg Rawlings	FHWA – KY Division
Ted Withrow	Kentuckians For The Commonwealth-(KY 32 Stakeholder)
Doug Doerrfield	Kentuckians For The Commonwealth (KY 32 Stakeholder)
Neil Guthals	Redwing Ecological Services
Kevin Dant	URS
Mitch Thomas	URS
Tom Springer	Qk4

- The meeting began with an overview of the project and an update of project development since the last coordination meetings (KDFWR – November 2010 and KDOW April 2011). Design alternatives with GIS developed fly-through videos were presented.
- Currently, all design alternatives do not require the acquisition of right of way from the Ed Mabry-Laurel Gorge Wildlife Management Area. It is the recommendation of KYTC Office of General Counsel to avoid this resource. KDFWR has not acquired additional acreage in the project area but is continuing to seek opportunity to acquire property.
- Fill and cuts were a main focus of the discussion. Alternative 1A/1B and 2A due to their proximity to existing KY 32 will require extensive borrow material for construction. Alternative 3, which is off-alignment but within the planning study area balances the cuts and fills required for the project.
- Currently, Alternative 3 has nearly double the stream impacts of the other two alternatives. However, discussion was had regarding the undetermined impacts of removing the borrow material required for Alternative 1A/1B and Alternative 2A and the potential impacts on streams, wetlands, cemeteries and cultural resources as a result. The project team will work

with D-9 Geotech to develop a methodology for identifying areas and impacts for internal comparison and analysis purposes only. It is anticipated impacts to streams and wetlands would be comparable to Alternative 3.

- In the construction phase KYTC has limited control over a contractor and the methods used to acquire borrow for the project. Past projects which identified borrow areas have not been successful as the contractor did not utilize the locations. For this project, an effort to identify borrow locations would require geotechnical and environmental analysis and the cost associated is anticipated to be millions of dollars.
- FHWA enquired about permitting for the project. All permitting for the project will be handled by KYTC-DEA. It is anticipated the project would be permitted by segment. KDOW requested the project be permitted on a HUC-14 unit basis. Projects with 250 acre drainage areas in the HUC-14 Watershed require mitigation.
- An Environmental Assessment is the NEPA document at this time. The project team will need to do sufficient design to ascertain the impacts of all alternatives. This analysis will be challenging for borrow areas. These areas may be within the Exceptional Waters.
- Currently the project has no direct impacts to Exceptional Waters. Only the stream has the designation, not the drainage area. Therefore an Individual KPDES is not required. However, KYTC will commit to mitigation and permitting as if the project is an Individual KPDES including post-construction BMP's. This could have an overall benefit to water quality in the long term.
- The project team should consider the time savings for the traveling public and benefits of the improvement in comparison to the impacts.
- Bicycle use of the former road bed of existing KY 31 is still encouraged, should Alternative 3 be advanced as the preferred alternative.

END OF MINUTES