APPENDIX K – OL-B-3, McDowell to Montabello

Section Overview

Location: Midtown–Uptown Phoenix Corridor (McDowell Rd to Montebello Ave)
Line: Orange Line (B Line) – Central Avenue Mainline
Boundaries: South limit at McDowell Rd / Central Ave and north limit at Montebello Ave / 19th Ave terminal junction.

Assets Involved:
Multiple double crossovers at Culver, Earll, Pierson, and Montebello; continuous embedded track through high-traffic arterial zones; traction power and OCS overlap zones; several signalized grade crossings (notably at Central & Camelback).

Adjacent Landmarks:
Encanto Park area, Steele Indian School Park, Brophy College, Camelback Transit Center, and Uptown Plaza commercial corridor.

Platforms:

- McDowell Rd / Central Ave – EB / WB
- Encanto Blvd / Central Ave – EB / WB
- Thomas Rd / Central Ave – EB / WB
- Osborn Rd / Central Ave – EB / WB
- Indian School Rd / Central Ave – EB / WB
- Campbell Ave / Central Ave – EB / WB
- Camelback Rd / Central Ave – EB / WB
- Montebello Ave / Central Ave – EB / WB

Track Type:
Dual-track median alignment running along Central Avenue through the Midtown and Uptown districts. This section features long straight track geometry with periodic curvature near crossover points and constrained medians near intersections. Several at-grade crossings require coordination with city traffic signal systems.

Work Activity Description:

Routine maintenance and inspection activities within this section include:

- Track and OCS inspections along median guideway segments and crossover switch zones.

- Signal correspondence and route verification at Culver, Earll, Pierson, and Montebello crossovers.
- Grade crossing testing and inspection of flasher and gate assemblies at Central & Camelback.
- Vegetation control and median access work near Encanto and Indian School areas.

Access:
Entry via median openings or designated pedestrian refuge islands. Use flag protection when accessing crossings at Camelback, Indian School, and Thomas.

Protection:
Exclusive Track Occupancy (ETO) required for all work within active crossovers. Coordinate with OCC for route locking at each interlocking prior to entry.

Safe Zones:
Primary safe positioning along designated refuge islands or curbside medians between Encanto and Camelback. Watchmen are staged at the north and south approaches to each crossover during inspections.

Visibility:
Generally good along straight sections; however, reduced by glare, turning vehicle traffic, and median lighting near Camelback and Thomas intersections.

K.1 CROSSOVERS AND GRADE CROSSINGS

Crossover: Culver (Central Avenue & Culver Street – Downtown Phoenix)

Switch ID	Track	Description / Function
1A	Track 1	Facing-point crossover switch from Track 1 to Track 2 (northbound direction).
1B	Track 2	Trailing-point crossover switch paired with 1A for southbound movements returning to Track 1.
3A	Track 1	Trailing-point crossover switch completing Track 1 to Track 2 alignment.
3B	Track 2	Facing-point crossover switch paired with 3A for Track 2 to Track 1 movements.

Crossover: EarII (Central Avenue & EarII Drive – Midtown Phoenix)

Switch ID	Track	Description / Function
1A	Track 1	Manual facing-point crossover switch from Track 1 to Track 2 (northbound direction).
1B	Track 2	Manual trailing-point crossover switch paired with 1A for southbound movements returning to Track 1.
3A	Track 1	Manual trailing-point crossover switch completing Track 1 to Track 2 alignment.
3B	Track 2	Manual facing-point crossover switch paired with 3A for Track 2 to Track 1 movements.

Crossover: Pierson (Central Avenue & Pierson Street – Uptown Phoenix)

Switch ID	Track	Description / Function
1A	Track 1	Manual facing-point crossover switch from Track 1 to Track 2 (northbound direction).
1B	Track 2	Manual trailing-point crossover switch paired with 1A for southbound movements returning to Track 1.
3A	Track 1	Manual trailing-point crossover completing Track 1 to Track 2 alignment.
3B	Track 2	Manual facing-point crossover paired with 3A for Track 2 to Track 1 movements.

Crossover: Montebello (Montebello Avenue – Mainline Terminus)

Switch ID	Track	Description / Function
1A	Track 1	Facing-point crossover switch from Track 1 to Track 2 (northbound / terminal approach).
1B	Track 2	Trailing-point crossover switch paired with 1A for southbound return movements.
3A	Track 1	Trailing-point crossover completing Track 1 to Track 2 alignment.
3B	Track 2	Facing-point crossover paired with 3A for Track 2 to Track 1 movements.

Grade Crossing: Central Avenue & Camelback Road (Flasher Zone)

- Restricted visibility due to adjacent turning lanes and heavy vehicular traffic.

Deck Park Tunnel Bridge Looking North





Deck Park Tunnel Bridge Looking South

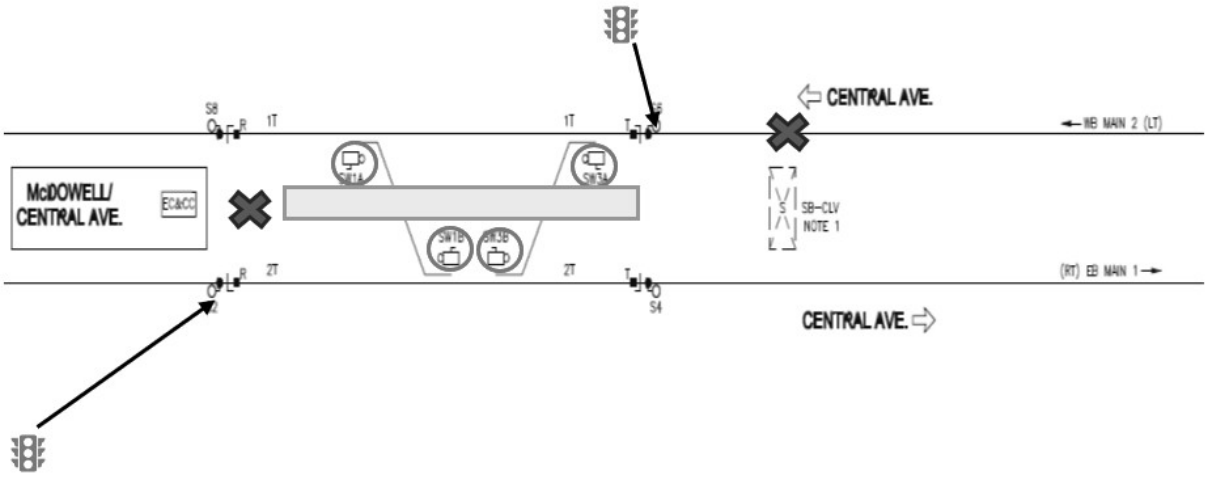


3A Switch first switch coming off the bridge



Switch 1 closest to the platform





Identified Hazards

Hazard ID	Hazard Description	Potential Consequence
H-01	Reduced visibility caused by bridge hump and curvature limits sightlines to be approaching trains from both directions.	Worker struck by train due to insufficient warning time.
H-02	Limited refuge space on bridge deck; no sidewalk or defined Safe Zone within guideway.	No escape route in case of unanticipated train movement.
H-03	Simultaneous multi-track exposure during inspection of both rails and joints.	Workers are trapped between live tracks.
H-04	Noise reflection and echo from tunnel portals masks audible train cues.	Delayed recognition of approaching trains.
H-05	Traction grease and debris accumulation near expansion joints and fasteners increase slip risk.	Slip/trip/fall injuries, contact with energized OCS components.
H-06	Power tool hazard — use of grease gun or torque tools in confined area near live OCS.	Electrical contact, loss of balance, or inadvertent tool-to-wire contact.

Hazard Controls

Control Type	Description
Engineering Controls	Nonavoidable – structure geometry and curvature are fixed; relay on procedural and administrative mitigation
Administrative Controls	• Entry only under OCC Track Protection • Two-person minimum crew (inspector + watchman) • Use of continuous radio communication and flagging at both ends of the bridge • Advance coordination with OCC for movement holds between Encanto Blvd and Culver St
PPE Controls	• High-visibility Class 3 vests • Hard hat with chin strap (wind exposure on bridge) • Non-slip safety footwear • Insulated gloves when handling rail lubricants or fasteners near OCS
Warning / Signage	Post temporary “NO REFUGE – WATCHMEN REQUIRED” signage at both approaches when work is active

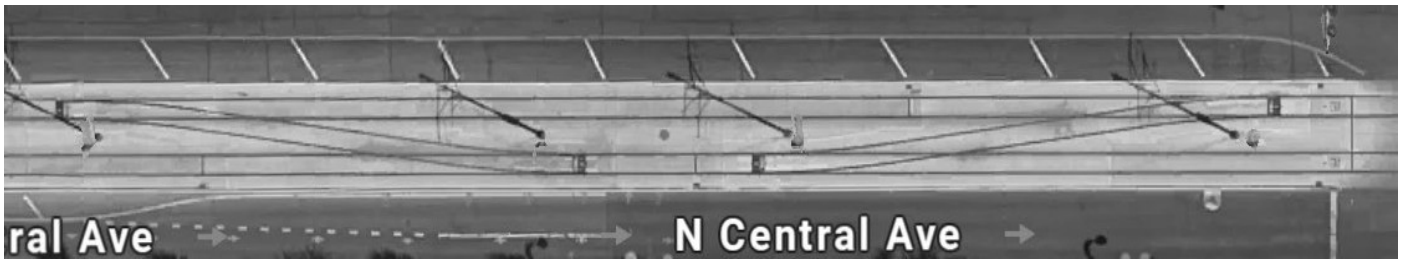
Mitigation Measures

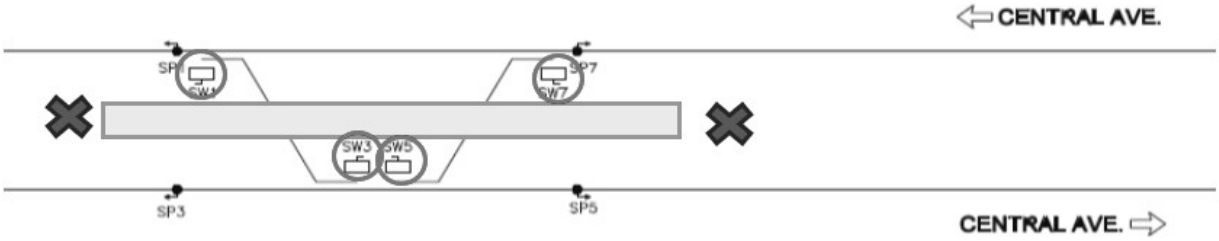
1. Work Authorization:
   OCC must establish full Track Protection before entry. Automatic routes disabled and exit inhibits applied across Culver interlock.
2. Watchman Requirement:
   Lookout positioned at north portal and south approach of bridge with line-of-sight to track curve; must maintain continuous radio contact.
3. Train Notification:
   OCC to issue radio broadcast to all trains in the Central Avenue segment advising "workers on track at Culver Bridge under track protection."
4. Tool Safety:
   Power grease guns only permitted when OCS clearance confirmed and no train movement authorized; hoses and cables must be secured away from rail heads.
5. Safe Refuge:
   Only designated sidewalk area at either end of the bridge (east side near Herberger Theater Park entrance) may be used as temporary refuge.
6. Inspection Sequence:
   Begin from north end, inspect expansion joints moving south in teams of two; do not split across both tracks simultaneously.
7. Environmental Considerations:
   Avoid operations during low visibility conditions (dawn/dusk or rain); require additional flagging lights and portable warning horns after sunset.

Summary

The Deck Park Tunnel Bridge / Culver Crossover section presents elevated risks due to limited visibility, absence of refuge, and noise interference. All inspections (E-clip, expansion joint, or OCS hardware) require two-person crews, active OCC Track Protection, and dual watchman coverage. The only safe refuge is the sidewalk approach at either end of the bridge.

Earll Manual Crossover





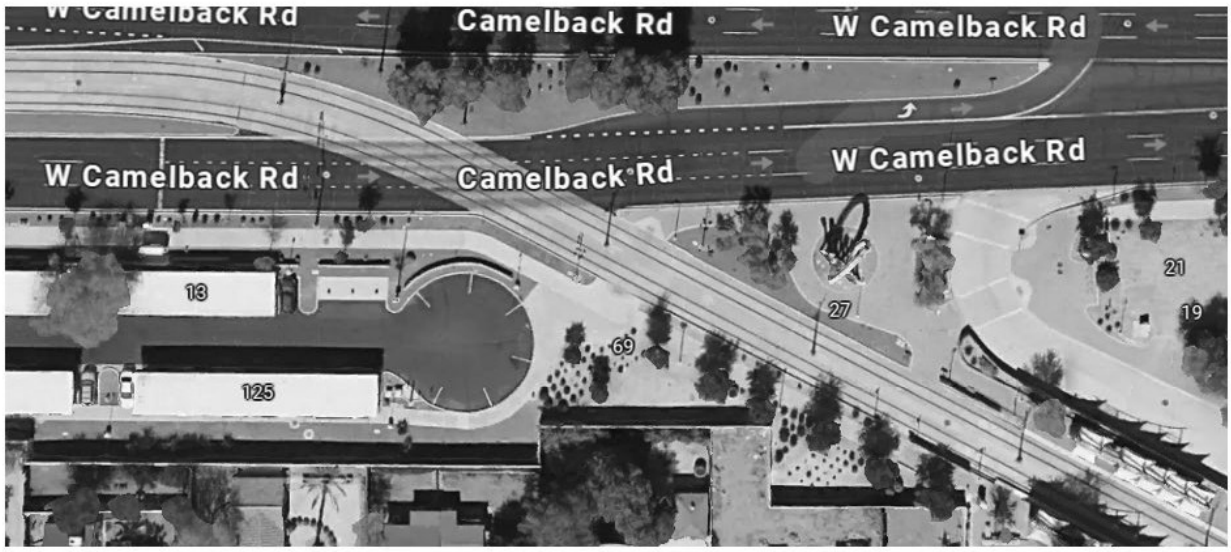
Pierson Crossover & Grade Crossing Central and Camelback Flashers



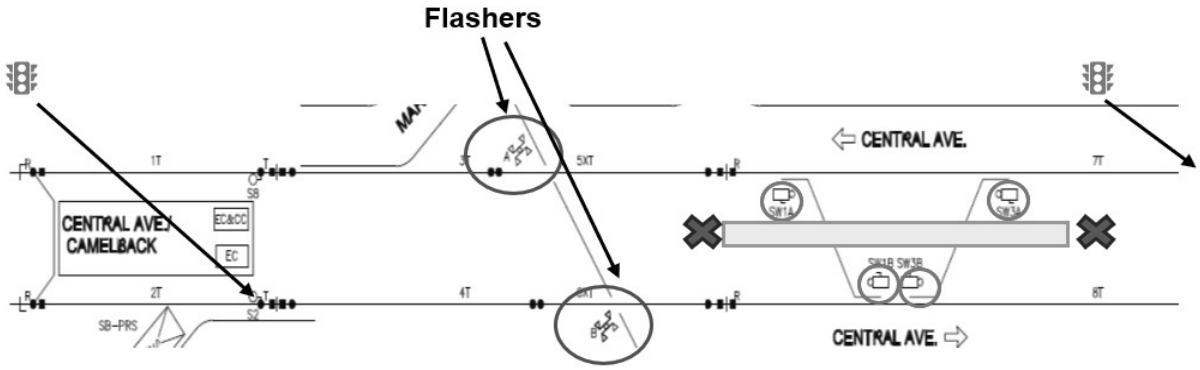

KING PIGEON

Looking North for Cambleback & Central Platform






N Central Ave
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W Pierson St
Yama Sushi House
Premium AYCE Sushi
Sushi
The Greedy Hamster
JL Patisserie
Men's Apparel Club
Mens clothing store
Landmark Towers


Flashers
CENTRAL AVE.
CENTRAL AVE./
CAMELBACK
EC&CC
EC
SB-PRS
CENTRAL AVE.

19th Ave &Camelback Curve

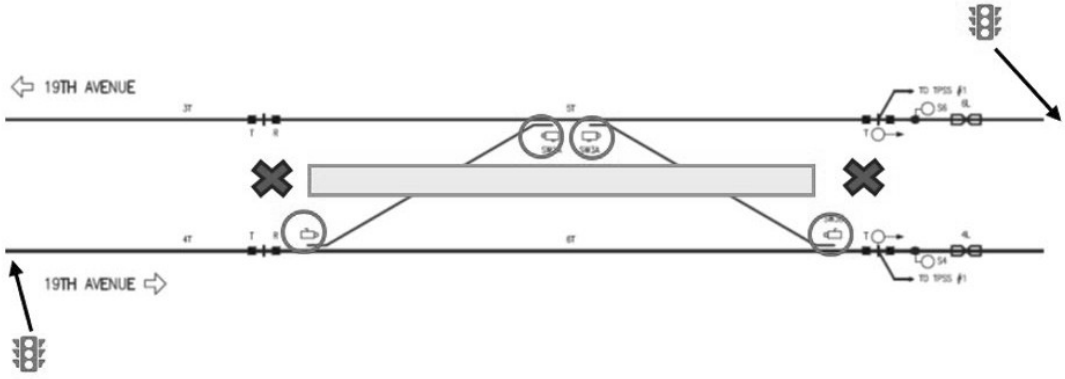




Montebello Crossover







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