FINAL PROJECT ASSESSMENT FOR 43rd AVENUE AND CAMELBACK ROAD RR XING

City of Phoenix Project Number: ST85100440

JUNE 2021

Prepared For and Approved By:





Prepared By:



Table of Contents

1.0 INTRODUCTION	1
1.1 Project Overview	1
1.2 Project Purpose and Need	1
1.3 Project Goals and Objectives	1
1.4 Other Studies in the Area	2
2.0 PROJECT DESCRIPTION	3
2.1 Project Location	3
2.2 Existing Conditions	4
2.3 Existing Conditions at Railroad Crossing	12
2.4 Crash Data	16
3. PROJECT SCOPE	17
4.0 PROJECT CONSIDERATIONS	18
4.1 Design Criteria	18
4.2 Initial Alternatives	19
4.3 Impacts to Existing Utilities	20
5.0 COORDINATION WITH BNSF	22
6.0 COORDINATION WITH THE ARIZONA CORPORATION COMISSION (ACC)	22
7.0 PRELIMINARY PROJECT SCHEDULE	22
8.0 PRELIMINARY ESTIMATE OF PROJECT COST	24
9.0 FEDERAL AID CONSIDERATIONS	27
10.0 PROJECT CONTACTS	31
APPENDICES	33



List of Appendices

Appendix A – 15% Conceptual Plans

Appendix B – Preliminary Opinion of Probable Construction Cost (Non-Federal Aid and Federal Aid)

Appendix C – Project Schedule (Bar Timeline) – Non-Federal Aid

Appendix D – Programming Schedule (Non-Federal Aid and Federal Aid)

Appendix E – Meeting Minutes

Appendix F – Federal Railroad Administration Accident Reports

Appendix G – DRAFT Project Scope of Work

Appendix H – Project Emails





1.0 INTRODUCTION

1.1 Project Overview

The City of Phoenix (City) is evaluating the impacts associated with the installation of new gate arms at the intersection of 43rd Avenue and Camelback Road. Due to the project site configuration, new gate arms can only be installed on two (2) legs of the intersection (eastbound and northbound).

1.2 Project Purpose and Need

The primary purpose of this Project Assessment (PA) is to establish a preferred alternative for the installation of railroad safety equipment at the intersection of 43rd Ave and Camelback Road. A project scope, schedule and budget will be developed based on the preferred alternative selected by the project team. In general, this PA was written with the assumption that local funds will be used for design and construction of this project, but the use of federal funds will also be evaluated.

1.3 Project Goals and Objectives

The primary goal of this PA is to provide the City with a recommended alternative which establishes roadway geometrics, design parameters, anticipated construction cost and identifies ultimate right-of-way requirements at this intersection. The project team developed the following list of goals and objectives:

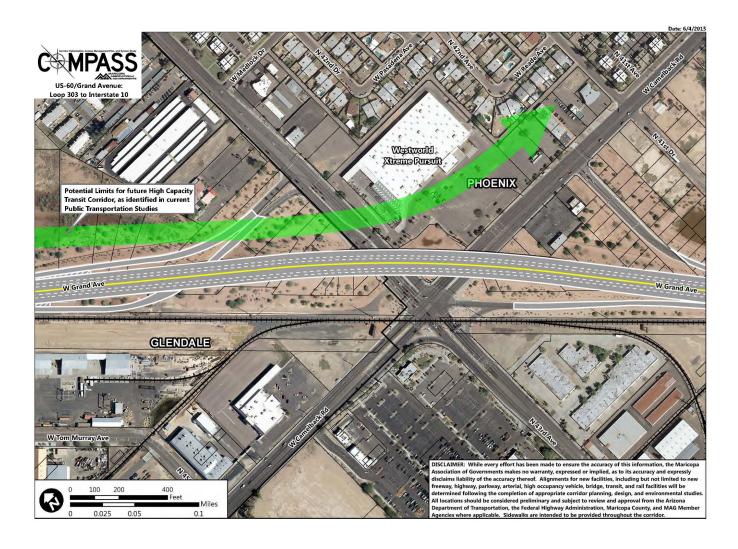
- Document existing project features, such as a current aerial photography, existing utilities, and property ownership throughout the project limits;
- Develop and evaluate conceptual alternatives for the installation of railroad safety equipment;
- Coordinate the proposed improvements with BNSF and the Arizona Corporation Commission (ACC);
- Prepare 15% conceptual design plans for the proposed improvements;
- Prepare a draft scope of work, preliminary project schedule and preliminary opinion of probably cost;

TYLININTERNATIONAL



1.4 Other Studies in the Area

MAG US-60/Grand Avenue Corridor Optimization, Access Management Plan, and System Study (COMPASS) – June 2015. The study area is bound by SR-303L traffic interchange in Surprise and the Willetta Street intersection in Phoenix. The COMPASS did not recommend any modifications at this intersection, but it did identify potential limits for a future High Capacity Transit Corridor in the area (see map below).





2.0 PROJECT DESCRIPTION

2.1 Project Location

The project study area is at the intersection of 43rd Avenue and Camelback Road.

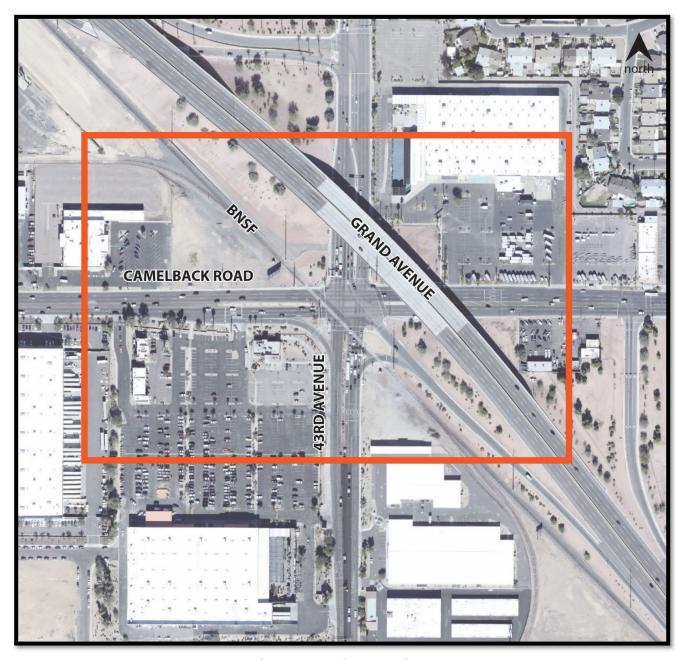


Figure 1 – Project Location



2.2 Existing Conditions

A) Existing Conditions

The existing roadway configuration along Camelback Road includes 3 eastbound lanes, a pork chop island for a channelized EB to SB right turn lane, 3 westbound lanes, and a dedicated WB to NB right turn lane at the intersection. Left turn movements from Camelback Road into 43rd Avenue are not allowed. This segment of Camelback Road has attached concrete sidewalk on both sides of the road and a raised median at the intersection of 43rd Avenue. This segment of Camelback Road does not include bike lanes.

The only movements that interact directly with the railroad are EB on Camelback Road and NB on 43rd Avenue. The other movements (WB on Camelback and SB on 43rd Avenue) are regulated by a traffic signal and the railroad crossing is on the other side of the roadway intersection.



Figure 2 – Camelback Road (looking east)

At 43rd Avenue, the existing roadway configuration is 3 northbound lanes, a pork chop island for a channelized NB to SB right turn lane into Grand Avenue (US 60), 1 NB to EB left turn lane, 3 southbound lanes, 1 SB to WB dedicated right turn lane, 1 SB to EB left turn lane, and 1 SB to SB into Grand Avenue (US 60) left turn lane. This segment of 43rd Avenue has attached concrete sidewalk on both sides of the road and a raised median at the intersection of Camelback Road. This segment of 43rd Avenue does not include bike lanes. Only the NB movement can conflict with a crossing train without drivers from that movement running a red light and breaking the law. In order to avoid setting an expensive and unnecessary precedent, only the NB lanes will be focused for improvement. In order to avoid confusion for drivers making a SB to WB right turn on red, a signal and gate will also be placed to block with movement.



Figure 3 – 43rd Avenue (looking north)

B) Existing Topography

The high point of Camelback Road is located at the railroad crossing at the intersection of 43rd Avenue at an approximate elevation of 1,140 feet above sea level. 43rd Avenue slopes to the south with a low point just north of the intersection with Camelback Road.

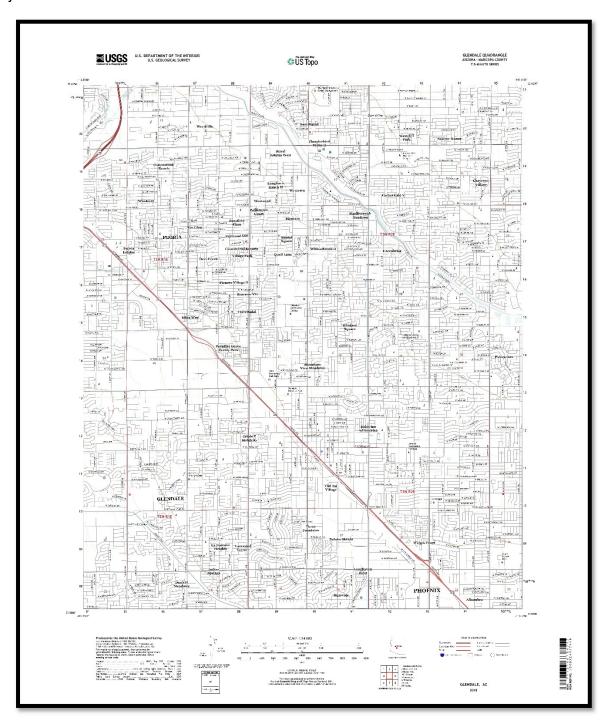


Figure 4 – 2018 US Topo Map



C) Existing Right-of-Way and Adjacent Ownership

The project lies along the boundary of the City limits as shown on the maps below:

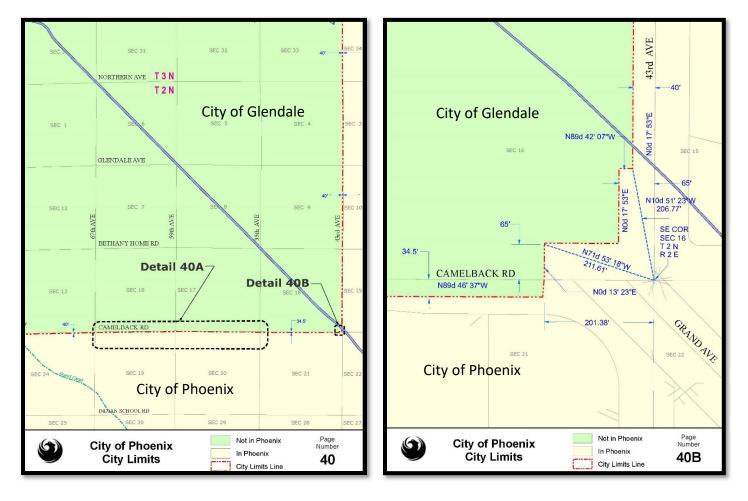


Figure 5 – City of Phoenix City Limits Map

The areas highlighted in "green" belong to the City of Glendale, Arizona. Even though the City of Glendale limits include the majority of Camelback Road, the proposed improvements for this project fall outside of this area and lie completely within the City of Phoenix limits.

TYLININTERNATIONAL

Page 7 of 33

The City limits map accurately match the information provided on the City's quarter sections map (Q18-18, Q18-19 and Q19-19). The existing right-of-way varies throughout the project and was determined using the Maricopa County Assessor's Map and the City's Quarter Section Maps as shown below:

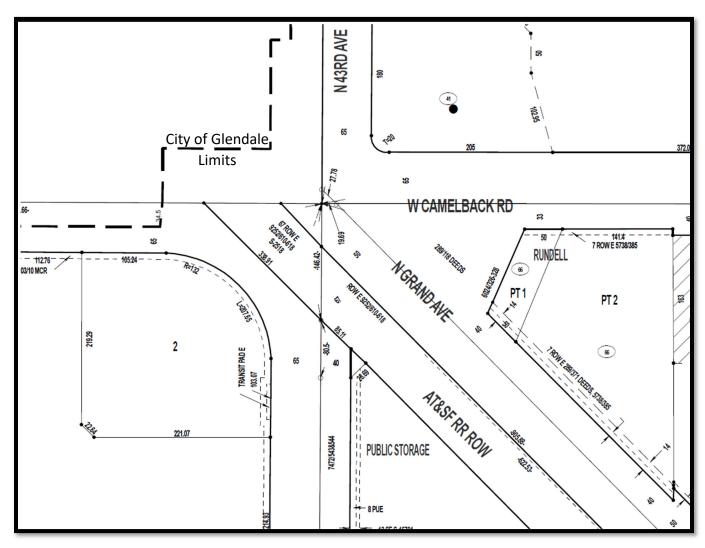


Figure 6 – Existing Right of Way at Intersection



There are eight (8) different property owners located surrounding the intersection. The following is a list of the property owners at the intersection of 43rd Avenue and Camelback Road and their location can be found in Appendix A:

NORTH SIDE

SOUTH SIDE

APN 145-28-001G

USR Real Estate Holdings LLC

APN 145-28-025C

Indian Building LLC

APN 145-28-025A Santa Fe / Operative

APN 145-08-619G

Arizona State Department of Transportation

APN 145-25-053

HD Development of Maryland Inc

APN 145-25-502

Santa Fe Pacific Realty Corp

EAST SIDE

APN 107-02-974 Public Storage Inc

APN 107-02-080 AT & SF R/R

It is not anticipated that new right of way will be required as part of this project lie within City and BNSF property. A temporary construction easement will be required to build sidewalk and install equipment for the SB to WB turn lane on 43rd Avenue. This easement is 600 sf in City of Glendale right of way.

Furthermore, it appears that a portion of the project lies within Arizona State Land Department (ASLD) Trust Land as shown on the map below. Additional information will be required in order to confirm the accuracy of the map (http://gis.azland.gov/webapps/parcel/).



Figure 7 – Arizona State Land Department Trust Land Map



D) Existing Utilities

The following table is a list of existing utility companies with facilities located within the project area.

Utility Company	Туре	Description
Salt River Project	Overhead Power	Overhead and Underground
Salt River Project	Irrigation	18", 24", 48", 54", 60" RGRCP
Century Link	Telephone	UG Conduits
MCI	Telecommunications	Fiber Optic
Southwest Gas	Gas	2" & 4" Gas
City of Phoenix	Water Services Dept	36" & 8" Water
City of Phoenix	Sewer Services Dept	30" & 10" Sewer
City of Phoenix	Traffic Services Dept	Traffic Signal
City of Phoenix	Storm Drain	39", 42", 60" Storm Drain
Burlington Northern Santa Fe	Railroad	RR Equipment

E) FEMA Special Flood Hazard Areas (SFHA's)

The entire project limits lie outside any special flood hazard areas. Figure 4 below identifies the extent and FEMA designation. Zone X is defined as "0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile".

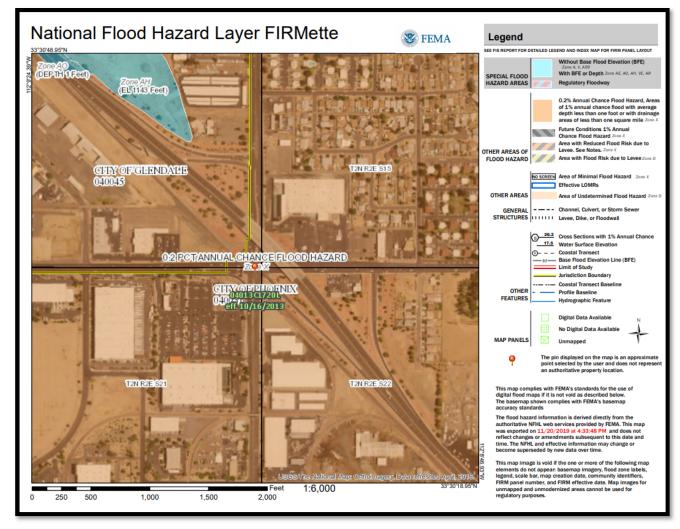


Figure 8 – FEMA Flood Insurance Rate Map

F) Record Drawings

The following record drawings were reviewed during the preparation of this PA:

- P-871756 43rd Avenue Camelback Rd. To Bethany Home Rd.
- P-74092.00 Camelback Road 43rd Ave To 35th Ave
- 5350 (2) 43rd Avenue Camelback Rd To Glendale Ave
- 13-213 Camelback Road 67th Ave To 43rd Ave
- 9920500 Offsite Improvement Plans for the Construction of Home Depot
- H553201C US 60 Grand Ave at 43rd Ave and 51st Ave

Electronic files were provided by the City of Phoenix, which contained PDF files associated with the above project.

2.3 Existing Conditions at Railroad Crossing

The existing BNSF railroad crossing includes cantilevers in all directions (north, south, east, and westbound). The northbound right turn lane does have a gate arm installed only for that movement.



Figure 9 – Railroad Warning Devices at 43rd Avenue (looking north)



Figure 10 – Railroad Warning Devices at 43rd Avenue (looking south)

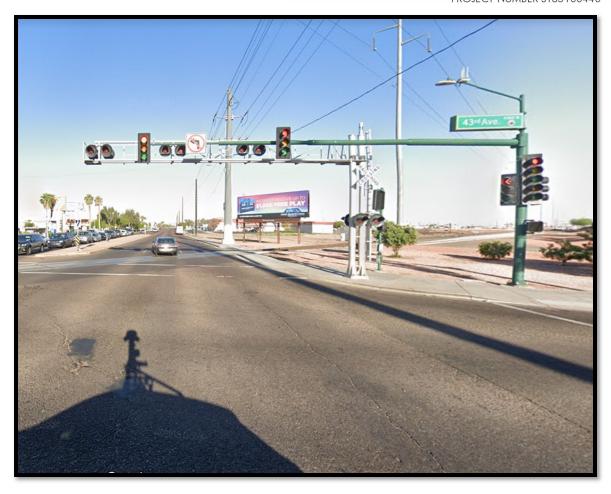


Figure 11 – Railroad Warning Devices at Camelback Road (looking west)



Figure 12 – Railroad Warning Devices at Camelback Road (looking east)



2.4 Crash Data

Based on information provided by the ACC, there have been a total of 9 railroad incidents at this intersection since 2012 (no fatalities). A summary of the incidents can be found on the following table:

43 rd Avenue and Camelback Road					
DOT Crossing ID No. 025422P					
Incident No.	Fatalities	Injuries	Date	Time of Call	Description
RR20120201	0	0	7/25/2012	11:30:00 PM	TRAIN CROSSING ACCIDENT WITH VEHICLE, NO INJURIES.
RR20120218	0	0	8/19/2012	6:30:00 AM	TRAIN STRUCK VEHICLE, VEHICLE LEFT SCENE, NO DAMAGE TO VEHICLE, NO INJURIES.
RR20130116	0	1	2/18/2012	10:10:00 AM	LOCOMOTIVE STRUCK WHITE HATCHBACK THAT DROVE AWAY FROM ACCIDENT THEN LATER DRIVER WAS TAKEN TO HOSPITAL. POSSIBEL CAUSE: UNDER INVESTIGATION, GATE & FLASHERS.
RR20130238	0	0	7/17/2013	11:50:00 AM	TRAIN VS. VEHICLE, NO UNJURIES OR FATALITIES.
RR20130036	0	0	11/27/2013	10:45:00 PM	TRAIN CREW SHOVED 5 CARS OVER CROSSING, 2 CARS (AUTOS) CLEARED TRACKS AND LIGHTS. 3RD CAR DIDN'T AND GOT HIT - 2 OCCUPANTS SAID THEY WERE OK AND LEFT. CREW GAVE PLATES TO POLICE.
RR20160074	0	0	9/27/2016	6:55:00 PM	CAR RAN INTO RAIL CAR AT CROSSING. NO INJURIES.
RR20160285	0	0	12/30/2016	6:44:00 PM	GATES AND FLASHERS, CAR WENT AROUND. POSSIBLE CAUSE: CAR WENT AROUND GATES AND FLASHER.
RR20170097	0	0	3/5/2017	8:20:00 PM	TRAIN SHOVING E/B STRUCK AN OCCUPIED CHEVY TAHOE. ACTIVITATION OF CROSSING UNDER INVESTIGATION.
RR20170214	0	2	7/11/2017	3:30:00 PM	TRAIN WAS WESTBOUND AND VEHICLE WAS NORTHBOUND, FOULING TRACKS. 2 OCCUPANTS IN VEHICLE - 1 ADULT AND 1 CHILD WERE TRANSPORTED TO HOSPITAL FOR PRECAUTION.

The Federal Railroad Administration (FRA) records show that there has been a total of 44 incidents at this intersection since 1977. According to their records, there has been a total of 13 incidents since 2012 (See Appendix F).

3. PROJECT SCOPE

The project includes the installation of new gate arms on the eastbound and northbound legs of the 43rd Avenue and Camelback Road intersection. The other movements (WB on Camelback and SB on 43rd Avenue) are regulated by a traffic signal and the railroad crossing is on the other side of the roadway intersection, so installation of gate arms for these movements was determined to be unnecessary/inadequate. The existing raised medians provide adequate width for the installation of new gate arms and will only be extended closer to the railroad in order to minimize the modification to the stopping point at the intersection.

The proposed scope has been approved by BNSF, the ACC and ADOT.

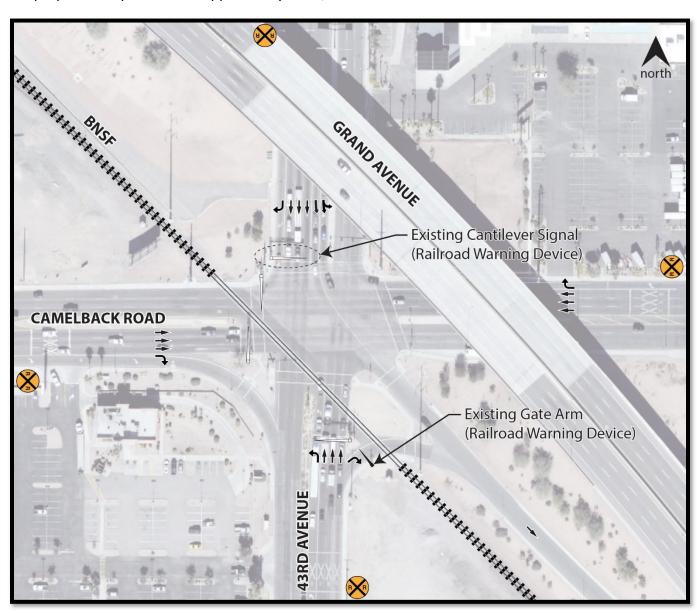


Figure 13 – Existing Conditions



4.0 PROJECT CONSIDERATIONS

4.1 Design Criteria

The criteria used in the preliminary geometric layout was established using the American Association of State Highway and Transportation Officials (AASHTO), Manual of Uniform Traffic Control Devices (MUTCD), City of Phoenix Guidelines and BNSF Design Guidelines.

Stop Bar Perpendicular

- A) Roadway Classification: Arterial Street
- B) Posted Speed: 40 mph
- C) Design Speed: 45 mph
- D) Taper Length = $WS^2/60$
- E) Min. Raised Median Width: 10-ft (f/c to f/c)
- F) Min. Distance from Rail to Gate: 12-ft
- G) Min. Distance from Gate to Raised Median Nose: 50-ft
- H) Distance from Gate to Cantilever Flashing Signal: 6-ft
- I) Distance from Gate Stop Bar: 8-ft

Gate Or

6'

Stop Line

Edge Of Travel way With Gates

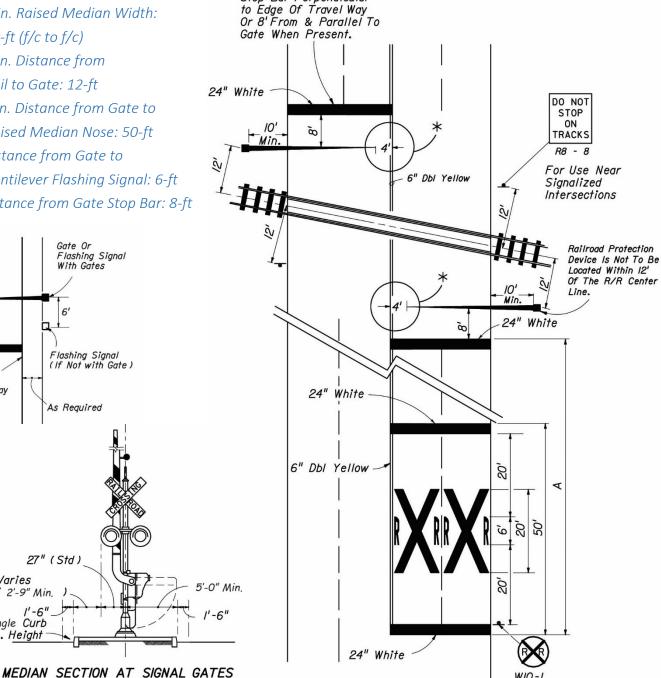
Flashing Signal

Flashing Signal (If Not with Gate)

As Required

5'-0" Min. 1'-6"

RAILROAD CROSSING AT MULTI-LANE ROADWAY



27" (Std)

Varies

Single Curb 6" Min. Height

(2'-9" Min. 1'-6"

Page 18 of 33

4.2 Initial Alternatives

Since all legs have existing raised medians (min. 10-ft width face of curb to face of curb) and roadway widening is not required, only one alternative was evaluated. In order to install the gate arms at the appropriate location, the existing raised median island along Camelback Road had to be extended further east closer to the railroad tracks. The same had to be done at the median island pork chop along 43rd Avenue; the new single curb location for both of these medians will still meet the minimum spacing requirement of 10-ft to the centerline of tracks.

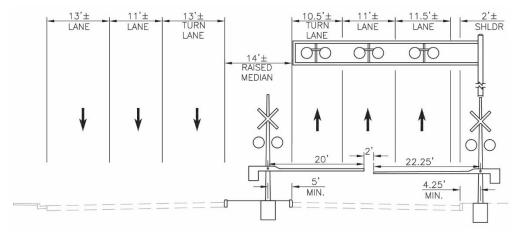


Figure 14 - Camelback Road Typical Section (EB)

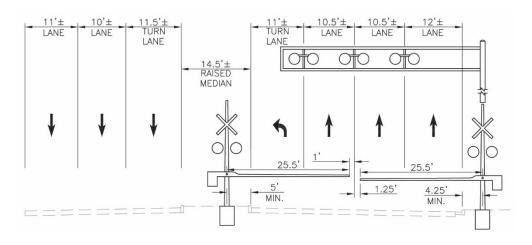


Figure 15 – 43rd Avenue Typical Section (NB)

Additional information is shown on the preliminary layout plans of the proposed improvements, which are included in Appendix A.



4.3 Impacts to Existing Utilities

Camelback Road (EB)

Based on the information received from utility companies, it appears that the new gate arms at the raised median may be in conflict with existing Zayo facilities (2-1.25" HDPE conduits) and City of Phoenix traffic signal conduit. There is an existing traffic signal pull box in the median that will likely need to be relocated (see picture below).



Figure 16 – Existing Traffic Signal Pull box

In addition, the new gate arm and cantilever signal at the pork chop island may be in conflict with an existing Southwest Gas line (4" steel) and a fiber optic line.



43rd Avenue (NB)

Based on the information received from utility companies, it appears that the new gate arms at the raised median may be in conflict with existing City of Phoenix water facilities (12" CIP), Southwest Gas line (4" steel) and fiber optic line.

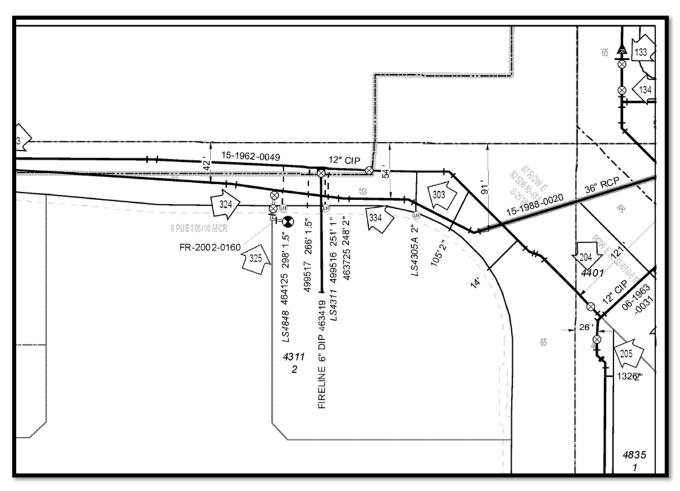


Figure 17 – City of Phoenix Water Quarter Section Map at Camelback Road and 43rd Avenue (18-18)

In addition, the new gate arm at the pork chop island may be in conflict with an existing underground electric line. Because there is an existing cantilever signal at this location, it is anticipated that vertical clearances with existing SRP overhead clearances for the new gate arm will not be a problem. This will need to be confirmed during the early stages of final design.



5.0 COORDINATION WITH BNSF

A diagnostic meeting was held on 10/28/20 at the project site with staff from BNSF, RailPros, ACC, ADOT, City of Phoenix and TY Lin. BNSF provided feedback on the project scope and requested a revised exhibit for review. Additional details on the meeting can be found in Appendix E.

A follow up meeting was held virtually on 4/26/21 to discuss the revised scope of work. BNSF and their representative RailPros concurred with the revised scope of work and requested a final exhibit to be submitted. Additional details on the meeting can be found in Appendix E.

The final exhibit was submitted to BNSF and their representative RailPros on 5/13/21.

BNSF is in the process of preparing a "Letter of Support" for the project and we anticipate that will be provided to the City in June/July 2021.

6.0 COORDINATION WITH THE ARIZONA CORPORATION COMISSION (ACC)

The ACC has been actively engaged on this project and is in favor of the proposed scope of work. Additional information can be found in Appendix E and H.

7.0 PRELIMINARY PROJECT SCHEDULE

Below is a preliminary project schedule, which outlines the major project tasks associated with the final design of this project.

Consultant Procurement (On-Call)	Month #1
Design Notice to Proceed *Design contract shall include a sub-consultant for the preemption review and calculations (from BNSF's preapproved signal design consultant list)	Month #3
Diagnostic Meeting with BNSF	Month #4
Field Survey & Data Collection *A Temporary Occupancy Permit will be required by BNSF. The application shall be submitted to JLL, Inc. along with the application fee (\$800) and a set of drawings. The permit may take up to 10-15 days for approval.	Month #5
40% Submittal *Preemption calculations shall be included on this submittal. Plans should clearly show location of proposed railroad improvements (gates, concrete panels, cantilevers, etc.).	Month #7
City & BNSF Review *BNSF to provide review comments within 30 days. All of BNSF's comments/concerns need to be resolved prior to the preparation of a C&M Agreement.	Month #9
Public Meeting	Month #13
70% Submittal	Month #14



City, BNSF & Utility Review *BNSF to provide review comments within 30 days. All of BNSF's comments/concerns need to be resolved prior to the preparation of a C&M Agreement.	Month #17
BNSF C&M Agreement *BNSF to provide Construction and Maintenance Agreement to the City for review & approval	Month #17
Environmental Clearance	Month #18
100% Submittal	Month #20
City, BNSF & Utility Review	Month #22
Final Sealed Submittal	Month #24
BNSF C&M Agreement *C&M Agreement between BNSF and the City finalized.	Month #24
Utility Relocation Completed	Month #25
Bid Advertisement	Month #26
Construction Notice to Proceed	Month #32

In general, completion of final design of this project should be accomplished within approximately **974** calendar days of receiving a Notice to Proceed



8.0 PRELIMINARY ESTIMATE OF PROJECT COST

An evaluation of preliminary project costs was performed during the preparation of this document for two different scenarios (Federal Aid and Non-Federal Aid). Below is a summary on the anticipated project costs for each scenario followed by a brief explanation for each item:

PRELIMINARY ESTIMATE FOR NON-FEDERAL AID PROJECT

Item	Description	Amount
1	Design	\$303,200
2	Right of Way	\$100,000
3	Construction	\$541,253
4	BNSF	\$3,000,000
5	Design Soft Costs	\$50,000
6	Street Lights/Traffic Signals/Pavement Markings	\$400,000
7	Utilities	\$100,000
8	Environmental Clearance	\$10,000
9	PPD Construction Administration	\$80,000
10	Testing and Materials	\$5,000
	Total Project Cost for ST85100440 (Non-Federal Aid)	\$4,589,453

For Non-Federal Aid Project, the City would be required to fund 100% of the project costs.

Item 1 Design

Engineering Consulting services are anticipated to include the following: median improvements, railroad crossing improvements, field survey, signing and marking, obtaining project approval from BNSF, utility coordination, public outreach, pre-signal analysis and design, and pre-emption calculations and design.

Item 2 Right of Way

For budgetary purposes, this item includes the cost associated for City staff Real Estate Department for the coordination with Project Manager, Consultant, Utility Owners, Property Owners, ADOT and BNSF. This item also includes the cost of the associated railroad easements/agreements required for this project. Coordination with the City of Glendale will also be required as the City limits are located at the northwest corner of the intersection. A portion of the existing sidewalk ramp lies within their City limits.

TY-LININTERNATIONAL



Item 3 Construction

An itemized Preliminary Opinion of Probable Construction Cost is attached on Appendix B. The cost associated with this item include the raised median extensions at both Camelback Road and 43rd Avenue.

Item 4 BNSF

The following items were used to determine the cost associated with BNSF improvements at the railroad crossing:

1.	C&M Agreement / Easements		\$250,000
2.	New Gate Arms NB (2 gates, equipment, CWT, engineering	, etc.)	\$500,000
3.	New Gate Arm EB (2 gates, equipment, CWT, engineering,	etc.)	\$500,000
4.	Upgrade Existing Gate Arm (NB to EB right turn lane)		\$250,000
5.	New Cantilever Signal-43 rd Ave (4 lane road)		\$375,000
6.	New Cantilever Signal-Camelback Rd (3 lane road)		\$375,000
7.	New Cantilever Signal/Traffic Signal Combo (NW corner)		\$500,000
8.	New RR Pedestrian Flasher		\$175,000
9.	Flagging (30 days)		\$75,000
		TOTAL	\$3,000,000

Item 5 Design Soft Costs

The cost associate with this item includes the time associated with City staff throughout the life of the project, with the exception of staff from the real estate department (this cost is shown under Item 2 - Right of Way.

Item 6 Street Lights/Traffic Signals/Pavement Marking

This item includes the time associated with City staff throughout the life of the project to support construction and the time and effort associated with the connection of gates and cantilever flashers to the traffic signal system. The cost associated with this item also includes signing and striping work which is typically done by City of Phoenix crews. Additionally, this item includes costs associated with upgrades to the traffic signal facilities and equipment at the intersection as well as the pre-signal if required.

Item 7 Utilities

Based on the preliminary concept design, it is anticipated that the proposed improvements will have some impacts on existing utilities. For budgetary purposes, this item includes the cost associated for City staff Utility Coordination Section for the collaboration with the Project Manager, Consultant and Utility Owners. At this point, there are no major conflicts anticipated for this project. Minor conflicts include the possible relocation of telecommunication lines, underground electric lines, traffic signal conduits/pull boxes and possible realignment of existing waterlines.

Item 8 Environmental Clearance

A budget of \$10,000 has been established for internal INCRA review.



Item 9 DCM Construction Administration

A budget of \$80,000 has been established for the time associated with City staff to provide Construction Administration services during construction of this project.

Item 10 Testing and Materials

A budget of \$5,000 has been established for the time associated with City staff to provide Quality Assurance and Materials Testing services during construction of this project.

PRELIMINARY ESTIMATE FOR FEDERAL AID PROJECT

Item	Description	Amount
1	Design	\$350,000
2	Right of Way*	\$100,000
3	Construction	\$675,038
4	BNSF*	\$3,000,000
5	Design Soft Costs	\$75,000
6	Street Lights/Traffic Signals/Pavement Markings*	\$400,000
7	Utilities*	\$100,000
8	Environmental Clearance	\$50,000
9	DCM Construction Administration*	\$80,000
10	Testing and Materials*	\$5,000
	Total Project Cost for ST85100289-2 (Federal Aid)	\$4,835,038

^{*}Costs typically not impacted by the use of Federal Funds.

Item 1 Design (Federal Aid)

In general, design costs for federally funded projects are typically more expensive due to the extended project schedules and additional design requirements and approval processes. The project plans will also need to clearly show the extents of the area that is to be paid for with federal funds.

Item 2 Right of Way (Federal Aid)

Right-of-way costs are typically not impacted by the use of Federal Funds.

TY-LININTERNATIONAL



Item 3 Construction (Federal Aid)

In general, construction costs for federally funded projects are typically more expensive for several reasons. Below are some of the major impacts to construction costs:

- Davis-Bacon Laws: The Davis-Bacon Act mandates that laborers for federal public works projects receive local prevailing wages. It is estimated that prevailing wages are 20% above BLS (Bureau of Labor Statistics) figures.
- 'Buy America' Provisions: This provision requires that federal tax dollars used to purchase steel, iron, and manufactured goods used in a transit project are produced domestically in the United States. This provisions limits the ability for contractors, therefore increasing the overall project cost.

Item 4 BNSF (Federal Aid)

BNSF costs are typically not impacted by the use of Federal Funds.

Item 5 Design Soft Costs (Federal Aid)

In general, design soft costs for federally funded projects are typically more expensive due to the extended project schedules and additional design requirements and approval processes. In addition, City staff will need to get involved earlier in the process to apply for federal funds.

Item 6 Street Lights/Traffic Signals/Pavement Marking (Federal Aid)

The cost for City staff to perform this work is typically not impacted by the use of Federal Funds.

Item 7 Utilities (Federal Aid)

The cost to relocate utilities is typically not impacted by the use of Federal Funds.

Item 8 Environmental Clearance (Federal Aid)

In the event that the City receives federal funds for the construction of this project, an Environmental Clearance will be required. A budget of \$50,000 has been established for the preparation of the documents required in order to obtain Environmental Clearance for this project.

Item 9 PPD Construction Administration (Federal Aid)

The cost for City staff to perform this work is typically not impacted by the use of Federal Funds.

Item 10 Testing and Materials (Federal Aid)

The cost for City staff to perform this work is typically not impacted by the use of Federal Funds.

9.0 FEDERAL AID CONSIDERATIONS

The project team has identified at least two federal funding sources that this project could potentially apply for. Below is a brief summary of each program:

<u>Railway-Highway Crossing (Section 130 Program)</u> - the following is a list of general items to be considered by the project team:

• Need time for an IGA with ADOT to apply for Section 130 funds prior to design;



- Environmental Clearance will require compliance with NEPA Act. Additional efforts will be needed besides regular INCRA process;
- Section 130 funds will only cover cost related to safety improvements, and civil work within 10 ft
 of the railroad tracks. An application to MAG can also be considered to supplement Section 130
 funds with other available Federal Aid funds;
- If there is more than one funding source, the work for each source must be separated out in the
 estimates and measurable and clearly identifiable on the plans. It is important to note that the
 other funding sources cannot be used to cover the 10% local match that is required for Section
 130.
- Timeline for delivery of project will increase;
- Anticipated Federal Aid Reimbursement for Section 130 project is 90%/10%. If other Federal Aid funding sources are available, the anticipate split will be 94.3%/5.7%.
- This project is listed on ADOT's current projects on deck for use of Section 130 funding.
- The project is listed for Section 130 Construction funding in 2024. Therefore, all design, PS&E and clearances, to be completed by the end of 2023.
- ADOT received \$2.3M per year for Section 130 which needs to be distributed amongst all projects in Arizona.

TY-LININTERNATIONAL

Page 28 of 33



<u>Consolidated Rail Infrastructure and Safety Improvements (CRISI Program)</u> - the following is a list of general items to be considered by the project team:

- The CRISI program is administered by the Federal Railroad Administration (FRA) with the purposes of making safety enhancements and improvements to infrastructure for intercity passenger and freight railroads. The program's chief goals are to improve railroad safety, efficiency, and reliability.
- The FY 2021 appropriations bill provides a nearly record \$375 million for the CRISI program. The
 Notice of Funding Opportunity (NOFO) for the CRISI program is expected in May/June. It is
 expected that applicants will have 60 days to apply for CRISI funding.
- To be considered, project should look to focus on congestion reduction, <u>highway-rail grade crossing improvements</u>, upgrades to freight infrastructure, intercity passenger rail operation enhancements and advancements in safety technology, such as positive train control (PTC) and rail integrity inspection systems.
- The program has multiple project tracks from which projects can seek funding:
 - Track 1 Planning
 - Track 2 PE / NEPA
 - Track 3 Final Design / Construction
- Only Tracks 2 and 3 provide funding for construction.
- Key factors in receiving a grant are:
 - A letter from BNSF supporting this project.
 - Benefit-Cost Analysis
 - Political Support
- The City would have two years to obligate the funds.

Application Strategy

Single Application - The City can and should submit one single application for both the 43d Avenue and Camelback Road and he 19th Avenue and McDowell Road railroad crossings. These will be viewed by FRA as being interrelated because they are on the same BNSF rail corridor.

Competitiveness – Our belief is that this would be a fairly strong application because of the following:

- Railroad crossings such as both of these locations in urban areas is a top priority for FRA.
- <u>Blocked crossings</u> like the one at 19th Avenue and McDowell Road are of particular concern to FRA.

TYLININTERNATIONAL Page 29 of 33 June 29, 2021



- The number of incidents at both crossings, with no fatalities, is neither overwhelming nor underwhelming for how FRA views them.
- BNSF is in full support of these crossings. We would need an official <u>Letter of Support from</u> BNSF at both locations.
- Both crossings are a top priority for the City, BNSF and the ACC. We believe that both projects would receive full political support which would be of great benefit for the application.

Application Track

The CRISI program is unique in that it asks applicants to seek funding from one or more 'tracks'. Based on the status of these crossings our recommendation would be for the City to apply under both Track 2 – PE/NEPA and Track 3 – FD/CONSTRUCTION.

Funding Amounts

CRISI grants can range from six-figures to over \$20 million. The maximum federal share is 80% and it is encouraged for applicants to provide than a 20% non-federal share. Keep in mind it is a reimbursable program.

Critical Factors

BNSF Support

 It is essential that BNSF be in full support of these crossings and the CRISI application. In addition, FRA will require that a written agreement exist between the city and BSNF regarding use and ownership consistent with 49 U.S.C. 22905(c)(1).

ROW Acquisition

 FRA will not consider projects like this to be high-risk for the purposes of NEPA or completing final design, but if there are major ROW acquisitions that pose a risk then that will be a red flag to FRA. They want to be certain the project will be able to proceed to construction before making an award.

Political Support

Having political support from Congressman Ruben Gallego (7th District) and Senators Mark Kelly (D-AZ) and Kyrsten Sinema (D-AZ) is very important.

TYLININTERNATIONAL Page 30 of 33 June 29, 2021



10.0 PROJECT CONTACTS

Brandy Ruark
Civil Engineer II
City of Phoenix Street Transportation Department
Programming and Project Delivery Division
1034 East Madison Street
Phoenix, AZ 85034
Cell: 602-370-2976

Cell: 602-370-2976 Desk: 602-495-2068

Brandy.ruark@phoenix.gov

Leticia Vargas, P.E.

Special Projects Administrator
City of Phoenix Street Transportation Department
Programming and Project Delivery Division
1034 E. Madison Street
Phoenix, AZ 85034
(602) 262-4054
leticia.vargas@phoenix.gov

Bruce E. Littleton, P.E.
Traffic Engineering Supervisor
City of Phoenix Street Transportation Department
Traffic Services
200 W. Washington Street
Phoenix, AZ 85003
(602) 495-0336
bruce.littleton@phoenix.gov

Carlos Sanchez Soria, P.E.
Senior Associate/Senior Project Manager
TY Lin International
60 E. Rio Salado Parkway, Suite 501
Tempe, AZ 85281
(480) 333-4406
Carlos.sanchez-soria@tylin.com

Allison Sadow, E.I.T.

Design Engineer

TY Lin International

60 E. Rio Salado Parkway, Suite 501

Tempe, AZ 85281

(480) 333-4153

allison.sadow@tylin.com



Kate Kalinosky Manager Public Projects – AZ, CA BNSF Kate.kalinosky@bnsf.com

Cheryl Townlian
Assistant Director of Public Projects
BNSF
417-860-4122
Cheryl.townlian@bnsf.com

Jason Pike
Senior Grade Crossing Inspection/Data Manager
Arizona Corporation Commission
1300 W. Washington Street
Phoenix, AZ 85007
480-818-3163
jpike@azcc.gov

Jane Gauger
Section 130 – Railroad Coordinator
Utility & Railroad Engineering
205 S. 17th Avenue, Rm 357, MD 618E
Phoenix, AZ 85007
602-712-4052
jgauger@azdot.gov

Travis Bailey, PE
Traffic Engineer/Public Projects Manager
RailPros
360 S. Fort Ln. | Suite 3A | Layton | Utah | 84041
Mobile 801.550.8037
Travis.bailey@railpros.com

Page 32 of 33



APPENDICES

Appendix A – 15% Conceptual Plans

Appendix B – Preliminary Opinion of Probable Construction Cost

Appendix C – Project Schedule (Bar Timeline) – Non Federal Aid

Appendix D – Programming Schedule (Non Federal Aid and Federal Aid)

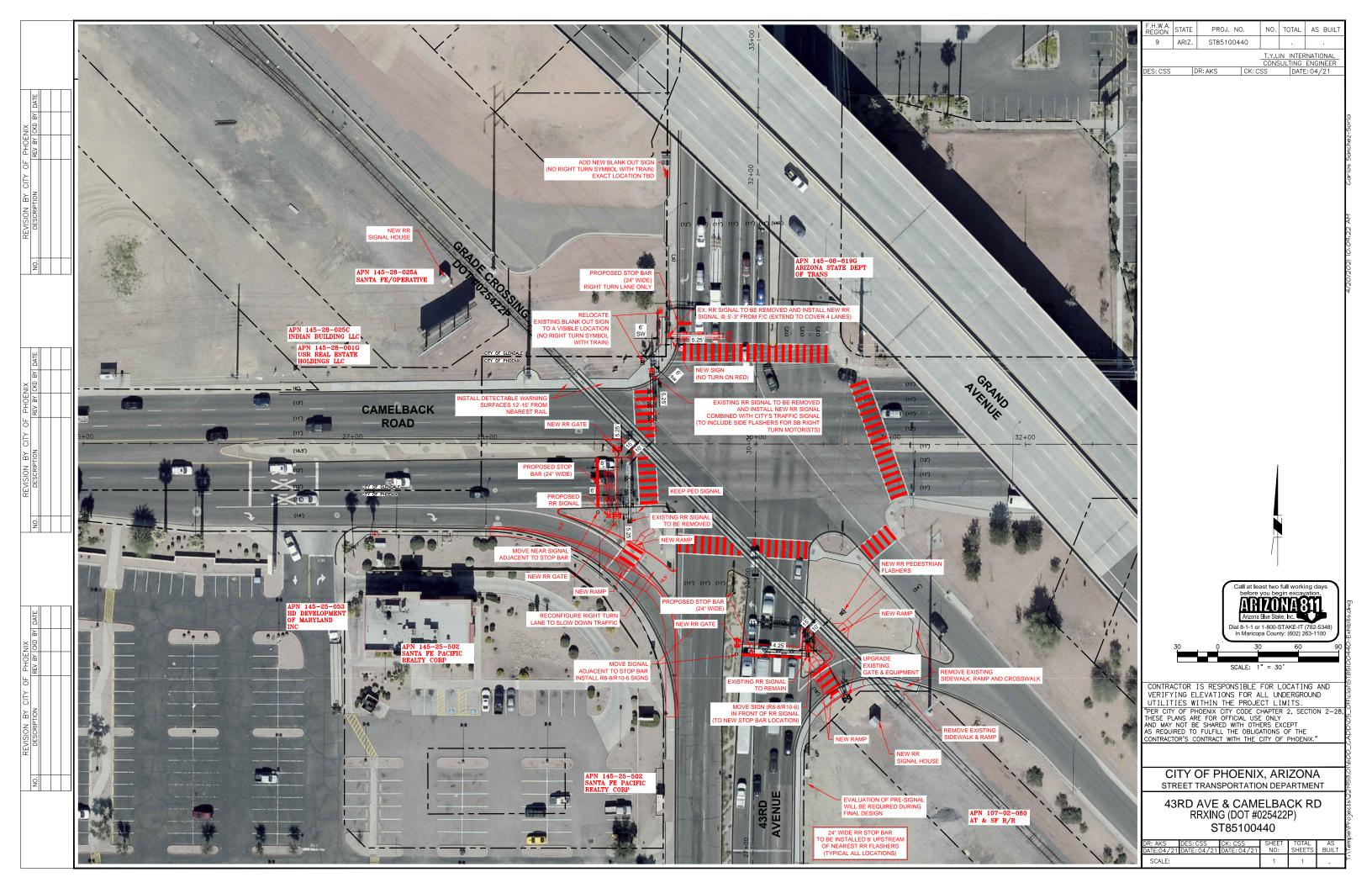
Appendix E – Meeting Minutes

Appendix F – Federal Railroad Administration Accident Reports

Appendix G – DRAFT Project Scope of Work

Appendix H – Project Emails







CITY OF PHOENIX STREET TRANSPORTATION DEPARTMENT PROGRAMMING AND PROJECT DELIVERY DIVISION 43RD AVENUE & CAMELBACK ROAD RR XING- ST85100440 PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST (NON FA) DATE: JUNE 29, 2021

Item No.		Description		Quantity	Unit Cost	Total		
1	M1042005	Allowance for Extra Work	ALW	1	\$75,000.00	\$75,000.00		
2	M1042007	Allowance for Extra Landscape Work	ALW	1	\$25,000.00	\$25,000.00		
3	E6992000	Allowance for Storm Water Pollution Prevention Best Management Practice	ALW	1	\$5,000.00	\$5,000.00		
4	M1058000	Construction Survey and Layout	LS	1	\$35,000.00	\$35,000.00		
5	M3010001	Subgrade Preparation	SY	25	\$40.00	\$1,000.00		
6	M3210115	Asphalt Concrete Surface Course, Type D 1/2, 1-1/2" Thick	TON	2	\$125.00	\$250.00		
7	M3210330	Asphalt Concrete Base Course, Type A 1-1/2, 3" Thick	TON	10	\$125.00	\$1,250.00		
8	M3290100	Emulsified Asphalt For Tack Coat, Type SS-1h	TON	0.1	\$1,000.00	\$100.00		
9	M3304100	Power Broom	HOUR	8.0	\$91.00	\$728.00		
10	M3362100	Microseal Coat	SY	7,500	\$9.50	\$71,250.00		
11	M3400400	Concrete Sidewalk, Std. Detail P-1230	SF	1,350	\$13.00	\$17,550.00		
12	M3400415	Truncated Domes for Sidewalk Ramps, Std. Detail P-1232	SF	100.0	\$45.00	\$4,500.00		
13	M3400490	Concrete Sidewalk Ramp, Std. Detail P-1240 (9" Thick)	SF	450	\$20.00	\$9,000.00		
14	M3400490	Concrete Sidewalk Ramp, Std. Detail P-1241-1 (9" Thick)	SF	350	\$20.00	\$7,000.00		
15	M3400490	Concrete Sidewalk Ramp, Std. Detail P-1241-4 (9" Thick)	SF	300	\$20.00	\$6,000.00		
16	M3402201	Combined Concrete Curb and Gutter, Std. Detail 220, Type "A", H=6"	LF	240	\$25.00	\$6,000.00		
17	M3402221	Concrete Single Curb, Std. Detail 222, Type "A"	LF	95	\$40.00	\$3,800.00		

CITY OF PHOENIX STREET TRANSPORTATION DEPARTMENT PROGRAMMING AND PROJECT DELIVERY DIVISION 43RD AVENUE & CAMELBACK ROAD RR XING- ST85100440 PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST (NON FA) DATE: JUNE 29, 2021

Item No.		Description		Quantity	Unit Cost	Total
18		Remove Portland Cement Concrete Single Curb, Curb and Gutter, Header Curb or Embankment Curb	LF 390 \$8.00		\$3,120.00	
19	M3500020	0020 Remove Portland Cement Concrete Sidewalk, Driveway, Valley Gutter & Slab SF 1,335 \$5.00		\$6,675.00		
20	M3500312	M3500312 Miscellaneous Removal and Other Work LS 1 \$20,000.00		\$20,000.00		
21	M4011901	Traffic Control Devices	JOB	1	\$75,000.00	\$75,000.00
22	M4013000	Allowance for Uniformed, Off-duty Law Enforcement Officer	JOB	1	\$25,000.00	\$25,000.00
23	3 M4304102 Decomposed Granite, 3/8" Minus, Stabilized, 2" Thick SF 7,250 \$2.50		\$2.50	\$18,125.00		
	SUB-TOTAL CONSTRUCTION					\$416,348.00
CONTINGENCY (30%)					\$124,904.40	
	TOTAL CONSTRUCTION (NON FA) FOR PROJECT ST85100440					\$541,253.00

CITY OF PHOENIX STREET TRANSPORTATION DEPARTMENT PROGRAMMING AND PROJECT DELIVERY DIVISION 43RD AVENUE & CAMELBACK ROAD RR XING- ST85100440 PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST (FA) DATE: JUNE 29, 2021

Item No.		Description		Quantity	Unit Cost	Total		
1	M1042005	Allowance for Extra Work	ALW	1	\$100,000.00	\$100,000.00		
2	M1042007	Allowance for Extra Landscape Work	ALW	1	\$35,000.00	\$35,000.00		
3	E6992000	Allowance for Storm Water Pollution Prevention Best Management Practice	ALW	1	\$10,000.00	\$10,000.00		
4	M1058000	Construction Survey and Layout	LS	1	\$50,000.00	\$50,000.00		
5	M3010001	Subgrade Preparation	SY	25	\$45.00	\$1,125.00		
6	M3210115	Asphalt Concrete Surface Course, Type D 1/2, 1-1/2" Thick	TON	2	\$135.00	\$270.00		
7	M3210330	Asphalt Concrete Base Course, Type A 1-1/2, 3" Thick	TON	10	\$135.00	\$1,350.00		
8	M3290100	Emulsified Asphalt For Tack Coat, Type SS-1h	TON	0.1	\$1,200.00	\$120.00		
9	M3304100	Power Broom	HOUR	8.0	\$100.00	\$800.00		
10	M3362100	Microseal Coat	SY	7,500	\$9.50	\$71,250.00		
11	M3400400	Concrete Sidewalk, Std. Detail P-1230	SF	1,350	\$15.00	\$20,250.00		
12	M3400415	Truncated Domes for Sidewalk Ramps, Std. Detail P-1232	SF	100.0	\$50.00	\$5,000.00		
13	M3400490	Concrete Sidewalk Ramp, Std. Detail P-1240 (9" Thick)	SF	450	\$25.00	\$11,250.00		
14	M3400490	Concrete Sidewalk Ramp, Std. Detail P-1241-1 (9" Thick)	SF	350	\$25.00	\$8,750.00		
15	M3400490	Concrete Sidewalk Ramp, Std. Detail P-1241-4 (9" Thick)	SF	300	\$25.00	\$7,500.00		
16	M3402201	Combined Concrete Curb and Gutter, Std. Detail 220, Type "A", H=6"	LF	240	\$30.00	\$7,200.00		
17	M3402221	Concrete Single Curb, Std. Detail 222, Type "A"	LF	95	\$50.00	\$4,750.00		

CITY OF PHOENIX STREET TRANSPORTATION DEPARTMENT PROGRAMMING AND PROJECT DELIVERY DIVISION 43RD AVENUE & CAMELBACK ROAD RR XING- ST85100440 PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST (FA) DATE: JUNE 29, 2021

	Item No.	Description		Quantity	Unit Cost	Total
18		Remove Portland Cement Concrete Single Curb, Curb and Gutter, Header Curb or Embankment Curb	LF	LF 390 \$9.00		\$3,510.00
19	M3500020	Remove Portland Cement Concrete Sidewalk, Driveway, Valley Gutter & Slab SF 1,335 \$6.00		\$8,010.00		
20	M3500312	M3500312 Miscellaneous Removal and Other Work LS 1 \$25,000.00		\$25,000.00		
21	M4011901	Traffic Control Devices	JOB	1	\$100,000.00	\$100,000.00
22	M4013000	Allowance for Uniformed, Off-duty Law Enforcement Officer	JOB	1	\$30,000.00	\$30,000.00
23	M4304102 Decomposed Granite, 3/8" Minus, Stabilized, 2" Thick SF 7,250 \$2.50		\$2.50	\$18,125.00		
	SUB-TOTAL CONSTRUCTION					\$519,260.00
CONTINGENCY (30%)					\$155,778.00	
	TOTAL CONSTRUCTION (FA) FOR PROJECT ST85100440					\$675,038.00



TY-LIN INTERNATIONAL 43RD AVE AND CAMELBACK ROAD RR XING ST85100440 PRELIMINARY PROJECT SCHEDULE (NON-FA) BNSF Railroad Crossing FINAL Project Assessment Task Name M1 | M2 | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M10 | M11 | M12 | M13 | M14 | M15 | M16 | M17 | M18 | M19 | M20 | M21 | M22 | M23 | M24 | M25 | M26 | M27 | M28 | M29 | M30 | M31 | M32 | M33 | M34 | M34 | M35 | M34 | M35 **DESIGN PROCUREMENT** DESIGN PROCUREMENT **NOTICE TO PROCEED** NOTICE TO PROCEED PRELIMINARY ENGINEERING PRELIMINARY ENGINEERING **Diagnostic Meeting with BNSF ♦** Diagnostic Meeting with BNSF Field Survey / Base Mapping / Utility Research Prepare 40% Design Prepare 40% Design 40% Design Submittal 40% Design Submittal City, BNSF, Utility Review City, BNSF, Utility Review **FINAL DESIGN PHASE FINAL DESIGN PHASE** Prepare 70% Design Prepare 70% Design 70% Design Submittal 70% Design Submittal 12 Public Meeting #1 ◆ Public Meeting #1 13 City, BNSF, Utility Review City, BNSF, Utility Review Prepare 100% Design Prepare 100% Design 15 100% Design Submittal 100% Design Submittal 16 City, BNSF, Utility Review City, BNSF, Utility Review 17 Public Meeting #2 ◆ Public Meeting #2 18 Prepare Final Design Prepare Final Design Final Design Submittal Final Design Submittal PROJECT APPROVALS PROJECT APPROVALS BNSF Agreement (C&M) BNSF Agreement (C&M) 22 **Environmental (City of Phoenix) Environmental (City of Phoenix)** 23 **Utility Coordination Utility Coordination**

BIDDING PHASE

Contract Negotiations

Construction

Bid Advertisement and Award

BIDDING PHASE

Contract Negotiations

Construction NTP

Bid Advertisement and Award

25

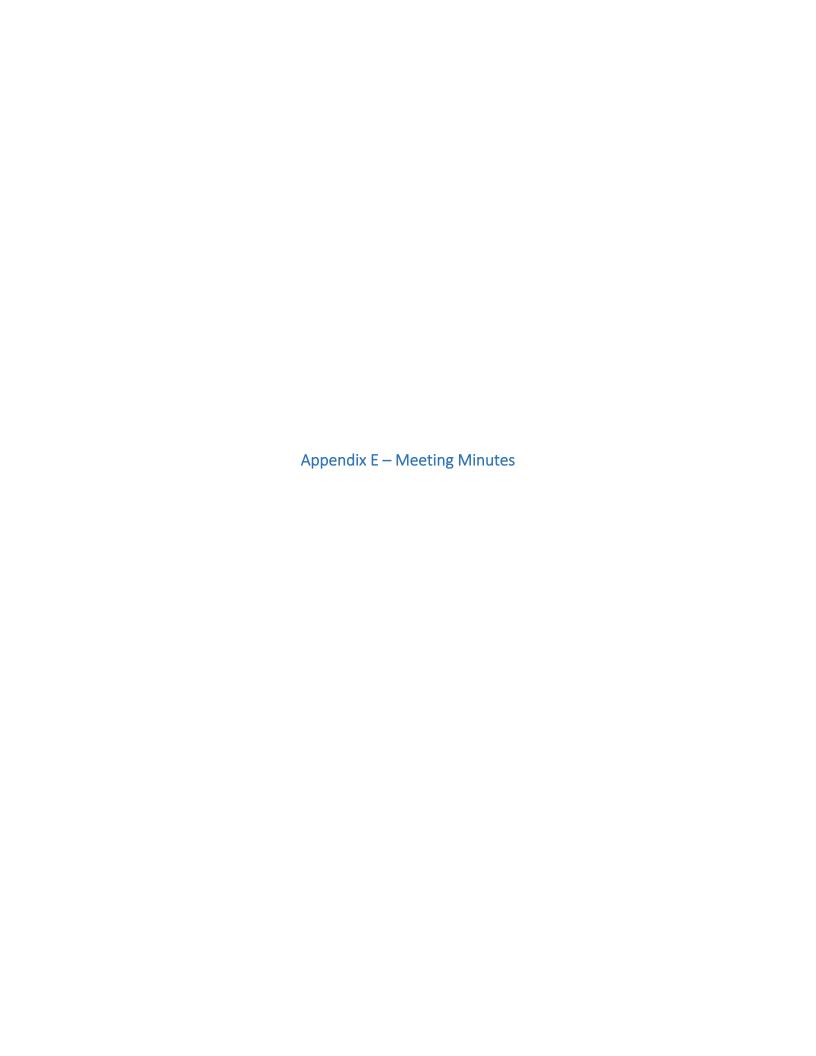
26

27



PROGRAMMING SCHEDULE (NON FED AID)					
FISCAL YEAR 1	FISCAL YEAR 2	FISCAL YEAR 3	TOTAL COST		
\$303,200			\$303,200		
	\$100,000		\$100,000		
		\$541,253	\$541,253		
	\$250,000	\$2,750,000	\$3,000,000		
\$25,000	\$25,000		\$50,000		
		\$400,000	\$400,000		
\$25,000	\$75,000		\$100,000		
\$10,000			\$10,000		
		\$80,000	\$80,000		
		\$5,000	\$5,000		
\$363,200	\$450,000	\$3,776,253			
	TOTAL FOR ST85100440 \$4,589,45				
	\$25,000 \$25,000 \$10,000	\$303,200 \$100,000 \$250,000 \$25,000 \$25,000 \$10,000 \$363,200 \$450,000	\$303,200 \$100,000 \$541,253 \$250,000 \$25,000 \$25,000 \$400,000 \$10,000 \$10,000 \$5,000 \$5,000 \$363,200 \$450,000 \$3,776,253		

43RD AVE AND CAMELBACK ROAD - PROGRAMMING SCHEDULE (FED AID)						
DESCRIPTION	FISCAL YEAR 1	FISCAL YEAR 2	FISCAL YEAR 3	FISCAL YEAR 4	FISCAL YEAR 5	TOTAL COST
1 DESIGN		\$350,000				\$350,000
2 RIGHT OF WAY				\$100,000		\$100,000
3 CONSTRUCTION* Only Safety Components qualify for Section130					\$675,038	\$675,038
4 BNSF			\$250,000		\$2,750,000	\$3,000,000
5 DESIGN SOFT COSTS	\$15,000	\$20,000	\$20,000	\$20,000		\$75,000
6 STREET LIGHTS/TRAFFIC SIGNALS/PAVEMENT MARKING					\$400,000	\$400,000
7 UTILITIES		\$25,000		\$75,000		\$100,000
8 ENVIRONMENTAL		\$50,000				\$50,000
0 DCM CONSTRUCTION ADMIN					\$80,000	\$80,000
1 TESTING AND MATERIALS					\$5,000	\$5,000
JB-TOTAL PER FISCAL YEAR	\$15,000	\$445,000	\$270,000	\$195,000	\$3,910,038	
				тотл	AL FOR ST85100440	\$4,835,038





engineers | planners | scientists

MEETING TITLE	43 rd Ave & Camelback Road RR Xing (ST85100440)
DATE AND TIME	10/24/19, 11:00 am
ATTENDEES	Bruce Littleton, Leticia Vargas, Carlos Sanchez Soria and Allison Sadow
ORGANIZED BY	Leticia Vargas, City of Phoenix

MEETING DISCUSSIONS

A. Camelback Road (Eastbound)

- o 3 thru lanes and 1 dedicated right turn lane with pork chop island does not cross railroad tracks
- Left turn movements are prohibited
- Existing raised median (approximately 14')
- o Installation of new gate arms can be achieved without any street widening
- Existing raised median will need to be extended closer to railroad tracks in order to place new gate arms at the appropriate location
- Existing cantilever signal will need to be relocated in order to place new gate arms at the appropriate location
- Existing stop bar would need to move back based on standard distances to new railroad equipment
- o Everyone agreed on the proposed improvements for this movement

B. Camelback Road (Westbound)

- o 3 thru lanes and 1 dedicated right turn lane east of intersection
- o Left turn movements are prohibited
- Existing raised median (approximately 14')
- New gate arms are not necessary due to the existing site conditions (railroad tracks across intersection)
- o In order to hit the train, cars would need to run a red light
- Everyone agreed that no improvements would be necessary for this movement

C. 43rd Avenue (Northbound)

- o 3 thru lanes, 1 dedicated left turn lane and 1 dedicated right turn lane with pork chop island
- Existing raised median (approximately 15')
- o Installation of new gate arms can be achieved without any street widening
- Existing cantilever signal will remain in place
- Existing stop bar would need to move back based on standard distances to new railroad equipment
- Existing pork chop island will need to be extended closer to railroad tracks in order to place new gate arms at the appropriate location
- Everyone agreed on the proposed improvements for this movement

D. 43rd Avenue (Southbound)

- o 3 thru lanes, 2 dedicated left turn lanes (do not cross the railroad tracks) and 1 dedicated right turn lane
- Existing raised median (approximately 6')
- o New gate arms are not feasible due to the existing site conditions (railroad tracks across intersection)
- o In order to hit the train, cars would need to run a red light
- A new gate arm could be installed for the SB to WB movement, but it was discussed that unless there
 was significant evidence of accidents for this movement, that it would not be required. The project
 team will request crash patterns/accident data from the ACC.
- o Everyone agreed that no improvements would be necessary for this movement



E. Other Discussions

- o The City stated that the roadway cannot lose any lanes when evaluating alternatives for new gate arms at this intersection
- The City will likely seek the use of federal funds for this project. The City asked Consultant to include information regarding the use of federal funds (specifically CRISI Grant)

It was my intention that these notes reflect the general discussion during the meeting. Please contact me regarding any additions, deletions or changes to these notes.

Carlos Sanchez Soria, P.E. Senior Associate/Senior Project Manager

 $T:\ TEMPE\ PROJECTS\ 221953.01\ 300_CORR\ 10_MEETINGS\ PROGRESS\ MEETING\ 10-24-2019\ ST85100440\ MEETING\ MINUTES\ 10-24-2019.DOCX\ MEETING\ NEETING\ NEE$



engineers | planners | scientists

MEETING TITLE	43 rd Ave & Camelback Road RR Xing (ST85100440) 19 th Ave & McDowell Road RR Xing (ST85100439)
DATE AND TIME	2/25/20, 9:00 am
ATTENDEES	Leticia Vargas, John Dickson, Paul NJiRaini, Carlos Sanchez Soria and Allison Sadow
ORGANIZED BY	Leticia Vargas, City of Phoenix

MEETING DISCUSSIONS

- The main purpose of the meeting is to discuss the best way to approach both the Arizona Corporation Commission (ACC) and BNSF regarding the Project Assessment's (PA) at both locations.
- City will seek federal funds Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program
- The projects should present a comprehensive solution, so the budget should include items for upgrading ADA ramps, driveways, micro surfacing and striping, street lighting and traffic signals.
- Safety will be a key component to obtain CRISI funds.
- The traffic signal controllers will need to be upgraded in order to communicate with BNSF equipment.
- Any initial/conceptual alternatives that were evaluated during early stages of the project should be included as an Appendix in the PA.
- Construction costs need to be re-evaluated to make sure there is enough money (especially items being done
 by the City) PPD Construction Administration costs should be closer to 25% of construction costs.
- Total project costs for Federal should be at least 20% higher than Non-Federal

ACTION ITEMS

- 1. TYLIN to setup a meeting with the ACC the week of 3/9/20.
- 2. TYLIN to update DRAFT PA after feedback from the ACC and revise per comments received by City staff.
- 3. City to setup a meeting with BNSF to discuss both locations.
- 4. City to obtain a letter of support from both the ACC and BNSF to be included as an Appendix in the Final PA.
- 5. City of Phoenix to contact City of Glendale and provide a copy of the DRAFT PA (43rd Avenue and Camelback Road).
- 6. TYLIN to reach out to Arizona State Land Department (ASLD) and obtain additional information based on the proposed improvements.

It was my intention that these notes reflect the general discussion during the meeting. Please contact me regarding any additions, deletions or changes to these notes.

Carlos Sanchez Soria, P.E.

Senior Associate/Senior Project Manager



ST85100439 & ST85100440 19TH AVE & MCDOWELL ROAD / 43RD AVE & CAMELBACK ROAD RAILROAD CROSSING PROJECT ASSESSMENT

Sign-In Sheet for February 25, 2020, 9:00am

			Joi rebiduly 23, 20	2.0, 3.00um
Initial	Name	Organization	Phone Number	Email Address
CSS	Carlos Sarchez	TYLIN	450.333 4406	corlos. sanchez-sovia e tylin. com
AS	Allison Sadow	TYLin	480-333-4153	allison. sodow@tylin.com
JAS	JOHN DICKSON	C.O.P.		John. dickson@phoenix.gov.
H	Leticia Varans	CUP	534-5619	letiua varaas@ phoenix aru
	Koul Nyi Paini	COP	495-7042	Paul on Jain a Phoenix ago-
			e e	
				*



engineers | planners | scientists

MEETING TITLE	43 rd Ave & Camelback Road	43 rd Ave & Camelback Road RR Xing (ST85100440)		
DATE AND TIME	10/28/20, 10:00 am			
ATTENDEES	Jason Pike, ACC Jane Gauger, ADOT Kate Kalinosky, BNSF Stephen Phillips, BNSF Travis Bailey, RailPros	Carlos Sanchez Soria, TYLIN Joseph Perez, City of Phoenix Bruce Littleton, City of Phoenix		
ORGANIZED BY	Jason Pike, Arizona Corporation Commission (ACC)			

MEETING DISCUSSIONS

A. Safety Briefing

Kate went through the safety briefing with everybody on site.

B. Background

- o The ACC/ADOT/BNSF/City of Phoenix have had several meetings in the past for this location.
- The DRAFT PA was submitted in January 2020. A diagnostic meeting was scheduled for the spring of 2020 but had to be re-scheduled due to COVID-19 travel restrictions.
- Jason went over the project scope in general and Carlos discussed the proposed improvements as shown in the DRAFT PA. In general, proposed improvements include:
 - EB Traffic:
 - New RR Gate Arms. Utilize existing raised median to place gate arms on both sides of the road. Raised median would need to be extended closer to RR tracks (10' from center of tracks to F/C).
 - Existing RR Signal to be removed and new RR Signal to be installed (6' from RR Gate).
 - Move "stop" bar back (8' from new RR Signal)
 - SB Traffic:
 - New RR Gate Arm for SB to WB dedicated right turn lane
 - Keep existing RR Signal
 - WB Traffic:
 - No proposed changes
 - NB Traffic:
 - Maintain existing RR Signal location
 - New RR Gate Arms. Utilize existing raised median to place gate arms on both sides of the road. Existing pork chop island would need to be extended closer to RR tracks (10' from center of tracks to F/C).



engineers | planners | scientists

- Move "stop" bar back (8' from existing RR Signal)
- Maintain existing RR Signal for free right turn (NB to EB)
- Jane stated that this project is on the list for Section 130 funding. She anticipates the following schedule:
 - 2021: Get funds for preliminary design (sometime around June 2021)
 - 2022: Utilize funds for right of way acquisition
 - 2024: Request funding by the end of 2024
 - 2025: Begin construction
- The team decided to walk the project starting at the SW corner and moving in a counterclockwise direction. Below is a list of the discussions at each of the corners:

C. SW Corner (EB Traffic)

- Revise cross walk to be continental style (high visibility)
- Existing stop bar should be 24" wide
- Possible changes to near-side traffic signal. It is not visible due to RR Signal and signs in the area.
- Travis and Kate asked the team to explore the option of moving the crosswalk in front of RR signal instead of behind it.

D. NW Corner (SB Traffic)

- Revise cross walk to be continental style (high visibility)
- The team agreed that a new RR gate arm for the SB to WB dedicated right turn lane was not necessary for this project.
- Existing blank-out sign is not visible and needs to be moved to a better location.
- o A second blank-out sign should be added further north within the dedicated right turn lane.
- Existing RR Signal (SB traffic) should be moved back to allow 5'-3" clearance from face of curb and also extended to reach all four lanes of traffic.

E. NE Corner (WB Traffic)

- Revise cross walk to be continental style (high visibility)
- o W10-1 sign is blocked by a tree. Can it be trimmed?
- Existing RR Signal located across the intersection (WB traffic) needs to be moved back to allow 5'-3" clearance from face of curb. Existing conflicts between RR Signal and Traffic Signal (City). New RR Signal can be made to accommodate the City's Traffic Signal. An agreement would be required between City and BNSF for operation and maintenance.



F. SE Corner (NB Traffic)

- Revise cross walk to be continental style (high visibility)
- Remove existing cross walk and reconfigure to cross at 90-degrees
- New crossing at right turn lane will now happen in front of RR Gate arm
- Existing stop bar needs to be moved back 8' behind RR Signal
- A Pre-Signal should be evaluated at this location
- o Explore the option of moving crosswalk further south behind RR Signal/Gate arms

G. Action Item Matrix

Below is a list of action items that came out of the meeting:

No.	Action Item	Responsible	Due Date	Completed	Status/Comments
1	Revise exhibit shown in	Carlos	11/6/20	11/25/20	
	DRAFT PA				
2	Review revised layout and provide feedback	Travis / Kate	12/31/20	12/31/20	
3	Revise / Update Layout	Carlos	1/22/21	4/20/21	

It was my intention that these notes reflect the general discussion during the meeting. Please contact me regarding any additions, deletions or changes to these notes.

Carlos Sanchez Soria, P.E.

Senior Associate/Senior Project Manager

 $T:\ TEMPE\ PROJECTS\ 221953.01\ 300\ CORR\ 10\ MEETING\ S\ DIAGNOSTIC\ MEETING\ 10-28-2020\ S\ T85100440\ MEETING\ MINUTES\ 11-25-2020.DOCX\ DIAGNOSTIC\ MEETING\ S\ DIAGNOS$

TYLININTERNATIONAL



PROJECT	43 rd Ave & Camelback Road RR Xing (ST85100440)
DATE	4/26/21 - 3:30pm
CLIENT	City of Phoenix
BY	Carlos Sanchez Soria, TY LIN
ATTENDEES	Teams Virtual Meeting

PROJECT COORDINATION MEETING

A. SELF-INTRODUCTIONS

- New Contacts
 - Brandy Ruark, City of Phoenix PM
 - Cheryl Townlian, BNSF
 - Lindsay Post, ADOT

B. BACKGROUND

- Diagnostic Meeting held on 10/28/20
 - Attendees: Jason Pike, Jane Gauger, Kate Kalinosky, Stephen Phillips, Travis Baily, Carlos Sanchez Soria, Joseph Perez and Bruce Littleton
- BNSF provided feedback on 12/31/20
 - See exhibit with comments

C. DISCUSSION ITEMS

- 1. NW Corner (SB Traffic 43rd Avenue and WB Camelback Road)
 - a. BNSF asked the team to "consider providing flashers for pedestrians approaching from the west". The
 City does not typically provide flashers for pedestrians on these crossings. Need to discuss and come
 to an agreement.
 - b. The team agreed to move back the RR cantilever signal to allow 5'-3" clearance from the face of curb and to extend it to reach all four lanes of traffic. This will require a longer cantilever that could be a concern during final design. Need to confirm that BNSF is still on board with this approach.
 - c. The team agreed to combine the City's traffic signal with the RR cantilever signal for WB traffic along Camelback Road. Need to confirm that BNSF is still on board with this approach.

2. SE Corner (NB Traffic 43rd Avenue)

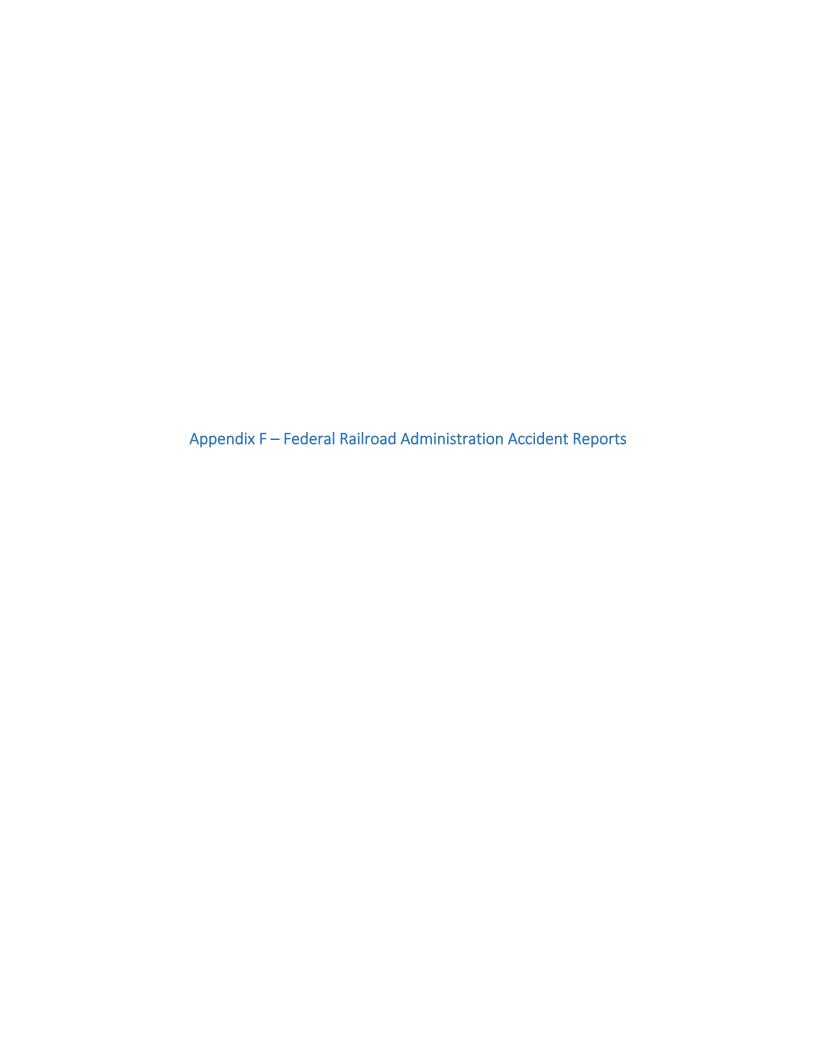
- a. BNSF asked the team to "evaluate the possibility of moving the crosswalk outside of the gates" (moved south). The team evaluated this and came to the agreement to keep the crosswalk in its current location. We believe that pedestrians will take the shortest route, especially since they are used to crossing at the current location. Moving the crosswalk further south would not comply with the City's typical pedestrian crossing at major intersections. Need to discuss and come to an agreement.
- b. BNSF asked the team to "consider providing a pre-signal for the NB approach". The need for a pre-signal will be analyzed/evaluated during final design.
- c. BNSF asked the team to "provide pedestrian flashers for this approach" for the new pedestrian crossing in the median island. The City would like additional information on the requirements for the





pedestrian flashers. In addition, the team would like to discuss the possibility of keeping the existing sidewalk improvements / crosswalk and making minor modifications to allow for a 90-degree crossing in the area. *Need to discuss and come to an agreement.*

- 3. BNSF Letter of Support
 - a. The City is evaluating the option to apply for Consolidated Rail Infrastructure and Safety Improvements (CRISI) funding for this project. A letter of support is a major component that is required as part of the application. Will BNSF be able to provide a letter of support for this project? The Notice of Funding Opportunity (NOFO) is expected to come out soon.
- D. OTHER ITEMS
- E. DECISIONS / ACTION ITEMS



FEDERAL KAILKOAD ADMINISTRA	ATION (FRA	١)		ACC	IDEN I/I	INCIDENT	REPU	ΚI				OIVID A	provai ivi	0. 2130 (5500
1.Name of Reporting Railroad	CIEI						1 -		ode					t/Incident I	No.
		for Equipn	nent Invo	lved in Train	Accident/	Incident	1		ode					t/Incident I	No.
BNSF SN9717200 SN9717200															
Share of Paparting Ratinose Sharing Sample Sharing															
1. Name of Reporting Railroad 1a. Alphabetic Code BNSF Railway Company (BNSF) 2. Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Incident 2a. Alphabetic Code BNSF Railway Company (BNSF) 3a. Alphabetic Code 3b. Name of Railroad or Other Entity Responsible for Track Maintenance (single eutry) 3a. Alphabetic Code BNSF Railway Company (BNSF) 5. Date of Accident/Incident 4b. No. 4b. No. 4b. No. 5. Date of Accident/Incident 4b. No. 6b. No. 7b. 7b												6. Time o	f Accident/Ir	ncident	
4. U.S. DOT Grade Crossing ID No. O25422P												3.30		ам 🗆 і	PM 🗸
BNSF Railway Company [BNSF] 4. U.S. DOT Grade Crossing ID No. O25422P															
								•	PA						1
11. City (if in a city) GLENDA	LE			12. Highw	ay Name	or No.	RD &	CAMEL	BACK				Public	✓ Priva	ate
Hig	hway Use	r Involve	d	•							ment	Involved			
C. Truck-trailer F. Bus				le	Code	1. Tr 2. Tr	ain (un ain (un	its pushing	5. C g) 6. Li	ar(s) (sight loco	standing (s) (m	oving) B.	Train pushin Train standir	ig- RCL ng- RCL	Code
B. Truck E. Van H. Mo	torcycle	M. Other	(specify)		J		•		8. C				DMU Locom	notive(s)	1
				et		18. Positio	on of Car	Unit in Tr	rain	1					
16. Position 1. Stalled or stuck or	crossing					19. Circur	nstance				L				Code
1.5 1.5															
		ent involve	d		-	20b. Was	there a	hazardous	s materi	als relea	ase by				Code
			1 Naithai	r		1	Highwa	v User	2 Rail	Fauinm	ent 3	Roth 4	Neither		
							. r iigiiwa	y 0301	Z. Itali	Lquipiii	<u> </u>		14010101		<u> </u>
21. Temperature 22. V	Visibility (s	ingle entry))		Code	23. Wea	ther (si	ngle entry	·)						Code
· ·	•			k	1		•	•	,	Fog 5.	Sleet	6. Snow			
Consist 2. Passeng (single entry) 3. Commut	jer Train-Pu er Train-Pu	lling 6. Cut lling 7. Yar	of cars d/Switchi	A. Spec. M	лоW Equi ger Train-	ip. E. DM -Pushing	1U Code	Equipm	ent Invo	olved		l.			r Name
		1													0-1-
Class (1-9,X) Locomot	ive		ibei oi C	ars oc	R. Rec	orded	ooraca .	зресси п и	_	, 		1. No	rth 3. Eas	st	1
Offits	2			32	E. Estin	nated	22	2 Signalor		· .					4
1. Gates 4.	. Wig wags	7	. Crossb	ucks 10. Fla	gged by o	crew		Ū		Ü	ımıg	A. Dry	way conditi	0113	
2. Cantilever FLS 5.	. Hwy. traffi	c signals 8	. Stop si	gns 11. Oth	ner (spec	cify)						C.Snow/S	Slush		
3. Standard FLS 6.		9	. Watchn	nan 12. Nor	ne					1	Code		/lud,Dirt,Oil,G	Gravel	Code
02 00	3										1			oving)	A
•			36	-	_		ed				_		•		
		_I C	ode	with Highw	ay Signal	S		1.5	Code		•				Code
T -	oroach	1	L	1. Yes 2.	. No 3.	. Unknown			1	1	. Yes	2. No 3. l	Jnknown		1
38.Hignway 39.Highway User's G	ender 40.														la.
		and Struck	or was S	Struck by Sec	ond Train	1			•				•	y barricau	
		4 \/ 0		la lua accus	1				ien proc	beeded	, ,		,		
	2				haa:::: ''				ssing		8. Suic	ide/Attemp	ted suicide		'
· ·	Amount Pallocad or Offeet Entity Responsible for Track Maintenance Application														
l ,	Comment Railload of Other Entity Regregarable for Track Maintenance (augle story) Shear Railload of Other Entity Regregarable for Track Maintenance (augle story) Shear Railload of Other Entity Regregarable for Track Maintenance (augle story) Shear Railload of Comment (augle story) Shear Railload (
1. 100 2. 10 C. CHIMIOWIT	Killad			ver was			п 4. гор	ı	45. V	Vas Driv	er in th				
	Killeu	Injured						2				: Vahiala O	agunanta		1
46. Highway-Rail Crossing Osers	0	1		•		Damage		\$2,000					ccuparits	2	
49. Railroad Employees	0	0			•			1							
52. Passengers on Train	l -	<u> </u>	,		gers and t							Beilig I lieu			2
53a. Special Study Block			-			53b. Spe	cial Stud	y Block							
54. Narrative Description (Be s					cessary)	ı									
FF Typed Name and Title				le.	2 C:~~-+	ıro.						E7 D-4			
	orting railro	ad's accide	nt report				statute ar	nd, as suc	h shall	not "be	admitte			for any pu	ırpose
												23.001		, Po	

TEDETORE TO MERCOND ADMINIOTRA	THOIT (FIV	1)		700	IDLIVI/I	NOIDLINI	IVEI OI	\ I				- · · · · · · · · · · · · · · · · · · ·			_
1.Name of Reporting Railroad	a						1		ode					dent No.	
		,			A . 1		-							dont No	
2.Name of Other Railroad or Other B	entity Filling) for Equipm	nent in	ivoived in Train i	Accident/	incident	Za. Alpr	iabetic C	ode			ZD. Raillua	a Accident/incid	Jent No.	
Section Sect															
Second part part part part part part part part															
Second S															
Name of Reporting Relitroed Short Relitroed or Other Entity Filling for Equipment Involved in Train Accident/Incident No. Short Relitroed or Other Entity Filling for Equipment Involved in Train Accident/Incident No. Short Relitroed or Other Entity Filling for Equipment Involved in Train Accident/Incident No. Short Relitroed or Other Entity Filling for Equipment Involved in Train Accident/Incident No. Short Relitroed or Other Entity Filling for Equipment Involved in Train Accident/Incident No. Short Relitroed No. Short Re															
O25422P O 4 O 5 2017 2:15 AM PM															
GLENDALE Highway User Involved 12. Highway Name or No. 43RD & CAMELBACK Public Private Highway User Involved 13. Type C. Truck-trailer F. Bus J. Other Motor Vehicle B. Truck E. Van H. Motorcycle M. Other (specify) 14. Vehicle Speed (est. mph at impact) 15. Direction (geographical) (est. mph at impact) 1. Stalled or stuck on crossing 4. Trapped on crossing by gates 3. Moving over crossing 2. Stopped on Crossing 3. Moving over crossing 4. Trapped on crossing by gates 1. Highway User Suck on crossing hazardous materials? 2. Stopped on crossing by gates 1. Highway User Suck on crossing hazardous materials? 2. Stopped on crossing by gates 3. Moving over crossing at the impact transporting hazardous materials? 2. Stopped on crossing by gates 3. Moving over crossing at the impact transporting hazardous materials? 2. Stopped on crossing by gates 3. Moving over crossing at the inpact transporting hazardous materials? 4. Highway User Suck on crossing by gates 2. Rail Equipment struck by highway user 2. Rail Equipment struck by highway user 2. Rail Equipment 3. Both 4. Neither 2. Stopped on crossing by gates 3. Moving over crossing 4. Trapped on crossing by gates 3. Moving over department involved in the impact transporting hazardous materials? 2. Stopped on crossing by gates 3. Moving over crossing 5. Blocked on crossing by gates 4. Highway User 2. Rail Equipment struck by highway user 2. Rail Equipment 3. Both 4. Neither 4. Highway User 2. Rail Equipment 3. Both 4. Neither 4. Highway User 2. Rail Equipment 3. Both 4. Neither 4. Highway User 2. Rail Equipment 3. Both 4. Neither 4. Highway User 3. Rail Equipment 3. Both 4. Neither 4. Highway User 3. Rail Equipment 3. Both 4. Neither 4. Highway User 3. Rail Equipment 3. Both 4. Neither 4. Lightway User 3. Rail Equipment 3. Both 4. Neither 4. Lightway User 3. Rail Equipment 3. Both 4. Neither 4. Lightway User 3. Rail Equipment 3. Both 4. Neither 4. Lightway User 3. Rail Equipment 3. Both 4. Neither 4. Lightway User 3. Rail Equipment 3.															
Nearest Railroad Station GLENDALE 1. City (If in a city) GLENDALE 2. City (If in a city) GLENDALE 3. Type GLENDALE 4. Car(s) (Imoving) A Train pulling: RCL (S. Crain (units pulling) S. Cards (Standing) B. City (Standing) C. City (St															
Hig	hway Use	er Involve	ed						Rail	Equipm	nent l	nvolved			
13. Type						17. Equip	ment								
C. Truck-trailer F. Bus	3	J. Other Mo	otor Vel	hicle			·		6 Li				-	CL	
1					Code				<i>3)</i>	-		D E	MU Locomotive	(3)	
			` '	(y)	1		-		8. Of			E. C	MU Locomotive	(s)	6
				Nost	1	18. Positio	on of Car I	Unit in Ti	raın	1					
					1 2	19 Circur	nstance			1					
		• • • • • • • • • • • • • • • • • • • •			Code			t struck l	nighway	user 2	Rail e	quipment st	ruck by highway	/ 1100r -	
3. Moving over crossi	ng				2				g			94.0			1
Name of Reporting Failtroad Sharper Shar															
			4 Neitl	her		1	. Highway	User	2. Rail E	Equipmer	nt 3	. Both 4. l	Veither	4	4
<u> </u>							· · · · · · · · · · · · ·			1-1-1	-				
Submit de Reporting Reliment Supplication Sup															
(specify if minus) 57 °F 1. [Dawn 2. D	Day 3. Dus	sk 4. D	Dark	4	1. Cle	ar 2. Clo	udy 3. F	Rain 4. F	og 5. S	leet	6. Snow			1
24. Type of Equipment 1. Freight T	rain	5. Sing	gle Ca	r 9. Maint./ir	nspect. ca	ar D. EM	1U 25	Trook T	vna Haa	d by Bail		Codo	26 Track Numb	hor or No	mo
2.1 0000119	See Railvav Company (RNNF) 1														
											المطال	atm. 1	SINCLE MA	A IN	
1	See Railvav Company (RNNF) 1														
		29. Nun	nber of	Cars 30			ecoraea s _i	оееа іт а	vallable)		oue			Co	ode
1 ' ' 1		3		0	E. Estin	nated			16 m	nph]	R	2. Sou	th 4. West		3
	Wia woos	7	7 Cros	shucks 10 Fla	agod by a	row.	33.	Signale	d Crossii	ng Warni	ing		ay Conditions		
Crossing								See reve	erse side	e for		B. Wet			
Warning	•	•	•	•		ary)	i	nstructio	ns and o	,	`odo		ush	C	ode
	1		. vvaic								Joue	,		el	
02 02	Subdivision PHOENIX Subdivision PHOENIX MARICOPA 10. State Code CLENDALE 12. Highway User Involved 12. Highway User Involved 17. Equipment Involved 18. Train putting-RCL 18. Train putting-RC														
1. Both Sides	Set. mph at impact) 0 1. North 2. South 3. East 4. West 2 1														
	rnach			1. Yes 2.	. No 3.	. Unknown				1. `	Yes :	2. No 3. U	nknown		
		Highway U	ser We				Highway								
User's	C. Truck-trailer F. Bus J. Other Motor Vehicle C. Auto D. Pick-up truck S. School Bus K. Pedestrian C. Code P. Truck E. Vehicle Speed Stroke K. Pedestrian C. Code P. Stroke E. Vehicle Speed Stroke C. Vehicle Speed Stroke Speed M. Other (speelity) R. D. Stroke Speed Speed M. Other (speelity) R. D. Stroke Speed Speed Speed Speed M. Other (speelity) R. D. Stroke Speed Speed Recorded Speed M. Stroke Speed Stroke or crossing by gates S. Blocked on crossing by traffic Speed Speed M. Stroke Speed Speed M. Stroke Speed Speed M. Stroke Speed Speed Speed M. Stroke Speed Speed Speed M. Stroke Speed Sp														
	S. Date of Accodent/Octobert S. Date of Accodent/Octobert														
	Truck E. Van H. Motorcycle M. Other (specify) A 3. Train (standing) 7. Light locots) (search (specify) E. DMU Locomotive(s) 6														
_		. Code	43. \			, "	•	•	5 1/			7 Othor ('enocifu)	Со	ode
· ,	Position 1. Stalled or stuck on crossing 4. Trapped on crossing by traffic 2. Stopped on Crossing 5. Blocked on crossing by gates 2. Stopped on Crossing 5. Blocked on crossing by gates 2. Stopped on Crossing 5. Blocked on crossing by gates 2. Stopped on Crossing 5. Blocked on crossing by gates 2. Stopped on Crossing 4. Rail Equipment struck by highway user 2. Rail Equipment struck by highway user 3. Rail Equipment 3. Both 4. Neither 4. Rail Equipment 4. R														
	Killed			Oriver was			ا	g. upy	45. W	/as Drive	r in th		, o., uotou	Co	ode
	Killed	Injured						3							1
46. Highway-Rail Crossing Users	0	0		• ,		Damage		\$2,000					cupants	1	
49. Railroad Employees	Name of Relificaci or Other Entity Responsible for Track Maintenance Imagin entry State														
52. Passengers on Train	0	0	(include passeng	gers and t	rain crew)		2				Being Filed			2
53a. Special Study Block		_	_	_		53b. Spec	cial Study	Block							
54. Narrative Description (Be s.					cessarv)	<u> </u>									
	Tableway Company (IRNSF) 10 of Other Retirout of Other Entity Filling for Equipment Involved in Train Accidentifications 22. Alphabetic Code 28. Retiroud Accidentification 28. Aphabetic Code 28. Retiroud Accidentification 29. Retiroud Accidentificati														
55 Typed Name and Titlo				FG	Signatu	ro						57 Data			
NOTE: This report is part of the rep	orting railro	ad's accide	ent rep				statute and	d, as suc	h shall r	not "be a	dmitte	_	ce or used for a	ny purpos	se
in any suit or action for damages gr														2	

FEDERAL RAILROAD ADMINISTRA	TION (FRA	٦)	ACC	IDEN I/II	INCIDENT	REPURI			OIVID APP	710 Val 140. 2 130	0300	
1.Name of Reporting Railroad	OTO 1						tic Code				t No.	
		n for Equipmen	t Involved in Train	Accident/	Incident		atic Code		+		t No	
Name of Chairmond of Other Entity Responsible for Equipment Involved in Train Academ-involved												
3. Name of Railroad or Other Entity	Responsib	le for Track Ma	aintenance (single	entry)		3a. Alphabe	etic Code		3b. Railroa	d Accident/Inciden	t No.	
BNSF Railway Company [BNS	SF]					BNSF			SW0317	7201		
4. U.S. DOT Grade Crossing ID No.									6. Time of A	Accident/Incident		
Name of Reporting Railroad Shaff Railway Company (BNSF) Shafford Accident/Incident No. Shaf												
Code												
						1	COPA			br. AZ		
Second Code Code												
		er Involved	•						t Involved			
13. Type					17. Equipi	ment						
C. Truck-trailer F. Bus	i	J. Other Motor	Vehicle			` ·	""''9 <i>"</i>	, ,				
A. Auto D. Pick-up truck G. Sch	ool Bus	K. Pedestrian		Code			silily)				Code	
B. Truck E. Van H. Mo	torcycle	M. Other (sp	ecify)	J	3. Tr	ain (standing				MU Locomotive(s)	2	
	irection	(geographical)		Code	18. Positio	on of Car Unit	in Train				<u>'</u>	
				1				1				
	~~	• •		Code	19. Circun	nstance					Code	
		5. Blocked on (crossing by gates	1 1	1. Rail e	equipment str	uck highv	vay user 2. Rail	equipment str	uck by highway us	er 1	
		ent involved		<u> </u>	20b. Was	there a hazar	dous ma	terials release b	/		Code	
					1.	. Highway Use	er 2. R	ail Equipment	3. Both 4. N	leither		
20c. State here the name and quan	tity of the r	nazardous mate	erial released, if an	У								
21 Temperature 22 \	/icihility (s	sinale entry)		Code	23 Wes	ther (single 4	antny)				Code	
· .												
(specify if fillings)	The Railway Company (IRNSF) 10 10 10 10 10 10 10 1											
	Railway Company IRDN											
2.1 0000119		•	-1	•		Eq	uipment I	nvolved	,			
o. commut				-	- 1		2. Yard	3. Siding 4. Ind	dustry 1	SINGLE MAIN	1	
27. FRA Track 28. Number of	of	1				ecorded speed	d if availa	ble) Code	31. Time Ta	able Direction	Code	
			. or oaro			,		ĺ	1. Nortl	h 3. East	1	
	1		10	E. Estin	nated	1		· ·			3	
1. Gates 4.	Wig wags	7. C	rossbucks 10. Fla	igged by c	crew	33. Sig	naled Cro	ossing Warning		ay Conditions		
2 Cantilever FLS 5	Hwv. traffi	c signals 8. S	top sians 11. Oth	ner <i>(spec</i>	ifv)	(B. Wet			
Warning	•	•			,	instr	uctions a	•	D.Ice		Code	
				1					E. Sand,Mu			
	<u> </u>		36. Crossing V	I Varning In	iterconnecte	ed		37. Crossir			1 21	
1. Both Sides		Code	with Highw	•			l Code	Lights	•	•	, Code	
	roach			. No 3.	Unknown				2. No 3. Ur	ıknown		
					Γrain 41.	Highway Use			(-1)/			
1 ,	The of Office Pallicular or Office Entity Filling for Equipment Involved in Train Accidentifications (a) A physiciate Code 2a. Alphabetic Code 2b. Ratinoad Accidentification (b) Report 2b. Ratinoad Report 2b. Ratinoad Accidentification (b) Report 2b. Ratinoad Report 2b. Ra											
				I I	Code			1000000	•	,		
	22 Relinant Accident Processor 10 10 10 10 10 10 10 1											
		Code 4			, ,,	•	•		7.00		Code	
l * '	1. Authorities Code											
1. 100 Z. NO O. OHNHOWH	12:11 :	4		ng ralifud(u equipitien	ı 4. ropograf				an uoteu		
Casualties to:	Section Sect											
46. Highway-Rail Crossing Users	0	0	• .		Damage	\$2				cupants		
49. Railroad Employees	0	0 50	•	<u> </u>	n Train	Φ2,		, ,	,	<u> </u>	Code	
52 Passengers on Train	## Rillway Company (BNSF) Of Other Rationad or Other Entity Filling for Equipment Involved in Trian Accordinations of Pallacid Control Entity Representative to Track Maintenance (Bush of Carcinol Control Entity Representative to Track Maintenance (Bush of Carcinol Control Entity Representative to Track Maintenance (Bush of Carcinol Control Entity Representative to Track Maintenance (Bush of Carcinol Control Entity Representative to Track Maintenance (Bush of Carcinol Control Entity Representative to Track Maintenance (Bush of Carcinol Control Entity Representative to Track Maintenance (Bush of Track Order Intended Track Order Intended Track Order Intended Track Order Intended Track (Bush of Track Order Intended Track Order I											
	-	·	es No		53b. Sper		l ck	1. Yes 2. No				
, , , , , , , , , , , , , , , , , , , ,					Opor							
54. Narrative Description (Be s	pecific, and	continue on s	eparate sheet if ne	cessary)								
55. Typed Name and Title			56	6. Signatu	re				57 Date			
	orting railro	ad's accident i				statute and, as	s such sh	all not "be admit		e or used for any	ourpose	
						,				, ,		

FEDERAL RAILROAD ADMINISTRA	TION (FRA	٦)		ACCI	IDEN I/I	INCIDENT	REPU	1 1			OMD A	provar 110. 2 1.	JO 03	,00
1.Name of Reporting Railroad	CEI						1		ode				ent No	٥.
		g for Equipn	nent Ir	nvolved in Train A	Accident/	Incident	+		ode				ent No	J.
SINSE SW136202 S														
Name of Reporting Ratinosal Company IBNSF Subset														
1. Name of Reporting Railroad SNSF Railroary Company (BNSF) SNSF SNST												t		
A. U.S. DOT Grade Crossing ID No. S. Date of Accident/Incident Document Documen] PN	и	
7 Nearest Railroad Station							+		U	2010		,		
								•	PA PA			bbr. AZ		
11. City (if in a city) GLENDA	LE			12. Highwa	ay Name	or No. 43	3RD & 0	CAMEL	BACK			Public 🗸 F	rivate	;
Hig	hway Use	er Involve	d						Rail Ed	uipment	Involved			
1		1 Other Ma		I.C.I.				ito nullina)					_	
				enicie			· .	,	6 Light		noving) C.			Codo
1				£.)	1				7. Light		sanung)		" 」	
				<i>''y)</i>	I	40 Docitio	•			r (specify	<i>ı</i>) E.	DMU Locomotive(s	5)	<u> </u>
				West	1	To. Positio	on or Car	OTHE HT TT	alli	1				
					Code	19. Circur	mstance							Code
Name of Reporting Relational Company IRNSP Seminoral Confident Positional Company IRNSP Seminoral Company IRNSP Seminoral Confident Positional Company IRNSP Seminoral Confident Positional Company IRNSP Seminoral Confident Positional Company IRNSP Seminoral Company IRNSP Seminoral Company IRNSP Seminoral Company IRNSP Seminoral Company IRNSP I														
20a. Was the highway user and/or	rail equipm	ent involve	d			20b. Was	there a h	nazardous	materials	release by				Code
			4. Neit	ther		1	. Highwa	y User	2. Rail Equ	ipment :	3. Both 4.	Neither	- 1	4
			nateria	al released, if any	у								'	
24 Temperature 22 V	/inihility /s	sinale entry)		Codo	22 1//00	thor (oir	alo ontru						Codo
Name of Reporting Failtoned Proceedings Proceedings Proceedings Proceedings Proceedings Proceedings Procedure Procedure														
(specify if fillings)						1	1	oudy 3. R	aın 4. Foç	5. Sleet	6. Snow			
Consist 2. Passeng (single entry) 3. Commut	er Train-Pu er Train-Pu	ılling 6. Cut ılling 7. Yar	of car d/Swit	rs A. Spec. M ching B. Passeng	IoW Equi	ip. E. DN	1U 25 Code	Equipme	ent Involve	d	I.			√ame
		1									· · · · · ·		111	
		29. Nun	nber o	of Cars 30			ecoraea s	грееа іт ач	(allable)	Lode			1	Code
1 ' 1		3		0	E. Estir	nated								4
1. Gates 4.	Wig wags	7	. Cros	ssbucks 10. Flag	gged by o	crew	33	. Signaled	I Crossing	Warning		vay Conditions		
2. Cantilever FLS 5.	Hwy. traffic	c signals 8	3. Stop	signs 11. Oth	er (spec	cify)					B. Wet	luob		
Warning	•	ū		•		,		instruction	ns and cod	,	D.Ice			Code
					<u> </u>					1	1			
01 02	<u> </u>			36. Crossing W	l /arning In	terconnect	ed			7. Crossino			<u> </u>	
1. Both Sides		C	'odo	_	_			1 (•	•	•		Code
	va a a b			1 Yes 2	No 3	Linknown				1. Yes	2. No 3. L	Jnknown		
							Highway		1					
									e gate				icade	
Age 1. Male	Code				1	Code			en procee	10u . ,		,	1	Code
50 2. Female	2	1. Yes 2.	No 3	3. Unknown		2			ssing					1
l	Padiws Company (BNSF) Subdivision Subd													
l ,	F Railway Company (RNST) SOOT Grade Crossing ID No. Solutive Marked Station Highway User Involved Fig. 1													
1. Yes 2. No 3. Unknown		2	44 1		ng railroa	d equipmen	nt 4. Topo	ography				bstructed		
Casualties to:	Killed	Injured			ed 3. U	ninjured		3	1		TO VOINGIO.			
46. Highway-Rail Crossing Users	0	0				Damage		\$1.500				ccupants	1	
49. Railroad Employees	B. Trouck E. Van													
52. Passengers on Train	0	0	((include passeng	ers and t	rain crew)		2			Being Filed			2
53a. Special Study Block		_	-	_		53b. Spec	cial Study	/ Block						
54. Narrative Description (Be s					cessary)	l .								
55. Typed Name and Title														
											ed as eviden	ice or used for an	y purp	ose
I a, san si aonon isi damages gi	y Jui (will illuste		5 54 111 5414 16		- 5.5.5.20			, (D	,-				

FEDERAL RAILROAD ADMINISTRA	ATION (FRA	4)		ACCI	IDEN I/I	INCIDENT	KEPU	₹ I				OIVID A	oprovar inc	7. 2 100 (5500
1.Name of Reporting Railroad	CIEI						1		ode					/Incident I	No.
		g for Equipn	nent In	nvolved in Train A	Accident/	Incident			ode					/Incident I	No.
RNSE Railway Company RNSE Skept Ske															
1. Rainbastic Code 1. Rain															
1. Name of Reporting Railroad 1a. Alphabetic Code BNSF 2. Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Incident 2a. Alphabetic Code												6. Time o	f Accident/In	cident	
				025423	2P						6	5.55	,	ам 🗆 г	PM 🗸
7 Nearest Pailroad Station							_			201	U				
								•	PA						1
11. City (if in a city) GLENDA	LE			12. Highwa	ay Name	or No. 43	3RD & 0	CAMEL	BACK				Public[✓ Priva	ate
Hig	hway Use	er Involve	ed						Rail	Equip	ment	nvolved			
C. Truck-trailer F. Bu				hicle		1. Tr	ain (un	,	5. Ca	ar(s) (s	standing) B. oving) C.	Train pushing Train standin	g- RCL ng- RCL	Codo
1				5.4)	1				7. Li			anuing)			1
				у)	1	10 Donitio	on of Cor	Unit in Tr		ther (specify,) E.	DMU Locomo	otive(s)	
			-	West		10. FUSILIC	on or Car	Official Tra	alli	6					
		4. Trapped	on cro	ssing by traffic	Codo	19. Circur	nstance								Code
1. Name of Reporting Restroad Septiment Particular of Other Entity Filling for Equipment Involved in Train Accident/Incident Septiment Septime															
• ,			d		0-4-	20b. Was	there a h	nazardous	materia	als relea	ase by				Code
, , ,			4. Neitl	her		1	. Highwa	y User	2. Rail E	Equipme	ent 3	. Both 4.	Neither		4
			nateria	al released, if any	y										
21. Temperature 22.	Visibility (s	single entry)		Code	23. Wea	ther (sir	ngle entry))						Code
(specify if minus) 85 °F 1.	Dawn 2. D	Day 3. Dus	sk 4. D	Dark	3	1. Cle	ear 2. Cl	oudy 3. R	ain 4. F	og 5.	Sleet	6. Snow			1
Consist 2. Passeng (single entry) 3. Commut	jer Train-Pu er Train-Pu	ılling 6. Cut ılling 7. Yar	of cars	s A. Spec. M	IoW Equi ger Train-	ip. E. DM -Pushing	1U 25 Code	Equipme	ent Invo	lved		l.			r Name
		1		1								. ,			
		29. Nun	nber of	f Cars 30			ecoraea s	врееа II av	/allable)	' '	Joue				1
1 ' 1		l l		6	E. Estin	nated				<u> </u>					3
	. Wig wags	7	7. Cros	sbucks 10. Flac	aaed by a	crew	33	. Signaled	d Crossii	ng War	ning		way Condition	ons	
2. Cantilever FLS 5	. Hwy. traffi											B. Wet	`luah		
Warning	•	•		•		3 /		instructioi	ns and c	,	Code	D.Ice			Code
											4				
	-			36. Crossing W	l /arning In	terconnect	ed e			37. C	rossina			ving)	A
1. Both Sides		0	مامه	_	_				2040		_		•		Code
			.	1 Voc. 2	No 3	Linknown				1	Yes	2 No. 3 L	Inknown		
							Highway		1						
	ender 40.								e gate					y barricad	ie
	Code			,					en proce				,		Code
		1. Yes 2.	No 3	3. Unknown					eeina				•		
1 1 1	<u> </u>	Code	43. \	View of Track Ob	bscured b				July		J. Juil		.ou ouloide		'
Highway Vehicle	SE Rallway Company (BNNSF) OZ5422P OZ 94 22 P OZ 94 24 P OZ 94														
1. Yes 2. No 3. Unknown		2			ng railroad	d equipmen		•	6. Hig	hway V					
Casualties to:	Killed	Injured			ed 3. Ui	ninjured		3				e Vehicle?			
46. Highway-Rail Crossing Users	0	0	47. F	Highway Vehicle	Property			. 					ccupants		•
49. Railroad Employees	0	0	— ,			n Train		\$2,000					nt /	5_	Code
52. Passengers on Train			(include passeng	ers and t	rain crew)		3				Being Filed			2
53a. Special Study Block	Video Ta	ken?	_			53b. Spec	cial Study	/ Block	<u>, 1</u>	. res	L. INU				
54. Narrative Description (Be s					cessary)										
`	•		•		• • •										
55. Typed Name and Title				56	6. Signatu	re						57. Date			
NOTE: This report is part of the rep				ort pursuant to th	he accide	ent reports s					admitte			for any pu	ırpose
In any suit or action for damages g	owing out o	or any matte	er men	itioned in said re	port" 4	9 U.S.C. 20	ມ903. Se	e 49 C.F.F	≺. 225.7	(b).					

TEDERAL RAILEROAD ADMINIOTRA	THOIT (I IV	ν,		700		NOIDEINI	INEI OI	X I				p	
1.Name of Reporting Railroad									Code				lent No.
					• • • • • •		-						N
2.Name of Other Railroad or Other E	entity Filling	for Equipm	nent Invo	lved in Train /	Accident/	Incident	2a. Alpi	nabetic (Code		2b. Railroa	ad Accident/Incid	ent No.
•	•	e for Track	Maintena	ance (single	entry)		3a. Alp	habetic (Code		3b. Railroa	ad Accident/Incid	ent No.
BNSF Railway Company (BNSF) SW0716201													
The Process of Section Section The Abstraction Code The Abstract Code The Ab													
Second Company (RINNE) Support Code Support C													
Name of Reporting Relicodal Company (BNSF) 10. Algorithestance of Code Reporting Relicodal or Other Entity Filling for Equipment involved in Train Accident/Incident No. Name of Relicoda or Other Entity Filling for Equipment involved in Train Accident/Incident No. Name of Relicoda or Other Entity Filling for Equipment involved in Train Accident/Incident No. Name of Relicoda or Other Entity Filling for Equipment involved in Train Accident/Incident No. Name of Relicoda or Other Entity Filling for Equipment involved in Train Accident/Incident No. Name of Relicoda or Other Entity Filling for Equipment Involved in Train Accident/Incident No. SW0716.201 25. Date of Accident/I													
1. Alphabetic Code SNSF Railway Company BNSF SW0716201 SNSF Railway Company BNSF SNSF													
11. City (if in a city) GLENDA	Name of Railroad or Other Entity Responsible for Track Maintenance (single entry) NSF Railway Company [BNSF] U.S. DOT Grade Crossing ID No. O25422P												
12. Highway Name or No. 43RD & CAMEL BACK Highway User Involved Rail Equipment Involved Rail Equipment Involved 17. Equipment Involved 17. Equipment Involved 18. Train (units pulsing) 2. Train (units pulsing) 2. Train (units pulsing) 3. Train (standing) 3. Train (standing) 4. Car(s) (moving) 5. Car(s) (standing) 7. Light loco(s) (moving) 8. Other (specify) 6. School Bus K. Pedestrian Code 8. Train pushing-RCL 8. Train pushing-RCL 9. EMU Locomotive(s) 1. Stalled or stuck on crossing 4. Trapped on crossing by gates 1. Stalled or stuck on crossing 5. Blocked on crossing by gates 3. Moving over crossing 3. Moving over crossing 4. Trapped on crossing by gates 5. Blocked on crossing by gates 5. Blocked on crossing by gates 6. Show 1. Highway User 2. Rail Equipment 1 3. Both 4. Neither 6. Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither 6. Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither 6. Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither 6. Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither 6. Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither 6. Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither 6. Code 1. Highway User 2. Rail Equipment 3. Both 4. Neither 7. Light loco(s) (moving) 7. Light loco(s) (moving) 8. Other (specify) 8. Other (s													
									F 0-				
				le			·		′ 6 Lic			-	CL
					1			•	-	ght loco(s)	stariuiriy)	,	ر. ا
	-				1		-			her (speci	fy) E. [OMU Locomotive(s	s) 1
				st		18. Positio	on or Car	Unit in T	rain	1			
					<u> </u>	19. Circun	nstance			1			0.1
	-	5. Blocked o	on crossii	ng by gates		1. Rail e	equipmen	nt struck	highway	user 2. Rail	equipment st	ruck by highway	uoor.
					2							, , ,	1
Same of Other Railboad or Other Entity Filling for Equipment Involved in Train Academstruckers 2a. Alphabetic Code SWP17602													
			4. Neither	·		1.	. Highway	/ User	2. Rail E	quipment	3. Both 4. I	Neither	4
					y								I
Second Company (RINNE) Support Code Support C													
(specify if minus) 99 °F 1. [Dawn 2. D	ay 3. Dus	sk 4. Dar	k	4	1. Cle	ar 2. Clo	udy 3. l	Rain 4. F	og 5. Sleet	6. Snow		1
		_	-	9. Maint./ir	nspect. ca		125	. Track T	Type Use	d by Rail	Code	26. Track Numb	er or Name
2.1 0000119		•		•			10			•			
						- 1		Main 2.	Yard 3.	Sidina 4. Inc	dustry 1	SINGLE MA	IN
	See Review Company Service												
Class (1-9,X) Locomoti	ve		ibei oi C	ais			, oo, aoa o	pood	•	ı			1
1 011110	2		2	22	E. Estin	nated	1						3
1. Gates 4.	Wig wags	7	'. Crossb	ucks 10. Flag	gged by o	rew	33.	. Signale	ed Crossii	ng Warning		ay Conditions	
2. Cantilever FLS 5.	Hwy. traffic	signals 8	. Stop sig	gns 11. Oth	er (spec	eify)						ush	
Warning 3. Standard FLS 6.	Audible	9	. Watchn	nan 12. Nor	ne			ii isti uoti	oris ariu c	,	D.Ice		
										1	· ·		
	Code C. Truck-trailer F. Bus												
A Auto D. Pick-up truck G. School Bus K. Pedestrian E. Truck E. Van H. Motorcycle M. Other (specify) 4. Vehicle Speed (est. ruph at impact) 4. Vehicle Speed (est. ruph at impact) 5. Blocked on crossing of the speed in the impact transporting hazardous materials? 1. Rail equipment struck highway user and crail equipment involved in the impact transporting hazardous materials? 1. Highway User a. Rail Equipment 3. Both 4. Neither 22. Visibility (single entry) 23. Tomus Frieght Train Consist 2. Passenger Train-Pulling 6. Cut of cars (single entry) 3. Commuter Train-Pulling 6. Cut of cars (single entry) 4. Work Train 5. Single Car 9. Maint-Inspect. car D. EMU (single entry) 4. Work Train 5. Single Car 9. Maint-Inspect. car D. EMU (single entry) 4. Work Train 5. Single Car 9. Maint-Inspect. car D. EMU (single entry) 4. Work Train 5. Single Car 9. Maint-Inspect. car D. EMU (single entry) 4. Work Train 5. Single Car 9. Maint-Inspect. car D. EMU (single entry) 4. Work Train 5. Single Car 9. Maint-Inspect. car D. EMU (single entry) 6. Code 1. North 3. East Code Seed (Recorded speed if available) 6. Code 1. Nain 2. Yard 3. Siding 4. Industry I SINGLE MAIN 27. FRA Track C 28. Number of Cars Single Side of Vehicle Approach 1. Cansist 1. Sheward Single Side of Vehicle Approach 3. Stendard FL S. Audible 9. Watchman 12. None 28. Side of Vehicle Approach 3. Scondition of Warning 1. Both Sides Code 1. Neither (specify) 3. Scondition of Warning 1. Main 2. Yard 3. Siding 4. Industry I Single Code Side of Vehicle Approach 3. Scondition of Warning 1. Solos Side of Vehicle Approach 3. Other (specify) 5. Other (specify) 5. Direction (code) 6. Other (specify) 9. Track Type Used by Rail Equipment Inscheding Interconnected with Highway Signals Code 1. North 3. East Code I Side for Instructions and codes) 6. Other (specify) 1. Vest 2. No 3. Unknown 1. Vest 2. Stopped and then proceeded (Vest See Instructions) 6. Other													
	roach	1	1	1. Yes 2.	. No 3.	Unknown			1				1
	Oa. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? Oc. State here the name and quantity of the hazardous material released, if any 1. Temperature Oc. State here the name and quantity of the hazardous material released, if any 1. Temperature Oc. State here the name and quantity of the hazardous material released, if any 1. Temperature Oc. State here the name and quantity of the hazardous material released, if any 1. Temperature Oc. State here the name and quantity of the hazardous material released, if any 1. Temperature Oc. State here the name and quantity of the hazardous material released, if any 1. Temperature Oc. State here the name and quantity of the hazardous material released, if any 1. Temperature Oc. State here the name and quantity of the hazardous material released, if any 1. Temperature Oc. State here the name and quantity of the hazardous material released, if any 1. Temperature Oc. State here the name and quantity of the hazardous materials? Oc. State here the name and quantity of the hazardous materials? Oc. State here the name and quantity of the hazardous materials? Oc. State here the name and quantity of the hazardous materials? Oc. State here the name and quantity of the hazardous materials? Oc. State here the name and quantity of the hazardous materials? Oc. State here the name and quantity of the hazardous materials? Oc. State here the name and quantity of the hazardous materials? Oc. State here the name and quantity of the hazardous materials? Oc. State here the name and quantity of the hazardous materials? Oc. State here the name and quantity of the hazardous materials? Oc. State here the name and quantity of the hazardous materials? Oc. State here the name and quantity of the hazardous materials? Oc. State here the name and quantity of the hazardous materials? Oc. State here the name and quantity of the hazardous materials? Oc. State here the name and quantity of the hazardous materials? Oc. State he												
	A Aut D. Dirk-up trux: 6. School Bus K. Pedestrian Code B. Truck E. Van H. Motorcycle M. Chler (specify) J. 3. Train (standing) 3. Train (standing) B. Other (specify) T. Light locols) (standing) b. DMU Locomotive(s) 1 Vehicle Specif J. S. Direction (geographical) S. Direction (geo												
	Rativacy Company (RNNF)												
	Standards Station												
Highway Vehicle		.		1. Perman	ent Struc	ture	3. Pass	ing Trai	n 5. Veg	etation	7. Other ((specify)	1
1. Yes 2. No 3. Unknown		2	44 Driv		ng railroad	d equipmen	t 4. Topo	graphy				ostructed	
Casualties to:	Killed	Injured			ed 3. Ui	ninjured		3	1		ine venicie?		
46. Highway-Rail Crossing Users	0	0	47. Hig	hway Vehicle	Property			\$2,000				cupants	1
49. Railroad Employees	0	0				n Train		Ψ 2, 000			-	nt /	
52. Passengers on Train			(inc	lude passeng	ers and t	rain crew)		2					2
		ken?		_		53b. Spec	cial Study	Block		. res 2. No			I
54. Narrative Description (Be sa					cessarv)								
			- opaia		/								
Name of Raincod Company (BNST) Security Principle of Entity Principle of Entity Reportable for Track Membranes (**purple record) 20. Raincad and Control Entity Reportable for Track Membranes (**purple record) 20. Alphabetic Code 20. Raincad Acideric/holdent No. SW071629 20.													
NOTE: This report is part of the rep				pursuant to the	he accide	nt reports s						ce or used for an	y purpose
in any suit or action for damages gr	owing out o	of any matte	er mentio	ned in said re	port" 4	9 U.S.C. 20	0903. See	49 C.F.	.R. 225.7	(b).			

FEDERAL RAILROAD ADMINISTRA	TION (FRA	4)		ACCI	IDEN I/I	INCIDENT	KEPU	ΚI			OMD A	provar No. 2 K	00	,00
1.Name of Reporting Railroad	CIE1								ode				ent No	٥.
		g for Equipr	nent Ir	nvolved in Train A	Accident/	Incident	1		ode				ent No	J.
NAME CAN CAN														
1. Name of Reporting Railroad 1s. Alebaberis Code 1s. Railroad Accident/Incident No. SW0514200 2s. Railroad Acc														
1a. Alphabetic Code BNSF Railway Company BNSF												f Accident/Inciden	t	
				025423	2P						7.50	АМГ] PN	и
7 Nearost Pailroad Station							_		, 10	2017				
								•	PA		l			
11. City (if in a city) GLENDA	LE		·	12. Highwa	ay Name	or No.	RD AN	D CAM	ELBACH	ζ		Public 🗸 F	rivate	<u> </u>
High	hway Use	er Involve	ed	·					Rail Ed	uipment	Involved			
1														
C. Truck-trailer F. Bus	3	J. Other Mo	otor Ve	ehicle			· .	,	6 Light			-	L	
A. Auto D. Pick-up truck G. Sch	nool Bus	K. Pedestr	ian		Code				'		· -	EMU Locomotive(s	;)	Code
B. Truck E. Van H. Mo	torcycle	M. Other	(speci	fy)	Α	3. Ir	ain (st	anding)				DMU Locomotive(s	;)	2
				10.	1	18. Positio	on of Car	Unit in Tra	ain	•			'	
						19. Circur	nstance							
2. Stopped on Crossi	ing į				1			nt struck h	nighway us	er 2. Rail e	equipment s	truck by highway		
		ent involve	d		3	20h Was	there a	hazardous	materials	release by				
• '			u		Code	200. Was	lilele a i	iazaiuous	materiais	release by			1	
						1	. Highwa	y User	2. Rail Equ	uipment	3. Both 4.	Neither		4
20c. State here the hame and quan	ility of the h	iazardous r	natena	ai reieaseo, ii any	/									
21. Temperature 22. \	/isibility (s	single entry)		Code	23. Wea	ther (si	ngle entry))				(Code
(specify if minus) 100 °F 1. [Dawn 2. D	Day 3. Dus	sk 4. [Dark	3	1. Cle	ar 2. Cl	oudy 3. R	ain 4. Fog	5. Sleet	6. Snow			1
Consist 2. Passeng	er Train-Pu	ılling 6. Cut	of car	rs A. Spec. M	1oW Equi	ip. E. DN	IU 25		•	•	Code	26. Track Number	er or N	√ame
						- 1		. Main 2. \	Yard 3. Si	ding 4. Ind	ustry 1	SINGLE MA	IN	
		1					ecorded :	speed if av	/ailable)	Code	31. Time	Table Direction		Code
1 1									11 mnk	, _D			1	
Office	1	L		9	E. Estir	nated	33	Signaled	•					
1. Gates 4.	Wig wags	7	7. Cros	ssbucks 10. Flag	gged by o	crew		J	Ū	J	A. Dry	ray corrainone		
2. Cantilever FLS 5.	Hwy. traffi	c signals 8	3. Stop	signs 11. Oth	er (spec	cify)					C.Snow/S	lush		
3. Standard FLS 6.			9. Wat	chman 12. Nor	ne					Code		Mud,Dirt,Oil,Gravel	1	Code
02 00	3									1				A
•				_	_		ed		3		•	•		
		_I C	ode	with Highwa	ay Signal	S		(Code	· ·			- 1	Code
	oroach		1	1. Yes 2.	No 3	. Unknown			1	1. Yes	2. No 3. L	Jnknown		1
38.Hignway 39.Highway User's Ge	ender 40.													
		and Struck	or wa	as Struck by Seco	ond Train	1			ū				caue	
		4 1/		0 11 1	1				en procee	404 · ,		,		
	1								ssing	8. Sui	cide/Attemp	ted suicide		
	Highway User Involved C. Truck-trailer F. Bus J. Other Motor Vehicle C. Stopped on crossing C. Short F. Salled Equipment Struck by highway user 2. Rail Equipment struc													
· '	Position 1. Stallard or stuck on crossing 4. Trapped on crossing by traffic 2. Stopped on Crossing 5. Blocked on crossing by gates 2. Stopped on Crossing 5. Blocked on crossing by gates 2. Stopped on Crossing 5. Blocked on crossing by gates 2. Stopped on Crossing 5. Blocked on crossing by gates 2. Stopped on Crossing 5. Blocked on crossing by gates 2. Stopped on Crossing 5. Blocked on crossing by gates 2. Stopped on Crossing 4. Trapped on crossing by gates 2. Stopped on Crossing 5. Blocked on crossing by gates 2. Stopped on Crossing 5. Blocked on crossing by gates 2. Stopped on Crossing 5. Blocked on crossing by gates 2. Stopped on Crossing 5. Blocked on crossing by gates 2. Stopped on Crossing 5. Blocked on crossing by gates 2. Stopped on Crossing 5. Stopped 6. Stop													
1. 163 2. NO 3. OTKHOWN			44.		ig railioai	a equipmen	н 4. гор	ograpny				bstructed		
	Killed	Injured	_					3						1
46. Highway-Rail Crossing Users	0	0		• .		Damage		\$2,000				ccupants	1	
49. Railroad Employees	0	0	— '			n Train		, , , , , ,	51. ls a	Rail Equipr	nent Accide		•	Code
52. Passengers on Train	0	0		(include passeng	ers and t	rain crew)		4			Being Filed			2
53a. Special Study Block		_	_	_		53b. Spec	cial Stud	y Block						
					cessary)	l								-
DRIVER AGE UNKNOWN														
55. Typed Name and Title				56	i. Signatu	re					57. Date			
NOTE: This report is part of the rep in any suit or action for damages gr											ed as evider	nce or used for an	y purp	ose
, action for damages gr	9 041 0	,att							,	·				

FEDERAL RAILROAD ADMINISTRA	THON (FRA	٦)		ACC	IDEN 1/1	INCIDEINT	KEPUK	<u> </u>			ONB Approval No. 2100	, 0000
Triangle of Replacing Analysis Sharphare Triangle of Replace Triangle of Replace												
		n for Equipm	nent Inv	volved in Train A	Accident/	Incident			ode			nt No.
2. Name of other Nameda of Other I		, ioi Equipii	ione in	voivou iii Truiii 7	toolaoni	moldoni	2a. 7 upii	abolio O	ouo			
3. Name of Railroad or Other Entity	Responsibl	le for Track	Mainte	enance (single	entry)		3a. Alph	abetic C	ode		3b. Railroad Accident/Incider	nt No.
BNSF Railway Company [BNS	SF]						BNSI	7			SW0214200	
4. U.S. DOT Grade Crossing ID No.	•						1				6. Time of Accident/Incident	
				025422	2P				1		7:30 AM	PM 🗸
7. Nearest Railroad Station			8	8. Subdivision			9. Cour	nty				Code
							MA	RICOI	PA		Abbr. AZ	04
11. City (if in a city) GLENDA	LE			12. Highwa	ay Name	or No. 43	BRD ANI) CAM	ELBA	C K	Public 🗸 Pri	vate
Hig	hway Use	er Involve	d							<u> </u>		
				nicle					6 1 1	٠,,	noving) C. Train standing- RCL	Codo
1				<i>(</i>)	1				7. Li		tariumy)	1
				·//	I	18. Positio	on of Car L	Jnit in Tra		ther (specify	E. DINO Locomotive(s)	
				Vest	1					1		
	·	• • •		٠,	Code	19. Circur	mstance					Code
	•	5. Blocked	on cros	ssing by gates	1	1. Rail	equipment	struck h	ighway	user 2. Rail e	equipment struck by highway us	er 2
		ent involve	d			20b. Was	there a ha	azardous	materia	als release by		Code
							10.1		0 D 11 F		D (1 A N) (1	1
						1	. Highway	User	2. Rail E	-quipment 3	3. Both 4. Neither	
200. State here the hame and quar	inty of the fi	iazai uous ii	nateriai	r reieaseu, ii arij	,							
21. Temperature 22. V	Visibility (s	single entry))		Code	23. Wea	ther (sing	gle entry))			Code
(specify if minus) 55 °F 1.	Dawn 2. C	Day 3. Dus	sk 4. Da	ark	3	1. Cle	ear 2. Clou	udy 3. R	ain 4. F	og 5. Sleet	6. Snow	1
-	rain	5. Sin	gle Car	9. Maint./ir	nspect. ca	ar D. EM	1U 25	Track Tv	ma I Isa	d by Pail	Code 26 Track Number	or Name
2.1 0000119	•	•		-1			10	•	•	•	Code 20. Hack Hamber	OI IVAIIIC
					-	٠ ا		Main 2. \	Yard 3.	Sidina 4. Indu	ustry 1 SINGLE MAI	N
		1										
			ibei oi	Cais					,	1		1
Offits	1	-		6	E. Estir	nated	100	0: 1				3
1. Gates 4.	. Wig wags	7	. Cross	sbucks 10. Flag	gged by o	crew	33.	Signaled	Crossi	ng vvarning		
2. Cantilever FLS 5.	. Hwy. traffic	c signals 8	S. Stop	signs 11. Oth	er (spec	cify)	١ ,					
3. Standard FLS 6.	. Audible	9	. Watcl	hman 12. Nor	ne							Code
Code(s) 02 03	3									1	F.Water (Standing, Moving)	A
•				Ü	U		ed			_	•	
Side of Vehicle Approach				ū	, ,					Ü		
							Highway		1			1
									e gate	6. Wer	nt around/thru temporary barrica	ade
				•					en proc	ccaca , ,		Code
	1						4. Stoppe	d on cro	ssing		o o	5
		Code	43. V			,	•	,			7.00	Code
l ,		2							_			8
	Killed			river was			ropo; 	g. aprily	45. W	as Driver in th		Code
	Killed	Injured						3			4.V-bi-l- O	1
46. Highway-Rail Crossing Users	0	0				Damage		\$2,000			·	
49. Railroad Employees	0	0	50. To	otal Number of	People o	n Train	<u> </u>		51. ls	a Rail Equipn	nent Accident /	Code
52. Passengers on Train	0	0	(ii	nclude passeng	ers and t	rain crew)		4			Being Filed	2
53a. Special Study Block		_	-			53b. Spec	cial Study	Block				
54 Narrative Description (Res					cessary)	<u> </u>						
•			ээраг	511000 11 1100	. 500ary)							
55 T IN 150				I	. 0'						Te7 D :	
55. Typed Name and Title NOTE: This report is part of the rep	orting railro	ad's accide	nt reno				statute and	l, as suc	h shall r	not "be admitte		purpose
in any suit or action for damages gr											O	- J. P000

TEDETOTE TOTAL TOTAL	tilolt (i it	ν,		7,001		NOIDLINI	IXEI O	\ 1				p		
1.Name of Reporting Railroad									ode				ident N	10.
							-							
2.Name of Other Railroad or Other B	Entity Filling	g for Equipn	nent Ir	nvolved in Train A	Accident/	Incident	2a. Alp	habetic Co	ode		2b. Railro	ad Accident/Inc	odent N	10.
SNSF Railway Company BNSF														
BNSF Railway Company [BNS	Start Communication													
4. U.S. DOT Grade Crossing ID No.	The process of Railroad Annual Process of Railroad Railroad Annual Process of Railroad Annual Process													
	Nearest Railroad Station S. Subdivision PHOENIX S. Subdivision S. Subdivision PHOENIX S. Subdivision S. Subdivision PHOENIX S. Subdivision PHOENIX S. Subdivision PHOENIX S. Subdivision													
7. Nearest Railroad Station					_'		 		, ,	2013	 			
									PA					1
11. City (if in a city) GLENDA	LE			12. Highwa	ay Name	or No.	BRD AN	D CAMI	ELBACK	7		Public 🗸	Privat	te
		er Involve	ed	<u>'</u>			112				Involved			
13. Type						17. Equip	ment		4. Car(s) (moving) A.	Train pulling- RC	CL	
C. Truck-trailer F. Bus	3	J. Other Mo	otor Ve	hicle		1. Tı	ain <i>(un</i>	its pulling)						
A. Auto D. Pick-up truck G. Sch	nool Bus	K. Pedestri	ian		Code	2. Tr	ain <i>(un</i>	its pushing,	, -		ر ا			Code
B. Truck E. Van H. Mo	torcycle	M. Other	(specit	fy)	В	3. Tr	ain (sta	anding)			stariuirig)		. ,	2
14. Vehicle Speed 15. D	irection	(geographic	cal)		Code	18. Positio	on of Car	Unit in Tra			.,			
					3					1				
					Code									
• • • • • • • • • • • • • • • • • • • •		5. Blocked	on cro	ssing by gates		1. Rail	equipme	nt struck h	ighway us	er 2. Rail	equipment s	truck by highwa	ay user	1
		nent involve	d		-	20b Was	there a h	nazardous	materials	release by				
,			_		Code	20011140		iazai ao ao	materiale	. 0.0000 2)				
- ,					•	1	. Highwa	y User 2	2. Rail Equ	ipment	3. Both 4.	Neither		4
20c. State here the name and quan	tity of the h	nazardous n	nateria	al released, if any	y									
100		-111-	`			1 00 111								
·	Same of Recording Relational Same of Recording Relational of Other Entity Filling for Equipment Involved in Train Accordant/Incident Same of Other Relational of Other Entity Filling for Equipment Involved in Train Accordant/Incident Same of Other Relational of Other Entity Filling for Equipment Involved in Train Accordant/Incident Same of Other Relational of Other Entity Filling for Equipment Involved in Train Accordant/Incident Same of Relational of Other Entity Filling for Equipment Involved in Train Accordant/Incident Same of Relational Other Entity Filling Same of Other Entity Filling Same o													
(specify if fillings)		Day 3. Dus	sk 4. [Dark	4	1. Cle	ar 2. Cl	oudy 3. R	ain 4. Fog	5. Sleet	6. Snow	1		1
0 1 1			_		•		125	. Track Ty	pe Used b	y Rail	Code	26. Track Num	nber or	Name
2.1 0000119		•		-1			10		•	•				
						- 1		Main 2 Y	ard 3 Si	ding 4 Ind	ustry 1	SINGLE M	IAIN	
		1				•					<u> </u>			
		29. Null	nber o	Cars 00			ooraca c	specu II av	allabic)	ı				ı
1 ' 1	1	1		5	E. Estir	mated			13 mph	E	2. So	uth 4. West		3
32. Type of	Win wans	7	7 Cros	sshucks 10 Flag	aned by a	rew.	33	. Signaled	Crossing	Warning		way Conditions		
Crossing								(See reve	rse side fo	r	B. Wet			
Warning	•	•	•	•	` .	ony)		instruction	ns and cod	,	Diag	lush		Codo
		<u>*</u>	o. vvall	12. INOI						Code	E. Sand,N			l .
02 00	<u>, </u>			36 Crossing W	/orning In	torconnect			2	7 Crossin			g)	A
					•		J u					•		. Code
					, ,					ū				
			•				Highway		1					
	silder 40.					-			e gate	6. We	nt around/th	ru temporary ba	arricade	Э
	Code			•	1	Code			en proceed			,		Code
2. Female	1	1. Yes 2.	No 3	3. Unknown		2			ssing					4
42. Driver Passed Standing		Code	43.	View of Track Ol	bscured b	oy <i>(prir</i>	nary obs	truction)						Code
_ * <i>'</i>		1.						0	U					۱ ۵
1. Yes 2. No 3. Unknown	1	2	44 [ng railroa	d equipmer	t 4. Top	ography				bstructed		
Casualties to:	Killed	Injured			ed 3. U	ninjured		3						
46. Highway-Rail Crossing Users	0	0	47. l	Highway Vehicle	Property	Damage		. - I	48. Tota	l Number o	of Vehicle O	ccupants		
40 Deilared Frankrise	U							\$2,000	· ·		-		2	
49. Railroad Employees	0	0			•			ı						
52. Passengers on Train	-	· –	(jers and t	rairi crew)		3						2
53a. Special Study Block		-	_			53b. Spe	cial Study	y Block						
54. Narrative Description (Be s					cessarv)									
DRIVER AGE UNKNOWN	_ Joino, and		550	2.0 3/100(// 1/6(_ 500aiy)									
55. Typed Name and Title					S. Signatu						57. Date			
NOTE: This report is part of the rep in any suit or action for damages gr											ed as evider	nce or used for	any pui	rpose
, and a second s	.,	. ,							J (N					

- III III III III III III III III III I	THOIT (I TOT)	<u>, </u>		IDEIN I/I	NOIDENT	IKET OKT						
1.Name of Reporting Railroad	· (12)					1 '	ode			No.		
		1 Ferrings		1 -1-lame	" - '-l					Na		
2.Name of Other Railroad or Other E	intity Filling	for Equipme	nt Involved in Train	Accideni	Incident	2a. Alphabetic C	ode		2b. Ralifoad Accident/incident	No.		
SAME Color												
Name of Reporting National KNSF Relivance Community (Name) SNSF												
Name of Reporting Relifered 15. All Production Code 15. All Prod												
1. Alamae of Reporting Ratilacad 1. B. Ratiforad Accident/Incident No. 1. B. Ratiforad No. 1. B. Ratiforad Accident/Incident No. 1. B. Ratiforad No. 1.												
7. Nearest Railroad Station								2022		Code		
GLENDALE			PHOENIX			MARICO	PA		Abbr. AZ	04		
11. City (if in a city) GLENDA	LE		12. Highw	vay Name	or No. 43	 RRD AND CAM	ELBACI	 ~	Public Priv	ate		
		r Involved				112.2						
13. Type					17. Equipr	ment						
C. Truck-trailer F. Bus	š	J. Other Moto	r Vehicle				6 Light					
'		K. Pedestriar	ı	Code			9) -		D EMILL acomativa(c)	Code		
B. Truck E. Van H. Mo	torcycle	M. Other (s	pecify)	A			8. Othe	(-)		2		
l			*		18. Positio	on of Car Unit in Tr	ain					
A. Auto D. Pick-up truck G. School Bus K. Pedestrian Code B. Truck E. Van H. Motorcycle M. Other (specify) A S. Train (standing) T. Light loco(s) (standing) T. Light loco												
	ina			Code								
	- 0	. DIUUKEU UII	Clussing by gates	1	1. Raii e	equipment struck r	nighway us	er 2. Rail e	quipment struck by highway use	r 2		
		ent involved			20b. Was	there a hazardous	s materials	release by		Code		
					1.	. Highway User	2. Rail Equ	uipment 3	3. Both 4. Neither	<u> </u>		
20c. State here the name and quan	tity of the ria	azardous ma	terial released, if an	ıy								
24 Tomporature 22 \	Visibility (S	inale entry)		Code	1 23 Wea	than (single entry				Code		
·	•		4 Dark	1			•	~ 5 Sleet	e enow	1		
(specify if fillings)					1		(alli 4. i o	J 3. SIEEL	b. Silow			
		•		•		25. Track T		•	Code 26. Track Number of	or Name		
2.1 0000119	•	•	-1	•		Equipm	ent Involve	∌d	1			
				-	- 1		Yard 3. Si	iding 4. Indu	ustry 1 SINGLE MAIN	i i		
27. FRA Track 28. Number of	of	29. Numb			•	ecorded speed if a	vailable)	Code	31. Time Table Direction	Code		
1 1							1.4 mpl	_ _D		1		
Office			14	E. Estir	mated	22 Signalo				3		
1. Gates 4.	. Wig wags	7. (Orossbucks 10. Fla	agged by	crew		·		A. Dry			
2. Cantilever FLS 5.	. Hwy. traffic	signals 8.	Stop signs 11. Oth	ner (spec	cify)	(
3. Standard FLS 6.	. Audible	9. \	Natchman 12. No	ne			110 0110 000	,	D.Ice	Code		
Code(s) 01 02	2				\top					A		
•			36. Crossing V	Varning Ir	nterconnecte	ed	3	•	Illuminated by Street			
		Cor	de with Highw	<i>ı</i> ay Signa	.ls	1	Code	ū		Code		
1	oroach	1	1. Yes 2	. No 3	. Unknown		1			1		
- '					-		- acto			da		
		and Struck o	r was Struck by Sec				•					
		1 Yes 2.1	o 3 Unknown		1 1	Did not stop		7. Wer	nt thru the gate			
	1)hscured			ssing	8. Suit	zide/Attemptea suiciae	<u>'</u>		
	r	1			., .,	•	5 Veget	ation	7. Other (specify)	Couc		
, ,			2. Standir			•	6. Highw	vay Vehicles	8. Not Obstructed			
Consulting to:	Killed	Injured					1		ne Vehicle?	1		
						3			f Vahiala Occupante	1		
40. Highway-Nail Glossing Oscis	0	0			/ Damage	\$2,000			· ·			
49. Railroad Employees	0	0 /			on Train		51. ls a	Rail Equipm	nent Accident /	Code		
52. Passengers on Train			(include passen	gers and	train crew)	3			Being Filed	2		
	Video Tal		les No		53b. Spec	cial Study Block	1	<u>ea</u>				
	Video Use		Yes V No									
54. Narrative Description (Be s	pecific, and	continue on	separate sheet if ne	cessary)								
55. Typed Name and Title			5/	6. Signatu	ıre				57. Date			
NOTE: This report is part of the rep									d as evidence or used for any p	urpose		
in any suit or action for damages gr	owing out of	rany matter	mentioned in said re	∌port" 4	19 U.S.C. 20	J903. See 49 C.F.I	R. 225.7 (b)).				

TEDERAL RATIONAL ADMINISTRA	111011	1)		700	IDEN 1/I	NOIDEINI	INEI OI	\ 1				- · · · - · · · · · · · · · · · · · · ·		
1.Name of Reporting Railroad							1		ode					lent No.
2.Name of Other Railroad or Other B	entity Filling	for Equipn	nent Inv	olved in Train i	Accident/	Incident	2a. Alpr	nabetic C	ode			zb. Kaliroa	id Accident/Incid	ient No.
INSE SWEIT-1202 SAme of Other Ratinos of Other Entity Filling for Equipment Involved in Train Accident/indicated 2. Aphabated Coole 3. Ratinosal Accident/indicated 4. Ratinosal Accident/indicated														
Name of Other Rational or Other Entity Filling for Equipment Involved in Train Accident/Invodent 2. Aphabetic Code 2. D. Rational Accident/Invodent 2. Aphabetic Code 2. D. Rational Accident/Invodent 2. Rational														
Section Sect														
Name of Reporting Ratinoad Company (RNSF) SNSP Ratinoad Recident (Rnocked No. NSP Ratinoad Company (RNSF) SNSP Ratinoad Recident (Rnocked No. NSP Rati														
Nearest Railroad Station GLENDALE S. Subdivision PHOENIX S. Subdi														
GLENDALE				PHOENIX			MA	ARICO	PA			Ab	br. AZ	04
11. City (if in a city)				12. Highw	ay Name	or No. 43	3RD & C	CAMEL	BACK				Public 🗸 I	Private
Hig	hway Use	er Involve	ed						Rail	Equipn	nent	Involved		
									F 0-					
				icle			`		6 1 1					CL
1					1					ght loco(s	s) (si	iariuirig)	,	. J
				")	1		•			ther (s	pecify) E. C	MU Locomotive(s) 6
Second Content Conte														
Name of Reporting Relinead SheSF Kallway Company (Brist)														
Name of Papering Rational of Other Emity Philips for Equipment Involved in Train Academinhodent Sa. Alphabetic Code Sa. Alphab														
					2									1
Name of Pasitional or Other Entity Filling for Equipment Involved in Train Academithicident 2x. Alphanteric Code 2x. Relational Academithicident 2x. Alphanteric Code 2x. Alphanter														
			4. Neith	er	4	1.	. Highway	User	2. Rail E	Equipme	nt 3	8. Both 4. N	Neither	4
20c. State here the name and quan	itity of the h	azardous n	naterial	released, if any	у									
04.7	r. 11 111 /a	inalo onta	A.		0 1	1 00 144		, ,	1					
Share of Regioning Ratinosed Share Share														
(Specify II IIIIIIus)					-			uay 3. F	Kain 4. F	-og 5. S	leet	6. Snow		
			•		•		125	Track T	ype Use	d by Rail		Code	26. Track Numb	er or Name
2.1 0000119		•		- 1				Equipm	ent Invo	lved		1		
						- 1		Main 2.	Yard 3.	Siding 4	l. Indu	ıstry 1	SINGLE MA	IN
27. FRA Track 28. Number of	Table Section Sectio													
1 ' ' 1									10 ~	onh 1	G.			1
1 OTINO	9	'		0	E. Estin	nated	22	Signalo		·				
1. Gates 4.	Wig wags	7	7. Cross	bucks 10. Fla	gged by o	rew		Ü		Ü	iiig	A. Dry	ay Coriditions	
2. Cantilever FLS 5.	Hwy. traffic	c signals 8	3. Stop s	signs 11. Oth	ner (spec	eify)							ush	
3. Standard FLS 6.	Audible	9	9. Watch	nman 12. Nor	ne					,(Code		ud Dirt Oil Gravel	
Code(s) 02 03	Sex. mph at impact) 1. North 2. South 3. East 4. West 3. S. Position 1. Stalled or stuck on crossing 4. Trapped on crossing by graffic 2. Stopped on Crossing 5. Blocked on crossing by gates 3. Moving over crossing 5. Blocked on crossing by gates 3. Moving over crossing 6. Stopped on Crossing 5. Blocked on crossing by gates 2. Moving over crossing 6. Stopped on Crossing 5. Blocked on crossing by gates 3. Moving over crossing 6. Stopped on Crossing 5. Blocked on crossing by gates 2. Moving over crossing 6. Stopped on Crossing 7. Stopped on Crossing 6. Stopped on Crossing 7. Stopped on Crossing 8. Stopped on Crossing 7. Stopped on Crossing 8. Light loco(s) 6. Commuter Train-Pulling 7. Yard/Switching 8. Passenger Train-Pulshing 7. Stopped 6. Show 8. Light loco(s) 6. Commuter Train-Pulshing 7. Stopped 6. Show 8. Light loco(s) 6. Commuter Train-Pulshing 7. Stopped 6. Show 8. Light loco(s) 6. Commuter Train-Pulshing 8. Stopped 8. Estimated 1. Short 6. Show 8. Stopped 8. Stopped 9. Watchman 12. None 8. Stopped 9. Watchman 12. None 9. Watchman 12.													
				ŭ	•		ed				U		,	
		_I C	Code	with Highw	ay Signal	S			Code	J				Cod
		1	1	1. Yes 2.	. No 3.				1					1
	ender 40.								ne nate					ricade
	2. Stopped on Crossing Struck of an arrow of the struck highway user 2. Rail equipment struck by highway user 1. Rail equipment struck highway user 2. Rail equipment struck by highway user 3. Both 4. Neither 4.													
	Second Property													
		Code	43. V	iew of Track O	bscured b				JSSIIIY		o. Guic	Jue/Allempli	eu suiciue	'
Highway Vehicle		1		1. Permar	nent Struc	ture	3. Pass	ing Trair	1 5. Ved	etation		7. Other (specify)	,
1. Yes 2. No 3. Unknown		3	L		ng railroad	d equipmen		0	6. Hig	hway Ve			structed	
Casualties to:	Killed	Injured			red 3. Ui	niniured	1	2				ie Vehicle?		1
46. Highway-Rail Crossing Users	0	1	47. H	ighway Vehicle	Property								cupants	
49. Railroad Employees					-	n Train		\$2,000					nt /	
							1	3	In	cident R	eport			
	-		Yes	No		53b. Spec	cial Studv		1 1	. Yes 2	. NO			
	Video Us	sed?	Yes	✓ No		-10								
54. Narrative Description (Be s	pecific, and	continue o	on sepai	rate sheet if ne	cessary)									
				,										
	ortina r-!!	odlo 55=1-1	nt ===				atotista =	d cc -:	sh chell	oot "h - :	dm:#		oo or wood for	
NOTE: This report is part of the rep in any suit or action for damages gr											umitte	u as evidend	be or used for ar	iy purpose

FEDERAL RAILROAD ADMINISTRA	TION (FRA	٦)		ACCI	DEN I/I	INCIDENT	REPU	ΚI			OND A	/provar 140. 2 10	0 0000
1.Name of Reporting Railroad	CIE1								ode				ent No.
		g for Equipn	nent In	volved in Train A	Accident/	Incident	+		ode				ent No.
SINSE SINS													
Name of Recording Relational Commany (RNSF) Shafe Shafe													
In Application of Reporting Rational BNSF (all Name of Company (BNSF) SW812200 2b. Realroad Accident/Incident No. BNSF Rativacy Company (BNSF) 2a. Alphabetic Code 2b. Realroad Accident/Incident No. BNSF Rativacy Company (BNSF) 3a. Alphabetic Code 2b. Realroad Accident/Incident No. BNSF Rativacy Company (BNSF) 8NSF Stativacy Company													
BNSF Railway Company [BNSF] 4. U.S. DOT Grade Crossing ID No. Code S. Date of Accident/Incident S. Sw0812200] PM	
Name of Reporting Railroad 1s. Alphabetic Code 1s. Railroad Accident/Incident No. SW812200 2b. Railroad Ac													
								•	PA.			bbr. AZ	1
11. City (if in a city) GLENDA	LE			12. Highwa	ay Name	or No.	BRD &	CAMELI	BACK			Public 🗸 P	rivate
		er Involve	ed	•						quipment	Involved		
C. Truck-trailer F. Bus				hicle	Code	1. Tı	rain <i>(un</i>	,	5. Car(6. Ligh	s) (standin t loco(s) (r	g) B. noving) C.	Train pushing- RCL Train standing- RCI	L Code
B. Truck E. Van H. Mo	torcycle	M. Other	(specif	y)	1	3. Tr	rain (st	anding)			stariuriy)		
				A4		18. Positio	on of Car	Unit in Tra	ain	4	-		
, , , , , , , , , , , , , , , , , , , ,					1	19. Circur	nstance			1			0-4-
Name of Reporting Relational Confidence Name Reporting Relational Confidence Name Report Response Relational Confidence Name Name Relational Confidence Name Name Relational Confidence Name Name Name Relational Confidence Name Na													
		ent involve	d			20b. Was	there a	hazardous	materials	release by			Code
			4 Noitl	hor		1	Highwa	vllser '	2 Rail Fo	uinment	3 Roth 4	Neither	
						1	. r iigiiwa	19 0361 2	z. Raii Eq	uipinent	J. DOIII 4.	rveitriei	
21 Temperature 22 \	/isihility (s	sinale entry)		Code	23 Wea	ther (si	nale entry)	,				Code
· ·	•			Dark	1		•	• • • • • • • • • • • • • • • • • • • •		g 5. Sleet	6. Snow		
Consist 2. Passeng	er Train-Pu	ılling 6. Cut	of cars	s A. Spec. M	IoW Equi	ip. E. DM	1U 25 Code	Equipme	ent Involv	ed	I.		
		8. Ligh	nt loco(· · · · · ·		<u> </u>
		29. Nun	nber of	f Cars 30			ecorded	speed if av	/ailable)	Code			Code
1 1		l		4					9 mp	h R			4
	Wig wags	7	7. Cros	sbucks 10. Flac	gged by o	crew	33	3. Signaled	l Crossing	Warning		vay Conditions	
2. Cantilever FLS 5.	Hwy. traffi	c signals 8	3. Stop	signs 11. Oth	er (spec	cify)						lush	
Warning 3. Standard FLS 6.	Audible	9). Wato	chman 12. Nor	ne			iristruction	iis and co	•	D.Ice		Code
Code(s) 02 03	3									1	1		A
35. Location of Warning		'		36. Crossing W	arning In	terconnect	ed		;	37. Crossing			· ·
		. 0	ode	with Highwa	ay Signal	ls		1 (Code	Lights or	Special Lig	hts	Code
	oroach		.	1. Yes 2.	No 3.	. Unknown				1. Yes	2. No 3. L	Inknown	2
		Highway U	ser We			Train 41.	Highwa			5. Oth	er (specify	/)	
									•				cade
Age 1. Male	Code				1	Code			en procee	aca		,	Cod
	1	1. Yes 2.	. No 3	3. Unknown			4. Stopp	oed on cros	ssing		U		3
	28. Alphabetic Codes												
_ * <i>'</i>	SP. Railways Company (RNNT)												
1. 163 2. 140 3. OHRHOWH	Killod			Oriver was		•	it 4. 10p	ı	45. Wa	s Driver in t		DSITUCIEU	
	Killed	injured	_					3			of Mahiala Oc	ou nonto	1
	0	0		• .		Damage		\$2,000				Cupanis	1
49. Railroad Employees	0	0						i					
52. Passengers on Train	-		<u> </u>		ers and t								2
53a. Special Study Block			-			53b. Spe	cial Stud	y Block					
54. Narrative Description (Be s					cessary)	•							
55 Typed Name and Titlo				FE	Signatu	ITA					57 Doto		
NOTE: This report is part of the rep				ort pursuant to th	ne accide	ent reports						ce or used for any	/ purpose
													· ·

TEDETONE TO MENOND ADMINIOTAL	111011	11)	700	NDEN1/I	INCIDEINI	ILLI OILLI					
1.Name of Reporting Railroad						1a. Alphabetic Co	ode	1b. Railroad Accident/Incident No.			
BNSF Railway Company [BNSF]						BNSF			SW0712201		
2.Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Ir						2a. Alphabetic C	ode	2b. Railroad Accident/Incident	No.		
3. Name of Railroad or Other Entity Responsible for Track Maintenance (single en					3a. Alphabetic Code				3b. Railroad Accident/Incident	No.	
BNSF Railway Company [BNSF]					BNSF				SW0712201		
4. U.S. DOT Grade Crossing ID No.						5. Date of Accident/Incident			6. Time of Accident/Incident		
			02542	2P		0 7 2		2012	12:31 AM 🗸	PM 🗌	
7. Nearest Railroad Station			8. Subdivision			9. County			10. State	Code	
				PHOENIX			MARICOPA Abbr. AZ				
11. City (if in a city) GLENDA	vay Name	or No. 43	RD & CAMEL			Public 🗸 Priva	ate				
Highway User Involved					Rail Equipment Involved						
13. Type C. Truck-trailer F. Bus J. Other Motor Vehicle					17. Equipment 4. Car(s) (moving) A. Train pulling- RCL 1. Train (units pulling) 5. Car(s) (standing) B. Train pushing- RCL						
		2 Train (units pushing) 6. Light loco(s) (moving) C. Train standir					noving) C. Train standing- RCL	Code			
A. Auto D. Pick-up truck G. School Bus K. Pedestrian B. Truck E. Van H. Motorcycle M. Other (specify)				Code	3. Train (standing) 7. Light loco(s) (standing) D. EMU Locomotive(s)					1	
14. Vehicle Speed 15. Direction (geographical)					8. Other (specify) E. DMU Locomotive(s) 1 18. Position of Car Unit in Train					'	
14. Vehicle Speed 15. Direction (geographical) (est. mph at impact) 0 1. North 2. South 3. East 4. West					1						
16. Position 1. Stalled or stuck on crossing 4. Trapped on crossing by traffic					19. Circumstance Code						
Stopped on Crossing 5. Blocked on crossing by gates 3. Moving over crossing					Rail equipment struck highway user 2. Rail equipment struck by highway user 1						
3. Moving over crossing 20a. Was the highway user and/or rail equipment involved					20b. Was there a hazardous materials release by						
in the impact transporting hazardous materials?										4	
1. Highway User 2. Rail Equipment 3. Both 4. Neither 2 1. Highway User 20c. State here the name and quantity of the hazardous material released, if any							2. Rail Ed	quipment 3	B. Both 4. Neither	7	
200. State here the hame and qual	ility of the f	iazai uous iii	ateriai reieaseu, ii ai	ıy							
21. Temperature 22. Visibility (single entry)					23. Weather (single entry)						
(specify if minus) 93 °F 1. Dawn 2. Day 3. Dusk 4. Dark					1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow						
24. Type of Equipment 1. Freight	Train	5. Sing	e Car 9. Maint./i	inspect. ca	ar D. EM	IU OS TI. T.		b D=11	Onda Of Track Number of	Nama	
l ·	-	ulling 6. Cut	-1		•	IU 25. Track Ty	pe osea ent Involv	•	Code 26. Track Number o	n Name	
			Switching B. Passer	_	- 1	Code			Istry 1 SINGLE MAIN		
4. Work Tr. 27. FRA Track 28. Number		1	loco(s) C. Comm		•			Code	31. Time Table Direction		
27. FRA Track 28. Number of 29. Number of Cars Class (1-9,X) Locomotive									1. North 3. East	Code	
2 Units 3 91							14 mph E 2. South 4. West				
32. Type of 1. Gates 4	. Wig wags	7	Crossbucks 10. Fla	agged by	crew	33. Signaled	d Crossin	g Warning	34. Roadway Conditions A. Dry		
Crossing 2. Cantilever FLS 5. Hwv. traffic signals 8. Stop signs 11. Of						(See reve			B. Wet		
Warning 3. Standard FLS 6. Audible 9. Watchman 12.					, y /	instructions and codes) Code			C.Snow/Slush D.Ice	Code	
Code(s) 02 0				1				1	E. Sand, Mud, Dirt, Oil, Gravel F. Water (Standing, Moving)	A	
35. Location of Warning			36. Crossing V	Varning Ir	nterconnecte	ed		37. Crossing	Illuminated by Street	1	
1. Both Sides Code with Highway					ls Code Lights or				Special Lights	Code	
2. Side of Verlicle Approach				Yes 2. No 3. Unknown 1				1. Yes	2. No 3. Unknown	1	
38.Hignway 39.Highway User's Gender 40. Highway User Went Behind or in I					Train 41.	Highway User			er (specify)		
User's		and Struck	or was Struck by Sec			 Went around th Stopped and th 	•		it around/thru temporary barricades, see instructions)		
Age 1. Male 53 2. Female	Code 1	1. Yes 2.	No 3. Unknown		Code 2	Did not stop		7. Wei	nt thru the gate	Code 4	
42. Driver Passed Standing	1	Code	43. View of Track C)bscured F		4. Stopped on cro nary obstruction)	ssing	8. Suid	cide/Attempted suicide	Code	
Highway Vehicle				nent Struc	- ,	3. Passing Train	5. Vege	tation	7. Other (specify)	5006	
1. Yes 2. No 3. Unknown 3			d equipmen	t 4. Topography	6. High	way Vehicles	8. Not Obstructed	8			
Casualties to:	l .	Injured	 Driver was Killed 2. Inju 	ıred 3 II	niniured	3	1	as Driver in th Yes 2. No	ne Vehicle?	Code 2	
	Killed	IIIJuieu				3					
46. Highway-Rail Crossing Users		1	47. Highway Vehicle	e Property	^r Damage		48. To	tal Number o	f Vehicle Occupants		
	Killed 0	0	47. Highway Vehicle (est. dollar dama	age)		\$2,000	(inc	cluding driver	2		
49. Railroad Employees	0	0	47. Highway Vehicle (est. dollar dama 50. Total Number of	age) f People o	n Train		(inc	<i>cluding driver</i> a Rail Equipn	nent Accident /	Code	
49. Railroad Employees 52. Passengers on Train	0 0 0	0 0 0	47. Highway Vehicle (est. dollar dama 50. Total Number of (include passen)	age) f People o	n Train train crew)	2	51. Is a	cluding driver	nent Accident /	Code 2	
49. Railroad Employees	0	0 0 0 0 aken?	47. Highway Vehicle (est. dollar dama 50. Total Number of	age) f People o	n Train train crew)		51. Is a	cluding driver a Rail Equipn ident Report	nent Accident /		
49. Railroad Employees 52. Passengers on Train 53a. Special Study Block	0 0 0 Video Ta Video Us	0 0 0 0 aken? ✓	47. Highway Vehicle (est. dollar dama 50. Total Number of (include passen) Yes No	age) f People o gers and t	n Train train crew)	2	51. Is a	cluding driver a Rail Equipn ident Report	nent Accident /		
49. Railroad Employees 52. Passengers on Train 53a. Special Study Block	0 0 0 Video Ta Video Us	0 0 0 0 aken? ✓	47. Highway Vehicle (est. dollar dama 50. Total Number of (include passen) Yes No Yes No	age) f People o gers and t	n Train train crew)	2	51. Is a	cluding driver a Rail Equipn ident Report	nent Accident /		
49. Railroad Employees 52. Passengers on Train 53a. Special Study Block 54. Narrative Description (Be s	0 0 0 Video Ta Video Us	0 0 0 0 aken? ✓	47. Highway Vehicle (est. dollar dama 50. Total Number of (include passen) Yes No Yes V No separate sheet if ne	age) f People o gers and i	n Train train crew) 53b. Spec	2	51. Is a	cluding driver a Rail Equipn ident Report	nent Accident / Being Filed		
49. Railroad Employees 52. Passengers on Train 53a. Special Study Block	0 0 Video Ta Video Us	0 0 0 aken? ✓ sed?	47. Highway Vehicle (est. dollar dama 50. Total Number of (include passen) Yes No Yes V No separate sheet if ne	f People of gers and the pecessary) 6. Signature	n Train train crew) 53b. Spec	2 cial Study Block	(inc 51. Is a Inc 1.	cluding driver a Rail Equipn ident Report Yes 2. No	nent Accident / Being Filed 57. Date	2	



The following is a DRAFT Scope of Work to be used for final design of this project. The DRAFT Scope of Work addresses the general tasks associated with the design of the project and identifies coordination efforts that will be required during the final design of this project.

Task 1 – Project Management, Meetings and Coordination

Consultant shall provide project management and coordination services required to complete the scope of work and coordinate the project with the City and stakeholders. The following is a list of anticipated activities:

- Project coordination with City staff;
- Supervise execution of work;
- Coordinate quality control reviews of project activities, deliverables and reports;
- Coordinate and monitor sub-consultant activities;
- Prepare for, attend and document all project meetings (see below for further explanation);
- Prepare monthly invoices and progress reports;
- Prepare and update project schedule on a monthly basis and monitor progress.

Consultant anticipates coordinating with the following project stakeholders:

- City of Phoenix
 - Street Transportation Department
 - Real Estate Department
 - Water Services Department
- Arizona Department of Transportation (ADOT)
- Arizona Corporation Commission (ACC)
- Burlington Northern Santa Fe Railway (BNSF)
- Numerous Adjacent Property/Business Owners

Consultant shall meet bi-monthly (10 meetings anticipated for 20-month project schedule) with City Staff to present and discuss progress to date and to resolve any outstanding comments/issues that arise during the course of design review. In addition to meeting with City staff, Consultant has also budgeted two (2) additional meetings with various stakeholders and affected business over the project's duration. The Consultant shall prepare the meeting agendas, sign-in sheets, handout materials and shall distribute meeting minutes to the meeting attendees within five (5) business days of any meeting.

Project management and coordination hours are assumed for the design duration (20 months).

Task 2 – Site Visit / Data Acquisition

A site visit will be conducted by the Consultant and City staff (if desired) to identify key areas of concern and engineering challenges that might have an impact on the project design. The site visit will familiarize us with the following:

- General topography
- Existing utilities
- General drainage conditions
- Existing features such as gates, fences, walls, structures, access locations, etc.
- Other site features not shown on as-built maps and/or aerial mapping;

As part of this task, Consultant shall obtain any available as as-built maps from the City. It is assumed that the City will provide quarter section maps for existing right-of-way, storm drain, sewer and water near the project area as well as for any other utilities within the project limits.

Task 3 – Field Survey and Utility Research/Mapping

Consultant shall complete topographic design survey of the project area in accordance with the City of Phoenix Administrative Procedure No. 155. The work limits shall begin approximately 200-ft north, south, and west of the intersection and to include the entire Camelback Rd and 43rd avenue intersection. Survey along the tracks will be obtained at 50-ft intervals along BNSF right-of-way. A Temporary Occupancy Permit and BNSF flagger will most likely be required. The costs associated with these items shall be included as part of this task.

Task 4 – Utility Coordination

Utility coordination will be required with several utility companies located throughout the project limits. As part of this task, Consultant shall identify all utility owners within the project limits. The Consultant shall coordinate with utility owners in conjunction with the City's Utility Coordinator. The following tasks are associated with these efforts:

Utility Coordination Meetings

Consultant shall assist the City's Utility Coordinator in arranging/conducting utility coordination meetings to facilitate identification and resolution of utility conflicts throughout the project. The Consultant shall be responsible for preparing any exhibits that would be required for the meeting. For budgetary purposes, a total of four (4) utility meetings are anticipated as part of this task.

Utility Conflicts

Consultant shall identify potential conflicts between the existing utilities and the proposed project improvements. Consultant shall coordinate with the utility companies to mitigate conflicts. If feasible, Consultant shall adjust proposed improvements to avoid utility conflicts without jeopardizing the project's purpose and goals.

Provide Information to Utility Companies

Consultant shall provide CAD files in AutoCAD format and project plans in PDF format to utility companies upon request.

Identification of Potholes

Between the 40% submittal and 70% submittal, Consultant shall identify the needs for utility potholing throughout the project. Consultant shall request potholes through the City's Utility Coordinator. Consultant shall prepare a comprehensive list of all required utility potholes (using City standard format) and shall include locations on the project plans. In addition, Consultant shall include the following information in the City's standard table:

Pothole # (TBD) Sheet # (TBD) Station/Offset Utility Name and Size

Once the pothole results are received, Consultant shall update the horizontal location of utilities as necessary and distribute revised CAD files/pothole results to each of the utility owners. Based on the information obtained from the potholes, Consultant shall identify all utility conflicts that will require adjustment/relocation. Consultant shall add pothole data information received to the roadway and connector pipe profiles included as part of the 70% submittal.

Utility Relocation

Where utility relocations are required, the City's Utility Coordinator shall work with the utility companies to determine if the relocation of the facilities are to be included as part of the project (by the City's contractor) or prior to construction. Where the utility relocation is to be included as part of the project, the City's Utility Coordinator shall coordinate design details and develop design/construction costs associated with the relocation work. Construction costs for any new utilities shall be provided to Consultant for inclusion in the final cost estimate and bid schedule prepared for the project.

Review of Utility Relocation Design Plans

The City's Utility coordinator and Consultant shall review all utility relocation plans to ensure compatibility with the proposed design plans. If the utility relocation work is to be performed by the utility companies prior to the construction of the City's project, Consultant shall include the proposed alignment of the relocated facility in the final construction plans.

Task 5 – BNSF (Railroad) Coordination

Consultant shall work very closely with the City Project Manager and BNSF staff to coordinate all project challenges and address BNSF concerns to allow for the construction of the proposed improvements at the existing railroad crossing.

Consultant shall provide coordination with the City, BNSF and the ACC to coordinate the proposed improvements at the existing crossings. Included as part of this coordination effort is preparation of exhibits depicting the crossing and land ownership in the immediate vicinity as well as detailed coordination of responsibility by each agency for all activities planned in the immediate area.

We anticipate coordination with BNSF to extend throughout the project schedule (20 months). This task includes all of the work required to obtain BNSF approval of the project and coordination of BNSF improvements on the civil plans. The following is a list of anticipated coordination for each of the submittal stages:

Pre-40% Submittal:

- Site meeting with BNSF and ACC at the existing railroad crossing
- Obtain Temporary Occupancy Permit for Surveying near railroad tracks

40% Submittal:

• Develop improvements for each crossing based on BNSF/ACC requirements for safety

Post-40% Submittal:

- City/BNSF to enter into agreement for BNSF to provide design review services (agreement is anticipated to be directly between the City and BNSF)
- Obtain temporary occupancy permit for any geotechnical work within BNSF right-of-way (Fees associated with this permit are included in this proposal)

70% Submittal:

- Improvements shall be finalized (gate arms, signals, raised medians, etc)
- Any new Right of Way and Easements shall be identified

Pre-100% Submittal:

- Jones Lang Lasalle (BNSF) to prepare legal descriptions and ROW/Easement Agreements for any necessary acquisitions. Consultant will work very closely with Jones Lang Lasalle to ensure timely preparation of legal descriptions and ROW/Easement agreements
- BNSF to provide draft construction and maintenance agreements for City review
- ACC to provide formal data request for the existing crossing and schedule administrative law judge hearing
- Administrative law judge hearing with ACC and BNSF for approval of crossing improvements

100% Submittal

 BNSF to provide final construction and maintenance agreements including estimate for any work within BNSF ROW to be completed by unionized labor forces

Sealed Submittal:

• City to sign construction and maintenance agreements and approve estimated costs

Consultant shall work very closely with the City's Project Manager to prepare and provide all information requested by the ACC for the procedural hearing and Administrative Law Judge hearing regarding each of the crossings. It is anticipated that Consultant shall provide the following information to the City (Information shall be obtained by the Consultant from various sources including, Census data, Google Earth/Maricopa Assessor Map measurements, BNSF staff, etc.)

- Traffic/Crash Data;
- Population Information;
- Log of existing warning/safety equipment located at crossing;
- Proximity to additional crossings and distinction if grade separated or not;
- Background and supporting information (costs/right-of-way impacts/coordination history) on why this crossing not proposed as grade separated;
- Adjacent area zoning description;
- Existing track usage metrics;
- Adjacent school (including bus route) and hospital information;
- Hazardous material assessment for area including any vehicles likely transporting hazardous materials across tracks;

Included in the effort as part of this task are a total of six (6) railroad coordination meetings in order to facilitate final approval of the railroad crossings.

Task 6 - 40% Plans and Cost Estimate

Consultant shall prepare a base map depicting all existing features, utilities, right-of-way and easements. The proposed grade and alignment for major design elements such as roadways features and new railroad equipment shall be shown in sufficient detail to clearly portray any possible conflicts with existing facilities.

The plans shall include all existing topography, underground utilities, existing right-of-way and the recommended grade and alignment. As part of this submittal, the following plan sheets will be provided to a preliminary (40%) completion level (anticipated number of sheets shown in parenthesis):

Cover Sheet (1)
Legend and Notes Sheet (1)
Key Map Sheet (1)
Roadway Quantity Summary Sheet (1)

Geometric Control Sheet (1) Quantity Summary Sheet (1) Typical Sections Sheet (1) Plan Sheets (2) Median Detail Sheets (2)

In total, it is anticipated that ten (10) plan sheets will be submitted as part of this task.

Consultant shall also prepare a 40% bid schedule and opinion of probable cost for the proposed improvements. A 25% contingency will be utilized at this stage of the project to account for any possible unknown construction items. The project bid schedule will be prepared using standard City bid items. The opinion of probable cost will contain unit pricing based on recently bid projects in the areas as well as historical pricing available from the Consultant's representative project database.

Task 7 – 70% Plans and Opinion of Probable Cost

Consultant shall prepare 70% plans showing all design features after the Consultant has properly addressed all comments, corrections and revisions to the 40% submittal. Detailed construction notes and quantities for all project construction items shall be shown on the plans.

In addition to the plans developed during the 40% submittal for the project, the following additional plan sheets will be developed as part of this task:

Special Detail Sheets (2)
Signing and Pavement Marking Sheets (2)
Traffic Signal Sheets (3)

In total, seven (7) new sheets will be created as part of this task, making the total anticipated number of sheets for the project to be seventeen (17). As part of this task, Consultant shall also update the opinion of probable cost to a 70% stage to include any new bid items introduced between the 40% and 70% plan submittal stages. At this stage of the project, a 15% contingency will be utilized to account for any possible unknown construction items.

Task 8 – 100% Plans, Special Provisions and Opinion of Probable Cost

Consultant shall prepare 100% plans showing all design features after the Consultant has properly addressed all comments, corrections and revisions to the 70% submittal.

Special provisions will be developed for any non-City standard specification items included as part of the project design. Consultant shall work directly with the City's Project Manager in the development of special Provisions and shall incorporate any standards and requirements associated with BNSF (i.e. traffic control and occupancy permit requirements). An opinion of probable cost will also be submitted as part of this task. At this stage of the project, a 5% contingency will be utilized to account for any possible unknown construction items.

Task 9 - Final Sealed Plans, Special Provisions and Opinion of Probable Cost

Consultant will address any final comments received on the 100% plans, special provisions and opinion of probable cost and will submit final signed/sealed versions of the project plans, special provisions and estimate. It is anticipated that Consultant will not include any contingency percentage in the opinion of probable cost.

ALLOWANCES

All sub-consultant services required shall be compensated under the following allowances items. An allowance is also included to cover all reimbursable expenses associated with this project.

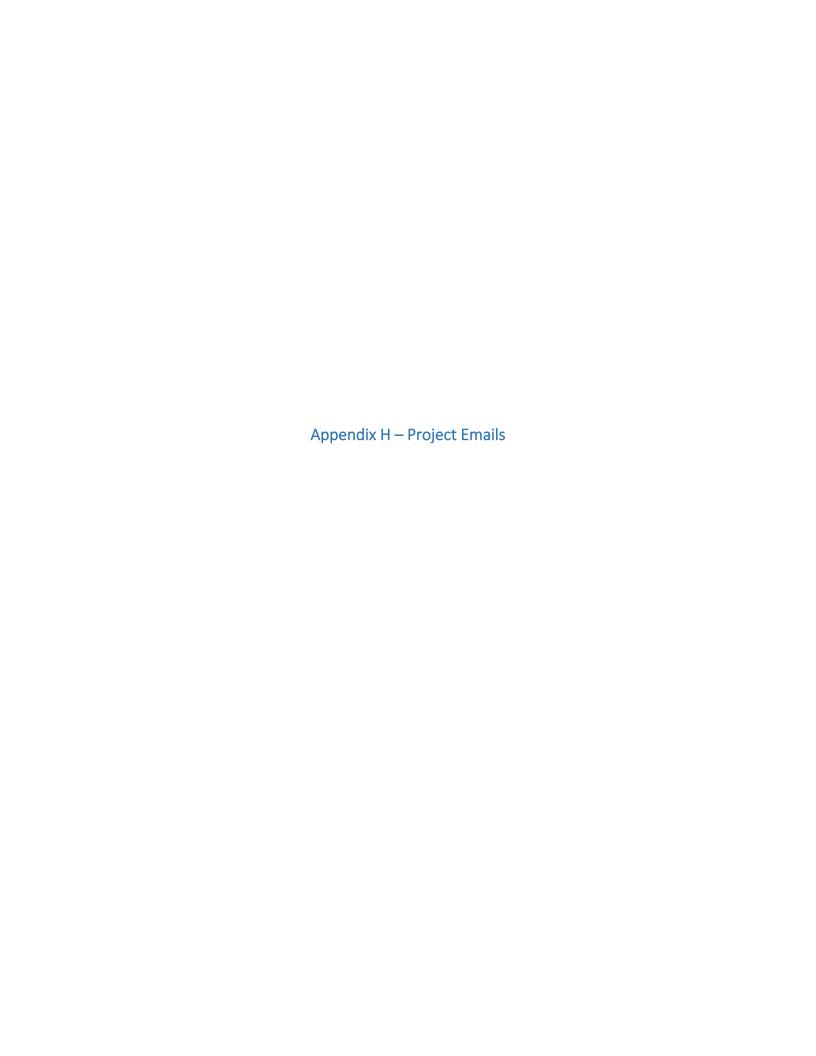
Task 10 - Public Meetings

Task 11 - Pre-signal Analysis and Design

Task 12 – Pre-emption Calculations and Design

Task 13 - Environmental Clearance Documents (if federally funded)

Task 14 - Reimbursable Expenses



From: <u>Townlian, Cheryl L</u>

To: <u>Jane Gauger; Jason Pike</u>

Cc: <u>Travis Bailey; Karen Hankinson; Phillips, Steven M; Marielle Brown; Carlos Sanchez-Soria; BRUCE LITTLETON; Mailen</u>

Pankiewicz; Brandy Ruark; lpost@azdot.gov; Kalinosky, Kate Beth

Subject: RE: Meeting notes - 43rd Avenue and Camelback RR PA

Date: Monday, May 03, 2021 9:33:05 AM

Attachments: <u>image001.png</u>

On the item of attaching equipment to our cantilevers. BNSF preliminarily agrees to attaching your equipment. We will need at some point the full details of what equipment you are proposing to attach, number and type of equipment.

Cheryl Townlian
Assistant Director of Public Projects
417-860-4122

From: Jane Gauger [mailto:jgauger@azdot.gov]

Sent: Monday, May 3, 2021 10:21 AM

To: Jason Pike <JPike@azcc.gov>

Subject: Re: Meeting notes - 43rd Avenue and Camelback RR PA

EXTERNAL EMAIL

Good Morning,

Thanks for the notes Jason. A couple of comments to follow up on to solidify the scope.

- SB 43rd The cantilever will be moved back from the face of the curb. Measure the length of the cantilever that will be needed to cover the four lanes and then get confirmation from BNSF that they are ok with the length.
- WB Camelback BNSF doesn't allow attachments to their RR equipment. Therefore, follow up with BNSF for management approval, in writing, to attach traffic signals to the cantilever. Resolve this now to have a solid scope and no change later on.

Thanks, Jane

Jane Gauger
Section 130 - Railroad Coordinator
Utility & Railroad Engineering
205 S. 17th Avenue, Rm 357, MD 618E
Phoenix, AZ 85007
602.712.4052
www.azdot.gov



Yes, I did forget the attachment. Thank you Carlos.

JASON PIKE

Senior Grade Crossing Inspector/Data Manager Arizona Corporation Commission 1300 W. Washington St. Phoenix, AZ 85007 480-818-3163 cell jpike@azcc.gov www.azcc.gov



From: Jason Pike

Sent: Wednesday, April 28, 2021 3:37 PM

To: Travis Bailey < Travis.Bailey@railpros.com >; cheryl.townlian@bnsf.com; Karen Hankinson

< karen.hankinson@railpros.com>; Phillips, Steven M < Steven.Phillips2@BNSF.com>

Cc: Marielle Brown < marielle.brown@phoenix.gov >; 'Carlos Sanchez-Soria' < carlos.sanchez-soria@tylin.com >; BRUCE LITTLETON < bruce.littleton@phoenix.gov >; Mailen Pankiewicz < mailen.pankiewicz@phoenix.gov >; Brandy Ruark < brandy.ruark@phoenix.gov >; Travis Bailey

< <u>Travis.Bailey@railpros.com</u>>; <u>cheryl.townlian@bnsf.com</u>; Karen Hankinson

< <u>karen.hankinson@railpros.com</u>>; Jane Gauger < <u>jgauger@azdot.gov</u>>; <u>lpost@azdot.gov</u>;

'Kalinosky, Kate Beth' < <u>Kate.Kalinosky@BNSF.com</u>>

Subject: Meeting notes - 43rd Avenue and Camelback RR PA

Cheryl, Steven, Travis,

See my notes here on the Camelback Project Assessment meeting. Specifically, what we're agreed on building.

The group is looking for confirmation from BNSF on the items indicated Cheryl and Stephen. As well as a letter in support of the project as Phoenix pursues funding.

JASON PIKE

Senior Grade Crossing Inspector/Data Manager Arizona Corporation Commission 1300 W. Washington St. Phoenix, AZ 85007 480-818-3163 cell jpike@azcc.gov



www.azcc.gov

From: Carlos Sanchez-Soria < carlos.sanchez-soria@tylin.com>

Sent: Monday, April 26, 2021 2:14 PM

To: BRUCE LITTLETON < <u>bruce.littleton@phoenix.gov</u>>; Mailen Pankiewicz < <u>mailen.pankiewicz@phoenix.gov</u>>; Brandy Ruark < <u>brandy.ruark@phoenix.gov</u>>; Jason Pike

<a href="mainten:paint

Karen Hankinson karen.hankinson@railpros.com; Jane Gauger jgauger@azdot.gov;

lpost@azdot.gov

Cc: Marielle Brown < marielle.brown@phoenix.gov>

Subject: RE: 43rd Avenue and Camelback RR PA Discussion

Hi everyone,

Attached is the agenda for today's meeting at 3:30pm.

Thank you!

Carlos Sanchez Soria, PE Senior Associate Transportation Group Manager | Senior Project Manager T.Y. Lin International 480.968.8814 main 480.333.4406 direct

-----Original Appointment-----From: Carlos Sanchez-Soria

Sent: Wednesday, April 21, 2021 1:21 PM

To: Carlos Sanchez-Soria; BRUCE LITTLETON; Mailen Pankiewicz; Brandy Ruark; Jason Pike; Travis Bailey; cheryl.townlian@bnsf.com; Karen Hankinson; Jane Gauger; <a href="mailto:looper-loo

Cc: Marielle Brown

Subject: 43rd Avenue and Camelback RR PA Discussion

When: Monday, April 26, 2021 3:30 PM-4:30 PM (UTC-07:00) Arizona.

Where: Microsoft Teams Meeting

All,

We will get together to discuss final details on the proposed improvements for this crossing.

Thank you!

Carlos

Microsoft Teams meeting

Join on your computer or mobile app Click here to join the meeting

Or call in (audio only)

<u>+1 312-667-5383,,639175317#</u> United States, Chicago

Phone Conference ID: 639 175 317#

Find a local number | Reset PIN

<u>Learn More</u> | <u>Meeting options</u>
