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:

T·Y·LIN INTERNATIONAL

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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.

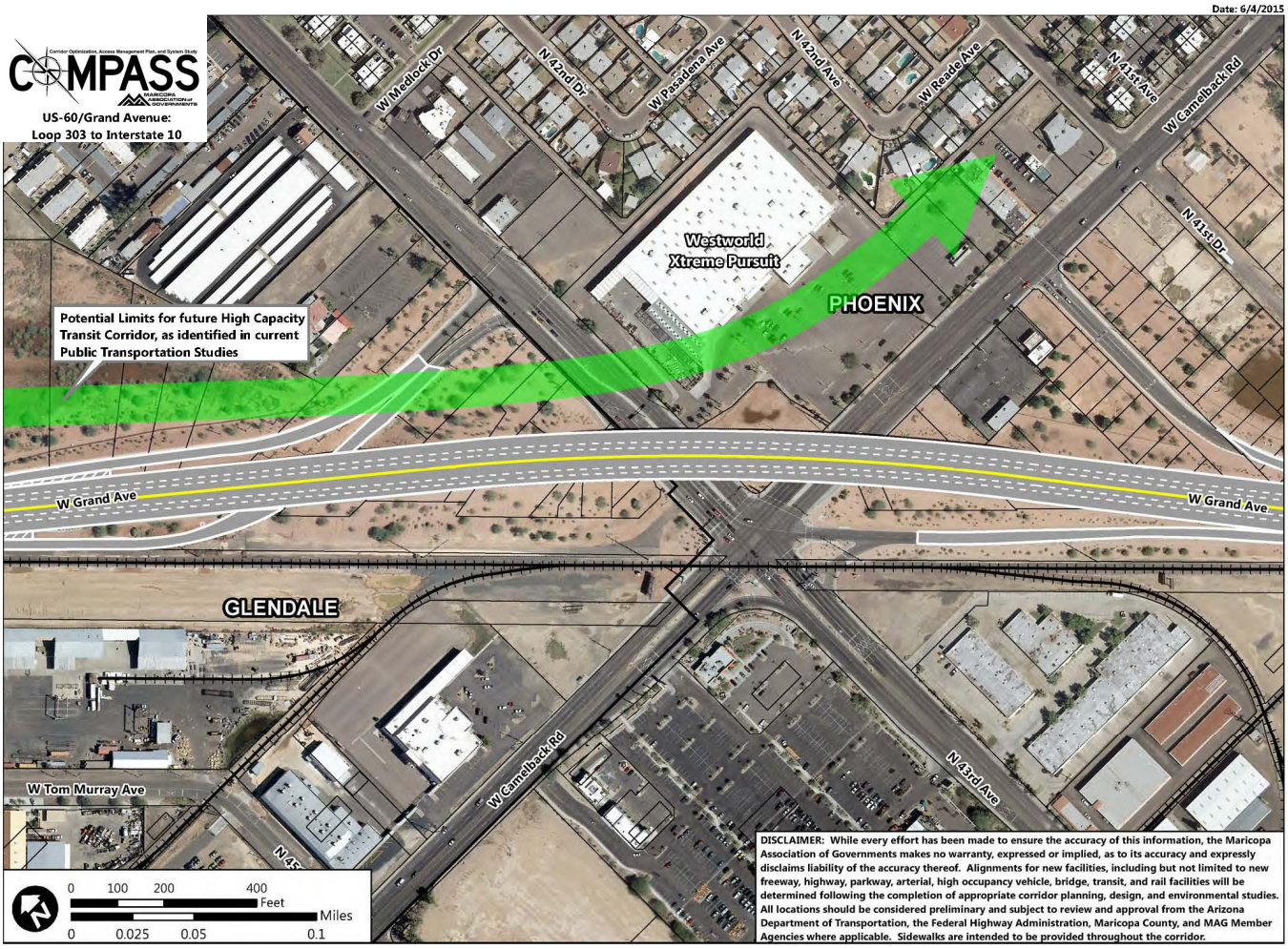
1.3 Project Goals and Objectives

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;

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.

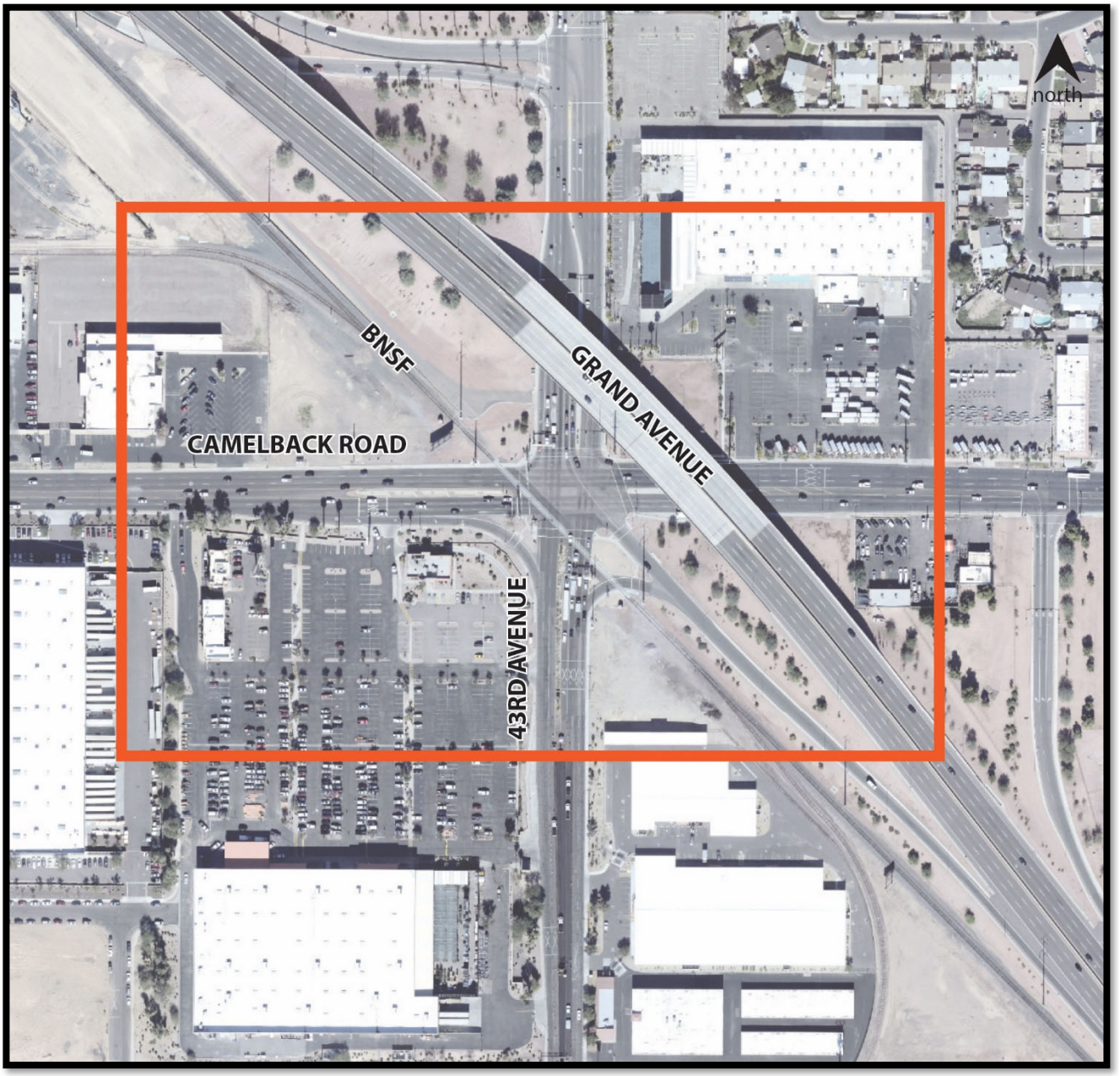


Figure 1 – Project Location

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.

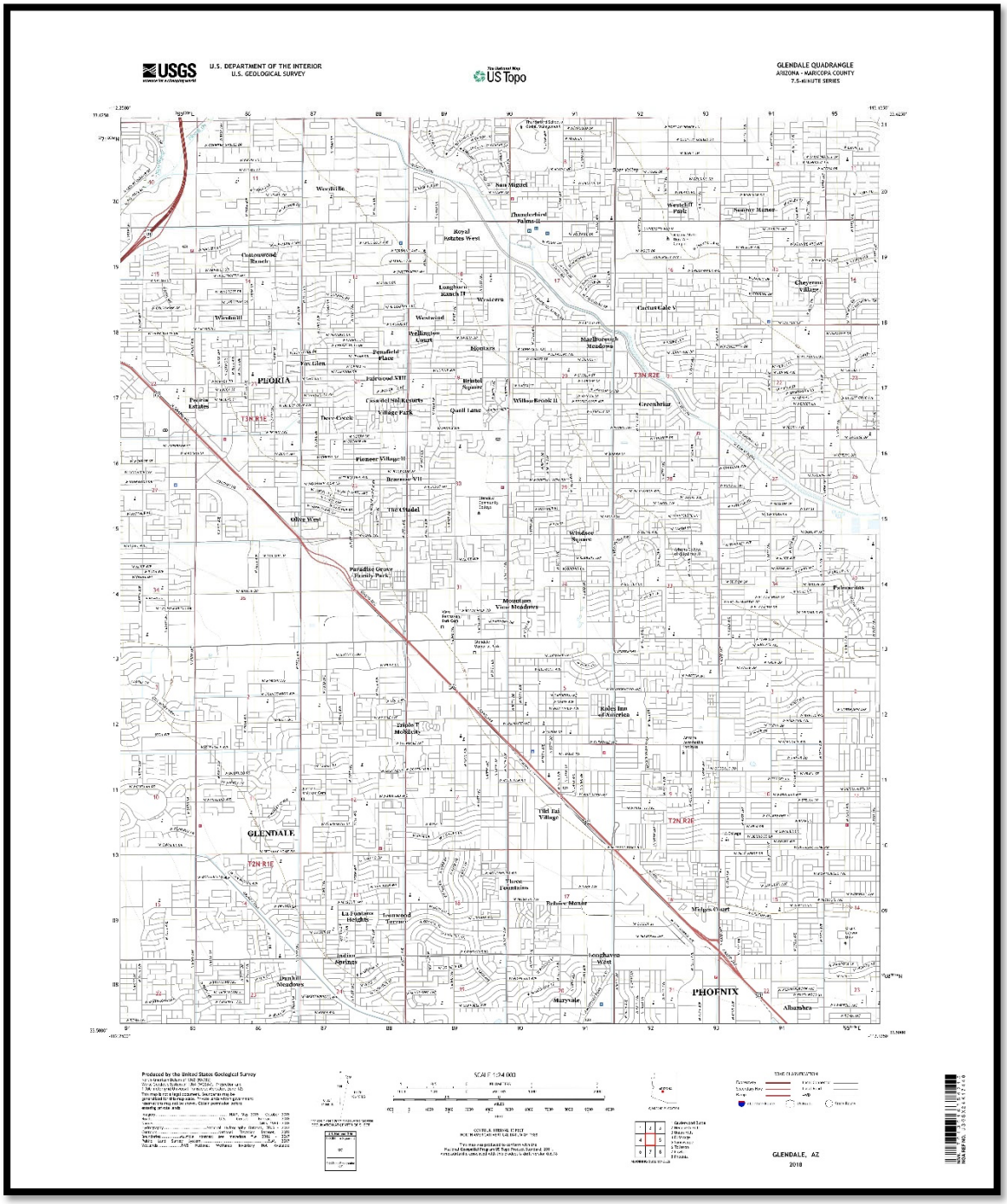


Figure 4 – 2018 US Topo Map

C) Existing Right-of-Way and Adjacent Ownership

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

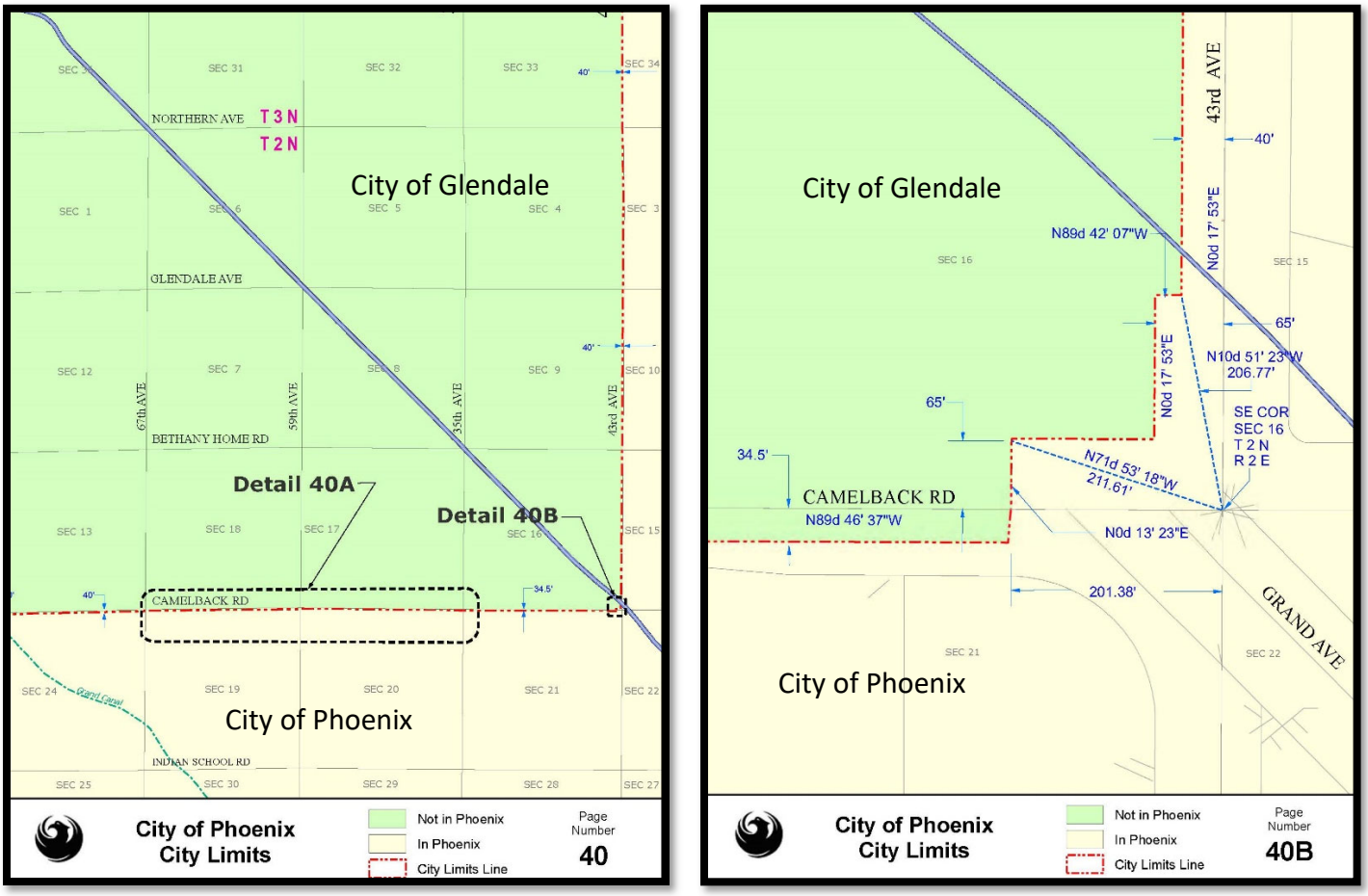


Figure 5 – City of Phoenix City Limits Map

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.

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:

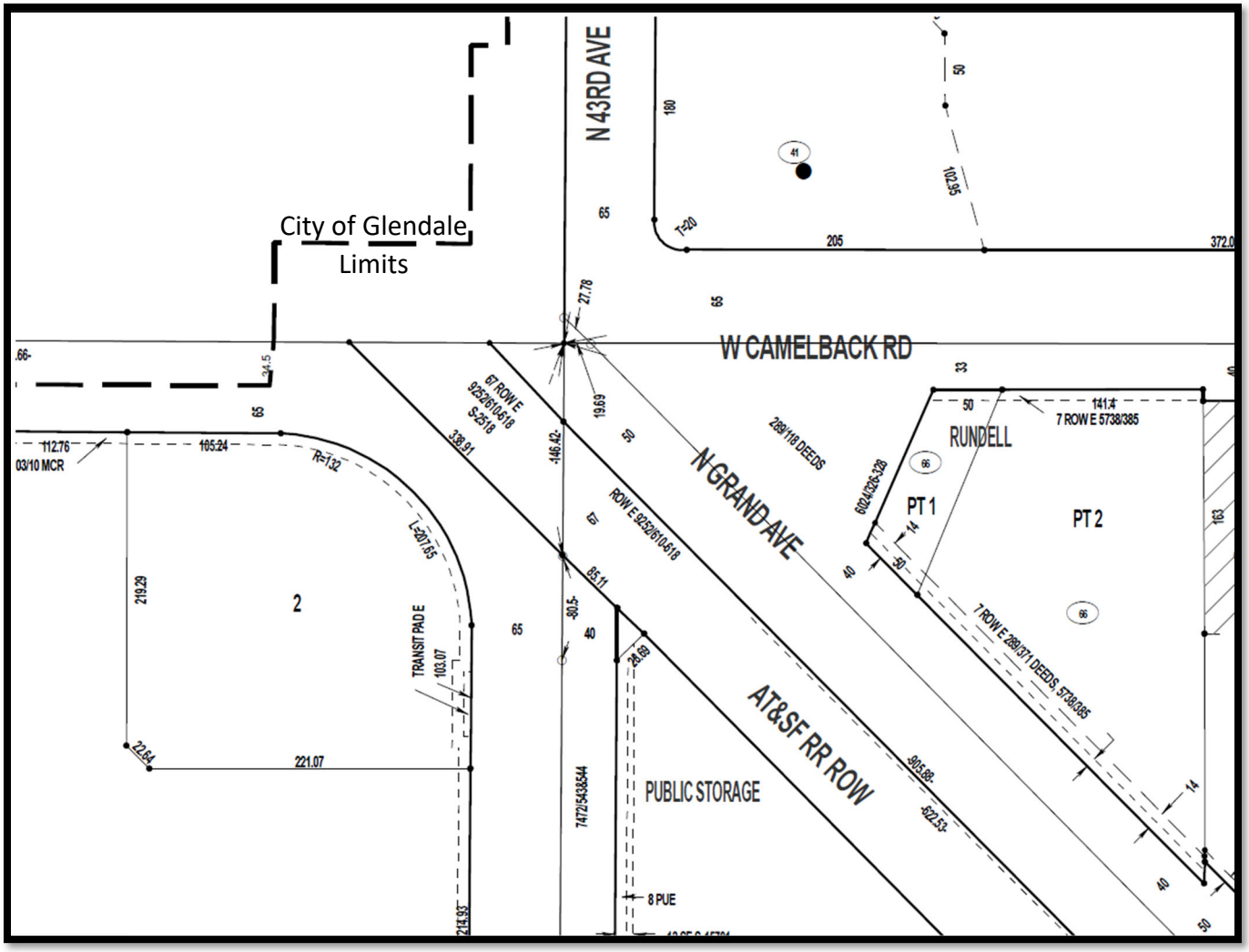


Figure 6 – Existing Right of Way at Intersection

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

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

SOUTH SIDE

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/).

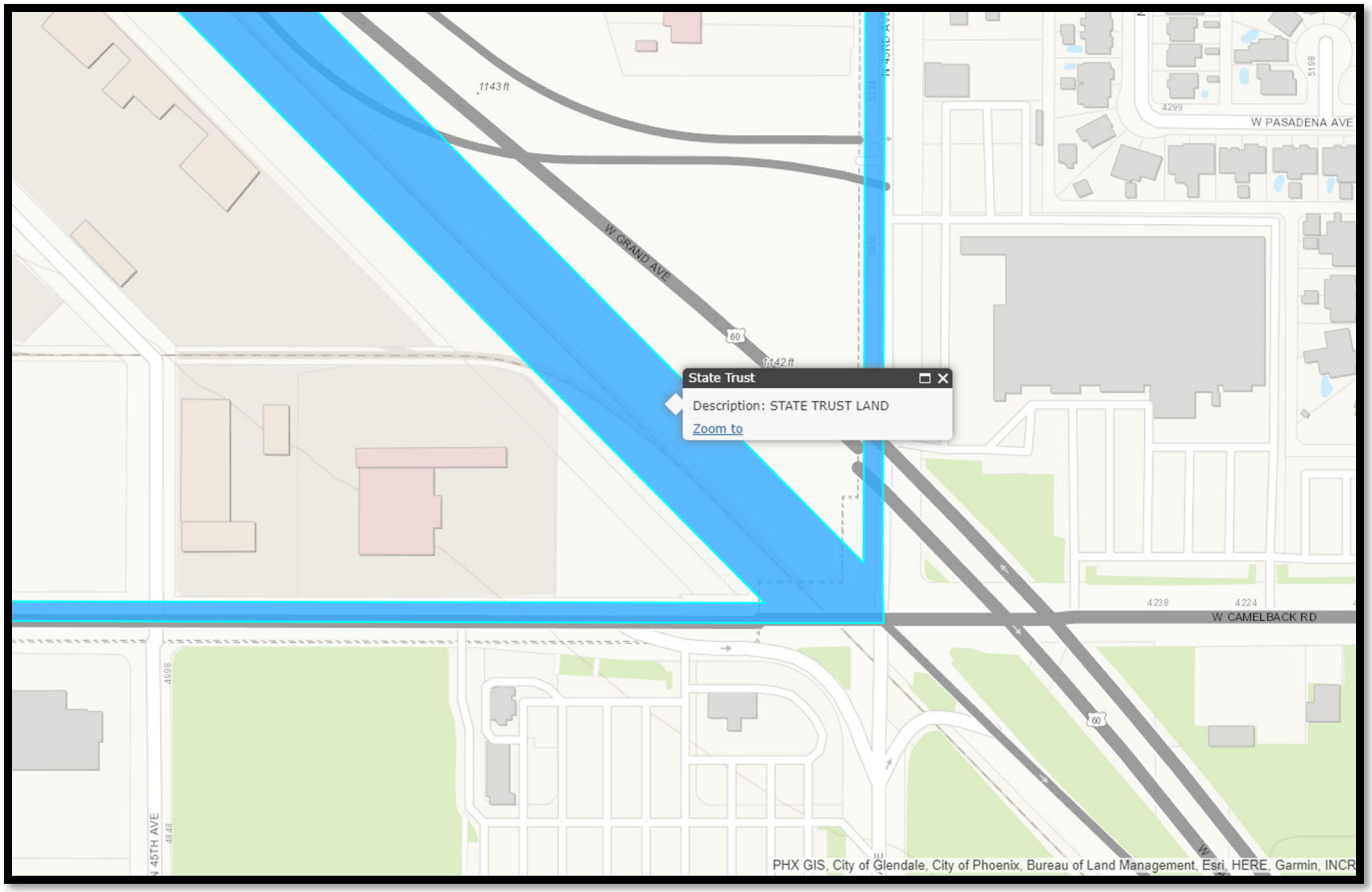


Figure 7 – Arizona State Land Department Trust Land Map

D) Existing Utilities

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

Utility Company	Type	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”.

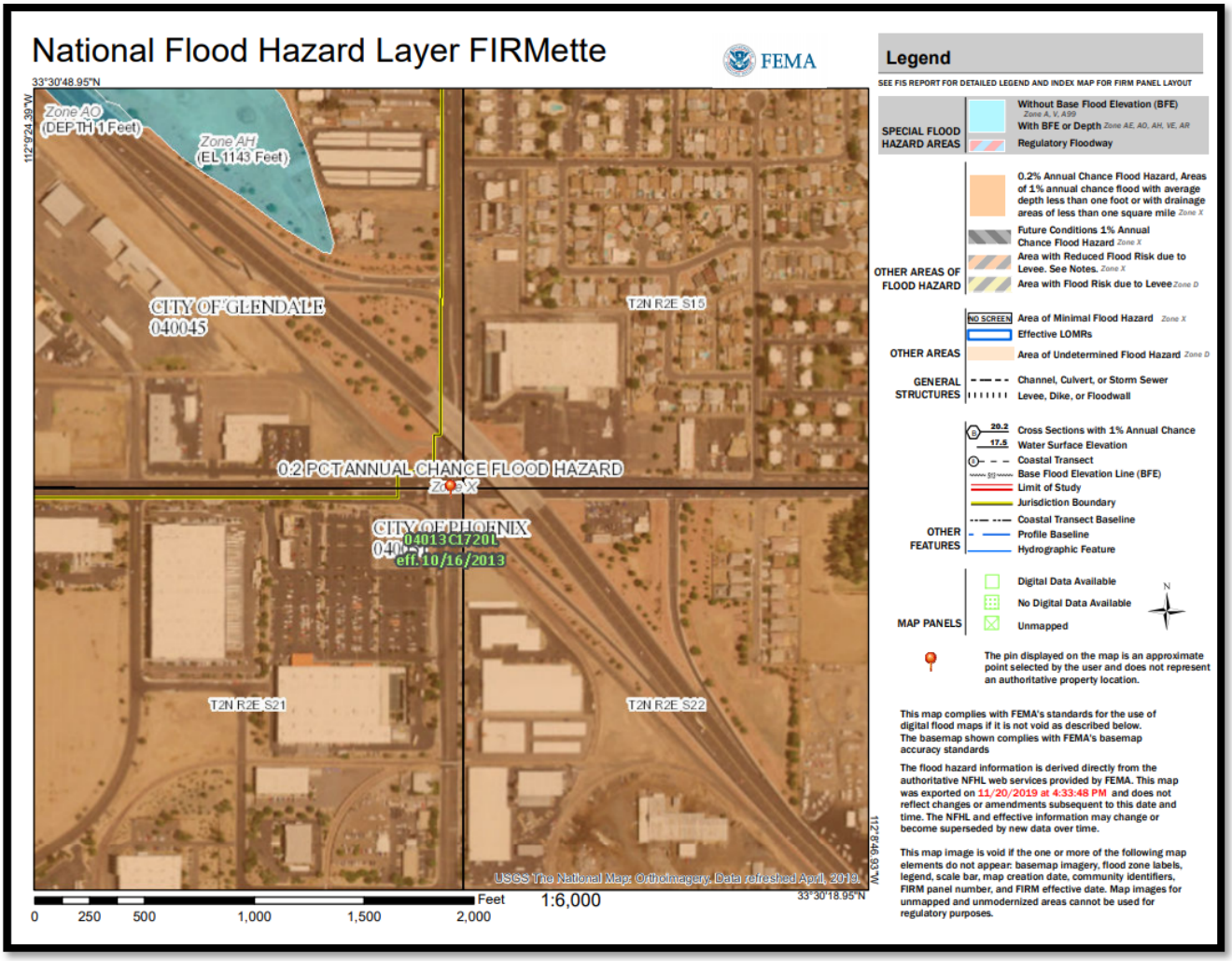


Figure 8 – FEMA Flood Insurance Rate Map

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:

43rd 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.

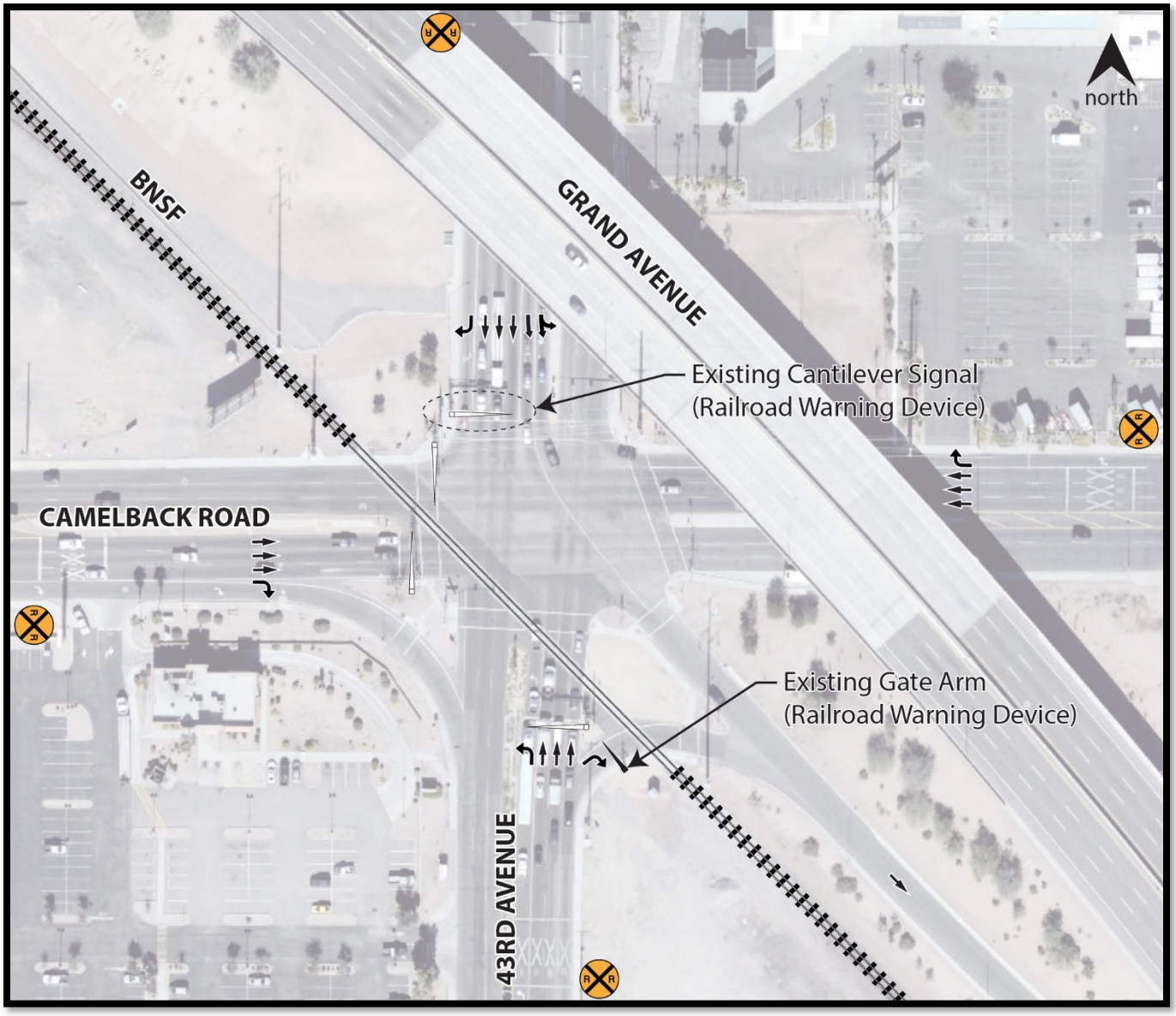


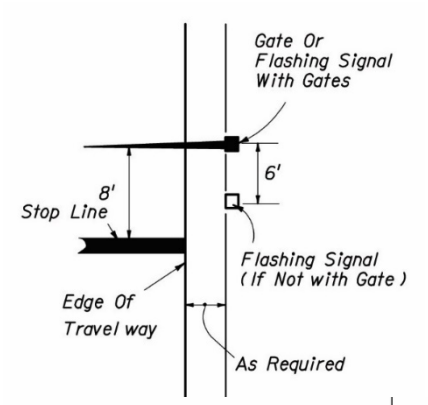
Figure 13 – Existing Conditions

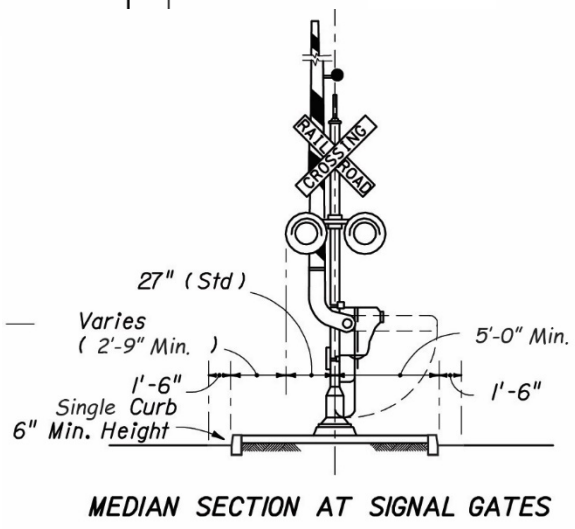
4.0 PROJECT CONSIDERATIONS

4.1 Design Criteria

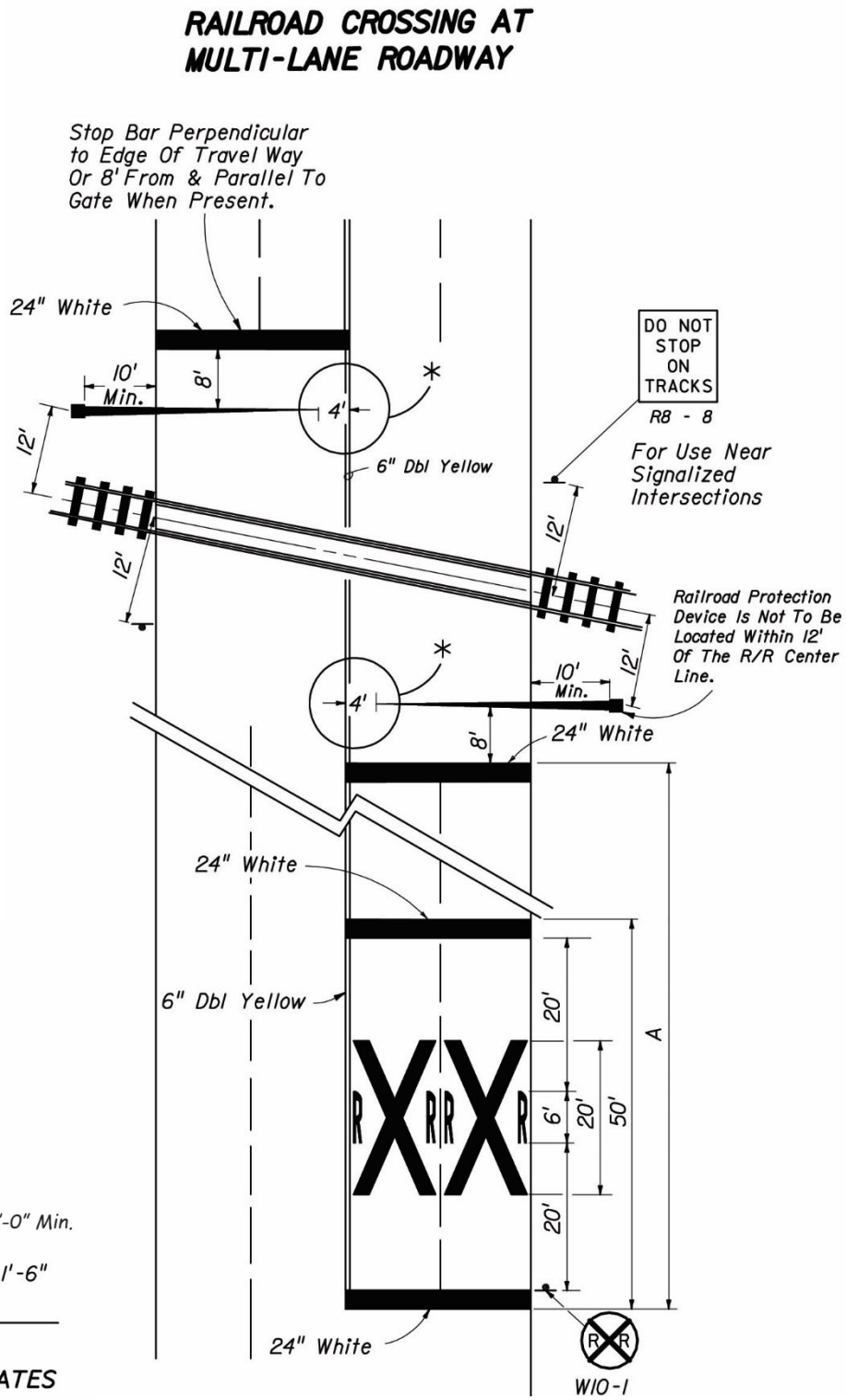
The criteria used in the preliminary geometric layout was established using the American Association of State Highway and Transportation Officials (AASHTO), Manual of Uniform Traffic Control Devices (MUTCD), City of Phoenix Guidelines and BNSF Design Guidelines.

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





MEDIAN SECTION AT SIGNAL GATES



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.

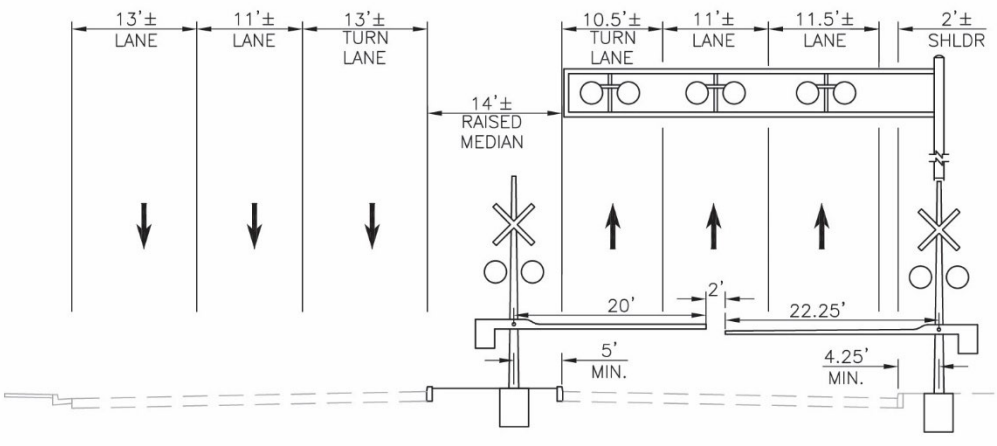


Figure 14 – Camelback Road Typical Section (EB)

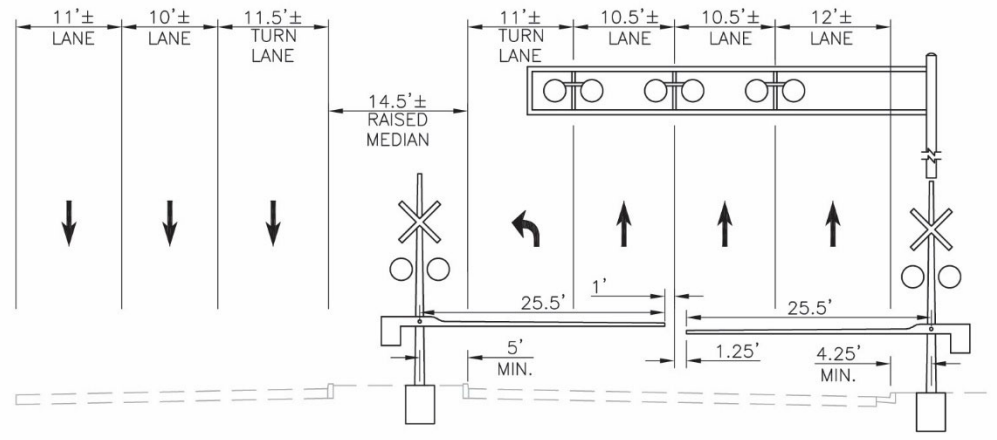


Figure 15 – 43rd Avenue Typical Section (NB)

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.

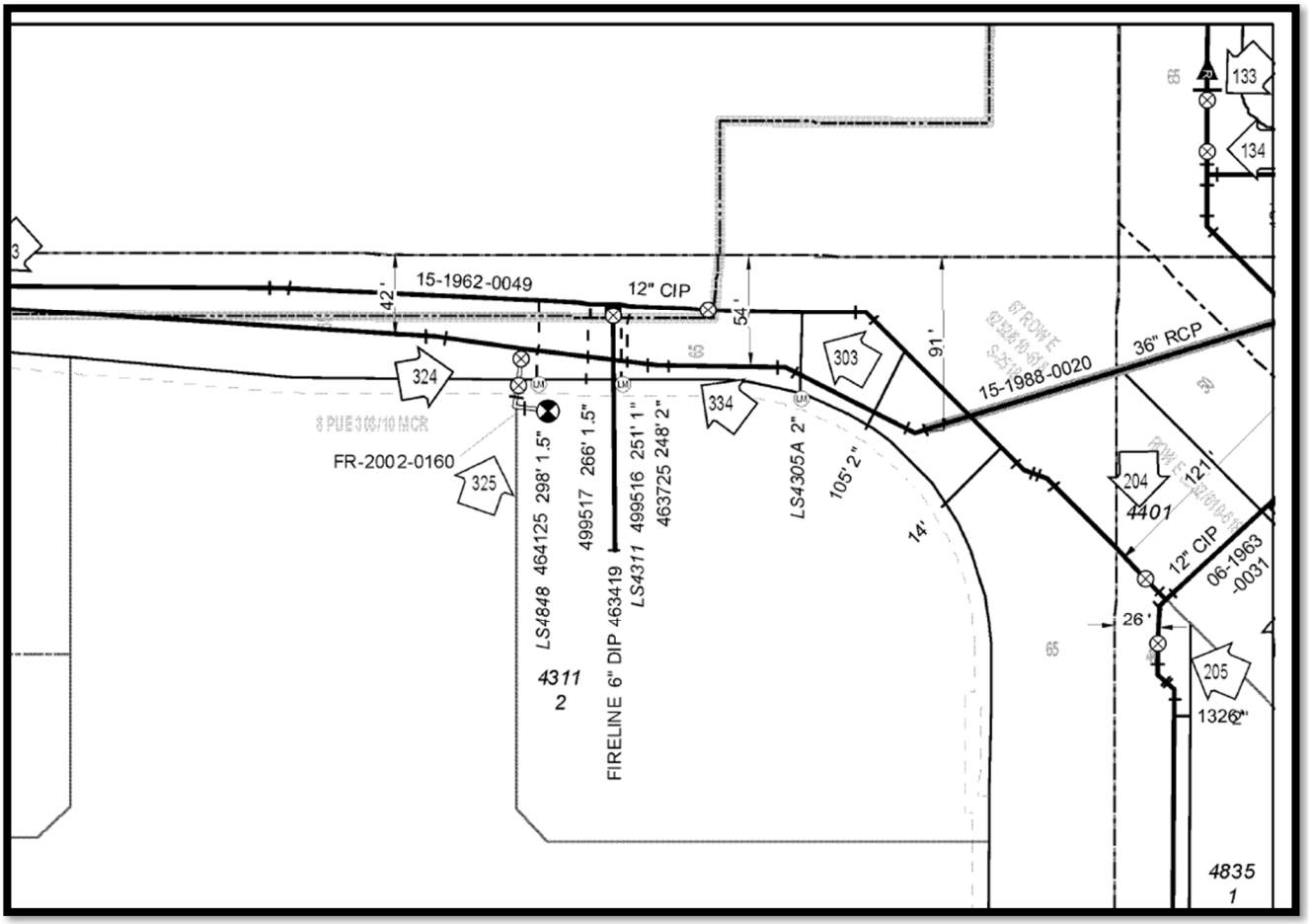


Figure 17 – City of Phoenix Water Quarter Section Map
at Camelback Road and 43rd Avenue (18-18)

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 pre-approved 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.

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-43rd 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.

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:

Railway-Highway Crossing (Section 130 Program) - 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.

Consolidated Rail Infrastructure and Safety Improvements (CRISI Program) - 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, highway-rail grade crossing improvements, 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.
- Blocked crossings like the one at 19th Avenue and McDowell Road are of particular concern to FRA.

- 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 Letter of Support from 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.

10.0 PROJECT CONTACTS

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Travis.bailey@railpros.com

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

Appendix A – 15% Conceptual Plans

REVISION BY CITY OF PHOENIX				
NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX				
NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX				
NO.	DESCRIPTION	REV BY	CKD BY	DATE

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ.	ST85100440		.	.

T.Y.LIN INTERNATIONAL
CONSULTING ENGINEER

DES: CSS	DR: AKS	CK: CSS	DATE: 04/21

ADD NEW BLANK OUT SIGN (NO RIGHT TURN SYMBOL WITH TRAIN) EXACT LOCATION TBD

NEW RR SIGNAL HOUSE

APN 145-28-025A SANTA FE/OPERATIVE

GRADE CROSSING DOT #025422P

PROPOSED STOP BAR (24" WIDE) RIGHT TURN LANE ONLY

APN 145-08-619G ARIZONA STATE DEPT OF TRANS

RELOCATE EXISTING BLANK OUT SIGN TO A VISIBLE LOCATION (NO RIGHT TURN SYMBOL WITH TRAIN)

EX. RR SIGNAL TO BE REMOVED AND INSTALL NEW RR SIGNAL @ 5'-3" FROM F/C (EXTEND TO COVER 4 LANES)

APN 145-28-025C INDIAN BUILDING LLC

APN 145-28-001G USR REAL ESTATE HOLDINGS LLC

CITY OF GLENDALE
CITY OF PHOENIX

NEW SIGN (NO TURN ON RED)

INSTALL DETECTABLE WARNING SURFACES 12'-15' FROM NEAREST RAIL

EXISTING RR SIGNAL TO BE REMOVED AND INSTALL NEW RR SIGNAL COMBINED WITH CITY'S TRAFFIC SIGNAL (TO INCLUDE SIDE FLASHERS FOR SB RIGHT TURN MOTORISTS)

CAMELBACK ROAD

GRAND AVENUE

NEW RR GATE

PROPOSED STOP BAR (24" WIDE)

PROPOSED RR SIGNAL

KEEP PED SIGNAL

EXISTING RR SIGNAL TO BE REMOVED

NEW RAMP

MOVE NEAR SIGNAL ADJACENT TO STOP BAR

NEW RR GATE

NEW RR PEDESTRIAN FLASHERS

NEW RAMP

RECONFIGURE RIGHT TURN LANE TO SLOW DOWN TRAFFIC

PROPOSED STOP BAR (24" WIDE)

NEW RR GATE

NEW RAMP

APN 145-25-053 HD DEVELOPMENT OF MARYLAND INC

APN 145-25-502 SANTA FE PACIFIC REALTY CORP

MOVE SIGNAL ADJACENT TO STOP BAR INSTALL R8-8/R10-6 SIGNS

EXISTING RR SIGNAL TO REMAIN

UPGRADE EXISTING GATE & EQUIPMENT

REMOVE EXISTING SIDEWALK, RAMP AND CROSSWALK

MOVE SIGN (R8-8/R10-6) IN FRONT OF RR SIGNAL (TO NEW STOP BAR LOCATION)

REMOVE EXISTING SIDEWALK & RAMP

NEW RAMP

NEW RR SIGNAL HOUSE

APN 145-25-502 SANTA FE PACIFIC REALTY CORP

43RD AVENUE

EVALUATION OF PRE-SIGNAL WILL BE REQUIRED DURING FINAL DESIGN

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

24" WIDE RR STOP BAR TO BE INSTALLED 8' UPSTREAM OF NEAREST RR FLASHERS (TYPICAL ALL LOCATIONS)

Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

30 0 30 60 90
SCALE: 1" = 30'

CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING ELEVATIONS FOR ALL UNDERGROUND UTILITIES WITHIN THE PROJECT LIMITS.

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

43RD AVE & CAMELBACK RD
RRXING (DOT #025422P)
ST85100440

DR: AKS	DES: CSS	CK: CSS	SHEET NO:	TOTAL SHEETS	AS BUILT
DATE:04/21	DATE: 04/21	DATE: 04/21			
SCALE:			1	1	.

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4/20/2021 10:04:22 AM
Carlos Sanchez-Soria

Appendix B – Preliminary Opinion of Probable Construction Cost

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	Unit	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	Unit	Quantity	Unit Cost	Total
18	M3500010	Remove Portland Cement Concrete Single Curb, Curb and Gutter, Header Curb or Embankment Curb	LF	**390**	$8.00	$3,120.00
19	M3500020	Remove Portland Cement Concrete Sidewalk, Driveway, Valley Gutter & Slab	SF	**1,335**	$5.00	$6,675.00
20	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	M4304102	Decomposed Granite, 3/8" Minus, Stabilized, 2" Thick	SF	**7,250**	$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	Unit	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	Unit	Quantity	Unit Cost	Total
18	M3500010	Remove Portland Cement Concrete Single Curb, Curb and Gutter, Header Curb or Embankment Curb	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	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	$18,125.00
					SUB-TOTAL CONSTRUCTION	***$519,260.00***
					CONTINGENCY (30%)	***$155,778.00***
					TOTAL CONSTRUCTION (FA) FOR PROJECT ST85100440	***$675,038.00***

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

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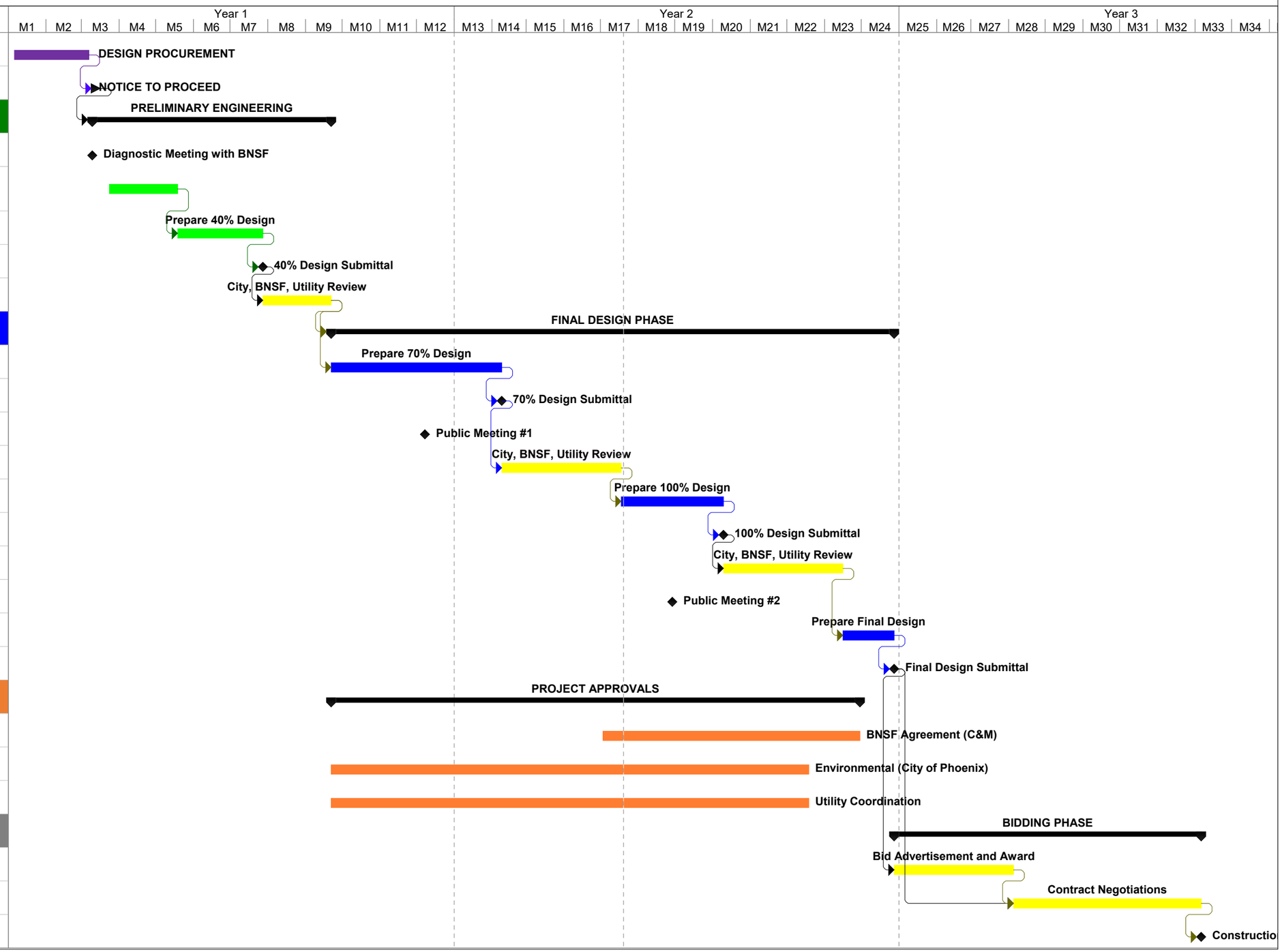
43RD AVE AND CAMELBACK ROAD RR XING ST85100440

PRELIMINARY PROJECT SCHEDULE (NON-FA)

BNSF Railroad Crossing FINAL Project Assessment

ID	Task Name
1	**DESIGN PROCUREMENT**
2	**NOTICE TO PROCEED**
3	**PRELIMINARY ENGINEERING**
4	**Diagnostic Meeting with BNSF**
5	Field Survey / Base Mapping / Utility Research
6	Prepare 40% Design
7	**40% Design Submittal**
8	City, BNSF, Utility Review
9	**FINAL DESIGN PHASE**
10	Prepare 70% Design
11	**70% Design Submittal**
12	Public Meeting #1
13	City, BNSF, Utility Review
14	Prepare 100% Design
15	**100% Design Submittal**
16	City, BNSF, Utility Review
17	Public Meeting #2
18	Prepare Final Design
19	**Final Design Submittal**
20	**PROJECT APPROVALS**
21	BNSF Agreement (C&M)
22	Environmental (City of Phoenix)
23	Utility Coordination
24	**BIDDING PHASE**
25	Bid Advertisement and Award
26	Contract Negotiations
27	**Construction NTP**



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

PROGRAMMING SCHEDULE (NON FED AID)				
DESCRIPTION	**FISCAL YEAR 1**	**FISCAL YEAR 2**	**FISCAL YEAR 3**	**TOTAL COST**
1 DESIGN	$303,200			$303,200
2 RIGHT OF WAY		$100,000		$100,000
3 CONSTRUCTION			$541,253	$541,253
4 BNSF		$250,000	$2,750,000	$3,000,000
5 DESIGN SOFT COSTS	$25,000	$25,000		$50,000
6 STREET LIGHTS/TRAFFIC SIGNALS/PAVEMENT MARKING			$400,000	$400,000
7 UTILITIES	$25,000	$75,000		$100,000
8 ENVIRONMENTAL	$10,000			$10,000
10 DCM CONSTRUCTION ADMIN			$80,000	$80,000
11 TESTING AND MATERIALS			$5,000	$5,000
SUB-TOTAL PER FISCAL YEAR	$363,200	$450,000	$3,776,253	
			TOTAL FOR ST85100440	***$4,589,453***

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
10 DCM CONSTRUCTION ADMIN					$80,000	$80,000
11 TESTING AND MATERIALS					$5,000	$5,000
SUB-TOTAL PER FISCAL YEAR	$15,000	$445,000	$270,000	$195,000	$3,910,038	
				TOTAL FOR ST85100440		***$4,835,038***

Appendix E – Meeting Minutes

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MEETING TITLE	43rd 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)
- 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')
- 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
- Everyone agreed on the proposed improvements for this movement

B. Camelback Road (Westbound)
- 3 thru lanes and 1 dedicated right turn lane east of intersection
- 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)
- 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)
- 3 thru lanes, 1 dedicated left turn lane and 1 dedicated right turn lane with pork chop island
- Existing raised median (approximately 15')
- 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)
- 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')
- New gate arms are not feasible due to the existing site conditions (railroad tracks across intersection)
- 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.
- Everyone agreed that no improvements would be necessary for this movement

E. Other Discussions
- 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

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MEETING TITLE	43rd Ave & Camelback Road RR Xing (ST85100440) 19th 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

Initial	Name	Organization	Phone Number	Email Address
CSS	Carlos Sanchez	TYLin	480-333-4406	carlos.sanchez-saria@tylin.com
AS	Allison Sadow	TYLin	480-333-4153	allison.sadow@tylin.com
JAS	John Dickson	C.O.P.		John.dickson@phoenix.gov
JV	Leticia Vargas	COP	534-5618	leticia.vargas@phoenix.gov
	Paul Ajaini	COP	495-7042	Paul.ajaini@phoenix.gov

TY·LIN INTERNATIONAL
engineers | planners | scientists

MEETING TITLE	43rd 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

- 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).

- 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.
- 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)
- 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
- 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 DRAFT PA	Carlos	11/6/20	11/25/20	
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

PROJECT	43rd 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

Appendix F – Federal Railroad Administration Accident Reports

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

HIGHWAY-RAIL GRADE CROSSING ACCIDENT/INCIDENT REPORT

OMB Approval No. 2130-0500

1. Name of Reporting Railroad: **BNSF Railway Company [BNSF]**	1a. Alphabetic Code: **BNSF**	1b. Railroad Accident/Incident No.: **SW0717200**
2. Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Incident	2a. Alphabetic Code	2b. Railroad Accident/Incident No.
3. Name of Railroad or Other Entity Responsible for Track Maintenance *(single entry)*: **BNSF Railway Company [BNSF]**	3a. Alphabetic Code: **BNSF**	3b. Railroad Accident/Incident No.: **SW0717200**
4. U.S. DOT Grade Crossing ID No.: **025422P**	5. Date of Accident/Incident (month/day/year): **07/11/2017**	6. Time of Accident/Incident: **3:30** AM ☐ PM ☑
7. Nearest Railroad Station: **GLENDALE**	8. Subdivision: **PHOENIX**	9. County: **MARICOPA**
10. State Abbr.: **AZ** Code: **04**		
11. City *(if in a city)*: **GLENDALE**	12. Highway Name or No.: **43RD & CAMELBACK**	Public ☑ Private ☐

Highway User Involved

13. Type — C. Truck-trailer; F. Bus; J. Other Motor Vehicle; A. Auto; D. Pick-up truck; G. School Bus; K. Pedestrian; B. Truck; E. Van; H. Motorcycle; M. Other *(specify)*. Code: **J**

14. Vehicle Speed *(est. mph at impact)*: **0**

15. Direction *(geographical)* 1. North 2. South 3. East 4. West. Code: **1**

16. Position — 1. Stalled or stuck on crossing; 2. Stopped on Crossing; 3. Moving over crossing; 4. Trapped on crossing by traffic; 5. Blocked on crossing by gates. Code: **2**

20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither. Code: **2**

Rail Equipment Involved

17. Equipment — 1. Train *(units pulling)*; 2. Train *(units pushing)*; 3. Train *(standing)*; 4. Car(s) *(moving)*; 5. Car(s) *(standing)*; 6. Light loco(s) *(moving)*; 7. Light loco(s) *(standing)*; 8. Other *(specify)*; A. Train pulling- RCL; B. Train pushing- RCL; C. Train standing- RCL; D. EMU Locomotive(s); E. DMU Locomotive(s). Code: **1**

18. Position of Car Unit in Train: **1**

19. Circumstance — 1. Rail equipment struck highway user 2. Rail equipment struck by highway user. Code: **1**

20b. Was there a hazardous materials release by 1. Highway User 2. Rail Equipment 3. Both 4. Neither. Code: **4**

20c. State here the name and quantity of the hazardous material released, if any

21. Temperature *(specify if minus)*: **101** °F

22. Visibility *(single entry)* 1. Dawn 2. Day 3. Dusk 4. Dark. Code: **2**

23. Weather *(single entry)* 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow. Code: **1**

24. Type of Equipment Consist *(single entry)* — 1. Freight Train; 2. Passenger Train-Pulling; 3. Commuter Train-Pulling; 4. Work Train; 5. Single Car; 6. Cut of cars; 7. Yard/Switching; 8. Light loco(s); 9. Maint./inspect. car; A. Spec. MoW Equip.; B. Passenger Train-Pushing; C. Commuter Train-Pushing; D. EMU; E. DMU. Code: **1**

25. Track Type Used by Rail Equipment Involved 1. Main 2. Yard 3. Siding 4. Industry. Code: **1**

26. Track Number or Name: **SINGLE MAIN**

27. FRA Track Class (1-9,X): **2**

28. Number of Locomotive Units: **2**

29. Number of Cars: **32**

30. Consist Speed *(Recorded speed if available)* R. Recorded E. Estimated: **5** mph. Code: **R**

31. Time Table Direction 1. North 2. South 3. East 4. West. Code: **4**

32. Type of Crossing Warning — 1. Gates; 2. Cantilever FLS; 3. Standard FLS; 4. Wig wags; 5. Hwy. traffic signals; 6. Audible; 7. Crossbucks; 8. Stop signs; 9. Watchman; 10. Flagged by crew; 11. Other *(specify)*; 12. None. Code(s): **02** **03**

33. Signaled Crossing Warning (See reverse side for instructions and codes). Code: **1**

34. Roadway Conditions — A. Drv; B. Wet; C.Snow/Slush; D.Ice; E. Sand,Mud,Dirt,Oil,Gravel; F.Water (Standing, Moving). Code: **A**

35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach. Code: **1**

36. Crossing Warning Interconnected with Highway Signals 1. Yes 2. No 3. Unknown. Code: **1**

37. Crossing Illuminated by Street Lights or Special Lights 1. Yes 2. No 3. Unknown. Code: **1**

38. Highway User's Age: **55**

39. Highway User's Gender 1. Male 2. Female. Code: **2**

40. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown. Code: **2**

41. Highway User 1. Went around the gate; 2. Stopped and then proceeded; 3. Did not stop; 4. Stopped on crossing; 5. Other *(specify)*; 6. Went around/thru temporary barricade (if yes, see instructions); 7. Went thru the gate; 8. Suicide/Attempted suicide. Code: **4**

42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown. Code: **2**

43. View of Track Obscured by *(primary obstruction)* 1. Permanent Structure; 2. Standing railroad equipment; 3. Passing Train; 4. Topography; 5. Vegetation; 6. Highway Vehicles; 7. Other (specify); 8. Not Obstructed. Code: **8**

Casualties to:	Killed	Injured
46. Highway-Rail Crossing Users	**0**	**1**
49. Railroad Employees	**0**	**0**
52. Passengers on Train	**0**	**0**

44. Driver was 1. Killed 2. Injured 3. Uninjured: **2**

45. Was Driver in the Vehicle? 1. Yes 2. No. Code: **1**

47. Highway Vehicle Property Damage *(est. dollar damage)*: **$2,000**

48. Total Number of Vehicle Occupants *(including driver)*: **2**

50. Total Number of People on Train *(include passengers and train crew)*: **3**

51. Is a Rail Equipment Accident / Incident Report Being Filed 1. Yes 2. No. Code: **2**

53a. Special Study Block — Video Taken? ☐ Yes ☑ No; Video Used? ☐ Yes ☑ No

53b. Special Study Block

54. Narrative Description *(Be specific, and continue on separate sheet if necessary)*

55. Typed Name and Title | 56. Signature | 57. Date

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or used for any purpose in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB approved 6/6/2018, Approval expires 6/30/2021

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

HIGHWAY-RAIL GRADE CROSSING ACCIDENT/INCIDENT REPORT

OMB Approval No. 2130-0500

1. Name of Reporting Railroad: **BNSF Railway Company [BNSF]**	1a. Alphabetic Code: **BNSF**	1b. Railroad Accident/Incident No.: **SW0417202**
2. Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Incident	2a. Alphabetic Code	2b. Railroad Accident/Incident No.
3. Name of Railroad or Other Entity Responsible for Track Maintenance *(single entry)*: **BNSF Railway Company [BNSF]**	3a. Alphabetic Code: **BNSF**	3b. Railroad Accident/Incident No.: **SW0417202**
4. U.S. DOT Grade Crossing ID No.: **025422P**	5. Date of Accident/Incident (month/day/year): **0 4 / 0 5 / 2017**	6. Time of Accident/Incident: **2:15** AM ☑ PM ☐
7. Nearest Railroad Station: **GLENDALE**	8. Subdivision: **PHOENIX**	9. County: **MARICOPA**
10. State Abbr.: **AZ** Code: **04**		
11. City *(if in a city)*: **GLENDALE**	12. Highway Name or No.: **43RD & CAMELBACK**	Public ☑ Private ☐

Highway User Involved

13. Type — C. Truck-trailer, F. Bus, J. Other Motor Vehicle; A. Auto, D. Pick-up truck, G. School Bus, K. Pedestrian; B. Truck, E. Van, H. Motorcycle, M. Other *(specify)*. Code: **A**

14. Vehicle Speed *(est. mph at impact)*: **0**

15. Direction *(geographical)* 1. North 2. South 3. East 4. West. Code: **2**

16. Position — 1. Stalled or stuck on crossing, 2. Stopped on Crossing, 3. Moving over crossing, 4. Trapped on crossing by traffic, 5. Blocked on crossing by gates. Code: **2**

20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither. Code: **4**

Rail Equipment Involved

17. Equipment — 1. Train *(units pulling)*, 2. Train *(units pushing)*, 3. Train *(standing)*, 4. Car(s) *(moving)*, 5. Car(s) *(standing)*, 6. Light loco(s) *(moving)*, 7. Light loco(s) *(standing)*, 8. Other *(specify)*; A. Train pulling- RCL, B. Train pushing- RCL, C. Train standing- RCL, D. EMU Locomotive(s), E. DMU Locomotive(s). Code: **6**

18. Position of Car Unit in Train: **1**

19. Circumstance — 1. Rail equipment struck highway user 2. Rail equipment struck by highway user. Code: **1**

20b. Was there a hazardous materials release by 1. Highway User 2. Rail Equipment 3. Both 4. Neither. Code: **4**

20c. State here the name and quantity of the hazardous material released, if any

21. Temperature *(specify if minus)*: **57** °F

22. Visibility *(single entry)* 1. Dawn 2. Day 3. Dusk 4. Dark. Code: **4**

23. Weather *(single entry)* 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow. Code: **1**

24. Type of Equipment Consist *(single entry)* — 1. Freight Train, 2. Passenger Train-Pulling, 3. Commuter Train-Pulling, 4. Work Train, 5. Single Car, 6. Cut of cars, 7. Yard/Switching, 8. Light loco(s), 9. Maint./inspect. car, A. Spec. MoW Equip., B. Passenger Train-Pushing, C. Commuter Train-Pushing, D. EMU, E. DMU. Code: **8**

25. Track Type Used by Rail Equipment Involved 1. Main 2. Yard 3. Siding 4. Industry. Code: **1**

26. Track Number or Name: **SINGLE MAIN**

27. FRA Track Class (1-9,X): **2**

28. Number of Locomotive Units: **3**

29. Number of Cars: **0**

30. Consist Speed *(Recorded speed if available)* R. Recorded E. Estimated: **16** mph. Code: **R**

31. Time Table Direction 1. North 2. South 3. East 4. West. Code: **3**

32. Type of Crossing Warning — 1. Gates, 2. Cantilever FLS, 3. Standard FLS, 4. Wig wags, 5. Hwy. traffic signals, 6. Audible, 7. Crossbucks, 8. Stop signs, 9. Watchman, 10. Flagged by crew, 11. Other *(specify)*, 12. None. Code(s): **02** **05**

33. Signaled Crossing Warning (See reverse side for instructions and codes). Code: **1**

34. Roadway Conditions — A. Dry, B. Wet, C. Snow/Slush, D. Ice, E. Sand,Mud,Dirt,Oil,Gravel, F. Water (Standing, Moving). Code: **A**

35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach. Code: **1**

36. Crossing Warning Interconnected with Highway Signals 1. Yes 2. No 3. Unknown. Code: **1**

37. Crossing Illuminated by Street Lights or Special Lights 1. Yes 2. No 3. Unknown. Code: **1**

38. Highway User's Age

39. Highway User's Gender 1. Male 2. Female. Code: **1**

40. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown. Code: **2**

41. Highway User 1. Went around the gate 2. Stopped and then proceeded 3. Did not stop 4. Stopped on crossing 5. Other *(specify)* 6. Went around/thru temporary barricade (if yes, see instructions) 7. Went thru the gate 8. Suicide/Attempted suicide. Code: **5**

42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown. Code: **2**

43. View of Track Obscured by *(primary obstruction)* 1. Permanent Structure 2. Standing railroad equipment 3. Passing Train 4. Topography 5. Vegetation 6. Highway Vehicles 7. Other (specify) 8. Not Obstructed. Code: **8**

Casualties to:	Killed	Injured
46. Highway-Rail Crossing Users	**0**	**0**
49. Railroad Employees	**0**	**0**
52. Passengers on Train	**0**	**0**

44. Driver was 1. Killed 2. Injured 3. Uninjured: **3**

45. Was Driver in the Vehicle? 1. Yes 2. No. Code: **1**

47. Highway Vehicle Property Damage *(est. dollar damage)*: **$2,000**

48. Total Number of Vehicle Occupants *(including driver)*: **1**

50. Total Number of People on Train *(include passengers and train crew)*: **2**

51. Is a Rail Equipment Accident / Incident Report Being Filed 1. Yes 2. No. Code: **2**

53a. Special Study Block — Video Taken? ☑ Yes ☐ No; Video Used? ☐ Yes ☑ No

53b. Special Study Block

54. Narrative Description *(Be specific, and continue on separate sheet if necessary)*

DRIVER AGE UNKNOWN. 41: PRECEDED GATES

55. Typed Name and Title | 56. Signature | 57. Date

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or used for any purpose in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB approved 6/6/2018, Approval expires 6/30/2021

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

HIGHWAY-RAIL GRADE CROSSING ACCIDENT/INCIDENT REPORT

OMB Approval No. 2130-0500

1. Name of Reporting Railroad: **BNSF Railway Company [BNSF]**	1a. Alphabetic Code: **BNSF**	1b. Railroad Accident/Incident No.: **SW0317201**
2. Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Incident	2a. Alphabetic Code	2b. Railroad Accident/Incident No.
3. Name of Railroad or Other Entity Responsible for Track Maintenance *(single entry)*: **BNSF Railway Company [BNSF]**	3a. Alphabetic Code: **BNSF**	3b. Railroad Accident/Incident No.: **SW0317201**
4. U.S. DOT Grade Crossing ID No.: **025422P**	5. Date of Accident/Incident (month/day/year): **0 3 / 0 5 / 2017**	6. Time of Accident/Incident: **9:20** AM ☐ PM ☑
7. Nearest Railroad Station: **GLENDALE**	8. Subdivision: **PHOENIX**	9. County: **MARICOPA**
10. State Abbr.: **AZ** Code: **04**		
11. City *(if in a city)*: **GLENDALE**	12. Highway Name or No.: **45RD & CAMELBACK**	Public ☑ Private ☐

Highway User Involved

13. Type — C. Truck-trailer, F. Bus, J. Other Motor Vehicle; A. Auto, D. Pick-up truck, G. School Bus, K. Pedestrian; B. Truck, E. Van, H. Motorcycle, M. Other *(specify)*. Code: **J**

14. Vehicle Speed *(est. mph at impact)*: **0**

15. Direction *(geographical)* 1. North 2. South 3. East 4. West. Code: **1**

16. Position — 1. Stalled or stuck on crossing, 2. Stopped on Crossing, 3. Moving over crossing, 4. Trapped on crossing by traffic, 5. Blocked on crossing by gates. Code: **2**

20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither. Code: **2**

Rail Equipment Involved

17. Equipment — 1. Train *(units pulling)*, 2. Train *(units pushing)*, 3. Train *(standing)*, 4. Car(s) *(moving)*, 5. Car(s) *(standing)*, 6. Light loco(s) *(moving)*, 7. Light loco(s) *(standing)*, 8. Other *(specify)*; A. Train pulling- RCL, B. Train pushing- RCL, C. Train standing- RCL, D. EMU Locomotive(s), E. DMU Locomotive(s). Code: **2**

18. Position of Car Unit in Train: **1**

19. Circumstance — 1. Rail equipment struck highway user 2. Rail equipment struck by highway user. Code: **1**

20b. Was there a hazardous materials release by — 1. Highway User 2. Rail Equipment 3. Both 4. Neither. Code: **4**

20c. State here the name and quantity of the hazardous material released, if any

21. Temperature *(specify if minus)*: **60** °F

22. Visibility *(single entry)* 1. Dawn 2. Day 3. Dusk 4. Dark. Code: **4**

23. Weather *(single entry)* 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow. Code: **1**

24. Type of Equipment Consist *(single entry)* — 1. Freight Train, 2. Passenger Train-Pulling, 3. Commuter Train-Pulling, 4. Work Train, 5. Single Car, 6. Cut of cars, 7. Yard/Switching, 8. Light loco(s), 9. Maint./inspect. car, A. Spec. MoW Equip., B. Passenger Train-Pushing, C. Commuter Train-Pushing, D. EMU, E. DMU. Code: **7**

25. Track Type Used by Rail Equipment Involved — 1. Main 2. Yard 3. Siding 4. Industry. Code: **1**

26. Track Number or Name: **SINGLE MAIN**

27. FRA Track Class (1-9,X): **2**

28. Number of Locomotive Units: **1**

29. Number of Cars: **10**

30. Consist Speed *(Recorded speed if available)* R. Recorded E. Estimated: **13** mph. Code: **R**

31. Time Table Direction 1. North 2. South 3. East 4. West. Code: **3**

32. Type of Crossing Warning — 1. Gates, 2. Cantilever FLS, 3. Standard FLS, 4. Wig wags, 5. Hwy. traffic signals, 6. Audible, 7. Crossbucks, 8. Stop signs, 9. Watchman, 10. Flagged by crew, 11. Other *(specify)*, 12. None. Code(s): **02** **03**

33. Signaled Crossing Warning (See reverse side for instructions and codes). Code: **1**

34. Roadway Conditions — A. Drv, B. Wet, C.Snow/Slush, D.Ice, E. Sand,Mud,Dirt,Oil,Gravel, F.Water (Standing, Moving). Code: **A**

35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach. Code: **1**

36. Crossing Warning Interconnected with Highway Signals 1. Yes 2. No 3. Unknown. Code: **1**

37. Crossing Illuminated by Street Lights or Special Lights 1. Yes 2. No 3. Unknown. Code: **1**

38. Highway User's Age: **34**

39. Highway User's Gender 1. Male 2. Female. Code: **1**

40. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown. Code: **2**

41. Highway User 1. Went around the gate 2. Stopped and then proceeded 3. Did not stop 4. Stopped on crossing 5. Other *(specify)* 6. Went around/thru temporary barricade (if yes, see instructions) 7. Went thru the gate 8. Suicide/Attempted suicide. Code: **4**

42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown. Code: **2**

43. View of Track Obscured by *(primary obstruction)* 1. Permanent Structure 2. Standing railroad equipment 3. Passing Train 4. Topography 5. Vegetation 6. Highway Vehicles 7. Other (specify) 8. Not Obstructed. Code: **8**

Casualties to:	Killed	Injured
46. Highway-Rail Crossing Users	**0**	**0**
49. Railroad Employees	**0**	**0**
52. Passengers on Train	**0**	**0**

44. Driver was 1. Killed 2. Injured 3. Uninjured: **3**

45. Was Driver in the Vehicle? 1. Yes 2. No. Code: **1**

47. Highway Vehicle Property Damage *(est. dollar damage)*: **$2,000**

48. Total Number of Vehicle Occupants *(including driver)*: **1**

50. Total Number of People on Train *(include passengers and train crew)*: **3**

51. Is a Rail Equipment Accident / Incident Report Being Filed 1. Yes 2. No. Code: **2**

53a. Special Study Block — Video Taken? ☐ Yes ☑ No; Video Used? ☐ Yes ☑ No

53b. Special Study Block

54. Narrative Description *(Be specific, and continue on separate sheet if necessary)*

55. Typed Name and Title | 56. Signature | 57. Date

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or used for any purpose in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB approved 6/6/2018, Approval expires 6/30/2021

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

HIGHWAY-RAIL GRADE CROSSING ACCIDENT/INCIDENT REPORT

OMB Approval No. 2130-0500

1. Name of Reporting Railroad: **BNSF Railway Company [BNSF]**	1a. Alphabetic Code: **BNSF**	1b. Railroad Accident/Incident No.: **SW1216202**
2. Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Incident	2a. Alphabetic Code	2b. Railroad Accident/Incident No.
3. Name of Railroad or Other Entity Responsible for Track Maintenance *(single entry)*: **BNSF Railway Company [BNSF]**	3a. Alphabetic Code: **BNSF**	3b. Railroad Accident/Incident No.: **SW1216202**
4. U.S. DOT Grade Crossing ID No.: **025422P**	5. Date of Accident/Incident (month/day/year): **12/30/2016**	6. Time of Accident/Incident: **6:40** AM ☐ PM ☑
7. Nearest Railroad Station: **GLENDALE**	8. Subdivision: **PHOENIX**	9. County: **MARICOPA**
10. State Abbr.: **AZ** Code: **04**		
11. City *(if in a city)*: **GLENDALE**	12. Highway Name or No.: **43RD & CAMELBACK**	Public ☑ Private ☐

Highway User Involved

13. Type — Code: **A**
C. Truck-trailer; F. Bus; J. Other Motor Vehicle; A. Auto; D. Pick-up truck; G. School Bus; K. Pedestrian; B. Truck; E. Van; H. Motorcycle; M. Other *(specify)*

14. Vehicle Speed *(est. mph at impact)*: **2**

15. Direction *(geographical)* — Code: **1**
1. North 2. South 3. East 4. West

16. Position — Code: **3**
1. Stalled or stuck on crossing; 2. Stopped on Crossing; 3. Moving over crossing; 4. Trapped on crossing by traffic; 5. Blocked on crossing by gates

20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? — Code: **4**
1. Highway User 2. Rail Equipment 3. Both 4. Neither

Rail Equipment Involved

17. Equipment — Code: **6**
1. Train *(units pulling)*; 2. Train *(units pushing)*; 3. Train *(standing)*; 4. Car(s) *(moving)*; 5. Car(s) *(standing)*; 6. Light loco(s) *(moving)*; 7. Light loco(s) *(standing)*; 8. Other *(specify)*
A. Train pulling- RCL; B. Train pushing- RCL; C. Train standing- RCL; D. EMU Locomotive(s); E. DMU Locomotive(s)

18. Position of Car Unit in Train: **1**

19. Circumstance — Code: **1**
1. Rail equipment struck highway user 2. Rail equipment struck by highway user

20b. Was there a hazardous materials release by — Code: **4**
1. Highway User 2. Rail Equipment 3. Both 4. Neither

20c. State here the name and quantity of the hazardous material released, if any

21. Temperature *(specify if minus)*: **59** °F	22. Visibility *(single entry)* — Code: **3** (1. Dawn 2. Day 3. Dusk 4. Dark)	23. Weather *(single entry)* — Code: **3** (1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow)	
24. Type of Equipment Consist *(single entry)* — Code: **8** (1. Freight Train; 2. Passenger Train-Pulling; 3. Commuter Train-Pulling; 4. Work Train; 5. Single Car; 6. Cut of cars; 7. Yard/Switching; 8. Light loco(s); 9. Maint./inspect. car; A. Spec. MoW Equip.; B. Passenger Train-Pushing; C. Commuter Train-Pushing; D. EMU; E. DMU)	25. Track Type Used by Rail Equipment Involved — Code: **1** (1. Main 2. Yard 3. Siding 4. Industry)	26. Track Number or Name: **SINGLE MAIN**	
27. FRA Track Class (1-9,X): **2**	28. Number of Locomotive Units: **3**	29. Number of Cars: **0**	30. Consist Speed *(Recorded speed if available)* R. Recorded E. Estimated: **17** mph — Code: **E**
31. Time Table Direction — Code: **4** (1. North 2. South 3. East 4. West)			

32. Type of Crossing Warning — Code(s): **01** **02**
1. Gates; 2. Cantilever FLS; 3. Standard FLS; 4. Wig wags; 5. Hwy. traffic signals; 6. Audible; 7. Crossbucks; 8. Stop signs; 9. Watchman; 10. Flagged by crew; 11. Other *(specify)*; 12. None

33. Signaled Crossing Warning (See reverse side for instructions and codes) — Code: **1**

34. Roadway Conditions — Code: **B**
A. Drv; B. Wet; C.Snow/Slush; D.Ice; E. Sand,Mud,Dirt,Oil,Gravel; F.Water (Standing, Moving)

35. Location of Warning — Code: **1**
1. Both Sides; 2. Side of Vehicle Approach; 3. Opposite Side of Vehicle Approach

36. Crossing Warning Interconnected with Highway Signals — Code: **1**
1. Yes 2. No 3. Unknown

37. Crossing Illuminated by Street Lights or Special Lights — Code: **1**
1. Yes 2. No 3. Unknown

38. Highway User's Age: **50**	39. Highway User's Gender: 1. Male 2. Female — Code: **2**	40. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train: 1. Yes 2. No 3. Unknown — Code: **2**	41. Highway User — Code: **1** (1. Went around the gate; 2. Stopped and then proceeded; 3. Did not stop; 4. Stopped on crossing; 5. Other *(specify)*; 6. Went around/thru temporary barricade (if yes, see instructions); 7. Went thru the gate; 8. Suicide/Attempted suicide)

42. Driver Passed Standing Highway Vehicle — Code: **2**
1. Yes 2. No 3. Unknown

43. View of Track Obscured by *(primary obstruction)* — Code: **8**
1. Permanent Structure; 2. Standing railroad equipment; 3. Passing Train; 4. Topography; 5. Vegetation; 6. Highway Vehicles; 7. Other (specify); 8. Not Obstructed

Casualties to:	Killed	Injured
46. Highway-Rail Crossing Users	**0**	**0**
49. Railroad Employees	**0**	**0**
52. Passengers on Train	**0**	**0**

44. Driver was: 1. Killed 2. Injured 3. Uninjured: **3**

45. Was Driver in the Vehicle? — Code: **1**
1. Yes 2. No

47. Highway Vehicle Property Damage *(est. dollar damage)*: **$1,500**

48. Total Number of Vehicle Occupants *(including driver)*: **1**

50. Total Number of People on Train *(include passengers and train crew)*: **2**

51. Is a Rail Equipment Accident / Incident Report Being Filed — Code: **2**
1. Yes 2. No

53a. Special Study Block — Video Taken? ☑ Yes ☐ No; Video Used? ☐ Yes ☑ No

53b. Special Study Block

54. Narrative Description *(Be specific, and continue on separate sheet if necessary)*

55. Typed Name and Title | 56. Signature | 57. Date

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or used for any purpose in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB approved 6/6/2018, Approval expires 6/30/2021

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

HIGHWAY-RAIL GRADE CROSSING ACCIDENT/INCIDENT REPORT

OMB Approval No. 2130-0500

1. Name of Reporting Railroad: **BNSF Railway Company [BNSF]**	1a. Alphabetic Code: **BNSF**	1b. Railroad Accident/Incident No.: **SW0916202**
2. Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Incident	2a. Alphabetic Code	2b. Railroad Accident/Incident No.
3. Name of Railroad or Other Entity Responsible for Track Maintenance *(single entry)*: **BNSF Railway Company [BNSF]**	3a. Alphabetic Code: **BNSF**	3b. Railroad Accident/Incident No.: **SW0916202**
4. U.S. DOT Grade Crossing ID No.: **025422P**	5. Date of Accident/Incident (month/day/year): **09/27/2016**	6. Time of Accident/Incident: **5:55** AM ☐ PM ☑
7. Nearest Railroad Station: **GLENDALE**	8. Subdivision: **PHOENIX**	9. County: **MARICOPA**
10. State Abbr.: **AZ** Code: **04**		
11. City *(if in a city)*: **GLENDALE**	12. Highway Name or No.: **43RD & CAMELBACK**	Public ☑ Private ☐

Highway User Involved

13. Type — C. Truck-trailer, F. Bus, J. Other Motor Vehicle; A. Auto, D. Pick-up truck, G. School Bus, K. Pedestrian; B. Truck, E. Van, H. Motorcycle, M. Other *(specify)*: Code **A**

14. Vehicle Speed *(est. mph at impact)*: **2**

15. Direction *(geographical)* 1. North 2. South 3. East 4. West: Code **3**

16. Position — 1. Stalled or stuck on crossing, 2. Stopped on Crossing, 3. Moving over crossing, 4. Trapped on crossing by traffic, 5. Blocked on crossing by gates: Code **3**

20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither: Code **4**

Rail Equipment Involved

17. Equipment — 1. Train *(units pulling)*, 2. Train *(units pushing)*, 3. Train *(standing)*, 4. Car(s) *(moving)*, 5. Car(s) *(standing)*, 6. Light loco(s) *(moving)*, 7. Light loco(s) *(standing)*, 8. Other *(specify)*; A. Train pulling- RCL, B. Train pushing- RCL, C. Train standing- RCL, D. EMU Locomotive(s), E. DMU Locomotive(s): Code **2**

18. Position of Car Unit in Train: **6**

19. Circumstance — 1. Rail equipment struck highway user 2. Rail equipment struck by highway user: Code **2**

20b. Was there a hazardous materials release by 1. Highway User 2. Rail Equipment 3. Both 4. Neither: Code **4**

20c. State here the name and quantity of the hazardous material released, if any

21. Temperature *(specify if minus)*: **85** °F

22. Visibility *(single entry)* 1. Dawn 2. Day 3. Dusk 4. Dark: Code **3**

23. Weather *(single entry)* 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow: Code **1**

24. Type of Equipment Consist *(single entry)* — 1. Freight Train, 2. Passenger Train-Pulling, 3. Commuter Train-Pulling, 4. Work Train, 5. Single Car, 6. Cut of cars, 7. Yard/Switching, 8. Light loco(s), 9. Maint./inspect. car, A. Spec. MoW Equip., B. Passenger Train-Pushing, C. Commuter Train-Pushing, D. EMU, E. DMU: Code **7**

25. Track Type Used by Rail Equipment Involved 1. Main 2. Yard 3. Siding 4. Industry: Code **1**

26. Track Number or Name: **SINGLE MAIN**

27. FRA Track Class (1-9,X): **3**

28. Number of Locomotive Units: **1**

29. Number of Cars: **6**

30. Consist Speed *(Recorded speed if available)* R. Recorded E. Estimated: **10** mph Code **E**

31. Time Table Direction 1. North 2. South 3. East 4. West: Code **3**

32. Type of Crossing Warning — 1. Gates, 2. Cantilever FLS, 3. Standard FLS, 4. Wig wags, 5. Hwy. traffic signals, 6. Audible, 7. Crossbucks, 8. Stop signs, 9. Watchman, 10. Flagged by crew, 11. Other *(specify)*, 12. None: Code(s) **01** **02**

33. Signaled Crossing Warning (See reverse side for instructions and codes): Code **1**

34. Roadway Conditions — A. Dry, B. Wet, C. Snow/Slush, D. Ice, E. Sand,Mud,Dirt,Oil,Gravel, F. Water (Standing, Moving): Code **A**

35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach: Code **1**

36. Crossing Warning Interconnected with Highway Signals 1. Yes 2. No 3. Unknown: Code **1**

37. Crossing Illuminated by Street Lights or Special Lights 1. Yes 2. No 3. Unknown: Code **1**

38. Highway User's Age: **30**

39. Highway User's Gender 1. Male 2. Female: Code **2**

40. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown: Code **2**

41. Highway User 1. Went around the gate 2. Stopped and then proceeded 3. Did not stop 4. Stopped on crossing 5. Other *(specify)* 6. Went around/thru temporary barricade (if yes, see instructions) 7. Went thru the gate 8. Suicide/Attempted suicide: Code **7**

42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown: Code **2**

43. View of Track Obscured by *(primary obstruction)* 1. Permanent Structure 2. Standing railroad equipment 3. Passing Train 4. Topography 5. Vegetation 6. Highway Vehicles 7. Other (specify) 8. Not Obstructed: Code **8**

Casualties to:	Killed	Injured
46. Highway-Rail Crossing Users	**0**	**0**
49. Railroad Employees	**0**	**0**
52. Passengers on Train	**0**	**0**

44. Driver was 1. Killed 2. Injured 3. Uninjured: **3**

45. Was Driver in the Vehicle? 1. Yes 2. No: Code **1**

47. Highway Vehicle Property Damage *(est. dollar damage)*: **$2,000**

48. Total Number of Vehicle Occupants *(including driver)*: **5**

50. Total Number of People on Train *(include passengers and train crew)*: **3**

51. Is a Rail Equipment Accident / Incident Report Being Filed 1. Yes 2. No: Code **2**

53a. Special Study Block — Video Taken? ☐ Yes ☑ No; Video Used? ☐ Yes ☑ No

53b. Special Study Block

54. Narrative Description *(Be specific, and continue on separate sheet if necessary)*

55. Typed Name and Title | 56. Signature | 57. Date

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or used for any purpose in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB approved 6/6/2018, Approval expires 6/30/2021

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

HIGHWAY-RAIL GRADE CROSSING ACCIDENT/INCIDENT REPORT

OMB Approval No. 2130-0500

1. Name of Reporting Railroad: **BNSF Railway Company [BNSF]**	1a. Alphabetic Code: **BNSF**	1b. Railroad Accident/Incident No.: **SW0716201**
2. Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Incident	2a. Alphabetic Code	2b. Railroad Accident/Incident No.
3. Name of Railroad or Other Entity Responsible for Track Maintenance *(single entry)*: **BNSF Railway Company [BNSF]**	3a. Alphabetic Code: **BNSF**	3b. Railroad Accident/Incident No.: **SW0716201**
4. U.S. DOT Grade Crossing ID No.: **025422P**	5. Date of Accident/Incident (month/day/year): **0 7 / 2 4 / 2016**	6. Time of Accident/Incident: **9:21** AM ☐ PM ☑
7. Nearest Railroad Station: **GLENDALE**	8. Subdivision: **PHOENIX**	9. County: **MARICOPA**
10. State Abbr.: **AZ** Code: **04**		
11. City *(if in a city)*: **GLENDALE**	12. Highway Name or No.: **43RD & CAMEL BACK**	Public ☑ Private ☐

Highway User Involved

13. Type — C. Truck-trailer, F. Bus, J. Other Motor Vehicle; A. Auto, D. Pick-up truck, G. School Bus, K. Pedestrian; B. Truck, E. Van, H. Motorcycle, M. Other *(specify)*. Code: **J**

14. Vehicle Speed *(est. mph at impact)*: **0**

15. Direction *(geographical)* 1. North 2. South 3. East 4. West. Code: **3**

16. Position — 1. Stalled or stuck on crossing, 2. Stopped on Crossing, 3. Moving over crossing, 4. Trapped on crossing by traffic, 5. Blocked on crossing by gates. Code: **2**

20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither. Code: **4**

Rail Equipment Involved

17. Equipment — 1. Train *(units pulling)*, 2. Train *(units pushing)*, 3. Train *(standing)*, 4. Car(s) *(moving)*, 5. Car(s) *(standing)*, 6. Light loco(s) *(moving)*, 7. Light loco(s) *(standing)*, 8. Other *(specify)*; A. Train pulling- RCL, B. Train pushing- RCL, C. Train standing- RCL, D. EMU Locomotive(s), E. DMU Locomotive(s). Code: **1**

18. Position of Car Unit in Train: **1**

19. Circumstance — 1. Rail equipment struck highway user 2. Rail equipment struck by highway user. Code: **1**

20b. Was there a hazardous materials release by 1. Highway User 2. Rail Equipment 3. Both 4. Neither. Code: **4**

20c. State here the name and quantity of the hazardous material released, if any

21. Temperature *(specify if minus)*: **99** °F

22. Visibility *(single entry)* 1. Dawn 2. Day 3. Dusk 4. Dark. Code: **4**

23. Weather *(single entry)* 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow. Code: **1**

24. Type of Equipment Consist *(single entry)* — 1. Freight Train, 2. Passenger Train-Pulling, 3. Commuter Train-Pulling, 4. Work Train, 5. Single Car, 6. Cut of cars, 7. Yard/Switching, 8. Light loco(s), 9. Maint./inspect. car, A. Spec. MoW Equip., B. Passenger Train-Pushing, C. Commuter Train-Pushing, D. EMU, E. DMU. Code: **1**

25. Track Type Used by Rail Equipment Involved 1. Main 2. Yard 3. Siding 4. Industry. Code: **1**

26. Track Number or Name: **SINGLE MAIN**

27. FRA Track Class (1-9,X): **2**

28. Number of Locomotive Units: **2**

29. Number of Cars: **22**

30. Consist Speed *(Recorded speed if available)* R. Recorded E. Estimated: **14** mph. Code: **E**

31. Time Table Direction 1. North 2. South 3. East 4. West. Code: **3**

32. Type of Crossing Warning — 1. Gates, 2. Cantilever FLS, 3. Standard FLS, 4. Wig wags, 5. Hwy. traffic signals, 6. Audible, 7. Crossbucks, 8. Stop signs, 9. Watchman, 10. Flagged by crew, 11. Other *(specify)*, 12. None. Code(s): **02** **05**

33. Signaled Crossing Warning (See reverse side for instructions and codes). Code: **1**

34. Roadway Conditions — A. Drv, B. Wet, C.Snow/Slush, D.Ice, E. Sand,Mud,Dirt,Oil,Gravel, F.Water (Standing, Moving). Code: **A**

35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach. Code: **1**

36. Crossing Warning Interconnected with Highway Signals 1. Yes 2. No 3. Unknown. Code: **1**

37. Crossing Illuminated by Street Lights or Special Lights 1. Yes 2. No 3. Unknown. Code: **1**

38. Highway User's Age

39. Highway User's Gender 1. Male 2. Female. Code: **1**

40. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown. Code: **2**

41. Highway User 1. Went around the gate 2. Stopped and then proceeded 3. Did not stop 4. Stopped on crossing 5. Other *(specify)* 6. Went around/thru temporary barricade (if yes, see instructions) 7. Went thru the gate 8. Suicide/Attempted suicide. Code: **4**

42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown. Code: **2**

43. View of Track Obscured by *(primary obstruction)* 1. Permanent Structure 2. Standing railroad equipment 3. Passing Train 4. Topography 5. Vegetation 6. Highway Vehicles 7. Other (specify) 8. Not Obstructed. Code: **8**

Casualties to:	Killed	Injured
46. Highway-Rail Crossing Users	**0**	**0**
49. Railroad Employees	**0**	**0**
52. Passengers on Train	**0**	**0**

44. Driver was 1. Killed 2. Injured 3. Uninjured: **3**

45. Was Driver in the Vehicle? 1. Yes 2. No. Code: **1**

47. Highway Vehicle Property Damage *(est. dollar damage)*: **$2,000**

48. Total Number of Vehicle Occupants *(including driver)*: **1**

50. Total Number of People on Train *(include passengers and train crew)*: **2**

51. Is a Rail Equipment Accident / Incident Report Being Filed 1. Yes 2. No. Code: **2**

53a. Special Study Block — Video Taken? ☑ Yes ☐ No; Video Used? ☐ Yes ☑ No

53b. Special Study Block

54. Narrative Description *(Be specific, and continue on separate sheet if necessary)*
DRIVER AGE UNKNOWN.

55. Typed Name and Title | 56. Signature | 57. Date

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or used for any purpose in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB approved 6/6/2018, Approval expires 6/30/2021

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

HIGHWAY-RAIL GRADE CROSSING ACCIDENT/INCIDENT REPORT

OMB Approval No. 2130-0500

1. Name of Reporting Railroad: **BNSF Railway Company [BNSF]**	1a. Alphabetic Code: **BNSF**	1b. Railroad Accident/Incident No.: **SW0514200**
2. Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Incident	2a. Alphabetic Code	2b. Railroad Accident/Incident No.
3. Name of Railroad or Other Entity Responsible for Track Maintenance *(single entry)*: **BNSF Railway Company [BNSF]**	3a. Alphabetic Code: **BNSF**	3b. Railroad Accident/Incident No.: **SW0514200**
4. U.S. DOT Grade Crossing ID No.: **025422P**	5. Date of Accident/Incident (month/day/year): **05/30/2014**	6. Time of Accident/Incident: **7:50** AM ☐ PM ☑
7. Nearest Railroad Station: **GLENDALE**	8. Subdivision: **PHOENIX**	9. County: **MARICOPA**
10. State Abbr.: **AZ** Code: **04**		
11. City *(if in a city)*: **GLENDALE**	12. Highway Name or No.: **43RD AND CAMELBACK**	Public ☑ Private ☐

Highway User Involved

13. Type — C. Truck-trailer, F. Bus, J. Other Motor Vehicle; A. Auto, D. Pick-up truck, G. School Bus, K. Pedestrian; B. Truck, E. Van, H. Motorcycle, M. Other *(specify)*: Code **A**

14. Vehicle Speed *(est. mph at impact)*: **10**

15. Direction *(geographical)* 1. North 2. South 3. East 4. West: Code **3**

16. Position — 1. Stalled or stuck on crossing, 2. Stopped on Crossing, 3. Moving over crossing, 4. Trapped on crossing by traffic, 5. Blocked on crossing by gates: Code **3**

20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither: Code **4**

Rail Equipment Involved

17. Equipment — 1. Train *(units pulling)*, 2. Train *(units pushing)*, 3. Train *(standing)*, 4. Car(s) *(moving)*, 5. Car(s) *(standing)*, 6. Light loco(s) *(moving)*, 7. Light loco(s) *(standing)*, 8. Other *(specify)*; A. Train pulling- RCL, B. Train pushing- RCL, C. Train standing- RCL, D. EMU Locomotive(s), E. DMU Locomotive(s): Code **2**

18. Position of Car Unit in Train: **2**

19. Circumstance — 1. Rail equipment struck highway user 2. Rail equipment struck by highway user: Code **2**

20b. Was there a hazardous materials release by 1. Highway User 2. Rail Equipment 3. Both 4. Neither: Code **4**

20c. State here the name and quantity of the hazardous material released, if any

21. Temperature *(specify if minus)*: **100** °F

22. Visibility *(single entry)* 1. Dawn 2. Day 3. Dusk 4. Dark: Code **3**

23. Weather *(single entry)* 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow: Code **1**

24. Type of Equipment Consist *(single entry)* — 1. Freight Train, 2. Passenger Train-Pulling, 3. Commuter Train-Pulling, 4. Work Train, 5. Single Car, 6. Cut of cars, 7. Yard/Switching, 8. Light loco(s), 9. Maint./inspect. car, A. Spec. MoW Equip., B. Passenger Train-Pushing, C. Commuter Train-Pushing, D. EMU, E. DMU: Code **1**

25. Track Type Used by Rail Equipment Involved 1. Main 2. Yard 3. Siding 4. Industry: Code **1**

26. Track Number or Name: **SINGLE MAIN**

27. FRA Track Class (1-9,X): **2**

28. Number of Locomotive Units: **1**

29. Number of Cars: **9**

30. Consist Speed *(Recorded speed if available)* R. Recorded E. Estimated: **11** mph Code **R**

31. Time Table Direction 1. North 2. South 3. East 4. West: Code **3**

32. Type of Crossing Warning — 1. Gates, 2. Cantilever FLS, 3. Standard FLS, 4. Wig wags, 5. Hwy. traffic signals, 6. Audible, 7. Crossbucks, 8. Stop signs, 9. Watchman, 10. Flagged by crew, 11. Other *(specify)*, 12. None

Code(s): **02** **03**

33. Signaled Crossing Warning (See reverse side for instructions and codes): Code **1**

34. Roadway Conditions — A. Drv, B. Wet, C.Snow/Slush, D.Ice, E. Sand,Mud,Dirt,Oil,Gravel, F.Water (Standing, Moving): Code **A**

35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach: Code **1**

36. Crossing Warning Interconnected with Highway Signals 1. Yes 2. No 3. Unknown: Code **1**

37. Crossing Illuminated by Street Lights or Special Lights 1. Yes 2. No 3. Unknown: Code **1**

38. Highway User's Age

39. Highway User's Gender 1. Male 2. Female: Code **1**

40. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown: Code **2**

41. Highway User 1. Went around the gate 2. Stopped and then proceeded 3. Did not stop 4. Stopped on crossing 5. Other *(specify)* 6. Went around/thru temporary barricade (if yes, see instructions) 7. Went thru the gate 8. Suicide/Attempted suicide: Code **2**

42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown: Code **2**

43. View of Track Obscured by *(primary obstruction)* 1. Permanent Structure 2. Standing railroad equipment 3. Passing Train 4. Topography 5. Vegetation 6. Highway Vehicles 7. Other (specify) 8. Not Obstructed: Code **1**

Casualties to:	Killed	Injured
46. Highway-Rail Crossing Users	**0**	**0**
49. Railroad Employees	**0**	**0**
52. Passengers on Train	**0**	**0**

44. Driver was 1. Killed 2. Injured 3. Uninjured: **3**

45. Was Driver in the Vehicle? 1. Yes 2. No: Code **1**

47. Highway Vehicle Property Damage *(est. dollar damage)*: **$2,000**

48. Total Number of Vehicle Occupants *(including driver)*: **1**

50. Total Number of People on Train *(include passengers and train crew)*: **4**

51. Is a Rail Equipment Accident / Incident Report Being Filed 1. Yes 2. No: Code **2**

53a. Special Study Block — Video Taken? ☑ Yes ☐ No; Video Used? ☐ Yes ☑ No

53b. Special Study Block

54. Narrative Description *(Be specific, and continue on separate sheet if necessary)*

DRIVER AGE UNKNOWN

55. Typed Name and Title | 56. Signature | 57. Date

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or used for any purpose in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB approved 6/6/2018, Approval expires 6/30/2021

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

HIGHWAY-RAIL GRADE CROSSING ACCIDENT/INCIDENT REPORT

OMB Approval No. 2130-0500

1. Name of Reporting Railroad: **BNSF Railway Company [BNSF]**	1a. Alphabetic Code: **BNSF**	1b. Railroad Accident/Incident No.: **SW0214200**
2. Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Incident	2a. Alphabetic Code	2b. Railroad Accident/Incident No.
3. Name of Railroad or Other Entity Responsible for Track Maintenance *(single entry)*: **BNSF Railway Company [BNSF]**	3a. Alphabetic Code: **BNSF**	3b. Railroad Accident/Incident No.: **SW0214200**
4. U.S. DOT Grade Crossing ID No.: **025422P**	5. Date of Accident/Incident (month/day/year): **02/03/2014**	6. Time of Accident/Incident: **7:30** AM ☐ PM ☑
7. Nearest Railroad Station: **GLENDALE**	8. Subdivision: **PHOENIX**	9. County: **MARICOPA**
10. State Abbr.: **AZ** Code: **04**		
11. City *(if in a city)*: **GLENDALE**	12. Highway Name or No.: **43RD AND CAMELBACK**	Public ☑ Private ☐

Highway User Involved

13. Type — C. Truck-trailer, F. Bus, J. Other Motor Vehicle; A. Auto, D. Pick-up truck, G. School Bus, K. Pedestrian; B. Truck, E. Van, H. Motorcycle, M. Other *(specify)*. Code: **E**

14. Vehicle Speed *(est. mph at impact)*: **10**

15. Direction *(geographical)* 1. North 2. South 3. East 4. West. Code: **3**

16. Position — 1. Stalled or stuck on crossing, 2. Stopped on Crossing, 3. Moving over crossing, 4. Trapped on crossing by traffic, 5. Blocked on crossing by gates. Code: **3**

20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither. Code: **4**

Rail Equipment Involved

17. Equipment — 1. Train *(units pulling)*, 2. Train *(units pushing)*, 3. Train *(standing)*, 4. Car(s) *(moving)*, 5. Car(s) *(standing)*, 6. Light loco(s) *(moving)*, 7. Light loco(s) *(standing)*, 8. Other *(specify)*; A. Train pulling- RCL, B. Train pushing- RCL, C. Train standing- RCL, D. EMU Locomotive(s), E. DMU Locomotive(s). Code: **1**

18. Position of Car Unit in Train: **1**

19. Circumstance — 1. Rail equipment struck highway user 2. Rail equipment struck by highway user. Code: **2**

20b. Was there a hazardous materials release by 1. Highway User 2. Rail Equipment 3. Both 4. Neither. Code: **4**

20c. State here the name and quantity of the hazardous material released, if any

21. Temperature *(specify if minus)*: **55** °F

22. Visibility *(single entry)* 1. Dawn 2. Day 3. Dusk 4. Dark. Code: **3**

23. Weather *(single entry)* 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow. Code: **1**

24. Type of Equipment Consist *(single entry)* — 1. Freight Train, 2. Passenger Train-Pulling, 3. Commuter Train-Pulling, 4. Work Train, 5. Single Car, 6. Cut of cars, 7. Yard/Switching, 8. Light loco(s), 9. Maint./inspect. car, A. Spec. MoW Equip., B. Passenger Train-Pushing, C. Commuter Train-Pushing, D. EMU, E. DMU. Code: **7**

25. Track Type Used by Rail Equipment Involved 1. Main 2. Yard 3. Siding 4. Industry. Code: **1**

26. Track Number or Name: **SINGLE MAIN**

27. FRA Track Class (1-9,X): **2**

28. Number of Locomotive Units: **1**

29. Number of Cars: **6**

30. Consist Speed *(Recorded speed if available)* R. Recorded E. Estimated: **12** mph. Code: **E**

31. Time Table Direction 1. North 2. South 3. East 4. West. Code: **3**

32. Type of Crossing Warning — 1. Gates, 2. Cantilever FLS, 3. Standard FLS, 4. Wig wags, 5. Hwy. traffic signals, 6. Audible, 7. Crossbucks, 8. Stop signs, 9. Watchman, 10. Flagged by crew, 11. Other *(specify)*, 12. None. Code(s): **02** **03**

33. Signaled Crossing Warning (See reverse side for instructions and codes). Code: **1**

34. Roadway Conditions — A. Drv, B. Wet, C.Snow/Slush, D.Ice, E. Sand,Mud,Dirt,Oil,Gravel, F.Water (Standing, Moving). Code: **A**

35. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach. Code: **1**

36. Crossing Warning Interconnected with Highway Signals 1. Yes 2. No 3. Unknown. Code: **1**

37. Crossing Illuminated by Street Lights or Special Lights 1. Yes 2. No 3. Unknown. Code: **1**

38. Highway User's Age

39. Highway User's Gender 1. Male 2. Female. Code: **1**

40. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown. Code: **2**

41. Highway User 1. Went around the gate 2. Stopped and then proceeded 3. Did not stop 4. Stopped on crossing 5. Other *(specify)* 6. Went around/thru temporary barricade (if yes, see instructions) 7. Went thru the gate 8. Suicide/Attempted suicide. Code: **5**

42. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown. Code: **2**

43. View of Track Obscured by *(primary obstruction)* 1. Permanent Structure 2. Standing railroad equipment 3. Passing Train 4. Topography 5. Vegetation 6. Highway Vehicles 7. Other (specify) 8. Not Obstructed. Code: **8**

Casualties to:	Killed	Injured
46. Highway-Rail Crossing Users	0	0
49. Railroad Employees	0	0
52. Passengers on Train	0	0

44. Driver was 1. Killed 2. Injured 3. Uninjured: **3**

45. Was Driver in the Vehicle? 1. Yes 2. No. Code: **1**

47. Highway Vehicle Property Damage *(est. dollar damage)*: **$2,000**

48. Total Number of Vehicle Occupants *(including driver)*: **1**

50. Total Number of People on Train *(include passengers and train crew)*: **4**

51. Is a Rail Equipment Accident / Incident Report Being Filed 1. Yes 2. No. Code: **2**

53a. Special Study Block — Video Taken? ☐ Yes ☑ No; Video Used? ☐ Yes ☑ No

53b. Special Study Block

54. Narrative Description *(Be specific, and continue on separate sheet if necessary)*

DRIVER AGE UNKNOWN. 41: PRECEDED LIGHTS

55. Typed Name and Title | 56. Signature | 57. Date

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or used for any purpose in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB approved 6/6/2018, Approval expires 6/30/2021

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

HIGHWAY-RAIL GRADE CROSSING ACCIDENT/INCIDENT REPORT

OMB Approval No. 2130-0500

1. Name of Reporting Railroad: **BNSF Railway Company [BNSF]**	1a. Alphabetic Code: **BNSF**	1b. Railroad Accident/Incident No.: **SW1113200**
2. Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Incident	2a. Alphabetic Code	2b. Railroad Accident/Incident No.
3. Name of Railroad or Other Entity Responsible for Track Maintenance *(single entry)*: **BNSF Railway Company [BNSF]**	3a. Alphabetic Code: **BNSF**	3b. Railroad Accident/Incident No.: **SW1113200**
4. U.S. DOT Grade Crossing ID No.: **025422P**	5. Date of Accident/Incident (month/day/year): **1 / 1 / 2 / 7 / 2013**	6. Time of Accident/Incident: **9:45** AM ☐ PM ☑
7. Nearest Railroad Station: **GLENDALE**	8. Subdivision: **PHOENIX**	9. County: **MARICOPA**
10. State Abbr.: **AZ** Code: **04**		
11. City *(if in a city)*: **GLENDALE**	12. Highway Name or No.: **43RD AND CAMELBACK**	Public ☑ Private ☐

Highway User Involved

13. Type — **Code: B**
C. Truck-trailer; F. Bus; J. Other Motor Vehicle; A. Auto; D. Pick-up truck; G. School Bus; K. Pedestrian; B. Truck; E. Van; H. Motorcycle; M. Other *(specify)*

14. Vehicle Speed *(est. mph at impact)*: **0**

15. Direction *(geographical)* — **Code: 3**
1. North 2. South 3. East 4. West

16. Position — **Code: 2**
1. Stalled or stuck on crossing; 2. Stopped on Crossing; 3. Moving over crossing; 4. Trapped on crossing by traffic; 5. Blocked on crossing by gates

20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? — **Code: 4**
1. Highway User 2. Rail Equipment 3. Both 4. Neither

Rail Equipment Involved

17. Equipment — **Code: 2**
1. Train *(units pulling)*; 2. Train *(units pushing)*; 3. Train *(standing)*; 4. Car(s) *(moving)*; 5. Car(s) *(standing)*; 6. Light loco(s) *(moving)*; 7. Light loco(s) *(standing)*; 8. Other *(specify)*
A. Train pulling- RCL; B. Train pushing- RCL; C. Train standing- RCL; D. EMU Locomotive(s); E. DMU Locomotive(s)

18. Position of Car Unit in Train: **1**

19. Circumstance — **Code: 1**
1. Rail equipment struck highway user 2. Rail equipment struck by highway user

20b. Was there a hazardous materials release by — **Code: 4**
1. Highway User 2. Rail Equipment 3. Both 4. Neither

20c. State here the name and quantity of the hazardous material released, if any

21. Temperature *(specify if minus)*: **60** °F

22. Visibility *(single entry)* — **Code: 4**
1. Dawn 2. Day 3. Dusk 4. Dark

23. Weather *(single entry)* — **Code: 1**
1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow

24. Type of Equipment Consist *(single entry)* — **Code: 1**
1. Freight Train; 2. Passenger Train-Pulling; 3. Commuter Train-Pulling; 4. Work Train; 5. Single Car; 6. Cut of cars; 7. Yard/Switching; 8. Light loco(s); 9. Maint./inspect. car; A. Spec. MoW Equip.; B. Passenger Train-Pushing; C. Commuter Train-Pushing; D. EMU; E. DMU

25. Track Type Used by Rail Equipment Involved — **Code: 1**
1. Main 2. Yard 3. Siding 4. Industry

26. Track Number or Name: **SINGLE MAIN**

27. FRA Track Class (1-9,X): **2**

28. Number of Locomotive Units: **1**

29. Number of Cars: **5**

30. Consist Speed *(Recorded speed if available)* — **Code: E**
R. Recorded; E. Estimated: **13** mph

31. Time Table Direction — **Code: 3**
1. North 3. East 2. South 4. West

32. Type of Crossing Warning — Code(s): **02** **03**
1. Gates; 2. Cantilever FLS; 3. Standard FLS; 4. Wig wags; 5. Hwy. traffic signals; 6. Audible; 7. Crossbucks; 8. Stop signs; 9. Watchman; 10. Flagged by crew; 11. Other *(specify)*; 12. None

33. Signaled Crossing Warning (See reverse side for instructions and codes) — **Code: 1**

34. Roadway Conditions — **Code: A**
A. Drv; B. Wet; C.Snow/Slush; D.Ice; E. Sand,Mud,Dirt,Oil,Gravel; F.Water (Standing, Moving)

35. Location of Warning — **Code: 1**
1. Both Sides; 2. Side of Vehicle Approach; 3. Opposite Side of Vehicle Approach

36. Crossing Warning Interconnected with Highway Signals — **Code: 1**
1. Yes 2. No 3. Unknown

37. Crossing Illuminated by Street Lights or Special Lights — **Code: 1**
1. Yes 2. No 3. Unknown

38. Highway User's Age:

39. Highway User's Gender — **Code: 1**
1. Male; 2. Female

40. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train — **Code: 2**
1. Yes 2. No 3. Unknown

41. Highway User — **Code: 4**
1. Went around the gate; 2. Stopped and then proceeded; 3. Did not stop; 4. Stopped on crossing; 5. Other *(specify)*; 6. Went around/thru temporary barricade (if yes, see instructions); 7. Went thru the gate; 8. Suicide/Attempted suicide

42. Driver Passed Standing Highway Vehicle — **Code: 2**
1. Yes 2. No 3. Unknown

43. View of Track Obscured by *(primary obstruction)* — **Code: 8**
1. Permanent Structure; 2. Standing railroad equipment; 3. Passing Train; 4. Topography; 5. Vegetation; 6. Highway Vehicles; 7. Other (specify); 8. Not Obstructed

Casualties to:	Killed	Injured
46. Highway-Rail Crossing Users	0	0
49. Railroad Employees	0	0
52. Passengers on Train	0	0

44. Driver was: **3** (1. Killed 2. Injured 3. Uninjured)

45. Was Driver in the Vehicle? — **Code: 1**
1. Yes 2. No

47. Highway Vehicle Property Damage *(est. dollar damage)*: **$2,000**

48. Total Number of Vehicle Occupants *(including driver)*: **2**

50. Total Number of People on Train *(include passengers and train crew)*: **3**

51. Is a Rail Equipment Accident / Incident Report Being Filed — **Code: 2**
1. Yes 2. No

53a. Special Study Block — Video Taken? ☐ Yes ☑ No; Video Used? ☐ Yes ☑ No

53b. Special Study Block

54. Narrative Description *(Be specific, and continue on separate sheet if necessary)*
DRIVER AGE UNKNOWN

55. Typed Name and Title | 56. Signature | 57. Date

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or used for any purpose in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB approved 6/6/2018, Approval expires 6/30/2021

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

HIGHWAY-RAIL GRADE CROSSING ACCIDENT/INCIDENT REPORT

OMB Approval No. 2130-0500

1. Name of Reporting Railroad: **BNSF Railway Company [BNSF]**	1a. Alphabetic Code: **BNSF**	1b. Railroad Accident/Incident No.: **SW0713201**
2. Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Incident	2a. Alphabetic Code	2b. Railroad Accident/Incident No.
3. Name of Railroad or Other Entity Responsible for Track Maintenance *(single entry)*: **BNSF Railway Company [BNSF]**	3a. Alphabetic Code: **BNSF**	3b. Railroad Accident/Incident No.: **SW0713201**
4. U.S. DOT Grade Crossing ID No.: **025422P**	5. Date of Accident/Incident (month/day/year): **07/18/2013**	6. Time of Accident/Incident: **12:45** AM ☑ PM ☐
7. Nearest Railroad Station: **GLENDALE**	8. Subdivision: **PHOENIX**	9. County: **MARICOPA**
10. State Abbr.: **AZ** Code: **04**		
11. City *(if in a city)*: **GLENDALE**	12. Highway Name or No.: **43RD AND CAMELBACK**	Public ☑ Private ☐

Highway User Involved

13. Type — Code: **A**
C. Truck-trailer; F. Bus; J. Other Motor Vehicle; A. Auto; D. Pick-up truck; G. School Bus; K. Pedestrian; B. Truck; E. Van; H. Motorcycle; M. Other *(specify)*

14. Vehicle Speed *(est. mph at impact)*: **10**

15. Direction *(geographical)* — Code: **1**
1. North 2. South 3. East 4. West

16. Position — Code: **3**
1. Stalled or stuck on crossing; 2. Stopped on Crossing; 3. Moving over crossing; 4. Trapped on crossing by traffic; 5. Blocked on crossing by gates

20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? — Code: **4**
1. Highway User 2. Rail Equipment 3. Both 4. Neither

Rail Equipment Involved

17. Equipment — Code: **2**
1. Train *(units pulling)*; 2. Train *(units pushing)*; 3. Train *(standing)*; 4. Car(s) *(moving)*; 5. Car(s) *(standing)*; 6. Light loco(s) *(moving)*; 7. Light loco(s) *(standing)*; 8. Other *(specify)*
A. Train pulling- RCL; B. Train pushing- RCL; C. Train standing- RCL; D. EMU Locomotive(s); E. DMU Locomotive(s)

18. Position of Car Unit in Train: **14**

19. Circumstance — Code: **2**
1. Rail equipment struck highway user 2. Rail equipment struck by highway user

20b. Was there a hazardous materials release by — Code: **4**
1. Highway User 2. Rail Equipment 3. Both 4. Neither

20c. State here the name and quantity of the hazardous material released, if any

21. Temperature *(specify if minus)*: **90** °F

22. Visibility *(single entry)* — Code: **4**
1. Dawn 2. Day 3. Dusk 4. Dark

23. Weather *(single entry)* — Code: **1**
1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow

24. Type of Equipment Consist *(single entry)* — Code: **7**
1. Freight Train; 2. Passenger Train-Pulling; 3. Commuter Train-Pulling; 4. Work Train; 5. Single Car; 6. Cut of cars; 7. Yard/Switching; 8. Light loco(s); 9. Maint./inspect. car; A. Spec. MoW Equip.; B. Passenger Train-Pushing; C. Commuter Train-Pushing; D. EMU; E. DMU

25. Track Type Used by Rail Equipment Involved — Code: **1**
1. Main 2. Yard 3. Siding 4. Industry

26. Track Number or Name: **SINGLE MAIN**

27. FRA Track Class (1-9,X): **2**

28. Number of Locomotive Units: **1**

29. Number of Cars: **14**

30. Consist Speed *(Recorded speed if available)* — Code: **R**
R. Recorded; E. Estimated: **14** mph

31. Time Table Direction — Code: **3**
1. North 3. East 2. South 4. West

32. Type of Crossing Warning — Code(s): **01** **02**
1. Gates; 2. Cantilever FLS; 3. Standard FLS; 4. Wig wags; 5. Hwy. traffic signals; 6. Audible; 7. Crossbucks; 8. Stop signs; 9. Watchman; 10. Flagged by crew; 11. Other *(specify)*; 12. None

33. Signaled Crossing Warning (See reverse side for instructions and codes) — Code: **1**

34. Roadway Conditions — Code: **A**
A. Drv; B. Wet; C.Snow/Slush; D.Ice; E. Sand,Mud,Dirt,Oil,Gravel; F.Water (Standing, Moving)

35. Location of Warning — Code: **1**
1. Both Sides; 2. Side of Vehicle Approach; 3. Opposite Side of Vehicle Approach

36. Crossing Warning Interconnected with Highway Signals — Code: **1**
1. Yes 2. No 3. Unknown

37. Crossing Illuminated by Street Lights or Special Lights — Code: **1**
1. Yes 2. No 3. Unknown

38. Highway User's Age: **39**

39. Highway User's Gender — Code: **1**
1. Male 2. Female

40. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train — Code: **2**
1. Yes 2. No 3. Unknown

41. Highway User — Code: **1**
1. Went around the gate; 2. Stopped and then proceeded; 3. Did not stop; 4. Stopped on crossing; 5. Other *(specify)*; 6. Went around/thru temporary barricade (if yes, see instructions); 7. Went thru the gate; 8. Suicide/Attempted suicide

42. Driver Passed Standing Highway Vehicle — Code: **2**
1. Yes 2. No 3. Unknown

43. View of Track Obscured by *(primary obstruction)* — Code: **8**
1. Permanent Structure; 2. Standing railroad equipment; 3. Passing Train; 4. Topography; 5. Vegetation; 6. Highway Vehicles; 7. Other (specify); 8. Not Obstructed

Casualties to:	Killed	Injured
46. Highway-Rail Crossing Users	0	0
49. Railroad Employees	0	0
52. Passengers on Train	0	0

44. Driver was: **3**
1. Killed 2. Injured 3. Uninjured

45. Was Driver in the Vehicle? — Code: **1**
1. Yes 2. No

47. Highway Vehicle Property Damage *(est. dollar damage)*: **$2,000**

48. Total Number of Vehicle Occupants *(including driver)*: **1**

50. Total Number of People on Train *(include passengers and train crew)*: **3**

51. Is a Rail Equipment Accident / Incident Report Being Filed — Code: **2**
1. Yes 2. No

53a. Special Study Block — Video Taken? ☑ Yes ☐ No; Video Used? ☐ Yes ☑ No

53b. Special Study Block

54. Narrative Description *(Be specific, and continue on separate sheet if necessary)*

55. Typed Name and Title | 56. Signature | 57. Date

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or used for any purpose in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB approved 6/6/2018, Approval expires 6/30/2021

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

HIGHWAY-RAIL GRADE CROSSING ACCIDENT/INCIDENT REPORT

OMB Approval No. 2130-0500

1. Name of Reporting Railroad: **BNSF Railway Company [BNSF]**	1a. Alphabetic Code: **BNSF**	1b. Railroad Accident/Incident No.: **SW0213202**
2. Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Incident	2a. Alphabetic Code	2b. Railroad Accident/Incident No.
3. Name of Railroad or Other Entity Responsible for Track Maintenance *(single entry)*: **BNSF Railway Company [BNSF]**	3a. Alphabetic Code: **BNSF**	3b. Railroad Accident/Incident No.: **SW0213202**
4. U.S. DOT Grade Crossing ID No.: **025422P**	5. Date of Accident/Incident (month/day/year): **02/18/2013**	6. Time of Accident/Incident: **9:10** AM ☑ PM ☐
7. Nearest Railroad Station: **GLENDALE**	8. Subdivision: **PHOENIX**	9. County: **MARICOPA**
10. State Abbr.: **AZ** Code: **04**		
11. City *(if in a city)*	12. Highway Name or No.: **43RD & CAMELBACK**	Public ☑ Private ☐

Highway User Involved

13. Type — Code: **A**
A. Auto; B. Truck; C. Truck-trailer; D. Pick-up truck; E. Van; F. Bus; G. School Bus; H. Motorcycle; J. Other Motor Vehicle; K. Pedestrian; M. Other *(specify)*

14. Vehicle Speed *(est. mph at impact)*: **0**

15. Direction *(geographical)* — Code: **3**
1. North 2. South 3. East 4. West

16. Position — Code: **2**
1. Stalled or stuck on crossing; 2. Stopped on Crossing; 3. Moving over crossing; 4. Trapped on crossing by traffic; 5. Blocked on crossing by gates

20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? — Code: **4**
1. Highway User 2. Rail Equipment 3. Both 4. Neither

20c. State here the name and quantity of the hazardous material released, if any

21. Temperature *(specify if minus)*: **70** °F

22. Visibility *(single entry)* — Code: **2**
1. Dawn 2. Day 3. Dusk 4. Dark

24. Type of Equipment Consist *(single entry)*
1. Freight Train; 2. Passenger Train-Pulling; 3. Commuter Train-Pulling; 4. Work Train; 5. Single Car; 6. Cut of cars; 7. Yard/Switching; 8. Light loco(s); 9. Maint./inspect. car; A. Spec. MoW Equip.; B. Passenger Train-Pushing; C. Commuter Train-Pushing; D. EMU; E. DMU — Code: **8**

27. FRA Track Class (1-9,X): **2**

28. Number of Locomotive Units: **9**

29. Number of Cars: **0**

32. Type of Crossing Warning
1. Gates; 2. Cantilever FLS; 3. Standard FLS; 4. Wig wags; 5. Hwy. traffic signals; 6. Audible; 7. Crossbucks; 8. Stop signs; 9. Watchman; 10. Flagged by crew; 11. Other *(specify)*; 12. None
Code(s): **02** **03**

35. Location of Warning — Code: **1**
1. Both Sides; 2. Side of Vehicle Approach; 3. Opposite Side of Vehicle Approach

38. Highway User's Age: **36**

39. Highway User's Gender — Code: **1**
1. Male 2. Female

42. Driver Passed Standing Highway Vehicle — Code: **3**
1. Yes 2. No 3. Unknown

Casualties to:

	Killed	Injured
46. Highway-Rail Crossing Users	0	1
49. Railroad Employees	0	0
52. Passengers on Train	0	0

53a. Special Study Block — Video Taken? ☑ Yes ☐ No; Video Used? ☐ Yes ☑ No

Rail Equipment Involved

17. Equipment — Code: **6**
1. Train *(units pulling)*; 2. Train *(units pushing)*; 3. Train *(standing)*; 4. Car(s) *(moving)*; 5. Car(s) *(standing)*; 6. Light loco(s) *(moving)*; 7. Light loco(s) *(standing)*; 8. Other *(specify)*; A. Train pulling- RCL; B. Train pushing- RCL; C. Train standing- RCL; D. EMU Locomotive(s); E. DMU Locomotive(s)

18. Position of Car Unit in Train: **1**

19. Circumstance — Code: **1**
1. Rail equipment struck highway user 2. Rail equipment struck by highway user

20b. Was there a hazardous materials release by — Code: **4**
1. Highway User 2. Rail Equipment 3. Both 4. Neither

23. Weather *(single entry)* — Code: **1**
1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow

25. Track Type Used by Rail Equipment Involved — Code: **1**
1. Main 2. Yard 3. Siding 4. Industry

26. Track Number or Name: **SINGLE MAIN**

30. Consist Speed *(Recorded speed if available)* — Code: **E**
R. Recorded; E. Estimated: **18** mph

31. Time Table Direction — Code: **3**
1. North 3. East 2. South 4. West

33. Signaled Crossing Warning (See reverse side for instructions and codes) — Code: **1**

34. Roadway Conditions — Code: **A**
A. Drv; B. Wet; C.Snow/Slush; D.Ice; E. Sand,Mud,Dirt,Oil,Gravel; F.Water (Standing, Moving)

36. Crossing Warning Interconnected with Highway Signals — Code: **1**
1. Yes 2. No 3. Unknown

37. Crossing Illuminated by Street Lights or Special Lights — Code: **1**
1. Yes 2. No 3. Unknown

40. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train — Code: **2**
1. Yes 2. No 3. Unknown

41. Highway User — Code: **4**
1. Went around the gate; 2. Stopped and then proceeded; 3. Did not stop; 4. Stopped on crossing; 5. Other *(specify)*; 6. Went around/thru temporary barricade (if yes, see instructions); 7. Went thru the gate; 8. Suicide/Attempted suicide

43. View of Track Obscured by *(primary obstruction)* — Code: **8**
1. Permanent Structure; 2. Standing railroad equipment; 3. Passing Train; 4. Topography; 5. Vegetation; 6. Highway Vehicles; 7. Other (specify); 8. Not Obstructed

44. Driver was: **2**
1. Killed 2. Injured 3. Uninjured

45. Was Driver in the Vehicle? — Code: **1**
1. Yes 2. No

47. Highway Vehicle Property Damage *(est. dollar damage)*: **$2,000**

48. Total Number of Vehicle Occupants *(including driver)*: **1**

50. Total Number of People on Train *(include passengers and train crew)*: **3**

51. Is a Rail Equipment Accident / Incident Report Being Filed — Code: **2**
1. Yes 2. No

53b. Special Study Block

54. Narrative Description *(Be specific, and continue on separate sheet if necessary)*

55. Typed Name and Title | 56. Signature | 57. Date

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or used for any purpose in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB approved 6/6/2018, Approval expires 6/30/2021

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

HIGHWAY-RAIL GRADE CROSSING ACCIDENT/INCIDENT REPORT

OMB Approval No. 2130-0500

1. Name of Reporting Railroad: **BNSF Railway Company [BNSF]**	1a. Alphabetic Code: **BNSF**	1b. Railroad Accident/Incident No.: **SW0812200**
2. Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Incident	2a. Alphabetic Code	2b. Railroad Accident/Incident No.
3. Name of Railroad or Other Entity Responsible for Track Maintenance *(single entry)*: **BNSF Railway Company [BNSF]**	3a. Alphabetic Code: **BNSF**	3b. Railroad Accident/Incident No.: **SW0812200**
4. U.S. DOT Grade Crossing ID No.: **025422P**	5. Date of Accident/Incident (month/day/year): **0 8 / 1 9 / 2012**	6. Time of Accident/Incident: **5:30** AM ☑ PM ☐
7. Nearest Railroad Station: **GLENDALE**	8. Subdivision: **PHOENIX**	9. County: **MARICOPA**
10. State Abbr.: **AZ** Code: **04**		
11. City *(if in a city)*: **GLENDALE**	12. Highway Name or No.: **43RD & CAMELBACK**	Public ☑ Private ☐

Highway User Involved

13. Type — C. Truck-trailer, F. Bus, J. Other Motor Vehicle; A. Auto, D. Pick-up truck, G. School Bus, K. Pedestrian; B. Truck, E. Van, H. Motorcycle, M. Other *(specify)*. Code: **D**

14. Vehicle Speed *(est. mph at impact)*: **10**

15. Direction *(geographical)* 1. North 2. South 3. East 4. West. Code: **1**

16. Position — 1. Stalled or stuck on crossing, 2. Stopped on Crossing, 3. Moving over crossing, 4. Trapped on crossing by traffic, 5. Blocked on crossing by gates. Code: **3**

20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither. Code: **4**

Rail Equipment Involved

17. Equipment — 1. Train *(units pulling)*, 2. Train *(units pushing)*, 3. Train *(standing)*, 4. Car(s) *(moving)*, 5. Car(s) *(standing)*, 6. Light loco(s) *(moving)*, 7. Light loco(s) *(standing)*, 8. Other *(specify)*; A. Train pulling- RCL, B. Train pushing- RCL, C. Train standing- RCL, D. EMU Locomotive(s), E. DMU Locomotive(s). Code: **1**

18. Position of Car Unit in Train: **1**

19. Circumstance — 1. Rail equipment struck highway user 2. Rail equipment struck by highway user. Code: **1**

20b. Was there a hazardous materials release by — 1. Highway User 2. Rail Equipment 3. Both 4. Neither. Code: **4**

20c. State here the name and quantity of the hazardous material released, if any

21. Temperature *(specify if minus)*: **89** °F

22. Visibility *(single entry)* 1. Dawn 2. Day 3. Dusk 4. Dark. Code: **4**

23. Weather *(single entry)* 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow. Code: **1**

24. Type of Equipment Consist *(single entry)* — 1. Freight Train, 2. Passenger Train-Pulling, 3. Commuter Train-Pulling, 4. Work Train, 5. Single Car, 6. Cut of cars, 7. Yard/Switching, 8. Light loco(s), 9. Maint./inspect. car, A. Spec. MoW Equip., B. Passenger Train-Pushing, C. Commuter Train-Pushing, D. EMU, E. DMU. Code: **1**

25. Track Type Used by Rail Equipment Involved — 1. Main 2. Yard 3. Siding 4. Industry. Code: **1**

26. Track Number or Name: **SINGLE MAIN**

27. FRA Track Class (1-9,X): **2**

28. Number of Locomotive Units: **1**

29. Number of Cars: **4**

30. Consist Speed *(Recorded speed if available)* R. Recorded E. Estimated: **9** mph. Code: **R**

31. Time Table Direction 1. North 2. South 3. East 4. West. Code: **4**

32. Type of Crossing Warning — 1. Gates, 2. Cantilever FLS, 3. Standard FLS, 4. Wig wags, 5. Hwy. traffic signals, 6. Audible, 7. Crossbucks, 8. Stop signs, 9. Watchman, 10. Flagged by crew, 11. Other *(specify)*, 12. None. Code(s): **02** **03**

33. Signaled Crossing Warning (See reverse side for instructions and codes). Code: **1**

34. Roadway Conditions — A. Drv, B. Wet, C.Snow/Slush, D.Ice, E. Sand,Mud,Dirt,Oil,Gravel, F.Water (Standing, Moving). Code: **A**

35. Location of Warning — 1. Both Sides, 2. Side of Vehicle Approach, 3. Opposite Side of Vehicle Approach. Code: **1**

36. Crossing Warning Interconnected with Highway Signals — 1. Yes 2. No 3. Unknown. Code: **1**

37. Crossing Illuminated by Street Lights or Special Lights — 1. Yes 2. No 3. Unknown. Code: **2**

38. Highway User's Age:

39. Highway User's Gender — 1. Male, 2. Female. Code: **1**

40. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train — 1. Yes 2. No 3. Unknown. Code: **2**

41. Highway User — 1. Went around the gate, 2. Stopped and then proceeded, 3. Did not stop, 4. Stopped on crossing, 5. Other *(specify)*, 6. Went around/thru temporary barricade (if yes, see instructions), 7. Went thru the gate, 8. Suicide/Attempted suicide. Code: **3**

42. Driver Passed Standing Highway Vehicle — 1. Yes 2. No 3. Unknown. Code: **2**

43. View of Track Obscured by *(primary obstruction)* — 1. Permanent Structure, 2. Standing railroad equipment, 3. Passing Train, 4. Topography, 5. Vegetation, 6. Highway Vehicles, 7. Other (specify), 8. Not Obstructed. Code: **8**

Casualties to:	Killed	Injured
46. Highway-Rail Crossing Users	**0**	**0**
49. Railroad Employees	**0**	**0**
52. Passengers on Train	**0**	**0**

44. Driver was — 1. Killed 2. Injured 3. Uninjured: **3**

45. Was Driver in the Vehicle? 1. Yes 2. No. Code: **1**

47. Highway Vehicle Property Damage *(est. dollar damage)*: **$2,000**

48. Total Number of Vehicle Occupants *(including driver)*: **1**

50. Total Number of People on Train *(include passengers and train crew)*: **3**

51. Is a Rail Equipment Accident / Incident Report Being Filed 1. Yes 2. No. Code: **2**

53a. Special Study Block — Video Taken? ☐ Yes ☑ No; Video Used? ☐ Yes ☑ No

53b. Special Study Block

54. Narrative Description *(Be specific, and continue on separate sheet if necessary)*

DRIVER AGE UNKNOWN.

55. Typed Name and Title | 56. Signature | 57. Date

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or used for any purpose in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB approved 6/6/2018, Approval expires 6/30/2021

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

HIGHWAY-RAIL GRADE CROSSING ACCIDENT/INCIDENT REPORT

OMB Approval No. 2130-0500

1. Name of Reporting Railroad: **BNSF Railway Company [BNSF]**	1a. Alphabetic Code: **BNSF**	1b. Railroad Accident/Incident No.: **SW0712201**
2. Name of Other Railroad or Other Entity Filling for Equipment Involved in Train Accident/Incident	2a. Alphabetic Code	2b. Railroad Accident/Incident No.
3. Name of Railroad or Other Entity Responsible for Track Maintenance *(single entry)*: **BNSF Railway Company [BNSF]**	3a. Alphabetic Code: **BNSF**	3b. Railroad Accident/Incident No.: **SW0712201**
4. U.S. DOT Grade Crossing ID No.: **025422P**	5. Date of Accident/Incident (month/day/year): **07/26/2012**	6. Time of Accident/Incident: **12:31** AM ☑ PM ☐
7. Nearest Railroad Station: **GLENDALE**	8. Subdivision: **PHOENIX**	9. County: **MARICOPA**
10. State Abbr.: **AZ** Code: **04**		
11. City *(if in a city)*: **GLENDALE**	12. Highway Name or No.: **43RD & CAMEL BACK RD**	Public ☑ Private ☐

Highway User Involved

13. Type — Code: **A**
C. Truck-trailer; F. Bus; J. Other Motor Vehicle; A. Auto; D. Pick-up truck; G. School Bus; K. Pedestrian; B. Truck; E. Van; H. Motorcycle; M. Other *(specify)*

14. Vehicle Speed *(est. mph at impact)*: **0**

15. Direction *(geographical)* — Code: **2**
1. North 2. South 3. East 4. West

16. Position — Code: **2**
1. Stalled or stuck on crossing; 2. Stopped on Crossing; 3. Moving over crossing; 4. Trapped on crossing by traffic; 5. Blocked on crossing by gates

20a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? — Code: **2**
1. Highway User 2. Rail Equipment 3. Both 4. Neither

Rail Equipment Involved

17. Equipment — Code: **1**
1. Train *(units pulling)*; 2. Train *(units pushing)*; 3. Train *(standing)*; 4. Car(s) *(moving)*; 5. Car(s) *(standing)*; 6. Light loco(s) *(moving)*; 7. Light loco(s) *(standing)*; 8. Other *(specify)*
A. Train pulling- RCL; B. Train pushing- RCL; C. Train standing- RCL; D. EMU Locomotive(s); E. DMU Locomotive(s)

18. Position of Car Unit in Train: **1**

19. Circumstance — Code: **1**
1. Rail equipment struck highway user 2. Rail equipment struck by highway user

20b. Was there a hazardous materials release by — Code: **4**
1. Highway User 2. Rail Equipment 3. Both 4. Neither

20c. State here the name and quantity of the hazardous material released, if any

21. Temperature *(specify if minus)*: **93** °F	22. Visibility *(single entry)* — Code: **4** (1. Dawn 2. Day 3. Dusk 4. Dark)	23. Weather *(single entry)* — Code: **1** (1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow)	
24. Type of Equipment Consist *(single entry)* — Code: **1** (1. Freight Train; 2. Passenger Train-Pulling; 3. Commuter Train-Pulling; 4. Work Train; 5. Single Car; 6. Cut of cars; 7. Yard/Switching; 8. Light loco(s); 9. Maint./inspect. car; A. Spec. MoW Equip.; B. Passenger Train-Pushing; C. Commuter Train-Pushing; D. EMU; E. DMU)	25. Track Type Used by Rail Equipment Involved — Code: **1** (1. Main 2. Yard 3. Siding 4. Industry)	26. Track Number or Name: **SINGLE MAIN**	
27. FRA Track Class (1-9,X): **2**	28. Number of Locomotive Units: **3**	29. Number of Cars: **91**	30. Consist Speed *(Recorded speed if available)* R. Recorded E. Estimated: **14** mph — Code: **E**
31. Time Table Direction — Code: **3** (1. North 2. South 3. East 4. West)			

32. Type of Crossing Warning — Code(s): **02** **03**
1. Gates; 2. Cantilever FLS; 3. Standard FLS; 4. Wig wags; 5. Hwy. traffic signals; 6. Audible; 7. Crossbucks; 8. Stop signs; 9. Watchman; 10. Flagged by crew; 11. Other *(specify)*; 12. None

33. Signaled Crossing Warning (See reverse side for instructions and codes) — Code: **1**

34. Roadway Conditions — Code: **A**
A. Drv; B. Wet; C.Snow/Slush; D.Ice; E. Sand,Mud,Dirt,Oil,Gravel; F.Water (Standing, Moving)

35. Location of Warning — Code: **1**
1. Both Sides; 2. Side of Vehicle Approach; 3. Opposite Side of Vehicle Approach

36. Crossing Warning Interconnected with Highway Signals — Code: **1**
1. Yes 2. No 3. Unknown

37. Crossing Illuminated by Street Lights or Special Lights — Code: **1**
1. Yes 2. No 3. Unknown

38. Highway User's Age: **53**

39. Highway User's Gender — Code: **1**
1. Male 2. Female

40. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train — Code: **2**
1. Yes 2. No 3. Unknown

41. Highway User — Code: **4**
1. Went around the gate; 2. Stopped and then proceeded; 3. Did not stop; 4. Stopped on crossing; 5. Other *(specify)*; 6. Went around/thru temporary barricade (if yes, see instructions); 7. Went thru the gate; 8. Suicide/Attempted suicide

42. Driver Passed Standing Highway Vehicle — Code: **3**
1. Yes 2. No 3. Unknown

43. View of Track Obscured by *(primary obstruction)* — Code: **8**
1. Permanent Structure; 2. Standing railroad equipment; 3. Passing Train; 4. Topography; 5. Vegetation; 6. Highway Vehicles; 7. Other (specify); 8. Not Obstructed

Casualties to:	Killed	Injured
46. Highway-Rail Crossing Users	0	0
49. Railroad Employees	0	0
52. Passengers on Train	0	0

44. Driver was: **3** (1. Killed 2. Injured 3. Uninjured)

45. Was Driver in the Vehicle? — Code: **2**
1. Yes 2. No

47. Highway Vehicle Property Damage *(est. dollar damage)*: **$2,000**

48. Total Number of Vehicle Occupants *(including driver)*: **2**

50. Total Number of People on Train *(include passengers and train crew)*: **2**

51. Is a Rail Equipment Accident / Incident Report Being Filed — Code: **2**
1. Yes 2. No

53a. Special Study Block — Video Taken? ☑ Yes ☐ No; Video Used? ☐ Yes ☑ No

53b. Special Study Block

54. Narrative Description *(Be specific, and continue on separate sheet if necessary)*

55. Typed Name and Title | 56. Signature | 57. Date

NOTE: This report is part of the reporting railroad's accident report pursuant to the accident reports statute and, as such shall not "be admitted as evidence or used for any purpose in any suit or action for damages growing out of any matter mentioned in said report...." 49 U.S.C. 20903. See 49 C.F.R. 225.7 (b).

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

OMB approved 6/6/2018, Approval expires 6/30/2021

Appendix G – DRAFT Project Scope of Work

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

Appendix H – Project Emails

From:	Townlian, Cheryl L
To:	Jane Gauger; Jason Pike
Cc:	Travis Bailey; Karen Hankinson; Phillips, Steven M; Marielle Brown; Carlos Sanchez-Soria; BRUCE LITTLETON; Mailen 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:	image001.png

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>
Cc: Travis Bailey <Travis.Bailey@railpros.com>; Townlian, Cheryl L <Cheryl.Townlian@bnsf.com>; Karen Hankinson <karen.hankinson@railpros.com>; Phillips, Steven M <Steven.Phillips2@BNSF.com>; 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>; lpost@azdot.gov; Kalinosky, Kate Beth <Kate.Kalinosky@BNSF.com>
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

On Wed, Apr 28, 2021 at 4:02 PM Jason Pike <JPike@azcc.gov> wrote:

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 <Travis.Bailey@railpros.com>; cheryl.townlian@bnsf.com; Karen Hankinson <karen.hankinson@railpros.com>; Jane Gauger <jgauger@azdot.gov>; lpost@azdot.gov; 'Kalinosky, Kate Beth' <Kate.Kalinosky@BNSF.com>
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 <bruce.littleton@phoenix.gov>; Mailen Pankiewicz <mailen.pankiewicz@phoenix.gov>; Brandy Ruark <brandy.ruark@phoenix.gov>; Jason Pike <JPike@azcc.gov>; Travis Bailey <Travis.Bailey@railpros.com>; cheryl.townlian@bnsf.com; 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; lpost@azdot.gov
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)
+1 312-667-5383,,639175317# United States, Chicago
Phone Conference ID: 639 175 317#
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