

NC
FILE

**Public Utilities
Commission of Ohio**

Memo

To: Docketing Division
From: George Martin, Grade Crossing Planner, Rail Division *LM*
Re: In the matter of the authorization of the Norfolk Southern Railway to install active grade crossing warning devices in Fairfield and Allen Counties
Date: November 30, 2010

The Ohio Rail Development Commission (ORDC) has authorized funding for the Norfolk Southern Railway (NS) to install mast-mounted flashing lights and roadway gates at the following locations:

Fairfield County, Liberty Township, near Baltimore, Bader Rd/TR 25, DOT# 513390H

Allen County, City of Lima, Shawnee Rd/CR 152, DOT# 476914P

These crossings were surveyed during the month of September, 2010, and were found to warrant upgrades to flashing lights and roadway gates.

These projects are actual cost and will be federally funded. Staff requests an Entry with plans and estimates to be submitted to the Commission and ORDC within 90 days and completion within one year. Upon approval of the plans and estimates by ORDC construction may commence. A suggested case coding and heading would be:

PUCO Case No. 10- **2851** -RR-FED In the matter of the authorization of the Norfolk Southern Railway to install active grade crossing warning devices in Fairfield and Allen Counties

C: Legal Department

Please serve the following parties of record.

PUCO

2010 NOV 30 PM 2:40

RECEIVED-DOCKETING DIV

Ms Susan Kirkland
Ohio Rail Development Commission
1980 W Broad St, 2nd Floor
Columbus, Oh 43223

Mr Rick Ray
Norfolk Southern Railway
1200 Peachtree St NE, Box 123
Atlanta, Ga 30309

Mr David Keller
Liberty Township Trustees
816 W Market St
Baltimore, Oh 43105

Mr Chris Hardesty
Office of the Allen County Engineer
1501 N Sugar St
Lima, Oh 45801-3136

American Electric Power
1 Riverside Plaza
Columbus, Oh 43215

South Central Power Company
PO Box 250
Lancaster, Oh 43130

**OHIO RAIL DEVELOPMENT COMMISSION
INTER-OFFICE COMMUNICATION**

TO: George Martin, Planner, Railroad Division, PUCO
FROM: Susan Kirkland, Supervisor, Rail-Highway Safety Section
BY: Tod Darfus, Project Manager
SUBJECT: Grade Crossing Warning Projects
DATE: November 30, 2010

You may authorize Norfolk and Southern Railroad to proceed with the non-field work for this projects. This construction authorization is made with the stipulation and understanding that any field work needs prior approval before work begins. This authorization is made with the stipulation and understanding that an approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the projects audits. The construction portion and preliminary engineering will be financed with federal funds.

Please initiate a one (1) year order with the plan and estimate due in ninety (90) days for the following.

Fairfield County - Bader Road/TR-25 - NS AAR # 513 390 H

Allen County - Shawnee Road/CR-152 - NS AAR # 476 914 P

Thank you for your assistance with this matter.

TD:td

c: File



Diagnostic Review Team Survey

Date: 9/23/10 11 AM

Location Data

Street or Road Name:

BADER RD

Route/Road Number (i.e. Twp., Co., SR or US) TR 251 (include SLM if State or US route)

AAR-DOT

No.:

513390 H

County:

FAIRFIELD

Township:

LIBERTY

City: (In or Near)

BALTIMORE

Railroad

Name:

NS

Railroad

Division:

DEARBORN

Branch/Line

Name:

W. VA

Nearest RR

Timetable Station:

BASIL

RR Milepost:

16.99

On-Site Review Team

(Include: Name - Organization - Phone Number)

1. GEORGE MARTIN PUCO 614-752-9107
2. Joe Reinhardt ORDC 614-644-0291
3. MRS. DUNK NKS 740-342-1977
4. David C. Keller Liberty Twp. 740-862-6691
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Existing Traffic Control Devices

Type of Warning Devices	Installed?		Quantity/Comments
Advance Warning Signs	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2
'Stop' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
'Stop Ahead' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Pavement Markings	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Crossbucks	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2
Number of Tracks Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Inventory Tags	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2
Interconnected Highway Traffic Signal	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Mast-Mounted Flashing Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Cantilever Flashing Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
Side Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Automatic Gates	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
Bells	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Sidewalk Gate Arms	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
'No Turn' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Illumination	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Is crossing flagged by train crew?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Other	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	CROSSING HUMPED

Safety Data (Obtain crash reports, if possible, prior to review)

	Initial Information (from database)	Revised
Number & dates of crashes in previous 5 years	1 7/1/09	
Hazard Ranking	127	Date Run: 9/3/10

Railroad Data

Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	5	
< 1 per day		
Day thru trains	2	
Night thru trains	1	
Daytime switching movements	2	
Nighttime switching movements	0	
Total number of tracks	1	
Number of main tracks	1	
Number of other tracks	0	
Maximum train speed	40	
Typical train speed	40	
Amtrak	NO	

If non-gated crossing, is clearing sight distance adequate in all quadrants? (See Table 1) ☐ Yes ☒ No CORN FIELDS

If multiple tracks, can two trains occupy crossing at the same time? ☐ Yes ☐ No

Can one train block the motorists' view of another train at crossing? ☐ Yes (Explain below) ☐ No

Are there other track(s) crossing this same roadway within 100 ft of this crossing? ☐ Yes ☐ No

If yes, Crossing DOT #(if different) _____

If yes, distance _____ (take measurement between track centerlines at closest point along roadway)

Roadway Data

Local Highway Authority:
(Who maintains this roadway?)

LIBERTY TOWNSHIP

Roadway Characteristics	Initial Information (from database)	Revised
Average daily traffic	322 (2008)	SAMS
Highway paved	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Roadway Surface: ☒ Blacktop ☐ Gravel ☐ Concrete ☐ Other _____

Roadway width: 18 ft.

Number of highway lanes	2	2
Urban or Rural?	RURAL	RURAL
Vehicle Speed: 50 MPH		

School Bus Operation: ☐ No ☒ Yes 4 Amount

Hazardous Materials Trucks: ☐ No ☒ Yes 32 Amount PROPANE, FERTILIZER

Shoulders: ☒ No ☐ Yes

Is the shoulder surfaced? ☒ No ☐ Yes

Is there existing guardrail along roadway in crossing vicinity? ☒ No ☐ Yes

Is stopping site distance adequate? (See Table 2) ☒ Yes ☐ No If no, deficient approach(es) _____

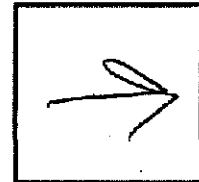
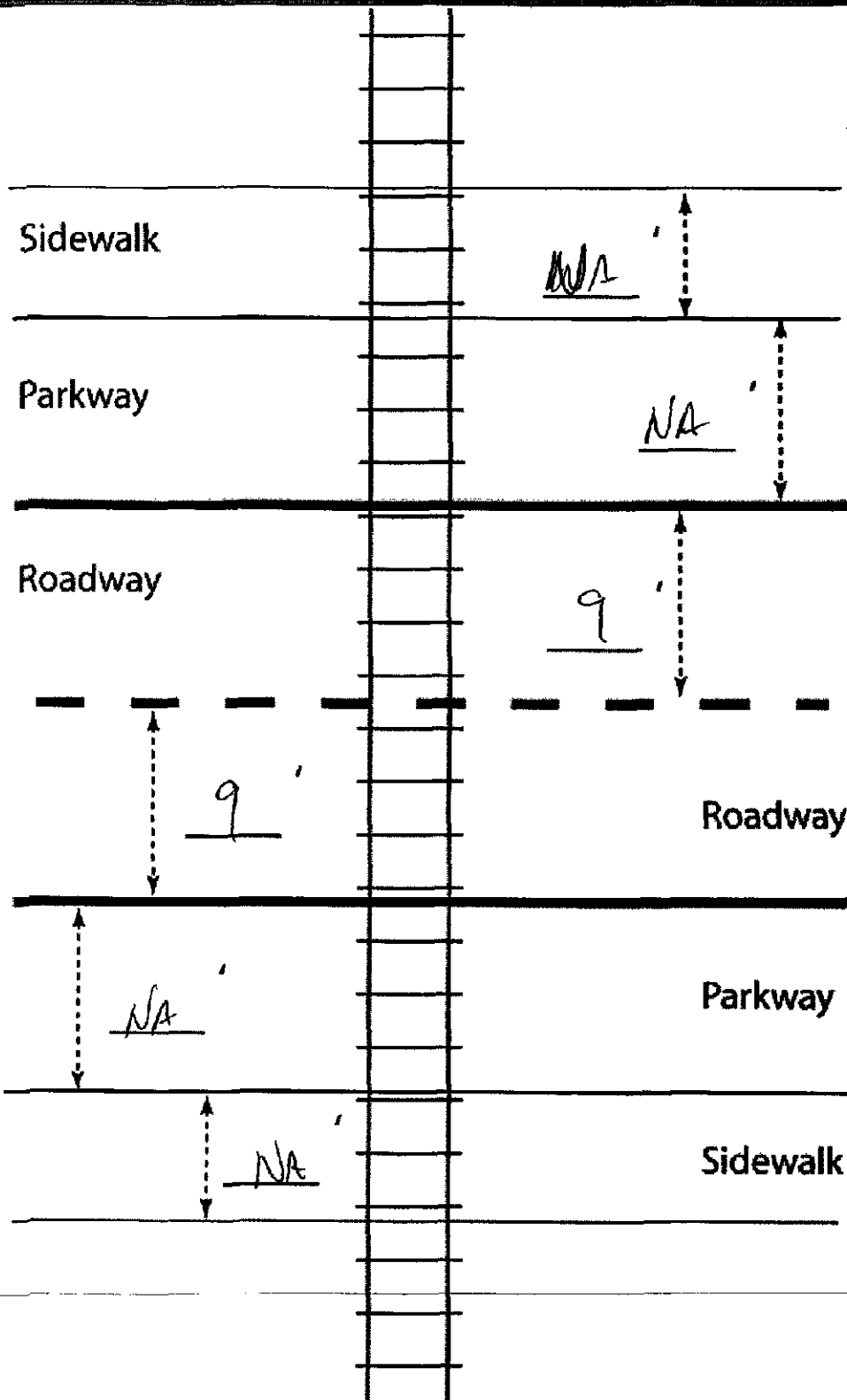
Quadrant _____ Curb and Gutter: <input type="checkbox"/> Functional (Curb height = 4" or more) <input type="checkbox"/> Non-functional (Curb height = Less than 4") <input checked="" type="checkbox"/> None	Quadrant _____ Curb and Gutter: <input type="checkbox"/> Functional (Curb height = 4" or more) <input type="checkbox"/> Non-functional (Curb height = Less than 4") <input checked="" type="checkbox"/> None
Pedestrians: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is sidewalk present? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is there a nearby intersection that could cause queuing over the crossing? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, Distance _____	
Is this intersection signalized? <input type="checkbox"/> No <input type="checkbox"/> Yes N/A	
Are the signals currently interconnected with the existing crossing warning devices? <input type="checkbox"/> No <input type="checkbox"/> Yes	
Is it the consensus of the Diagnostic Review Team that this is a potential closure project? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Explain reasons:	

Type of Development		
<input checked="" type="checkbox"/> Open Space <input type="checkbox"/> Institutional <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential FARM	Location of nearby schools: <div style="text-align: center; font-size: 1.2em; margin-top: 10px;">WITHIN 3 MILES</div>	

Utility Information	
Is commercial power available? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Utility Provider (Company Name) <u>SOUTH CENTRAL POWER</u> Phone Number _____	
Nearest Available Power Source <u>1/4 MILE</u>	
What other utilities are present? <u>UG GAS & PHONE</u>	
Is there potential utility conflict(s) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown	

Diagnostic Team Recommendations	
<input checked="" type="checkbox"/> Install/upgrade active devices <input type="checkbox"/> Automatic Flashing Lights (AFLS) <input type="checkbox"/> AFLS / Cants <input checked="" type="checkbox"/> AFLS / Gates <input type="checkbox"/> AFLS / Gates / Cants <input type="checkbox"/> Upgrade circuitry <input type="checkbox"/> Sidelights <input type="checkbox"/> Guardrail Needed <input type="checkbox"/> Install/Replace curb <input type="checkbox"/> Other (define)	Quadrants Needed
Comments:	
<input type="checkbox"/> Install/upgrade traffic signal preemption <input type="checkbox"/> No improvements needed <input checked="" type="checkbox"/> Other (define)	POLY LINE NEEDS TO BE EXTENDED TO CROSSING. WILL NEED FULL & CRIB WALLS FOR BOTH QUADS AND SIGNAL HOUSE.

Field Dimensions

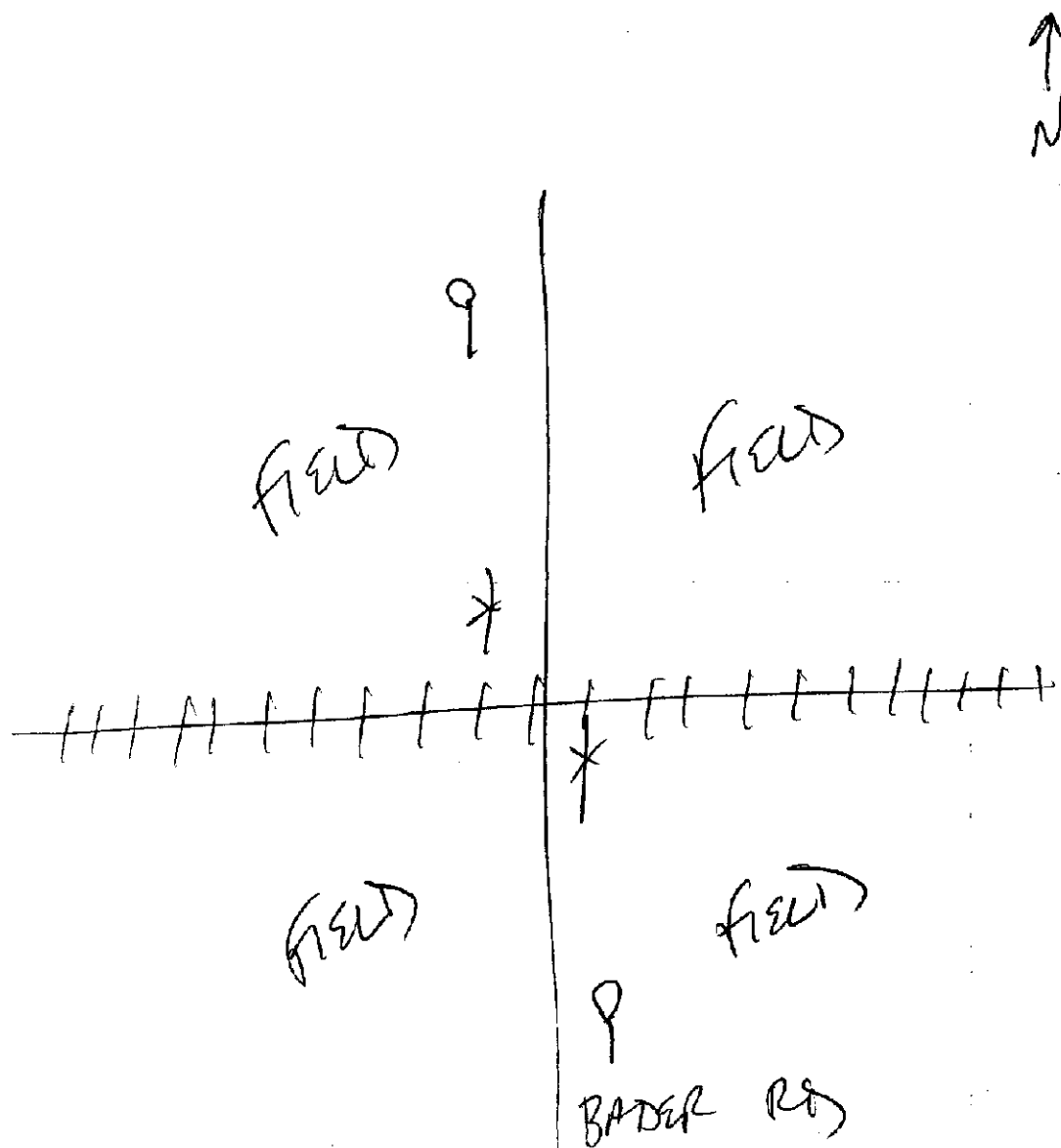


Show North Direction

Crossing Angle ☐ 0-29° ☐ 30-59° ☒ 60-90° Measured in SW Quadrant?

Measurements by: CM

Field Sketch



Crossing Angle ☐ 0-29° ☐ 30-59° ☒ 60-90° Measured in NW Quadrant?

Sketch by: GM

TABLE 1

Clearing Sight Distances

Maximum Authorized Train Speed	Distance (dT) Along Railroad from Crossing (ft)
1 - 10	240
15	360
20	480
25	600
30	720
35	840
40	960
45	1080
50	1200
55	1320
60	1440
65	1560
70	1680
75	1800
80	1920
85	2040
90	2160

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

Notes:

All calculated distances are rounded up to the next higher 5-foot increment.

Distances indicated are for 65-ft double bottom semi-tractor trailers and level single track 90 degree crossings; and may need to be adjusted for multiple tracks, skewed crossings or approaches on grades.

Clearing Sight Distance is to be measured in each vehicle travel direction at non-gated crossings as viewed from a point 25 feet from centerline of nearest track in the center of whichever travel lane is nearest the direction along track being measured.

Table 2

Stopping Sight Distances

Highway Vehicle Speed	Distance (dH) Along Roadway from Crossing (ft)
0	n/a
5	50
10	70
15	105
20	135
25	180
30	225
35	280
40	340
45	410
50	490
55	570
60	660
65	760
70	865

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

Notes:

All calculated distances are rounded up to the next higher 5-foot increment.

Distances indicated are for 65-ft double bottom semi-tractor trailers on dry level pavements.

Stopping Sight Distance is to be measured on each roadway approach to crossing from stop bar.



Diagnostic Review Team Survey

Date: 9-13-2010

Location Data			
Street or Road Name: Shawnee Rd.			
Route/Road Number (i.e. Twp., Co., SR or US) CR 152 (Include SLM if State or US route)		AAR-DOT No.: 476914P	
County: Allen	Township:	City: Lima	
Railroad Name: Norfolk Southern (NS)	Railroad Division: Lake	Branch/Line Name: Frankfort Dist	
Nearest RR Timetable Station: Lima		RR Milepost: 93.55	

On-Site Review Team	
(Include: Name - Organization - Phone Number)	
1.	Matthew Malich - DRDC - (614) 387-5162
2.	Shirley Krantz - Norfolk Southern - (614) 301-5798
3.	Nathan Vance - PUCO
4.	Mike Irigoyen - Norfolk So. - 865-207-6347
5.	Chris [unclear] - ACEO 414-228-3196
6.	
7.	
8.	
9.	

Existing Traffic Control Devices			
Type of Warning Devices	Installed?		Quantity/Comments
Advance Warning Signs	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
'Stop' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
'Stop Ahead' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Pavement Markings	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Stop lines and RR Xing symbols
Crossbucks	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2- Standard
Number of Tracks Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Inventory Tags	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Interconnected Highway Traffic Signal	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Mast-Mounted Flashing Lights	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Cantilever Flashing Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
Side Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Automatic Gates	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
Bells	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Sidewalk Gate Arms	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
'No Turn' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Illumination	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Is crossing flagged by train crew?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Other	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Safety Data (Obtain crash reports, if possible, prior to review)

	Initial Information (from database)	Revised
Number & dates of crashes in previous 5 years	0	
Hazard Ranking	497	Date Run: 8-23-10
Railroad Data		
Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	6	3 2 by CSX, 1 by NS
< 1 per day		✓
Day thru trains	6	✓
Night thru trains	0	0
Daytime switching movements	0	0
Nighttime switching movements	0	0
Total number of tracks	1	1
Number of main tracks	1	1
Number of other tracks	0	0
Maximum train speed	10	25 standard
Typical train speed		20 at NS yard
Amtrak		
If non-gated crossing, is clearing sight distance adequate in all quadrants? (See Table 1) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
If multiple tracks, can two trains occupy crossing at the same time? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Can one train block the motorists' view of another train at crossing? <input type="checkbox"/> Yes (Explain below) <input checked="" type="checkbox"/> No		
Are there other track(s) crossing this same roadway within 100 ft of this crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If yes, Crossing DOT # (if different) _____		
If yes, distance _____ (take measurement between track centerlines at closest point along roadway)		
Roadway Data		
Local Highway Authority: Allen County		
Roadway Characteristics	Initial Information (from database)	Revised
Average daily traffic	11680	
Highway paved	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Roadway Surface: <input checked="" type="checkbox"/> Blacktop <input type="checkbox"/> Gravel <input type="checkbox"/> Concrete <input type="checkbox"/> Other _____		
Roadway width: 24 ft.		
Number of highway lanes	2	
Urban or Rural	Urban	
Vehicle Speed: 45 MPH		
School Bus Operation: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Amount call Shawnee school district, Apollo school tap		
Hazardous Materials Trucks: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes ? Amount		
Shoulders: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes small		
Is the shoulder surfaced? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is there existing guardrail along roadway in crossing vicinity? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is stopping site distance adequate? (See Table 2) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, deficient approach(es) _____		
Quadrant _____ Curb and Gutter:	Quadrant _____ Curb and Gutter:	
<input type="checkbox"/> Functional (Curb height = 4" or more)	<input type="checkbox"/> Functional (Curb height = 4" or more)	
<input type="checkbox"/> Non-functional (Curb height = Less than 4")	<input type="checkbox"/> Non-functional (Curb height = Less than 4")	
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None	

Pedestrians: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Is sidewalk present? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <u>Bike Path</u>	
Is there a nearby intersection that could cause queuing over the crossing? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
If yes, Distance _____	
Is this intersection signalized? <input type="checkbox"/> No <input type="checkbox"/> Yes	
Are the signals currently interconnected with the existing crossing warning devices? <input type="checkbox"/> No <input type="checkbox"/> Yes	
Is it the consensus of the Diagnostic Review Team that this is a potential closure project? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Explain reasons:	
Type of Development	
<input type="checkbox"/> Open Space <input checked="" type="checkbox"/> Industrial <input checked="" type="checkbox"/> Residential	<input checked="" type="checkbox"/> Institutional <input checked="" type="checkbox"/> Commercial R1
Location of nearby schools: <u>Apollo, 1/4 mi, South</u>	
Utility Information	
Is commercial power available? <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Utility Provider (Company Name) <u>AEP</u>	Phone Number _____
Nearest Available Power Source <u>At crossing</u>	
What other utilities are present? <u>Gas - Dominion, Sprint, Water</u>	
Is there potential utility conflict(s) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
Diagnostic Team Recommendations	
<input checked="" type="checkbox"/> Install/upgrade active devices <input type="checkbox"/> Automatic Flashing Lights (AFLS) <input type="checkbox"/> AFLS / Cants <input checked="" type="checkbox"/> AFLS / Gates <input type="checkbox"/> AFLS / Gates / Cants <input type="checkbox"/> Upgrade circuitry <input type="checkbox"/> Sidelights <input type="checkbox"/> Guardrail Needed <input type="checkbox"/> Install/Replace curb <input type="checkbox"/> Other (define)	Quadrants Needed
Comments: <u>check electrical overhead utility, Put exciter on Track - AS</u> <u>check high tension - if any conflict</u>	
<input type="checkbox"/> Install/upgrade traffic signal preemption <input type="checkbox"/> No improvements needed <input type="checkbox"/> Other (define)	
Field Dimensions	

Show North
Direction

Sidewalk

Parkway

Roadway

Roadway

Parkway

Sidewalk

Roadway

Parkway

Sidewalk

Crossing Angle ☐ 0-29° ☐ 30-59° ☒ 60-90° Measured in _____ Quadrant?

Measurements by: MM

Field Sketch

Crossing Angle ☐ 0-29° ☐ 30-59° ☐ 60-90° Measured in _____ Quadrant?

Sketch by: _____

TABLE 1

Clearing Sight Distances

Maximum Authorized Train Speed	Distance (dT) Along Railroad from Crossing (ft)
1 - 10	240
15	360
20	480
25	600
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35	840
40	960
45	1080
50	1200
55	1320
60	1440
65	1560
70	1680
75	1800
80	1920
85	2040
90	2160

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

Notes:

All calculated distances are rounded up to the next higher 5-foot increment.

Distances indicated are for 65-ft double bottom semi-tractor trailers and level single track 90 degree crossings; and may need to be adjusted for multiple tracks, skewed crossings or approaches on grades.

Clearing Sight Distance is to be measured in each vehicle travel direction at non-gated crossings as viewed from a point 25 feet from centerline of nearest track in the center of whichever travel lane is nearest the direction along track being measured.

Table 2

Stopping Sight Distances

Highway Vehicle Speed	Distance (dH) Along Roadway from Crossing (ft)
0	n/a
5	50
10	70
15	105
20	135
25	180
30	225
35	280
40	340
45	410
50	490
55	570
60	660
65	760
70	865

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

Notes:

All calculated distances are rounded up to the next higher 5-foot increment.

Distances indicated are for 65-ft double bottom semi-tractor trailers on dry level pavements.

Stopping Sight Distance is to be measured on each roadway approach to crossing from stop bar.