

**STATE OF NEVADA DEPARTMENT OF TRANSPORTATION
RAILROAD SAFETY DIAGNOSTIC REVIEW FORM – QUIET ZONES**

TEAM MEMBER: _____		AGENCY: _____		REVIEW DATE: _____	
CROSSING DATA			HIGHWAY DATA		
DOT Number: _____			Location: _____		
Railroad Company: _____			Road Speed: Posted _____ Realistic 85 th Percentile _____		
Railroad Milepost: _____			Highway AADT: _____		
Train Speed: Passenger _____ Freight _____			School Bus AADT: _____		
Track Class: _____			Highway Function Class: _____		
Number of Tracks & Type: _____			Principal Arterial or U.S. Route?		<input type="checkbox"/> Yes <input type="checkbox"/> No
Number of Trains: Passenger _____ Freight _____			Transit Buses:		<input type="checkbox"/> Yes <input type="checkbox"/> No
Crash History: Property Damage _____			Hazmat Vehicles:		<input type="checkbox"/> Yes <input type="checkbox"/> No
Injury _____			Commercial Vehicles:		<input type="checkbox"/> Yes <input type="checkbox"/> No
Fatality _____			National Highway System:		<input type="checkbox"/> Yes <input type="checkbox"/> No
Principal Rail Line: <input type="checkbox"/> Yes <input type="checkbox"/> No			Level of Service:		<input type="checkbox"/> Design <input type="checkbox"/> Current

TYPE OF EXISTING WARNING DEVICES AT CURRENT CROSSING

Automatic Gates:	2-Quad <input type="checkbox"/>	4-Quad <input type="checkbox"/>	Median <input type="checkbox"/>	Pedestrian Gates:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Flashing Lights:	LED <input type="checkbox"/>	Bulbs <input type="checkbox"/>	Median <input type="checkbox"/>	Cantilever Flashing Lights:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Crossbucks:	Double Faced <input type="checkbox"/>		Single Faced <input type="checkbox"/>	Bells:	<input type="checkbox"/> Gong <input type="checkbox"/> Electronic
Crossbucks Retroreflective 2-sided:	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Emergency Notification	<input type="checkbox"/> Yes <input type="checkbox"/> No
Multi Track Sign: 2-Track <input type="checkbox"/>	3-Track <input type="checkbox"/>	4-Track <input type="checkbox"/>	6-Track <input type="checkbox"/>	STOP Signs:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Advanced Warning Signs: W10-1 <input type="checkbox"/>	W10-2 <input type="checkbox"/>	W10-3 <input type="checkbox"/>	W10-4 <input type="checkbox"/>	Humpback W10-5 Sign	<input type="checkbox"/> Yes <input type="checkbox"/> No
Other Signs:	Sign Condition: _____				
Pavement Markings: Stop Bars <input type="checkbox"/> RxR <input type="checkbox"/> No Passing <input type="checkbox"/> Lane Lines <input type="checkbox"/> Dynamic Envelope <input type="checkbox"/> Other <input type="checkbox"/>					
Condition: _____					

DRIVER PERCEPTION

Overall awareness of railroad crossing, including visibility and effectiveness of possible signs, signals and markings.	<input type="checkbox"/> Acceptable <input type="checkbox"/> Recommend Improvement
Horizontal and vertical alignment considerations.	<input type="checkbox"/> Acceptable <input type="checkbox"/> Recommend Improvement
Sight Distance 1: <i>Distance to see xing.</i> North/East Side of Xing _____ South/West Side of Xing _____	<input type="checkbox"/> Acceptable <input type="checkbox"/> Recommend Improvement
Sight Distance 2: <i>Need _____' down tracks from _____' down road.</i> North/East Side Looking East/North _____ Looking West/South _____ South/West Side Looking East/North _____ Looking West/South _____	<input type="checkbox"/> Acceptable <input type="checkbox"/> Recommend Improvement
Sight Distance 3: <i>Distance down road to see _____' down tracks if #2 not acceptable.</i> North/East Side Looking East/North _____ Looking West/South _____ South/East Side Looking East/North _____ Looking West/South _____	<input type="checkbox"/> Acceptable <input type="checkbox"/> Recommend Improvement
Sight Distance 4: <i>16' from rail at a stop need _____' down tracks.</i> North/East Side Looking East/North _____ Looking West/South _____ South/West Side Looking East/North _____ Looking West/South _____	<input type="checkbox"/> Acceptable <input type="checkbox"/> Recommend Improvement
Nighttime visibility, including ambient lighting.	<input type="checkbox"/> Acceptable <input type="checkbox"/> Recommend Improvement
Skew of Xing: _____° Does skew limit perception?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are there simultaneous train movements on multiple tracks? Can standing boxcars blocking the view?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
Mitigation of inadequate perception: <input type="checkbox"/> Additional Signage: _____ <input type="checkbox"/> Luminaires Where: _____ <input type="checkbox"/> Automatic Warning Devices: _____ <input type="checkbox"/> Multiple Track Removal <input type="checkbox"/> Other: _____	
Do drivers/pedestrians violate warning devices? Describe: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No

VERTICAL CURVE

Elevation Difference in 30' perpendicular to track: North/East _____" South/West _____"	<input type="checkbox"/> Acceptable <input type="checkbox"/> Recommend Improvement
Low clearance vehicles using crossing: <input type="checkbox"/> Low Boys <input type="checkbox"/> Bottom Dumps <input type="checkbox"/> Other Trucks <input type="checkbox"/> Farm Equipment Mitigation over 3 inches: <input type="checkbox"/> W10-5 <input type="checkbox"/> Detour Signage <input type="checkbox"/> Modify Approaches <input type="checkbox"/> Other: _____	

STORAGE/QUEUING

Nearest intersection: North/East _____ Name _____	South/West _____ Name _____
Are there signals the intersections within 1,000 feet?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there adequate storage capacity to the North/East? If 'No' then how much is needed? _____	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there adequate storage capacity to the South/West? If 'No' then how much is needed? _____	<input type="checkbox"/> Yes <input type="checkbox"/> No
What mitigation is recommended for queuing?	

ADA/PEDESTRIANS/BICYCLES

Is there routine pedestrian and/or bicycle traffic?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is this a bike route or a proposed bike route? If proposed, when will it be constructed _____?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If proposed bike route, determine if soon enough to be considered in project. <input type="checkbox"/> Yes <input type="checkbox"/> No Added width needed _____	
Bike lane needs: Width _____ Stripping: Lane Line _____ RxC _____ Bike Symbol _____ Signs: W10-1 AWS _____	
Bike Route or Trail: Width or Shoulder Width: _____ Signage: Bike Route: _____ Other: _____	
Is the sidewalk width adequate (36" is standard)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are sidewalks or widening proposed? How wide? _____ When? _____ Consider in project? _____	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are there curb cuts at nearby intersections and a clear path present to curb cuts at nearby intersections?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Vertical obstructions (standard is none between 27" to 80" above ground).	<input type="checkbox"/> Yes <input type="checkbox"/> No
Slope of sidewalk transition (standard is 12:1 or less).	<input type="checkbox"/> Yes <input type="checkbox"/> No
Landing platform (standard is level and 5' x 5' or more).	<input type="checkbox"/> Yes <input type="checkbox"/> No
Surface smoothness (standard is wheelchair passable, no broken or buckled asphalt, edges < 1/4", etc.)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Panel length (crossing surface panel needs to extend 1' behind back of sidewalk to be standard).	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are flange gaps 2 1/2", or less, or flange fillers installed?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are crossing panels long enough (surface must minimum 1' past edge of walkway)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Can full flange fillers be used in low speed applications?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mitigation:	

HIGHWAY SECTION

Is there a nearby intersection within 1,000 feet of the crossing?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the intersection warrant preempt control for the signals? See TWG Page 22.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the advance warning signs in good condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there adequate storage capacity?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there a queuing problem? See queuing review above.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the driver's attention being diverted?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there an adequate approach landing platform?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Can the road approach be adjusted?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are curb and gutter present?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the crossing warrant highway guardrail (35 mph and above)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If guardrail is present, does it require upgrading?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Guardrail end treatment: MBCT <input type="checkbox"/> BCT <input type="checkbox"/> Diaphragm <input type="checkbox"/> Parabolic Flare <input type="checkbox"/> Other <input type="checkbox"/>	
Are drainage culverts present? Size _____ Location _____	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do culverts, drop inlets, etc. need to be adjusted?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Utilities adjustment needed? Overhead Lines <input type="checkbox"/> Buried Lines <input type="checkbox"/> Gas Vent Riser <input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Roadway width _____ Number of Travel Lanes _____ Is Road Wide Enough? Yes/No Pavement Condition _____	
Development Type: Residential <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Open Space <input type="checkbox"/> Institutional <input type="checkbox"/>	
Heavy Truck Use: Evaluate locating stop bar up to 50' from xing to give trucks time to gain speed & reduce time to clear xing or add flash time in Railroad Section.	
Stop Bar location: Feet from nearest rail North/East _____ South/West _____	

RAILROAD SECTION

Is the track on a curve? Degree of curve: _____ ° Super elevation: _____ " Cross level: _____ %	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are active warning devices needed? Type of circuitry: AC-DC <input type="checkbox"/> CWT <input type="checkbox"/> MS <input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do railroad signals give adequate warning time? How much time is there? _____ seconds. See TWG.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are active advance warning signs warranted? (Where stopping sight distance is inadequate.)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Can multiple tracks be removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Should interties be used? See TWG Page 22.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are presignals warranted? See TWG Page 24.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are barrier gates warranted? See review below.	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the track height need to be adjusted?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the surface smooth?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is surface rehabilitation required to facilitate signal installation?	<input type="checkbox"/> Yes <input type="checkbox"/> No

STOP AND YIELD SIGNS

<i>THE FOLLOWING CONSIDERATIONS MUST BE MET IN EVERY CASE WHERE A STOP SIGN IS INSTALLED:</i>		
STOP or YIELD signs <u>may</u> be used by road authority if there are two or more TADT and xing is <i>passive</i> .	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Will enforcement & judicial officials enforce STOP signs equally with roadway intersections?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Would installation of a STOP sign create a less dangerous situation than would exist with a YIELD sign?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

<i>ANY OF THE FOLLOWING CONDITIONS INDICATE THAT A STOP SIGN MIGHT REDUCE RISK AT A CROSSING:</i>		
Maximum train speeds equal, or exceed, 30 mph.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Highway traffic mix includes buses, hazmat carriers and/or large trash or earth moving equipment.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Train movements are 10 or more per day, five or more days per week.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the rail line used by passenger trains?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The rail line is regularly used to transport a significant quantity of hazardous materials.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The highway crosses two or more tracks, particularly where both tracks are main tracks or one track is a passing siding that is frequently used.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The angle of approach to the crossing is skewed.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The line of sight from an approaching highway vehicle to an approaching train is restricted such that approaching traffic is required to substantially reduce speed.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

STOP AND YIELD SIGNS

<i>THE FOLLOWING CONSIDERATIONS SHOULD BE WEIGHED AGAINST PLACING STOP SIGNS:</i>		
There are active warning devices.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Highway is other than secondary in character. Maximum 400 AADT - rural , 1,500 AADT - urban.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
STOP sign would cause queuing onto nearby road.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The roadway is a steep ascending grade to or through the crossing, sight distance in both directions is unrestricted in relation to maximum closing speed, and heavy vehicles use the crossing. (SD4 is good.)	<input type="checkbox"/> Yes	<input type="checkbox"/> No

ACTIVE TURN RESTRICTION SIGNS

<i>AN ACTIVE TURN RESTRICTION SIGN (NO RIGHT/LEFT TURN) SHOULD BE DISPLAYED IF EITHER OF THE FOLLOWING:</i>		
There is parallel street within 50' of tracks where a turning vehicle could proceed around lowered gates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
A signalized intersection interconnected and preempted by the approach of a train and all existing turn movements toward railroad crossing should be prohibited.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

REVIEW FOR FLASHING LIGHTS & AUTOMATIC GATES – MANDATORY FOR PUBLIC XINGS

<i>ACTIVE DEVICES WITH AUTOMATIC GATES SHOULD BE CONSIDERED AT CROSSINGS WHENEVER AN ENGINEERING STUDY BY A DIAGNOSTIC TEAM DETERMINES ONE OR MORE OF THE FOLLOWING CONDITIONS EXISTS:</i>		
Is the crossing on the National Highway System, U.S marked route or a principal arterial?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If inadequate sight distance exists in one or more quadrants and ALL of the following are 'Yes':		
a. Is it physically or economically unfeasible to correct the sight distance deficiency?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. Is no acceptable alternate access available? If access exists, then close the crossing.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c. On a life cycle cost basis, would the cost of providing acceptable alternate access or grade separation exceed the cost of installing active devices with gates?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do regularly scheduled passenger trains operate in close proximity to industrial facilities?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the crossing in close proximity to schools, industrial plants or commercial areas where there is higher than normal usage of school buses, heavy trucks or trucks carrying dangerous materials?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Based on the number of passenger trains and/or the number and type of trucks, does the diagnostic team consider the crossing a higher than normal risk that a train-vehicle collision could result in death or injury to rail passengers?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are there multiple main or running tracks through the crossing?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the expected accident frequency (EAF) for active devices without gates exceed 0.1?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the traffic from a nearby highway intersection queue on or across the tracks?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the diagnostic team have other reasons?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

OPTIONAL USE OF AUTOMATIC GATES – ONLY OPTIONAL AT PRIVATE XINGS

<i>ACTIVE DEVICES WITH AUTOMATIC GATES SHOULD BE CONSIDERED AS AN OPTION WHEN ECONOMICALLY THEY CAN BE JUSTIFIED AND WHEN ONE OR MORE OF THE FOLLOWING CONDITIONS EXISTS:</i>		
Do multiple tracks exist?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are there 20 or more trains per day?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the posted highway speed exceed 40 mph in urban areas, or exceed 55 mph in rural areas?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the AADT exceed 2,000 in urban areas, or exceed 500 in rural areas?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are there multiple lanes of traffic in the same direction of travel?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the product of the number of trains per day & AADT exceed 5,000 urban, or 4,000 rural?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Has an engineering study indicated the absence of active devices would result in the highway facility performing at a level of service below Level C?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Does the expected accident frequency (EAF) exceed 0.075?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is this a new project or are the current active devices being replaced?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the diagnostic team have other reasons?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

CANTILEVER FLASHING LIGHTS

Two or more lanes the same direction.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
High speed highways regardless of number of lanes.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
High percentage of truck traffic.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Objects on the side of the highway can obstruct the visibility of mast mounted flashing lights.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Horizontal or vertical curves or other topographical features obstruct the mast mounted flashing lights.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Trucks parked by roadside, blocking warning devices.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

WARNING/BARRIER GATE SYSTEM

Crossings with passenger trains.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Crossing with high-speed trains.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Crossing in quiet zones.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Crossing in quiet zones with short medians.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
As otherwise deemed necessary by the diagnostic review team. Describe.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

PEDESTRIAN TREATMENTS

Can devices be designed to avoid stranding pedestrians between sets of tracks?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Can audible devices be added if determined necessary?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Would swing gates operate safely for disabled individuals?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Can the activation of gates, flashers and bells be delayed for a period of time at the crossing station using a Train to Wayside Controller to reduce traffic delays at LRV stations?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are skirted gates or other warning devices needed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

CLOSURE

<i>CROSSING SHOULD BE CONSIDERED FOR CLOSURE WHEN ONE OR MORE OF THE FOLLOWING APPLY:</i>		
Does the crossing have nearby acceptable alternate vehicle and pedestrian access?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
On a life cycle cost basis, would improvement exceed cost of providing acceptable alternate access?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If an engineering study determined any of the following:		
a. FRA Class 1,2, or 3 track with daily train movements		
1. AADT less than 500 in urban areas, acceptable alternate access within ¼ mile, and the median trip length would not increase by more than ½ mile.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. AADT less than 50 in rural areas, acceptable alternate access within ½ mile, and the median trip length would not increase by more than 1½ miles.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. FRA Class 4 or 5 track with active rail traffic.		
1. AADT less than 1,000 in urban areas, acceptable alternate access within ¼ mile and the median trip length would not increase by more than ¾ mile.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. AADT less than 100 in rural areas, acceptable alternate access within 1 mile, and the trip median length would not increase more than 3 miles.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c. FRA Class 6 or higher track with active rail traffic.		
AADT less than 250 in rural areas, acceptable alternate access within 1½ miles, and the median trip length would not increase by more than 4 miles.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does an engineering study determine the crossing should be closed because railroad operations will occupy or block the crossing for extended periods of time on a routine basis and it is not physically or economically feasible to grade separate or shift train operations to another location? Such locations would typically include the following areas:		<input type="checkbox"/> Yes <input type="checkbox"/> No
a. Rail yards.		
b. Passing tracks primarily used for holding trains while waiting to meet or be passed by other trains.		
c. Locations where train crews are routinely required to stop trains because of cross traffic on intersecting lines, or switch cars.		
d. Switching leads at the ends of classification yards.		
e. Where trains are required to "double" in or out of yards and terminals.		
f. In the proximity of stations where long distance passenger trains are required to make extended stops to transfer baggage.		
g. Locations where trains must stop or wait for crew changes.		
If there are types of vehicle traffic that are required to stop and Sight Distance 4 is not sufficient and automatic warning devices cannot be installed.		<input type="checkbox"/> Yes <input type="checkbox"/> No

GRADE SEPARATION

<i>CROSSING SHOULD BE CONSIDERED FOR GRADE SEPARATION WHEN ONE OR MORE OF THE FOLLOWING APPLY:</i>		
Is the highway part of the designated Interstate Highway System?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the highway designed to have full control access?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the highway posted speed exceed 70 mph?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the AADT exceed 100,000 in urban areas or 50,000 in rural areas?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the maximum authorized train speed over 110 mph?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there an average of 150 or more trains per day or 300 million gross tons per year?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there an average of 75 or more passenger trains per day in urban areas or 30 or more in rural?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Crossing exposure (product of trains per day & AADT) exceeds 1,000,000 in urban, 250,000 rural.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Passenger train exposure exceeds 800,000 in urban areas and 200,000 in rural areas?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The expected accident frequency (EAF) for active devices exceeds 0.5?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Vehicle delays exceed 40 vehicle hours per day?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

GRADE SEPARATION

<i>CONSIDER CROSSINGS FOR GRADE SEPARATION WHEN ONE OR MORE APPLY AND LIFE CYCLE COSTS CAN BE FULLY ALLOCATED:</i>		
Is the highway part of the designated National Highway System?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the highway designed to have partial control access?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the highway posted speed exceed 55 mph?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the AADT exceed 50,000 in urban areas or 25,000 in rural areas?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the maximum authorized train speed over 100 mph?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there an average of 75 or more trains per day or 150 million gross tons per year?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is there an average of 50 or more passenger trains per day in urban areas or 12 or more in rural?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Crossing exposure (product of trains per day & AADT) exceeds 500,000 in urban, 125,000 rural?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Passenger train exposure exceeds 400,000 in urban areas and 100,000 in rural areas?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The expected accident frequency (EAF) for active devices exceeds 0.2?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Vehicle delays exceed 30 vehicle hours per day?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the engineering study indicate that the absence of a grade separation will result in the highway facility performing at a level below service 10% or more of the time?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

NEW CROSSINGS

<i>ONLY PERMITTED AT EXISTING RAILROAD TRACKS AT-GRADE WHEN ALL FOLLOWING APPLY & NOT ON MAINLINES:</i>		
On public highways or streets where there is a clear and compelling need (other than enhancing the value or development potential of the adjoining property).	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Grade separation cannot be economically justified (benefit to cost ratio on a fully allocated cost basis is less than 1.0 (usually the crossing exposure exceeds 50,000 in urban areas & 25,000 in rural areas)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
There are no other viable alternatives.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Rail operations will not block the crossing.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

IF A CROSSING IS PERMITTED, THE FOLLOWING CONDITIONS SHOULD APPLY:

The crossing will be equipped with active devices with gates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The plans and specifications should be subject to the approval of the highway agency having jurisdiction over the roadway (if other than a State agency), the State DOT and/or other State agency vested with the authority to approve new crossings, and the operating railroad.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
All costs associated with the construction of the new crossing should be borne by the party or parties requesting the new crossing, including providing financially for the ongoing maintenance of the crossing surface and traffic control devices where no crossing closures are included in the project.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Whenever new public highway-rail crossings are permitted, they should fully comply with all applicable provisions of this proposed recommended practice.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Whenever a new highway-rail crossing is constructed, consideration should be given to closing one or more adjacent crossings.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

QZ QUALIFICATIONS

PUBLIC CROSSINGS	PRIVATE CROSSINGS
<input type="checkbox"/> Public Authority Maintains 1+ Side of Crossing	<input type="checkbox"/> No Public Road Authority – Private Name: _____
<input type="checkbox"/> Freight Line Part of Main Rail System or Transit with Freight	<input type="checkbox"/> Freight Line Part of Main Rail System or Transit with Freight
<input type="checkbox"/> Crossing = Road + Walkways + Paths	<input type="checkbox"/> Crossing = Road + Walkways + Paths
<input type="checkbox"/> Minimum Length ½ Mile	<input type="checkbox"/> Minimum Length ½ Mile
<input type="checkbox"/> Party Responsible for Initial & Ongoing Costs _____	<input type="checkbox"/> Cannot Force Private Party to Pay. Who Will? _____
<input type="checkbox"/> Party Responsible for Private Costs _____	<input type="checkbox"/> Private w/Public Use = Whistle NRS705.43 = QZ Application
<input type="checkbox"/> Night Ban or <input type="checkbox"/> 24-Hour Ban?	<input type="checkbox"/> Night Ban or <input type="checkbox"/> 24-Hour Ban?
<input type="checkbox"/> Annual Review to New NSRT Needed?	<input type="checkbox"/> Annual Review to New NSRT Needed?
<input type="checkbox"/> Minimum Warning = Lights & Gates & No Train Horn Sign	<input type="checkbox"/> Minimum Warning = X-Buck & No Train Horn Sign

PRECONSTRUCTION MITIGATION

What interim measures are needed?
If improvements are needed but will not be done, document reasons.
If no improvement needed, document adequacy of current devices.

TYPE OF PROTECTION DURING CONSTRUCTION

<input type="checkbox"/> Detour with Flagger protection during the day.	<input type="checkbox"/> Combination daylight flagging and stop signs.
<input type="checkbox"/> 24 hour Flagger protection.	<input type="checkbox"/> Construction of half of crossing at a time with work zone detour.
<input type="checkbox"/> Reopen main crossing at night with existing protection.	<input type="checkbox"/> Temporary signal protection (only under stringent conditions).
<input type="checkbox"/> Work zone traffic control with lane closures and detours with railroad flagging during working hours.	
<input type="checkbox"/> Other:	

NEVADA PUBLIC UTILITY COMMISSION AUTHORITY REQUIRED FOR IMPROVEMENTS

<input type="checkbox"/> New Crossing	<input type="checkbox"/> All Automatic Warning Devices - Signal Installation, Circuitry, etc.
<input type="checkbox"/> Closure	<input type="checkbox"/> Surface Improvement, Install Prefab Crossing, etc.
<input type="checkbox"/> Relocation	<input type="checkbox"/> Passive Improvement, Signs, Markings, etc.
<input type="checkbox"/> Major Modification (track removal, road widening, etc.)	<input type="checkbox"/> Grade Separation
<input type="checkbox"/> Medians / Channelization	<input type="checkbox"/> Luminaires
<input type="checkbox"/> Pedestrian Amenities	<input type="checkbox"/> Other

Source: Nevada Department of Transportation.