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1.0 Executive Summary

This report outlines the feasibility of grade separating CTH K (Lisbon Road) and the Canadian National (CN) railroad track. A Value Planning approach to the project was used to develop the feasibility study. This approach included an Information Phase, a Speculation Phase, an Evaluation Phase, and a Development Phase, with input from the various project stakeholders. As part of the study, Benesch planned and conducted six Community Advisory Committee (CAC) meetings. Represented at the meetings were the following stakeholders:

- Capitol Airport
- City of Brookfield
- City of Pewaukee
- Redeemer United Church of Christ
- Spring Creek Church
- Town of Brookfield
- United States Army Corps of Engineers
- Village of Menomonee Falls
- Vulcan Materials
- Waukesha County Public Works
- Waukesha County
- Wisconsin Department of Natural Resources

The first meeting covered the Information and Speculation portion of the study. Benesch screened the ideas and presented ten alternatives for the grade separation. The alternatives were broken into two concepts;

Concept 1 - CTH K (Lisbon Road) Over CNRR

Roadway Over on Existing Horizontal Alignment
Maintain Existing CN Railroad Profile

Concept 2 - CTH K (Lisbon Road) Under CNRR

Roadway Under on Existing Horizontal Alignment
Maintain Existing CN Railroad Profile

Within in each of the two concepts, alternatives were developed which focused on Duplainville Road. Due to the close proximity to the CN Railroad track, any grade separation structure between CTH K (Lisbon Road) and the CN Railroad track will require Duplainville Road to be modified. The following alternatives were developed to accommodate Duplainville Road:

Duplainville Road Alternatives

- Alternative #1
  Cul-de-sac Duplainville Road at CTH K (Lisbon Road)
- Alternative #2
  Maintain the existing CTH K (Lisbon Road) connection with improved geometrics
- Alternative #3
  "Jug Handle"
- Alternative #4A
  Relocate CTH K (Lisbon Road) connection Further to the west and Around the Waukesha County Facility. Close the existing Quarry Corners Parkway access to CTH K (Lisbon Road)
- Alternative #4B
  Relocate CTH K (Lisbon Road) connection further to the west and Utilize the Waukesha County Facility. Close the existing Quarry Corners Parkway access to CTH K (Lisbon Road)

The Canadian National Railroad track is currently at the maximum 1% grade allowed for mainline track per Canadian National Railroad design practices. As a result, it was determined not feasible to raise the Canadian National Railroad tracks and only alternatives which altered CTH K (Lisbon Road) were studied.

The remaining CAC meetings focused on the Evaluation/ Development portion of the study as the alternatives were evaluated against a list of criteria developed by the project team. The advantages and disadvantages were listed for each of the alternatives and the impacts to surrounding property, the environment, public safety, rail operations, emergency access and costs were all evaluated.

As a result of the Evaluation Phase of the study, the meeting group concluded that Concept 1 - Alternative #4A should be considered in the next phase of the project, preliminary engineering and environmental evaluation.

Preliminary construction costs in 2007 dollars for the various alternatives range from $6 - $10 million.

2.0 Introduction

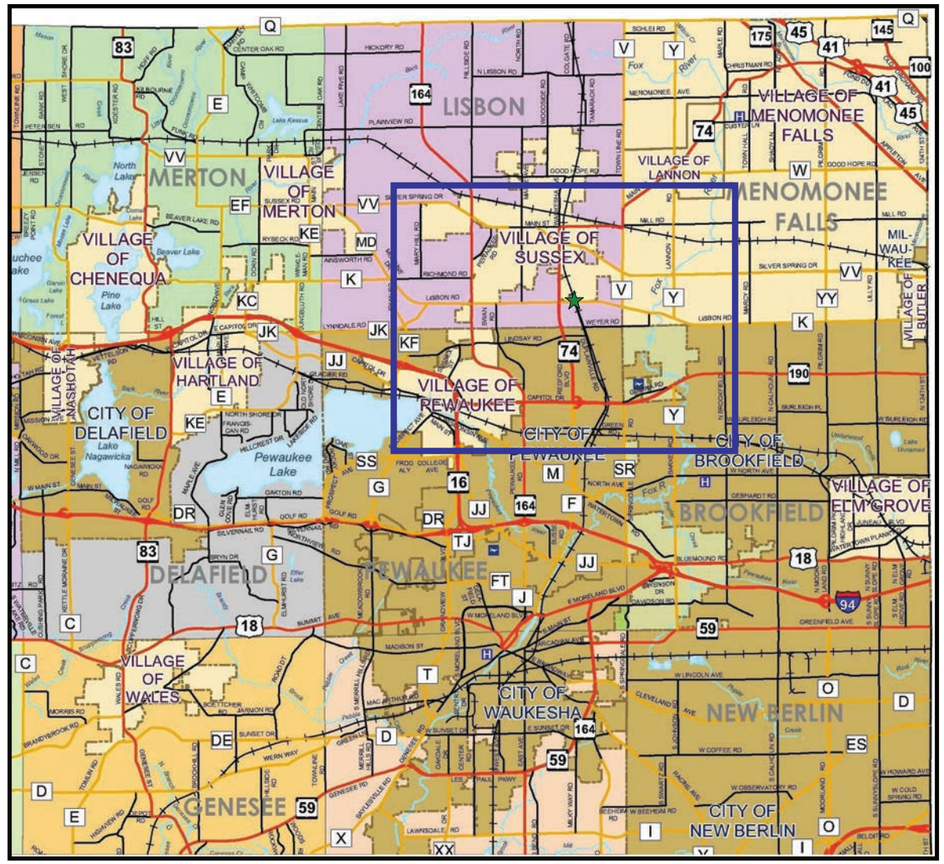
2.1 Description of Proposed Improvements

Purpose and Need

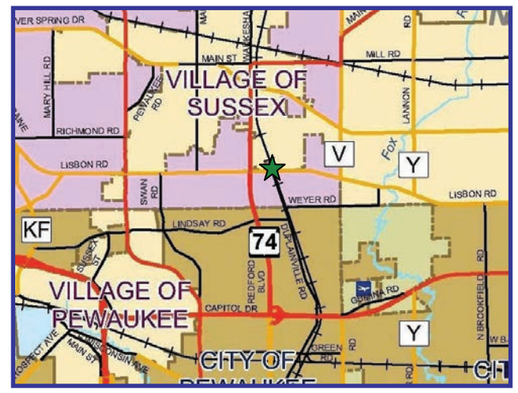
The purpose of this study is to determine the feasibility of grade separating CTH K (Lisbon Road) and the Canadian National Railroad track in order to eliminate the existing at-grade crossing and reduce motorist delay, improve public safety as well as the response times of emergency vehicles.

According to the Wisconsin Department of Transportations Facilities Development Manual, a grade separation structure should be considered anytime the exposure factor exceeds 100,000. The exposure factor equals the product of the number of trains per day and the number of highway vehicles per day, which yields a numerical value for the potential conflicts each day at the crossing.

According to current traffic counts, CTH K (Lisbon Road) has an Average Daily Traffic (ADT) Count of 13,500 vehicles. The Canadian National Railroad currently runs on an average 30 trains per day through the CTH K (Lisbon Road) roadway crossing. The existing exposure factor for the existing CTH K (Lisbon Road) and the Canadian National Railroad grade crossing is 405,000, which is more than four times the warrant threshold for a grade separation structure.



SOURCE: Waukesha County



★ **PROJECT LOCATION**

2.2 Existing Conditions

STH 74 Intersection

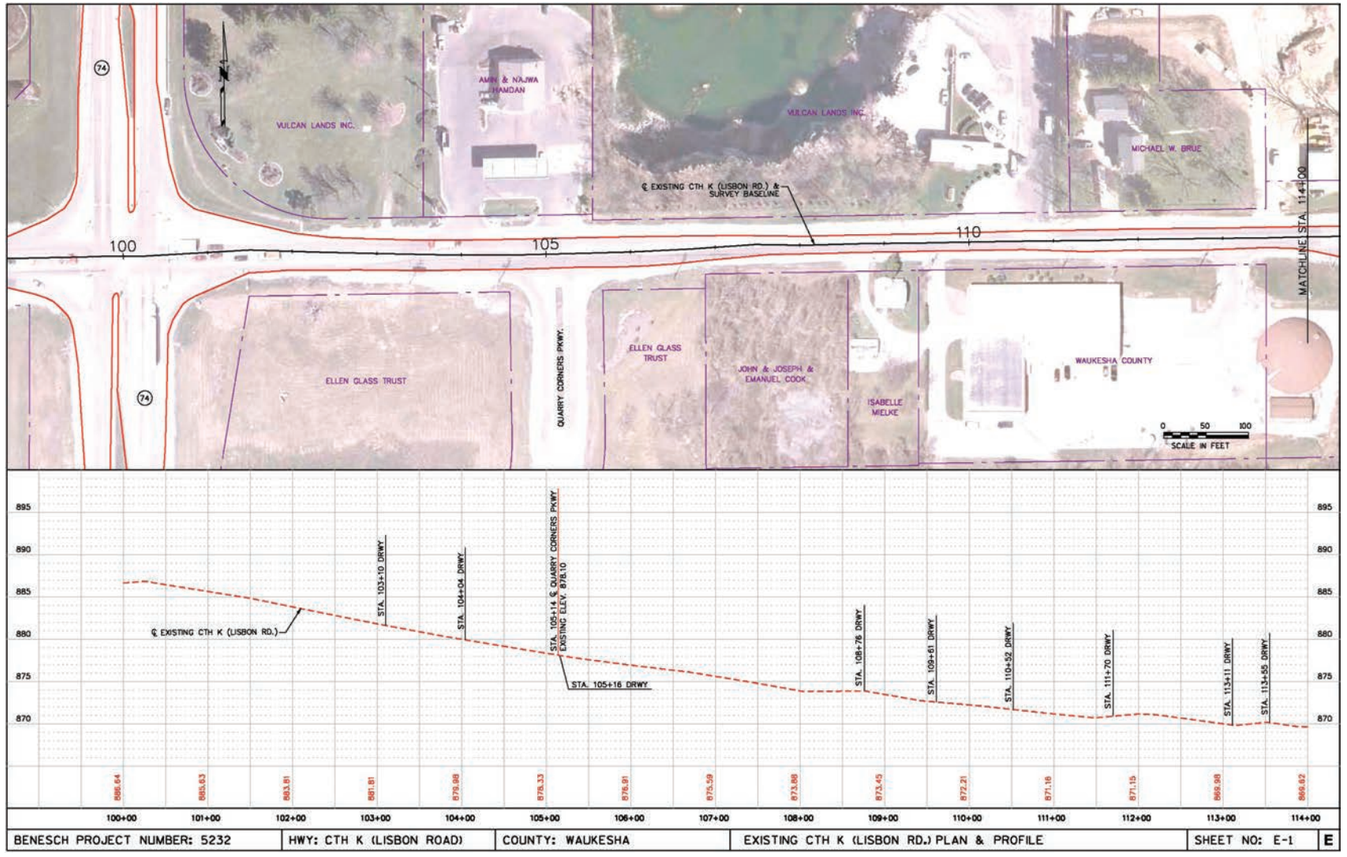
CTH K (Lisbon Road) intersects STH 74 approximately 1,700' west of the CTH K (Lisbon Road) and Canadian National Railroad crossing. STH 74 runs north – south through Waukesha County. Existing traffic counts indicate that at the CTH K (Lisbon Road) intersection the ADT on STH 74 is approximately 13,500 vehicles northbound and 11,200 vehicles southbound. The posted speed limit on STH 74 is 55 mph.

Impacts associated with any proposed grade separation structure are anticipated to be east of the CTH K (Lisbon Road) and STH 74 intersection. Improvements to the intersection are not anticipated to be required in order to accommodate a grade separation structure.

Quarry Corners Parkway Intersection

Quarry Corners Parkway is a segment of roadway which provides access from CTH K (Lisbon Road) to the Quarry Corners Business Park. Quarry Corners Parkway is a two lane roadway with curb and gutter. The posted speed is 25 mph.

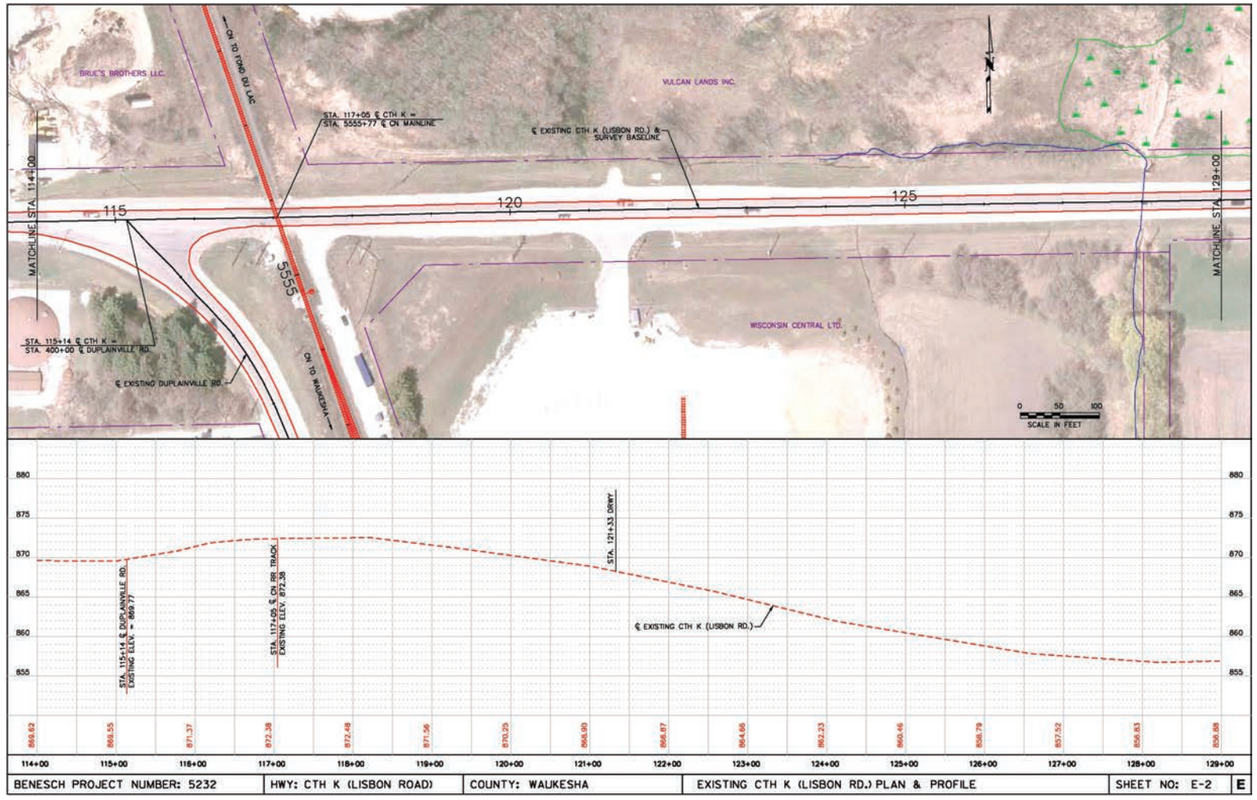
Quarry Corners Parkway is presently located approximately 500' from the CTH K (Lisbon Road) and STH 74 intersection. Based on current design practices, the Quarry Corners Parkway intersection is located too close to the STH 74 intersection. Improvements to this intersection are not part of the scope of this study. However, some of the proposed alternatives for grade separating CTH K (Lisbon Road) and the Canadian National mainline track allow for the opportunity to relocate Quarry Corners Parkway further to the east and away from the STH 74 intersection. If the design process is taken past the feasibility study, a detailed analysis of the Quarry Corners Parkway intersection is recommended.



CTH K (Lisbon Road) Looking West
at the STH 74 Intersection

Quarry Corners Parkway Looking South
at CTH K (Lisbon Road)

2.0 Introduction



CTH K (Lisbon Road) Looking East
at CN Railroad Crossing

CTH K (Lisbon Road) Looking West
at CN Railroad Crossing

CTH K (Lisbon Road)

CTH K (Lisbon Road) is an east – west Minor Arterial located in northern Waukesha County. Based on current traffic counts, CTH K (Lisbon Road) has an Average Daily Traffic (ADT) of 13,500 vehicles. Looking ahead to the future, the ADT is projected to reach 18,400 by the year 2026.

The Canadian National Railroad runs north – south through Waukesha County and crosses CTH K (Lisbon Road) at-grade in the Town of Lisbon. The crossing is located between two signalized intersections. Located approximately 1,700' to the east of the crossing is the CTH K (Lisbon Road) and STH 74 intersection. To the west, approximately 5,000' is the CTH V (Townline Road) intersection. Cantilever flashers with gates and bells protect the railroad crossing today.

The existing lane configuration of CTH K (Lisbon Road) consists of one eastbound thru lane, one westbound thru lanes and a gravel shoulder on both sides. As CTH K (Lisbon Road) approaches both the STH 74 and CTH V (Townline Road) intersections both left and right turn lanes exist today. The posted speed limit is currently 45 mph.

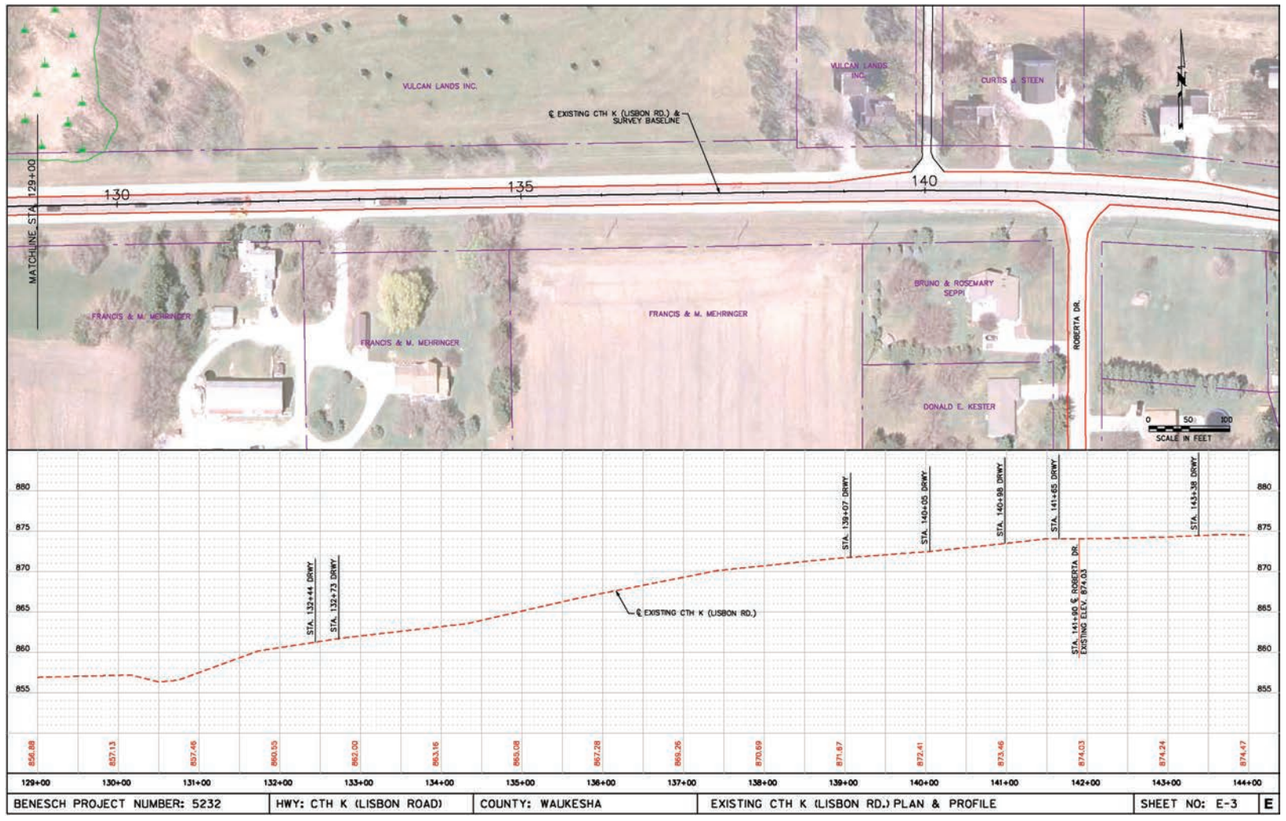
The CTH K (Lisbon Road) corridor is made up of primarily residential properties, there are a few businesses located within the corridor including Vulcan Materials. Access to the adjacent properties is primarily directly off of CTH K (Lisbon Road). CTH K (Lisbon Road) is also a main route for emergency access vehicles.

Canadian National Railroad Mainline

The Canadian National, who purchased the Wisconsin Central Ltd. operates the Wisconsin Central (WCL) system as a division covering approximately 3,000 route miles in four states. One of the key corridors for Canadian National trains is from Superior, Wisconsin to Chicago, Illinois. This particular portion of the corridor is referred to as the Waukesha Subdivision.

CTH K (Lisbon Road) is located at railroad milepost 105.23 along the Waukesha Subdivision. The crossing consists of one mainline track. Presently the Canadian National operates an average of 30 trains per day through the CTH K (Lisbon Road) crossing. The maximum speed trains can travel at on this portion of the Waukesha Subdivision is 60 mph. However, train speeds at the crossing are typically between 30 and 50 mph.

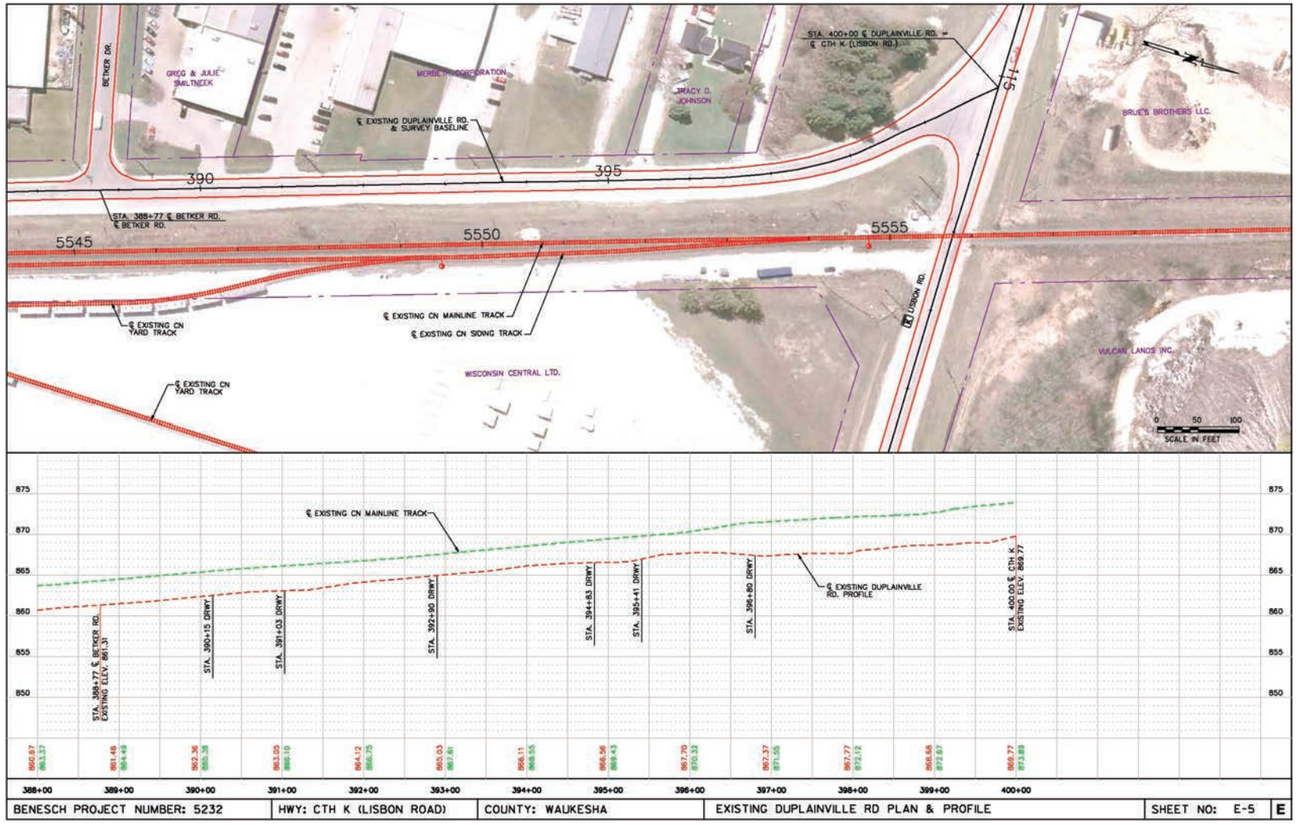
Along with the mainline track, Canadian National also operates some additional track in the vicinity of the CTH K (Lisbon Road) crossing. Located immediately to the south of the crossing is the Duplainville siding track along with the Lisbon Freight Village. To the north of the crossing is an industry track which Canadian National uses to serve Vulcan Materials.



CN Mainline Track Looking North
at CTH K (Lisbon Road)

CN Mainline Track Looking South
at CTH K (Lisbon Road)

2.0 Introduction



Duplainville Road Looking South at CTH K (Lisbon Road)

Duplainville Road Looking South Just South of CTH K (Lisbon Road)

Duplainville Road

Duplainville Road is a north - south roadway which originates just north of CTH M (Watertown Road) at STH 74 and terminates at CTH K (Lisbon Road). Duplainville Road runs parallel to and located west of the Canadian National Railroad corridor. Current traffic counts indicate that the existing ADT for Duplainville Road is approximately 1,400 vehicles. In the year 2026 the ADT is expected to increase slightly to approximately 1,700 vehicles.

The existing lane configuration of Duplainville Road consists of one northbound lane, one southbound lane and gravel shoulders on both sides of the roadway. The current post speed limit is 45 mph.

The Duplainville Road corridor is made up of a mix of residential and business parcels, most of which have direct access from Duplainville Road. The northern portion of Duplainville Road beginning at STH 190 (Capitol Drive) and continuing north as it approaches the CTH K (Lisbon Road) intersection is predominantly residential. The southern end of Duplainville Road, STH 190 (Capitol Drive) and south is home to several businesses including Quad Graphics.

The existing Duplainville Road and CTH K (Lisbon Road) intersection is located approximately 200' west of the CTH K (Lisbon Road) and Canadian National Railroad crossing. Due to the close proximity of the CTH K (Lisbon Road) and the Canadian National Railroad crossing, any modification to the CTH K (Lisbon Road) profile to accommodate a grade separation structure will require improvements to the existing CTH K (Lisbon Road) and Duplainville Road intersection.

Canadian National Railroad Siding Track

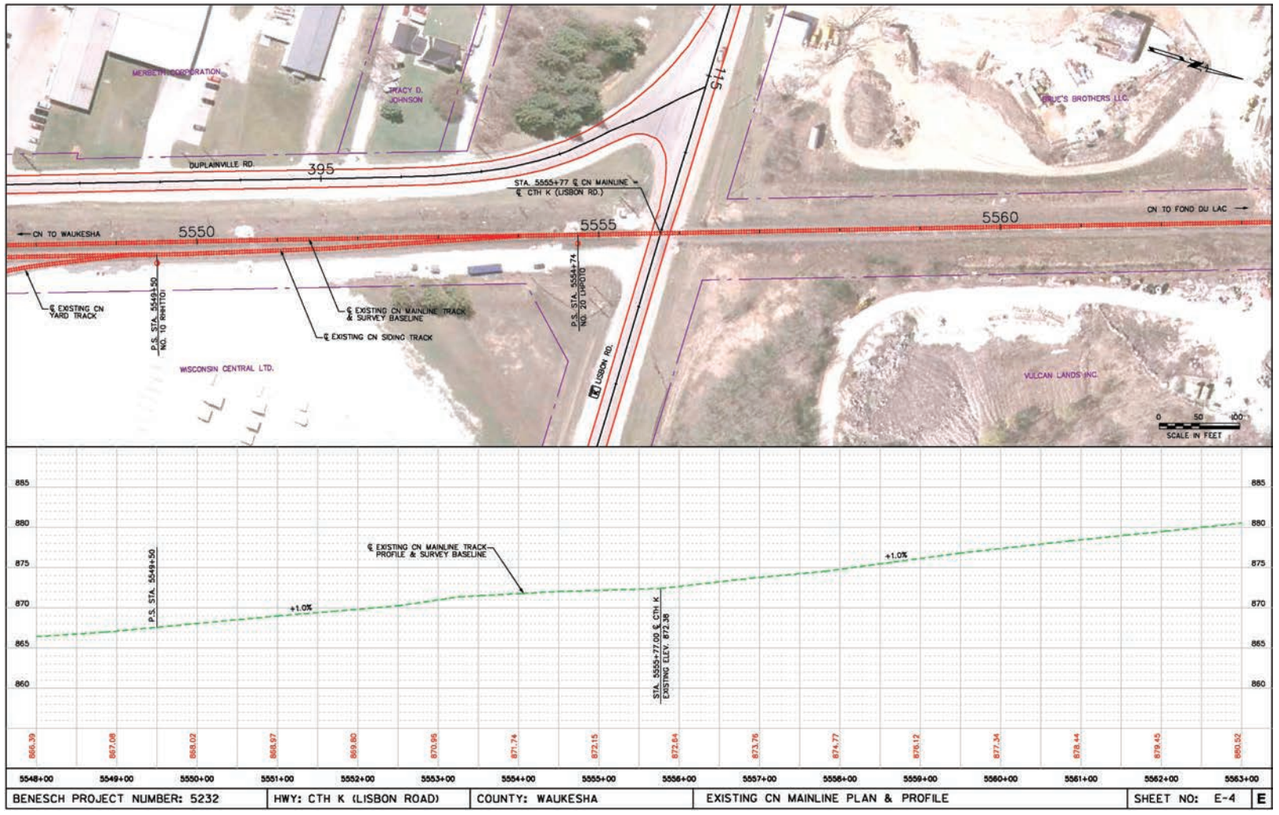
Along with the mainline track, the Canadian National also operates the Duplainville mainline siding track. A siding track is defined as “A track auxiliary to the mainline track used for meeting or passing trains.”

The existing Duplainville siding is located to the east of the mainline track. The Duplainville siding track begins just north of Green Road at railroad milepost 102.61 and extends to the north approximately 100’ south of the CTH K (Lisbon Road) crossing at railroad milepost 105.21. The siding has a total posted length of 13,071’ clear of the mainline track.

Canadian National Railroad Lisbon Freight Village

The property located in the southeast quadrant of the CTH K (Lisbon Road) and the Canadian National crossing is owned by the Canadian National and is home to their Lisbon Freight Village facility. The facility allows for the transfer of bulk materials from rail cars to trucks and vice versa. Current materials being transferred are plastics and lumber.

The facility currently consists of two additional railroad tracks located to the east of the mainline and siding tracks along with an unloading area located between the two tracks. The first railroad track parallels the mainline and siding track and is approximately 2,100’ long. The second railroad track runs due north and is approximately 1,200’ long. The facilities main access is directly off CTH K (Lisbon Road) approximately 400’ from the railroad crossing.



CN Lisbon Freight Village Looking South
at CTH K (Lisbon Road)

CN Siding Track Looking South
at CTH K (Lisbon Road)

3.0 Value Planning Methodology

The feasibility study for grade separating CTH K (Lisbon Road) and the Canadian National Railroad mainline was conducted using Value Planning techniques. Value planning advocates a team oriented step-by-step, systematic approach. This systematic approach is embodied in the job plan (Exhibit 3.1). The job plan has several phases which are vital to the success of the study.

As part of the study, six Community Advisory Committee (CAC) Meetings were held. The CAC was made up of County, Village and Town representatives, State and local governing agencies as well as local business owners. CAC members were selected for their knowledge of the project issues and their on-going involvement in implementing a solution.

Information Phase

The purpose of the Information Phase is to gain an understanding of the project and the stakeholders affected by the project. The information phase can be summarized as follows:

- Review all relevant information on the project, including the project description and scope of work
- Identify the owners, users, and stakeholders
- Identify the needs, desires and constraints of the owners, users and stakeholders
- Identify project constraints
- Define existing conditions
- Develop project design criteria
- Identify key project milestones

Speculation Phase

The purpose of the Speculation Phase is to identify ideas for grade separating CTH K (Lisbon Road) and the Canadian National Railroad track and explore performing functions that will enhance performance or acceptance at a reasonable cost.

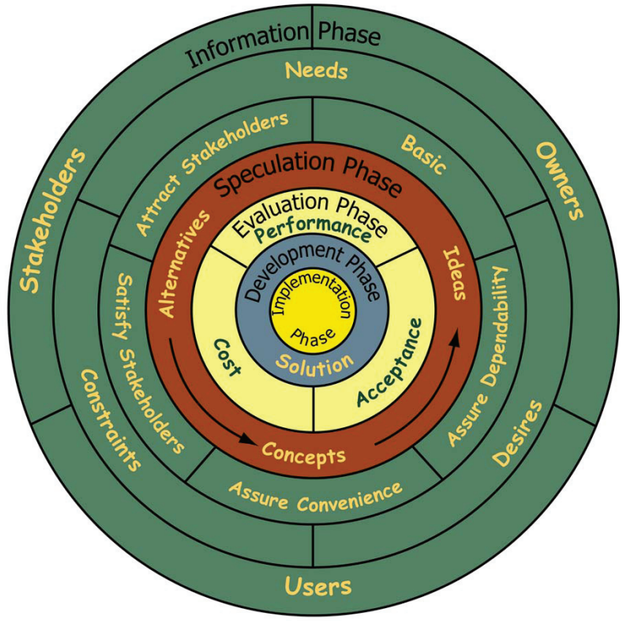
Evaluation Phase

The purpose of the Evaluation Phase is to identify the most outstanding alternatives for further development. There are two phases to this evaluation. The first is accomplished through "screening" the ideas. This eliminates alternatives that violate a constraint, or that so adversely affect interested parties as to render the alternative not feasible. The remaining are then rated against a set of criteria developed by the project team. These techniques help identify the alternatives that are closer to the stakeholders' needs, desires and constraints.

Development Phase

The purpose of the Development Phase is to investigate additional issues that will facilitate identification of the most feasible alternative(s). This will be accomplished through a comparison among the remaining alternatives to each other.

The proceedings of the CAC meetings and the alternatives considered are summarized in this project report for use in obtaining approval for further study.



Job Plan
Exhibit 3.1

4.0 Information Phase

The Information Phase began with the acquisition of existing maps and planning information, and presenting them at the first CAC meeting. The first CAC meeting for the project was held on August 24, 2006 at the Spring Creek Church located in Pewaukee, WI. An agenda for the meeting as well as a list of participants and meeting minutes are included in Appendix A. The focus of the workshop was the Information and Speculation Phases of the study. In attendance included representatives from:

- Capitol Airport
- City of Pewaukee
- Redeemer United Church of Christ
- Spring Creek Church
- United States Army Corps of Engineers
- Vulcan Materials
- Waukesha County Public Works
- Waukesha County
- Wisconsin Department of Natural Resources
- Wisconsin Department of Transportation Airport Program

Workshop participants presented and discussed the following items:

- Adjacent property issues
- Existing Canadian National Railroad mainline train operations
- Existing Canadian National Lisbon Freight Village operations
- Existing conditions along CTH K (Lisbon Road) and Duplainville Road
- Existing environmental conditions

4.1 Owners, Users, Stakeholders

In general, everyone involved in a project is a stakeholder. However, during this part of the Information Phase, they are grouped separately as Owners, Users and Stakeholders, as defined below:

Owners – Those who:

1. Own the project;
2. Fund the project;
3. Share in the funding;
4. Represent the owner's interest; or
5. Manage the project for the owner.

Users – Those who:

1. Use the project;
2. Operate the project; or
3. Maintain the project.

Stakeholders – Those who:

1. Financially affected by the project;
2. Environmentally concerned about the project; or
3. Disturbed by a required change in habits or recreation.

These groupings will help the project team better understand what the project does and what it should do. In subsequent sections of this report, the owners, users and stakeholders will be referred to only as stakeholders.

Owners, Users, Stakeholders

- Adjacent Businesses
- Adjacent Residents
- Canadian National Railroad
- City of Pewaukee
- City/Town/Village Utilities
- Communications Companies
- Emergency Service Providers
- Fiber on CN Right-of-Way
- Hamilton School District
- Motorists
- Office of the Commissioner of Railroads
- Pedestrians
- Private Utilities
- Town of Lisbon
- Trucking Companies
- US Army Corps of Engineers
- US Environmental Protection Agency
- US Fish & Wildlife
- Vulcan Materials
- Waukesha County Planning
- Waukesha County Public Works
- Waukesha School District
- Wisconsin Department of Natural Resources
- Wisconsin Department of Transportation
- Wisconsin State Historic Preservation Office

4.2 Constraints, Needs and Desires

Each stakeholder is expecting something from the project. The stakeholder's expectations are grouped into Constraints, Needs and Desires, as defined below:

Constraints are:

1. Legal requirements;
2. Standards of the owner;
3. Physical conditions of the site; or
4. Commitments to stakeholders.

Needs are:

1. Expectations that must be fulfilled by the project if constraints are not violated.
2. Limitations or restrictions that are imposed by stakeholders but which can be violated. The degree of violation will be considered in the evaluation of the alternatives.

Desires are:

1. Expectations that should be fulfilled if cost is not a factor.

There are several points to keep in mind in identifying the stakeholder constraints, needs and desires. The majority of constraints are prescribed by the law and by applicable codes and standards. These constraints are too numerous to be listed in this feasibility study report.

The constraints that should be listed are those imposed by a stakeholder or by a special code or standard. For example, in looking at creating grade separation between a roadway and a railroad track by taking the roadway under the railroad track, the Wisconsin Department of Transportations "Facilities Development Manual" calls for a minimum vertical clearance of 16' – 3". However, if the upgrade is limited in scope, it would be possible to reduce the required minimum vertical clearance to 14'-9".

Additionally, design criteria should be described as a constraint, need and desire. For example, some stakeholders may say that vertical clearance under a railroad track might be shown as a constraint of 14'-9" (to meet most urban requirements), a need of 16'-3" (to meet minimum WisDOT standards) and a desire of 16'-9" (to account for future overlays). On the other hand, other stakeholders may say that 16'-9" is the constraint (No design exceptions), the need is 16'-3" (to meet WisDOT) and the desire is 14'-9" (to reduce the cost of the improvement).

Constraints

- Mitigate Impact on Adjacent Residents
- Mitigate Impact on Adjacent Businesses
- Mitigate Impact on Canadian National Railroad
- Maintain CN Access to all Rail Customers
- Maintain CTH K (Lisbon Road) Traffic During Construction
- Mitigate Impact on Private Utilities
- Mitigate Impact on City/Town/Village Utilities
- Meet Flood Plain Requirements
- 23' Vertical Clearance for Road over Railroad
- 16'-9" Vertical Clearance for Railroad over Road
- Railroad Maximum Mainline Grade 1.0%
- Railroad Maximum Horizontal Curvature 3˚
- Railroad Maximum Yard Grade 0.1%
- Highway Maximum Grade 8%
- Highway - 10' Minimum Lane Width
- Highway - 4' Lateral Clearance
- Highway - 18" Curb & Gutter
- Mitigate Significant Impacts to Wetlands
- Mitigate Significant Noise Impacts
- Proposed Structure Aesthetically Pleasing

Needs

- Improve Traffic Flow
- Reduce Railroad/Highway Conflicts
- Grade Separate Railroad from CTH K (Lisbon Road)
- Minimize Impact on Adjacent Residents
- Minimize Impact on Adjacent Businesses
- Minimize Impact on Canadian National Railroad
- Railroad Siding Operational During Construction
- Railroad Interlocking Operational During Construction
- Maintain Lisbon Freight Village Capacity
- Provide Grade Less Than 1% on CN Mainline
- Protect Pedestrians
- Maintain Access for Emergency Service Providers
- Provide Community Sensitive Design
- Minimize Impact on Private Utilities
- Minimize Impact on City/Town/Village Utilities
- Minimize Impact on Motorists During Construction
- Control Stormwater Runoff
- Minimize Wetland Impact
- Minimize any Additional Noise Impacts
- Minimize any Negative Aesthetic Issues Created
- Accommodate Increased CN Traffic

Desires

- No Impact on Adjacent Residents
- No Impact on Adjacent Businesses
- No Impact on Canadian National Railroad
- 10,000' Siding for Canadian National Railroad
- No Impact on Private Utilities
- No Impact on City/Town/Village Utilities
- No Impact on Motorists During Construction
- Accommodate Future Horizontal Widening of CTH K (Lisbon Road)
- Railroad 2˚ Maximum Curvature
- Highway - 12' Foot Lanes
- Highway - 30" Curb & Gutter
- Highway - 6% Maximum Grade
- No Impact to Wetlands
- No increased Noise Impact
- Any Proposed Structure would be Aesthetically Pleasing

4.3 Design Criteria

Roadway

Traffic Volumes

• CTH K (Lisbon Road)	ADT (2006)	13,500
• Duplainville Road	ADT (2006)	1,400
• CTH K (Lisbon Road)	ADT (2026)	18,400
• Duplainville Road	ADT (2026)	1,700

Design Speed

• CTH K (Lisbon Road), Posted 45 mph	50 mph
• Duplainville Road, Posted 45 mph	50 mph

Vertical Curve K Value

• Crest curve desirable (50 mph)	110
• Sag curve desirable (50 mph)	96

Lane Widths

• Desirable	12’-0”
• Minimum	10’-0”
• Desirable turn lanes	12’-0"

Roadway Cross Slope

• Desirable	2%

Curb & Gutter Widths

• Desirable	30”
• Minimum	18”

Roadway Grade

• Desirable	< 6%
• Maximum	8%

Loading

• Bridge Design Loading	HS-20

Vertical Clearances

Railroad Over Roadway

• Minimum	16’-9”

Roadway Over Railroad

• Minimum	23’-0”

Pedestrian Bridge Over Roadway

• Minimum	17”-0”

Horizontal Clearances

Railroad Grade

• Maximum Mainline Track	1%
• Maximum Yard Track	0.1%

Track Spacing

• Minimum	15’-0”

Mainline Horizontal Curvature

• Desirable	< 2º
• Maximum	3º

Design Speed

• Permanent Freight	60 mph
• Temporary Freight	10 mph

Loading

• Bridge Design Load	Cooper E-90

Drainage

100 Year Flood Plain Elevation	828.00

4.3 Design Criteria (Continued)

As part of this feasibility study, K-Singh and Associates was retained to conduct a traffic study report. Part of the scope of work for that study was to collect existing traffic counts along CTH K (Lisbon Road) and Duplainville Road along with making future traffic projections for the year 2026. The complete traffic study report findings can be found under a separate cover titled "Traffic Study Report CTH SR Extension Between STH 190 and CTH K, Waukesha County, Wisconsin" dated November 18, 2006.

In addition to the Traffic Study Report, K-Singh and Associates also conducted a geotechnical exploration of the project site. The results of the geotechnical exploration have been documented and can be found under a separate cover titled “Geotechnical Investigation Report, CTH K / CN Railroad Grade Separation, Waukesha County, Wisconsin” dated November 15, 2006. An item of note as a result of the geotechnical exploration is that solid bedrock has been located at a depth of approximately 15’ below the existing ground surface. Any excavation below 15’ will most likely require blasting. This information will be especially important when evaluating any alternative which proposes lowering CTH K (Lisbon Road) underneath the Canadian National Railroad.

Roadway design speeds are typically set 5 mph above the posted speed limit for new construction. These design speeds are used to establish minimum radius of horizontal curves and “K-Values” for both crest and sag vertical curves. The K-Value is a ratio between the length of vertical curve and the algebraic difference in the roadway grade in and out of the vertical curve. The higher the K-Value, the further down the road a driver can see.

The minimum vertical clearances are set by the WisDOT “Facilities Development Manual.” Using these clearances and the estimated structural requirements necessary for both a roadway and railroad bridge the minimum separation between top of rail and top of roadway centerline profiles was established. For this feasibility study, it was calculated that 27’ would be required for a roadway over railroad structure and 24’ would be required for a railroad over roadway structure.

4.4 Design Issues

A number of design issues influenced the development of the alternatives to be taken forward for a more detailed evaluation. The influencing issues identified in the development of ideas were:

Office of the Commissioner of Railroads

All of the alternatives discussed in this report are subject to Section 195.29 of the Wisconsin Administrative Code. Section 195.29 of the code states that any alteration of an existing roadway and railroad crossing (crossing closure, crossing modifications and construction of a new at-grade or grade separated crossing) are subject to the Office of the Commissioner of Railroads review, investigation and order. The process requires a person, government agency or WisDOT to petition the OCR for a hearing. The OCR has regulatory authority over all roadway-railroad crossings in the State of Wisconsin.

Railroad Overpass vs. Roadway Underpass

The two general approaches to roadway-railroad grade separation are the road can go under the railroad tracks or over the railroad tracks. Due to the fact the maximum railroad grade is very flat (1% max), typically the railroad elevation does not change significantly. In general, a roadway underpass has less visual and other impacts on the surrounding environment than an overpass.

Additionally, an underpass only needs to provide 16’-9” vertical clearance for roadway traffic, while an overpass requires 23’-0” vertical clearance for railroad traffic. That difference of approximately 6’ affects the length of a grade separation since the greater clearance requires more length to develop using similar vertical alignments. The primary advantages of an overpass include no stormwater pumping is required to drain the structure, the railroad tracks are not impacted by the structure construction and utility relocation tends to be less.

Existing vs. Offset Horizontal Alignment

Any proposed grade separation structure could be constructed on the existing roadway alignment or it could be on an offset horizontal alignment, tying back in to the existing alignment on either end of the project limits. The advantage of an existing alignment option is that the majority of the roadway right-of-way already exists. The need to acquire additional roadway right-of-way is not as great.

One advantage of an offset alignment is that it allows for the existing roadway to remain open to traffic for a good portion of the project construction if not through the duration of the project. The existing alignment option would require the existing roadway to be closed to traffic for the entire length of the construction.

Railroad Bridge Types

There are primarily two choices for railroad structures that can be used for a highway underpass, either a through plate girder or a beam span structure with a center pier. The advantage of a through plate girder structure is that it would be able to span the entire roadway width with no need for a center pier in the roadway median. The disadvantage is that the depth of construction required on the girder increases as the distance required to span increases.

The other railroad structure is a beam span bridge. This type of structure utilizes multiple shorter spans which have a shallower depth of construction. For this type of structure additional piers would need to be located in the roadway median and behind the back of curb. Beam span bridges typically are more cost friendly because the amount of steel required is less.

5.0 Speculation Phase

The Speculation Phase focused on developing ideas related to grade separating CTH K (Lisbon Road) and the Canadian National Railroad track. The Speculation Phase occurred in the second half of the first Community Advisory Committee (CAC) meeting which was held on August 24, 2006.

5.1 Ideas

Following the function analysis, the next step is to answer the question "What else will do the job?" This is the key question in the Speculation Phase.

Speculation may be carried out in at least three ways:

- Random
- By Function
- By Project element

Among the rules that govern the Speculation Phase includes:

- Criticism is prohibited
- Quantity is desired
- Combinations and improvements are sought

An idea is a formulated thought or opinion. An idea in itself may be a complete solution or simply a portion of a complete solution that will need to be paired or grouped with other ideas to form a complete solution. Listed below are all the idea's generated by the project team.

List of Ideas

Idea		Description of Idea
CTH K (Lisbon Road) Modifications	Concept 1	CTH K (Lisbon Road) Over CN Railroad Track
	Concept 2	CTH K (Lisbon Road) Under CN Railroad Track
Duplainville Road Modifications	Alternative #1	Cul-de-sac Duplainville Road at CTH K (Lisbon Road)
	Alternative #2	Maintain existing CTH K (Lisbon Road) connection with improved geometrics
	Alternative #3	"Jug Handle"
	Alternative #4A	Relocate CTH K (Lisbon Road) connection further to the west and close the existing Quarry Corners Parkway access to CTH K (Lisbon Road). Route Duplainville Road around the existing Waukesha County Facility.
	Alternative #4B	Relocate CTH K (Lisbon Road) connection further to the west and close the existing Quarry Corners Parkway access to CTH K (Lisbon Road). Route Duplainville Road through the existing Waukesha County Facility.
	Alternative #5	Relocate CTH K (Lisbon Road) connection further to the west and utilize the existing Quarry Corners Parkway access to CTH K (Lisbon Road)
	Alternative #6	Cul-de-sac Duplainville Road at CTH K (Lisbon Road) and route Duplainville Road to Quarry Corners Parkway
Property Impacts	Option #1	No retaining wall
	Option #2	Minimize impacts to surrounding properties through the use of retaining walls

6.0 Evaluation Phase I

Ideas generated during the Speculation Phase were not subject to any criticism. This is done to promote free thinking.

6.1 Screening of Ideas

The next step is Initial Screening to identify real and potential conflicts and to consider the likelyhood for acceptance of each idea. In addition, ideas that violated project constraints were eliminated.

Through continued discussions with the project stakeholders and members of the Community Advisory Committee (CAC), alternatives were screened and some rejected. The legend below identifies the disposition of each idea in the Initial Screening step and the reasons for rejecting the idea.

Initial Screening of Ideas

	Idea	Accepted	Reason for Rejection R1	Reason for Rejection R2
CTH K (Lisbon Road) Modifications	Concept 1	●		
	Concept 2	●		
Duplainville Road Modifications	Alternative #1	●		
	Alternative #2	●		
	Alternative #3	●		
	Alternative #4A	●		
	Alternative #4B	●		
	Alternative #5		●	
	Alternative #6			●
Property Impacts	Option #1	●		
	Option #2	●		

Reasons for Rejection

R1 Existing Quarry Corners Parkway intersection with CTH K (Lisbon Road) is to close to STH 74 intersection, violation of WisDOT standards

R2 Alternative #6B has been constructed since option development; Alternative #6 is now the same as Alternative #1

7.0 Evaluation Phase II / Development Phase

After the Initial Screening of Ideas, it was determined by the project team that ten alternatives would be developed for further investigation. The alternatives were broken into two general concepts:

Concept 1 - CTH K (Lisbon Road) Over CNRR

Roadway Over on Existing Horizontal Alignment
Maintain Existing CN Railroad Profile

Concept 2 - CTH K (Lisbon Road) Under CNRR

Roadway Under on Existing Horizontal Alignment
Maintain Existing CN Railroad Profile

Within in each of the two concepts, five alternatives were developed which focused on Duplainville Road. Due to the close proximity to the CN Railroad track, any grade separation structure between CTH K (Lisbon Road) and the CN Railroad track will require Duplainville Road to be modified. The five alternatives for Duplainville Road are very similar under Concept 1 and Concept 2 and only the impacts change slightly. The following alternatives were developed to accommodate Duplainville Road:

Duplainville Road Alternatives

- Alternative #1
  Cul-de-sac Duplainville Road at CTH K (Lisbon Road)

- Alternative #2
  Maintain the existing CTH K (Lisbon Road) connection with improved geometrics

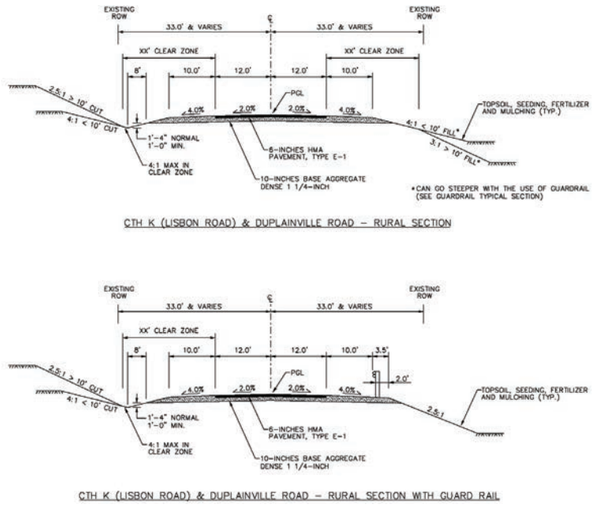
- Alternative #3
  "Jug Handle"

- Alternative #4A
  Relocate CTH K (Lisbon Road) connection Further to the west and Around the Waukesha County Facility. Close the existing Quarry Corners Parkway access to CTH K (Lisbon Road)

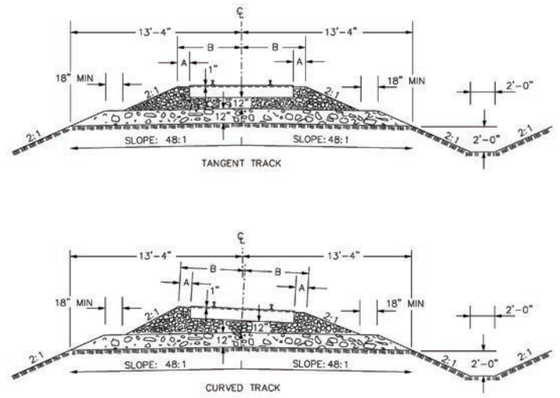
- Alternative #4B
  Relocate CTH K (Lisbon Road) connection further to the west and Utilize the Waukesha County Facility. Close the existing Quarry Corners Parkway access to CTH K (Lisbon Road)

7.1 Typical Sections

Exhibits 7.1 through 7.3 illustrates the typical sections which were used for generating the slope intercept lines for the various alternatives. The CTH K (Lisbon Road) and Duplainville Road typical section matches the existing roadway typical section. The railroad typical sections, both the single and double track typical sections are the current Canadian National design standards.

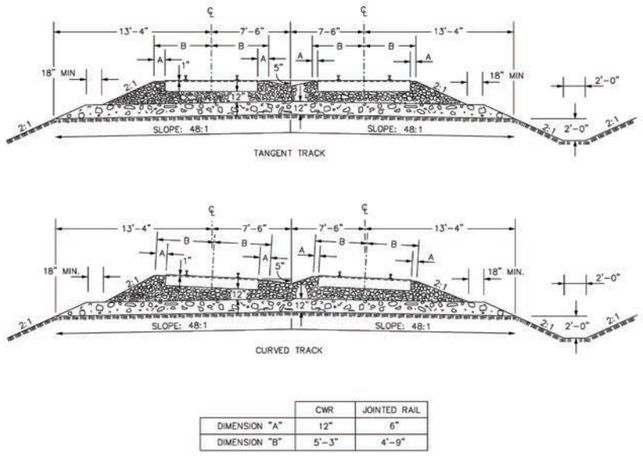


CTH K (Lisbon Road) & Duplainville Road Typical Section
Exhibit 7.1



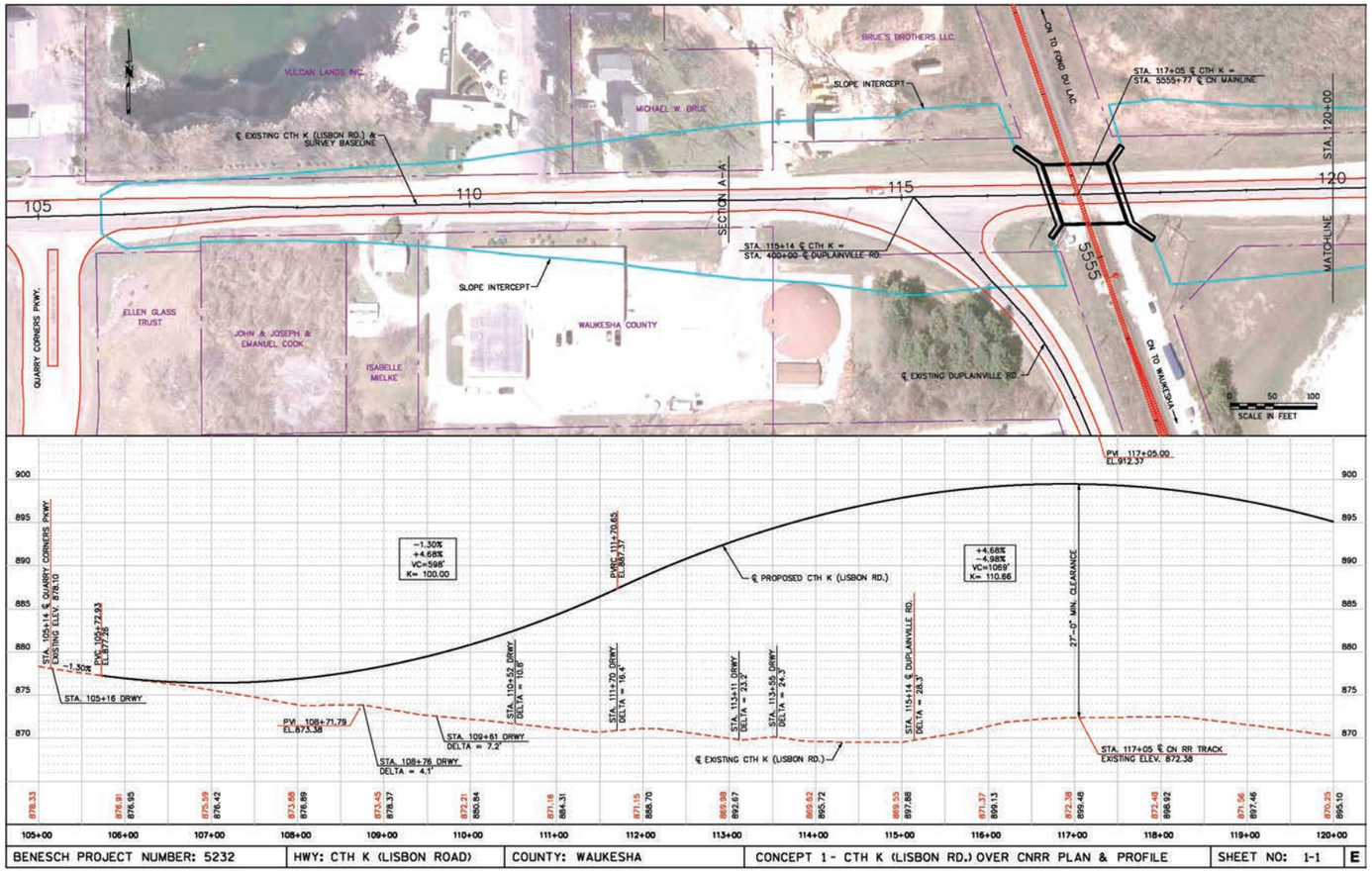
	CWR	JOINTED RAIL
DIMENSION "A"	12"	6"
DIMENSION "B"	5'-3"	4'-9"

CNRR Single Track Typical Section
Exhibit 7.2



	CWR	JOINTED RAIL
DIMENSION "A"	12"	6"
DIMENSION "B"	5'-3"	4'-9"

CNRR Double Track Typical Section
Exhibit 7.3

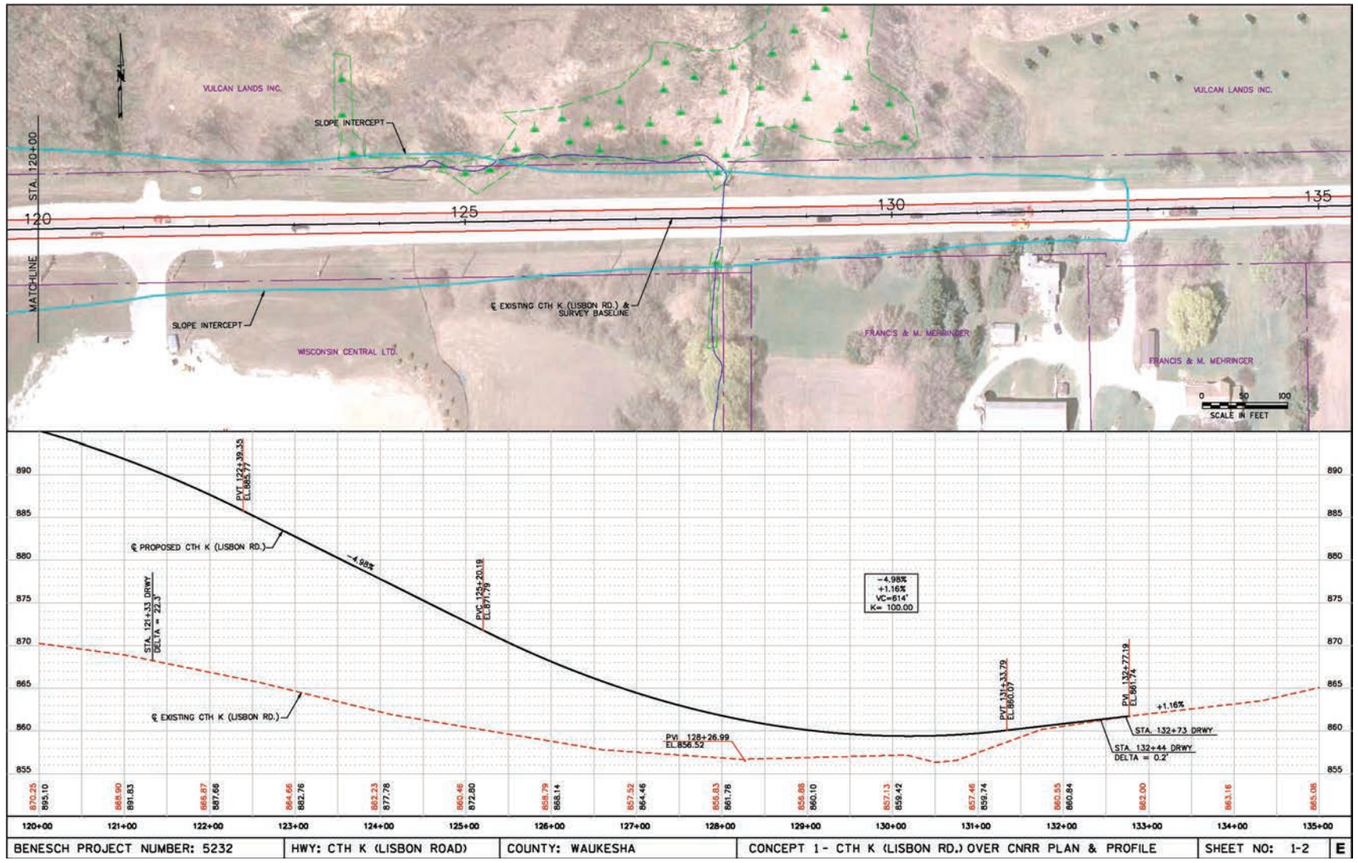


7.2 Concept 1 - CTH K (Lisbon Road) Over CN Railroad Track

This is the first of two concepts which strictly takes a look at how to grade separate CTH K (Lisbon Road) and the Canadian National Railroad. Under this concept, CTH K (Lisbon Road) would be raised over the Canadian National Railroad on its current horizontal alignment. Both the Canadian National Railroad horizontal and vertical alignments would remain unchanged.

The minimum required clearance over the Canadian National Railroad track is 23' to accommodate railroad traffic. It is estimated that the structural requirements for the roadway bridge would be approximately 4'. Included in the 4' structural requirement is the bridge structure that the roadway will sit on along with the roadway itself. Taking into account the minimum railroad clearance and the structural requirements, a total clearance envelope of 27' will be required from the top of the railroad track to the top of roadway. As illustrated in the profile view of the exhibit located above, the minimum 27' vertical clearance has been achieved.

Along with meeting the minimum vertical clearance, the second design criteria that must be met is achieving the minimum "K-Value" for the roadway vertical curves. Based on a posted roadway speed of 45 mph for CTH K (Lisbon Road) and a design speed of 50 mph, the minimum K-Value for a crest curve is 110 and a sag curve of 96. The minimum K-Values for both the crest and sag curves have been achieved.

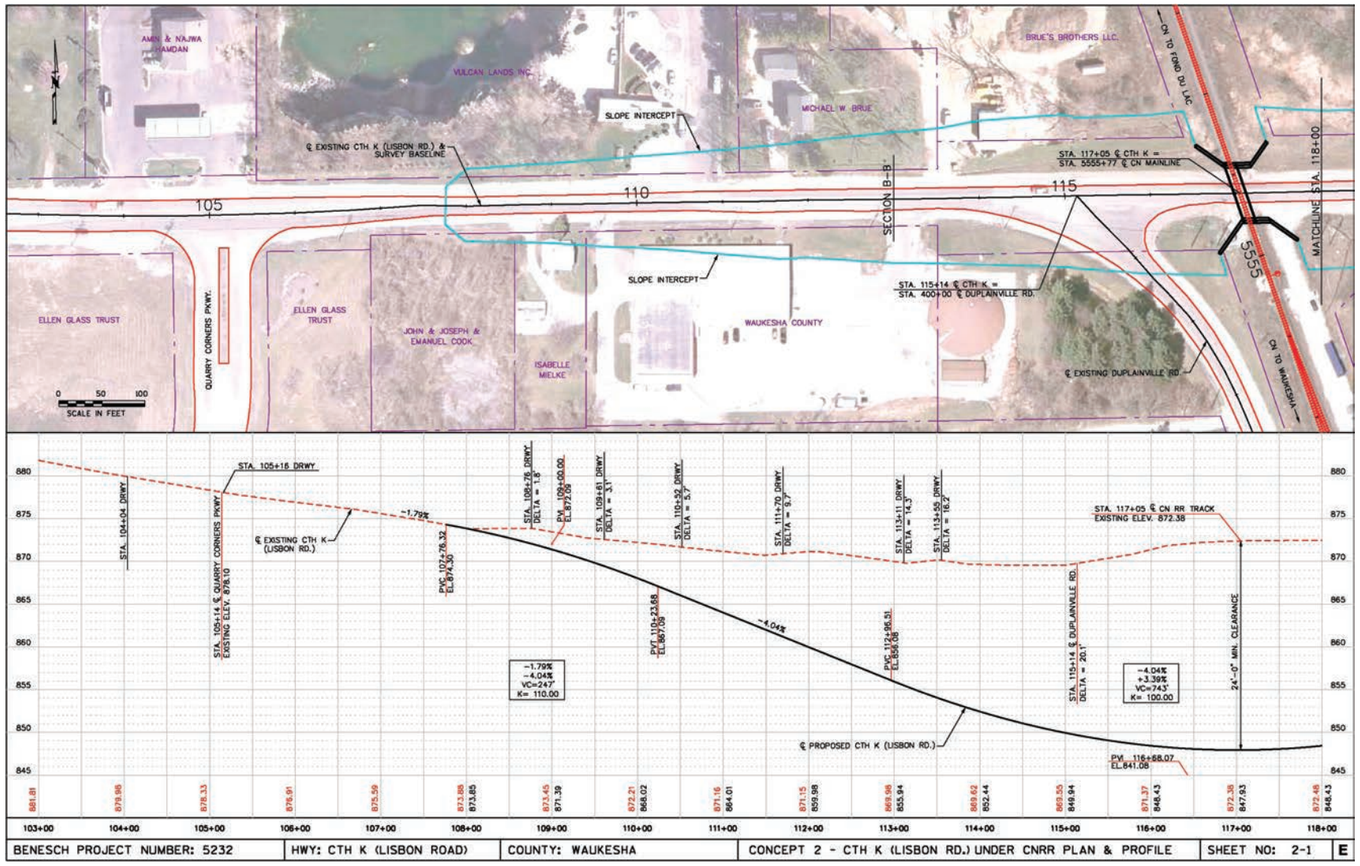


As a result of the 27' minimum increase in roadway elevation over the railroad along with the need to meet the minimum K-Values for the roadway vertical curves, the impact area is significant. CTH K (Lisbon Road) would need to begin elevating just east of the Quarry Corner Parkway intersection (approximately 1,100' west of the railroad track) and would touch back down at the driveway for the Francis Mehringer property (approximately 1,600' east of the railroad track). The length required east and west of the railroad track is not the same as a result of the existing CTH K (Lisbon Road) profile. West of the railroad track the roadway is going uphill towards the west and helping or shortening the touch down point, where east of the railroad track the roadway is going downhill hurting or lengthening the touch down point.

The slope intercept shown illustrates what the impacts would be without the use of any retaining walls. As expected, the properties closest to the railroad track would be impacted the most because it is at the railroad track where the greatest difference in elevation would be in order to accommodate the minimum 27' increase in elevation. Along with the property impacts, existing access to the adjacent properties (driveways) would also need to be modified. As a result of CTH K (Lisbon Road) being elevated, all the existing driveways within the profile limits would need to be modified to meet the elevated CTH K (Lisbon Road) and those closest to the railroad track may need to be relocated or closed.

There would also be a small amount of impact to the wetland which has been field delineated east of the railroad track and north of CTH K (Lisbon Road). In addition, the existing culvert located under CTH K (Lisbon Road) at the wetland will need to be lengthened to accommodate the roadway raise.

During construction, it is anticipated that CTH K (Lisbon Road) would need to be closed for the majority of the construction. There are construction methods that would allow for the roadway traffic to remain in service such as temporary retaining walls, however with any such method would come a major increase to the project costs. As a result of going over the railroad track, railroad operations would not change as a result of construction and impacts as a result of construction would be minimal to the Canadian National Railroad.

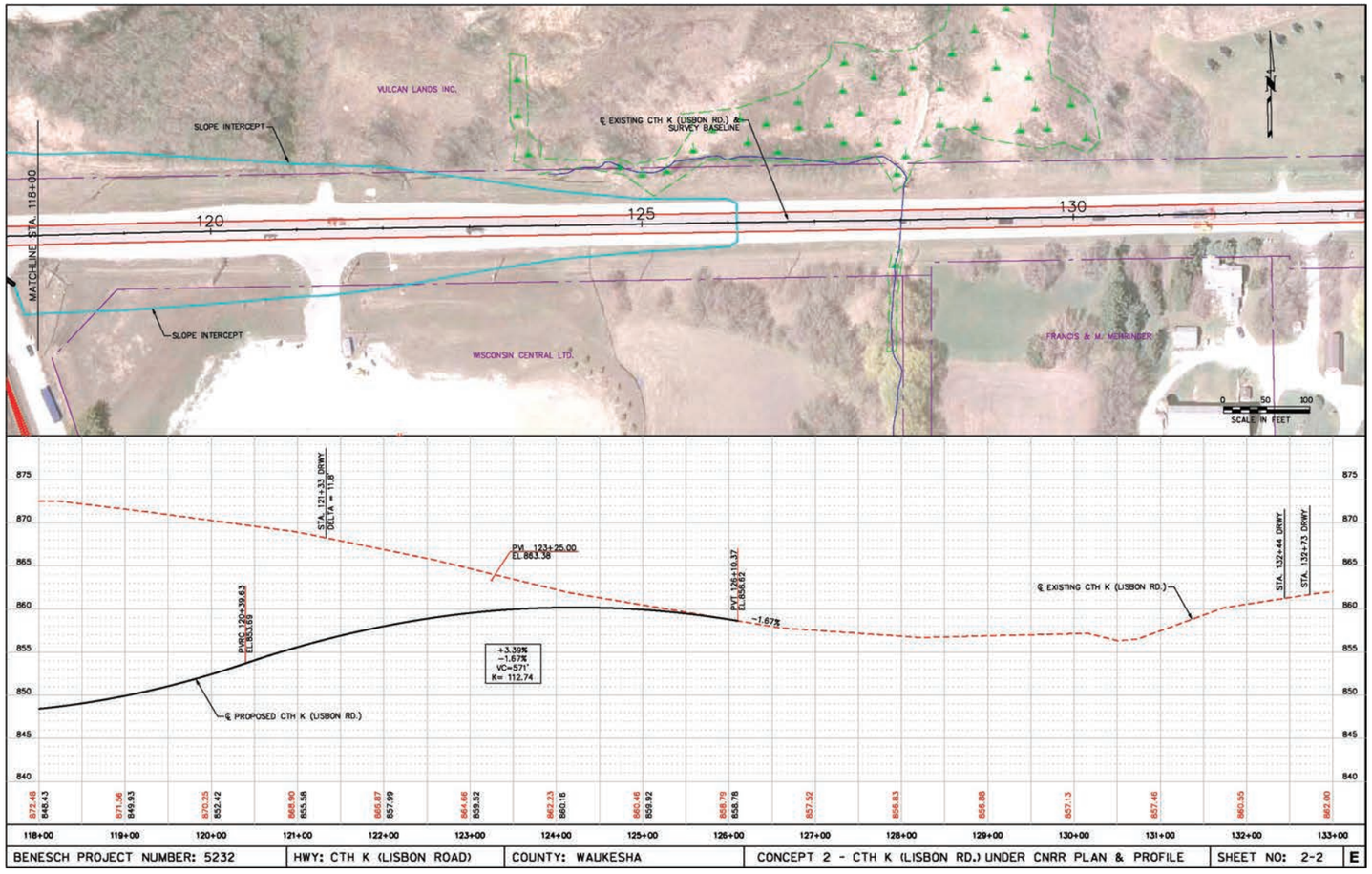


7.3 Concept 2 - CTH K (Lisbon Road) Under CN Railroad Track

This is the second of two concepts which looks strictly at how to grade separate CTH K (Lisbon Road) and the Canadian National Railroad. Concept 1 looked at taking CTH K (Lisbon Road) over the Canadian National Railroad. Under this concept, CTH K (Lisbon Road) would be lowered under the Canadian National Railroad on its current horizontal alignment. Similar to Concept 1, both the Canadian National Railroad horizontal and vertical alignments would remain unchanged and permanent impacts to the Canadian National mainline track would be minimal.

The minimum clearance required for roadway traffic is 16'-9", say 17'. It is estimated that the structural requirements for a railroad bridge would be approximately 7'. Included in the 7' is the bridge structure that the railroad track will sit on along with the railroad track section itself (the sub-ballast, ballast, ties and rail). Taking into account the minimum roadway clearance along with the railroad bridge structure depth and railroad track elements, it is estimated that a total of 24' will be required from the top of roadway to the top of the railroad track. The 24' elevation difference required to take CTH K (Lisbon Road) under the Canadian National is 3' less when compared to Concept 1 where a minimum of 27' elevation difference was required to take CTH K (Lisbon Road) over the Canadian National Railroad.

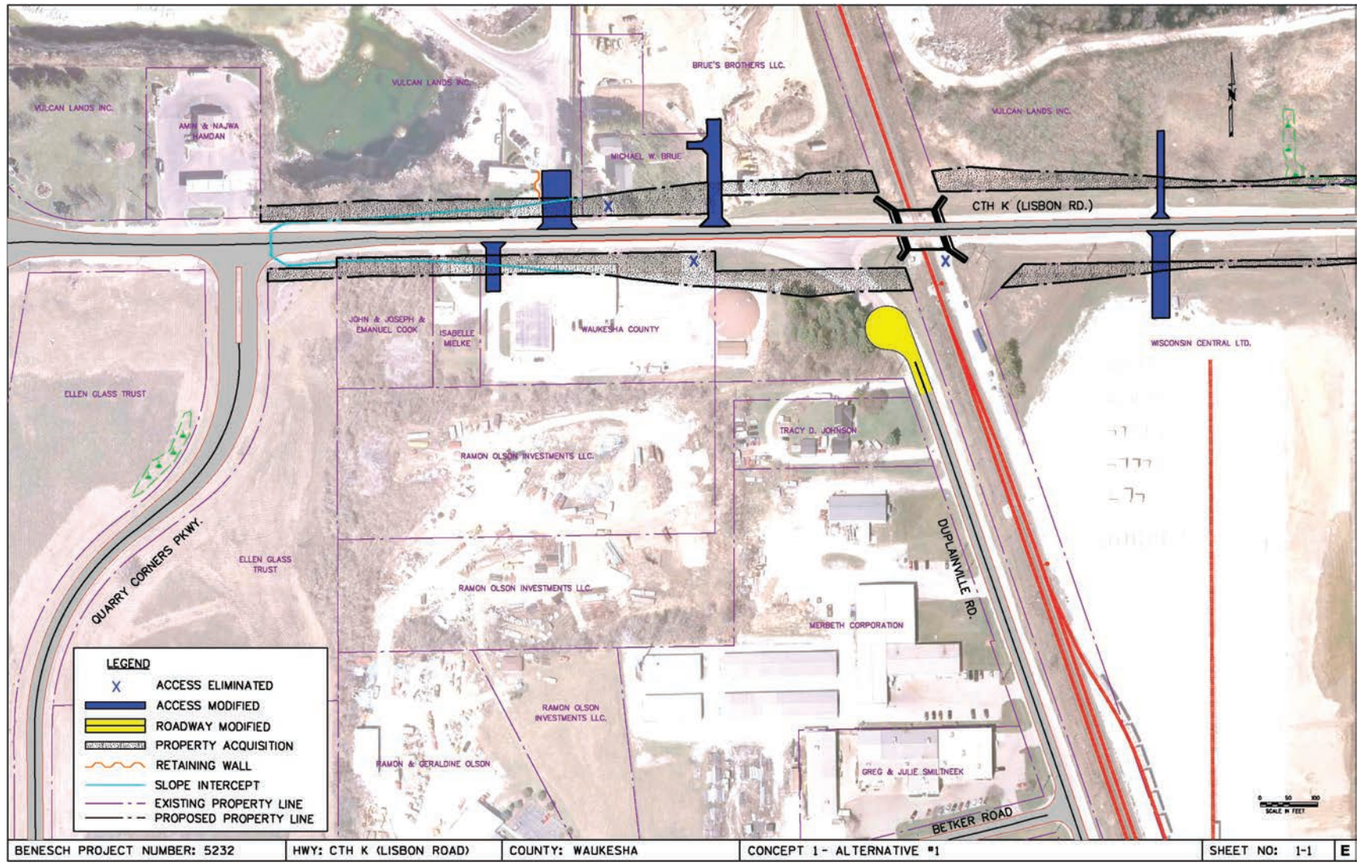
As was the case in Concept 1, along with the minimum vertical clearance required there is also minimum K-Values that need to be met for the roadway vertical curves. Because the minimum K-Value is dependant on the roadway speed limit, the minimum values of 110 for a crest curve and 96 for a sag curve used in Concept 1 still apply for this concept. The minimum values for both the crest and sag vertical curves have been met.



Due to the difference in the minimum vertical elevation difference required (24' for the roadway under the railroad track versus 27' for the roadway over the track) the proposed profile for CTH K (Lisbon Road) is approximately 800' shorter and the impact area is less when compared to Concept 1. CTH K (Lisbon Road) would need to be lowered beginning east of Quarry Corners Parkway Intersection (approximately 900' west of the railroad track) and would come back up and match the existing CTH K (Lisbon Road) profile east of the entrance to the Canadian National Lisbon Freight Village (approximately 900' east of the railroad track). As a result of the proposed profile for CTH K (Lisbon Road) being 800' shorter, the impacts to the wetland and culvert east of the railroad track are eliminated since the proposed CTH K (Lisbon Road) profile ties back into the existing CTH K (Lisbon Road) profile west of the wetlands and culvert.

Similar to Concept 1, the slope intercept shown illustrates what the impacts would be without the use of any retaining walls. For the most part, the impacts to the adjacent properties and driveways remain but are slightly less when compared to Concept 1.

As was the case in Concept 1, it is anticipated that during construction CTH K (Lisbon Road) would need to be closed. In contrast to Concept 1, this concept will be much more difficult to construct and stage from a railroad point of view. The Canadian National will require that rail traffic be kept in service throughout the construction of the grade separation. As a result, the railroad bridge will need to be constructed in two stages and a temporary shoofly will be required. In addition, the necessary railroad signaling will be required in order to tie all the tracks (mainline, mainline siding and yard tracks) together. All the temporary railroad work along with the signal work will add a significant cost to the cost of this concept.



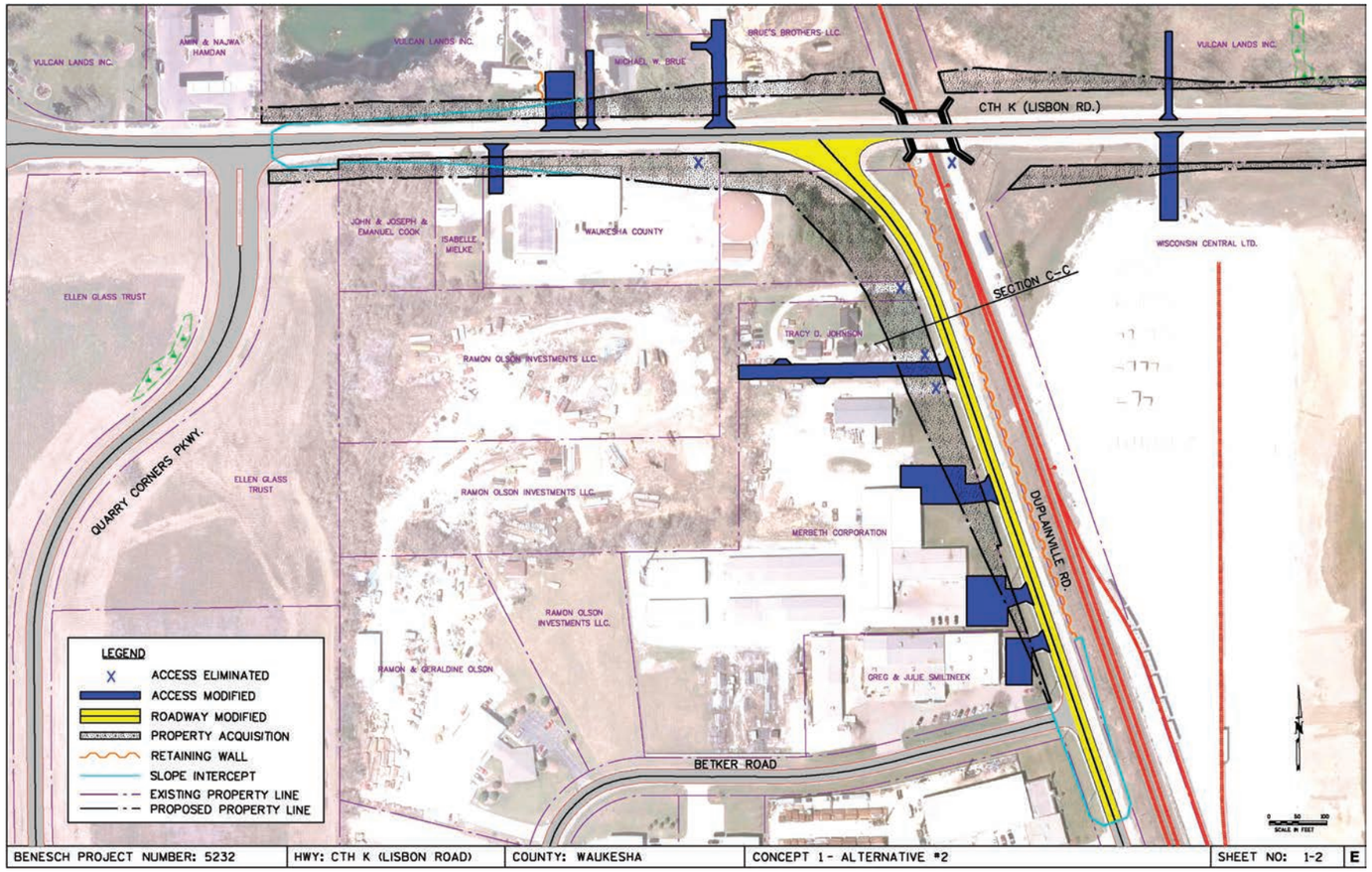
7.4 Duplainville Road Alternatives

Concept 1 - Alternative #1

Due to the location of Duplainville Road to the Canadian National Railroad track, several alternatives have been developed which look specifically at what could be done with Duplainville Road as a result of either raising or lowering CTH K (Lisbon Road). This is the first of five alternatives which look at the alternatives for Duplainville Road as a result of Concept 1, raising CTH K (Lisbon Road) over the Canadian National Railroad.

This is the simplest of the five alternatives for Duplainville Road under Concept 1 and the only which eliminates the existing connection Duplainville Road has to CTH K (Lisbon Road). Under this alternative, a cul-de-sac would be constructed on Duplainville Road just south of CTH K (Lisbon Road) and the existing connection to CTH K (Lisbon Road) would be eliminated. The major disadvantage of this alternative is that traffic would no longer connect with CTH K (Lisbon Road) and it would need to find an alternative route to get from Duplainville Road to CTH K (Lisbon Road) such as STH 74 or Quarry Corners Parkway.

Compared to the other alternatives, this alternative has the least amount of construction and property impacts. The area impacted is simply the area required for the cul-de-sac. Most likely the cul-de-sac could be constructed on the existing Duplainville Road right-of-way and there will be no need to purchase additional property.

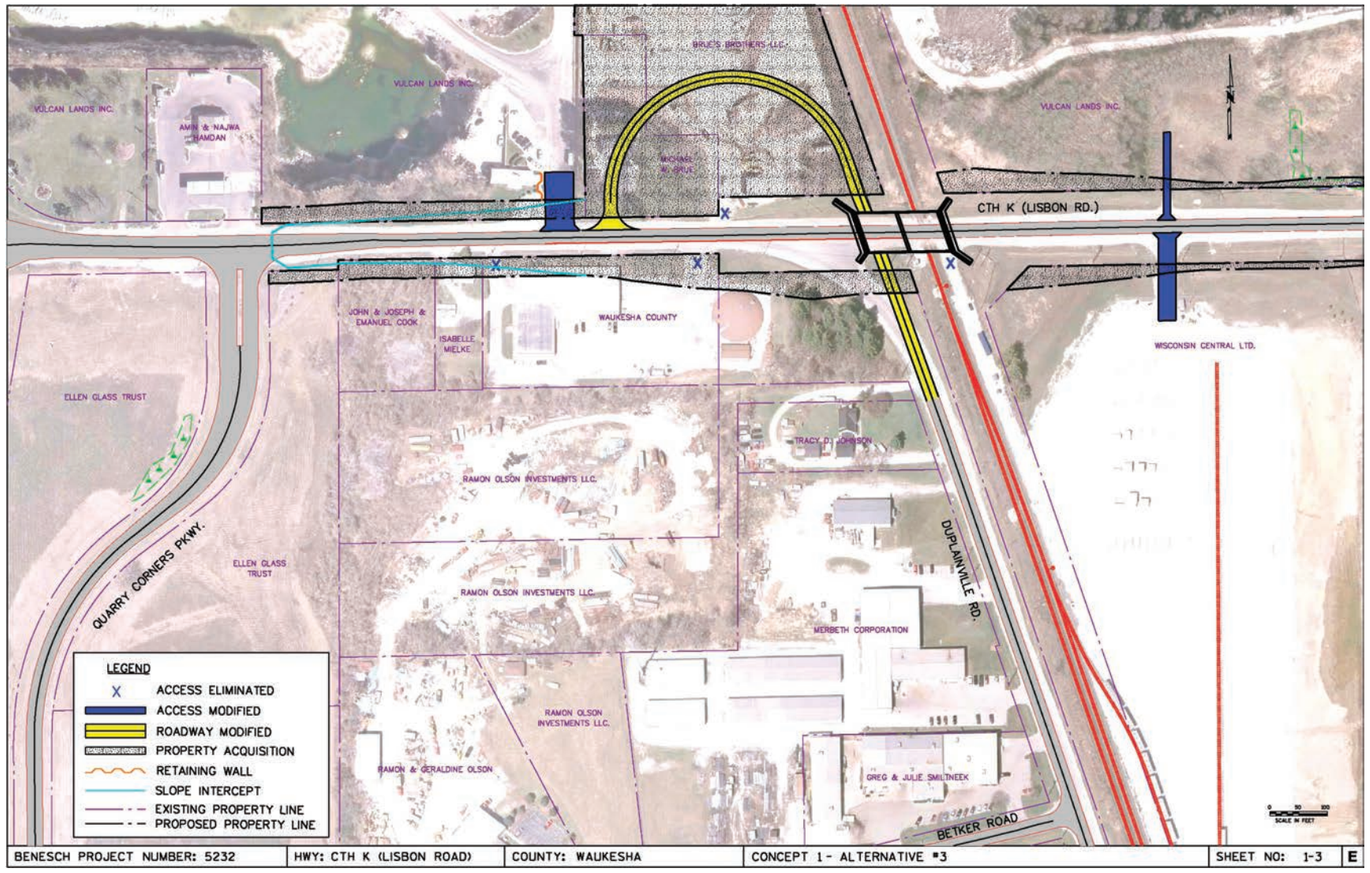


Concept 1 - Alternative #2

Under this alternative the existing connection Duplainville Road has with CTH K (Lisbon Road) would remain. As a result of CTH K (Lisbon Road) being raised 27' to get proper clearance over the Canadian National Railroad track, Duplainville Road will also need to be raised approximately 27' in order to match CTH K (Lisbon Road) and the entire intersection would be elevated from where it is located today. The connection would be located approximately in the same location it is today but improvements to the intersection geometrics would be made to make the intersection safer.

Presently Duplainville Road intersects CTH K (Lisbon Road) at approximately a 50º angle and makes it difficult for driver's to see both directions of travel along CTH K (Lisbon Road). The intersection would be brought closer to the railroad track in an attempt to make the intersection as close to a 90º angle as possible, making it much easier for drivers to see both directions of travel.

In order to match the raised CTH K (Lisbon Road), Duplainville Road will need to start being raised just south of Betker Drive and continue north to CTH K (Lisbon Road). There will be significant impacts to the adjacent properties along Duplainville Road as a result of elevating Duplainville Road. At a minimum a retaining wall will be required on the east side of Duplainville Road in order to eliminate the impact of the fill coming down on the Canadian National Railroad tracks and making the railroad tracks un-usable. A combination of earth fill and retaining wall most likely will be required on the west side of Duplainville Road to mitigate impacts.

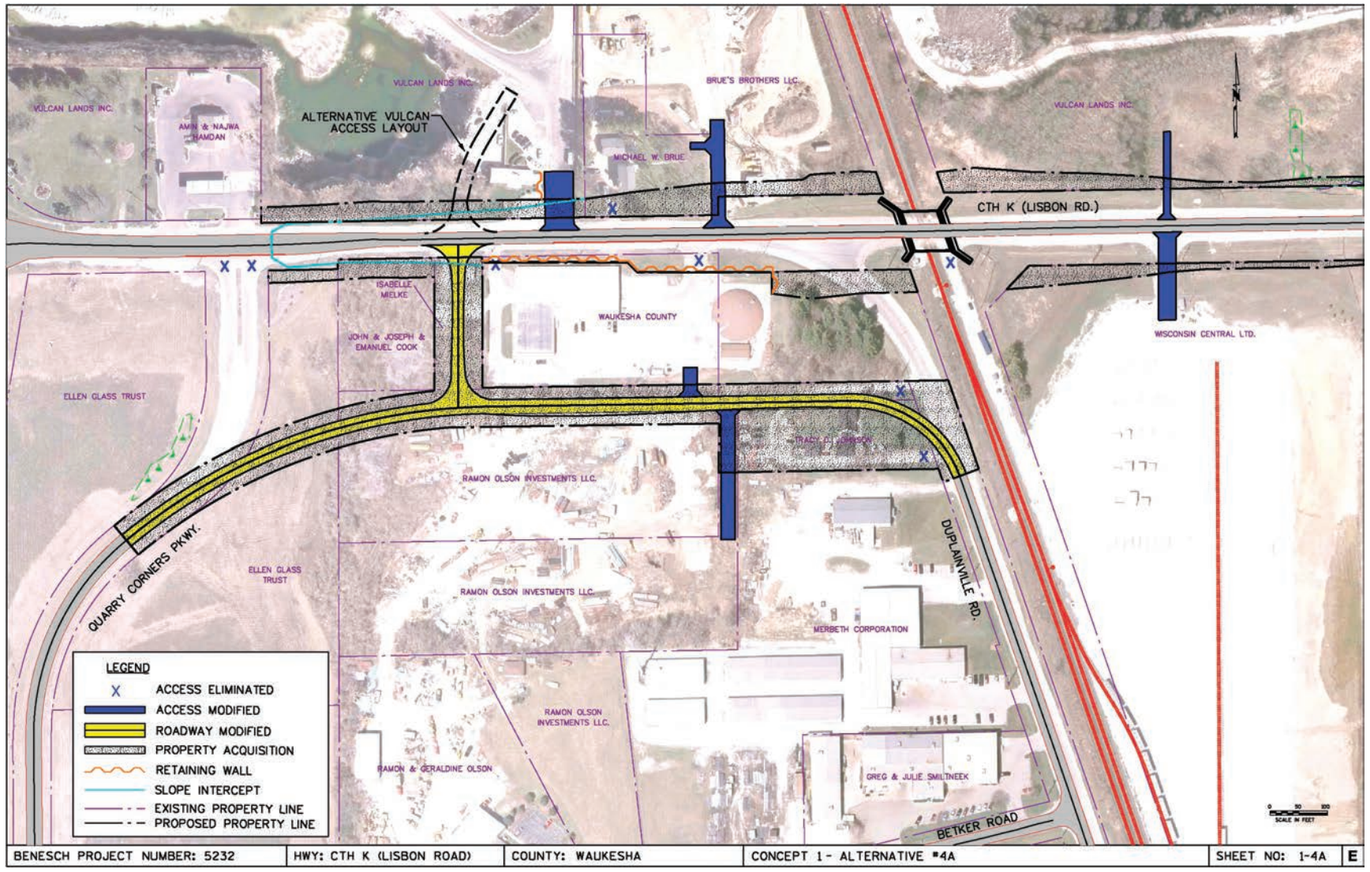


Concept 1 - Alternative #3

Under this alternative, the connection between CTH K (Lisbon Road) and Duplainville Road would remain through what is referred to as a "Jug Handle." For the Jug Handle, Duplainville Road would remain at the elevation it is currently at. By doing so, Duplainville Road along with the Canadian National Railroad would go under CTH K (Lisbon Road) and Duplainville Road would loop towards the west and tie into CTH K (Lisbon Road) at a point further to the west where the grade difference between existing and proposed CTH K (Lisbon Road) is not as severe. The term Jug Handle comes from the shape created from the resulting alignment for Duplainville Road and its close resemblance of a Jug Handle.

The impacts to the property in the northwest quadrant of the railroad crossing (the Brue's Brothers and Michael Brue properties) are severely impacted and would need to be acquired in order to accommodate Duplainville Road. In addition to the property acquisition, the grade separation structure itself would need to be approximately twice as large to accommodate not only the Canadian National Railroad, but also Duplainville Road. The cost of the grade separation structure will be significantly larger when compared against the other alternatives.

The connection between CTH K (Lisbon Road) and Duplainville Road would be located ideally as far to the west as possible for two reasons. The first is it will reduce the amount that Duplainville Road will need to be raised to meet CTH K (Lisbon Road). The second is that the further to the west and away from the grade separation structure the intersection with CTH K (Lisbon Road) is, the further to the east drivers stopped at the intersection will be able to see making for a much safer intersection.

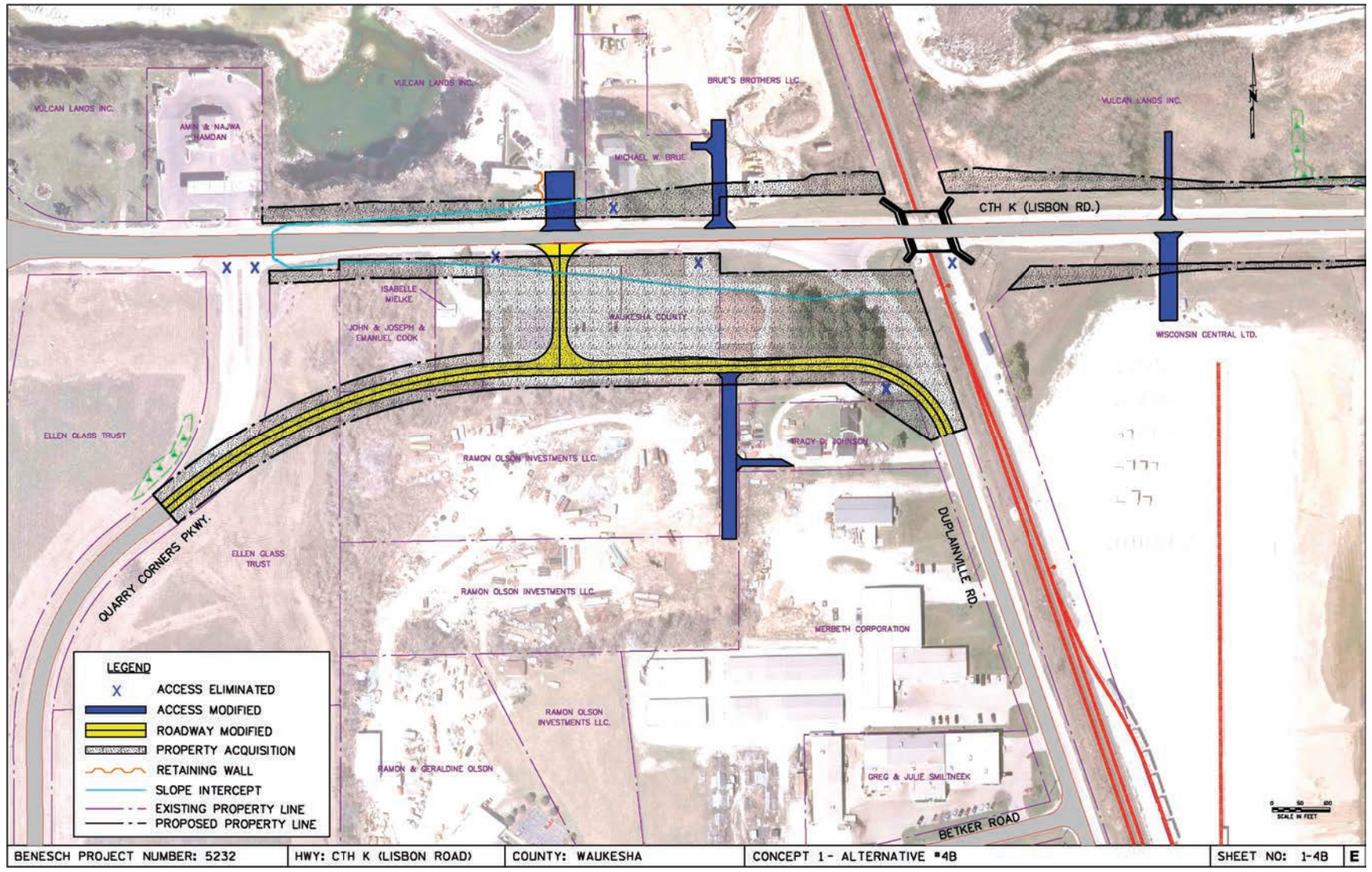


Concept 1 - Alternative #4A

This alternative is the first of two alternatives which looks to route Duplainville Road to the west and connect with CTH K (Lisbon Road) at a location further to the west. Under this alternative, Duplainville Road would be routed around the existing Waukesha County Maintenance Facility and tie into CTH K (Lisbon Road) though the existing Mielke property leaving the Waukesha County Maintenance facility as is.

This alternative will require significant right-of-way acquisition. Once Duplainville Road deviates from its existing alignment, all new roadway right-of-way will need to be purchased which will result in property acquisition from the Johnson, Ramon Olsen Investments, Ellen Glass Trust and Mielke properties.

One advantage that this alternative has over the previous alternatives discussed is that it allows for the existing Quarry Corners Parkway intersection with CTH K (Lisbon Road) to be relocated further to the east. Based on current engineering standards, the existing Quarry Corners Parkway intersection is too close to the STH 74 intersection. As part of this alternative, the existing Quarry Corners Parkway would be routed to the east and form a t-intersection with Duplainville Road. This will effectively eliminate one access to CTH K (Lisbon Road) as a result of combining the Duplainville Road and Quarry Corners intersections.

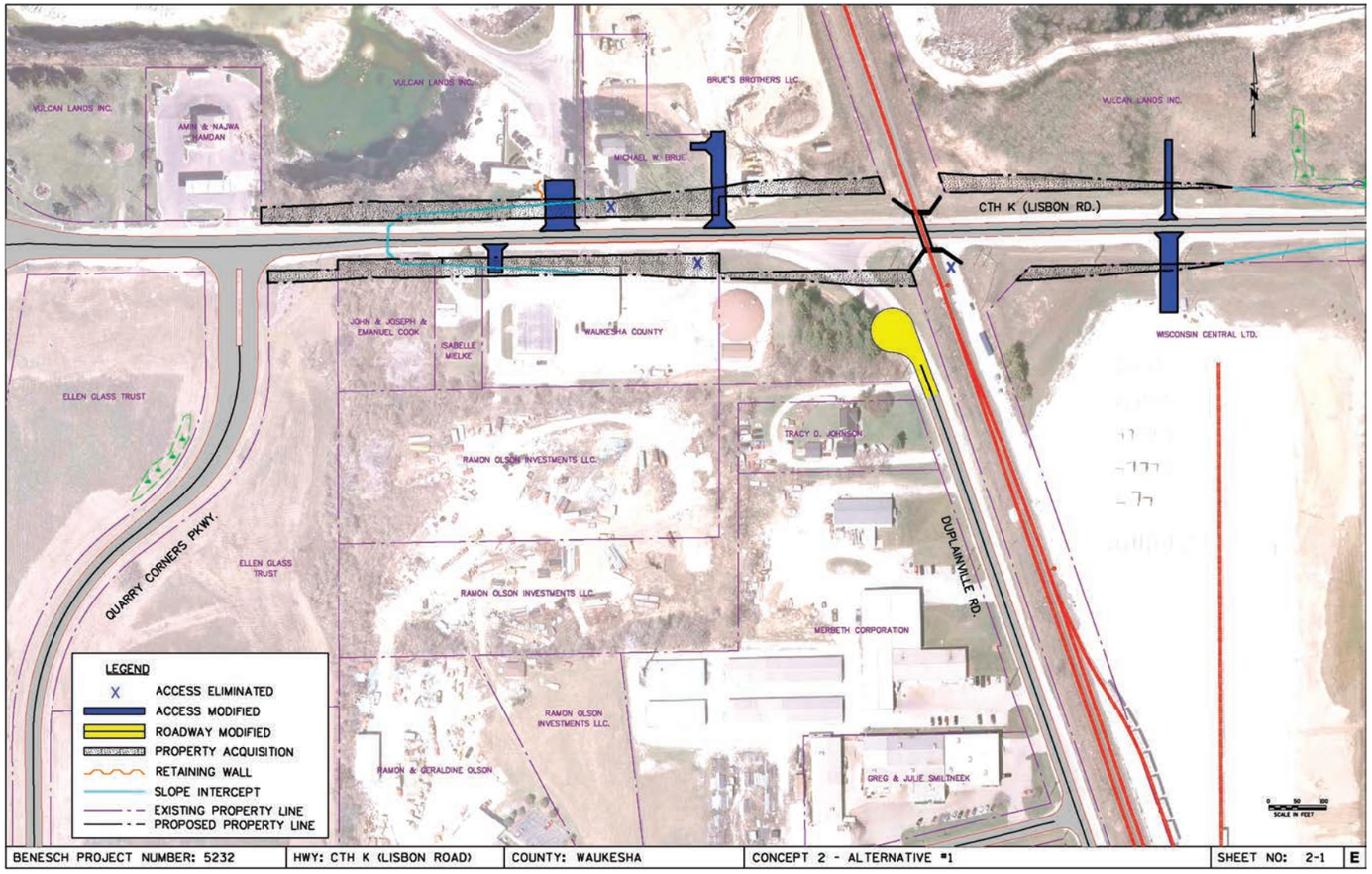


Concept 1 - Alternative #4B

This alternative is a slight variation on the previous alternative, Alternative #4A. Under this alternative, rather than avoid the existing Waukesha County Maintenance Facility the county land is utilized and Duplainville Road is located within the county owned land. As a result of utilizing the county facility, this alternative is dependant on relocating the existing facility to a new location somewhere else in the county.

By utilizing the Waukesha County Maintenance Facility land, only a small amount of non-county land is required. Property would be required at the Johnson property along with the Ellen Glass Trust and Ramon Olsen Investments in order to route Quarry Corners Parkway to the east and into Duplainville Road.

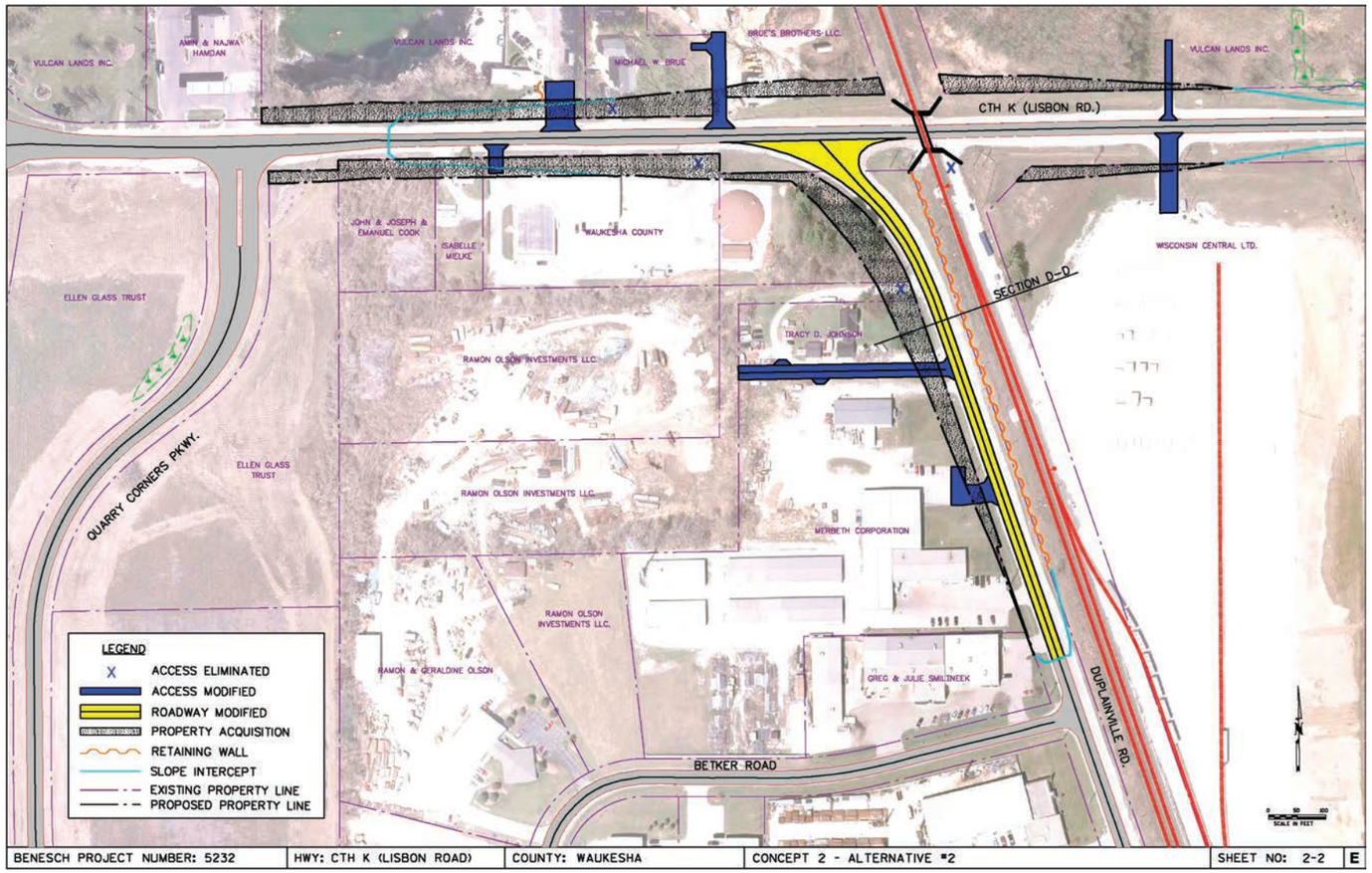
This alternative along with the previous alternative, Alternative #4A will allow for Duplainville Road to be open during the majority of the construction of CTH K (Lisbon Road). Duplainville Road construction could be staged such that the Duplainville Road is completed early on so while the construction of the CTH K (Lisbon Road) grade separation structure is on-going, an alternative traffic route utilizing Duplainville Road could be provided.



Concept 2 - Alternative #1

Similar to Concept 1, alternatives have been developed for dealing with Duplainville Road as a result of Concept 2, lowering CTH K (Lisbon Road) and going under the Canadian National Railroad. The general alternatives are similar, but in some cases the impacts are slightly different when compared to Concept 1.

This alternative is exactly the same as described in Concept 1 – Alternative #1. The cul-de-sac required to close the CTH K (Lisbon Road) and Duplainville Road connection and the impacts associated with it are the same regardless of how CTH K (Lisbon Road) and the Canadian National Railroad are grade separated, through either Concept 1 or Concept 2.

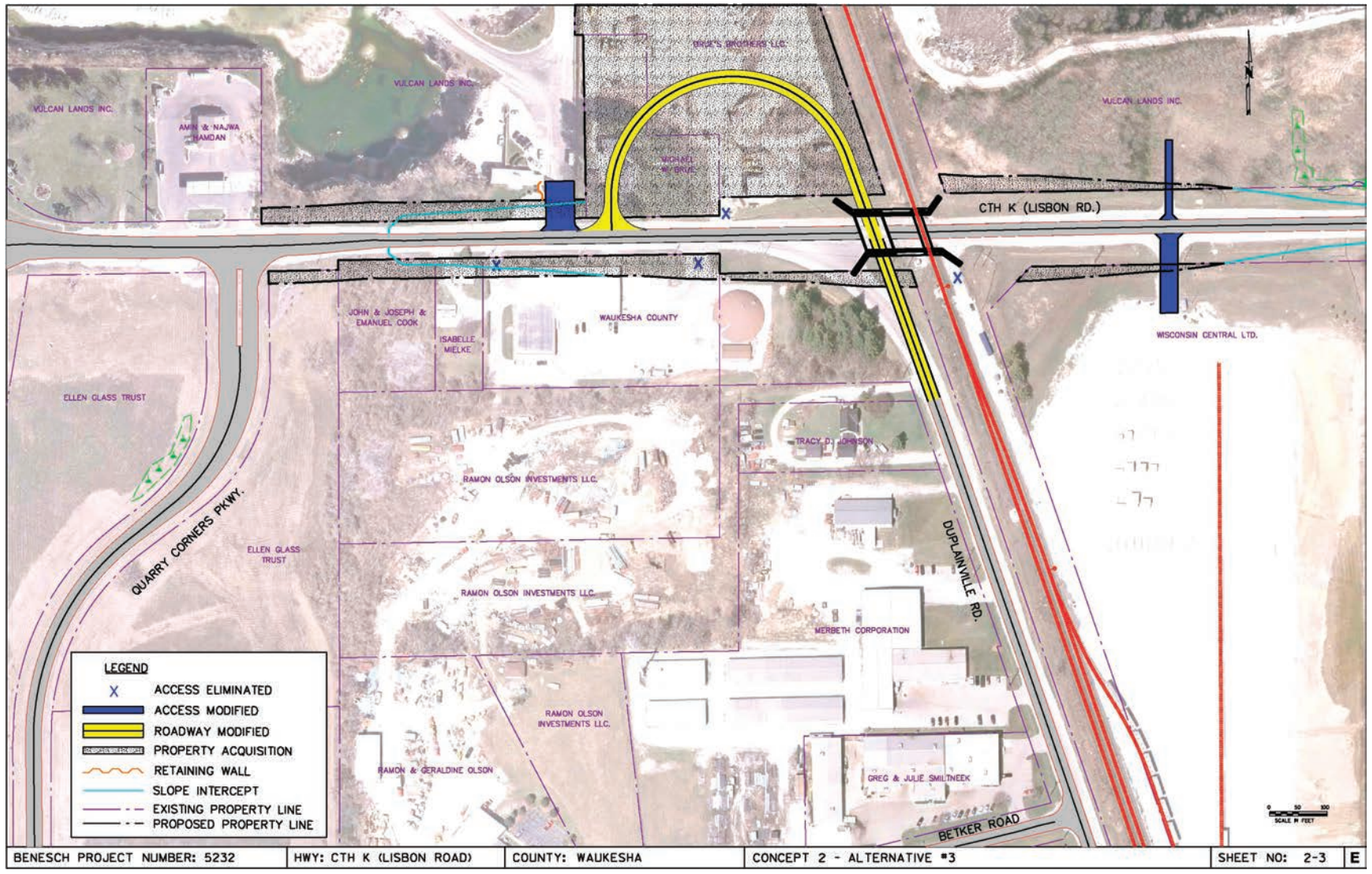


Concept 2 - Alternative #2

Similar to Concept 1, this alternative looks to maintain the existing connection between Duplainville Road and CTH K (Lisbon Road) with improved intersection geometrics. In contrast to Concept 1 – Alternative #2, this option would require Duplainville Road to be lowered to meet a lowered CTH K (Lisbon Road) rather than raised.

In order to meet the lowered CTH K (Lisbon Road), Duplainville Road needs to be lowered at the intersection of CTH K (Lisbon Road) by approximately 24'. In order to get down the 24' required at CTH K (Lisbon Road), Duplainville Road needs to begin getting lower just north of Betker Road and continue to CTH K (Lisbon Road).

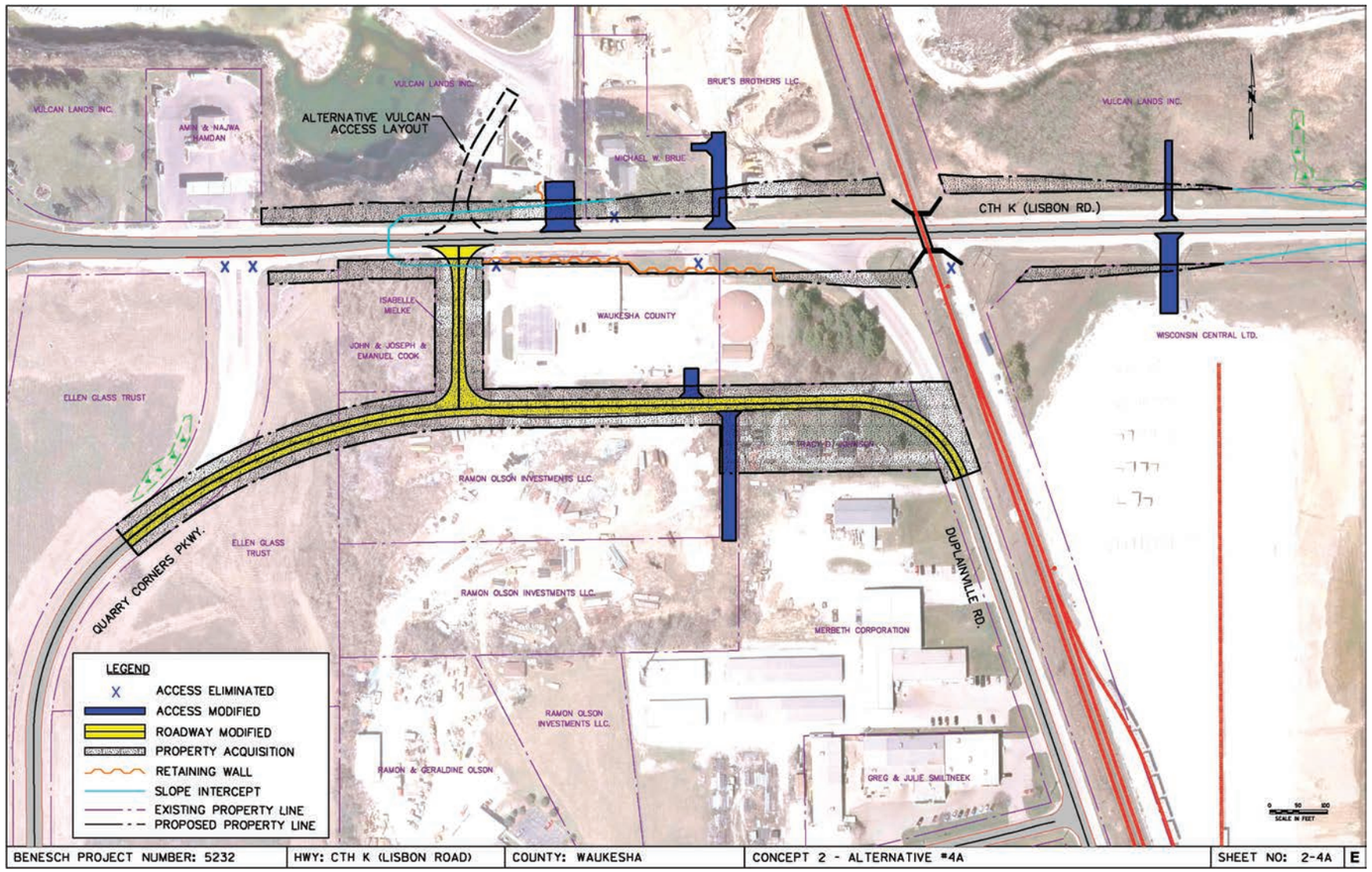
The adjacent property impacts are very similar to those discussed in Concept 1 – Alternative #2, only slightly less. Since Duplainville Road only needs to be lowered 24' instead of raised 27', the property impacts are not as large. A retaining wall is still required on the east side of Duplainville Road to eliminate the impact on the railroad, but when compared to Concept 1 – Alternative #2 the wall required will not be as large. The Property impacts on the west side of Duplainville will be slightly less than compared to Concept 1 – Alternative #2, but a combination of earth fill and retaining wall will still most likely be required to mitigate impacts.



Concept 2 - Alternative #3

This alternative is similar to Concept 1 – Alternative #3 in that it connects Duplainville Road to CTH K (Lisbon Road) through the use of a "Jug Handle." The impacts associated with this alternative are exactly the same as those discussed in Concept 1 – Alternative #3.

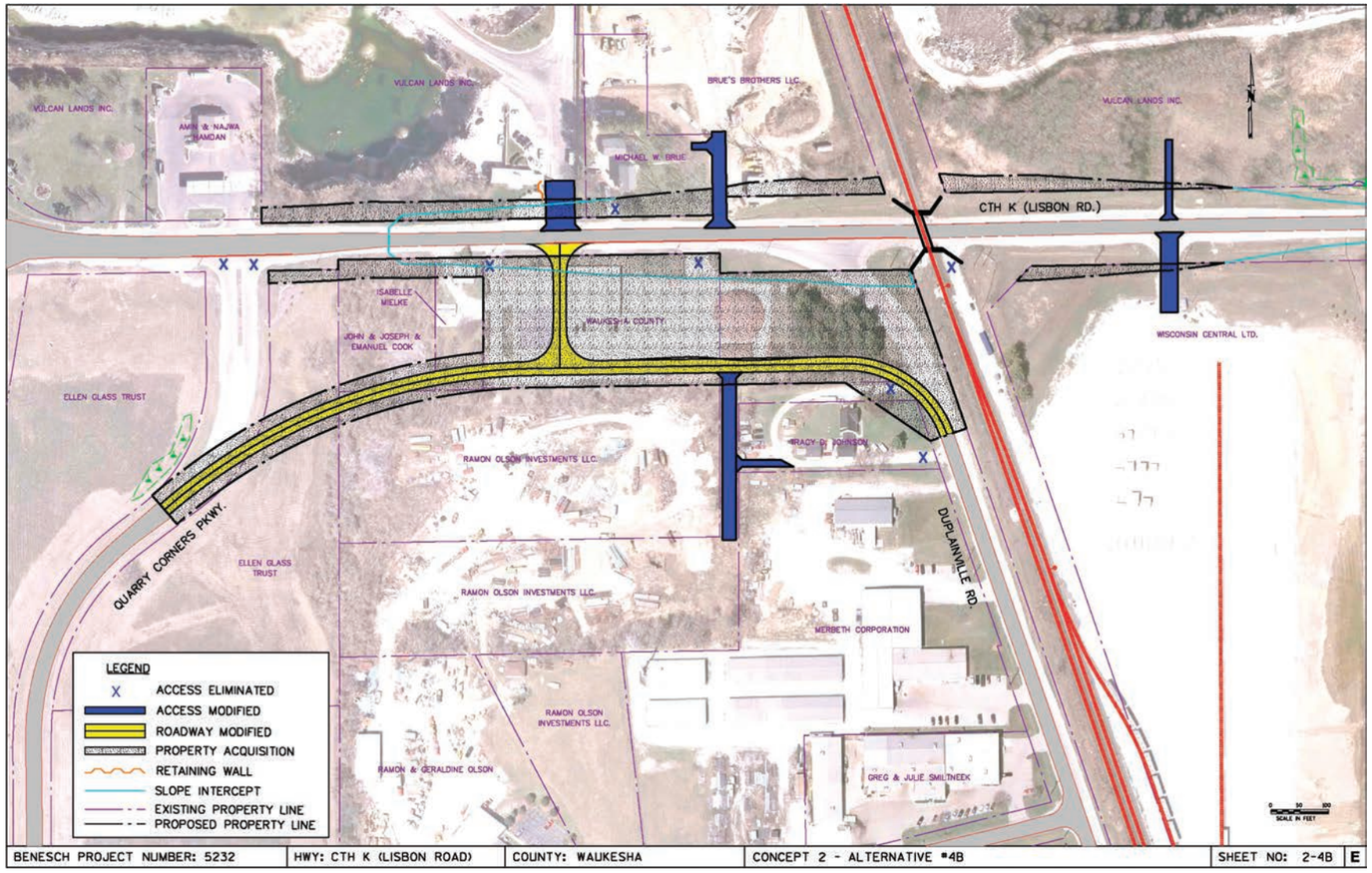
The one difference between this alternative and Concept 1 – Alternative #3 is at the grade separation structure. In Concept 1 – Alternative #3 there was one large roadway structure that allowed CTH K (Lisbon Road) to go over the Canadian National Railroad along with Duplainville Road. Under this alternative, two smaller structures will be required to accommodate CTH K (Lisbon Road) going under the railroad tracks and Duplainville Road. One railroad structure will be required for the railroad tracks and a second roadway structure will be required for Duplainville Road. Most likely the railroad will require the roadway structure to be separate from the railroad structure and located entirely off of railroad owned property.



Concept 2 - Alternative #4A

This alternative is the same as Concept 1 – Alternative #4A. Under this alternative, Duplainville Road would be routed around the existing Waukesha County Maintenance Facility and tie into CTH K (Lisbon Road) though the existing Mielke property leaving the Waukesha County Maintenance facility as is.

The impacts associated with this alternative are the same as those discussed in Concept 1 – Alternative #4A.



Concept 2 - Alternative #4B

This alternative is the same as Concept 1 – Alternative #4B. Under this alternative, rather than avoid the existing Waukesha County Maintenance Facility the county land is utilized and Duplainville Road is located within the county owned land. As a result of utilizing the county facility, this alternative is dependant on relocating the existing facility to a new location somewhere else in the county.

The impacts associate with this alternative are the same as those discussed in Concept 1 – Alternative #4B.

7.5 Potential Evaluation Criteria

Based on the list developed for the stakeholders; their corresponding Needs, Desires and Constraints; as well as the Design Criteria and the constructability considerations for the proposed alternatives the following criteria was developed as possible criteria to be used to evaluate the different alternatives:

Community Access Impacts

Will the alternative affect the public's ability to sufficiently access community areas?

Impacts to Surrounding Property

Will the alternative minimize or maximize the amount of residential and business relocations or alternations to the surrounding property?

Impacts to Railroad Operations

Will the alternative allow Canadian National to serve customers, meet and pass trains using the siding track and transload materials at the Lisbon Freight Village?

Maintain Traffic During Construction

What measures are necessary for the alternative to safely move traffic while the new crossing is being constructed (closures, construction staging, etc.)?

Access to Surrounding Properties

Will the alternative allow existing businesses and residents to acceptably enter, utilize, and exit their properties?

Facilitate Construction

Will the alternative be generally simple or complex to construct?

Impact on Surrounding Intersections

Will the alternative affect the STH 74/CTH K (Lisbon Road) and the Duplainville Road/CTH K (Lisbon Road) intersections severely, moderately, or negligibly?

Stormwater Management

Will the alternative provide an effective means of drainage? Will it require pumping or other special appurtenances?

Provides for Future Widening

Is the alternative easily modified for future additional roadway lanes or railroad tracks?

Alignment Impacts

Will the alternative severely, moderately, or negligibly alter the existing horizontal and vertical roadway and railroad alignments?

Minimize Environmental Impacts

Will the alternative severely, moderately, negligibly, or beneficially alter the surrounding environment? Will the alternative affect lower groundwater tables impacting wetlands, wells, or vegetation?

Aesthetics

Is the alternative pleasing or offensive to view by the residents?

7.6 Selected Evaluation Criteria

The Selected Evaluation Criteria are a more succinct list which incorporates all the Potential Evaluation Criteria. The Potential Evaluation Criteria were reviewed, and similar criteria were grouped together. The Selected Evaluation Criteria is the criteria which will be used to evaluate each of the alternatives. The seven Selected Evaluation Criteria are:

1. **Constructability**

   The ability to get the project built. Elements include how many stages of construction would be required, methods and equipment available to the job, potential dangers to construction personnel and how long it will take to construct.

2. **Environmental Impacts**

   Includes impacts to air and water quality, wetlands, drainage patterns, archeological and historical sites.

3. **Maintenance of Facilities**

   Includes effort to maintain the constructed facilities including retaining walls, bridges, detention ponds and pump stations.

4. **Maintenance of Traffic**

   Impacts to motorists and pedestrians during construction. Elements include detour routes, traffic shifts, how are emergency vehicles and school bus routes are impacted and what are the safety concerns for motorists and pedestrians.

5. **Preservation of Community**

   Long term impacts to the people and community. Includes aesthetics, routing of additional traffic through the neighborhood along with safety and security of the neighborhood.

6. **Property Impacts**

   Impacts to adjacent property as a result of the project. Elements include impacts to driveways and access to properties, right-of-way and easements required for construction.

7. **Traffic Impacts**

   Long term impacts to motorists and pedestrians. Elements include reducing the number of potential conflicts, increasing roadway capacity and increasing spacing between intersections.

Based on the seven Selected Evaluation Criteria, the following matrix was created to assign a weight of importance to each of the criteria:

Selected Evaluation Criteria Matrix

	Constructability	Environmental Impacts	Maintenance of Facilities	Maintenance of Traffic	Preservation of Community	Property Impacts	Traffic Impacts
Constructability	1	0	0	1	0	0	0
Environmental Impacts	1	1	1	1	0	1	1
Maintenance of Facilities	1	0	1	1	0	1	1
Maintenance of Traffic	0	0	0	1	0	0	0
Preservation of Community	1	1	1	1	1	1	1
Property Impacts	1	0	0	1	0	1	0
Traffic Impacts	1	0	0	1	0	1	1
Total	6	2	3	7	1	5	4
Weight	**6**	**9**	**9**	**5**	**10**	**6**	**7**

Notes:

1) A "1" indicates the criteria on the vertical axis is more important than the criteria on the horizontal axis.
2) A "0" indicates the criteria on the vertical axis is less important than the criteria on the horizontal axis.

7.7 Criteria Rating

Using the seven Selected Evaluation Criteria, the ten alternatives along with the No Build or Do Nothing alternative were evaluated based on how well they performed against each of the criteria. For each alternative, a ranking of 0 to 5 was given with 5 being excellent and 0 being unacceptable.

Based strictly on the criteria, Concept 1 – Alternative #4B and Concept 2 – Alternative #4B rated the highest with a rating of 3.76 and 3.66 respectively. Both scores fall between 3 (Good) and 4 (Very Good).

In contrast, the No Build alternative (or Do Nothing) scored the lowest under both Concept 1 and Concept 2 with a score of 2.98 in both cases. The No Build scores fall between 2 (Acceptable) and 3 (Good).

Although it did not happen in this analysis, any alternative with an Average Weighted Rating lower than 2.5 needs to be improved on if it is to be selected for further consideration.

Criteria Rating - Concept 1

Excellent = 5 Very Good = 4 Good = 3 Acceptable = 2 Poor = 1 Unacceptable = 0	Weight of Importance	CTH K (Lisbon Road) Modifications											
		No Build		Alternative 1-1		Alternative 1-2		Alternative 1-3		Alternative 1-4A		Alternative 1-4B	
		Rating	Weighted Rating	Rating	Weighted Rating	Rating	Weighted Rating	Rating	Weighted Rating	Rating	Weighted Rating	Rating	Weighted Rating
Criteria	(1-10)	(1-5)		(1-5)		(1-5)		(1-5)		(1-5)		(1-5)	
Constructability (see Note)	6	N/A		5	30.0	5	30.0	4	24.0	5	30.0	5	30.0
Environmental Impacts	9	2	18.0	4	36.0	4	36.0	4	36.0	4	36.0	4	36.0
Maintenance of Facilities	9	3	27.0	3.5	31.5	2.5	22.5	2.5	22.5	3	27.0	3	27.0
Maintenance of Traffic (see Note)	5	N/A		3.5	17.5	3.5	17.5	3.5	17.5	4.5	22.5	4.5	22.5
Preservation of Community	10	4	40.0	2	20.0	2.5	25.0	2.5	25.0	3	30.0	3	30.0
Property Impacts	6	5	30.0	3	18.0	1	6.0	2	12.0	2	12.0	2.5	15.0
Traffic Impacts	7	1	7.0	2	14.0	3	21.0	3	21.0	5	35.0	5	35.0
Totals =	52		122.0		167.0		158.0		158.0		192.5		195.5
AVERAGE WEIGHTED RATING =		2.98		3.21		3.04		3.04		3.70		3.76	

Note: Constructability and Maintenance of Traffic do not apply to the No Build Alternative.

Criteria Rating - Concept 2

Excellent = 5 Very Good = 4 Good = 3 Acceptable = 2 Poor = 1 Unacceptable = 0	Weight of Importance	CTH K (Lisbon Road) Modifications											
		No Build		Alternative 2-1		Alternative 2-2		Alternative 2-3		Alternative 2-4A		Alternative 2-4B	
		Rating	Weighted Rating	Rating	Weighted Rating	Rating	Weighted Rating	Rating	Weighted Rating	Rating	Weighted Rating	Rating	Weighted Rating
Criteria	(1-10)	(1-5)		(1-5)		(1-5)		(1-5)		(1-5)		(1-5)	
Constructability (see Note)	6	N/A		4	24.0	4	24.0	3	18.0	4	24.0	4	24.0
Environmental Impacts	9	2	18.0	5	45.0	5	45.0	5	45.0	5	45.0	5	45.0
Maintenance of Facilities	9	3	27.0	2	18.0	1	9.0	1	9.0	1.5	13.5	1.5	13.5
Maintenance of Traffic (see Note)	5	N/A		2	10.0	2	10.0	2	10.0	3	15.0	3	15.0
Preservation of Community	10	4	40.0	3	30.0	3.5	35.0	3.5	35.0	4	40.0	4	40.0
Property Impacts	6	5	30.0	4	24.0	2	12.0	3	18.0	2.5	15.0	3	18.0
Traffic Impacts	7	1	7.0	2	14.0	3	21.0	3	21.0	5	35.0	5	35.0
Totals =	52		122.0		165.0		156.0		156.0		187.5		190.5
AVERAGE WEIGHTED RATING =		2.98		3.17		3.00		3.00		3.61		3.66	

Note: Constructability and Maintenance of Traffic do not apply to the No Build Alternative.

Rating

Each alternative is rated on how well it performs with respect to the criteria on a scale of zero to five, where zero is unacceptable, one is poor, two is acceptable, three is good, four is very good, and five is excellent. Any alternative that is selected for further evaluation should not have a rating of two or less.

Weighted Rating

By multiplying the ratings by the weight of importance and adding the products, a total score for each alternative is found.

Average Weighted Rating

The score divided by the sum of the weights of importance, is the average rating of the alternative. An alternative with an average weighted rating of 2.5 or less should be improved if it is selected for for further consideration. Because the No Build Alternative does not include Constructability and Maintenance of Traffic, its Average Weighted Rating is divided by 41 instead of 52.

7.8 Cost Estimates

Along with the preliminary plan drawing, cost estimates for each alternative have also been developed. The cost estimates were prepared using 2007 dollars and the most up-to-date unit price information available at the time the estimates were prepared.

The purpose of these cost estimates at this stage is to provide a cost comparison of the proposed alternatives relative to each other. The cost estimates will need to be revisited as the project moves from the feasibility stage to the preliminary engineering and environmental evaluation phase as more information becomes available.

Definition of Terms

Allowance

A sum of money that is planned to be spent. Used in the absence of precise knowledge, and estimated, to the best of one's ability, to ensure a full and complete estimate. Allowances cover events and activities that are normally internal and so are directly controllable within the project plan.

Contingency

A sum of money not intended to be spent. Used in the absence of precise knowledge, and estimated, to the best of one's abilities, to ensure that a financial buffer is available within a budget. This buffer is intended to assist in mitigating the effects of unplanned events and other risks that are normally external and so are not directly controllable.

Reserve

A sum of money usually held by management (client) and not normally intended to be spent. Used to provide insurance against a project or program failing to complete on budget or for the revision of a budget in the case of changed management or program direction and requirement.

CTH K (Lisbon Road) & CNRR Grade Separation Feasibility Study
Conceptual Comparative Estimate of Construction Costs

Concept 1 - CTH K (Lisbon Road) Over CN Railroad

ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY					EXTENSION				
			CONCEPT 1 ALT 1	CONCEPT 1 ALT 2	CONCEPT 1 ALT 3	CONCEPT 1 ALT 4A	CONCEPT 1 ALT 4B	CONCEPT 1 ALT 1	CONCEPT 1 ALT 2	CONCEPT 1 ALT 3	CONCEPT 1 ALT 4A	CONCEPT 1 ALT 4B
ROADWAY ITEMS - CTH K (LISBON ROAD)												
REMOVING PAVEMENT	S.Y.	$5	6,932	6,932	6,932	6,932	6,932	$34,660	$34,660	$34,660	$34,660	$34,660
COMMON EXCAVATION	C.Y.	$6	0	0	0	0	0	$0	$0	$0	$0	$0
ROCK EXCAVATION	C.Y.	$12	0	0	0	0	0	$0	$0	$0	$0	$0
BORROW	C.Y.	$5	146,886	146,886	146,886	146,886	146,886	$734,430	$734,430	$734,430	$734,430	$734,430
BASE AGGREGATE DENSE 1 1/4-INCH	C.Y.	$18	5,583	5,583	5,583	5,583	5,583	$100,494	$100,494	$100,494	$100,494	$100,494
HMA PAVEMENT	TON	$55	2,488	2,488	2,488	2,488	2,488	$136,840	$136,840	$136,840	$136,840	$136,840
HMA ASPHALTIC MATERIAL	TON	$40	149	149	149	149	149	$5,960	$5,960	$5,960	$5,960	$5,960
TACK COAT	GAL	$3	180	180	180	180	180	$540	$540	$540	$540	$540
TOPSOIL, MULCH, FERTILIZER & SEED	S.Y.	$4	26,509	26,509	26,509	26,509	26,509	$106,036	$106,036	$106,036	$106,036	$106,036
ROADWAY PAVEMENT MARKING	L.F.	$2	10,816	10,816	10,816	10,816	10,816	$21,632	$21,632	$21,632	$21,632	$21,632
GUARDRAIL	L.F.	$20	5,408	5,408	5,408	5,408	5,408	$108,160	$108,160	$108,160	$108,160	$108,160
WETLAND MITIGATION (2:1 MITIGATION RATIO)	ACRE	$28,000	0.19	0.19	0.19	0.19	0.19	$5,320	$5,320	$5,320	$5,320	$5,320
FURNISH & INSTALL RAILROAD TRACK	T.F.	$200	0	0	0	0	0	$0	$0	$0	$0	$0
FURNISH & INSTALL NO. 10 TURNOUT	EA.	$125,000	0	0	0	0	0	$0	$0	$0	$0	$0
TEMPORARY RAILROAD SHEET PILE WALL	S.F.	$35	0	0	0	0	0	$0	$0	$0	$0	$0
RAILROAD BRIDGE STRUCTURE	T.F.	$17,000	0	0	0	0	0	$0	$0	$0	$0	$0
ROADWAY BRIDGE STRUCTURE	S.F.	$200	5,500	5,500	5,500	5,500	5,500	$1,100,000	$1,100,000	$1,100,000	$1,100,000	$1,100,000
ROADWAY RETAINING WALL	S.F.	$50	460	460	460	6,045	460	$23,000	$23,000	$23,000	$302,250	$23,000
SUBTOTAL =								**$2,377,072**	**$2,377,072**	**$2,377,072**	**$2,656,322**	**$2,377,072**
ROADWAY ITEMS - DUPLAINVILLE ROAD												
REMOVING PAVEMENT	S.Y.	$5	205	3,953	1,464	5,134	3,793	$1,025	$19,765	$7,320	$25,670	$18,965
COMMON EXCAVATION	C.Y.	$6	0	0	0	5,718	4,511	$0	$0	$0	$34,308	$27,066
ROCK EXCAVATION	C.Y.	$10	0	0	0	0	0	$0	$0	$0	$0	$0
BORROW	C.Y.	$5	0	92,863	18,157	0	1,633	$0	$464,315	$90,785	$0	$8,165
BASE AGGREGATE DENSE 1 1/4-INCH	C.Y.	$18	213	2,742	2,205	3,812	3,370	$3,834	$49,356	$39,690	$68,616	$60,660
HMA PAVEMENT	TON	$55	265	1,216	978	1,778	1,627	$14,575	$66,880	$53,790	$97,790	$89,485
HMA ASPHALTIC MATERIAL	TON	$40	16	73	59	107	98	$640	$2,920	$2,360	$4,280	$3,920
TACK COAT	GAL	$3	19	88	71	129	118	$57	$264	$213	$387	$354
TOPSOIL, MULCH, FERTILIZER & SEED	S.Y.	$4	465	9,203	7,313	8,992	14,703	$1,860	$36,812	$29,252	$35,968	$58,812
ROADWAY PAVEMENT MARKING	L.F.	$2	0	5,288	4,225	7,344	3,250	$0	$10,576	$8,450	$14,688	$6,500
GUARDRAIL	L.F.	$20	0	2,644	1,250	0	0	$0	$52,880	$25,000	$0	$0
ROADWAY BRIDGE STRUCTURE	S.F.	$200	0	0	5,665	0	0	$0	$0	$1,133,000	$0	$0
ROADWAY RETAINING WALL	S.F.	$50	0	15,325	0	0	0	$0	$766,250	$0	$0	$0
SUBTOTAL =								**$21,991**	**$1,470,018**	**$1,389,860**	**$281,707**	**$273,927**
PROPERTY ACQUISITION ITEMS												
CTH K (LISBON ROAD)												
VULCAN LANDS INC	ACRE	$50,000	0.802	0.802	0.802	0.802	0.802	$40,100	$40,100	$40,100	$40,100	$40,100
MICHAEL W. BRUE	ACRE	$50,000	0.239	0.239	0.239	0.239	0.239	$11,950	$11,950	$11,950	$11,950	$11,950
BRUE'S BROTHERS INC.	ACRE	$50,000	0.200	0.200	0.200	0.200	0.200	$10,000	$10,000	$10,000	$10,000	$10,000
ELLEN GLASS TRUST	ACRE	$50,000	0.057	0.057	0.388	0.350	0.322	$2,850	$2,850	$19,400	$17,500	$16,100
JOHN & JOSEPH & EMANUEL COOK	ACRE	$50,000	0.130	0.130	0.057	0.130	0.262	$6,500	$6,500	$2,850	$6,500	$13,100
ISABELLE MIELKE	ACRE	$50,000	0.500	0.500	0.500	0.500	0.500	$25,000	$25,000	$25,000	$25,000	$25,000
WAUKESHA COUNTY	ACRE	$50,000	0.708	0.914	0.708	0.241	3.930	$35,400	$45,700	$35,400	$12,050	$196,500
WISCONSIN CENTRAL LTD.	ACRE	$50,000	0.260	0.260	0.260	0.260	0.260	$13,000	$13,000	$13,000	$13,000	$13,000
RESIDENTIAL RELOCATION	EA.	$150,000	1	1	1	1	1	$150,000	$150,000	$150,000	$150,000	$150,000
WAUKESHA COUNTY FACILITY RELOCATION	EA.	$750,000	1	1	1	0	1	$750,000	$750,000	$750,000	$0	$750,000
SUBTOTAL =								**$1,044,800**	**$1,055,100**	**$1,057,700**	**$286,100**	**$1,225,750**
DUPLAINVILLE ROAD												
GREG & JULIE SMILTNEEK	ACRE	$50,000	0.000	0.027	0.000	0.000	0.000	$0	$1,350	$0	$0	$0
MERBETH CORPORATION	ACRE	$50,000	0.000	0.478	0.000	0.000	0.000	$0	$23,900	$0	$0	$0
TRACY D. JOHNSON	ACRE	$50,000	0.000	0.205	0.000	0.907	0.063	$0	$10,250	$0	$45,350	$3,150
RAMON OLSON INVESTMENTS	ACRE	$50,000	0.000	0.063	0.000	1.370	0.220	$0	$3,150	$0	$68,500	$11,000
MICHAEL W. BRUE	ACRE	$50,000	0.000	0.000	0.951	0.000	0.000	$0	$0	$47,550	$0	$0
BRUE'S BROTHERS INC.	ACRE	$50,000	0.000	0.000	2.360	0.000	0.000	$0	$0	$118,000	$0	$0
RESIDENTIAL RELOCATION	EA.	$150,000	0	0	1	0	0	$0	$0	$150,000	$0	$0
SUBTOTAL =								**$0**	**$38,650**	**$315,550**	**$113,850**	**$14,150**
BASE SUBTOTAL =								**3,443,863**	**4,940,840**	**5,140,182**	**3,337,979**	**3,890,899**
ALLOWANCES												
STORMWATER PUMP STATION	L.S.	$300,000	0	0	0	0	0	$0	$0	$0	$0	$0
RAILROAD INTERLOCKING SIGNALS	L.S.	$750,000	0	0	0	0	0	$0	$0	$0	$0	$0
RAILROAD FLAGGING	L.S.	$25,000	1	1	1	1	1	$25,000	$25,000	$25,000	$25,000	$25,000
EROSION CONTROL AND SEDIMENTATION CONTROL	L.S.	$75,000	1	1	1	1	1	$75,000	$75,000	$75,000	$75,000	$75,000
UTILITY RELOCATION	L.S.	$200,000	1	1	1	1	1	$200,000	$200,000	$200,000	$200,000	$200,000
DRIVEWAYS	L.S.	$50,000	1	1	1	1	1	$50,000	$50,000	$50,000	$50,000	$50,000
MAINTENANCE OF TRAFFIC (CTH K CLOSED)		1%						$34,439	$49,408	$51,402	$33,380	$38,909
DESIGN ENGINEERING		8%						$275,509	$395,267	$411,215	$267,038	$311,272
CONSTRUCTION ENGINEERING		10%						$344,386	$494,084	$514,018	$333,798	$389,090
CONSTRUCTION COST = (BASE COST + ALLOWANCES)								**4,448,197**	**6,229,600**	**6,466,817**	**4,322,195**	**4,980,170**
CONTINGENCIES												
HAZARDOUS MATERIALS	L.S.	$250,000	1	1	1	1	1	$250,000	$250,000	$250,000	$250,000	$250,000
INFLATE UNIT PRICES FROM 2007 TO 2009		8%						$355,856	$498,368	$517,345	$345,776	$398,414
NON-SPECIFIC CONTINGENCY		10%						$444,820	$622,960	$646,682	$432,220	$498,017
PROJECT COST = (CONSTRUCTION COST + CONTINGENCIES)								**$5,498,872**	**$7,600,928**	**$7,880,844**	**$5,350,190**	**$6,126,600**
RESERVES												
TRAFFIC SIGNALS (DUPLAINVILLE ROAD)	EA.	$100,000	1	1	1	1	1	$100,000	$100,000	$100,000	$100,000	$100,000
4 LANE ROADWAY IN LIEU OF 2 LANE ROADWAY (CTH K)	L.S.	$584,100	1	1	1	1	1	$584,100	$584,100	$584,100	$584,100	$584,100
CURB & GUTTER	L.F.	$15	3,106	4,370	5,058	6,540	7,046	$46,590	$65,550	$75,870	$98,100	$105,690
DETOUR ROUTE IMPROVEMENTS	L.S.	$100,000	1	1	1	1	1	$100,000	$100,000	$100,000	$100,000	$100,000
MAINTENANCE OF TRAFFIC (CTH K OPEN)		3%						$164,966	$228,028	$236,425	$160,506	$183,798
PROGRAMMED COST = (PROJECT COST + RESERVES)								**$6,494,529**	**$8,678,605**	**$8,977,239**	**$6,392,896**	**$7,200,188**

CTH K (Lisbon Road) & CNRR Grade Separation Feasibility Study
Conceptual Comparative Estimate of Construction Costs

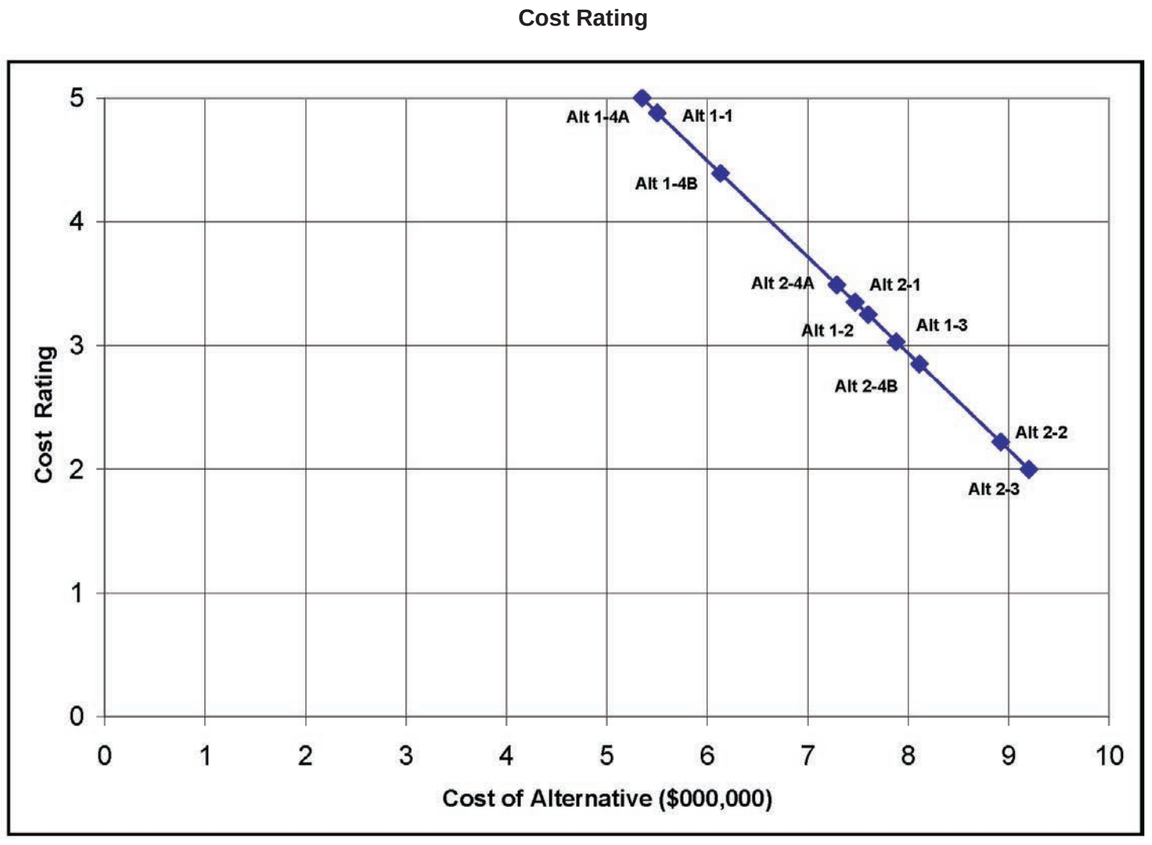
Concept 2 - CTH K (Lisbon Road) Under CN Railroad

ITEM DESCRIPTION	UNIT	UNIT COST	QUANTITY					EXTENSION				
			CONCEPT 2 ALT 1	CONCEPT 2 ALT 2	CONCEPT 2 ALT 3	CONCEPT 2 ALT 4A	CONCEPT 2 ALT 4B	CONCEPT 2 ALT 1	CONCEPT 2 ALT 2	CONCEPT 2 ALT 3	CONCEPT 2 ALT 4A	CONCEPT 2 ALT 4B
ROADWAY ITEMS - CTH K (LISBON ROAD)												
REMOVING PAVEMENT	S.Y.	$5	4,586	4,586	4,586	4,586	4,586	$22,930	$22,930	$22,930	$22,930	$22,930
COMMON EXCAVATION	C.Y.	$6	74,403	74,403	74,403	74,403	74,403	$446,418	$446,418	$446,418	$446,418	$446,418
ROCK EXCAVATION	C.Y.	$12	27,823	27,823	27,823	27,823	27,823	$333,876	$333,876	$333,876	$333,876	$333,876
BORROW	C.Y.	$5	0	0	0	0	0	$0	$0	$0	$0	$0
BASE AGGREGATE DENSE 1 1/4-INCH	C.Y.	$18	3,804	3,804	3,804	3,804	3,804	$68,472	$68,472	$68,472	$68,472	$68,472
HMA PAVEMENT	TON	$55	1,687	1,687	1,687	1,687	1,687	$92,785	$92,785	$92,785	$92,785	$92,785
HMA ASPHALTIC MATERIAL	TON	$40	101	101	101	101	101	$4,040	$4,040	$4,040	$4,040	$4,040
TACK COAT	GAL	$3	122	122	122	122	122	$366	$366	$366	$366	$366
TOPSOIL, MULCH, FERTILIZER & SEED	S.Y.	$4	17,800	17,800	17,800	17,800	17,800	$71,200	$71,200	$71,200	$71,200	$71,200
ROADWAY PAVEMENT MARKING	L.F.	$2	7,336	7,336	7,336	7,336	7,336	$14,672	$14,672	$14,672	$14,672	$14,672
GUARDRAIL	L.F.	$20	0	0	0	0	0	$0	$0	$0	$0	$0
WETLAND MITIGATION (2:1 MITIGATION RATIO)	ACRE	$28,000	0.00	0.00	0.00	0.00	0.00	$0	$0	$0	$0	$0
FURNISH & INSTALL RAILROAD TRACK	T.F.	$200	1,488	1,488	1,488	1,488	1,488	$297,600	$297,600	$297,600	$297,600	$297,600
FURNISH & INSTALL NO. 10 TURNOUT	EA.	$125,000	1	1	1	1	1	$125,000	$125,000	$125,000	$125,000	$125,000
TEMPORARY RAILROAD SHEET PILE WALL	S.F.	$35	4,600	4,600	4,600	4,600	4,600	$161,000	$161,000	$161,000	$161,000	$161,000
RAILROAD BRIDGE STRUCTURE	T.F.	$17,000	75	75	75	75	75	$1,275,000	$1,275,000	$1,275,000	$1,275,000	$1,275,000
ROADWAY BRIDGE STRUCTURE	S.F.	$200	0	0	0	0	0	$0	$0	$0	$0	$0
ROADWAY RETAINING WALL	S.F.	$50	255	255	255	5,405	255	$12,750	$12,750	$12,750	$270,250	$12,750
SUBTOTAL =								**$2,926,109**	**$2,926,109**	**$2,926,109**	**$3,183,609**	**$2,926,109**
ROADWAY ITEMS - DUPLAINVILLE ROAD												
REMOVING PAVEMENT	S.Y.	$5	205	3,220	1,464	5,134	3,793	$1,025	$16,100	$7,320	$25,670	$18,965
COMMON EXCAVATION	C.Y.	$6	0	40,596	10,640	5,718	5,963	$0	$243,576	$63,840	$34,308	$35,778
ROCK EXCAVATION	C.Y.	$10	0	11,910	0	0	0	$0	$119,100	$0	$0	$0
BORROW	C.Y.	$5	0	0	0	0	0	$0	$0	$0	$0	$0
BASE AGGREGATE DENSE 1 1/4-INCH	C.Y.	$18	213	2,118	2,205	3,812	3,370	$3,834	$38,124	$39,690	$68,616	$60,660
HMA PAVEMENT	TON	$55	265	939	978	1,778	1,627	$14,575	$51,645	$53,790	$97,790	$89,485
HMA ASPHALTIC MATERIAL	TON	$40	16	56	59	107	98	$640	$2,240	$2,360	$4,280	$3,920
TACK COAT	GAL	$3	19	68	71	129	118	$57	$204	$213	$387	$354
TOPSOIL, MULCH, FERTILIZER & SEED	S.Y.	$4	465	5,447	7,313	8,992	14,703	$1,860	$21,788	$29,252	$35,968	$58,812
ROADWAY PAVEMENT MARKING	L.F.	$2	0	4,084	4,225	7,344	3,250	$0	$8,168	$8,450	$14,688	$6,500
GUARDRAIL	L.F.	$20	0	0	0	0	0	$0	$0	$0	$0	$0
ROADWAY BRIDGE STRUCTURE	S.F.	$200	0	0	3,675	0	0	$0	$0	$735,000	$0	$0
ROADWAY RETAINING WALL	S.F.	$50	0	10,615	0	0	0	$0	$530,750	$0	$0	$0
SUBTOTAL =								**$21,991**	**$1,031,695**	**$939,915**	**$281,707**	**$274,474**
PROPERTY ACQUISITION ITEMS												
CTH K (LISBON ROAD)												
VULCAN LANDS INC.	ACRE	$50,000	0.606	0.606	0.606	0.606	0.606	$30,300	$30,300	$30,300	$30,300	$30,300
MICHAEL W. BRUE	ACRE	$50,000	0.204	0.204	0.204	0.204	0.204	$10,200	$10,200	$10,200	$10,200	$10,200
BRUE'S BROTHERS INC.	ACRE	$50,000	0.165	0.165	0.165	0.165	0.165	$8,250	$8,250	$8,250	$8,250	$8,250
ELLEN GLASS TRUST	ACRE	$50,000	0.057	0.057	0.057	0.350	0.322	$2,850	$2,850	$2,850	$17,500	$16,100
JOHN & JOSEPH & EMANUEL COOK	ACRE	$50,000	0.130	0.130	0.130	0.130	0.262	$6,500	$6,500	$6,500	$6,500	$13,100
ISABELLE MIELKE	ACRE	$50,000	0.500	0.500	0.500	0.500	0.500	$25,000	$25,000	$25,000	$25,000	$25,000
WAUKESHA COUNTY	ACRE	$50,000	0.498	0.662	0.498	0.126	3.930	$24,900	$33,100	$24,900	$6,300	$196,500
WISCONSIN CENTRAL LTD.	ACRE	$50,000	0.121	0.121	0.121	0.121	0.121	$6,050	$6,050	$6,050	$6,050	$6,050
RESIDENTIAL RELOCATION	EA.	$150,000	1	1	1	1	1	$150,000	$150,000	$150,000	$150,000	$150,000
WAUKESHA COUNTY FACILITY RELOCATION	EA.	$750,000	1	1	1	0	1	$750,000	$750,000	$750,000	$0	$750,000
SUBTOTAL =								**$1,014,050**	**$1,022,250**	**$1,014,050**	**$260,100**	**$1,205,500**
DUPLAINVILLE ROAD												
GREG & JULIE SMILTNEEK	ACRE	$50,000	0.000	0.000	0.000	0.000	0.000	$0	$0	$0	$0	$0
MERBETH CORPORATION	ACRE	$50,000	0.000	0.204	0.000	0.000	0.000	$0	$10,200	$0	$0	$0
TRACY D. JOHNSON	ACRE	$50,000	0.000	0.130	0.000	0.907	0.063	$0	$6,500	$0	$45,350	$3,150
RAMON OLSON INVESTMENTS	ACRE	$50,000	0.000	0.044	0.000	1.370	0.220	$0	$2,200	$0	$68,500	$11,000
MICHAEL W. BRUE	ACRE	$50,000	0.000	0.000	0.996	0.000	0.000	$0	$0	$49,800	$0	$0
BRUE'S BROTHERS INC.	ACRE	$50,000	0.000	0.000	2.395	0.000	0.000	$0	$0	$119,750	$0	$0
RESIDENTIAL RELOCATION	EA.	$150,000	0	0	1	0	0	$0	$0	$150,000	$0	$0
SUBTOTAL =								**$0**	**$18,900**	**$319,550**	**$113,850**	**$14,150**
BASE SUBTOTAL =								**$3,962,150**	**$4,998,954**	**$5,199,624**	**$3,839,266**	**$4,420,233**
ALLOWANCES												
STORMWATER PUMP STATION	L.S.	$300,000	1	1	1	1	1	$300,000	$300,000	$300,000	$300,000	$300,000
RAILROAD INTERLOCKING SIGNALS	L.S.	$750,000	1	1	1	1	1	$750,000	$750,000	$750,000	$750,000	$750,000
RAILROAD FLAGGING	L.S.	$25,000	1	1	1	1	1	$25,000	$25,000	$25,000	$25,000	$25,000
EROSION CONTROL AND SEDIMENTATION CONTROL	L.S.	$75,000	1	1	1	1	1	$75,000	$75,000	$75,000	$75,000	$75,000
UTILITY RELOCATION	L.S.	$200,000	1	1	1	1	1	$200,000	$200,000	$200,000	$200,000	$200,000
DRIVEWAYS	L.S.	$50,000	1	1	1	1	1	$50,000	$50,000	$50,000	$50,000	$50,000
MAINTENANCE OF TRAFFIC (CTH K CLOSED)		1%						$39,622	$49,990	$51,996	$38,393	$44,202
DESIGN ENGINEERING		8%						$316,972	$399,916	$415,970	$307,141	$353,619
CONSTRUCTION ENGINEERING		10%						$396,215	$499,895	$519,962	$383,927	$442,023
CONSTRUCTION COST = (BASE COST + ALLOWANCES)								**$6,114,959**	**$7,348,755**	**$7,587,553**	**$5,968,727**	**$6,660,077**
CONTINGENCIES												
HAZARDOUS MATERIALS	L.S.	$250,000	1	1	1	1	1	$250,000	$250,000	$250,000	$250,000	$250,000
INFLATE UNIT PRICES FROM 2007 TO 2009		8%						$489,197	$587,900	$607,004	$477,498	$532,806
NON-SPECIFIC CONTINGENCY		10%						$611,496	$734,876	$758,755	$596,873	$666,008
PROJECT COST = (CONSTRUCTION COST + CONTINGENCIES)								**$7,465,651**	**$8,921,531**	**$9,203,312**	**$7,293,097**	**$8,108,891**
RESERVES												
TRAFFIC SIGNALS (DUPLAINVILLE ROAD)	EA.	$100,000	1	1	1	1	1	$100,000	$100,000	$100,000	$100,000	$100,000
4 LANE ROADWAY IN LIEU OF 2 LANE ROADWAY (CTH K)	L.S.	$590,655	1	1	1	1	1	$590,655	$590,655	$590,655	$590,655	$590,655
CURB & GUTTER	L.F.	$15	2,236	1,834	4,188	5,670	6,176	$33,540	$27,510	$62,820	$85,050	$92,640
DETOUR ROUTE IMPROVEMENTS	L.S.	$100,000	1	1	1	1	1	$100,000	$100,000	$100,000	$100,000	$100,000
MAINTENANCE OF TRAFFIC (CTH K OPEN)		3%						$223,970	$267,646	$276,099	$218,793	$243,267
PROGRAMMED COST = (PROJECT COST + RESERVES)								**$8,513,816**	**$10,007,342**	**$10,332,886**	**$8,387,595**	**$9,235,453**

7.9 Cost Rating

In addition to the Criteria Rating, a Cost Rating was also performed as it relates to the construction of each of the grade separating alternatives. Based upon the current industry unit costs, the approximate cost to construct each of the alternatives are:

Concept	Alternative	Cost
1	#1	$5,498,872
1	#2	$7,600,928
1	#3	$7,880,844
1	#4A	$5,350,190
1	#4B	$6,126,600
2	#1	$7,465,651
2	#2	$8,921,531
2	#3	$9,203,312
2	#4A	$7,293,097
2	#4B	$8,108,891



Cost Rating - Concept 1

Criteria	CONCEPT 1				
	Alt 1	Alt 2	Alt 3	Alt 4A	Alt 4B
Construction Cost Estimate ($000,000)	5.50	7.60	7.88	5.35	6.13
Cost Rating =	4.88	3.25	3.03	5.00	4.39

Cost Rating - Concept 2

Criteria	CONCEPT 2				
	Alt 1	Alt 2	Alt 3	Alt 4A	Alt 4B
Construction Cost Estimate ($000,000)	7.47	8.92	9.20	7.29	8.11
Cost Rating =	3.35	2.22	2.00	3.49	2.85

7.10 Rating Summary

Finally, a Ratings Summary was performed combining the Criteria Rating and the Cost Rating analysis. Using the Average Weighted Rating for each alternative in the Criteria Rating and the Cost Rating analysis, a Value Index can be applied to the ratings as a way to further evaluate the alternatives.

The Value Index is a tool used to assign different weights to either the Criteria Rating or the Cost Rating. If cost is determined to be more important than criteria, a 2 (cost):1 (criteria) Value Index may be used. On the other hand, if criteria is viewed as more important than cost, a 2 (criteria):1 (cost) Value Index would be used.

Using the Value Index for both Concept 1 and Concept 2, it can be seen that regardless of whether criteria is determined to be more important than cost, or cost is determined to be more important than criteria, the same alternative scores the highest.

For Concept 1, the highest rated alternative is Alternative #4A. In comparison, the lowest rated alternative in each case using the Value Index is Alternative #3.

Similiarly for Concept 2 the highest rated alternative is also Alternative #4A. As was the case for Concept 1, Alternative #3 is also the lowest scoring alternative under Concept 2.

Rating Summary - Concept 1

Alternatives			CONCEPT 1				
			Alt 1	Alt 2	Alt 3	Alt 4A	Alt 4B
Ratings	Criteria Rating		3.21	3.04	3.04	3.70	3.76
	Cost Rating		4.88	3.25	3.03	5.00	4.39
	Performance	Cost					
Value Index	1	1	4.05	3.15	3.04	4.35	4.08
	2	1	3.77	3.11	3.04	4.13	3.97
	1	2	4.32	3.18	3.03	4.57	4.18

Rating Summary - Concept 2

Alternatives			CONCEPT 2				
			Alt 1	Alt 2	Alt 3	Alt 4A	Alt 4B
Ratings	Criteria Rating		3.17	3.00	3.00	3.61	3.66
	Cost Rating		3.35	2.22	2.00	3.49	2.85
	Performance	Cost					
Value Index	1	1	3.26	2.61	2.50	3.55	3.26
	2	1	3.23	2.74	2.67	3.57	3.39
	1	2	3.29	2.48	2.33	3.53	3.12

8.0 Public Meeting Summary

As part of the feasibility study, two Public Informational Meetings were held to present preliminary concepts and study progress to the general public. The Public Informational Meetings allowed the citizens of Waukesha County a chance to get an understanding of the project, view exhibits of the various alternatives, ask questions and provide input into the project. Comment forms were available and those in attendance were encouraged to document any comments that they may have and turn them into the design team so they could be properly documented.

All the information which was presented at the Public Informational Meeting can be seen in Appendix C and Appendix F. Located in Appendix C and Appendix F are copies of the meeting sign in sheets, meeting handout, exhibit boards on display along with all the public comments received from the meeting. Appendix C contains the materials from the first Public Information Meeting and Appendix F contains the materials from the second Public Informational Meeting.

The first Public Informational Meeting was held on Tuesday, November 28, 2006 at the Spring Creek Church located just south of the project site on STH 190 (Capital Drive). The following is a summary of the exhibits which were on display:

- CTH K (Lisbon Road) Overview Map
- Existing CTH K (Lisbon Road) Plan & Profile
- Existing Canadian National Railroad Plan & Profile
- Existing Duplainville Road Plan & Profile
- Proposed CTH K Typical Section
- Proposed CTH K Concept 1 Plan & Profile
- Proposed CTH K Concept 2 Plan & Profile
- Proposed Duplainville Road Alternative #1
- Proposed Duplainville Road Alternative #2
- Proposed Duplainville Road Alternative #3
- Proposed Duplainville Road Alternative #4A, #4B
- Proposed Duplainville Road Alternative #5
- Proposed Duplainville Road Alternative #6A, #6B, #6C

The second Public Informational Meeting was held on Tuesday, March 27, 2007 also at the Spring Creek Church. The following is a summary of the exhibits which were on display:

- CTH K (Lisbon Road) Overview Map
- Proposed CTH K Typical Section
- Proposed CTH K Concept 1 Plan & Profile
- Proposed CTH K Concept 2 Plan & Profile
- Proposed Concept 1 – Alternative #1
- Proposed Concept 1 – Alternative #2
- Proposed Concept 1 – Alternative #3
- Proposed Concept 1 – Alternative #4A
- Proposed Concept 1 – Alternative #4B
- Proposed Concept 2 – Alternative #1
- Proposed Concept 2 – Alternative #2
- Proposed Concept 2 – Alternative #3
- Proposed Concept 2 – Alternative #4A
- Proposed Concept 2 – Alternative #4B

9.0 Recommendations

Benesch was retained to evaluate the feasibility of grade separating CTH K (Lisbon Road) and the Canadian National Railroad. A Value Planning approach was used throughout the investigation process which included six Community Advisory Committee (CAC) meetings with various stakeholders along with two Public Informational Meetings for the general public. As a result of the six CAC meetings, the following two concepts for CTH K (Lisbon Road) and five alternatives for Duplainville Road were developed:

Concept 1 - CTH K (Lisbon Road) Over CNRR

- Roadway Over on Existing Horizontal Alignment
- Maintain Existing CN Railroad Profile

Concept 2 - CTH K (Lisbon Road) Under CNRR

- Roadway Under on Existing Horizontal Alignment
- Maintain Existing CN Railroad Profile

Duplainville Road Alternatives

- Alternative #1
  Cul-de-sac Duplainville Road at CTH K (Lisbon Road)

- Alternative #2
  Maintain the existing CTH K (Lisbon Road) connection with improved geometrics

- Alternative #3
  "Jug Handle"

- Alternative #4A
  Relocate CTH K (Lisbon Road) connection further to the west and Around the Waukesha County Facility. Close the existing Quarry Corners Parkway access to CTH K (Lisbon Road)

- Alternative #4B
  Relocate CTH K (Lisbon Road) connection further to the west and Utilize the Waukesha County Facility. Close the existing Quarry Corners Parkway access to CTH K (Lisbon Road)

The Canadian National Railroad track is currently at the maximum 1% grade allowed for mainline track per current Canadian National Railroad design practices. As a result, it was determined not feasible to raise the Canadian National Railroad tracks and only alternatives which altered CTH K (Lisbon Road) were studied.

After the six CAC meetings and the Evaluation/Development Phase were completed, Concept 1 – Alternative #4A scored the highest and were considered to be the most feasible.

Due to the existing exposure factor at the crossing and the forecasted traffic growth along CTH K (Lisbon Road) as well as along the Canadian National Railroad, a grade separation is warranted and recommended. Based on all the information developed from the workshops, hearing all the public comments and concerns as well as our engineering judgment, Benesch recommends that Concept 1 - Alternative #4A be developed further.

Concept 1 - Alternative #4A

Concept 1 - Alternative #4A proposes grade separating CTH K (Lisbon Road) and the Canadian National Railroad by constructing a roadway bridge which will allow CTH K (Lisbon Road) to go over the Canadian National Railroad track. CTH K (Lisbon Road) will remain on its current horizontal alignment and will need to be closed to through traffic for the majority of the construction of the grade separation structure.

Under this alternative, there is no change to the horizontal and vertical alignments of the Canadian National Railroad. As a result, there will be no impact to the Canadian National train operations. This alternative will not require any temporary track and signal work such as a shoofly to maintain train operations.

Under this alternative, Duplainville Road would be relocated to the west and routed around the Waukesha County Maintenance facility. Additional property will be required to accommodate the relocated Duplainville Road.

Along with relocating Duplainville Road, Quarry Corners Parkway will also be relocated under this alternative. The existing intersection with CTH K (Lisbon Road) is located to close to the STH 74 intersection per current engineering standards. Under his alternative, Quarry Corners Parkway will be relocated further to the east and tie into the relocated Duplainville Road.

By combining the Quarry Corners Parkway and Duplainville Road, one existing access point along CTH K (Lisbon Road) is eliminated. Combining access points and eliminating multiple access points reduces potential conflict points and makes the roadway safer to travel.

FEASIBILITY STUDIES
WAUKESHA COUNTY
CTH K/CN GRADE SEPARATION
CTH SR EXTENSION STH 190 – CTH K

COMMUNITY ADVISORY COMMITTEE INTRODUCTORY MEETING
AUGUST 24, 2006
1600 – 1800

FACILITATOR: Michael N. Goodkind, PE, SE

AGENDA

A. INTRODUCTION 1600 - 1610

1.0 Participants

2.0 Study Overview

- 2.1 Schedule
- 2.2 Study Objectives
- 2.3 Preliminary Design Standards

B. PROJECT IMPACTS 1610 – 1750

3.0 CTH K/CN 1610 - 1645

- 3.1 Rail Operations
- 3.2 Duplainville Road
- 3.3 Adjacent Properties
  - 3.3.1 Vulcan Quarry
  - 3.3.2 CN Freight Transfer Facility
  - 3.3.3 Waukesha County Public Works
- 3.4 Geotechnical Study

BREAK **1645 - 1650**

4.0 CTH SR 1650 - 1750

- 4.1 Environmental Constraints 1650 – 1710
  - 4.1.1 Wetland Impacts
  - 4.1.2 Floodplain
  - 4.1.3 Endangered Resources (if any)

FEASIBILITY STUDIES
WAUKESHA COUNTY
CTH K/CN GRADE SEPARATION
CTH SR EXTENSION STH 190 – CTH K

COMMUNITY ADVISORY COMMITTEE INTRODUCTORY MEETING
AUGUST 24, 2006
1600 – 1800

FACILITATOR: Michael N. Goodkind, PE, SE

AGENDA

- 4.2 Airport Operations 1710 - 1730
  - 4.2.1 Current Operations
  - 4.2.2 Future Plans
- 4.3 Community Impacts 1730 – 1750
  - 4.3.1 Traffic Studies
  - 4.3.2 Existing & Proposed Subdivisions
  - 4.3.3 Spring Creek Church
  - 4.3.4 Redeemer United Church of Christ
  - 4.3.5 School Districts

C. MEETING WRAP-UP 1750 - 1800

5.0 Future Advisory Committee Meeting Times/Location

FEASIBILITY STUDIES
WAUKESHA COUNTY
CTH K/CN GRADE SEPARATION
CTH SR EXTENSION – STH 190 TO CTH K

Date: August 24, 2006
Time: 4:00 p.m. – 6:00 p.m.
Place: Spring Creek Church
Attendees: See Attached Sign-In Sheet

A. INTRODUCTION

1.0 Participants

Self introductions were made around the table.

2.0 Study Overview

2.1 Schedule
- Studies to be completed by May 2007

2.2 Study Objectives
- Introduction given by Joe Neal.
- Two studies in one.

2.3 Preliminary Design Standards
- Posted 45-mph, design speed 50-mph for CT K.

B. PROJECT IMPACTS

3.0 CTH K/CN

3.1 Rail Operations
- Approximately 30 trains/day long distance, plus local switching moves from Sussex to Mukwonago, including trains from Vulcan.
- Switch located just south of CTH K.
- Siding extends through Weyer Road to the south.

3.2 Duplainville Road
- Alternatives to maintain a Duplainville Road connection to CTH K will be evaluated as part of the study.
- Duplainville Road serves light industry and residential properties south of CTH K
- As part of the CTH K project, Weyer Road may be closed at the Canadian National track, eliminating the intersection with Duplainville Road.

3.3 Adjacent Properties

3.3.1 Vulcan Quarry
- Brue property surrounded by Quarry. They are looking to redevelop; possibly put up storage units.
- Vulcan Materials – comments by Doug Avercamp.
  - They load out trucks at up to 73K pounds which use CTH K both east and west from the quarry.
  - Vulcan Materials also has a rail load out facility
- Wetlands in northeast quadrant of CTH K and CN railroad. Vulcan has hired a consultant for delineation.
- For a road under, blasting may have an impact on water table, quarry operations, and nearby subdivision.
- CTH K/STH 74 intersection has a high crash rate, poor traffic pattern – noted not in this scope.

3.3.2 CN Freight Transfer Facility – Built in 2005, transloads bulk materials, lumber, etc. to trucks.

3.3.3 Waukesha County Public Works – Salt shed and operations garage.

3.4 Geotechnical Study
- K. Singh outlined work to be done – 4 road borings at 500-foot spacing and 2 structure borings near railroad tracks.

4.0 CTH SR Extension

4.1 Environmental Constraints

Dale Pfeiffle – Corps of Engineers
- Historic properties would need to be documented in an environmental study. Jim Kaiser noted the feasibility studies will each have an "Environmental Report" since construction is likely over 5-years away, and a formal "Environmental Study" would expire in that time frame.
- Wetlands are present adjacent to Fox River and Spring Creek (not Sussex Creek)
- Need to demonstrate purpose and need and no feasible alternative. It was noted Duplainville Road does not connect with STH 190 which lessens its viability as an alternative.
- Minimize impacts.
- Mitigate impacts. Compensation 1½ acre replacement for each acre of wetland fill.
- There may be old landfills east of the corridor.

Geri Radermacher – DNR

- NR 103 Process. Water quality certification deals with wetland fill and secondary impacts.
- Would have to show no significant impact to the "wetlands complex".
- Endangered resources – reptiles, amphibians, birds, and plants. Lise Kitchel is the contact at the DNR.
- US Fish & Wildlife may get involved through COE permits.
- The study will use County GIS mapping of wetlands. Could have SEWRPC do it – they would look at quality and content of wetlands.
- Navigable waterway crossings – Chapter 30 permits.

Mr. Clinkenbeard noted development potential is limited to approximately ½ mile north of Capitol Drive, approximately ½ mile south of Weyer road North to CTH K. The middle third would remain undeveloped, due to wetlands and floodplain.

- The NR 103 process should discuss the feasibility having been considered for a Duplainville/190 interchange.

4.2 Airport Operations – Keith Gerard, WisDOT Bureau of Aeronautics

- Capitol Airport is one of 89 "National Plan" airports in Wisconsin. It is also designated as a reliever airport for Mitchell International.
- ALP update is in process
  - Two possible changes in new ALP.
    - ▲ Looking to make the airport IFR – it is likely the runway 9 approach would be made IFR due to prevailing easterly winds during inclement weather.
    - ▲ Make runway 9/27 the primary runway.
- First project – 2009 reconstruct runway 3/21.
    - ▲ Will need to cut back and shorten on south end to get FAA clearance from Guminas Road.
- Runway 9/27 is nearly 3,400-feet today, would go to 3,600-feet per current ALP.
- VRF approach is 20:1.
- IFR approach is 34:1.
- FAA calls for 3,400-feet minimum for IFR.
- Currently serving 117 based aircraft.
  - Lots of flight training.
  - "Lakes Area Critical incident team" operates 4 fixed wing aircraft out of Capitol Airport.
- Roadway clearance standard is 16-feet.
- Mr. Clinkenbeard noted the City of Brookfield shows the airport as an industrial park in their community master plan.
- The City of Pewaukee does not want to see the runway expanded into the city.

4.3 Community Impacts

4.3.1 Traffic Studies

- Note: SEWRPC took the extension of Barker Road off their map in the last year.
- Proposed Intersection Studies related to CTH SR.
  - CTH SR/STH 190
  - CTH K/Townline
  - Weyer Road/Townline Road

4.3.2 Existing & Proposed Subdivisions – Mr. Clinkenbeard outlined the following:

- Sewer and water being extended by City of Pewaukee. Sewer up Duplainville will cross under railroad to reach southwest of Weyer/Townline.
- Town of Lisbon asking for sewer northwest of Townline/ Weyer from City of Pewaukee.
- Village of Menomonee Falls is putting a sewer lift station in their southwest corner at Weyer/Townline.
- Spring Creek Church is looking to do single family homes north of the church.
- 2 acres at northeast quadrant CTH SR/STH 190 is a Pewaukee Fire Station site.
- Sewer will come into southwest corner of high land north of unnamed creek.

4.3.3 Spring Creek Church

- Spring Creek Church accurately describe by Mr. Clinkenbeard.

4.3.4 Redeemer United Church of Christ

- Waiting for water to come. Lost Church to fire 2-years ago.
- New church is well back from Townline Road

4.3.5 School Districts

- School district boundaries discussed.
- Sussex Hamilton schools cover everything north of Weyer Road, and an area southwest of Weyer/Townline south to Spring Creek, and west to the CN.
- Elmbrook schools cover east of Townline, south of the Sussex Hamilton district.
- Pewaukee schools cover west of Townline, south of the Sussex Hamilton district.
- The CTH K project may help the Sussex-Hamilton schools by improving cross traffic in the south end of the district.
- The CTH SR project would pass along and through the boundaries and not significantly impact school related transportation.

C. MEETING WRAP-UP

5.0 Future Meeting Times/Locations

- Next Advisory Committee meeting is scheduled for October 16, 2006, 4-6 p.m. at Spring Creek Church.
- The first Public Informational Meeting will be held on Tuesday, November 14th at Spring Creek Church
- Following the PI Meeting, the Benesch team and Waukesha County will meet to narrow the alternatives, and the preferred alternatives will be refined during the holiday season.
- The Third Advisory Committee meeting would be the week of January 15th (though not on Monday the 15th, since this is the ML King Holiday). This meeting would present the preferred alternatives and discuss potential impacts and refinements.
- Two more Advisory Committee meetings are anticipated. One in late February/early March 3 to 4 weeks prior to the second PIM. and the last one a week or so after the second PIM to discuss public feedback and present preliminary study conclusions.
- The Second PI Meeting is anticipated for late March/early April, 2007.

Notes prepared by Jim Kaiser, Alfred Benesch & Company

Appendix A - Meeting Attendance

CTH SR (Springdale Road) – STH 190 CTH K and
CTH K (Lisbon Road) – Canadian Northern Railroad Grade Separation
Feasibility Study
Waukesha County

Community Advisory Committee Meeting – August 24, 2006

Meeting Attendance

Name	Affiliation	Address/Phone
Michael Goodkind	Alfred Benesch & Company	4633 Washington Road Kenosha, WI 53144 262/652-6677
Dan Rivers	Alfred Benesch & Company	4633 Washington Road Kenosha, WI 53144 262/652-6677
Joe Neal	Alfred Benesch & Company	4633 Washington Road Kenosha, WI 53144 262/652-6677
Jim Kaiser	Alfred Benesch & Company	4633 Washington Road Kenosha, WI 53144 262/652-6677
Matt Byrne, Manager	Capital Airport	21500 Gumina Road Pewaukee, WI 53072 414-406-3119
Ed Hinrichs, P.E.	Waukesha County Dept. of Public Works	1320 Pewaukee Road Waukesha, WI 53188 262-548-7740
Dale Pfeiffle	US Army Corps of Engineers	1617 E. Racine Avenue, Rm. 101 Waukesha, WI 53186 262-547-0868
Keith Gerard	WisDOT, Airport Program	4802 Sheboygan Avenue, Rm. 701 Madison, WI 53707-7914 608-267-4492
Harlan Clinkenbeard	City of Pewaukee	W240 N3065 Pewaukee Rd. Pewaukee, WI 53072 262-691-0770

Name	Affiliation	Address/Phone
Doug Averkamp	Vulcan Materials Co.	N52 W23096 Lisbon Road Sussex, WI 53089 262-496-3591
Geri Radermacher	Wisconsin DNR	141 NW Barstow Waukesha, WI 53188 262-574-2137
Rachel Sabre	Wisconsin DNR	2300 N. Dr. Martin Luther King Lane Milwaukee, WI 414-263-8601
George Evert	Redeemer United Church of Christ	W220 N4915 Town Line Rd. P.O. Box 230 Sussex, WI 53089 262-246-6710
Dave Swan	Waukesha County Supervisor District #15	W239 N4050 Swan Road Pewaukee, WI 53072 262-691-0471
Ryan Murphy	T.N. & Associates, Inc.	1033 N. Mayfair Road, Suite 200 Milwaukee, WI 53226 414-603-6765
Bob Larson	Spring Creek Church	N35 W22000 Capitol Drive Pewaukee, WI 53072 262-695-2211
Bob Ullman	Redeemer United Church of Christ	W220 N4915 Town Line Rd. P.O. Box 230 Sussex, WI 53089 262-246-6710
Pratap Singh	K. Singh & Associates, Inc.	1135 Legion Drive Suite 105 Elm Grove, WI 53122 262-821-1171
Kevin Soucie	Soucie & Associates	630 N. 4th Street, #710 Milwaukee, WI 53203 414-271-1212

FEASIBILITY STUDIES
WAUKESHA COUNTY
CTH K/CN GRADE SEPARATION
CTH SR EXTENSION STH 190 – CTH K

COMMUNITY ADVISORY COMMITTEE INTRODUCTORY MEETING
OCTOBER 16, 2006
4:00 PM - 6:00 PM

FACILITATOR: Michael N. Goodkind, PE, SE

AGENDA

1.	INTRODUCTION	4:00 - 4:15
2.	TRAFFIC	4:15 - 4:35
3.	GEOTECHNICAL INVESTIGATION	4:35 - 4:50

BREAK

4.	ENVIRONMENTAL IMPACTS	5:00 - 5:10
5.	ALTERNATIVE EVALUATION	5:10 - 5:50
6.	MEETING WRAP-UP	5:50 - 6:00

FEASIBILITY STUDIES
WAUKESHA COUNTY
CTH K/CN GRADE SEPARATION
CTH SR EXTENSION – STH 190 TO CTH K

Date: October 16, 2006
Time: 4:00 p.m. – 6:00 p.m.
Place: Spring Creek Church
Attendees: See Attached Sign-In Sheet

A. INTRODUCTION

Participants

- Self introductions were made around the table

B. TRAFFIC

Mukesh Tain of K. Singh & Associates reported on the preliminary findings of the Traffic Engineering Study.

- As requested, a copy of the preliminary traffic findings have been included with the meeting minutes
- Reference was made during the presentation to the Southeastern Wisconsin Regional Planning Commission (SEWRPC) 2035 traffic projections and recommendations for existing CTH SR as well as some of the surrounding roadway facilities.
  - CTH SR south of STH 190 projected to become a 4-lane facility
  - STH 190 between Brookfield Road and STH 74 projected to become a 6-lane facility
  - A copy of the SEWRPC recommendations has been included with the meeting minutes.
- The Traffic Engineering Study is expected to be wrapped up and a final report developed late October, 2006.

C. GEOTECHNICAL INVESTIGATION

Robert Reineke of K. Singh & Associates reported on the preliminary findings of the Geotechnical Investigation.

- For the CTH K portion of the study, two (2) structural borings were performed to a depth of 30' below the ground and four (4) exploratory borings were performed approximately 10' below the existing ground.
- Limestone bedrock was encountered at approximately 11.5' below the ground surface. The bedrock appears to be broken up and of poor quality up to a depth of 15' below the ground surface. Any excavation exceeding 15' will require removal of good to excellent bedrock.

- Blasting may be required to remove the bedrock which is located > 15' below the existing ground elevation.
- At the current time, no borings have been performed for the CTH SR extension portion of the project.
- According to the project schedule, in an attempt to optimize the location of the soil borings for the CTH SR portion of the project, the borings will not be performed until the alignment alternatives have been further developed.

D. CONCEPTS – CTH SR

Joe Neal of Alfred Benesch & Company discussed the horizontal alignment concepts which have been developed for the proposed extension of CTH SR. The proposed typical section calls for a proposed ROW width of 130' (65' either side of centerline). In looking at the various concepts, the impacts (wetlands, flood plain, etc.) were evaluated in the entire 130' wide envelop. Below is a brief summary:

Concept #1

- Under Concept #1, the proposed CTH SR centerline would be the section line.

Concept #2

- Under Concept #2, the section line would be the easterly ROW line of the proposed CTH SR extension.

Concept #3

- Under Concept #3, the section line would be the westerly ROW line of the proposed CTH SR extension.

Concept #4

- Under Concept #4, the proposed CTH SR centerline would follow the existing ground high points. Concept #4 attempts to keep the proposed CTH SR as much as possible out of the floodplain.

Concept #5

- Under Concept #5, the proposed CTH SR centerline would go as far west as possible without impacting any additional wetlands. Concept #5 would maximize the distance between the proposed roadway and the Capital Drive Airport.

After a brief overview of the five (5) proposed concepts, the floor was opened up to questions. Dale Pfeiffle from the USACOE had a few concerns, those concerns and responses to his concerns are;

- All of the current concepts involve impacting some portion of wetland. A Sixth concept should be examined which would attempt to snake through the area avoiding impacts to all the wetlands. Benesch will go ahead and take a look to see if an alignment could be created that would eliminate or greatly minimize the impacts to the wetlands.
- Are sidewalks necessary? Not necessarily, however the cross section would not change except for the removal of the sidewalk.
- Are four-lanes required? Based on the SEWRPC traffic projections and recommendations, four lanes will be required.

E. ALTERNATIVES – CTH K

Joe Neal of Alfred Benesch & Company discussed the alignment concepts and alternatives which have been developed for the proposed grade separation of CTH K and the Canadian National Railroad track. Two concepts have been developed:

Concept #1

- Proposed CTH K over the Canadian National Railroad track

Concept #2

- Proposed CTH K under the Canadian National Railroad track

The existing vertical profile of the CN mainline track at the CTH K crossing is a 1% incline to the north. 1% is typically the maximum allowable grade on a mainline railroad track. Any changes to the existing vertical alignment of the railroad track would result in significant impacts along the railroad corridor due to the length required to catch back up to the existing profile without exceeding a 1% grade. As a result, it was determined that the elevation of the railroad could not change.

The slope intercept lines which appear on the exhibits assume that no retaining wall or bridge structure is used. The slope intercept line is strictly the area impacted by either the fill or excavation required to accommodate the proposed typical section and vertical alignment.

Looking at the two concepts, in both cases there is a significant elevation difference between the proposed CTH K roadway and existing Duplainville Road. Also presented were some alternatives for how to tie the two roadways together. Listed below are those alternatives.

Alternative #1

- Cul de sac Duplainville Road and eliminate access to CTH K.
- This alternative would eliminate the existing connection Duplainville Road has with CTH K today. Traffic would utilize other existing roadways in order to get to CTH K.

Alternative #2

- Maintain the existing connection to CTH K with improved horizontal geometrics.
- This would most likely be accomplished through the use of retaining walls.
- This would create either an elevated or lowered intersection with CTH K similar to what is existing today.

Alternative #3

- "Jug Handle"
- Duplainville Road would either go over or under CTH K and circle to the west in order to match the proposed CTH K profile.

Alternative #4

- Route Duplainville Road towards the west away from the CTH K and Canadian National Railroad grade separation structure and close the existing Quarry Corners Parkway access.
- This alternative would combine the Quarry Corners Parkway and Duplainville Road access into a single access point to CTH K.
- This would move the existing Quarry Corners Parkway access further east and provide additional distance from the STH 74 intersection.

Alternative #5

- Similar to Alternative #4 route Duplainville Road to the west away from the CTH K and Canadian National Railroad grade separation structure but utilize the existing Quarry Corners Parkway access to CTH K.

Alternative #6

- Close the existing Duplainville Road and CTH K access and route Duplainville Road to Quarry Corners Parkway.

After a brief overview of the CTH K and Duplainville Road alternatives, the floor was again opened up to questions. Under the alternatives for Duplainville Road, it was mentioned that a portion of Alternative #6 is already being constructed. The alignment which is labeled 6B is already being constructed by the Business Park as a way to access Quarry Corners Parkway from Duplainville Road. Benesch will investigate further.

F. MEETING WRAP-UP

The next project meeting will be the Public Informational meeting which is scheduled for November 15, 2006 at Spring Creek Church. The next CAC meeting is scheduled for January 18, 2007 at Spring Creek Church.

Appendix B - Meeting Attendance

CTH SR (Springdale Road) – STH 190 CTH K and
CTH K (Lisbon Road) – Canadian Northern Railroad Grade Separation
Feasibility Study
Waukesha County

Community Advisory Committee Meeting – October 16, 2006
Attendance

Name	Affiliation	Address	Phone No.
Michael Goodkind	Alfred Benesch & Company	4633 Washington Road Kenosha, WI 53144	262-652-6677
Dan Rivers	Alfred Benesch & Company	4633 Washington Road Kenosha, WI 53144	262-652-6677
Mike Kunz	Alfred Benesch & Company	4633 Washington Road Kenosha, WI 53144	262-652-6677
Joe Neal	Alfred Benesch & Company	4633 Washington Road Kenosha, WI 53144	262-652-6677
Steven M. Popek	Town of Brookfield	21265 Weyer Road Pewaukee, WI 53072	262-783-5107
Russ Evans	Waukesha	S19 W29051 Cambria Road Waukesha, WI 53188	
Dan Ertl	City of Brookfield	200 N. Calhoun Road Brookfield, WI 53005	262-787-3509
George Evert	Redeemer United Church of Christ	W220 N4915 Town Line Road Sussex, WI 53089	262-246-6710
Bob Larson	Spring Creek Church	N35 W22000 Capitol Drive Pewaukee, WI 53072	262-695-2211
Matt Byrne	Capitol Airport	21500 Gumina Road Pewaukee, WI 53072	414-406-3119
Rachel Sabre	WI DNR	2300 N. Dr. Martin Luther King Drive Milwaukee, WI 53212	414-263-8601
Frank Gebauer	Village of Menomonee Falls	W156 N8480 Pilgrim Road Menomonee Falls, WI 53051	262-532-4408
Mukesh Tain	K. Sing & Associates, Inc.	1135 Legion Drive Elm Grove, WI 53122	262-821-1171

CTH SR (Springdale Road) – STH 190 CTH K and
CTH K (Lisbon Road) – Canadian Northern Railroad Grade Separation
Feasibility Study
Waukesha County

Community Advisory Committee Meeting – October 16, 2006
Attendance

Name	Affiliation	Address	Phone No.
Robert Reineke	K. Sing & Associates, Inc.	1135 Legion Drive Elm Grove, WI 53122	262-821-1171
Pratap Singh	K. Sing & Associates, Inc.	1135 Legion Drive Elm Grove, WI 53122	262-821-1171
Dale Pfeiffle	US Army Corps of Engineers	1617 East Racine Avenue Waukesha, WI 53186	262-547-0868
Gary Evans	Waukesha Dept. of Public Works	1320 Pewaukee Road Waukesha, WI 53188	262-548-7740
Bill Cassidy	Taylor Woods Subdivision	Menomonee Falls, WI	262-252-4936
Steve Girard	Capitol Airport	21500 Gumina Road Pewaukee, WI 53072	262-391-0343

CTH K (Lisbon Road) & CN Railroad Crossing Grade Separation Feasibility Study

Welcome to the public informational meeting being held tonight for the feasibility study of a railroad-roadway grade separation of CTH K (Lisbon Road) & the Canadian National (CN) Railroad crossing. Tonight's meeting is being hosted by Waukesha County and Alfred Benesch & Company (Design Consultants).

Purpose of the Feasibility Study

The purpose of this study is to determine the feasibility of grade separating CTH K (Lisbon Road) and the CN railroad track in order to eliminate the existing at-grade crossing.

According to current traffic counts, CTH K (Lisbon Road) has an Average Daily Traffic Count (ADT) of 13,500 vehicles. The Canadian National currently runs an average of 30 trains per day through the CTH K (Lisbon Road) roadway crossing. The existing exposure factor for the existing CTH K (Lisbon Road) and CN Railroad grade crossing is 405,000.

According to the Wisconsin Department of Transportations Facilities Development Manual, in an urban setting a grade separation structure should be considered anytime the exposure factor exceeds 100,000. The exposure factor equals the product of the number of trains per day and the number of highway vehicles per day, which yields a numerical value for the potential conflicts each day at the crossing.

Purpose of the Meeting

The purpose of this meeting is to present to the public the preliminary design concepts & alternatives that have been developed as possible ways by which CTH K (Lisbon Road) and the CN Railroad crossing could be grade separated and the impacts associated with each. This is a chance for the citizens of Waukesha County to get an understanding of the project, view exhibits of the various alternatives, ask questions, and provide input into the project.

Project Information

In looking at possible ways to grade separate CTH K (Lisbon Road) & the CN railroad crossing, the following concepts and alternatives have been developed:

Proposed CTH K (Lisbon Road) Alignment Alternatives:

Alternative #1 → CTH K (Lisbon Road) over the CN Railroad track

Alternative #2 → CTH K (Lisbon Road) under the CN Railroad track

Due to the close proximity of Duplainville Road to the CTH K (Lisbon Road) and CN Railroad track crossing, any modification to the existing grade crossing will impact the existing CTH K (Lisbon Road) and Duplainville Road intersection. The following alternatives have been developed which look at how to deal with the Duplainville Road intersection:

Proposed Duplainville Road Alignment Alternatives:

Alternative #1 → Close the existing CTH K (Lisbon Road) access and cul-de-sac existing Duplainville Road

Alternative #2 → Maintain the existing CTH K (Lisbon Road) & Duplainville Road connection with improved horizontal geometrics

Alternative #3 → "Jug Handle"

Alternative #4 → Relocate the existing CTH K (Lisbon Road) & Duplainville Road connection further west away from the CTH K (Lisbon Road) & CN Railroad grade separation structure and close the existing Quarry Corners Parkway access to CTH K (Lisbon Road)

Alternative #5 → Relocate the existing CTH K (Lisbon Road) & Duplainville Road connection further west away from the CTH K (Lisbon Road) & CN Railroad grade separation structure and utilize the existing Quarry Corners Parkway access to CTH K (Lisbon Road)

Alternative #6 → Close the existing CTH K (Lisbon Road) access, cul-de-sac Duplainville Road and route Duplainville Road to Quarry Corners Parkway

Next Steps

The project team will consider all public comments received in determining if an alternative(s) is feasible to advance to preliminary engineering and the determination of environmental impacts.

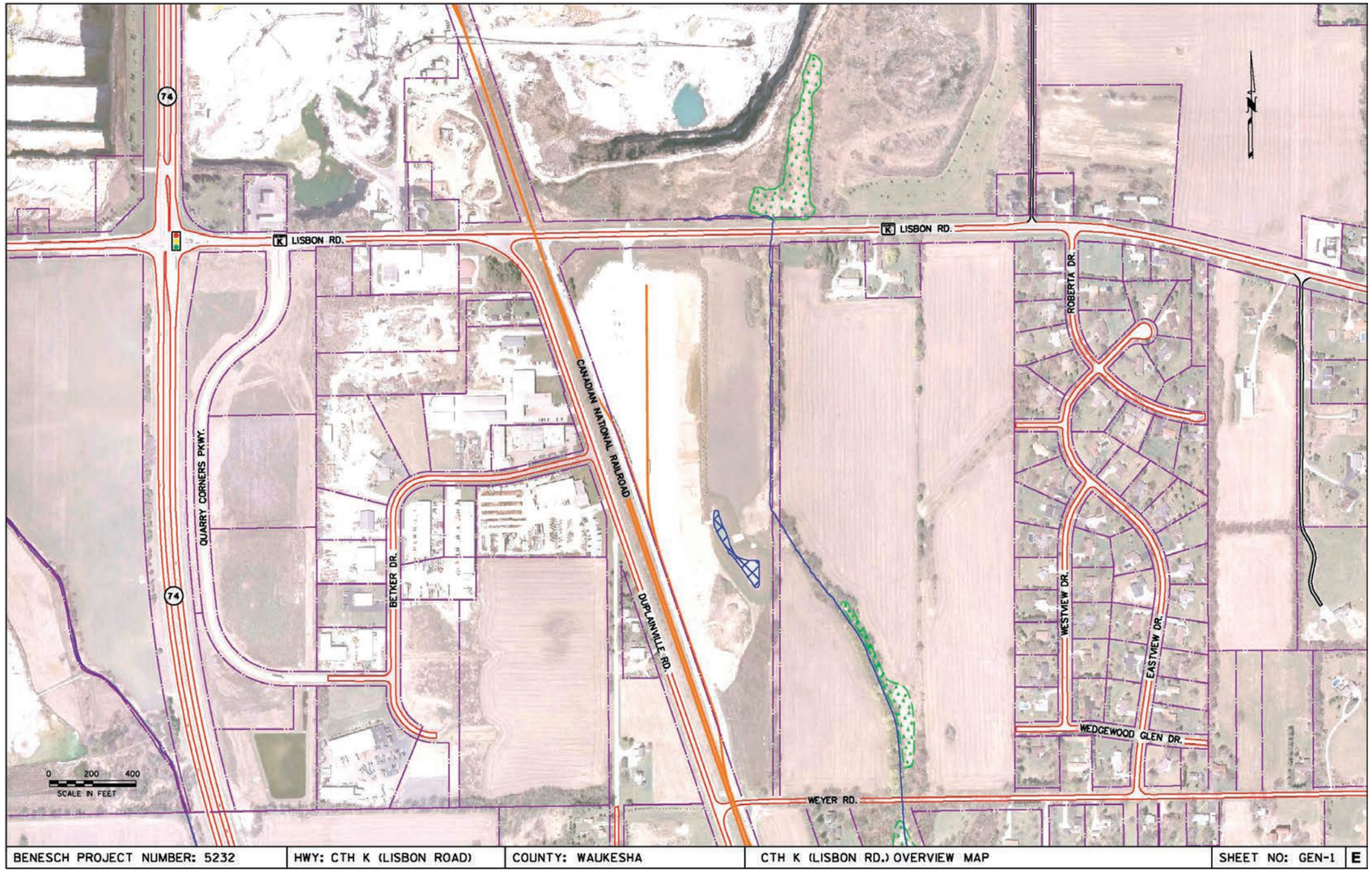
Public Comments

We encourage you to talk to our engineers and ask them any questions you may have. Attached to this handout is a sheet for your written comments and concerns about this project. Please use this to write down your comments and either mail it so it arrives at our office by December 12, 2006, or simply leave it at the entry table tonight as you leave.

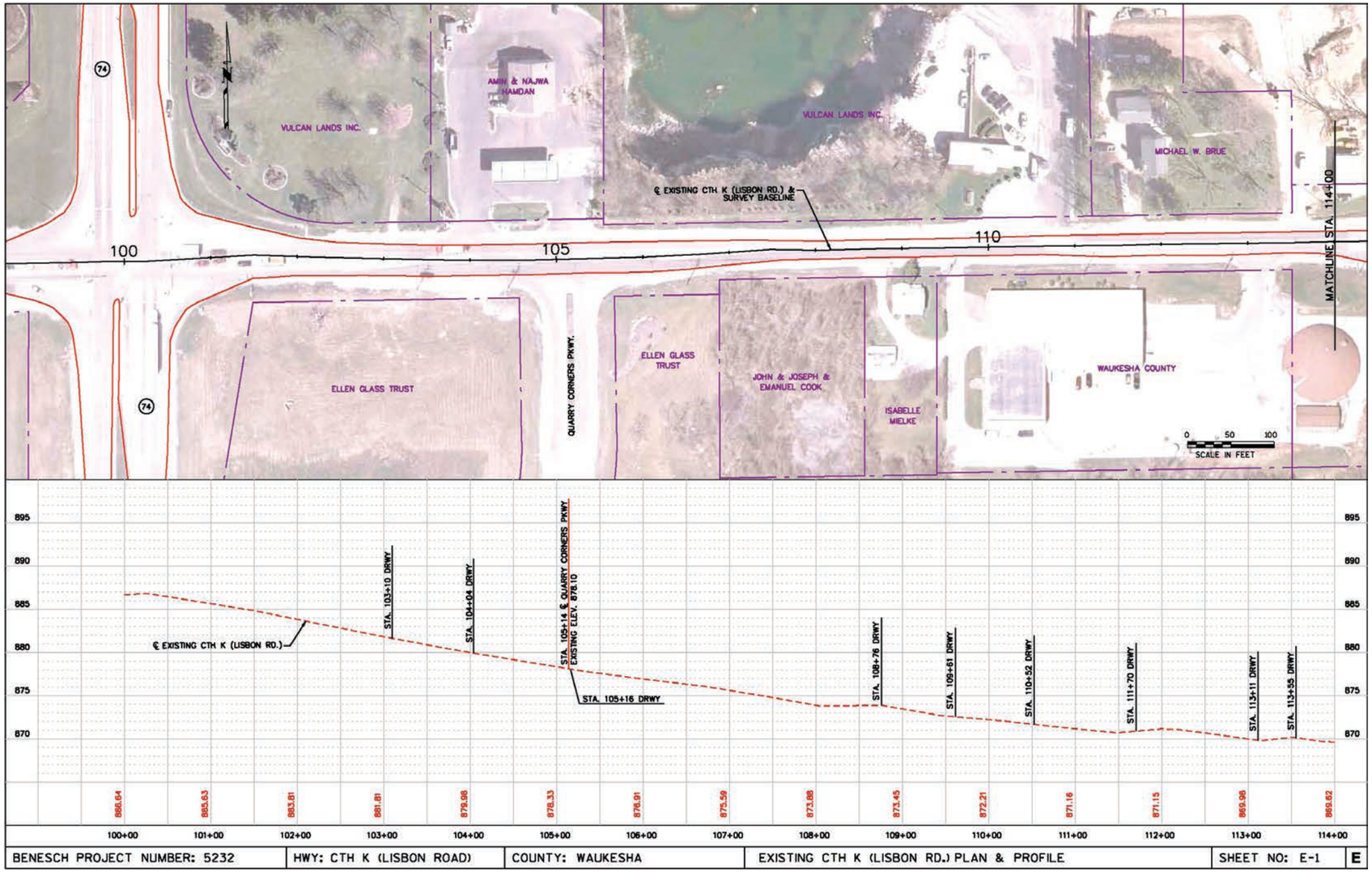
For more information, please contact:

Joseph P. Neal, P.E.
Alfred Benesch & Company
4633 Washington Road
Kenosha, WI 53144
(262) 652-6677
jneal@benesch.com

Edward A. Hinrichs, P.E.
Waukesha County Department of Public Works
1320 Pewaukee Road
Waukesha, WI 53188
(262) 548-7740
ehinrichs@waukeshacounty.gov



Appendix C - Display Boards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VULCAN LANDS INC.
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JOHN & JOSEPH & EMANUEL COOK
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STA. 105+14 ℄ QUARRY CORNERS PKWY. EXISTING ELEV. 878.10
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STA. 108+76 DRWY
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STA. 110+52 DRWY
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COUNTY: WAUKESHA
EXISTING CTH K (LISBON RD.) PLAN & PROFILE
SHEET NO: E-1
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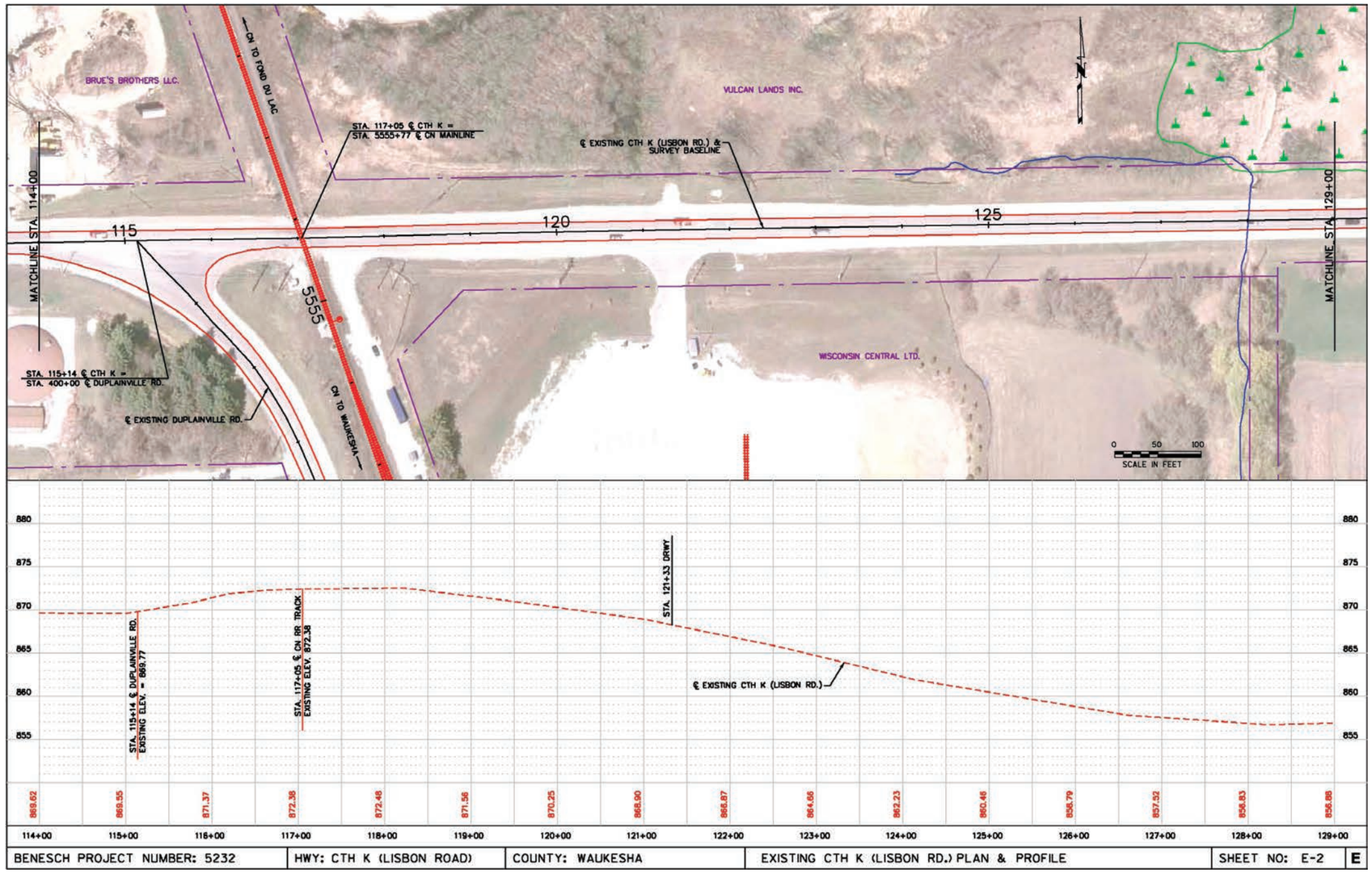
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STA. 117+05 ℄ CN RR TRACK
EXISTING ELEV. 872.38
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COUNTY: WAUKESHA
EXISTING CTH K (LISBON RD.) PLAN & PROFILE
SHEET NO: E-2
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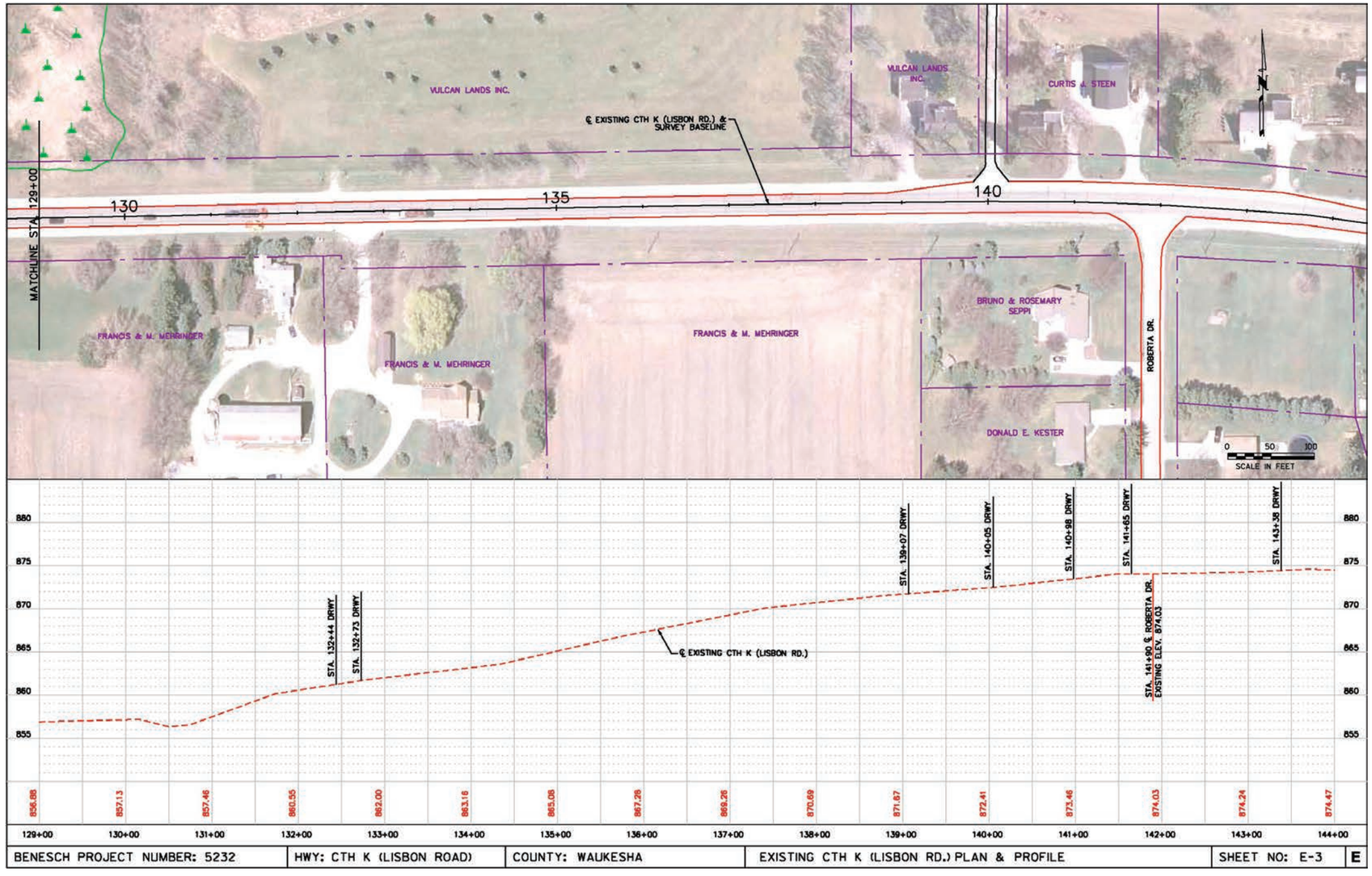
VULCAN LANDS INC.
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VULCAN LANDS INC.
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COUNTY: WAUKESHA
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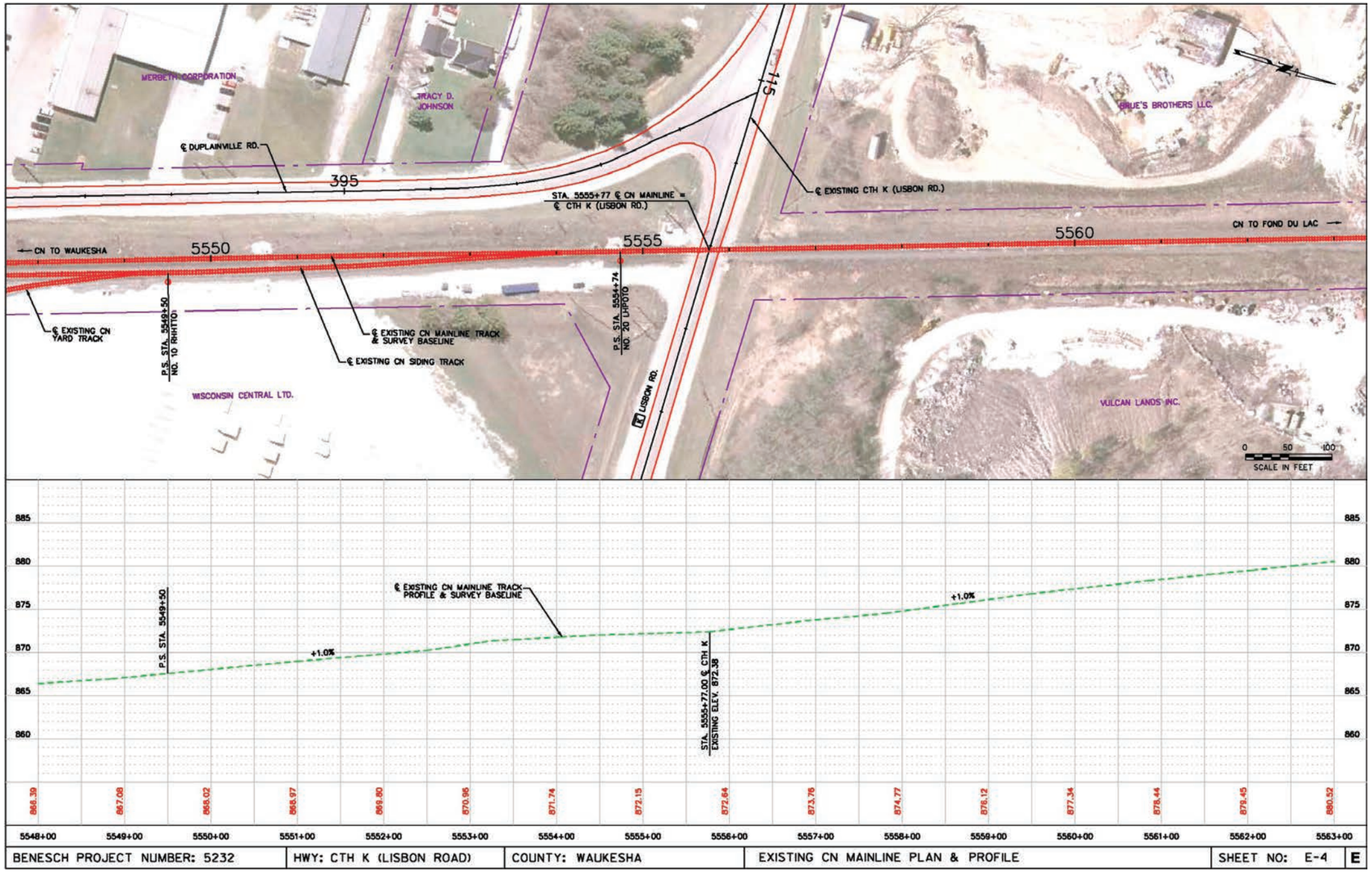
MERGETH CORPORATION
TRACY D. JOHNSON
BRUE'S BROTHERS LLC.
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395
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℄ EXISTING CN MAINLINE TRACK & SURVEY BASELINE
℄ EXISTING CN SIDING TRACK
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COUNTY: WAUKESHA
EXISTING CN MAINLINE PLAN & PROFILE
SHEET NO: E-4
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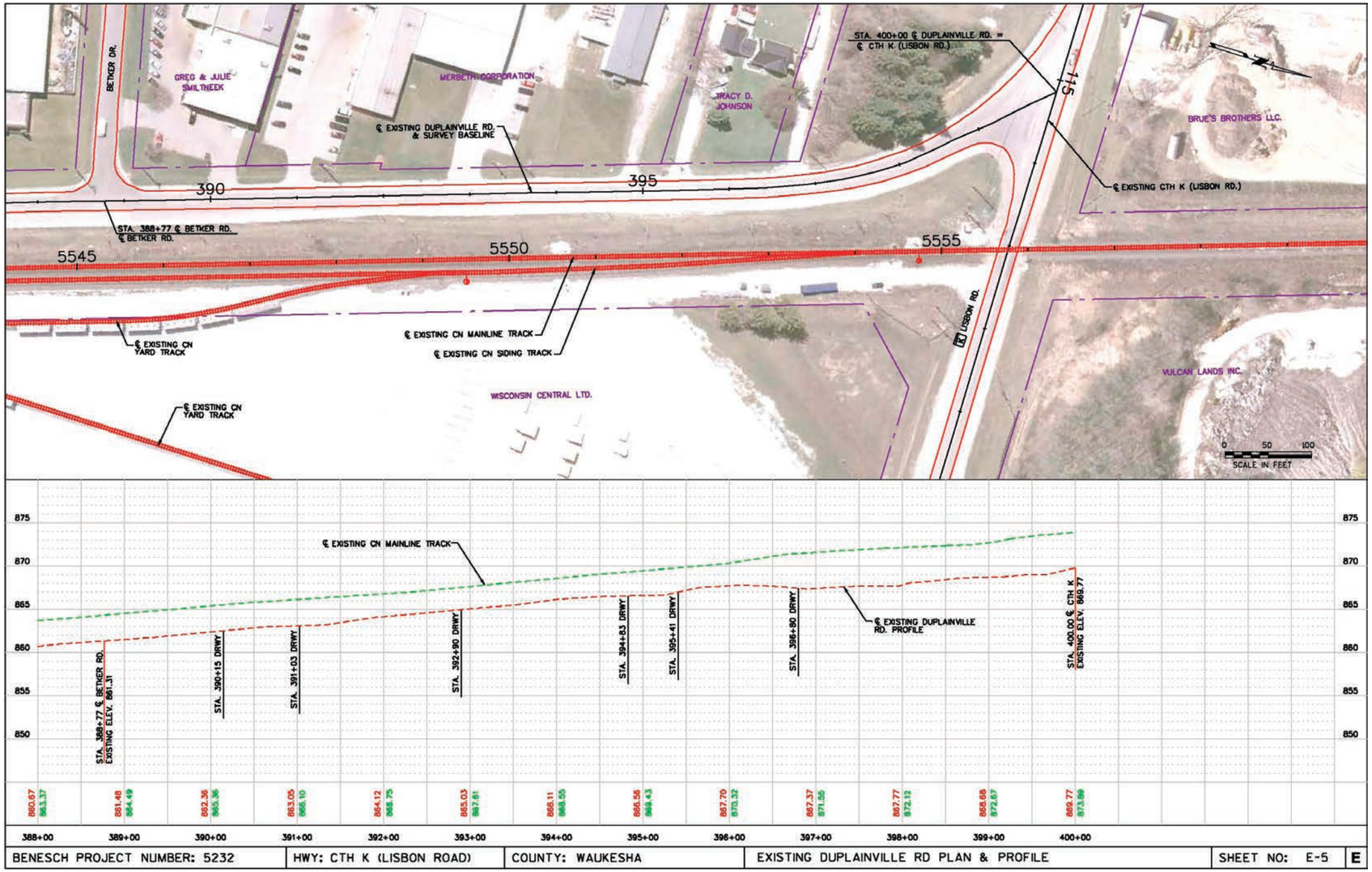
BETKER DR.
GREG & JULIE SMILTNEEK
MERBETH CORPORATION
TRACY D. JOHNSON
BRUE'S BROTHERS LLC.
VULCAN LANDS INC.
WISCONSIN CENTRAL LTD.
℄ EXISTING DUPLAINVILLE RD. & SURVEY BASELINE
STA. 400+00 ℄ DUPLAINVILLE RD. = ℄ CTH K (LISBON RD.)
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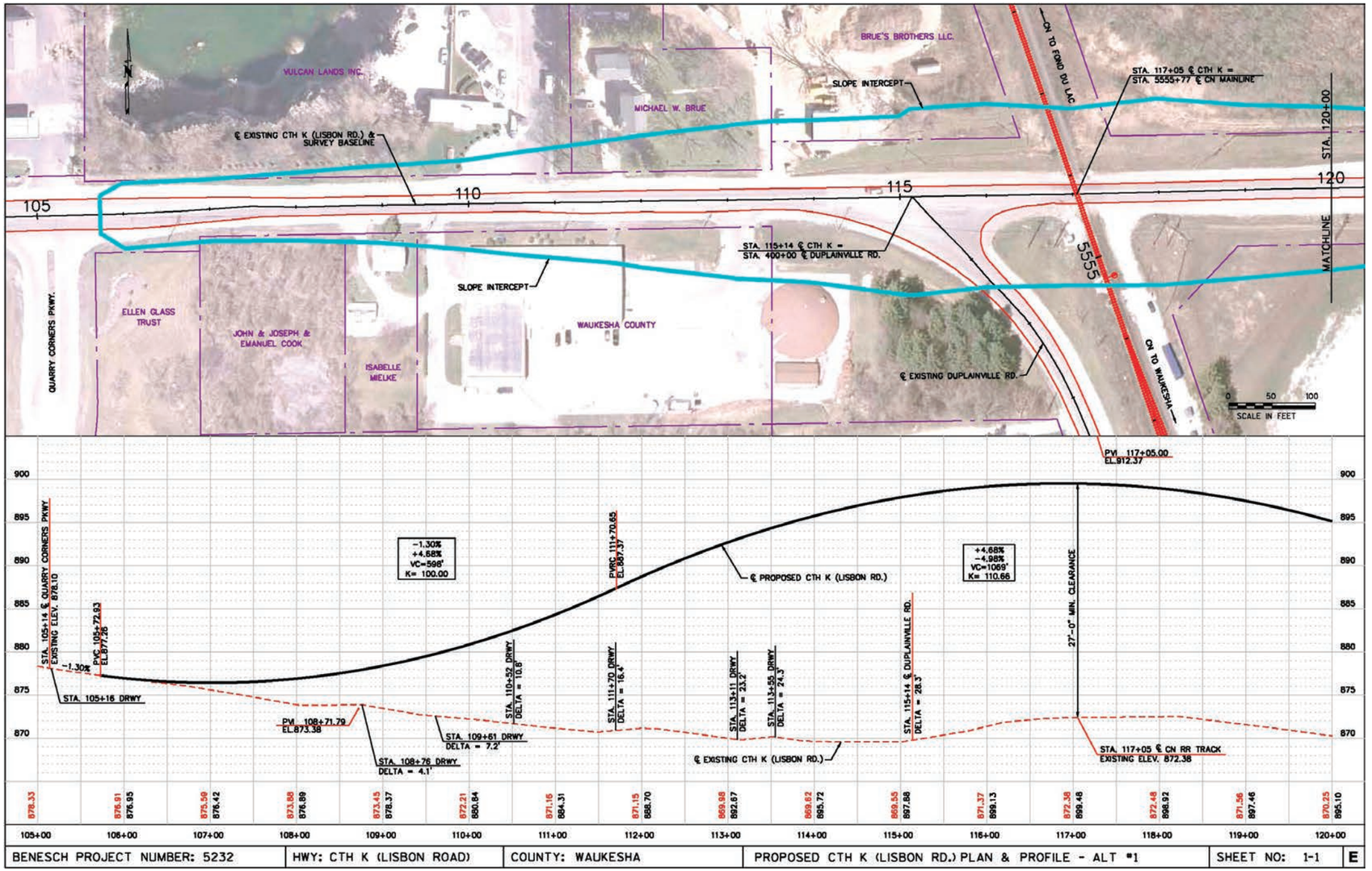
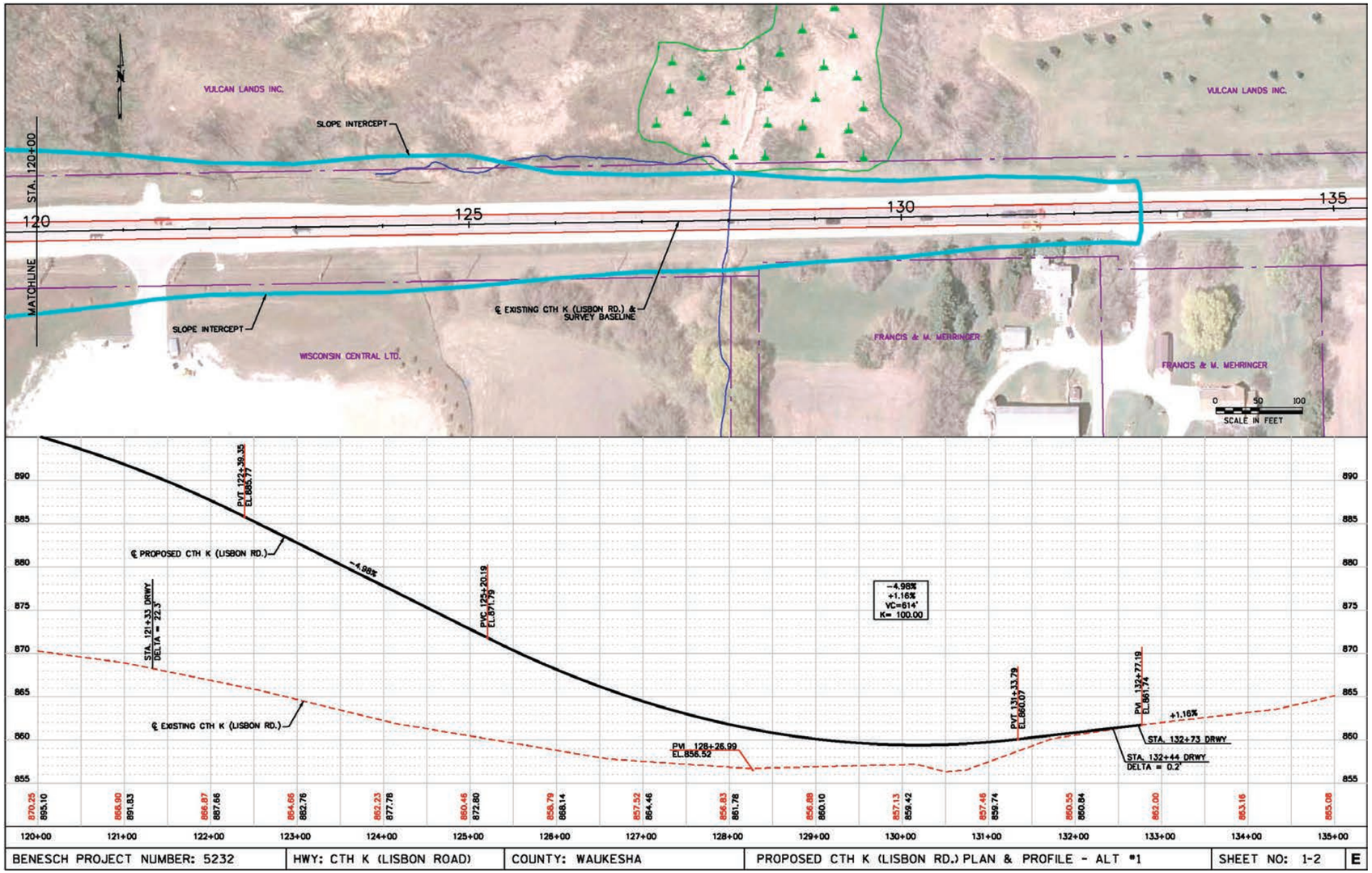
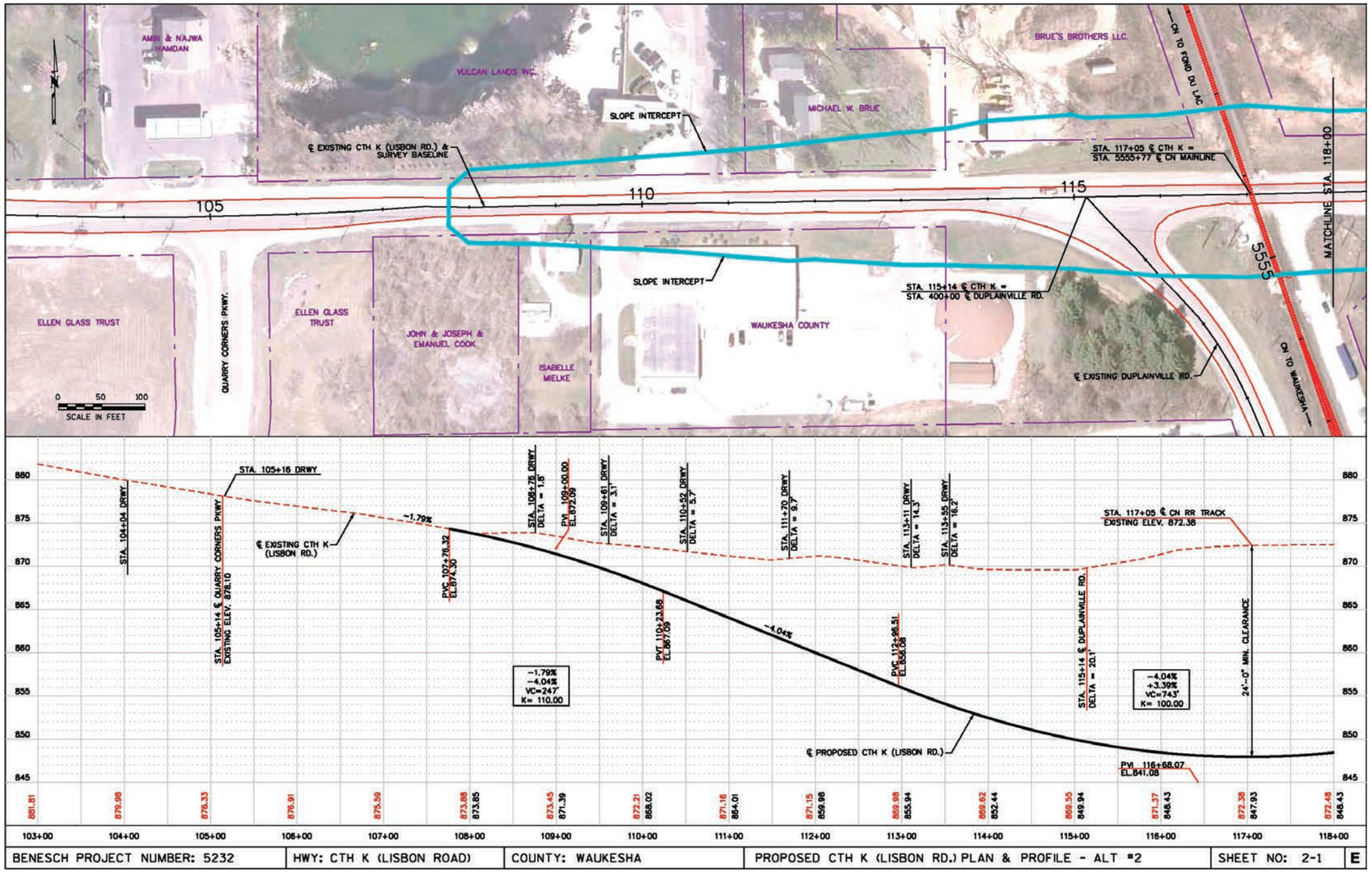
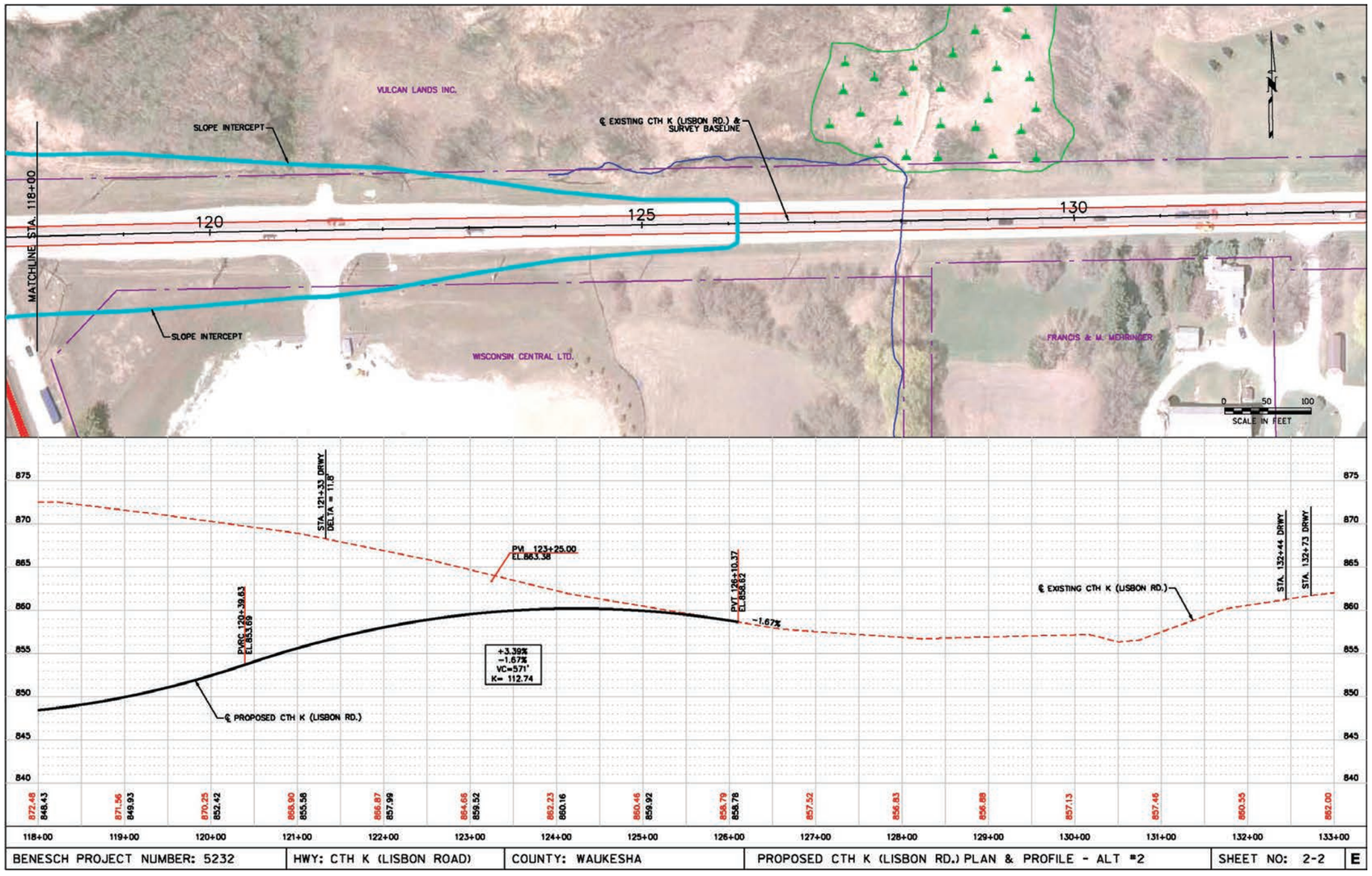
0 50 100
SCALE IN FEET
℄ EXISTING CN MAINLINE TRACK
STA. 388+77 ℄ BETKER RD. EXISTING ELEV. 861.31
STA. 390+15 DRWY
STA. 391+03 DRWY
STA. 392+90 DRWY
STA. 394+83 DRWY
STA. 395+41 DRWY
STA. 398+80 DRWY
℄ EXISTING DUPLAINVILLE RD. PROFILE
STA. 400.00 ℄ CTH K EXISTING ELEV. 869.77
875
870
865
860
855
850
860.67 863.37
861.48 864.49
862.36 865.36
863.05 866.10
864.12 868.75
865.03 867.61
866.11 868.55
866.56 868.43
867.70 870.32
867.37 871.55
867.77 872.12
868.68 872.67
869.77 873.99
388+00
389+00
390+00
391+00
392+00
393+00
394+00
395+00
396+00
397+00
398+00
399+00
400+00
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
EXISTING DUPLAINVILLE RD PLAN & PROFILE
SHEET NO: E-5
E

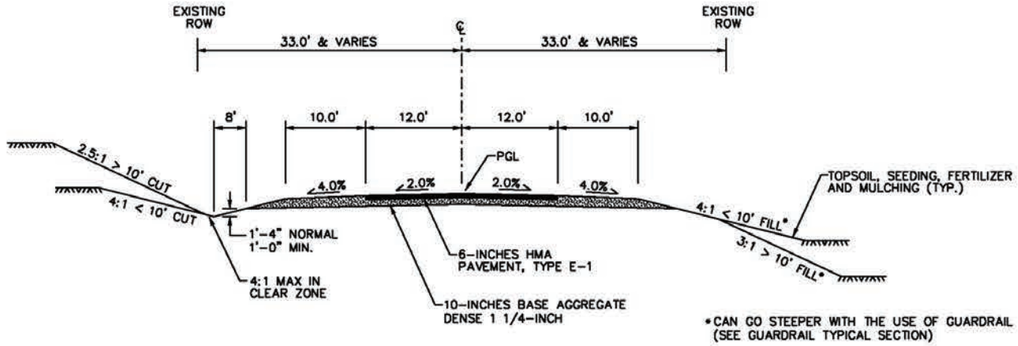

VULCAN LANDS INC.
BRUE'S BROTHERS LLC.
MICHAEL W. BRUE
ELLEN GLASS TRUST
JOHN & JOSEPH & EMANUEL COOK
ISABELLE MIELKE
WAUKESHA COUNTY
QUARRY CORNERS PKWY.
℄ EXISTING CTH K (LISBON RD.) & SURVEY BASELINE
SLOPE INTERCEPT
SLOPE INTERCEPT
STA. 117+05 ℄ CTH K = STA. 5555+77 ℄ CN MAINLINE
STA. 115+14 ℄ CTH K = STA. 400+00 ℄ DUPLAINVILLE RD.
℄ EXISTING DUPLAINVILLE RD.
CN TO FOND DU LAC
CN TO WAUKESHA
5555
STA. 120+00
MATCHLINE
105
110
115
120
0 50 100
SCALE IN FEET
PVI 117+05.00
EL.912.37
900
895
890
885
880
875
870
STA. 105+14 ℄ QUARRY CORNERS PKWY EXISTING ELEV. 878.10
-1.30%
PVC 105+72.63
EL.877.28
STA. 105+16 DRWY
-1.30%
+4.88%
VC=598'
K= 100.00
PVI 108+71.79
EL.873.38
STA. 108+76 DRWY
DELTA = 4.1'
STA. 109+61 DRWY
DELTA = 7.2'
STA. 110+52 DRWY
DELTA = 10.8'
PVRC 111+70.65
EL.887.37
STA. 111+70 DRWY
DELTA = 16.4'
STA. 113+11 DRWY
DELTA = 23.2'
STA. 113+55 DRWY
DELTA = 24.3'
℄ PROPOSED CTH K (LISBON RD.)
℄ EXISTING CTH K (LISBON RD.)
STA. 115+14 ℄ DUPLAINVILLE RD.
DELTA = 28.3'
+4.68%
-4.98%
VC=1069'
K= 110.66
27'-0" MIN. CLEARANCE
STA. 117+05 ℄ CN RR TRACK
EXISTING ELEV. 872.38
878.33
876.91 876.95
875.59 876.42
873.88 876.89
873.45 878.37
872.21 880.84
871.16 884.31
871.15 888.70
869.98 892.67
869.82 895.72
869.55 897.88
871.37 899.13
872.38 899.48
872.48 898.92
871.56 897.46
870.25 895.10
105+00
106+00
107+00
108+00
109+00
110+00
111+00
112+00
113+00
114+00
115+00
116+00
117+00
118+00
119+00
120+00
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
PROPOSED CTH K (LISBON RD.) PLAN & PROFILE - ALT #1
SHEET NO: 1-1
E


VULCAN LANDS INC.
SLOPE INTERCEPT
STA. 120+00
MATCHLINE
120
125
130
135
VULCAN LANDS INC.
℄ EXISTING CTH K (LISBON RD.) & SURVEY BASELINE
SLOPE INTERCEPT
WISCONSIN CENTRAL LTD.
FRANCIS & M. MEHRINGER
FRANCIS & M. MEHRINGER
0 50 100
SCALE IN FEET
PVT 122+39.35
EL.885.77
℄ PROPOSED CTH K (USBON RD.)
-4.98%
STA. 121+33 DRWY
DELTA = 22.3'
PVC 125+20.19
EL.871.79
-4.98%
+1.16%
VC=614'
K= 100.00
PVT 131+33.79
EL.860.07
PVI 132+77.19
EL.861.74
+1.16%
STA. 132+73 DRWY
STA. 132+44 DRWY
DELTA = 0.2'
℄ EXISTING CTH K (LISBON RD.)
PVI 128+26.99
EL.856.52
890
885
880
875
870
865
860
855
870.25 895.10
856.90 891.83
856.87 887.66
864.66 882.76
862.23 877.78
860.46 872.80
858.79 868.14
857.32 864.46
856.83 861.78
856.88 860.10
857.13 859.42
857.46 859.74
860.35 860.84
862.00
863.16
865.08
120+00
121+00
122+00
123+00
124+00
125+00
126+00
127+00
128+00
129+00
130+00
131+00
132+00
133+00
134+00
135+00
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
PROPOSED CTH K (LISBON RD.) PLAN & PROFILE - ALT #1
SHEET NO: 1-2
E

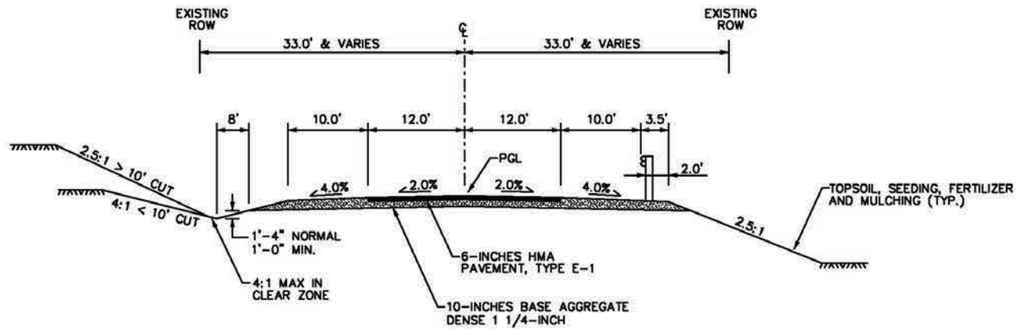

AMIN & NAJWA HAMDAN
VULCAN LANDS INC.
MICHAEL W. BRUE
BRUE'S BROTHERS LLC.
CN TO FOND DU LAC
SLOPE INTERCEPT
℄ EXISTING CTH K (LISBON RD.) & SURVEY BASELINE
STA. 117+05 ℄ CTH K = STA. 5555+77 ℄ CN MAINLINE
105
110
115
5555
MATCHLINE STA. 118+00
SLOPE INTERCEPT
STA. 115+14 ℄ CTH K = STA. 400+00 ℄ DUPLAINVILLE RD.
ELLEN GLASS TRUST
QUARRY CORNERS PKWY.
ELLEN GLASS TRUST
JOHN & JOSEPH & EMANUEL COOK
ISABELLE MIELKE
WAUKESHA COUNTY
℄ EXISTING DUPLAINVILLE RD.
CN TO WAUKESHA
0 50 100
SCALE IN FEET
STA. 105+16 DRWY
STA. 104+04 DRWY
STA. 105+14 ℄ QUARRY CORNERS PKWY. EXISTING ELEV. 878.10
℄ EXISTING CTH K (LISBON RD.)
-1.79%
PVC 107+78.32 EL.874.30
STA. 108+75 DRWY DELTA = 1.8
PVI 109+00.00 EL.872.09
STA. 109+61 DRWY DELTA = 3.1
STA. 110+52 DRWY DELTA = 5.7
STA. 111+20 DRWY DELTA = 9.7
STA. 113+11 DRWY DELTA = 14.3
STA. 113+55 DRWY DELTA = 16.2
STA. 117+05 ℄ CN RR TRACK EXISTING ELEV. 872.38
-1.79%
-4.04%
VC=247'
K= 110.00
PVT 110+23.68 EL.867.09
-4.04%
PVC 112+96.51 EL.858.08
STA. 115+14 ℄ DUPLAINVILLE RD. DELTA = 20.1
-4.04%
+3.39%
VC=743'
K= 100.00
24'-0" MIN. CLEARANCE
℄ PROPOSED CTH K (LISBON RD.)
PVI 116+68.07 EL.841.08
880
875
870
865
860
855
850
845
881.81
879.98
878.33
876.91
875.59
873.88
873.85
873.45
871.39
872.21
868.02
871.16
864.01
871.15
859.98
859.98
855.94
869.62
852.44
869.55
849.94
871.37
848.43
872.38
847.93
872.48
848.43
103+00
104+00
105+00
106+00
107+00
108+00
109+00
110+00
111+00
112+00
113+00
114+00
115+00
116+00
117+00
118+00
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
PROPOSED CTH K (LISBON RD.) PLAN & PROFILE - ALT #2
SHEET NO: 2-1
E


VULCAN LANDS INC.
SLOPE INTERCEPT
℄ EXISTING CTH K (LISBON RD.) & SURVEY BASELINE
MATCHLINE STA. 118+00
120
125
130
SLOPE INTERCEPT
WISCONSIN CENTRAL LTD.
FRANCIS & M. MERRINGER
0 50 100
SCALE IN FEET
875
870
865
860
855
850
845
840
STA. 121+33 DRWY
DELTA = 11.8°
PVI 123+25.00
EL.863.38
PVC 120+39.63
EL.853.69
PVT 126+10.37
EL.856.62
+3.39%
-1.67%
VC=571'
K= 112.74
-1.67%
℄ PROPOSED CTH K (LISBON RD.)
℄ EXISTING CTH K (LISBON RD.)
STA. 132+44 DRWY
STA. 132+73 DRWY
872.48 848.43
871.56 849.93
870.25 852.42
868.90 855.58
866.87 857.99
864.66 859.52
862.23 860.16
860.46 859.92
858.79 858.78
857.52
856.83
856.88
857.13
857.46
860.35
862.00
118+00
119+00
120+00
121+00
122+00
123+00
124+00
125+00
126+00
127+00
128+00
129+00
130+00
131+00
132+00
133+00
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
PROPOSED CTH K (LISBON RD.) PLAN & PROFILE - ALT #2
SHEET NO: 2-2
E

TYPICAL SECTIONS

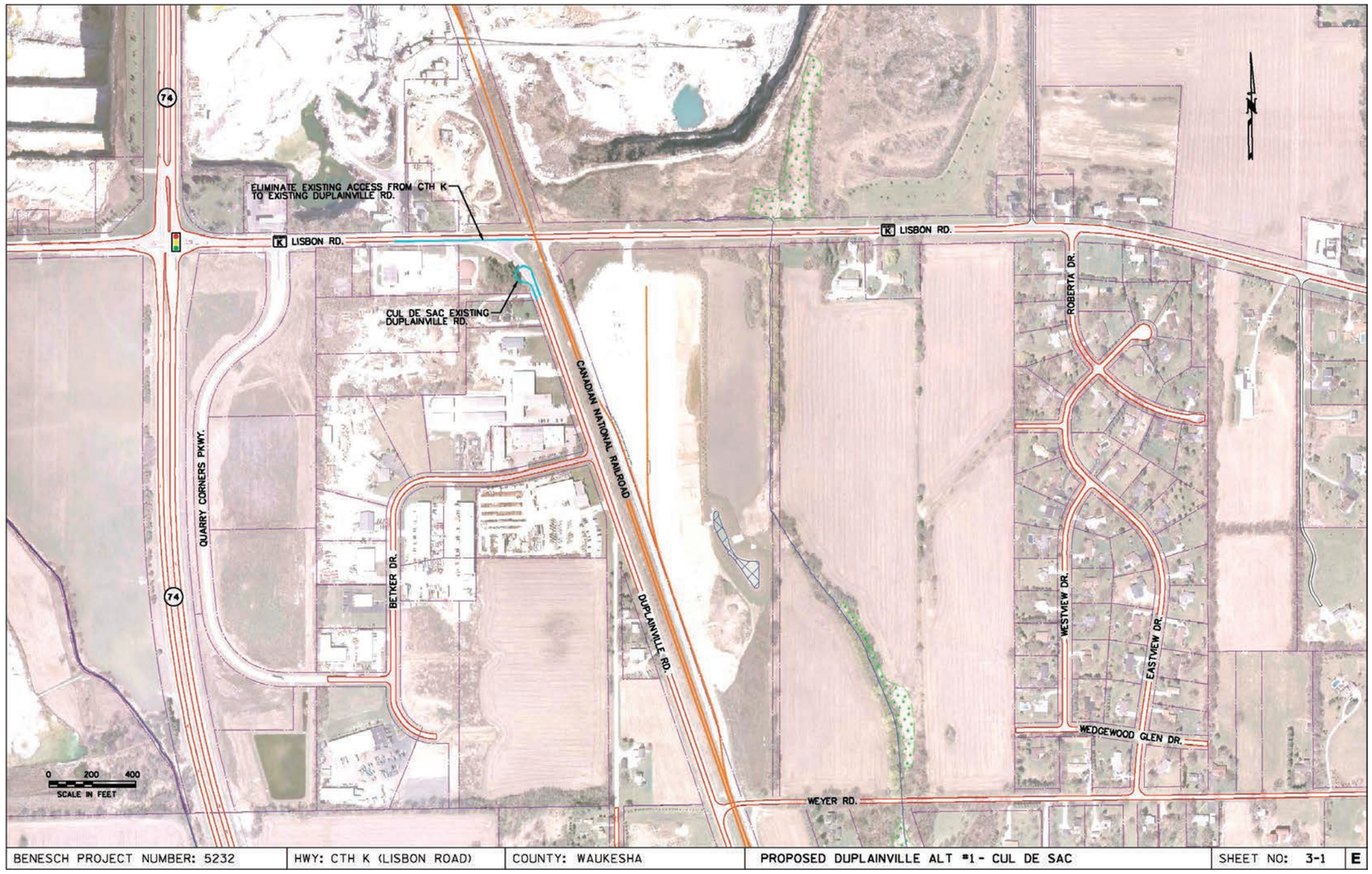


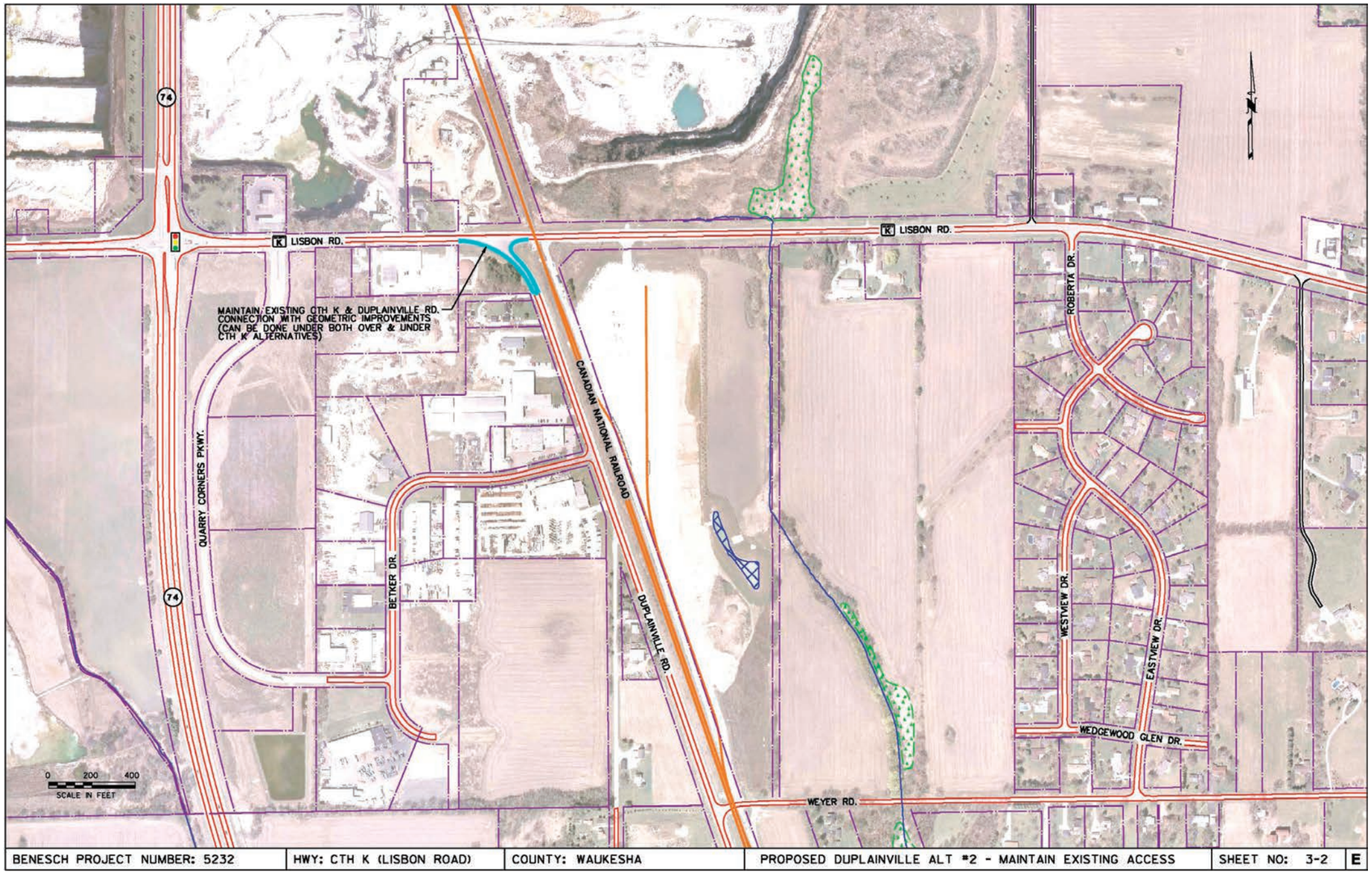
CTH K – RURAL SECTION

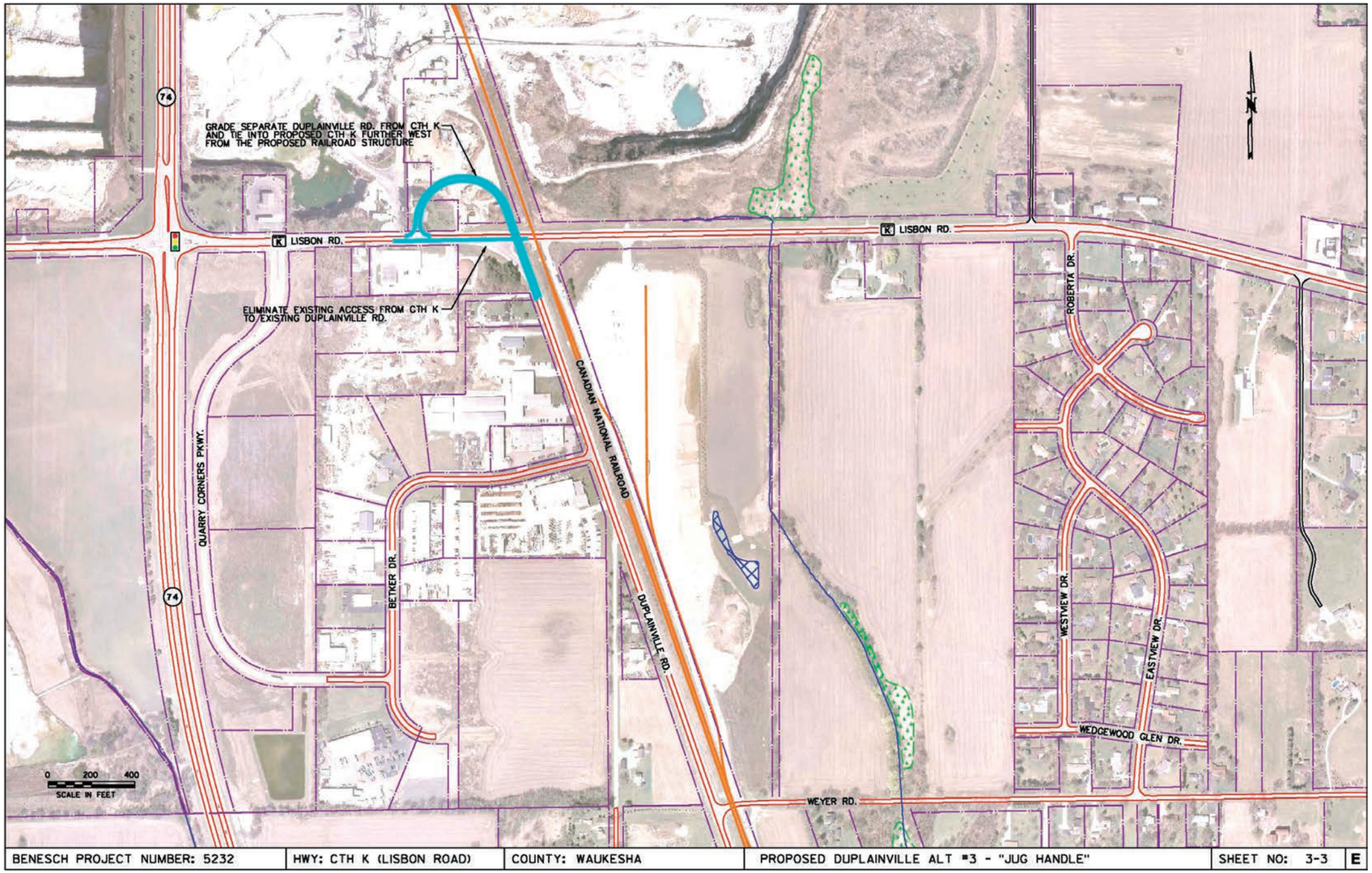


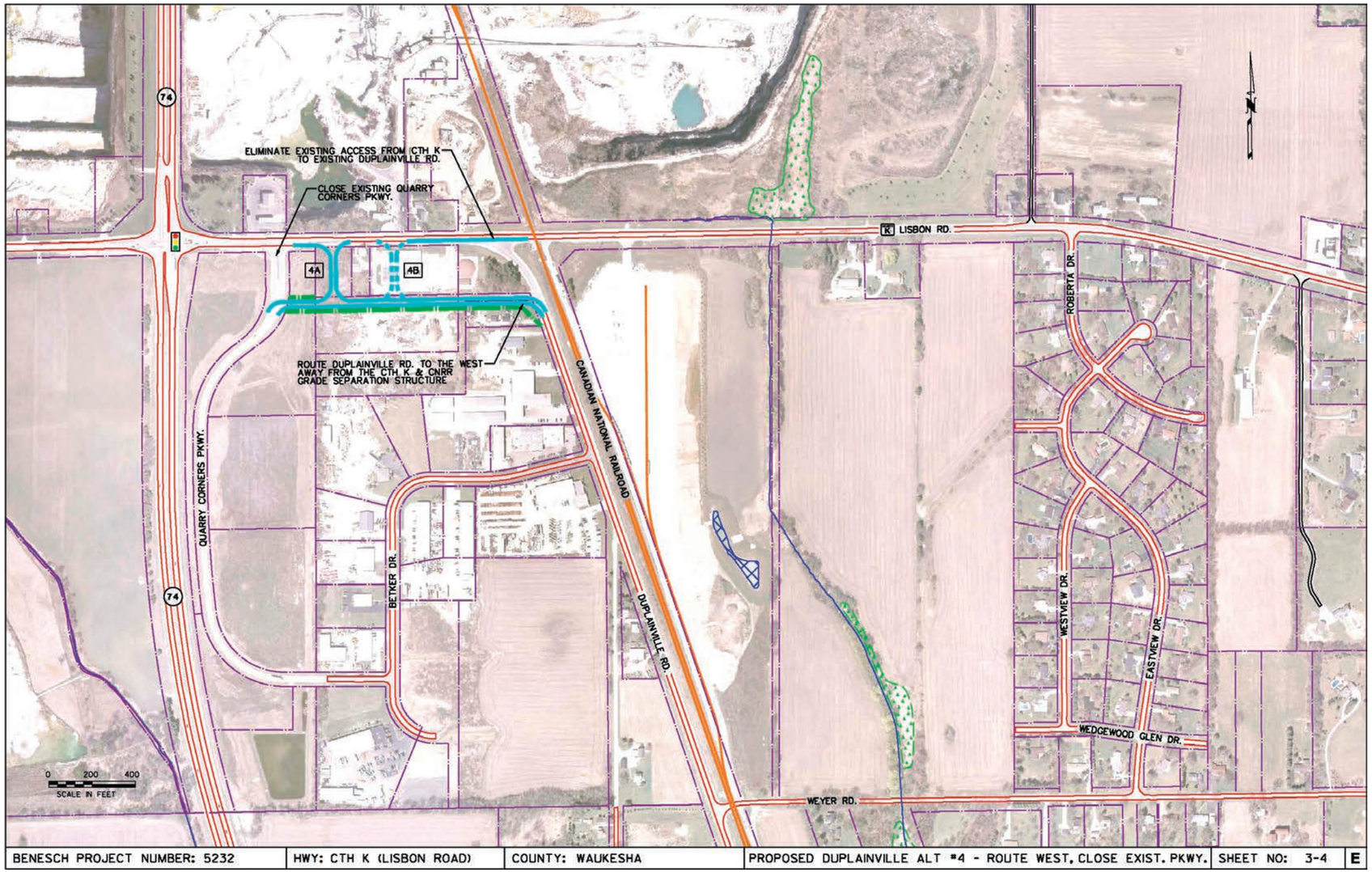
CTH K – RURAL SECTION WITH GUARD RAIL

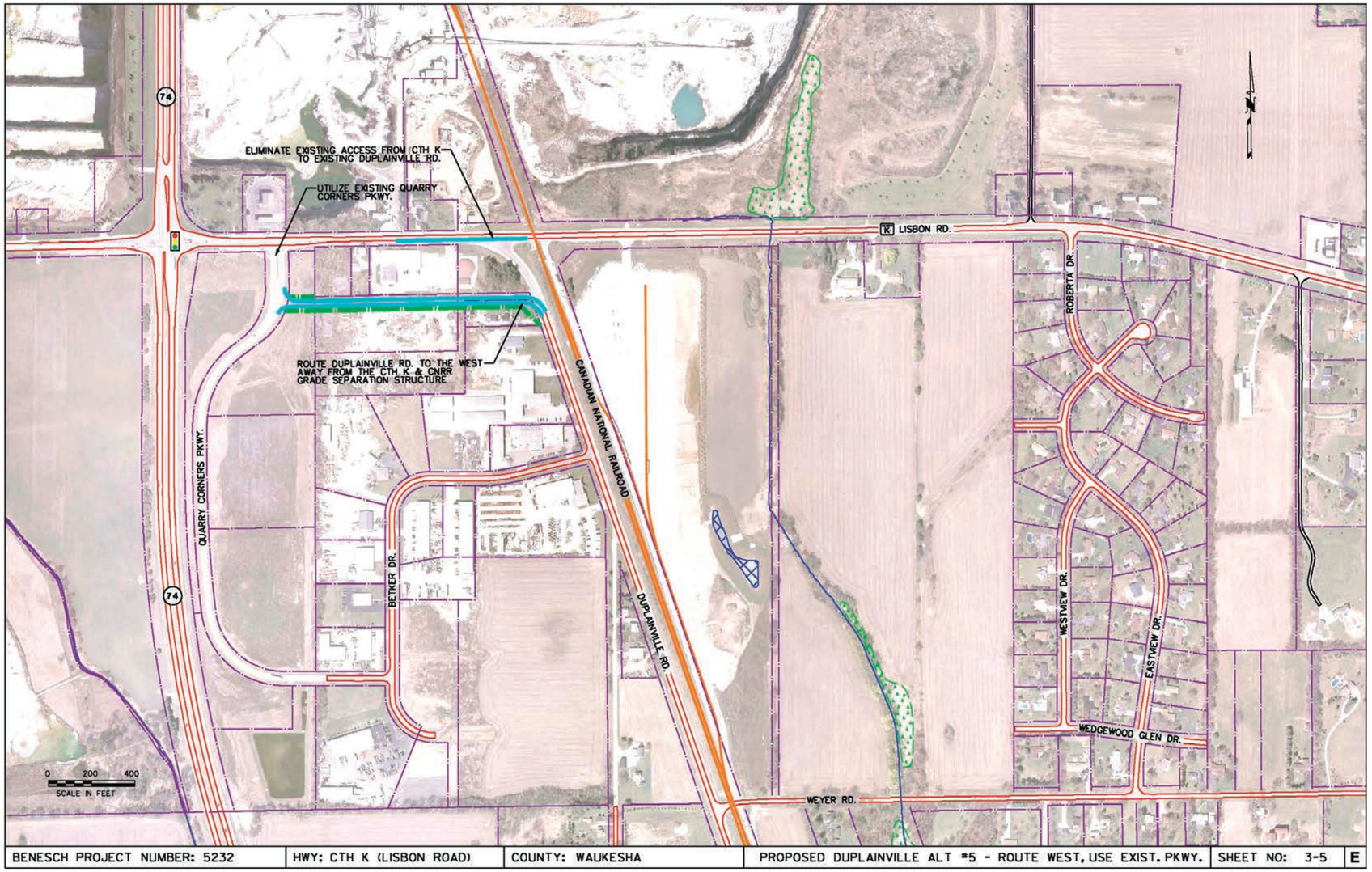
BENESCH PROJECT NUMBER: 5232	HWY: CTH K (LISBON ROAD)	COUNTY: WAUKESHA	CTH K TYPICALS	SHEET NO: TYP-1	E

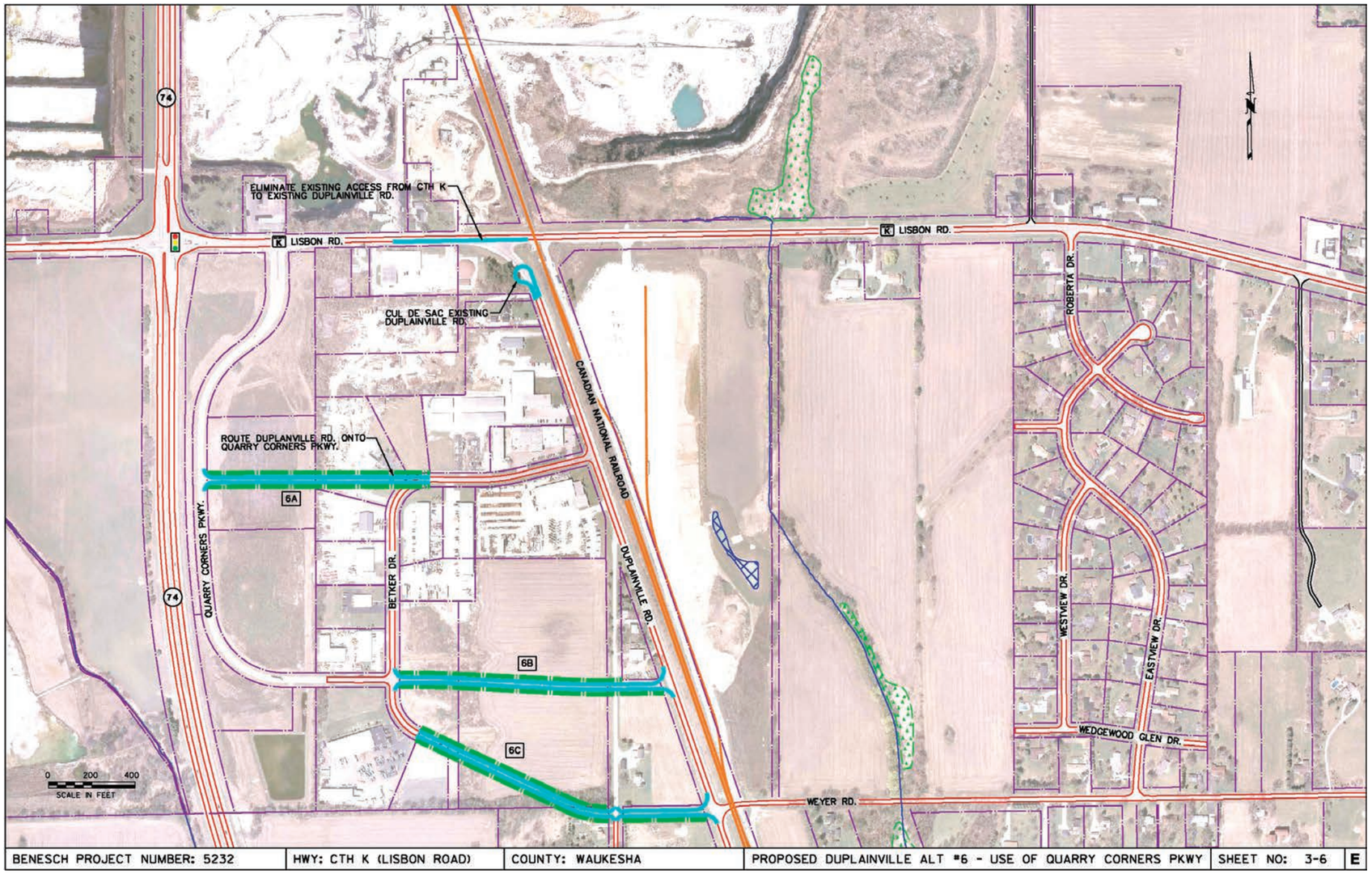

ELIMINATE EXISTING ACCESS FROM CTH K TO EXISTING DUPLAINVILLE RD.
K LISBON RD.
K LISBON RD.
CUL DE SAC EXISTING DUPLAINVILLE RD.
74
74
QUARRY CORNERS PKWY.
BETKER DR.
CANADIAN NATIONAL RAILROAD
DUPLAINVILLE RD.
ROBERTA DR.
WESTVIEW DR.
EASTVIEW DR.
WEDGEWOOD GLEN DR.
WEYER RD.
0 200 400
SCALE IN FEET
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
PROPOSED DUPLAINVILLE ALT #1 - CUL DE SAC
SHEET NO: 3-1
E


LISBON RD.
LISBON RD.
MAINTAIN EXISTING CTH K & DUPLAINVILLE RD. CONNECTION WITH GEOMETRIC IMPROVEMENTS (CAN BE DONE UNDER BOTH OVER & UNDER CTH K ALTERNATIVES)
QUARRY CORNERS PKWY.
BETKER DR.
CANADIAN NATIONAL RAILROAD
DUPLAINVILLE RD.
ROBERTA DR.
WESTVIEW DR.
EASTVIEW DR.
WEDGEWOOD GLEN DR.
WEYER RD.
74
74
0 200 400
SCALE IN FEET
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
PROPOSED DUPLAINVILLE ALT #2 - MAINTAIN EXISTING ACCESS
SHEET NO: 3-2
E


GRADE SEPARATE DUPLAINVILLE RD. FROM CTH K AND TIE INTO PROPOSED CTH K FURTHER WEST FROM THE PROPOSED RAILROAD STRUCTURE
ELIMINATE EXISTING ACCESS FROM CTH K TO EXISTING DUPLAINVILLE RD.
K LISBON RD.
K LISBON RD.
74
74
QUARRY CORNERS PKWY.
BETKER DR.
CANADIAN NATIONAL RAILROAD
DUPLAINVILLE RD.
ROBERTA DR.
WESTVIEW DR.
EASTVIEW DR.
WEDGEWOOD GLEN DR.
WEYER RD.
0 200 400
SCALE IN FEET
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
PROPOSED DUPLAINVILLE ALT #3 - "JUG HANDLE"
SHEET NO: 3-3
E


ELIMINATE EXISTING ACCESS FROM CTH K TO EXISTING DUPLAINVILLE RD.
CLOSE EXISTING QUARRY CORNERS PKWY.
4A
4B
ROUTE DUPLAINVILLE RD. TO THE WEST AWAY FROM THE CTH K & CNRR GRADE SEPARATION STRUCTURE
74
K LISBON RD.
QUARRY CORNERS PKWY.
BETKER DR.
CANADIAN NATIONAL RAILROAD
DUPLAINVILLE RD.
ROBERTA DR.
WESTVIEW DR.
EASTVIEW DR.
WEDGEWOOD GLEN DR.
WEYER RD.
0 200 400
SCALE IN FEET
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
PROPOSED DUPLAINVILLE ALT #4 - ROUTE WEST, CLOSE EXIST. PKWY.
SHEET NO: 3-4
E


ELIMINATE EXISTING ACCESS FROM CTH K TO EXISTING DUPLAINVILLE RD.
UTILIZE EXISTING QUARRY CORNERS PKWY.
ROUTE DUPLAINVILLE RD. TO THE WEST AWAY FROM THE CTH K & CNRR GRADE SEPARATION STRUCTURE
K LISBON RD.
QUARRY CORNERS PKWY.
74
BETKER DR.
CANADIAN NATIONAL RAILROAD
DUPLAINVILLE RD.
ROBERTA DR.
WESTVIEW DR.
EASTVIEW DR.
WEDGEWOOD GLEN DR.
WEYER RD.
0 200 400
SCALE IN FEET
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
PROPOSED DUPLAINVILLE ALT #5 - ROUTE WEST, USE EXIST. PKWY.
SHEET NO: 3-5
E


ELIMINATE EXISTING ACCESS FROM CTH K TO EXISTING DUPLAINVILLE RD.
K LISBON RD.
K LISBON RD.
CUL DE SAC EXISTING DUPLAINVILLE RD.
ROUTE DUPLANVILLE RD. ONTO QUARRY CORNERS PKWY.
74
74
QUARRY CORNERS PKWY.
BETKER DR.
6A
6B
6C
CANADIAN NATIONAL RAILROAD
DUPLAINVILLE RD.
ROBERTA DR.
WESTVIEW DR.
EASTVIEW DR.
WEDGEWOOD GLEN DR.
WEYER RD.
0 200 400
SCALE IN FEET
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
PROPOSED DUPLAINVILLE ALT #6 - USE OF QUARRY CORNERS PKWY
SHEET NO: 3-6
E

CTH SR (Springdale Road) – STH 190 CTH K and
CTH K (Lisbon Road) – Canadian Northern Railroad Grade Separation
Feasibility Study
Waukesha County

Public Informational Meeting – November 28, 2006

Meeting Attendance

Name	Address/Phone	Affiliation
Brad McClure, Mike Kunz, Joe Neal, Jay Carter	4633 Washington Road Kenosha, WI 53144 262/652-6677	Alfred Benesch & Company
Paul Hochmuth	21935 Weyer Rd Pewaukee, WI 53072 262/790-2660	
Gayle Stern	4802 Sheboygan Avenue Madison, WI 53707-7914 608/266-7269	Wisconsin Department of Transportation Bureau of Aeronautics
Darlene Bira	21995 Weyer Road Pewaukee, WI 53072 262/781-1138	
Cathy Persch	W223 N4958 East View Drive Sussex, WI 53089 262/246-0065	
Larry E. Mitchell	N48 W22456 Weyer Road Pewaukee, WI 53072 262/691-0264	
Mary Wenstrom	Duplainville Road Pewaukee, WI 53072 262/367-7132	
Amin Hamdan	N52 W23206 Lisbon Road Sussex, WI 53089 262/246-1999	
Bernard Knapp	W223 N4978 East View Drive Sussex, WI 53089 262/246-6214	
Peter Marzo	W225 N4250 Duplainville Road Pewaukee, WI 53072 262/593-2499	

Name	Address/Phone	Affiliation
Fred & Marlene Schildt	N48 W22288 Weyer Road Pewaukee, WI 53072	
Edna Piel	N52 W22444 Lisbon Road Sussex, WI 53089	
Jeff Weigle	W240 N3065 Pewaukee Road Pewaukee, WI 53072 262/691-6023	City of Pewaukee
Don Krenke	N47 W22455 Weyer Road Pewaukee, WI 53072 262/695-0624	
Anthony Fohey	21565 Weyer Road Pewaukee, WI 53072 262/790-1729	
Jerome Glomski	N50 W22379 Roberta Drive Sussex, WI 53089 262/246-4449	
Todd Peschke	W224 N4975 West View Drive Sussex, WI 53089 262/246-6173	
Arden J. Kosidowski	N50 W21583 Lisbon Rd Menomonee Falls, WI 53051 262/252-3718	
Linda & Rich Sack	W223 N3775 Duplainville Rd Pewaukee, WI 53072 262/691-0235	
Doug & Claire Nettesheim	W223 N3757 Duplainville Rd Pewaukee, WI 53072 262/691-1215	
Joanne Wampole	N51 W22096 Lisbon Rd Sussex, WI 53089 262/246-0421	
Lynn Goetz	Menomonee Falls, WI 262/542-8261	
Brain Bazile	N48 W22106 Weyer Rd Pewaukee, WI 53072 262-691-7695	

Name	Address/Phone	Affiliation
Kurt Barth	W240 N3065 Pewaukee Road Pewaukee, WI 53072 262/691-1111	City of Pewaukee
Donald Lee	W224 N5025 East View Dr Sussex, WI 53089 262/820-1614	
Harvey & Janice Buth	N34 W22498 Capitol Dr Pewaukee, WI 53072 262/691-2164	
Harlan Clinkenbeard	W240 N3065 Pewaukee Road Pewaukee, WI 53072	City of Pewaukee
Cathy Selerski	N47 W22347 Weyer Road Pewaukee, WI 53072 262/641-2863	
Kevin Anderson	N31 W22025 Springdale Pewaukee, WI 53072 262/691-4433	
R. Hoefle	W224 N5045 East View Dr Sussex, WI 53089 262-246-6373	
Craig Coffey	W223 N4871 East View Drive Sussex, WI 53089 262/246-4064	
Frederic G. Lindenstruth	W226 N4493 Duplainville Road Pewaukee, WI 53072 262/691-2432	
Ken Servi	1007 N. Pinegrove Court Hartland, WI 53029 262/369-5886	
Chris King	N48 W22168 Weyer Road Pewaukee, WI 53072 262/691-2348	
Linda Lorbeck	21875 Weyer Road Pewaukee, WI 53072 262/373-1178	
Dick Kretsch	W224 N4935 West View Drive Sussex, WI 53089 262/246-3425	

Name	Address/Phone	Affiliation
Egon Grothe	3775B Yukon Rd Brookfield, WI 53045 262/783-4834	
Rachel Glennon	4715 Catherine Court Pewaukee, WI 53072 262/783-5774	
Gary Evans	1320 Pewaukee Road Waukesha, WI 53188 262/548-7740	Waukesha Department of Public Works
Francis & Mae Mehringer	N51 W22619 CTH K Sussex, WI 53089 262/246-4331	
Dale Noll	W264 N2827 Prospect Avenue Pewaukee, WI 53072 262/691-9819	
Scott Warren	N52 W23206 Lisbon Rd Sussex, WI 53089 262/246-1999	Quarry Mart Llc
Jane Mueller	N80 W24138 Plainview Rd Sussex, WI 53089 262/246-8973	
Mike Mueller	W234 N8676 Woodside Road Sussex, WI 53089 262/246-3416	Town of Lisbon
Russ Evans	W29051 Cambria Rd Waukesha, WI 53149 262/968-4489	
Gene Caspersen	W224 N4885 West View Drive Sussex, WI 53089 262/246-3788	
George Evert	W220 N4915 Town Line Road Sussex, WI 53089 62/691-1737	Redeemer United Church of Christ
Tom Marzo	262/641-8108	
Ed Hinrichs, P.E.	1320 Pewaukee Road Waukesha, WI 53188 262/548-7740	Waukesha County

Name	Address/Phone	Affiliation
Peter Merbeth	W229 N5087 Duplainville Rd Pewaukee, WI 53072 262/246-3500	Merbeth Metal Products
Jack P. Wenstrom	734 River Reserve Drive Hartland, WI 53029 262/367-7132	
Ronald & Lillian Pollich	W220 N4981 Town Line Road Menomonee Falls, WI 53051 262/246-4682	
Maribeth & John DeLuca	N51 W22070 Lisbon Road Sussex, WI 53089 262/820-0393	
Michael Hummer	N47 W22521 Weyer Road Pewaukee, WI 53072 262/691-0696	
Mark Kuzminski	N51 W22351 Lisbon Road Sussex, WI 53089 262/820-3721	
Frank & Helen Marzo	W1211 Lakeview Drive Sullivan, WI 53178 262/593-5883	
Dan & Nancy Schamerhorn	W223 N4825 East View Dr Sussex, WI 53089 262/695-9264	
Fred Ruf	W276 N1905 Spring Creek Dr Pewaukee, WI 53072 262/691-1527	Waukesha County Supervisor
Fred & Kathleen Glaser	W328S100 Timberline Cir Delafield, WI 53018 262/646-3849	
Marci Lanois	W220 N4575 Weyer Road Pewaukee, WI 53072 262/691-2582	
Robert & Geraldine Zaretzke	4720 Martha Lane Pewaukee, WI 53072 262/781-2251	
Patrick Schuele	414/687-6886	

Name	Address/Phone	Affiliation
Jeff Griese	N51 W22177 Lisbon Rd Sussex, WI 53089 262/820-8270	
Dan Drueger	Town of Brookfield 262/790-6756	
John & Joy Kruschel	N51 W22227 Lisbon Road Sussex, WI 53089 262/246-4372	
Mark & Diane Millard	W220 N3421 Springdale Rd Pewaukee, WI 53072 262/691-9369	
Jerry & Natalie	W223 N4921 East View Dr Sussex, WI 53089 262-246-4631	
Ervin Krueger	21700 W. Gumina Road Pewaukee, WI 53072 262/781-6957	
Patrick Drinan	2000 N Calhoun Road Brookfield, WI 53005 262/786-9650	City of Brookfield
Steve Popek	21265 Weyer Road Pewaukee, WI 53072 262/783-5107	Town of Brookfield
John & Jodi Radmer	W220 N5229 Town Line Road Sussex, WI 53089 262/820-0693	
Don & Jean Schneider	W220 N4879 Town Line Road Menomonee Falls, WI 53051 262/246-4112	
Chris Michaels	2935 Lilly Road Brookfield, WI 53005 262/510-9060	
John & Janet Stolp	N51 W22181 CTH K Sussex, WI 53089 262/246-4112	
Donald F. Brue	4913 N. Duplainville Road Pewaukee, WI 53072 262/246-6015	

Name	Address/Phone	Affiliation
Bob Olson	N50 W23076 Betker Drive Pewaukee, WI 53072 262/246-0600	Globe Contractors Inc
Michael W. Brue	N52 W23070 Lisbon Road Sussex, WI 53089 262/246-6015	
Sally M. Ruf	W276 N1905 Spring Creek Dr Pewaukee, WI 53072 262/691-1527	
Ken Reese	N18 W29054 Golf Ridge Delafield, WI 53077 262-695-1374	
Peter Gumina	21850 Gumina Road Pewaukee, WI 53072 262-781-8167	
Jim Taylor	4655 Catherine Court Pewaukee, WI 53072 262/790-1505	
Mike & Cathy Adamec	N47 W22725 Weyer Lane Pewaukee, WI 53072 262/695-1666	
Cal Krueger	21780 Gumina Rd Pewaukee, WI 53072 262/781-0159	
Ted Selerski	N47 W22347 Weyer Road Pewaukee, WI 53072 262/691-2862	
Mike Zuba	W223 N5090 East View Dr Sussex, WI 53089 262/246-0578	
Bob Rockey	21815 Weyer Road Pewaukee, WI 53072 262/783-4718	
Paul Sawicki	4675 Catherine Court Pewaukee, WI 53072 262/785-1968	
William Carity	12720 W North Ave Brookfield, WI 53005 262/785-1968	Carity Land Corp

Name	Address/Phone	Affiliation
Daniel A. Holzhauer	N47 W22175 Weyer Road Pewaukee, WI 53072 262/691-0881	
Greg Smiltneek	W167 N5156 Grey Log Lane Menomonee Falls, WI 53051 262/246-4000	
Anthony E. Tilidetzke	21195 Weyer Road Pewaukee, WI 53072 262/581-2233	
Roger B. Duchow	N30 W28799 Lakeside Drive Pewaukee, WI 53072 414/270-6360	
Arlen & Gloria Roemer	4705 Martha Lane Pewaukee, WI 53072 262/781-1762	
Bob Becker	5346 N 107 St Milwaukee, WI 53225 414/466-6794	
Gale Runingen	W224 N5076 East View Drive Sussex, WI 53089 262/246-8791	
Tim Blohn	4745 Catherine Court Pewaukee, WI 53072 262/790-6758	
Jim Lutz	4720 Catherine Court Pewaukee, WI 53072 262/853-8555	
David W. Swan	W239 N4050 Swan Road Pewaukee, WI 53072 262/691-0471	
Alan & Chris Schneider	N49 W21045 River Rd Menomonee Falls, WI 53051 262/252-6748	
James Bira	21995 Weyer Road Pewaukee, WI 53072 262/492-5120	
Tim Trokan	W232 N3154 Greenbriar Road 262/695-0304	

Name	Address/Phone	Affiliation
Nancy & Russ Priebe	N33 W22024 Memory Lane Pewaukee, WI 53072 262/691-2718	
Justin Korn	801 N. Barstow Street Waukesha, WI 53187 262-542-2501	The Freeman Newspaper

CTH K (Lisbon Road) & CN Railroad Crossing
Grade Separation Feasibility Study
Waukesha County

PUBLIC INFORMATION MEETING
NOVEMBER 28, 2006

Comments

Name	Comments
Maribeth DeLuca N51 W22070 Lisbon Road Sussex, WI 53089	All for the idea – but put the train over the road. The train backs traffic up to our house at night, pretty close to, ½ mile from tracks.
No name	Do it
Anthony Fohey 21565 Weyer Road Pewaukee, WI 53072	I would not be personally opposed to taking Lisbon Road over the tracks. However, I question the necessity. Lisbon Road is not the only east/west road this far north in Waukesha County and I find it hard to justify the cost.
John DeLuca N51 W22070 Lisbon Road Sussex, WI 53089	I prefer that Lisbon Road go under the railway. I do not want DuPlainville Road stopped; I want it to intersect Lisbon Road somehow. Do not close Weyer Road.
Ken Servi (Rawson Contractors) 1007 Pine Grove Court Hartland, WI 414-425-0700	Do either an over or under pass, but keep Duplainville open. A 4-lane road from 74 east past the bridge 20' would be the best option. Looking at the grades, it appears an underpass may be the least expensive alternate as doing the railroad bridge would require the least amount of work in building the shoo fly to keep the trains in operation. I own the property for proposal No. 6B and have just built the road at my own expense and will not allow traffic on this without compensation.
No name	If this grade separation is only on the agenda because of SR extension – then NO!!! The community doesn't need to incur more taxes for a project that isn't necessary! We deal with these roads and traffic every day! We don't feel it's critical at this time to take place. Too many unanswered questions from too few staff at meeting for community to agree to.
Roger B. Duchow N30 W28799 West Lakeside Road Pewaukee, WI 53072	D not cul-de-sac Duplainville Road. My property is in the northwest corner of Duplainville and Lindsey.

CTH K (Lisbon Road) & CN Railroad Crossing
Grade Separation Feasibility Study
Waukesha County

PUBLIC INFORMATION MEETING
NOVEMBER 28, 2006

Comments

Name	Comments
Bob Olson Globe Contractors N50 W23076 Betker Road Pewaukee, WI 53072	We have property that would be affected by Duplainville Road Alternates 4, 5 & 6. Alternates 4 & 5 would involve area that we currently use for storage equipment and inventory. While this land is essential to our operation, we could potentially find other land to replace it if properly compensated for our loss. Alternate 6A would be a major hardship for our firm. This alignment would go directly through our office and through a new 50'x100' metal building we just completed. The other alternate 6 routes would not have a big impact on our business. Have you looked at improving Lindsay Road with stop lights at STH 74 as an option? Enclosed, please find a map of the area I own with my father and brother. If you have any questions or have any updated news, please contact me at my off (262) 246-0600.

FEASIBILITY STUDIES
WAUKESHA COUNTY
CTH K/CN GRADE SEPARATION
CTH SR EXTENSION STH 190 – CTH K

COMMUNITY ADVISORY COMMITTEE INTRODUCTORY MEETING
JANUARY 23, 2007
4:00 PM - 6:00 PM

FACILITATOR: Michael N. Goodkind, PE, SE

AGENDA

1.	INTRODUCTION	4:00 - 4:10
2.	CTH K - ALTERNATIVES	4:10 - 4:40
3.	CTH K - EVALUATION CRITERIA	4:40 - 5:00

BREAK

4.	CTH K - EVALUATION CRITERIA INPUT	5:10 - 5:30
5.	CTH SR - UPDATE	5:30 - 5:50
6.	MEETING WRAP-UP	5:50 - 6:00

FEASIBILITY STUDIES
WAUKESHA COUNTY
CTH K/CNRR GRADE SEPARATION
CTH SR EXTENSION STH 190 – CTH K

COMMUNITY ADVISORY COMMITTEE INTRODUCTORY MEETING
JANUARY 23, 2007
4:00 PM - 6:00 PM

FACILITATOR: Michael N. Goodkind, PE, SE

MEETING MINUTES

1. INTRODUCTION

Participants

- Self introductions were made for everyone in attendance
- For a list of meeting attendees, see the attendance list

2. CTH K - ALTERNATIVES

Wetland Update

- TN & Associates have just recently concluded with their wetland field delineation for the project limits and based on their findings, there are slightly more wetlands present than what is located in the County GIS mapping. The results of the field delineation have been included in the meeting materials.
- Due to the location of the wetlands and the relatively small amount of wetlands present, the impacts to those wetlands appear to be very minimal.

Alternative Update

- The original list of alternatives for CTH K (Lisbon Road) as well Duplainville Road was summarized. (See meeting materials)
- As a result of some new construction as well as current design standards, Option #5 & Option #6 for Duplainville Road were eliminated. (See meeting materials)

Appendix D
01-23-07
CAC Meeting #3
Materials

3. CTH K - EVALUATION CRITERIA

Summary of Criteria

- The criteria which have been developed by Benesch to evaluate the various alternatives were presented. The criteria being used are:
  1. Environmental Impacts
  2. Preservation of Community
  3. Constructability
  4. Maintenance of Traffic
  5. Property Impacts
  6. Traffic Impacts

4. CTH K - EVALUATION CRITERIA INPUT

Evaluation Criteria Matrix

- The next step in the evaluation process is to assign weights to the evaluation criteria.
- It was anticipated that as a group, the CAC members would go through the process to rank the criteria at the meeting. Because the ranking plays such an important role in evaluating the alternatives and due to the poor turnout, it was concluded by those in attendance that it would not be fair to the project if only those few people ranked the criteria.
- After some discussion, it was determined that the criteria along with a description of the criteria and a questionnaire would be sent out to all CAC members in an attempt to get their input.
- It was determined that the questionnaire would be sent out with the meeting minutes.

5. CTH SR - UPDATE

Wetland Update

- Along with a wetland field delineation of the CTH K Grade Separation project limits, TN & Associates also conducted a wetland field delineation of the CTH SR Extension Project Limits. Based on their findings, there are significantly more wetlands present than what is located in the County GIS mapping. The results of the field delineation have been included in the meeting materials.

Alternative Update

- Based on the new/additional wetland information, the six (6) alignment alternatives which have been developed will need to be re-examined. Some alternatives which previously appear to be desirable may no longer be desirable due to the increase in the amount of wetlands.
- Alignment alternatives will be revisited and presented to the group at the next CAC meeting.

6. MEETING WRAP-UP

Next Meeting

- A date for the next CAC meeting (CAC Meeting #4) was not determined. It is anticipated that the next meeting will be held at the end of February. More detailed information will be sent out through email as soon as it is available.

CTH K (Lisbon Road) & CNRR Grade Separation Feasibility Study
List of Idea's

Idea		Description of Idea
CTH K (Lisbon Road) Modifications	Concept 1	CTH K (Lisbon Road) Over CN Railroad Track
	Concept 2	CTH K (Lisbon Road) Under CN Railroad Track
Duplainville Road Modifications	Option #1	Cul-de-sac Duplainville Road at CTH K (Lisbon Road)
	Option #2	Maintain existing CTH K (Lisbon Road) connection with improved geometrics
	Option #3	"Jug Handle"
	Option #4A	Relocate CTH K (Lisbon Road) connection further to the west and close the existing Quarry Corners Parkway access to CTH K (Lisbon Road). Route Duplainville Road around the existing Waukesha County Facility.
	Option #4B	Relocate CTH K (Lisbon Road) connection further to the west and maintain the existing Quarry Corners Parkway access to CTH K (Lisbon Road). Route Duplainville Road through the existing Waukesha County Facility.
	Option #5	Relocate CTH K (Lisbon Road) connection further to the west and utilize the existing Quarry Corners Parkway access to CTH K (Lisbon Road)
	Option #6	Cul-de-sac Duplainville Road at CTH K (Lisbon Road) and route Duplainville Road to Quarry Corners Parkway
Property Impacts	Option #1	No retaining wall
	Option #2	Minimize impacts to surrounding properties through the use of retaining walls

CTH K (Lisbon Road) & CNRR Grade Separation Feasibility Study
Initial Screening of Idea's

Idea		Accepted	Reason for Rejection R1	Reason for Rejection R2
CTH K (Lisbon Road) Modifications	Concept 1	●		
	Concept 2	●		
Duplainville Road Modifications	Option #1	●		
	Option #2	●		
	Option #3	●		
	Option #4A	●		
	Option #4B	●		
	Option #5		●	
	Option #6			●
Property Impacts	Option #1	●		
	Option #2	●		

Reasons for Rejection

R1 Existing Quarry Corners Parkway intersection with CTH K (Lisbon Road) is to close to STH 74 intersection, violation of WisDOT standards

R2 Option 6B has been constructed since option development; Option #6 is now the same as Option #1

CTH K (Lisbon Road) & CNRR Grade Separation Feasibility Study
List of Idea's Selected for Further Development

Idea		Description of Idea
CTH K (Lisbon Road) Modifications	Concept 1	CTH K (Lisbon Road) Over CN Railroad Track
	Concept 2	CTH K (Lisbon Road) Under CN Railroad Track
Duplainville Road Modifications	Option #1	Cul-de-sac Duplainville Road at CTH K (Lisbon Road)
	Option #2	Maintain existing CTH K (Lisbon Road) connection with improved geometrics
	Option #3	"Jug Handle"
	Option #4A	Relocate CTH K (Lisbon Road) connection further to the west and close the existing Quarry Corners Parkway access to CTH K (Lisbon Road). Route Duplainville Road around the existing Waukesha County Facility.
	Option #4B	Relocate CTH K (Lisbon Road) connection further to the west and maintain the existing Quarry Corners Parkway access to CTH K (Lisbon Road). Route Duplainville Road through the existing Waukesha County Facility.
Property Impacts	Option #1	No retaining wall
	Option #2	Minimize impacts to surrounding properties through the use of retaining walls

CTH K – Evaluation Criteria

- Environmental Impacts
  - Air Quality
  - Wetland Impacts
  - Drainage
- Preservation of Community
  - Noise
  - Aesthetics
  - Safety/Security
- Constructability
  - Construction Stages
  - Duration
  - Work Zones
- Maintenance of Traffic
  - CTH K Traffic
  - Duplainville Road Traffic
  - Access along CTH K
- Property Impacts
  - Access Issues
  - Right-of-Way Acquisition
  - Construction Easements
- Traffic Impacts
  - CTH K Traffic
  - Duplainville Road Traffic
  - Access along CTH K

Selected Evaluation Criteria Matrix

	Constructability	Environmental Impacts	Maintenance of Facilities	Maintenance of Traffic	Preservation of Community	Property Impacts	Traffic Impacts
Constructability	1						
Environmental Impacts		1					
Maintenance of Facilities			1				
Maintenance of Traffic				1			
Preservation of Community					1		
Property Impacts						1	
Traffic Impacts							1
Total	1	1	1	1	1	1	1
Weight							

Appendix D
01-23-07
CAC Meeting #3
Materials

CTH SR (Springdale Road) – STH 190 CTH K and
CTH K (Lisbon Road) – Canadian Northern Railroad Grade Separation
Feasibility Study
Waukesha County

Community Advisory Committee
January 23, 2007

Name	Affiliation	Address	Phone No.
Michael Goodkind	Alfred Benesch & Company	205 N. Michigan Avenue Chicago, IL 60601	312-565-0450
Dan Rivers	Alfred Benesch & Company	4633 Washington Road Kenosha, WI 53144	262-652-6677
Joe Neal	Alfred Benesch & Company	4633 Washington Road Kenosha, WI 53144	262-652-6677
Mike Kunz	Alfred Benesch & Company	4633 Washington Road Kenosha, WI 53144	262-652-6677
Frank Gebauer	Village of Menomonee Falls	W156 N8480 Pilgrim Road Menomonee Falls, WI 53051	262-532-4408
Todd Ritzman	Capitol Airport	21500 Gumina Road Pewaukee, WI 53072 414-406-3119	2621-893-8134
Dale Pfeiffle	US Army Corps of Engineers	1617 E. Racine Avenue Rm. 101 Waukesha, WI 53186	262-547-0868
Ed Hinrichs	Waukesha County	1320 Pewaukee Road Waukesha, WI 53188	262-548-7740
Tom Grisa	City of Brookfield	2000 N Calhoun Road Brookfield, WI 53005	262-787-3919

CTH K / CNRR GRADE SEPARATION FEASIBILITY STUDY
Waukesha County

SELECTED EVALUATION CRITERIA QUESTIONNAIRE

Name:	
Representing:	

QUESTION	YES	NO
Are Environmental Impacts more important than Constructability?	☐	☐
Are Environmental Impacts more important than Maintenance of Traffic?	☐	☐
Are Environmental Impacts more important than Preservation of Community?	☐	☐
Are Environmental Impacts more important than Property Impacts?	☐	☐
Are Environmental Impacts more important than Traffic Impacts?	☐	☐
Are Environmental Impacts more important than Maintenance of Facility?	☐	☐
Is Constructability more important than Maintenance of Traffic?	☐	☐
Is Constructability more important than Preservation of Community?	☐	☐
Is Constructability more important than Property Impacts?	☐	☐
Is Constructability more important than Traffic Impacts?	☐	☐
Is Constructability more important than Maintenance of Facility?	☐	☐
Is Maintenance of Traffic more important than Preservation of Community?	☐	☐
Is Maintenance of Traffic more important than Property Impacts?	☐	☐
Is Maintenance of Traffic more important than Traffic Impacts?	☐	☐
Is Maintenance of Traffic more important than Maintenance of Facility?	☐	☐
Is Preservation of Community more important than Property Impacts?	☐	☐
Is Preservation of Community more important than Traffic Impacts?	☐	☐
Is Preservation of Community more important than Maintenance of Facility?	☐	☐
Are Property Impacts more important than Traffic Impacts?	☐	☐
Are Property Impacts more important than Maintenance of Facility?	☐	☐
Are Traffic Impacts more important than Maintenance of Facility?	☐	☐

FEASIBILITY STUDIES
WAUKESHA COUNTY
CTH K/CN GRADE SEPARATION
CTH SR EXTENSION STH 190 – CTH K

COMMUNITY ADVISORY COMMITTEE INTRODUCTORY MEETING
February 27, 2007
4:00 PM - 6:00 PM

FACILITATOR: Michael N. Goodkind, PE, SE

AGENDA

1.	INTRODUCTION	4:00 - 4:10
2.	CTH K - ALTERNATIVES	4:10 - 4:25
3.	CTH K - EVALUATION	4:25 - 4:50
4.	CTH K - SELECTION	4:50 - 5:00

BREAK

5.	CTH SR - ALTERNATIVES	5:10 - 5:20
5.	CTH SR - EVALUATION CRITERIA	5:20 - 5:50
6.	MEETING WRAP-UP	5:50 - 6:00

CTH SR (Springdale Road) – STH 190 CTH K and
CTH K (Lisbon Road) – Canadian Northern Railroad Grade Separation
Feasibility Studies
Waukesha County

Community Advisory Committee Meeting – February 27, 2007

Meeting Attendance

Name	Affiliation	Email Address/Phone Number
Michael Goodkind	Alfred Benesch & Company	mgoodkind@benesch.com
Joe Neal	Alfred Benesch & Company	jneal@benesch.com
Ed Hinrichs, P.E.	Waukesha County Dept. of Public Works	ehinrichs@waukeshacounty.gov
Kevin Yanny	Waukesha County Dept. of Public Works	kyanny@waukeshacounty.gov
Frank Gebauer	Village of Menomonee Falls	fgebauer@menomonee-falls.org
Don Brue	Town of Lisbon	
Mark Brue	Brues Brothers LLC	262-538-1265
Mike Brue	Brue Brothers LLC	262-246-6015
Bob Larsen	Spring Creek Church	bobl@springcreekonline.com
Rachel Sabre	Wisconsin DNR	Rachel.sabre@dnr.state.wi.us
Harlan Clinkenbeard	City of Pewaukee	clink@pewaukee.wi.us
Doug Averkamp	Vulcan Materials	averkampd@vmcmail.com
George Evert	Redemeer Church	
Scott Batchelor	All-Ways-Construction	sbatchelor@wi.rr.com
Chris Michels	All-Ways-Construction	262-789-6944
Dan Ertl	City of Brookfield	ertl@ci.brookfield.wi.us
Tom Grisa	City of Brookfield	grisa@ci.brookfield.wi.us

CTH K/ CN Grade Separation
CTH SR Extension STH 190 – CTH K
Feasibility Study
Waukesha County

Meeting Notes

Date: February 27, 2007
Place: Spring Creek Church

During the 4th CAC Meeting, the following items were noted.

CTH K/CN Grade Separation

1. A representative from Vulcan said that the wetland depicted on our drawings north of CTH K and east of the CN tracks is not accurate. According to Vulcan, the wetland is further north and east and would not be impacted by either the overpass or underpass.

2. The proposed grade for the new driveway at Vulcan and Brue Brothers must be shallower than 10% to accommodate heavy trucks.

3. Instead of the jug-handle, we should consider realigning Duplainville road parallel to and along CTH K to minimize the right-of-way taken from Brue Brothers.

4. We need to account for the cost to replace the Waukesha County maintenance facility, including land and buildings.

5. We should be aware that the Isabelle Mielke property may have once been a gas station. This will require and environmental study in the next phase of the project.

6. Alternative 1 needs to show access to the Mielke property.

7. Alternative 2 needs to show access to the Mielke property.

8. Alternative 3 needs to show access to the Mielke and Waukesha County properties.

9. Alternative 4B needs to show access to the Mielke property.

10. The Town of Pewaukee is opposed to Alternatives 1 – 1 and 2 – 1.

11. At this time, there is no sewer or water service along CTH K. This should be included as a Reserve item in the cost estimate in case the County wants to install these utilities while the road is torn up.

CTH SR Extension

1. Are the creeks crossed by the CTH SR Extension navigable?

2. Garfield Baptist Church should be Spring Creek Church.

3. Why is the superelevation on Curve #3 5.1% when the superelevation on Curve #2 is 3.0%?

4. The limits of wetland are no shown correctly on Sheet 1.1.

5. We should review the CTH SR Criteria Ranking Worksheet to confirm that it makes sense.

CTH K (Lisbon Road) & CN Railroad Crossing Grade Separation Feasibility Study

Welcome to the public informational meeting being held tonight for the CTH K (Lisbon Road) & Canadian National (CN) Railroad Grade Separation Project. This is the second of two public meetings planned as part of the feasibility study. Tonight's meeting is being hosted by Waukesha County and Alfred Benesch & Company (Design Consultants).

Purpose of the Feasibility Study

The purpose of this study is to determine the feasibility of grade separating CTH K (Lisbon Road) and the CN railroad track in order to eliminate the existing at-grade crossing.

According to current traffic counts, CTH K (Lisbon Road) has an Average Daily Traffic Count (ADT) of 13,500 vehicles. The Canadian National currently runs an average of 30 trains per day through the CTH K (Lisbon Road) roadway crossing. The existing exposure factor for the existing CTH K (Lisbon Road) and CN Railroad grade crossing is 405,000.

According to the Wisconsin Department of Transportations Facilities Development Manual, in an urban setting a grade separation structure should be considered anytime the exposure factor exceeds 100,000. The exposure factor equals the product of the number of trains per day and the number of highway vehicles per day, which yields a numerical value for the potential conflicts each day at the crossing.

Purpose of the Meeting

The purpose of this meeting is to present to the public the preliminary design concepts & alternatives that have been developed as possible ways by which CTH K (Lisbon Road) and the CN Railroad crossing could be grade separated and the impacts associated with each. This is a chance for the citizens of Waukesha County to get an understanding of the project, view exhibits of the various alternatives, ask questions, and provide input into the project.

Project Information

In looking at possible ways to grade separate CTH K (Lisbon Road) & the CN railroad crossing, the following concepts and alternatives have been developed:

Concept 1 → CTH K (Lisbon Road) over the CN Railroad track

Concept 2 → CTH K (Lisbon Road) under the CN Railroad track

Do Nothing

Due to the close proximity of Duplainville Road to the CTH K (Lisbon Road) and CN Railroad track crossing, any modification to the existing grade crossing will impact the existing CTH K (Lisbon Road) and Duplainville Road intersection. The following alternatives have been developed which look at how to deal with the Duplainville Road intersection:

Alternative #1	→	**Cul-de-sac Duplainville Road and close the existing access to CTH K (Lisbon Road).**
Alternative #2	→	**Maintain the existing CTH K (Lisbon Road) connection with improved intersection geometrics.**
Alternative #3	→	**"Jug Handle"**
Alternative #4A	→	**Relocate the existing CTH K (Lisbon Road) & Duplainville Road intersection further west and close the existing Quarry Corners Parkway access to CTH K (Lisbon Road). Route Duplainville Road around the existing Waukesha County Maintenance Facility.**
Alternative #4B	→	**Relocate the existing CTH K (Lisbon Road) & Duplainville Road intersection further west and close the existing Quarry Corners Parkway access to CTH K (Lisbon Road). Route Duplainville Road through the existing Waukesha County Maintenance Facility.**
Alternative #5 (Eliminated)	→	Relocate the existing CTH K (Lisbon Road) & Duplainville Road intersection further west away from the CTH K (Lisbon Road) & CN Railroad grade separation structure and utilize the existing Quarry Corners Parkway access to CTH K (Lisbon Road).
Alternative #6 (Eliminated)	→	Close the existing CTH K (Lisbon Road) access, cul-de-sac Duplainville Road and route Duplainville Road to Quarry Corners Parkway.

Note: Alternatives in bold are the alternatives that are currently under consideration. The remaining alternatives have been eliminated as a result of on-going discussions with the Community Advisory Committee (CAC).

The proposed alternatives for Duplainville Road can be utilized under both Concept 1 and Concept 2. The impacts associated with each alternative are only slightly different under Concept 1 when compared to Concept 2 as a result of the different vertical clearance required at the railroad track.

Next Steps

The project team will consider all public comments received both at this public meeting along with the previous public meeting held on November 28, 2006, in determining if an alternative(s) is feasible and should be advanced to preliminary engineering and further determination of environmental impacts.

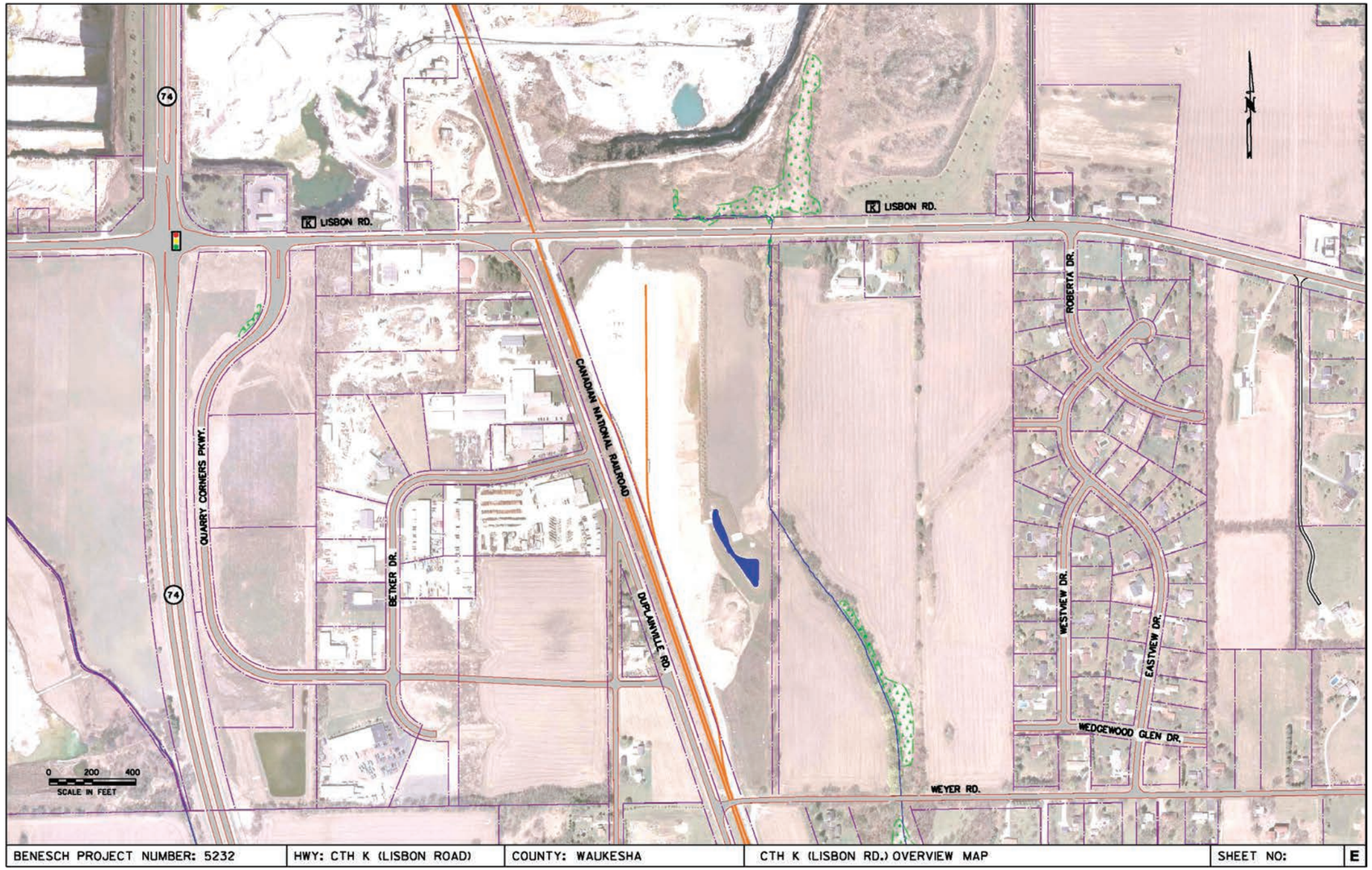
Public Comments

We encourage you to talk to our engineers and ask them any questions you may have. Attached with this handout is a comment sheet. We encourage you to write down any comments or concerns that you may have about this project. All comments will be documented and included as part of the final feasibility study report. You may take the comment sheet home with you and mail it so it arrives at our office by April 10, 2007, or simply place it in the comment box at the entry table tonight as you leave tonight.

For more information, please contact:

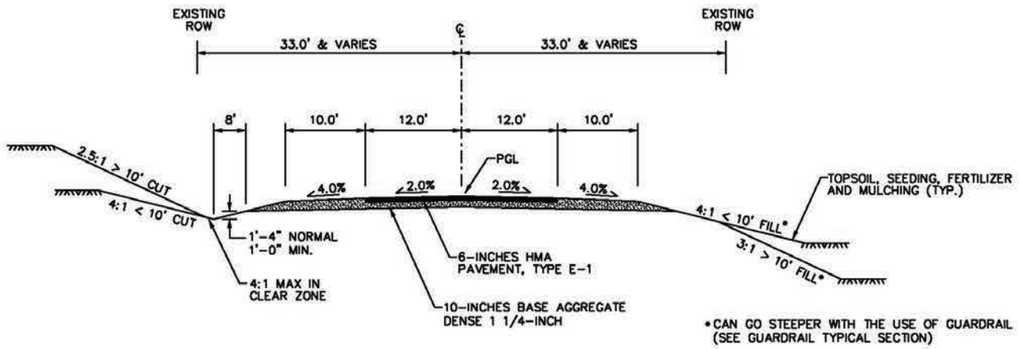
Joseph P. Neal, P.E.
Alfred Benesch & Company
4633 Washington Road
Kenosha, WI 53144
(262) 652-6677
jneal@benesch.com

Edward A. Hinrichs, P.E.
Waukesha County Department of Public Works
1320 Pewaukee Road
Waukesha, WI 53188
(262) 548-7740
ehinrichs@waukeshacounty.gov

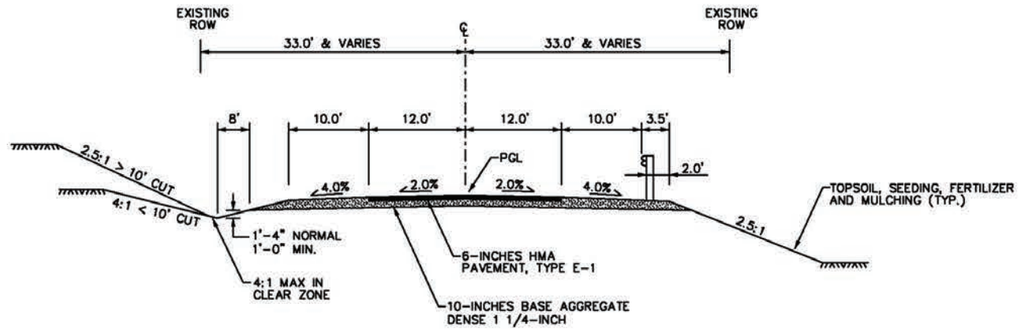


Appendix F - Display Boards

TYPICAL SECTIONS

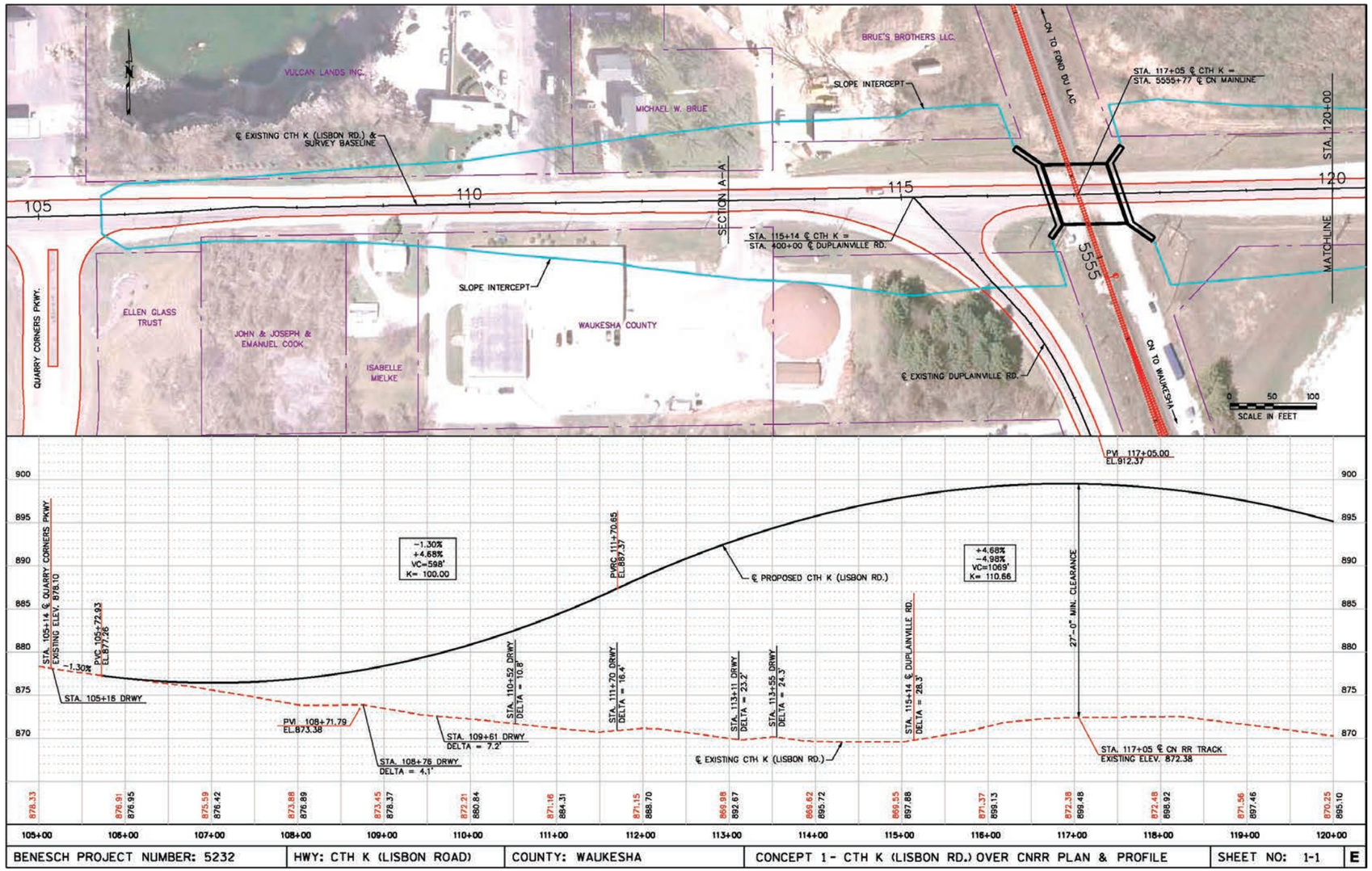


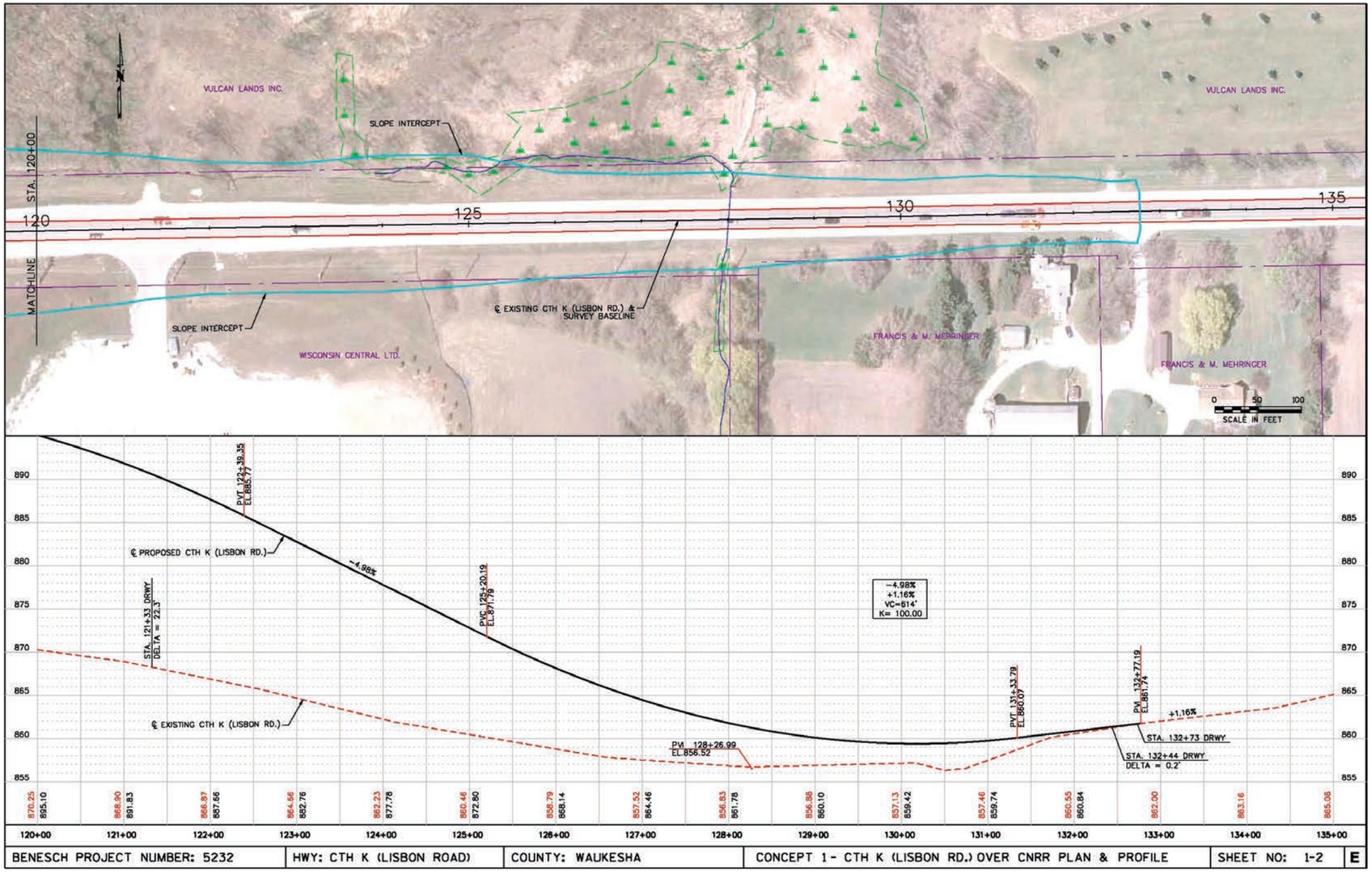
CTH K – RURAL SECTION

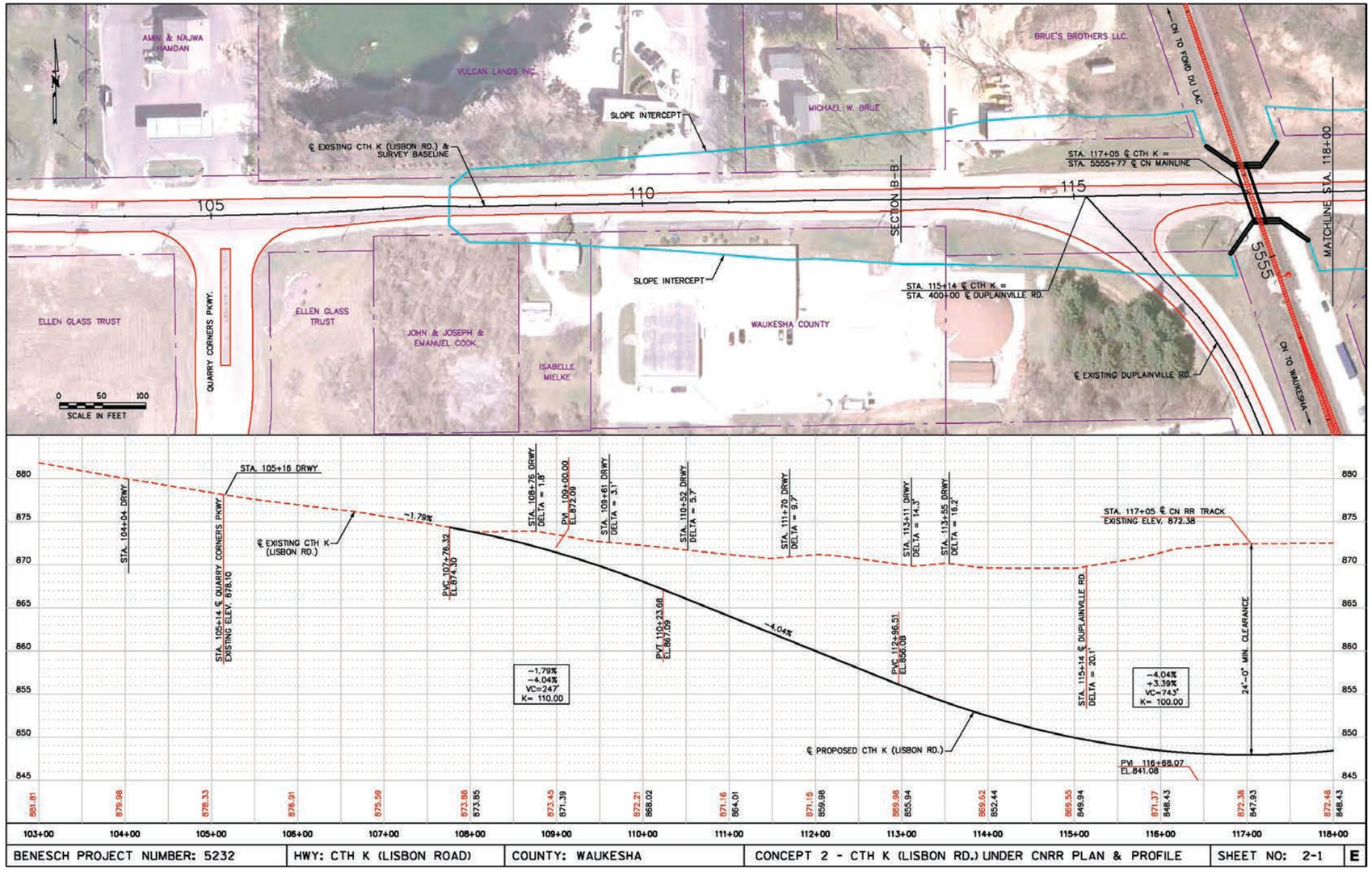


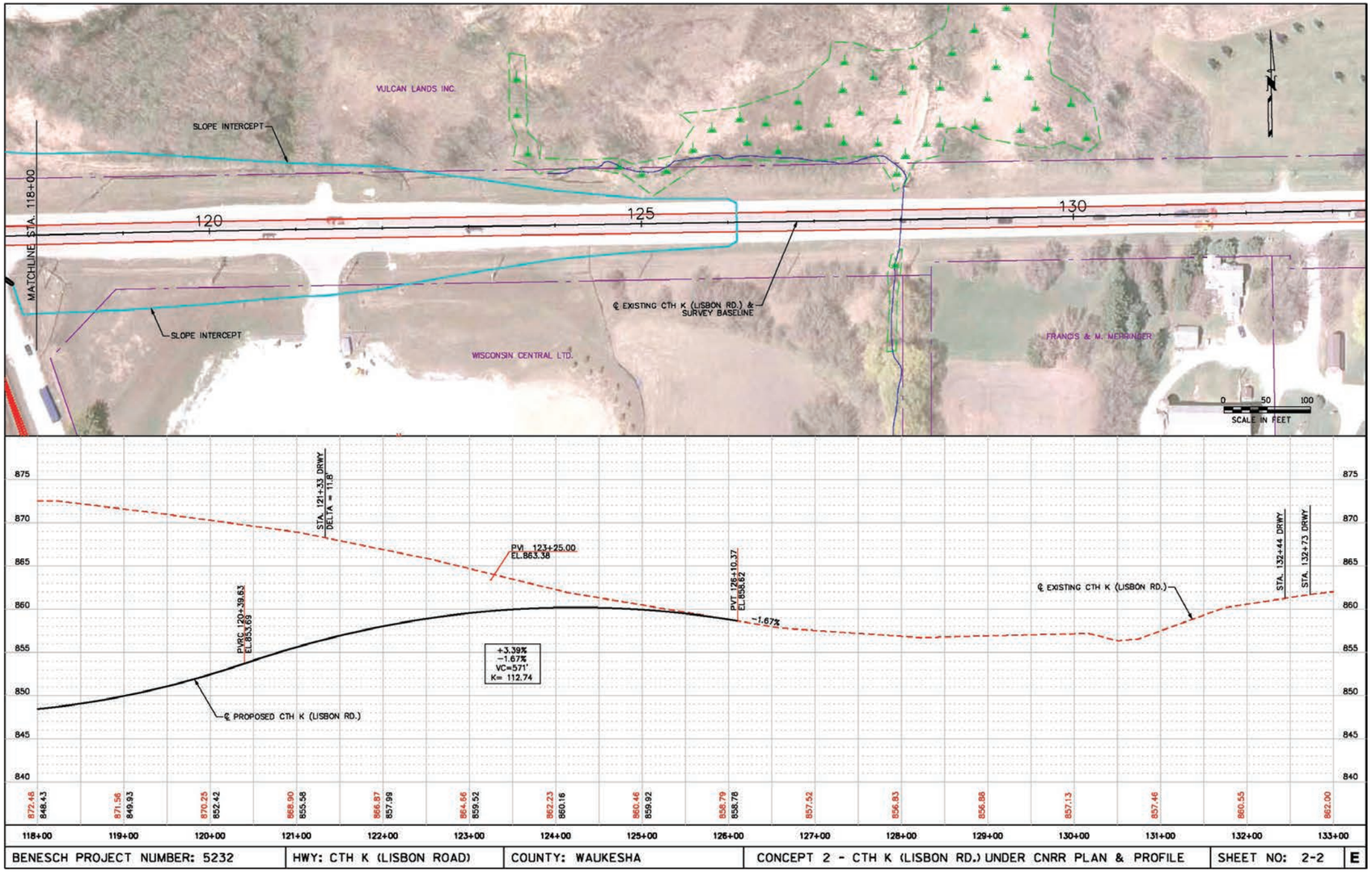
CTH K – RURAL SECTION WITH GUARD RAIL

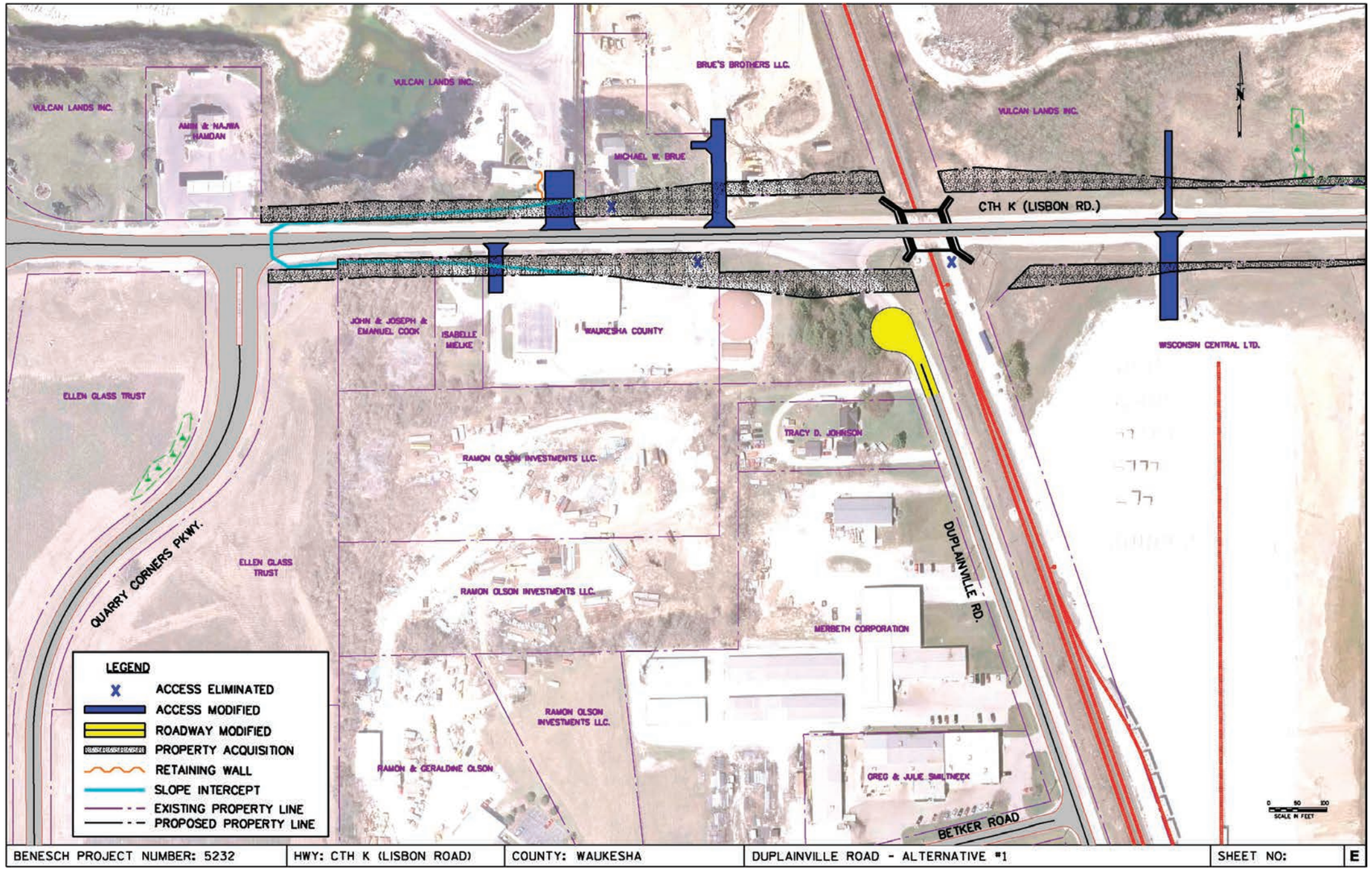
BENESCH PROJECT NUMBER: 5232	HWY: CTH K (LISBON ROAD)	COUNTY: WAUKESHA	CTH K TYPICALS	SHEET NO: TYP-1	E

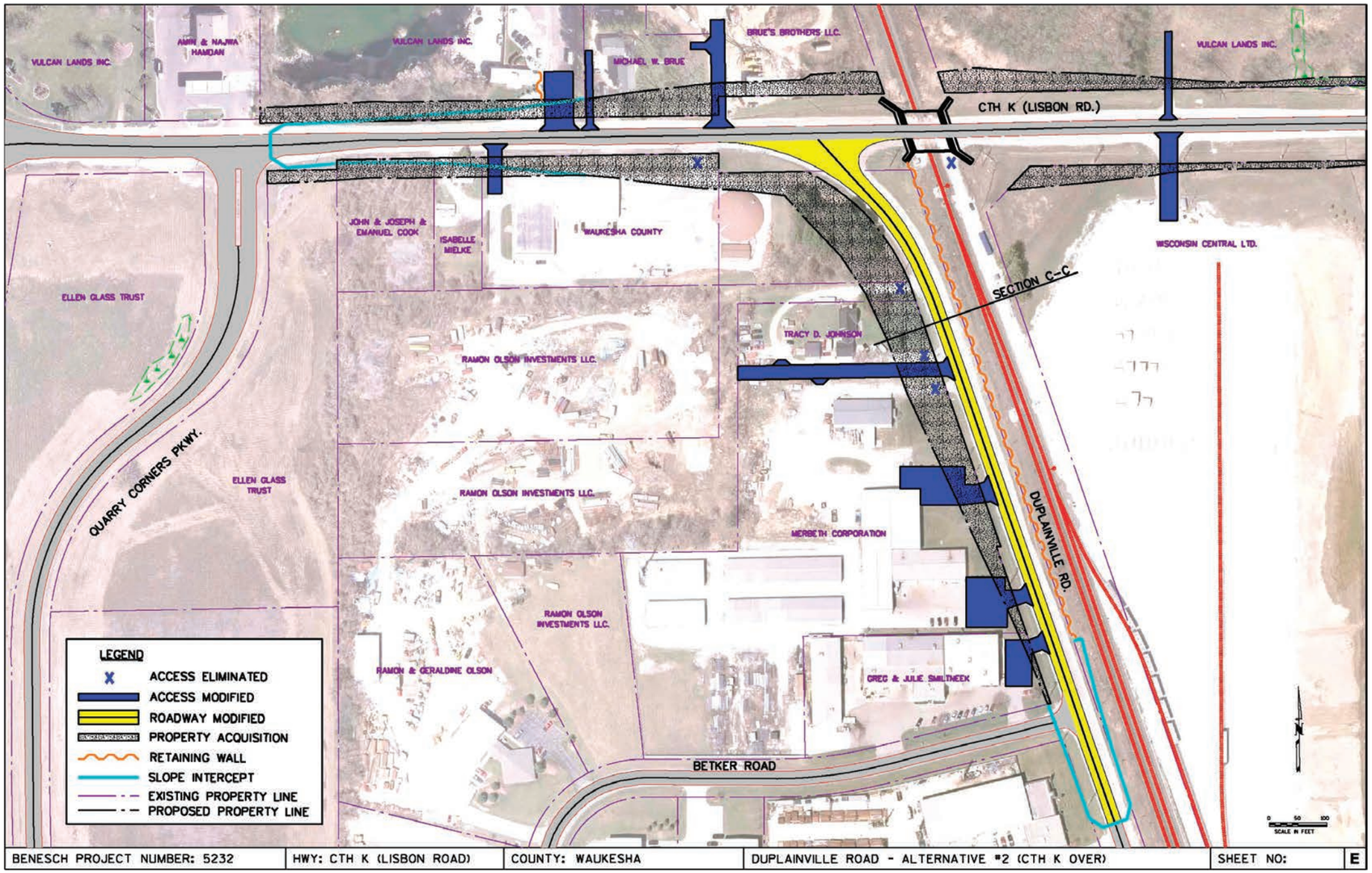

VULCAN LANDS INC.
MICHAEL W. BRUE
BRUE'S BROTHERS LLC.
℄ EXISTING CTH K (LISBON RD.) & SURVEY BASELINE
SLOPE INTERCEPT
STA. 117+05 ℄ CTH K = STA. 5555+77 ℄ CN MAINLINE
CN TO FOND DU LAC
SECTION A-A
STA. 115+14 ℄ CTH K = STA. 400+00 ℄ DUPLAINVILLE RD.
MATCHLINE STA. 120+00
105
110
115
120
5555
QUARRY CORNERS PKWY.
ELLEN GLASS TRUST
JOHN & JOSEPH & EMANUEL COOK
ISABELLE MIELKE
SLOPE INTERCEPT
WAUKESHA COUNTY
℄ EXISTING DUPLAINVILLE RD.
CN TO WAUKESHA
0 50 100
SCALE IN FEET
PVI 117+05.00 EL.912.37
900
895
890
885
880
875
870
-1.30%
+4.68%
VC=598'
K= 100.00
PVC 111+70.65 EL.887.37
℄ PROPOSED CTH K (LISBON RD.)
+4.68%
-4.98%
VC=1069'
K= 110.66
27'-0" MIN. CLEARANCE
STA. 105+14 ℄ QUARRY CORNERS PKWY EXISTING ELEV. 878.10
-1.30%
PVC 105+72.93 EL.877.26
STA. 105+18 DRWY
PVI 108+71.79 EL.873.38
STA. 108+76 DRWY DELTA = 4.1'
STA. 109+61 DRWY DELTA = 7.2'
STA. 110+52 DRWY DELTA = 10.8'
STA. 111+70 DRWY DELTA = 16.4'
STA. 113+11 DRWY DELTA = 23.2'
STA. 113+55 DRWY DELTA = 24.3'
℄ EXISTING CTH K (LISBON RD.)
STA. 115+14 ℄ DUPLAINVILLE RD. DELTA = 28.3'
STA. 117+05 ℄ CN RR TRACK EXISTING ELEV. 872.38
878.33
876.91 876.95
875.59 876.42
873.88 876.89
873.45 878.37
872.21 880.84
871.16 884.31
871.15 888.70
869.98 892.67
869.62 895.72
869.55 897.88
871.37 899.13
872.39 899.48
872.48 898.92
871.56 897.46
870.25 895.10
105+00
106+00
107+00
108+00
109+00
110+00
111+00
112+00
113+00
114+00
115+00
116+00
117+00
118+00
119+00
120+00
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
CONCEPT 1 - CTH K (LISBON RD.) OVER CNRR PLAN & PROFILE
SHEET NO: 1-1
E

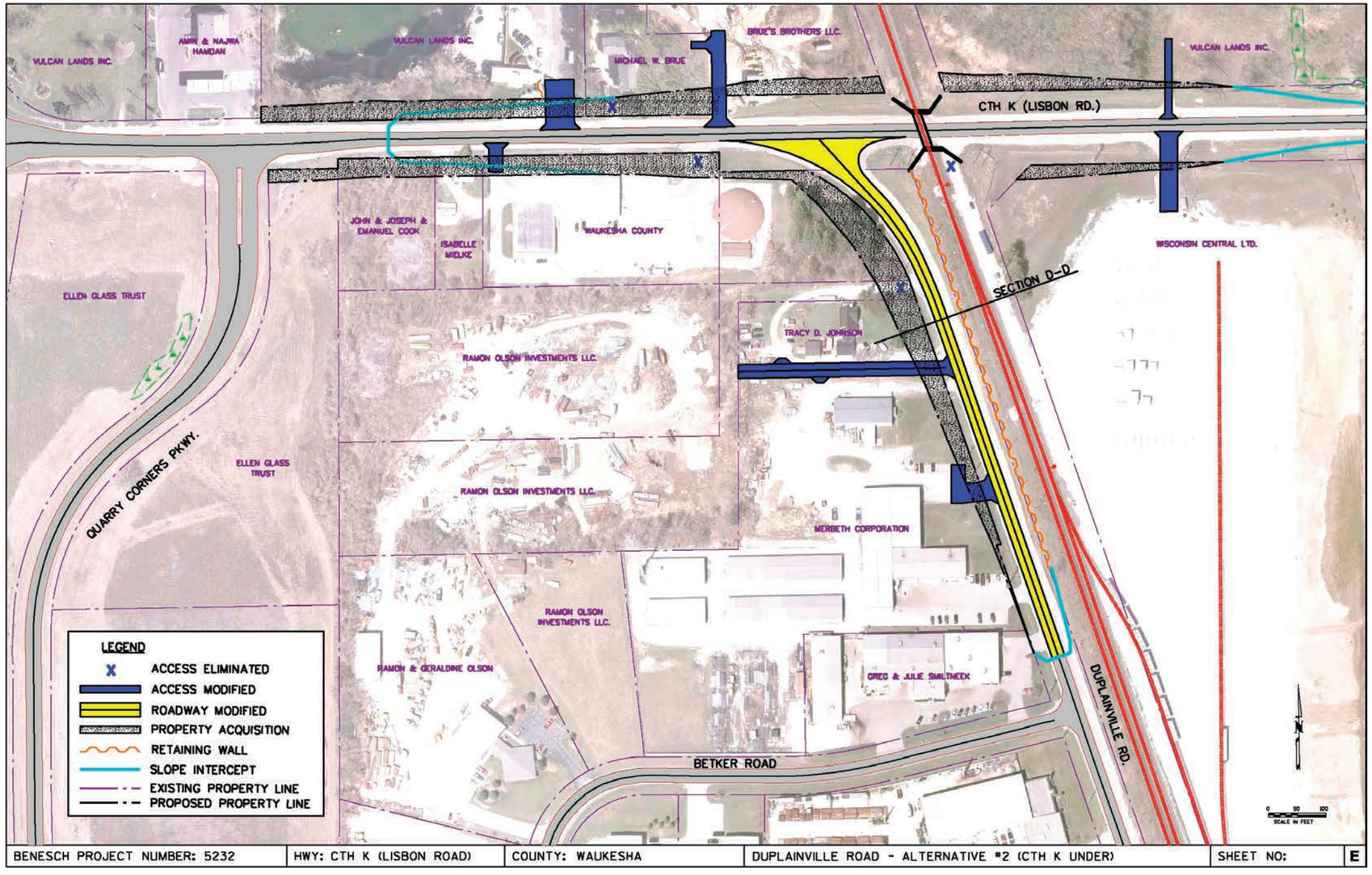

VULCAN LANDS INC.
SLOPE INTERCEPT
STA. 120+00
MATCHLINE
120
125
130
135
VULCAN LANDS INC.
℄ EXISTING CTH K (LISBON RD.) & SURVEY BASELINE
SLOPE INTERCEPT
WISCONSIN CENTRAL LTD.
FRANCIS & M. MEHRINGER
FRANCIS & M. MEHRINGER
0 50 100
SCALE IN FEET
890
885
880
875
870
865
860
855
PVT 122+38.35
EL.883.77
℄ PROPOSED CTH K (LISBON RD.)
-4.98%
STA. 121+33 DRWY
DELTA = 22.3°
PVC 125+20.19
EL.871.79
-4.98%
+1.16%
VC=614'
K= 100.00
PVT 131+33.79
EL.860.07
PVI 132+77.19
EL.861.74
+1.16%
STA. 132+73 DRWY
STA. 132+44 DRWY
DELTA = 0.2°
℄ EXISTING CTH K (LISBON RD.)
PVI 128+26.99
EL.856.52
870.25 895.10
868.90 891.83
868.87 887.86
864.56 882.76
862.23 877.78
860.46 872.80
858.79 868.14
857.52 864.46
856.83 861.78
856.88 860.10
857.13 859.42
857.46 859.74
860.55 860.84
862.00
863.16
865.08
120+00
121+00
122+00
123+00
124+00
125+00
126+00
127+00
128+00
129+00
130+00
131+00
132+00
133+00
134+00
135+00
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
CONCEPT 1 - CTH K (LISBON RD.) OVER CNRR PLAN & PROFILE
SHEET NO: 1-2
E

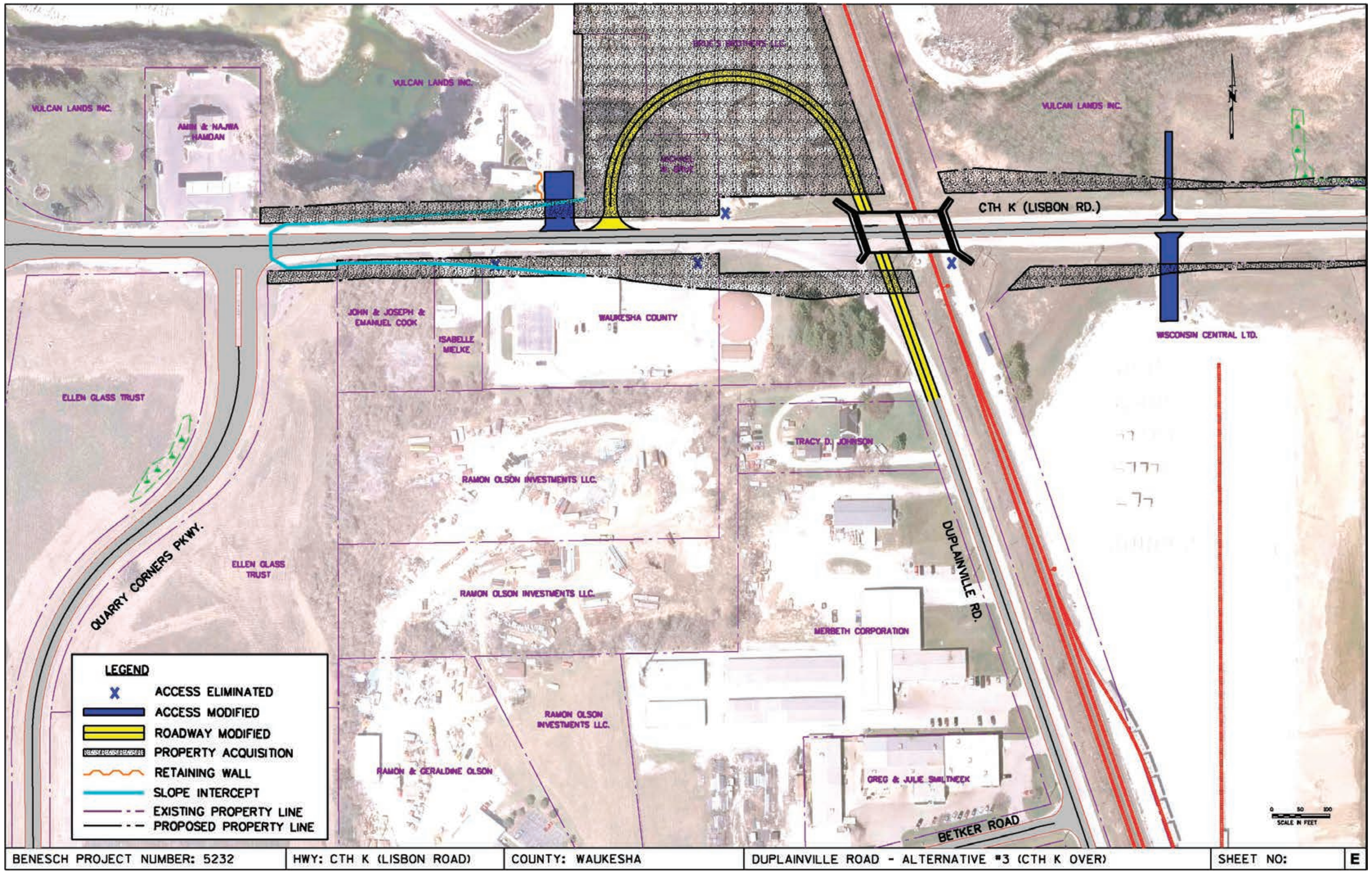

AMIN & NAJWA HAMDAN
VULCAN LANDS INC.
BRUE'S BROTHERS LLC.
MICHAEL W. BRUE
SLOPE INTERCEPT
℄ EXISTING CTH K (LISBON RD.) & SURVEY BASELINE
STA. 117+05 ℄ CTH K = STA. 5555+77 ℄ CN MAINLINE
105
110
115
SECTION B-B
MATCHLINE STA. 118+00
CN TO FOND DU LAC
5555
CN TO WAUKESHA
ELLEN GLASS TRUST
QUARRY CORNERS PKWY.
ELLEN GLASS TRUST
JOHN & JOSEPH & EMANUEL COOK
ISABELLE MIELKE
SLOPE INTERCEPT
WAUKESHA COUNTY
STA. 115+14 ℄ CTH K = STA. 400+00 ℄ DUPLAINVILLE RD.
℄ EXISTING DUPLAINVILLE RD.
0 50 100
SCALE IN FEET
STA. 105+16 DRWY
STA. 104+04 DRWY
℄ EXISTING CTH K (LISBON RD.)
-1.79%
STA. 105+14 ℄ QUARRY CORNERS PKWY. EXISTING ELEV. 878.10
PVC 107+78.32 EL.874.30
STA. 108+76 DRWY DELTA = 1.8°
PVI 109+00.00 EL.872.09
STA. 109+61 DRWY DELTA = 3.1°
STA. 110+52 DRWY DELTA = 5.7°
STA. 111+70 DRWY DELTA = 9.7°
STA. 113+11 DRWY DELTA = 14.3°
STA. 113+55 DRWY DELTA = 16.2°
STA. 117+05 ℄ CN RR TRACK EXISTING ELEV. 872.38
-1.79%
-4.04%
VC=247'
K= 110.00
PVT 110+23.68 EL.867.09
-4.04%
PVC 112+86.51 EL.856.08
STA. 115+14 ℄ DUPLAINVILLE RD. DELTA = 20.1°
-4.04%
+3.39%
VC=743'
K= 100.00
24'-0" MIN. CLEARANCE
℄ PROPOSED CTH K (LISBON RD.)
PVI 116+68.07 EL.841.08
880
875
870
865
860
855
850
845
851.81
879.86
878.33
876.91
875.59
873.98
873.85
873.45
871.39
872.21
868.02
871.16
864.01
871.15
859.98
869.98
855.94
869.62
852.44
869.55
849.94
871.37
848.43
872.38
847.93
872.48
848.43
103+00
104+00
105+00
106+00
107+00
108+00
109+00
110+00
111+00
112+00
113+00
114+00
115+00
116+00
117+00
118+00
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
CONCEPT 2 - CTH K (LISBON RD.) UNDER CNRR PLAN & PROFILE
SHEET NO: 2-1
E

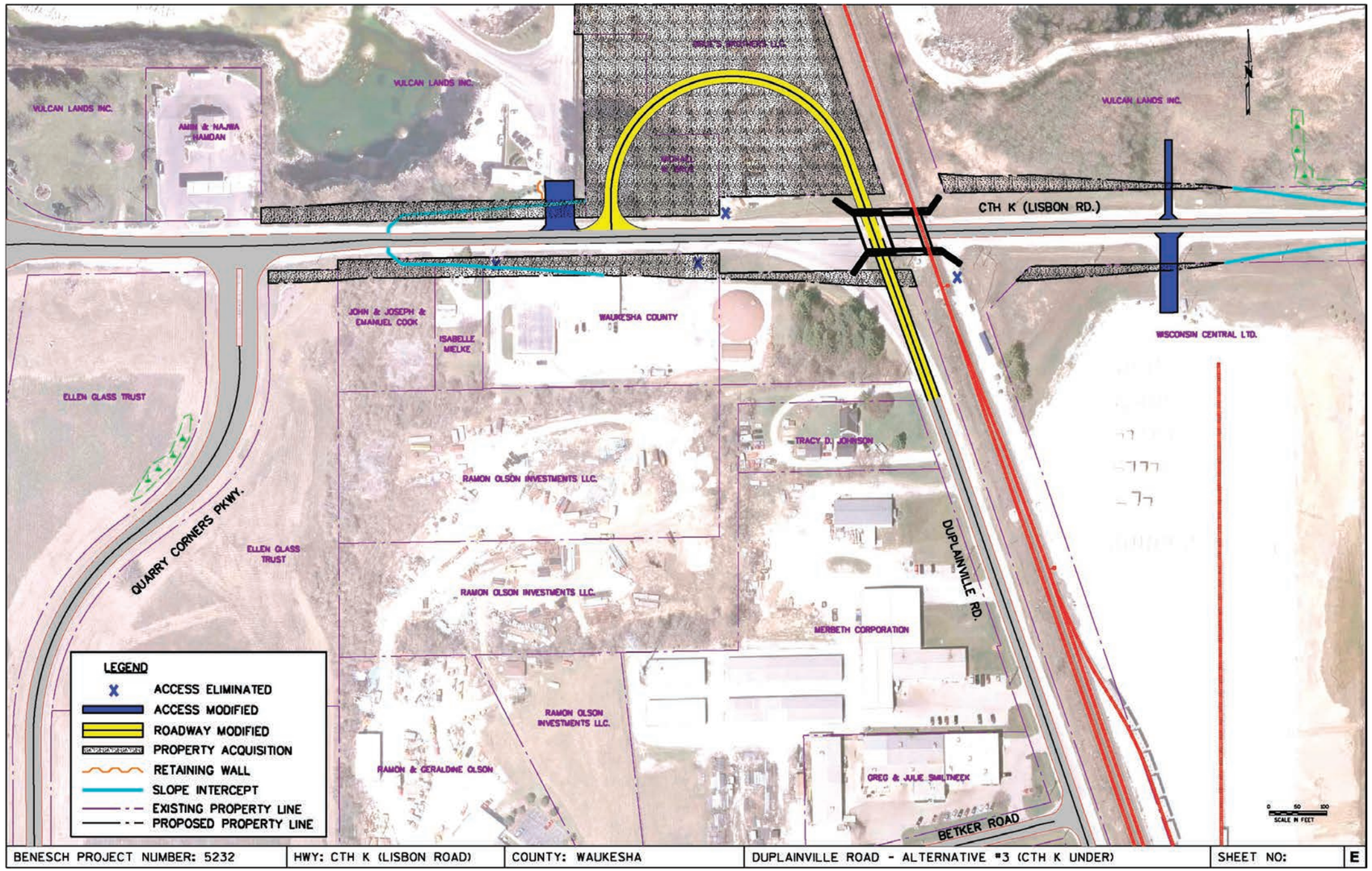

VULCAN LANDS INC.
SLOPE INTERCEPT
MATCHLINE STA. 118+00
120
125
130
℄ EXISTING CTH K (LISBON RD.) & SURVEY BASELINE
SLOPE INTERCEPT
WISCONSIN CENTRAL LTD.
FRANCIS & M. MERRINGER
0 50 100
SCALE IN FEET
875
870
865
860
855
850
845
840
STA. 121+33 DRWY
DELTA = 11.8°
PVI 123+25.00
EL.863.38
PVC 120+39.63
EL.853.69
PVT 126+10.37
EL.856.62
-1.67%
+3.39%
-1.67%
VC=571'
K= 112.74
℄ PROPOSED CTH K (LISBON RD.)
℄ EXISTING CTH K (LISBON RD.)
STA. 132+44 DRWY
STA. 132+73 DRWY
872.48 848.43
871.56 849.93
870.25 852.42
868.90 855.58
866.87 857.98
864.56 859.52
862.23 860.16
860.46 859.92
858.79 858.78
857.52
856.83
856.88
857.13
857.46
860.55
862.00
118+00
119+00
120+00
121+00
122+00
123+00
124+00
125+00
126+00
127+00
128+00
129+00
130+00
131+00
132+00
133+00
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
CONCEPT 2 - CTH K (LISBON RD.) UNDER CNRR PLAN & PROFILE
SHEET NO: 2-2
E

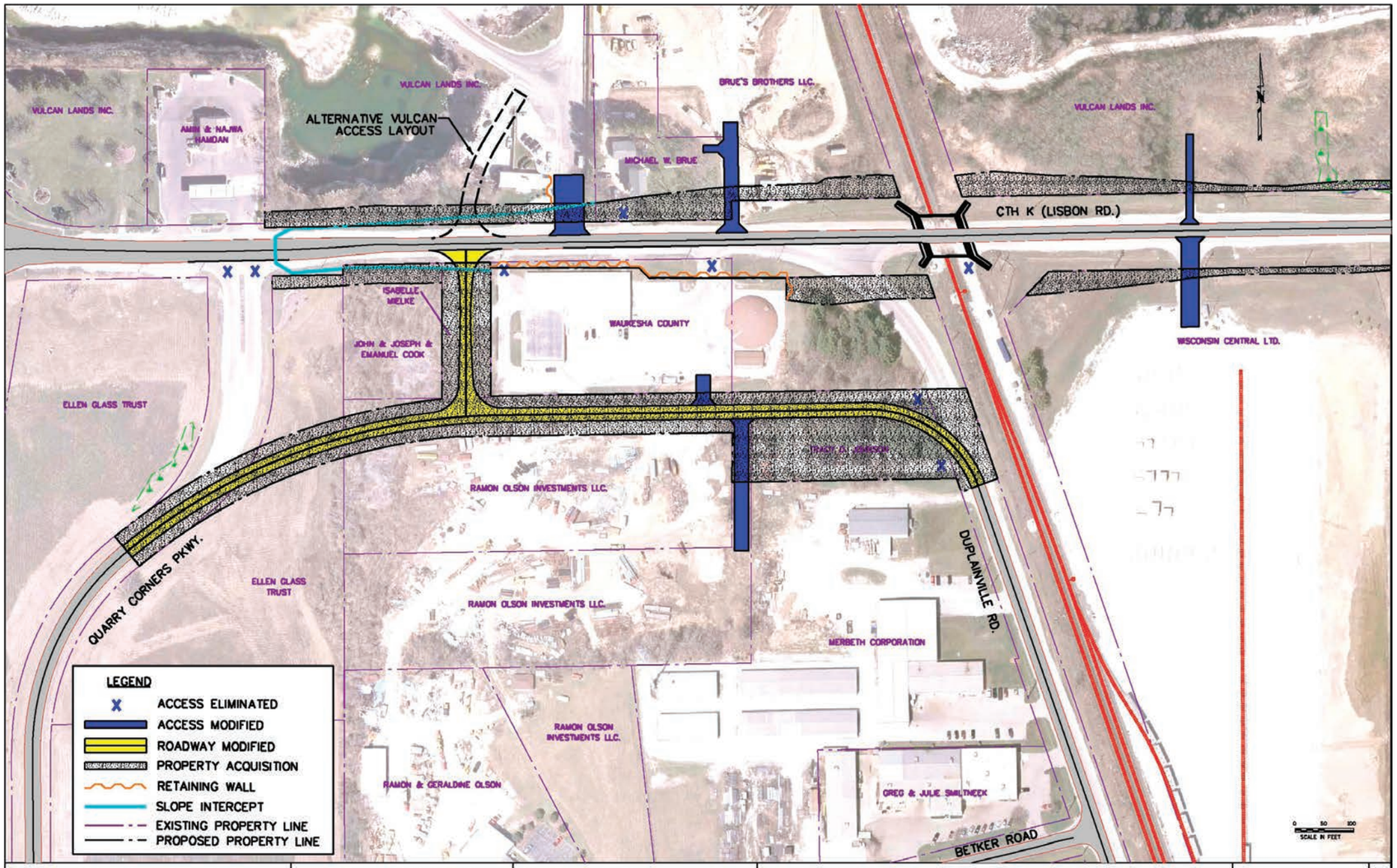

VULCAN LANDS INC.
AMIN & NAJWA HAMDAN
VULCAN LANDS INC.
BRUE'S BROTHERS LLC.
MICHAEL W. BRUE
VULCAN LANDS INC.
CTH K (LISBON RD.)
JOHN & JOSEPH & EMANUEL COOK
ISABELLE MIELKE
WAUKESHA COUNTY
WISCONSIN CENTRAL LTD.
ELLEN GLASS TRUST
TRACY D. JOHNSON
RAMON OLSON INVESTMENTS LLC.
DUPLAINVILLE RD.
QUARRY CORNERS PKWY.
ELLEN GLASS TRUST
RAMON OLSON INVESTMENTS LLC.
MERBETH CORPORATION
RAMON OLSON INVESTMENTS LLC.
RAMON & GERALDINE OLSON
GREG & JULIE SMALTNECK
BETKER ROAD
LEGEND
ACCESS ELIMINATED
ACCESS MODIFIED
ROADWAY MODIFIED
PROPERTY ACQUISITION
RETAINING WALL
SLOPE INTERCEPT
EXISTING PROPERTY LINE
PROPOSED PROPERTY LINE
SCALE IN FEET
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
DUPLAINVILLE ROAD - ALTERNATIVE #1
SHEET NO:
E

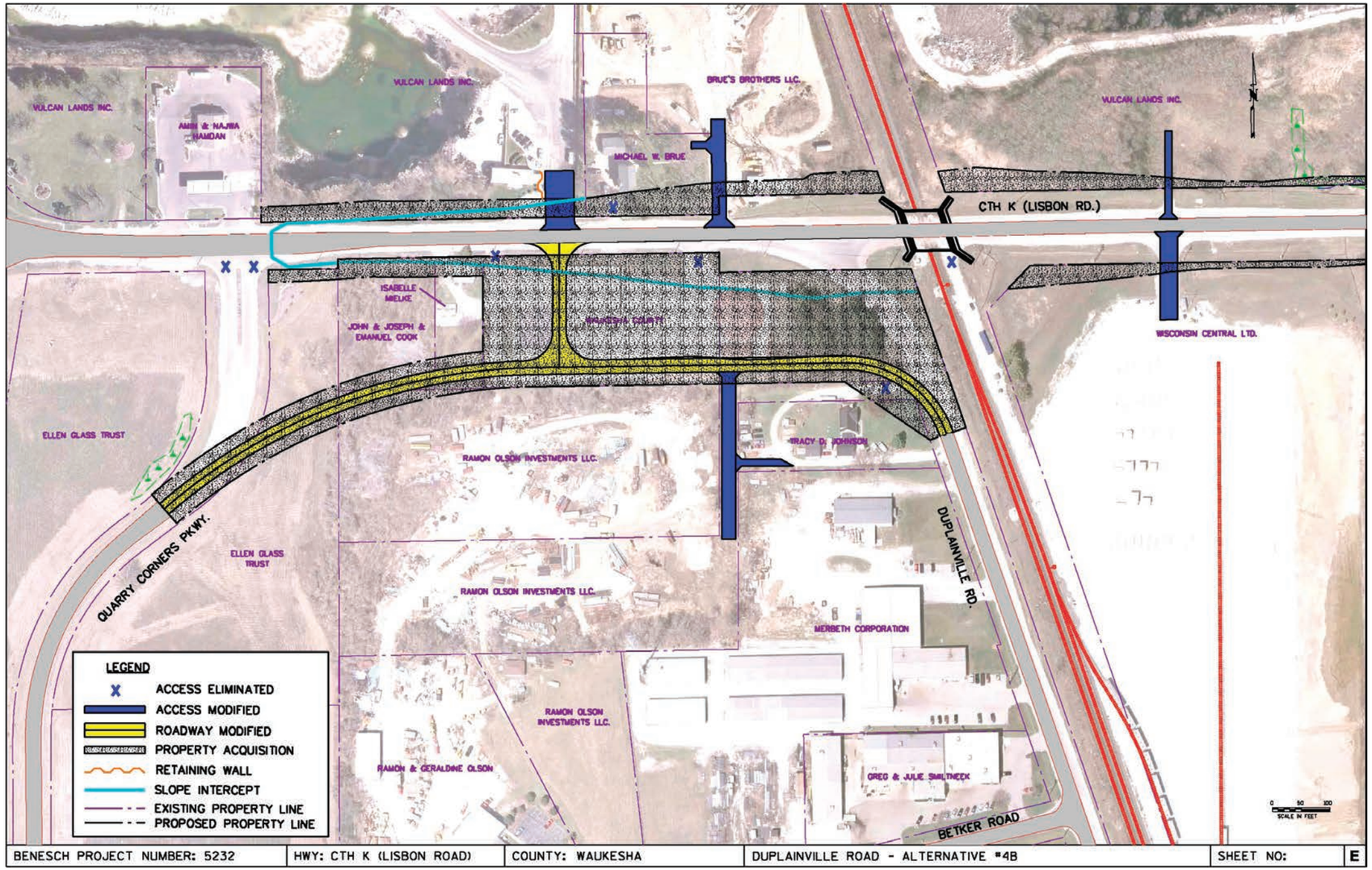

VULCAN LANDS INC.
AMIN & NAJWA HAMDAN
VULCAN LANDS INC.
MICHAEL W. BRUE
BRUE'S BROTHERS LLC.
VULCAN LANDS INC.
CTH K (LISBON RD.)
JOHN & JOSEPH & EMANUEL COOK
ISABELLE MIELKE
WAUKESHA COUNTY
WISCONSIN CENTRAL LTD.
SECTION C-C
ELLEN GLASS TRUST
TRACY D. JOHNSON
RAMON OLSON INVESTMENTS LLC.
QUARRY CORNERS PKWY.
ELLEN GLASS TRUST
RAMON OLSON INVESTMENTS LLC.
MERBETH CORPORATION
DUPLAINVILLE RD.
RAMON OLSON INVESTMENTS LLC.
RAMON & GERALDINE OLSON
GREG & JULIE SMILTNEEK
BETKER ROAD
LEGEND
ACCESS ELIMINATED
ACCESS MODIFIED
ROADWAY MODIFIED
PROPERTY ACQUISITION
RETAINING WALL
SLOPE INTERCEPT
EXISTING PROPERTY LINE
PROPOSED PROPERTY LINE
0 50 100
SCALE IN FEET
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
DUPLAINVILLE ROAD - ALTERNATIVE #2 (CTH K OVER)
SHEET NO:
E


VULCAN LANDS INC.
AMIN & NAJWA HAMDAN
VULCAN LANDS INC.
MICHAEL W. BRUE
BRUE'S BROTHERS LLC.
VULCAN LANDS INC.
CTH K (LISBON RD.)
JOHN & JOSEPH & EMANUEL COOK
ISABELLE MIELKE
WAUKESHA COUNTY
WISCONSIN CENTRAL LTD.
SECTION D-D
ELLEN GLASS TRUST
TRACY D. JOHNSON
RAMON OLSON INVESTMENTS LLC.
QUARRY CORNERS PKWY.
ELLEN GLASS TRUST
RAMON OLSON INVESTMENTS LLC.
MERBETH CORPORATION
RAMON OLSON INVESTMENTS LLC.
RAMON & GERALDINE OLSON
GREG & JULIE SMILTNEEK
DUPLAINVILLE RD.
BETKER ROAD
LEGEND
ACCESS ELIMINATED
ACCESS MODIFIED
ROADWAY MODIFIED
PROPERTY ACQUISITION
RETAINING WALL
SLOPE INTERCEPT
EXISTING PROPERTY LINE
PROPOSED PROPERTY LINE
0 50 100
SCALE IN FEET
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
DUPLAINVILLE ROAD - ALTERNATIVE #2 (CTH K UNDER)
SHEET NO:
E

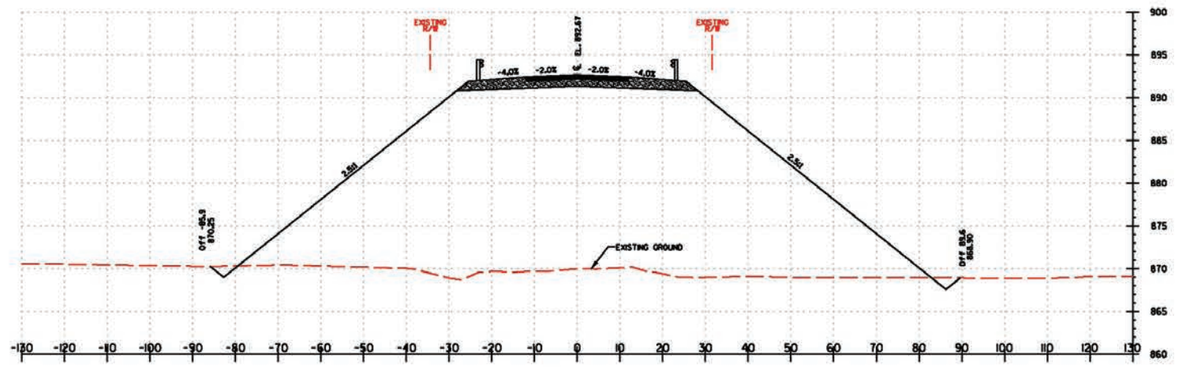

VULCAN LANDS INC.
AMIN & NAJMA HAMDAN
VULCAN LANDS INC.
VULCAN LANDS INC.
CTH K (LISBON RD.)
JOHN & JOSEPH & EMANUEL COOK
ISABELLE MIELKE
WAUKESHA COUNTY
WISCONSIN CENTRAL LTD.
ELLEN GLASS TRUST
TRACY D. JOHNSON
RAMON OLSON INVESTMENTS LLC.
DUPLAINVILLE RD.
ELLEN GLASS TRUST
QUARRY CORNERS PKWY.
RAMON OLSON INVESTMENTS LLC.
MERBETH CORPORATION
RAMON OLSON INVESTMENTS LLC.
RAMON & GERALDINE OLSON
BETKER ROAD
LEGEND
ACCESS ELIMINATED
ACCESS MODIFIED
ROADWAY MODIFIED
PROPERTY ACQUISITION
RETAINING WALL
SLOPE INTERCEPT
EXISTING PROPERTY LINE
PROPOSED PROPERTY LINE
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
DUPLAINVILLE ROAD - ALTERNATIVE #3 (CTH K OVER)
SHEET NO:
E


VULCAN LANDS INC.
AMIN & NAJWA HAMDAN
VULCAN LANDS INC.
VULCAN LANDS INC.
CTH K (LISBON RD.)
JOHN & JOSEPH & EMANUEL COOK
ISABELLE MELKE
WAUKESHA COUNTY
WISCONSIN CENTRAL LTD.
ELLEN GLASS TRUST
TRACY D. JOHNSON
RAMON OLSON INVESTMENTS LLC.
QUARRY CORNERS PKWY.
ELLEN GLASS TRUST
DUPLAINVILLE RD.
RAMON OLSON INVESTMENTS LLC.
MERBETH CORPORATION
RAMON OLSON INVESTMENTS LLC.
RAMON & GERALDINE OLSON
GREG & JULIE SMILTNECK
BETKER ROAD
LEGEND
ACCESS ELIMINATED
ACCESS MODIFIED
ROADWAY MODIFIED
PROPERTY ACQUISITION
RETAINING WALL
SLOPE INTERCEPT
EXISTING PROPERTY LINE
PROPOSED PROPERTY LINE
SCALE IN FEET
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
DUPLAINVILLE ROAD - ALTERNATIVE #3 (CTH K UNDER)
SHEET NO:
E

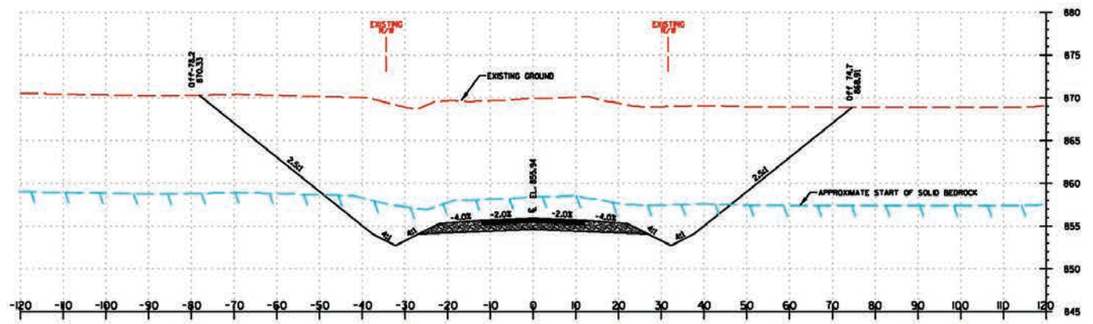

VULCAN LANDS INC.
AMIN & NAJWA HAMDAN
ALTERNATIVE VULCAN ACCESS LAYOUT
VULCAN LANDS INC.
BRUE'S BROTHERS LLC.
MICHAEL W. BRUE
VULCAN LANDS INC.
CTH K (LISBON RD.)
ISABELLE MELKE
JOHN & JOSEPH & EMANUEL COOK
WAUKESHA COUNTY
WISCONSIN CENTRAL LTD.
ELLEN GLASS TRUST
TRACY M. JOHNSON
RAMON OLSON INVESTMENTS LLC.
QUARRY CORNERS PKWY.
ELLEN GLASS TRUST
RAMON OLSON INVESTMENTS LLC.
DUPLAINVILLE RD.
MERBETH CORPORATION
RAMON OLSON INVESTMENTS LLC.
RAMON & GERALDINE OLSON
GREG & JULIE SMELTNECK
BETKER ROAD
LEGEND
ACCESS ELIMINATED
ACCESS MODIFIED
ROADWAY MODIFIED
PROPERTY ACQUISITION
RETAINING WALL
SLOPE INTERCEPT
EXISTING PROPERTY LINE
PROPOSED PROPERTY LINE
0 50 100
SCALE IN FEET
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
DUPLAINVILLE ROAD - ALTERNATIVE #4A
SHEET NO:
E


VULCAN LANDS INC.
AMIN & NAJWA HAMDAN
VULCAN LANDS INC.
BRUE'S BROTHERS LLC.
MICHAEL W. BRUE
VULCAN LANDS INC.
CTH K (LISBON RD.)
ISABELLE MIELKE
JOHN & JOSEPH & EMANUEL COOK
WISCONSIN CENTRAL LTD.
ELLEN GLASS TRUST
RAMON OLSON INVESTMENTS LLC.
TRACY D. JOHNSON
QUARRY CORNERS PKWY.
ELLEN GLASS TRUST
DUPLAINVILLE RD.
RAMON OLSON INVESTMENTS LLC.
MERBETH CORPORATION
RAMON OLSON INVESTMENTS LLC.
RAMON & GERALDINE OLSON
GREG & JULIE SMALTINDEK
BETKER ROAD
LEGEND
ACCESS ELIMINATED
ACCESS MODIFIED
ROADWAY MODIFIED
PROPERTY ACQUISITION
RETAINING WALL
SLOPE INTERCEPT
EXISTING PROPERTY LINE
PROPOSED PROPERTY LINE
SCALE IN FEET
BENESCH PROJECT NUMBER: 5232
HWY: CTH K (LISBON ROAD)
COUNTY: WAUKESHA
DUPLAINVILLE ROAD - ALTERNATIVE #4B
SHEET NO:
E

CROSS SECTIONS - CTH K (LISBON ROAD)



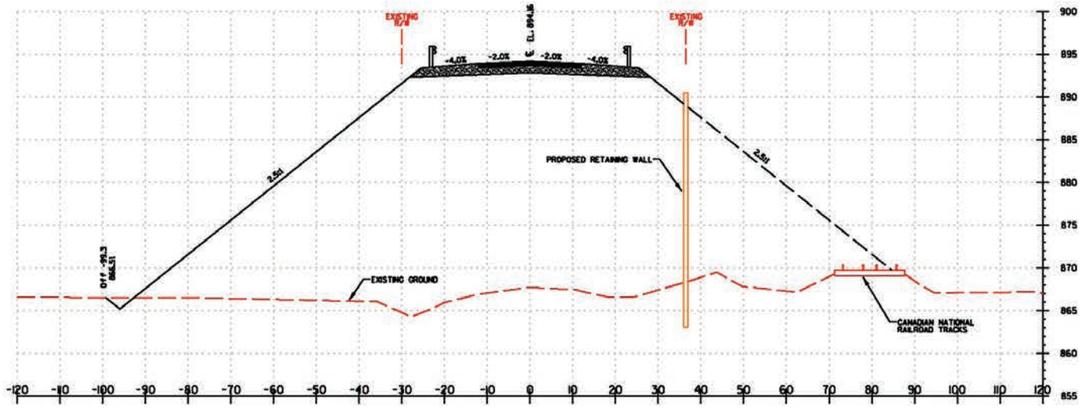
SECTION A-A
CONCEPT 1- CTH K (LISBON ROAD) OVER CNRR



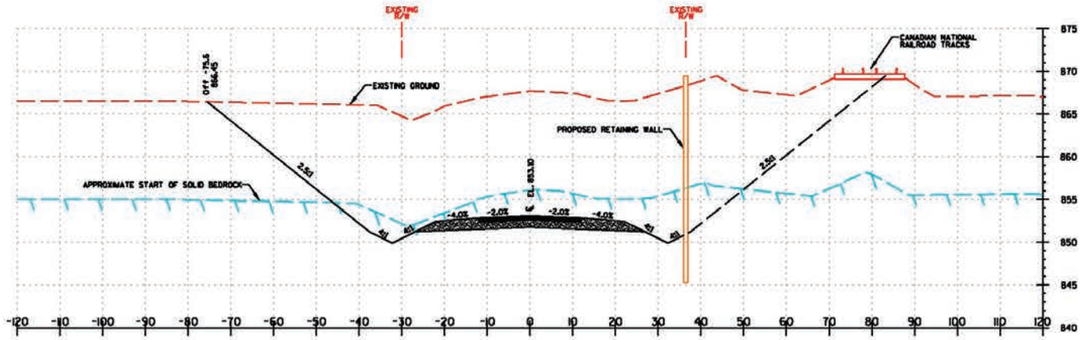
SECTION B-B
CONCEPT 2 - CTH K (LISBON ROAD) UNDER CNRR

BENESCH PROJECT NUMBER: 5232	HWY: CTH K (LISBON ROAD)	COUNTY: WAUKESHA	CROSS SECTIONS - CTH K (LISBON ROAD)	SHEET NO:	E

CROSS SECTIONS - DUPLAINVILLE ROAD



SECTION C-C
CONCEPT 1- CTH K (LISBON ROAD) OVER CNRR



SECTION D-D
CONCEPT 2 - CTH K (LISBON ROAD) UNDER CNRR

BENESCH PROJECT NUMBER: 5232	HWY: CTH K (LISBON ROAD)	COUNTY: WAUKESHA	CROSS SECTIONS - DUPLAINVILLE ROAD	SHEET NO:	E

CTH SR (Springdale Road) – STH 190 CTH K and
CTH K (Lisbon Road) – Canadian Northern Railroad Grade Separation
Feasibility Study
Waukesha County

Public Informational Meeting – March 27, 2007

Meeting Attendance

Name	Address/Phone	Affiliation
Mike Kunz, Joe Neal, Ben Weigand, Dan Rivers	4633 Washington Road Kenosha, WI 53144 262/652-6677	Alfred Benesch & Company
Bernard Domecki	W220 N3403 Springdale Road Pewaukee, WI 53072 262/691-4226	
Isabelle Mielke	N51 W23117 Lisbon Road Pewaukee, WI 53072 262/246-3893	
John Deluca	N51 W22070 Lisbon Rd Sussex, WI 53089 262/820-0393	
James L. Smith	W224 N4865 West View Drive Sussex, WI 53089 262/246-6352	
Tom & Susan Wiederstein	4755 Catherine Court Pewaukee, WI 53072 262/790-6893	
Mary & Jack Wenstrom	734 River Reserve Drive Hartland, WI 53029 262/367-7132	
Amin Hamdan	N52 W23206 Lisbon Road Sussex, WI 53089 262/246-1999	
David J. Goss	4690 Catherine Ct Pewaukee, WI 53072 262/781-3464	
Peter Marzo	W225 N4250 Duplainville Road Pewaukee, WI 53072 262/593-2499	

Name	Address/Phone	Affiliation
Fred & Marlene Schildt	N48 W22288 Weyer Road Pewaukee, WI 53072 262/695-1574	
John Hollenstein	N47 W22683 Weyer Road Pewaukee, WI 53072 262/691-0403	
Edna Piel	N52 W22444 Lisbon Road Sussex, WI 53089 262/246-3113	
Jeff Weigle	W240 N3065 Pewaukee Road Pewaukee, WI 53072 262/691-6023	City of Pewaukee
Don Krenke	N47 W22455 Weyer Road Pewaukee, WI 53072 262/695-0624	
Tom Price	N35 W22000 Capitol Drive Pewaukee, WI 53072 262/695-2211	Spring Creek Church
Kevin Konkol	W220 N4912 Town Line Road Menomonee Falls, WI 53051 262/252-3022	
Mark Brue	N82 W28275 Marshall Drive Hartland, WI 53029 262/538-1265	
Chris Michels	P.O. Box 798 Elm Grove, WI 262/789-6944	All-Ways Contractors, Inc.
Sue & John Hollenstein	N47 W22683 Weyer Road Pewaukee, WI 53072 262/691-0403	
Tim Kyte	N33 W22050 Hill N Dale Cir Pewaukee, WI 53072 262/695-8751	
Robb Schuelke	21005 Gumina Rd Pewaukee, WI 53072 262/783-5437	Children's Learning Center
Jim & Lynn Goetz	909 Buena Vista Avenue Waukesha, WI 53188 262/542-8261	

Name	Address/Phone	Affiliation
Brain Bazile	N48 W22106 Weyer Rd Pewaukee, WI 53072 262-691-7695	
William Spilger	W223 N4820 East View Dr Sussex, WI 53089 262/691-0377	
Jeffrey Mierow	17635 Bolter Lane Brookfield, WI 53045 262/784-0930	
John Posh	N51 W21850 Lisbon Road Menomonee Falls, WI 53051 262/703-0427	
Harlan Clinkenbeard	W240 N3065 Pewaukee Road Pewaukee, WI 53072 262/691-0770	City of Pewaukee
Jill & Mark Reitz	4735 Catherine Court Pewaukee, WI 53072 262/783-4711	
Rachel Glennon	4715 Catherine Court Pewaukee, WI 53072 262/783-5774	
Alan Schneider	N49 W21045 River Road Menomonee Falls, WI 53051 262/252-6748	
Francis & Mae Mehringer	N51 W22619 CTH K Sussex, WI 53089 262/246-4331	
Chris Hockerman	N51 W22209 Lisbon Road Sussex, WI 53089 262/246-8172	
Russ Evans	W29051 Cambria Rd Waukesha, WI 53149 262/968-4489	
Gene Caspersen	W224 N4885 West View Drive Sussex, WI 53089 262/246-3788	
George Evert	W220 N4915 Town Line Road Sussex, WI 53089 62/691-1737	Redeemer United Church of Christ

Name	Address/Phone	Affiliation
Ed Hinrichs, P.E.	1320 Pewaukee Road Waukesha, WI 53188 262/548-7740	Waukesha County
Peter Merbeth	W229 N5087 Duplainville Rd Pewaukee, WI 53072 262/246-3500	Merbeth Metal Products
Marcia Lanois	W220 N4575 County Truck V Pewaukee, WI 53072 262/691-2582	
Jeff Liesenfeld	W223 N4894 East View Sussex, WI 53089 262/246-0341	
Maribeth & John DeLuca	N51 W22070 Lisbon Road Sussex, WI 53089 262/820-0393	
Dan Olson	N50 W23076 Betker Drive Pewaukee, WI 53072 262/246-0600	Globe Contractors, Inc.
Gary Ray	N50 W22405 Roberta Drive Sussex, WI 53089 262/246-7004	
Bob Rockey	21815 Weyer Pewaukee, WI 53072 262/783-4718	
Roger Fedel	N4 W27327 Hilltop Drive Waukesha, WI 53188 262/547-3185	
Fritz Ruf	W276 N1905 Spring Creek Dr Pewaukee, WI 53072 262/691-1527	Waukesha County Supervisor
Mark & Diane Millard	W220 N3421 Springdale Rd Pewaukee, WI 53072 262/691-9369	
Jerry & Natalie Pinnow	W223 N4921 East View Dr Sussex, WI 53089 262-246-6454	
Ervin Krueger	21700 W. Gumina Road Pewaukee, WI 53072 262/781-6957	

Name	Address/Phone	Affiliation
Steve Popek	21265 Weyer Road Pewaukee, WI 53072 262/783-5107	Town of Brookfield
Chris Michaels	2935 Lilly Road Brookfield, WI 53005 262/510-9060	
Donald F. Brue	4913 N. Duplainville Road Pewaukee, WI 53072 262/246-6015	
Michael W. Brue	N52 W23070 Lisbon Road Sussex, WI 53089 262/246-6015	
Jim Taylor	4655 Catherine Court Pewaukee, WI 53072 262/790-1505	
Bob Rockey	21815 Weyer Road Pewaukee, WI 53072 262/783-4718	
William Carrity	12720 W North Ave Brookfield, WI 53005 262/785-1968	Carrity Land Corp
Daniel A. Holzhauer	N47 W22175 Weyer Road Pewaukee, WI 53072 262/691-0881	
David W. Swan	W239 N4050 Swan Road Pewaukee, WI 53072 262/691-0471	Waukesha County
Alan & Chris Schneider	N49 W21045 River Road Menomonee Falls, WI 53051 262/252-6748	
James Bira	21995 Weyer Road Pewaukee, WI 53072 262/492-5120	
Stephanie & Tim Diener	W224 N4950 West View Drive Sussex, WI 53089 262/246-3813	

Name	Address/Phone	Affiliation
Chris Hockerman	N51 W22209 Lisbon Road Sussex, WI 53089 262/246-8172	
Donald Brue	997 Woodview Court Slinger, WI 53086 262/644-0295	

CTH K (Lisbon Road) & CN Railroad Crossing
Grade Separation Feasibility Study
Waukesha County

PUBLIC INFORMATION MEETING
March 27, 2007

Comments

Name	Comments
Brian Bazile N48 W22106 Weyer Road Pewaukee, WI 53072	In my opinion, the road should go over the tracks and use alternative #2 to keep the routing about the same as it is now.
Harlan Clinkenbeard City of Pewaukee W240 N3065 Pewaukee Road Pewaukee, WI 53072	Duplainville Road must have a connection to CTH K. Alternative 4A preferred.
James L. Smith W224 N4865 West View Drive Sussex, WI	Alternative #4A is in my mind the best solution for this project with the least amount of problems created. I feel the overpass would be much more efficient all around for this area.
Jim Taylor 4655 Catherine Court Pewaukee, WI 53072	Do nothing – it is not needed.
Stephanie Diener W224 N4950 West View Drive Lisbon, WI	I'm against Duplainville becoming a cul-de-sac. I'm most in favor of K going under the tracks, less land use. I'm wondering if it is possible to have the switching track further north to decrease the disturbance with the residential area.
No name	Would prefer to see K go over railroad.
Dave Swan Supervisor District #15 Waukesha County W239 N4050 Swan Road Pewaukee, WI 53072	Over railroad tracks. And before Weyer is closed and after SR is extended. Listen to residents.
Amin Hamden Quarry Mart Mobil, Inc. N52 W23206 Lisbon Road Sussex, WI 53089 262/246-1999	I like to see plan 4A implemented. I own the Quarry Mart and I think this is the best plan.

CTH K (Lisbon Road) & CN Railroad Crossing
Grade Separation Feasibility Study
Waukesha County

PUBLIC INFORMATION MEETING
March 27, 2007

Comments

Name	Comments
N52 W23202 Lisbon Road Sussex, WI 53089	Plan 4A – the best one.
Isabelle Mielke N51 W23117 Lisbon Road Pewaukee, WI 53072	I was to your meeting and my house seems to be one to come down. I'm 93 years old and was born in this house. Why tear up half of Waukesha County for just 2 or 3 miles that could be fixed. The railroad tracks are the problem. We Wisconsin elderly are so over taxed already with schools and roads, we can't live, so use some judgment in your plans. We like to live too.
Alan Schneider N49 W21045 River Road Menomonee Falls, WI 53051	Concept 1 with Alternative 4A.
Janet Stolp N51 W22181 Lisbon Road Sussex, WI 53089	4A – Widen the road, we need 4 lanes on Lisbon Road. We cannot even get out our driveway now. I don't want a bridge to drive over the train either, make the train go under the road (the best solution with the 4 lanes on Lisbon Road) or the cars go under the train. I feel this might cause more accidents if only 2 lanes.
Mary Runkies N56 W23001 Townline Road	I like plan 4A. I would like to see Hwy. K 4 lanes.
Jajwa Hamdan W23206 Lisbon Road Sussex, WI 53089	I like plan 4A. Please widen Hwy. K.
Peter Merbeth W229 N5087 Duplainville Pewaukee, WI 53072	I am writing in regard to the CTH K (Lisbon Road) and CN Railroad crossing grade separation. I own two businesses on Duplainville Road that would be affected by the Duplainville Road/Hwy. K proposed project. Merbeth Metal Products, Inc. is a metal fabricating business and Merbeth Storage is a mini warehouse facility. Both businesses have a considerable amount of traffic entering and exiting our driveways. We would prefer the alternate #4 (sheets #3E-4E) as our first choice. With the high volume of semis and trucks coming in

CTH K (Lisbon Road) & CN Railroad Crossing
Grade Separation Feasibility Study
Waukesha County

PUBLIC INFORMATION MEETING
March 27, 2007

Comments

Name	Comments
	and going out of our facility, as well as our customers and employees, we need easy access to Highway K. My second choice would be for alternate #3, sheet 3-3. I am against closing off Duplainville and making it a turn around.
Peter Merbeth Merbeth Metal Products, Inc. W229 N5087 Duplainville Rd. Pewaukee, WI 53072	I own a metal fabricating business (W229 N5087 Duplainville Road) on Duplainville Road. I do not want Duplainville Road closed off or turned into a cul-de-sac, I am for Option #4A Alternative.
Greg Smiltneek Resource Machining & Welding Corp. W229 N5065 Duplainville Rd. Pewaukee, WI 53072 262-246-4000 (shop) 262-751-1334 (cell)	Option #4A Alternative. Do not close off Duplainville Road or cul-de-sac it.
Kevin Merbeth Merbeth Storage W229 N5087 Duplainville Rd. Pewaukee, WI 53072	I own a mini warehouse facility on Duplainville Road (W229 N5087 Duplainville Road). I am for Option 4A alternative. I do not want Duplainville Road closed off or turned into a cul-de-sac. It that was to happen, it would have a great impact on my business.
Bob Rockey 21815 Weyer Road Pewaukee, WI 53072	I live less than 1 mile from this site and cross these tracks multiple times a day. I assume the Weyer Road crossing stays open! Due to storm water problems, I support a bridge over the tracks (concept 1). Regarding Duplainville Road, I support Alt. 4B as it corrects a bad entry into Quarry Corner Parkway and uses more county property for the route, less expensive to purchase/condemn the adjoining private land.

Appendix G - Meeting Agenda

FEASIBILITY STUDIES
WAUKESHA COUNTY
CTH K/CN GRADE SEPARATION
CTH SR EXTENSION STH 190 – CTH K

COMMUNITY ADVISORY COMMITTEE MEETING
April 24, 2007
4:00 PM - 6:00 PM

AGENDA

1.	INTRODUCTION	4:00 - 4:10
2.	CTH K - UPDATE	4:10 - 4:25
3.	CTH SR - EVALUATION CRITERIA	4:25 - 4:50
	BREAK	
4.	CTH SR - ALTERNATIVE EVALUATION	5:00 - 5:30
5.	OPEN DISCUSSION	5:30 - 5:50
6.	MEETING WRAP-UP	5:50 - 6:00

FEASIBILITY STUDIES
WAUKESHA COUNTY
CTH K/CN RR GRADE SEPARATION
CTH SR EXTENSION STH 190 – CTH K

COMMUNITY ADVISORY COMMITTEE MEETING
June 26, 2007
4:00 PM - 6:00 PM

MEETING MINUTES

Attendees of the meeting are provided on the attached Meeting Attendance Record

The purpose of the meeting was to provide the CAC with a summary of the recommended alternatives for the CTH K and CN Railroad Grade Separation Study and the CTH SR Extension Study.

Following is a summary of the discussion and comments:

1. Alternative 1-4A was presented as the recommended alternative in the CTH K and the CN Railroad Grade Separation Study. This alternative raises CTH K to go over the railroad. A shared access road to CTH K for Quarry Corners Parkway and Duplaineville Road is provided between the existing roads and along the west and south side of the Waukesha County Maintenance Facility. There were not any objections to the recommendation.

2. Alternative 7 was presented as the recommended alternative to extend CTH SR north from STH 190 to CTH K. This alternative minimizes impacts to the wetlands, private residence and the Capitol Airport while providing for future area traffic needs.

3. Comments were received from those in attendance as follows:

   a. Steve Popek from the Town of Brookfield made his opinion clear that he is against the extending CTH SR.

   b. Gale Stearn from the Bureau of Aeronautics (BOA) expressed her concerns with extending CTH SR and how constructing the road might violate the existing airspace requirements for planes using the east-west runway of Capitol Airport. The BOA's preference is the No Build alternative, however Alternative 7 may be acceptable if the airspace requirements can be met. A letter from the BOA to Benesch dated June 26, 2007 summarizes their position.

   c. Dale Pfeiffle with the US Army Corps of Engineers did not have a preference of alternatives. He stated that if the wetlands were to be mitigated and reconstructed adjacent to the existing wetlands on site, a ratio of replacement would likely be 1:1.

FEASIBILITY STUDIES
WAUKESHA COUNTY
CTH K/CN RR GRADE SEPARATION
CTH SR EXTENSION STH 190 – CTH K

COMMUNITY ADVISORY COMMITTEE MEETING
June 26, 2007
4:00 PM - 6:00 PM

MEETING MINUTES

   d. Spring Creek Church is in strong support of extending CTH SR.

   e. Tom Grisa with the City of Brookfield is in strong support of extending CTH SR.

4. Final copies of the report will be provided to the following entities for review by the public:

   - Town of Brookfield
   - City of Brookfield
   - Village of Menominee Falls
   - Town of Lisbon
   - City of Pewaukee
   - Spring Creek Church

The above constitutes my understanding of the major items presented and discussed. Please let me know if there are any omissions or errors and I will correct them.

Respectfully submitted:

Joseph P. Neal

Joseph P. Neal, P.E.
Alfred Benesch & Company

JPN:jpn

Attachment: (Meeting Attendance Roster)

Appendix H - Meeting Attendance

Waukesha County Department of Public Works	MEETING ATTENDANCE RECORD	benesch

Project Name: CTH SR (Springdale Road) Extension & CTH K (Lisbon Road) CNRR Grade Separation

Date: June 26, 2007

Place: Spring Creek Church

Time: 4:00 p.m. – 6:00 p.m.

Reason for Meeting: Community Advisory Committee

NAME (PLEASE PRINT)	AFFILIATION	ADDRESS	PHONE NO.
Greiten John	TOWN OF LISBON	W234N 8676 Woodside.	246-3416
ED HINRICHS	WAUKESHA	1320 PEWAUKEE RD WAUKESHA WI 53121	262-548-7140
Dale Pfeiffle	USArmy, Corps of Engineers	1617 E Racine Ave. Rm 101 Waukesha, WI 53186	262-547-0868
FRANK GEBAUER	V. MENO. FALLS ENGINEERING	W156 N8480 PILGRIM ROAD 53051	262-532-4408
Joe Neal	Benesch	4633 Washington Rd 53144	262-652-6677
Mike Goodkind	Benesch		
Robert Larson	Spring Creek Church	22000 W Capitol 53072	262-695-2211
GAYLE STEARN	BUREAU OF AERONAUTICS	4208 SHEBOYGAN AVE. 7269 RD Box 7914, MADISON (608) 266-	
DOUG AVERKAMP	VULCAN MATERIALS	N52W23046 LISBON RD SUSSEX WI	
Robert Reinecke	K. Singh & Associates	1135 Legion Dr Elm Grove, WI 53122	262-821-1171
Tom Price	Spring Creek Church	N35W22000 Capitol Dr Pewaukee 53072	262 695 2211
STEVE GIRARD	AIRPORT owner	4800 N. PINECREST DR., MILWAUKEE 5320	
Tom Grisa	City of Brookfield	2000 N. Gilbert Rd	262-796-6699
Steven Popek	Town of Brookfield	21265 Watertown Rd Pewaukee, 53072	262-783-5207