Appendix J:

RESOURCE AGENCY MATERIALS
We have enclosed the following project information for your review and comment:

- A draft statement of purpose and need for the project
- Project Study Area Map and Existing Roadway Information
- Average Daily Traffic and Level of Service
- Environmental Overview
- Crash Analysis

Additionally, at this point in the study process several potential improvement projects have been identified that may or may not move forward for further review. Maps highlighting those projects are attached, and include projects of the following type:

- KYTC Six Year Plan Project
- KYTC/Louisville Metro Identified Future Project
- A project identified as a result of programming study
- A project either under construction or outside of the study area

We are requesting that you provide comments on these proposed improvement projects and/or specific comments concerning the bullets items below as they relate to the proposed improvement alternatives.

- Comments on the purpose and need for the project,
- Significant issues or concerns in the study corridor that may need to be addressed so that any future project can be adequately scoped,
- Any conservation or development plans your agency or organization has ongoing or is aware of within the study corridor,
- Locations of any known areas, issues, or resources within the study corridor that should be considered when developing alternatives so that impacts can be avoided, minimized, or mitigated early in the process, and
- Any mitigation strategies that should be considered in the development of future projects.

We respectfully ask that you provide us with your comments by September 15, 2014, to ensure timely progress in this planning effort.
We appreciate any input you can provide concerning this project. Please direct any comments, questions, or requests for additional information to Mikhail Pelfrey of the Division of Planning at (502) 564-7183 or by email at mikael.pelfrey@ky.gov. Please address all written correspondence to John W. Moore, PE, Director, Division of Planning, Kentucky Transportation Cabinet, 200 Mero Street, 5th Floor, Frankfort, Kentucky 40622 and include a return address on such correspondence.

Sincerely,

John W. Moore, PE
Director
Division of Planning

Enclosures

c/c: Jose Sepulveda, FHWA
   John Ballantyne, FHWA
   Gary Valentine
   Matt Bullock
   Jonathon West
   Tom Hall
   Steve Ross
   Mark Hine
   Ryan Griffith
   David Waldner
   Bart Asher
   Jeff Wolfe
   Donald Smith
   Bill Golick
   Shawn Dikes, Parsons Brinckerhoff
I-265 Programming Study
Jefferson County, Kentucky
Study Information Sheet
August 2014

1. Who is conducting the study?
The Kentucky Transportation Cabinet (KYTC) is conducting the study in cooperation with other agencies, including the Kentuckiana Regional Planning & Development Agency (KIPDA). Assisting these agencies is a team of multi-disciplined consultants led by Parsons Brinckerhoff.

2. What is the Purpose and Need of this project?
The purpose of the project is to evaluate the safety and capacity of the I-265 corridor and to determine needed improvements and priorities as a result of expected increased traffic due to major transportation and development changes in the Louisville Metro area. The needs driving this project include: safety, capacity, congestion, access, and economic development.

3. What is the study area?
A map of the study area is provided below. The study area incorporates I-265 from I-65 to the new East End Bridge as well as the interchanges located along the corridor. The ramp terminal intersections are included along with the next adjacent upstream and downstream intersection.

4. What are the existing conditions?
The existing roadway is an urban interstate with four twelve-foot lanes (two per direction) divided by a median (52 – 72 feet). Shoulder widths vary with generally ten to eleven feet on each side. The posted speed limit is 65 mph throughout the corridor.

5. What are the existing and future traffic operations?
I-265 currently has Average Daily Traffic volumes (ADT) of up to 83,000 vehicles per day, with 2040 ADTs forecasted as high as 183,300 vehicles per day.

Traffic operations were evaluated for the existing corridor for the future analysis year to provide a baseline of comparison for improvement alternatives. The figures below show the AM and PM peak hour operations based on the future year 2040 ADT.
6. What are the known environmental constraints?
Most of the improvements would stay within the existing right-of-way. However, to ensure proper documentation and identify any future areas of potential impact, an environmental overview was performed. Due to the size of the study area, a high-level evaluation was performed, with major features shown below on the map.

7. Are there areas with safety concerns?
As shown on the figure below, only one segment on I-265 (between KY 22 and I-71) has a critical crash rate greater than one. Any sections with a rate over one indicate statistically higher likelihood for a crash to occur on this section of roadway compared to other similar facilities. A total of 1,179 crashes occurred during the three-year analysis period (1/1/2010 – 12/31/2012). Of these, the most common crash type was rear-end collisions, and five of the crashes resulted in fatalities.

8. What are potential alternatives?
The following projects are listed in the KYTC Six-Year Highway Plan or the KIPDA Metropolitan Transportation Plan (MTP):
- Major Widening: I-265 to 3 lanes
- Interchange Improvements: I-71, I-64, Old Henry Road, KY 61

The programming study assumes that these projects will be constructed and therefore are not being evaluated as part of this study. However, each will be assessed with respect to the priority of each project.

Additional projects under consideration include:
- 2040 No Build (No additional improvements)
- Construct Collector-Distributor (C-D) Road
- Construct 1 Additional Capacity Lane (total of 4 lanes / direction)

In addition to these alternatives, Intelligent Transportation System (ITS) improvements and ramp terminal intersection improvements are being considered. Refer to the maps on the following pages for a full range of all projects currently being considered in the planning process as well as ones proposed for this study.

9. What will this study produce?
At the conclusion of this study, the Project Team will prepare a report that documents and summarizes the events of the study, gives pertinent technical and environmental analyses, documents evaluation results and stakeholder comments / feedback, and provides a record of the project with details of all the technical analysis as well as a recommendation of feasible alternatives for the next project development stage. A prioritization of projects will also be performed. The study will be completed in December 2014.
From: Moore, John W (KYTC) [JohnW.Moore@ky.gov]
Sent: Monday, September 15, 2014 8:27 PM
To: Pelfrey, Mikael (KYTC); Hall, Tom (KYTC-D05)
Subject: FW: I-265 Programming Study

Mikael, for your reference and use.

Tom, can you reach out to Mr. Kelly regarding the construction effects at I-265 and KY 60?

From: Kelly, Brian [mailto:bkelly@caschools.us]
Sent: Monday, September 15, 2014 4:02 PM
To: Moore, John W (KYTC)
Subject: I-265 Programming Study

Mr. Moore,

I’m writing in response to a request for comments on the I-265 programming study from I-65 to the new East End Bridge. I represent Christian Academy Schools and noticed on your August 8, 2014 letter that there are planned improvement projects that could possibly impact the property at our English Station Campus. One of the projects listed is “Major widening: I-265 to 3 lanes”. Our campus is located just west of I-265 between I-64 and KY-60 (Shelbyville Road) with our athletic fields and access roads very close to our property line adjacent to I-265. I’m requesting additional information on any potential impact to the access road or athletic fields to be an extreme hardship to our school system.

If possible I also like to request any information on planned work at interchanges north and south of the I-265/KY 60 interchange as major disruptions may affect the commuting time for many of our students and staff and I would like to get information to our parents as soon as possible.

Thank you for any information you can provide.

Brian Kelly
Director of Facilities
Christian Academy Schools
Cell: 502-554-7357
Education with a Higher Purpose
From: Matt Meunier [mmeunier@jeffersontownky.gov]
Sent: Wednesday, September 03, 2014 1:37 PM
To: Pelfrey, Mikael (KYTC); john.moore@ky.gov
Subject: City of Jeffersontown’s Response

John,

I received your letter in the mail dated August 8, 2014 referencing the I-265 Programming Study and you were requesting comments about the project. The comments that we have as a city are the following:

1. We would support the Rehl Road Interchange onto I-265. Having this additional interchange will greatly help reduce the congestion and traffic circulation around and through our Bluegrass Commerce Park. This park is the largest employment center in the Commonwealth and one of the largest in the Southeast United States. It employs some 27,000 people. Congestion from this park is felt even in our downtown along Ruckriegel Parkway and Watterson Trail. With the additional land being developed between Blankenbaker Parkway and I-265 the need is increasing each day.

2. The city is in the process of starting a bike/pedestrian trail scoping study along Taylorsville Road from our downtown (Watterson Trail) to the 21st Century Park just east of the I-265 interchange. We are seeking to create a desirable way to provide for the bike/pedestrian movement east along Taylorsville Road and through the interchange. Once that scoping study is done in the spring we will have a better handle on options which could include modifications to the underpass, a new bridge structure over I-265 (similar to Oldham County’s new bike/ped trail bridge) or any other options that are available.

Thank you again for allowing us to comment on this study and I would be more than happy to discuss in more detail with you.

You can reach me at 502-267-8333 or by a return email.

Thank you and have a great day.

Matt Meunier
Matthew W. Meunier, PLS, AICP
Director of Community Development/
Assistant to the Mayor
City of Jeffersontown, KY
10416 Watterson Trail
Jeffersontown, KY 40299
502-267-8333
jeffersontownky.gov
facebook.com/cityofjeffersontownky
twitter.com/JeffersontownKY

From: Stephen.Wilson@faa.gov
Sent: Thursday, September 04, 2014 12:10 PM
To: Pelfrey, Mikael (KYTC)
Subject: I 265 Corridor Study

Mikael,

We have reviewed the I-265 Programming Study and have no comments as it relates to aviation impacts.

Thanks,

Stephen Wilson
Community Planner
FAA, Memphis Airports District Office
2600 Thousand Oaks Blvd., Suite 2250
Memphis, TN 38118-1982
901 322 8185
901 322 8195 Fax
Stephen.wilson@faa.gov
From: William.McDowell@ky.gov
To: Pelfrey, Mikael (KYTC)
Cc: Ross, Shane (KYTC); Caple, Richard W
Subject: I-265 Planning Study in Louisville

Thank you for your email. Rick Caple, Director of Transportation, will respond.

Donna M. Vargenes, Ed.D.
Superintendent
Jefferson County Public Schools
Vanderhorin Education Center
3320 Newburg Road
P.O. Box 3020
Louisville, KY 40202-4200
502.485.3251 Office
502.485.3001 Fax

Subject: FW: I-265 Programming Study from I-65 to the new East End Bridge

Thanks.

Another resource agency response has come in. I’ll FW them immediately once they come in from now on. Although we’re past the response date we’ll continue to allow them, for a certain period anyway.

Thanks.

Mikael Pelfrey, P.E.
Transportation Engineering Specialist
Kentucky Transportation Cabinet
Division of Planning

Subject: FW: I-265 Programming Study from I-65 to the new East End Bridge

Please let me know if we can provide any further information.

Thank you,

Will

Will McDowell
Industrial Development Manager
Kentucky Cabinet for Economic Development
Office: (502) 782-1988
Mobile: (502) 226-0376
William.McDowell@ky.gov
From: Price, Ronald (EEC) [Ronald.Price@ky.gov]
Sent: Friday, September 12, 2014 10:50 AM
To: Moore, John W (KYTC)
Cc: Pelfrey, Mikael (KYTC); Price, Ronald (EEC)
Subject: I-254 Programming Study from I-65 to the new East End Bridge

Mr. Thomas,

Attached is the KY Department for Environmental Protection’s response to your letter requesting comments on the I-254 Programming Study from I-65 to the new East End Bridge.

Please let me know if you have any additional questions.

Ronald T. Price
Executive Staff Advisor
Office of the Commissioner
Department for Environmental Protection
300 Fair Oaks Lane
Frankfort, KY 40601
(502) 564-2150 x. 3125
(502) 564-4245 (fax)
Email: ronald.price@ky.gov

View the Kentucky Department for Environmental Protection’s Blog at Naturally Connected

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From: Moore, John W (KYTC) [JohnW.Moore@ky.gov]
Sent: Monday, September 15, 2014 11:42 AM
To: Pelfrey, Mikael (KYTC)
Cc: Ross, Steve (KYTC)
Subject: Fwd: I-265 Programming Study

Forward as appropriate.

Begin forwarded message:

From: "Forgacs, Joe (EEC)" <Joe.Forgacs@ky.gov>
Date: September 15, 2014 at 11:04:47 AM EDT
To: "Moore, John W (KYTC)" <JohnW.Moore@ky.gov>
Subject: I-265 Programming Study

Good morning John,

Here are comments from the Division for Air Quality relating to the subject project.

Kentucky Division for Air Quality Regulation 401 KAR 58:025, Asbestos Standards, apply to this project, and the project must be inspected by a Kentucky Accredited Asbestos Inspector. Asbestos that will be affected by this activity must be removed by a Kentucky accredited contractor before renovation or demolition begins. Written notification must be given on form DEP 7036 to the Division for Air Quality, Paducah Regional Office at least 10 weekdays prior the start of demolitions, whether or not asbestos has been identified to be present. Please note form DEP 7036 and the Asbestos Fact Sheet located at http://air.ky.gov/Pages/OpenBurning.aspx

Kentucky Division for Air Quality Regulation 401 KAR 63:010 Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth-moving equipment to be deposited onto a paved street or roadway. Please note the Fugitive Emissions Fact Sheet located at http://air.ky.gov/Pages/OpenBurning.aspx

Kentucky Division for Air Quality Regulation 401 KAR 63:005 states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the Open Burning Brochure located at http://air.ky.gov/Pages/OpenBurning.aspx

The Division would like to offer the following suggestions on how this project can help us stay in compliance with the NAAQS. More importantly, these strategies are beneficial to the health of citizens of Kentucky.

- Utilize alternatively fueled equipment.
- Utilize other emission controls that are applicable to your equipment.
- Reduce idling time on equipment.

The Division also suggests an investigation into compliance with applicable local government regulations.

Let me know if you need anything else regarding this issue.

Have a good week...

Joe Forgacs, Environmental Technologist III
Kentucky Division for Air Quality
Program Planning & Administrative Branch
Evaluation Section
Phone: (502) 564-3999, extension 4422
Fax: (502) 564-4666
E-mail: Joe.Forgacs@ky.gov
September 15, 2014

John W. Moore, PE
Director-Division of Planning
Kentucky Transportation Cabinet
200 Mero Street, 5th Floor
Frankfort, KY 40622

RE: Programming Study
Jefferson County, KY
I-265 Project

Comments about Proposed Study Plan:

• No mining operations are located within the study area.
• No Acid Mine Drainage occurs with the proposed alternate due to past mining operations.
• Wetland Areas and endangered species may be an environment concern for the construction in the study area.
• Several water wells, gas lines, and sewage lines exist with the study area.

Sincerely,
Billy Ratliff

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Div. of Planning
Mikael,

I was handed a copy of the Subject request for comments, that was originally mailed to the Kentucky Division of Water. Note that I am the Supervisor for the Water Quality Certification Section, which issues authorizations in the form of certifications that certify Federal permits. In this case, the eventual federal permit would be a Section 404 Department of Army Permit for the placement of fill material into jurisdictional streams and/or wetlands.

After the preliminary review of the project, my comments are only limited that efforts should be made to minimize and reduce the impacts to jurisdictional streams and/or wetlands. If streams and/or wetlands are to be filled by the proposed project, a Section 401 Water Quality Certification may be required. In addition, it is likely, due to the magnitude of the project, that mitigation for the streams and/or wetland impacts will be required.

Feel free to contact me, or the KYTC project manager for the WQC Section (James Bicknell) with further questions as the project moves forward.

Thanks.

Adam Jackson
Water Quality Certification Section Supervisor
KY Division of Water
200 Fair Oaks, 4th Floor
Frankfort, KY 40601
(502) 564-3410 Ext 4855
August 27, 2014

Mr. John Moore, Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street 5th Floor
Frankfort, KY 40622

Dear Mr. Moore:

Thank you for the opportunity to review the “I-265 Programing Study from I-65 to the new East End Bridge” for Jefferson County, KY. I forwarded the information to the District Facilities Branch and the Student Tracking and Transportation Branch here at the Kentucky Department of Education (KDE) for their review and input. Staff reported that there is nothing in the report that impacts anything under the direct control of KDE in terms of school facilities or school bus routes. However, it is the recommendation of KDE staff that the Transportation Cabinet contact the Jefferson County School District directly to solicit feedback from school district officials who have a better knowledge of how this project could impact schools in the affected area. The contact information is:

Superintendent Donna Hargens
Jefferson County School District
3332 Newburg Rd.
Louisville, KY 40218
(502) 418-3011

If you have any questions concerning school facilities or school bus transportation in general, please contact Kay Kennedy, KDE Director, Division of District Support at ke.kennedy@education.ky.gov or (502) 564-3930.

Sincerely,

Terry Holliday, Ph.D.

cc: Thomas Zawacki, Secretary, Education and Workforce Development Cabinet

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September 10, 2014

Mr. John W. Moore, PE
Director
Department of Planning, Kentucky Transportation Cabinet
200 Mero Street, 5th floor
Frankfort, KY 40601

Dear Mr. Moore:

Subject: I-265 Programing Study from I-65 to the new East End Bridge

Jefferson County
Item No. N/A

Thank you for allowing the Kentucky State Police to be part of the planning process. Attached are our findings.

Sincerely,

Rodney Brewer
Commissioner
Kentucky State Police

Attachment
September 10, 2014

Mr. John Moore
Page 2
September 10, 2014

Traffic collisions
- Focusing mainly on 2013, we found that there were over 600 collisions on that particular stretch of roadway. Of those, over half were reported as a “rear-end” type collision by the investigator. After looking more closely, many of the collisions are occurring near an intersecting road. What appears to be the issue is traffic backup as vehicles attempt to exit the interstate which is going to be addressed by the Interchange Improvements marked under Section #8 of your Study Information Sheet. We would add that there are other intersections that are causing major backups at times like the LaGrange Road intersection as workers from the Ford Motor Plant come and go from work. As they turn right onto LaGrange Road, they are immediately met by another set of lights as they attempt to turn left onto Chamberlain Lane. It not already in place, possibly setting the lights on different settings during the most heightened traffic periods would alleviate the stress or even giving the plant workers another access point to the factory from the interstate.

Cloverleaf Interchanges
- These type interchanges seem to be a nuisance for residents and commuters. Vehicles are speeding up as they attempt to merge onto the roadway while at the same time you have vehicles slowing as they attempt to exit the roadway and this is made worse when traffic is congested and vehicles aren’t able to merge freely in the short distance provided.

In summary we feel overall that the suggested improvements on your Study Information Sheet will add to the safety of this heavily traveled road. Once again we thank you for allowing us to provide input into this project and look forward to working with you in the future as we attempt to make the roadways of Kentucky safe.

Sincerely,

Chad Mills
Sergeant Chad Mills
Commander
Kentucky State Police
Collison Analysis & Highway Safety
The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received your request for information pertaining to the subject project. The Kentucky Fish and Wildlife Information System indicates that the federally-listed Indiana bat (Myotis sodalis), Gray bat (Myotis grisescens), Fat Pocketbook (Potamilius capax), and Pink Mucket (Lampotrigia aurita) are known to occur within close proximity of the project area. Additionally, the Northern Long-eared Bat (Myotis septentrionalis), a candidate species for federal listing, is likely to occur within the project area. Portions of this project also occur within known Indiana bat summer maternity habitat according to the U.S. Fish and Wildlife Service Kentucky Field Office (USFWS). Other critical habitats such as fish spawning areas, caves, wildlife management areas, etc. are not known to occur within the project study area outlined in the Programming Study document. The KDFWR recommends correspondence with the USFWS to ensure compliance under the Federal Endangered Species Act regarding bat and mussel species and any possible mitigation that may be required. Please be aware that our database system is a dynamic one and only represents our current knowledge of various species distributions.

It appears that the proposed project has the potential to impact wetland habitats. 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. Additionally, 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 habitats. If impacts cannot be avoided, mitigation should be properly designed and proposed to offset the losses. KDFWR will recommend, at a minimum, a 2:1 mitigation ratio for any permanent loss or degradation of wetland habitats.

To minimize impacts to the aquatic environment, the KDFWR recommends that erosion control measures be developed and implemented prior to construction to reduce siltation into waterways 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 (606) 694-7109 ext. 4453.

Sincerely,

Dan Stobbs
Wildlife Biologist

Cc: Environmental Section File
From: Diane.Bagby@louisvilleky.gov
Sent: Friday, September 12, 2014 2:52 PM
To: Pelfrey, Mikael (KYTC)
Subject: I-265 program study

Ms. Fox from Louisville MetroSafe forwarded the study documents for my response to you. In reviewing the documentation, we have no known environmental issues that would impact the project. In the plan we were able to determine if there would be a reconfiguration of the ramp from North bound I-65 to east bound I-265, this particular ramp has had repeated episodes of semi trucks losing their loads at the top curve of the ramp. This area is especially prone to heavy congestion.

At this point we do not have any additional comments.

Diane R. Bagby
Deputy Director
Louisville Metro EMA/MetroSafe
410 S. 5th Street
Louisville, KY 40202
Ph. 502-572-3456
Cell 502-442-4604

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To: John Moore, P.E.
KY Transportation Cabinet
Frankfort, Kentucky 40622

Re: I-265 Programming Study from I-65 to the new East End Bridge
Jefferson County, KY
Item No. N/A

August 18, 2014

Mr. Moore,

NRCS does not officially do environmental assessments for these types of projects, but rather provides information on the soils and/or impact to farmland according to the criteria set forth in 1985 National Food Security Act Manual.

According to the information in your request, almost the entire project area is within the existing right-of-way of I-265 and no affecting farmland with the exception of the enlarged area of the attached maps. I have included with a map unit legend, farmland classification, and map unit description for the area within the approximate corridor of the enlarged area that may potentially still remain in farmland.

If needed, additional information on the soils of Jefferson County, KY is available on-line through USDA’s Web Soil survey.

If this office may be of additional assistance, please do not hesitate to contact my office in Maysville Ky. or contact the NRCS District Conservationist 1-502-499-1900.

Steve Jacobs
Resource Soil Scientist, NRCS, Maysville, KY.

cc: Kurt Mason, NRCS District Conservationist, Louisville, KY

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AUG 0 2014
Div. of Planning
The Hazardous Resource Conservation plans are led and are a part of an effort to help people become more involved in carrying out and improving our natural resources and environment.
An Equal Opportunity Provider and Employer
Prime and other Important Farmlands

This table lists the map units in the survey area that are considered important farmlands. Important farmlands consist of prime farmland, unique farmland, and farmland of statewide or local importance. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested federal, state, and local government organizations, has inventoried land that can be used for the production of the Nation's food supply.

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, and fiber crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when properly managed, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it is not frequently flooded during the growing season or protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

For some of the soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, salinity, and drought, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. It has the special combination of soil quality, growing season, moisture supply, temperature, humidity, air drainage, elevation, and aspect needed for the soil to economically produce sustainable high yields of these crops when properly managed. The water supply is dependable and of adequate quality. Necessity to market is an additional consideration. Unique farmland is not based on national criteria. It commonly is in areas where there is a special microclimate, such as the wine country in California.
In some areas, land that does not meet the criteria for prime or unique farmland is considered for farmland of statewide importance for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and designating farmland of statewide importance are determined by the appropriate state agencies. Generally, this includes areas of soils that meet the requirements for prime farmland and that will economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as much as 15 to 20 percent of the state's crop production. Farmland of statewide importance may include tracts of land that have been designated for agriculture by state law.

In some areas that are not identified as having national or statewide importance, land is considered to be farmland of local importance for the production of food, feed, fiber, forage, and oilseed crops. This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance.

### Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the map, can be used to determine the composition and properties of a soil. A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variety of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and they do not affect use and management. These are called noncontrolling, or minor, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas in the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.
Soils that have profiles that are almost alike make up a soil series. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, structure, soil temperature, soil temperature, and other characteristics that affect their use. On the basis of these differences, a soil series is divided into soil phases. Most of the areas shown on the delineated soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, an sites ston soil, 0 to 2 percent slope, is a phase of the Alpha series. Some map units are made up of two or more major soil or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups. A complex consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. An association is made up of two or more soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, I was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar, an association, 0 to 2 percent slope, is an example. An undifferentiated group is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slope, is an example. Some surveys include miscellaneous areas. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example. Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potential for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description

Jefferson County, Kentucky

CnF—Chagrin-Neuse-Wheeling complex, 2 to 76 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 1ny4
Elevation: 380 to 500 feet
Main annual precipitation: 40 to 46 inches
Main annual temperature: 52 to 57 degrees F
Flood-free period: 172 to 204 days
Land use classification: Not prime farmland

Map Unit Description

Nets, frequently flooded, and similar soils: 35 percent
Chagrin, frequently flooded, and similar soils: 35 percent
Wheeling, frequently flooded, and similar soils: 10 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and intersects of the map unit.

Description of Chagrin, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed fine-loamy alluvium

Vypptal soils

H1 - 0 to 10 inches: loam
H2 - 10 to 39 inches: silt loam
H3 - 39 to 90 inches: silt loam

Properties and qualities

Slopes: 2 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 1.56 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B

Description of Neuse, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed coarse-loamy alluvium

Typical profile

H1 - 0 to 12 inches: stratified loam to fine sandy loam
H2 - 12 to 90 inches: stratified loam to sandy loam

Properties and qualities

Slopes: 2 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low  
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 in. / 6.65 inches)
Depth to water table: More than 80 inches  
Frequency of flooding: Frequent  
Frequency of ponding: None  
Available water storage in profile: Low (about 5.3 inches)

Interpretive groups
Land capability classification (irrigated): None specified  
Land capability classification (nonirrigated): 4c  
Hydrologic Soil Group: A

Description of Whe集ling, Frequently Flooded

Setting
Landform: Stream terraces  
Landform position (three-dimensional): Tread  
Down-slope shape: Linear  
Across-slope shape: Linear  
Parent material: Mixed fine-loamy alluvium

Typical profile
H1 - 0 to 5 inches: loam  
H2 - 6 to 49 inches: loam  
H3 - 49 to 85 inches: stratified sandy loam

Properties and qualities
Slope: 2 to 75 percent  
Depth to restrictive feature: More than 80 inches  
Natural drainage class: Very drained  
Runoff class: High  
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 5.95 in/hr)  
Depth to water table: More than 80 inches  
Frequency of flooding: Frequent  
Frequency of ponding: None  
Available water storage in profile: Moderate (about 6.7 inches)

Interpretive groups
Land capability classification (irrigated): None specified  
Land capability classification (nonirrigated): 7a  
Hydrologic Soil Group: A

Minor Components
Combs  
Percent of map unit: 8 percent

Huntington  
Percent of map unit: 6 percent

Faymore  
Percent of map unit: 3 percent

Caneyville  
Percent of map unit: 3 percent

Co—Combs fine sandy loam, occasionally flooded

Setting
National map unit symbol: 1g
Elevation: 360 to 550 feet  
Mean annual precipitation: 40 to 45 inches  
Mean annual air temperature: 64.5 to 67.5 degrees F  
Fresh-run period: 172 to 204 days  

Map Unit Composition
Combs, occasionally flooded, and similar soils: 10 percent  
Minor components: 10 percent  
Estimates are based on observations, descriptions, and interviews of the map unit

Description of Combs, Occasionally Flooded

Setting
Landform: Flood plains  
Down-slope shape: Linear  
Across-slope shape: Linear  
Parent material: Mixed coarse-loamy alluvium

Typical profile
H1 - 0 to 14 inches: loam  
H2 - 14 to 77 inches: fine sandy loam  
H3 - 77 to 102 inches: silt loam

Properties and qualities
Slope: 0 to 4 percent  
Depth to restrictive feature: More than 80 inches  
Natural drainage class: Well drained  
Runoff class: Low  
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 5.95 in/hr)  
Depth to water table: About 42 to 70 inches  
Frequency of flooding: Occasional  
Frequency of ponding: None  
Available water storage in profile: High (about 9.6 inches)

Interpretive groups
Land capability classification (irrigated): None specified  
Land capability classification (nonirrigated): 2c  
Hydrologic Soil Group: A

Minor Components
Huntington  
Percent of map unit: 8 percent
Nelson
Percent of map unit: 2 percent

Ha—Huntington silt loam, occasionally flooded

Map Unit Setting
National map unit symbol: 1ngd
Elevation: 360 to 500 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Flood-free period: 172 to 204 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Huntington, occasionally flooded, and similar soils: 60 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the map unit.

Description of Huntington, Occasionally Flooded

Setting
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed fine-silty alluvium

Typical profile
H1: 0 to 22 inches: silt loam
H2: 22 to 59 inches: silt loam
H3: 59 to 94 inches: silt loam

Properties and qualities
Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well-drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.005 to 0.10 in/hr)
Depth to water table: About 41 to 62 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: High (about 11.8 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic soil group: B

Minor components
None

Percent of map unit: 4 percent

Elk
Percent of map unit: 3 percent

Lindside
Percent of map unit: 3 percent

Ha—Huntington silt loam, frequently flooded

Map Unit Setting
National map unit symbol: 1ngdw
Elevation: 360 to 500 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Flood-free period: 172 to 204 days
Farmland classification: Prima farnandi if protected from flooding or not frequently flooded during the growing season

Map Unit Composition
Huntington, frequently flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the map unit.

Description of Huntington, Frequently Flooded

Setting
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed fine-silty alluvium

Typical profile
H1: 0 to 22 inches: silt loam
H2: 22 to 59 inches: silt loam
H3: 59 to 94 inches: silt loam

Properties and qualities
Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well-drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.005 to 0.10 in/hr)
Depth to water table: About 41 to 62 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: High (about 11.8 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic soil group: B
Minor Components

Clay:
Percent of map unit: 4 percent

Lindsale:
Percent of map unit: 3 percent

Elk:
Percent of map unit: 3 percent

O1B—Olwood silt loam, 2 to 6 percent slopes

Map Unit Setting
National map unit symbol: 1ng79
Elevation: 410 to 700 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Freeze-free period: 172 to 204 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Clayey and similar soils: 90 percent
Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Olwood

Setting
Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed fine-silty silicic over mixed loamy silicic

Typical profile
H1 - 0 to 10 inches: silt loam
H2 - 10 to 20 inches: silt loam
H3 - 20 to 40 inches: silt loam
H4 - 40 to 60 inches: silt loam
H5 - 60 to 90 inches: stratified sandy loam to loam

Properties and qualities
Slope: 2 to 6 percent
Depth to restrictive feature: 20 to 36 inches to fragipan
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low
To moderately low (0.00 to 0.01 ft/hr)
Depth to water table: About 15 to 30 inches
Frequency of flooding: None
Frequency of ponding: None

Calcium carbonate, maximum in profile: 20 percent
Available water storage in profile: Low (about 5.7 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2a
Hydrologic Soil Group: CD

Mineral Components

Lawrence:
Percent of map unit: 4 percent

Elk:
Percent of map unit: 3 percent

Nolin:
Percent of map unit: 3 percent

UmC—Urban land-Alfic Udarets-Crider complex, 0 to 12 percent slopes

Map Unit Setting
National map unit symbol: 1ng7k
Elevation: 500 to 500 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Freeze-free period: 172 to 204 days
Farmland classification: Not prime farmland

Map Unit Composition
Urban land: 50 percent
Crider and similar soils: 25 percent
Alfic udarets and similar soils: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8

Description of Alfic Udarets

Setting
Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: This fine-silty loam over clayey residuum weathered from limestone and dolomite
Typical profile:
H1 - 6 to 7 inches: silty loam
H2 - 24 to 100 inches: silty clay loam

Properties and Qualities:
Slope: 0 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 1.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.4 inches)

Interpretative groups:
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3a
Hydrologic Soil Group: B

Description of Wheeling

Setting:
Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed fine-loamy alluvium

Typical profile:
H1 - 6 to 7 inches: loam
H2 - 24 to 100 inches: silty clay loam
H3 - 49 to 85 inches: stratified sandy loam

Properties and Qualities:
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 1.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.7 inches)

Interpretative groups:
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3a
Hydrologic Soil Group: A

Minor Components:
Elk
Percent of map unit: 4 percent
Chewad
Percent of map unit: 3 percent

Nolin
Percent of map unit: 3 percent

WhB—Wheeling loam, 2 to 6 percent slopes

Map Unit Setting
National map unit symbol: 1mg7y
Elevation: 400 to 600 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Freeze-thaw period: 172 to 204 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Wheeling and similar soils: 50 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transacts of the mapunit.

Description of Wheeling
Setting
Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed fine-loamy alluvium

Typical profile
H1 - 0 to 6 inches: loam
H2 - 6 to 49 inches: loam
H3 - 49 to 85 inches: stratified sandy loam

Properties and qualities
Slope: 3 to 6 percent
Depth to restrictive layer: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the root limiting layer to transmit water (kRoot): Moderately high to high (0.50 to 0.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.7 inches)

Interpretive groups
Land capability classification (LCC): None specified
Land capability classification (non-LCC): 2a
Hydrologic Soil Group: A

Minor Components
Ehr
Percent of map unit: 4 percent
Nolin
Percent of map unit: 3 percent
Chewad
Percent of map unit: 3 percent

WhC—Wheeling loam, 6 to 12 percent slopes

Map Unit Setting
National map unit symbol: 1mg7z
Elevation: 400 to 600 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Freeze-thaw period: 172 to 204 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Wheeling and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transacts of the mapunit.

Description of Wheeling
Setting
Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed fine-loamy alluvium

Typical profile
H1 - 0 to 6 inches: loam
H2 - 6 to 49 inches: loam
H3 - 49 to 85 inches: stratified sandy loam

Properties and qualities
Slope: 6 to 12 percent
Depth to restrictive layer: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the root limiting layer to transmit water (kRoot): Moderately high to high (0.50 to 0.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.7 inches)
Interpretative groups:
Land capability classification (irrigated): None specified
Land capability classification (non-irrigated): 3a
Hydrologic Soil Group: A

Minor Components:
Elk
Percent of map unit: 4 percent
Net
Percent of map unit: 3 percent
Otwood
Percent of map unit: 3 percent

WKA—Wheeling loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting:
- National map unit symbol: 1ng7a
- Elevation: 400 to 600 feet
- Mean annual precipitation: 40 to 46 inches
- Mean annual air temperature: 52 to 57 degrees F
- Frost-free period: 172 to 204 days
- Farmland classification: All areas are prime farmland

Map Unit Composition:
Wheeling, occasionally flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wheeling, Occasionally Flooded

Setting:
- Landform: Stream terraces
- Landform position (three-dimensional): Tread
- Down-slope shape: Linear
- Across-slope shape: Linear
- Parent material: Mixed fine-loamy alluvium

Typical profile:
H1 - 0 to 6 inches: loam
H2 - 6 to 49 inches: loam
H3 - 49 to 85 inches: stratified sandy loam

Properties and qualities:
- Slope: 3 to 2 percent
- Depth to restrictive feature: More than 80 inches
- Natural drainage class: Well drained
- Runoff class: Low

WKB—Wheeling loam, 2 to 6 percent slopes, occasionally flooded

Map Unit Setting:
- National map unit symbol: 1ng7a
- Elevation: 400 to 600 feet
- Mean annual precipitation: 40 to 46 inches
- Mean annual air temperature: 52 to 57 degrees F
- Frost-free period: 172 to 204 days
- Farmland classification: All areas are prime farmland

Map Unit Composition:
Wheeling, occasionally flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wheeling, Occasionally Flooded

Setting:
- Landform: Stream terraces
- Landform position (three-dimensional): Tread
- Down-slope shape: Convex
- Across-slope shape: Linear
- Parent material: Mixed fine-loamy alluvium

Typical profile:
H1 - 0 to 6 inches: loam
H2 - 6 to 49 inches: loam
H3 - 49 to 85 inches: stratified sandy loam
Properties and qualities

- Slope: 2 to 6 percent
- Depth to restrictive feature: More than 60 inches
- Natural drainage class: Well drained
- Runoff class: Low
- Capacity of the root-limiting layer to transpire water (Ksat): Moderately high to high (0.60 to 5.95 in/hr)
- Depth to water table: More than 80 inches
- Frequency of flooding: Occasional
- Frequency of ponding: None
- Available water storage in profile: Moderate (about 6.7 inches)

Interpretive groups

- Land capability classification (irrigated): None specified
- Land capability classification (nonirrigated): 3a
- Hydrologic Soil Group: A

Minor Components

- Elk
  - Percent of map unit: 4 percent

- Others
  - Percent of map unit: 3 percent

WkO—Wheeling loam, 6 to 12 percent slopes, occasionally flooded

Map Unit Setting

- National map unit symbol: 1mg71
- Elevation: 400 to 600 feet
- Mean annual precipitation: 40 to 46 inches
- Mean annual air temperature: 52 to 57 degrees F
- Frost-free period: 172 to 204 days
- Farmland classification: Farmland of statewide importance

Map Unit Composition

- Wheeling, occasionally flooded, and similar soils: 90 percent
- Minor components: 10 percent
- Estimates are based on observations, descriptions, and transsects of the map unit.

Description of Wheeling, Occasionally Flooded

Setting

- Landform: Stream terraces
- Landform position: Tread
- Down-slope shape: Convex
- Across-slope shape: Linear
- Parent material: Mixed fine-loamy alluvium

Typical profile

- H1: 0 to 6 inches: loam
- H2: 6 to 24 inches: loam
- H3: 24 to 80 inches: silty clay loam

Properties and qualities

- Slope: 6 to 12 percent
- Depth to restrictive feature: More than 80 inches
- Natural drainage class: Well drained
- Runoff class: Medium
- Capacity of the root-limiting layer to transpire water (Ksat): Moderately high to high (0.60 to 5.95 in/hr)
- Depth to water table: More than 80 inches
- Frequency of flooding: Occasional
- Frequency of ponding: None
- Available water storage in profile: Moderate (about 6.7 inches)

Interpretive groups

- Land capability classification (irrigated): None specified
- Land capability classification (nonirrigated): 3a
- Hydrologic Soil Group: A

Minor Components

- Elk
  - Percent of map unit: 4 percent

- Others
  - Percent of map unit: 3 percent

WkD—Wheeling loam, 12 to 25 percent slopes, occasionally flooded

Map Unit Setting

- National map unit symbol: 1mg74
- Elevation: 400 to 600 feet
- Mean annual precipitation: 40 to 46 inches
- Mean annual air temperature: 52 to 57 degrees F
- Frost-free period: 172 to 204 days
- Farmland classification: Not prime farmland

Map Unit Composition

- Wheeling, occasionally flooded, and similar soils: 90 percent
- Minor components: 10 percent
- Estimates are based on observations, descriptions, and transsects of the map unit.
Description of Wheeling, Occasionally Flooded

Setting
- Landform: Stream terraces
- Landform position (three-dimensional): Riser
- Down-slope shape: Convex
- Parent material: Mixed fine-loamy alluvium

Typical profile
- H1 - 3 to 6 inches: loam
- H2 - 6 to 49 inches: loam
- H3 - 49 to 85 inches: stratified sandy loam

Properties and qualities
- Slope: 12 to 25 percent
- Depth to restrictive layer: More than 80 inches
- Natural drainage class: Well drained
- Runoff class: Medium
- Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 5.95 in/hr)
- Depth to water table: More than 80 inches
- Frequency of flooding: Occasional
- Frequency of ponding: None
- Available water storage in profile: Moderate (about 6.7 inches)

Interpretive groups
- Land capability classification (irrigated): None specified
- Land capability classification (nonirrigated): 4a
- Hydrologic Soil Group: A

Minor Components
- Elk
  - Percent of map unit: 8 percent
- Huntingdon
  - Percent of map unit: 3 percent
- Obwood
  - Percent of map unit: 2 percent

WkF—Wheeling loam, 25 to 55 percent slopes, occasionally flooded

Map Unit Setting
- National map unit symbol: 1ng7w
- Elevation: 400 to 600 feet
- Mean annual precipitation: 40 to 46 inches
- Mean annual air temperature: 52 to 57 degrees F
- Frost-free period: 172 to 204 days
- Farm land classification: Not prime farmland
Percent of map unit: 2 percent

Data Source Information

Site Survey Area: Jefferson County, Kentucky
Survey Area Data: Version 12, Dec 18, 2013