APPLICATION OF SWING GATES:

1. ENTRY/EXIT SWING GATE:
   - Used in conjunction with active warning pedestrian gate.
   - Intended to slow pedestrians and to encourage them to stop and look.
   -“Push to Open” sign to be installed on approach side of gate.
   -“Look” signage on detail 3, “Exit Only” on approach side of gate.

2. EMERGENCY EXIT GATE:
   - Intended as an escape route for pedestrians occupying the crossing when the active warning pedestrian gate is activated.
   -“Look” signage on detail 3, “Exit Only” on approach side of gate.
   -“Push to Open” to be installed on trackside of gate.

CONSTRUCTION NOTES:

1. A DUAL-SYSTEM (PAINT OR POWDER COAT OVER GALVANIZING) SHALL BE USED FOR THE SWING GATE ASSEMBLY AND HARDWARE AFTER FABRICATION AND SURFACE PREPARATION. THE SWING GATE ASSEMBLY AND HANDRAILING SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A525 (PRODUCTS) AND A677 (HARDWARE) COATING WHICH HAS BEEN ABRASION RESISTANT, NOT REPAIRED OR RE-COATED IN ACCORDANCE WITH ASTM A606.

2. AFTER CLEANING AND PROFILING GALVANIZED SURFACE-IN ACCORDANCE WITH ASTM A856. THE SWING GATE ASSEMBLY AND HANDRAILING SHALL BE PAINTED OR POWDERCOATED WITH A ZINC-RICH PRIME COAT, HIGH PERFORMANCE FIRST COAT AND ACRYLIC TOP COAT. THE PAINT COLOR SHALL BE RAL 6005 UNLESS NOTED OTHERWISE.

3. SWING GATE WILL BE INSTALLED AFTER SIDEWALK HAS BEEN CONSTRUCTED.


NOTES:

1. FOR SPECIFICATIONS AND DETAILS, SEE ES3318 AND ES3319.

2. LOOK SIGN MAY BE MOUNTED ON TOP OF GATE POST.

3. LOOK SIGN MOUNTED ON DETAIL 4, “PUSH TO OPEN” TO BE INSTALLED ON TRACKSIDE OF GATE.

4. LOOK SIGN MOUNTED ON DETAIL 3, “EXIT ONLY” ON APPROACH SIDE OF GATE.

5. LOOK SIGN MOUNTED ON DETAIL 2, “PULL TO OPEN” AND “LOOK” SIGN TO BE INSTALLED ON APPROACHING TRAINS BEFORE ENTERING THE CROSSING.

6. LOOK SIGN MOUNTED ON DETAIL 4, “PUSH TO OPEN” TO BE INSTALLED ON TRACKSIDE OF GATE.

7. LOOK SIGN MOUNTED ON DETAIL 3, “EXIT ONLY” ON APPROACH SIDE OF GATE.

8. LOOK SIGN MOUNTED ON DETAIL 2, “PULL TO OPEN” AND “LOOK” SIGN TO BE INSTALLED ON APPROACHING TRAINS BEFORE ENTERING THE CROSSING.

9. LOOK SIGN MOUNTED ON DETAIL 4, “PUSH TO OPEN” TO BE INSTALLED ON TRACKSIDE OF GATE.

10. LOOK SIGN MOUNTED ON DETAIL 3, “EXIT ONLY” ON APPROACH SIDE OF GATE.

11. LOOK SIGN MOUNTED ON DETAIL 2, “PULL TO OPEN” AND “LOOK” SIGN TO BE INSTALLED ON APPROACHING TRAINS BEFORE ENTERING THE CROSSING.
PEDESTRIAN CROSSINGS SHOULD PROVIDE A SAFE ENVIRONMENT FOR PEDESTRIANS, BICYCLISTS AND PERSONS WITH DISABILITIES. WHILE NAVIGATING THE CROSSING DURING THE DESIGN OF THE CROSSING, THE DESIGNER SHALL CONSIDER FACTORS SUCH AS PRESENCE OF STATIONS IN THE VICINITY, ESTABLISHMENT OF QUIET ZONES, NUMBER OF TRACKS, TRAVEL DISTANCE ACROSS TRACKS TO REACH A SAFE LOCATION, SIGHT AND VERTICAL PROFILE ACROSS THE CROSSING, VARIOUS PREFERENCES, VOLUME OF PEDESTRIAN ACTIVITY, CURRENT AND FUTURE DEVELOPMENT IN AND AROUND THE CROSSING AND NEAREST-WAY IN THE CROSSING AND NEAREST-WAY. THE DESIGNER CONSIDERATIONS, THE TERM "FULL PEDESTRIAN TREATMENTS" SHALL INCLUDE SIDEWALKS, CROSSING, CHANNELIZATIONS AND PASSIVE WARNING DEVICES. PEDESTRIANS SHALL BE HANDLED TO CONFORM TO THE STANDARD CONFIGURATION, VARIOUS TYPES OF PEDESTRIAN CROSSINGS AND THE PEDESTRIAN IS TO APPLY FULL PEDESTRIAN TREATMENTS TO MOST RAIL CROSSINGS. THE ATTACHED FIGURE GRAPHICALLY SHOWS THE DECISION STEPS THAT SHOULD BE FOLLOWED DURING THE DESIGN OF THE PEDESTRIAN TREATMENT AT CROSSINGS. THIS DECISION PROCESS IS APPLICABLE FOR ANY TYPE OF PEDESTRIAN CROSSING AND DESCRIBES THE SCRRA RECOMMENDED APPROACH TO THE APPLICATION OF PEDESTRIAN TREATMENTS AT CROSSINGS.

DECISION POINT 1

IS THE PEDESTRIAN ACTIVITY MEDIATED TO BE DETERMINED? NO NO SIGNALS SIDEWALKS LEADING TO THE RIGHT-OF-WAY OBTAINED IN VISION PEDESTRIANS CROSSING AT THE LOCATION SCRRA STANDARDS AND CURRENT CALL FOR THE ADDITION OF PEDESTRIAN TREATMENTS IF PEDESTRIANS UTILIZE THE AREA FOR CROSSING. THE FOLLOWING ACTIONS SHALL BE TAKEN WHEN EVIDENCE OF ACTIVITY EXISTS WITHOUT PEDESTRIAN FACILITIES:

- DETERMINE THE PEDESTRIAN ACTIVITY IS LEGAL
- WORK WITH THE LOCAL MUNICIPALITY TO INSTALL SIDEWALKS
- IF WARRANTED, THE DESIGN SHOULD PROVIDE SIDEWALKS OVER THE RIGHT-OF-WAY
- IF WARRANTED, TAKE STEPS TO PREVENT POSSIBLE PEDESTRIAN CROSSING.

YES

IF THE CROSSING IS TO BE LOCATED IN A QUIET ZONE, THE CROSSING SHALL RECEIVE FULL TREATMENT FOR SAFETY ENHANCEMENTS AND QUIET ZONE CROSSING INSTALLATION MAY BE REQUIRED.

DECISION POINT 3

THE TYPE OF PEDESTRIAN CROSSING IS TO BE DETERMINED. A PEDESTRIAN CROSSING ASSOCIATED WITH A SMALL CROSSING ADJACENT TO THE STATION - REQUIRES FULL PEDESTRIAN TREATMENT.

DECISION POINT 4

IS THE CROSSING LOCATED WITHIN A 10 MINUTE WALKING DISTANCE OF A SCHOOL, HOSPITAL OR OTHER FACILITY THAT CAN BE EXPECTED TO SUPPORT DISABLED PEDESTRIANS IF THE ANSWER IS NO, THEN NO PEDESTRIAN ACTIVITY AT THE CROSSING IN ORDER TO ANK "NO" TO WALKING THERE IS SIGNIFICANT PEDESTRIAN ACTIVITY. WHEN DETERMINING PEDESTRIAN ACTIVITY CROSSINGS WILL BE CONDUCTED, THE PEDESTRIAN ACTIVITY ON PEAK AND OFF-PEAK HOURS, THE TYPES OF PEDESTRIANS (Schools, Students, Elderly, Disabled, Bike Riders, Etc.) AND THE BEHAVIOR PATTERN OF THE PEDESTRIANS (ARE THE PEDESTRIANS USING THE CROSSING REGULARLY OR ONLY AT TIMES OF POTENTIAL PEDESTRIAN TRAFFIC). THE STUDY SHOULD BE DISCUSSED WITH SCRRA AND CPUC FOR CLEAR CONSENSUS WITH THE SAFETY REVIEW TEAM ABOUT THE PRESENCE OR ABSENCE OF SIGNIFICANT PEDESTRIAN ACTIVITY. FULL TREATMENTS ARE REQUIRED IN THE EVENT OF A "YES" ANSWER TO ANY OF THESE QUESTIONS.

DECISION POINT 5

DOES THE CROSSING HAVE TWO MAIN TRACKS?

YES

PEDESTRIANS CROSSING AT A STATION - REQUIRE FULL PEDESTRIAN TREATMENT.

NO

DECISION POINT 6

DOES THE CROSSING HAVE TWO OR MORE MAIN OR CONTROLLED SIDING RAILROAD TRACKS?

YES

DECISION POINT 7

IS THE CROSSING LOCATION HAVE RESTRICTED VIZIAAT CROSSINGS?

YES

FULL TREATMENTS ARE REQUIRED WHEN THERE IS LIMITED VIZIAAT CROSSINGS.

NO

DECISION POINT 8

IS THE RIGHT-OF-WAY NECESSARY TO COMPLY WITH THE MANUAL UNOBTAINABLE? IF NOT, THEN FULL PEDESTRIAN TREATMENTS ARE REQUIRED. SCRRA STANDARD DRAWINGS INCLUDE VARIATIONS TO THE STANDARD CONFIGURATION DEPENDING ON THE LOCATION OF THE CROSSING. IN CASES WHERE THE RIGHT-OF-WAY REQUIRED FOR THE USE OF ONE OF THESE STANDARD APPLICATIONS CANNOT BE ACCESSED DUE TO EXISTING PROPERTY USES, OR BECAUSE OF OTHER CONDITIONS, A REQUEST FOR SPECIAL DESIGN CONSIDERATION FOR A NON-STANDARD DESIGN APPLICATION MUST BE SUBMITTED TO SCRRA FOR REVIEW AND APPROVAL.

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
900 WILSHIRE BLVD., SUITE 1500, L. A., CA. 90017

SCRRA PEDESTRIAN CROSSING DESIGN CONSIDERATION TABLE

CONSIDERATION TABLE NOTES:

1. TEN MINUTE WALK RULE - CROSSING LOCATED WITHIN TEN MINUTES WALK (1.6 TO 5 MILE WALK).
2. SIGNAL APPROVED CROSSING.
3. FOR PASSIVE WARNING DEVICES, THE DESIGNER SHALL USE THE FOLLOWING PROCESS TO DETERMINE "YES" TO THE signals OF NO signals ARE PRESENT OR PLANNED. (INCLUDING LIGHT RAIL) WITH ADJACENT PASSENGER STATION
4. PROVIDE PEDESTRIAN ACCESS/CHANNELIZATIONS AND PASSIVE WARNING DEVICES
5. PROVIDE PEDESTRIAN ACTIVE WARNING DEVICES
6. PERFORM SAFETY ANALYSIS TO DETERMINE IF GRADE SEPARATION IS REQUIRED

CONSIDERATION TABLE

<table>
<thead>
<tr>
<th>Decision Point</th>
<th>Decision 1</th>
<th>Decision 2</th>
<th>Decision 3</th>
<th>Decision 4</th>
<th>Decision 5</th>
<th>Decision 6</th>
<th>Decision 7</th>
<th>Decision 8</th>
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</thead>
<tbody>
<tr>
<td>YES</td>
<td>NO</td>
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<tr>
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<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>
GENERAL NOTES:

1. THE METHODS OF PAVEMENT MARKING AND MARKER INSTALLATION SHALL CONFORM TO CALTRANS LATEST STANDARD SPECIFICATIONS FOR PAVEMENT MARKINGS OR AS REQUIRED BY LOCAL JURISDICTION.

2. NO MARKING TO BE DONE PRIOR TO FIELD INSPECTION AND APPROVAL OF LAYOUT BY SCRRA IN THE FIELD.

3. PAVEMENT MARKING SHALL BE THERMOPLASTIC MATERIALS AND SHALL CONFORM TO SECTION B-2.08, "THERMOPLASTIC" OF THE CALTRANS STANDARD SPECIFICATIONS OR AS REQUIRED BY LOCAL JURISDICTION.

4. THE APPLICATIONS OF THERMOPLASTIC MATERIALS SHALL BE IN ACCORDANCE WITH CALTRANS STANDARD SPECIFICATIONS SECTION B-2.03, "CONSTRUCTION" OR AS REQUIRED BY LOCAL JURISDICTION.

5. PAVEMENT MARKINGS PATTERN SHALL CONFORM TO THE DETAILS IN THE CALTRANS STANDARD PLAN A20A, A20B, A20C, A20D AND A24E, ARROW SYMBOLS SHALL BE WHITE UNLESS SPECIFIED IN THE PLANS AND CA MUTCD LATEST EDITION.

6. PAVEMENT MARKING IN FRONT OF A TURN LANE SHALL BE PLACED APPROXIMATELY 20 FEET FROM THE LIMIT LINE AND THE ARROW AT THE BACK OF A TURN LANE SHALL BE PLACE APPROXIMATELY 5 FEET FROM THE END WHERE THE VEHICLE ENTERS THE LANE.

7. ALL CROSSWALKS SHALL BE IN ACCORDANCE WITH CA MUTCD AND LOCAL JURISDICTION REQUIREMENTS.

8. BEYOND RESURFACING LIMITS, ALL CONFLICTING MARKINGS, PARTIES SYMBOLS, AND RAISED PAVEMENT MARKERS SHALL BE REMOVED. PARTED MARKING SHALL BE REMOVED BY WET SAND BLASTING OR AS REQUIRED BY LOCAL JURISDICTION.

9. ALL EXISTING SIGNS AND POSTS NOT TO BE REUSED SHALL BE REMOVED.

10. RELOCATED OR NEW SIGNS AS SHOWN ON PLANS SHALL BE INSTALLED ON NEW POST, EXCEPT WHERE STREET LIGHT POLES ARE USED FOR SIGN POSTING, NEW SIGN POSTS SHALL BE UNISTRUT BREAK AWAY TYPE, 2-INCH SQUARE TUBE.

11. ALL TRAFFIC SIGNS SHALL HAVE RETROREFLECTIVE SHEETING AND SHALL CONFORM TO LATEST POST SPECIFICATIONS PANS AND SPECIFICATIONS AND THE LATEST CALIFORNIA SIGN SPECIFICATIONS. ALL SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH CALTRANS STANDARD PLANS AND SPECIFICATIONS OR AS REQUIRED BY LOCAL JURISDICTION.

12. PEDESTRIAN BARRIERS SHALL BE AS PER SCRRA ENGINEERING STANDARD DRAWING ES4005.

13. NO SIGNS SHALL BE INSTALLED PRIOR TO FIELD INSPECTION AND APPROVAL OF LAYOUT BY SCRRA IN THE FIELD. THE SIGNS SHALL NOT BLOCK CLEAR VIEWS OF RAILROAD WARNING SIGNALS.

14. QUIET ZONE SIGNS SHALL BE INSTALLED ONLY IN DESIGNATED QUIET ZONES.

15. SIGNS FOR MARKING SIGNS SHALL BE AS SHOWN IN CA MUTCD, TABLE 2C-2. THE ADVANCE PLACEMENT DISTANCE OF WARNING SIGNS SHALL BE AS SHOWN IN CA MUTCD, TABLE 2C-4. SIGNS FOR GRADE CROSSING SIGNS SHALL BE AS SHOWN IN CA MUTCD, TABLE BB-5.

16. CURB RAMPS AND ISLAND PASSAGEWAY SHALL BE DESIGNED TO MEET ADA REQUIREMENTS PER CALTRANS STANDARD PLAN A88 AND A88B.

MARKING NOTES:

1. PAVEMENT MARKING AS PER CALTRANS STD PLAN A24A OR A24D OR A24E OR CA MUTCD LATEST EDITION

2. 8" WHITE CHANNELIZING LINE WITH REFLECTIVE AND RAISED PAVEMENT MARKERS PER CALTRANS STD PLAN A20D, DETAIL 39

3. 4" SOLID YELLOW MARKING AROUND MEDIAN PER CALTRANS STD PLAN A20B, DETAIL 24

4. 24" SOLID WHITE STOP LINE PLACED 8' IN ADVANCE OF GATE ARM

5. TYPE 1 PEDESTRIAN BARRIERS PER ES4005

6. 4" WHITE MARKING AND MARKER PER CALTRANS STD PLAN A20A DETAIL 6

7. 4" SOLID WHITE EDGELINE PER CALTRANS STD PLAN A20B, DETAIL 27B

8. RAILROAD CROSSING SYMBOL PER CALTRANS STD PLAN A24E

9. 4" DOUBLE YELLOW MARKING PER CALTRANS STD PLAN A20A, DETAIL 21

10. 12" WHITE LIMIT / CROSSWALK LINE PER CALTRANS STD PLAN A24E

11. Curb (Curb on highway parallel with the track shall be red within 150' of the crossing)

12. MEDIAN NOSE YELLOW W/ RPM'S 2'-O.C. STD PLAN A20B, TYPE "O"

13. LANE LINE EXTENSIONS PER CALTRANS STD PLAN A20D, DETAIL 40

14. PAVEMENT MARKING AND RAISED PAVEMENT MARKERS PER SCRRA STD. ES4006

15. CENTER LINE EXTENSIONS PER CALTRANS STD PLAN A20D, DETAIL 41

16. CENTER LINE EXTENSIONS TYPE "AY" NON-REFLECTIVE PER CALTRANS STD PLAN A20D, DETAIL 41A

17. LANE LINE EXTENSION TYPE "FM" NON-REFLECTIVE PER CALTRANS STD PLAN A20A, DETAIL 40A

18. ROW FENCE: 4" IRON CHAIN LINK FENCE WITHIN 150' OF BACK OF SIDEWALK/CROSSING PER SCRRA STD. ES5209

19. 8" IRON CHAIN LINK FENCE WITHIN 150' OF BACK OF SIDEWALK/CROSSING PER SCRRA STD. ES5209

20. ROAD SIDE SIGN AND POST SEE GENERAL NOTE 15

21. NO TRESPASSING SIGN PER ES5214 (TYPE)

SIGN NOTES:

☐ ROAD SIDE SIGN AND POST SEE GENERAL NOTE 15

☐ NO TRESPASSING SIGN PER ES5214 (TYPE)
NOTES:

1. THESE STANDARDS ARE NOT INTENDED TO REPLACE EXISTING REGULATORY STANDARDS, WHICH SHOULD BE A SUBSTITUTE FOR ENGINEERING KNOWLEDGE, EXPERIENCE, AND JUDGMENT. SUCH REQUIREMENTS SHOULD BE CONSIDERED IN COLLABORATION WITH SCRRA.

2. FOLLOW CALIFORNIA MUTCD FOR STRIPING, SIGNING, AND OTHER TRAFFIC WARNING DEVICES.

3. REFER TO THE FOLLOWING FOR ADDITIONAL DESIGN INFORMATION:
   a. SCRRA ENGINEERING STANDARD ES4001 FOR TRACK FENCE.
   b. SCRRA ENGINEERING STANDARD ES5109 FOR INTER-TRACK FENCE.
   c. SCRRA ENGINEERING STANDARD ES5107 FOR SECURITY ACCESS GATE AND BOLLARDS.
   d. SCRRA ENGINEERING STANDARD ES5108 FOR SECURITY ACCESS GATE AND BOLLARDS.
   e. SCRRA ENGINEERING STANDARD ES4007 FOR SECURITY ACCESS GATE AND BOLLARDS.
   f. SCRRA ENGINEERING STANDARD ES4003 FOR SECURITY ACCESS GATE AND BOLLARDS.
   g. SCRRA ENGINEERING STANDARD ES4002 FOR SECURITY ACCESS GATE AND BOLLARDS.
   h. SCRRA ENGINEERING STANDARD ES4005 FOR VITAL INDUCTIVE LOOPS.
   i. SCRRA ENGINEERING STANDARD ES4006 FOR VITAL INDUCTIVE LOOPS.

4. FENCING AND METAL HAND RAILING LOCATIONS SHALL BE ADJUSTED AS NECESSARY TO PROVIDE SCRRA MAINTENANCE ACCESS TO HIGHWAY-RAIL GRADE CROSSINGS AND SIGNAL & TRACK HOUSE LOCATION AND REQUIREMENTS OF THE AMERICAN WITH DISABILITIES ACT (ADA) AND CA MUTCD.

5. PREVENTION AND TOTAL WARNING TIME SHALL BE DEPENDED TO CONSIDER THE PEDESTRIAN WALKING DISTANCE AND CLEARANCE TIME AND SHALL MEET THE REGULATIONS AND REQUIREMENTS OF THE AMERICAN WITH DISABILITIES ACT (ADA) AND CA MUTCD.

6. THE WIDTH OF SIDEWALKS ON THE SIDE OF THE GATES OPPOSITE THE GATE SHALL BE A MINIMUM OF 12 FEET.

7. PAVEMENT MARKING SHALL BE THERMOPLASTIC MATERIALS AND SHALL CONFORM TO SECTION 842-2.02B "THERMOPLASTIC" OF THE CALTRANS STANDARD SPECIFICATION OR AS REQUIRED BY LOCAL JURISDICTION.

8. A DRIVEWAY FOR CALTRANS STANDARD PLAN "A" SHALL BE PROVIDED FOR MAINTENANCE ACCESS WHERE REQUIRED FOR MAINTENANCE ACCESS CURB LENGTH TRANSITION SHALL BE 9 FOR A 4" CURB AND 5 FOR A 4" CURB OR=l:"0n=7: 5 FOR A 4" CURB OR SPEED LIMIT CONSTRUCTION.

9. TYPE OF PEDESTRIAN GATE LAYOUT AND FENCING SHALL BE SELECTED AS NECESSARY TO PROVIDE SECURITY, WALKER WALKWAY, MAINTENANCE ACCESS AND SECURITY HOUSE LOCATION AND SHALL BE HANDLED AFTER SCRRA REVIEW AND APPROVAL.

10. PEDESTRIAN GATE ASSEMBLIES SHALL BE AS PER DESIGN PLANS, SIGNING, NUMBERS LOCATION, AND DIRECTIONS AS DESIGNED AND AS PER SCRRA APPROVAL.

11. ALL FENCING WITHIN 150' OF A CROSSING SHALL BE 4' HIGH.

12. INTER-TRACK FENCE SHALL EXTEND THROUGH THE STATION AND SUPPORT THE END OF THE PLATFORM OR THE END OF A CROSSING, WHICH IS GREATER.
NOTES:
1. FOR ADDITIONAL NOTES AND LEGEND SEE ES4010.
2. FOR PEDESTRIAN WARNING DEVICES, FLASHERS ARE REQUIRED FOR EACH PEDESTRIAN APPROACH. FLASHERS ONLY SHOWN ON ONE APPROACH FOR CLARITY.

SEE NOTE 4 (TYP)
METAL HAND RAILING
SEE NOTE 10
MAINTENANCE ACCESS
SEE NOTE 8 (TYP)
WHITE LINES
12" SOLID

0" C F
4'-2" (8 GATE)
4'-0" (5 GATE)
1'-0"

15'-0" MIN.
1'-6"
2'-0" MIN.
4'-0" MIN.
5'-0" MIN.

0"
12"
24"
12"
24"
NOTES:
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NOTES:
1. FOR ADDITIONAL NOTES AND LEGEND SEE ES4010.
2. FOR PEDESTRIAN WARNING DEVICE, FLASHERS ARE REQUIRED FOR EACH PEDESTRIAN APPROACH.

SEE NOTE 10

"NO TRESPASSING" SIGN AS PER ES5214

INTER-TRACK FENCE SEE NOTE 11 & 12

WARNING SIGNS PER DEMAL "W" ON ES5317 (IRON SIDES OF FENCE)

2'-0" (TYP)

12'-0"

10'-0"

12" SOLID WHITE LINE (TYP)

FOR PEDESTRIAN WARNING DEVICE, FLASHERS ARE REQUIRED FOR EACH PEDESTRIAN APPROACH.

FOR ADDITIONAL NOTES AND LEGEND SEE ES4010.

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WARNING SIGNS PER DEMAL "W" ON ES5317 (IRON SIDES OF FENCE)

2'-0" (TYP)

12'-0"

10'-0"

12" SOLID WHITE LINE (TYP)

SEE NOTE 11 & 12

FOR ADDITIONAL NOTES AND LEGEND SEE ES4010.
SCENARIO 1:
PEDESTRIAN GATE PERPENDICULAR TO TRACK

SCENARIO 2:
PEDESTRIAN GATE PARALLEL TO TRACK

NOTES:
1. FOR ADDITIONAL NOTES AND LEGEND SEE ES4010.
2. FOR PEDESTRIAN WARNING DEVICES, FLASHERS ARE REQUIRED FOR EACH PEDESTRIAN APPROACH.
**Material Specifications:**

1. Concrete properties shall be as noted.
2. Reinforcing steel shall conform to ASTM A615.
3. Concrete properties shall be as noted.
4. Reinforcing steel shall conform to ASTM A706.
5. Concrete properties shall be as noted.
6. Concrete properties shall be as noted.

**Notes:**

1. Concrete properties shall be as noted.
2. Reinforcing steel shall conform to ASTM A615.
3. Concrete properties shall be as noted.
4. Reinforcing steel shall conform to ASTM A706.
5. Concrete properties shall be as noted.
6. Reinforcing steel shall conform to ASTM A706.

**Engineering Standards**

**Precast Concrete Panels For Highway - Rail Grade Crossing**
A CURVED PANEL IS A PANEL THAT IS PIE SHAPED WITH A LONGER OUTER LENGTH THAN THE INNER LENGTH WITH TRUE RADIUS OUTER AND INNER.

CURVED CONCRETE PANELS
DETAIL 9

CURVED WOOD PANELS
DETAIL 9

NOTES:
A. 3" OR 100° 0.24° NO
B. 4" 145° 0.41° YES
C. 5" 195° 0.56° YES
D. 6" 255° 0.74° YES
E. 7" 325° 0.90° YES
F. 8" 395° 1.06° YES
G. 9" 465° 1.20° YES
H. 10" 535° 1.34° YES
I. 11" 605° 1.48° YES
J. 12" 675° 1.62° YES

TYPICAL SHUNT SPACER
DETAIL 10

TYPICAL LIFITNG DEVICE AND BLOCKOUT
DETAIL 12

NOTES:
A. VENDOR SHALL SUBMIT PRE-ATTACHED FLUIDRAIN FILLER DESIGN AND DETAILS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
B. SHUNT RESISTANT RUBBER FILLERS BOLTED TO STEEL FRAME ON 12" CENTERS.
C. LAG-DOWN CONCRETE PANELS WITH PRE-ATTACHED RUBBER FILLERS COMES IN STANDARD LENGTHS OF 2'-0".

ENGINEERING STANDARDS
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
405 WILSHIRE BLVD., SUITE 1500, L.A., CA 90017

PRECAST CONCRETE PANELS
FOR HIGHWAY - RAIL GRADE CROSSING

NOTES:
A. DBA = DEFORMED BAR ANCHOR
B. VENDOR SHALL SUBMIT PRE-ATTACHED FLUIDRAIN FILLER DESIGN AND DETAILS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
C. LIFITNG DEVICES SHALL BE DESIGNED TO BE MODIFIED TO BE COMPATIBLE WITH ANY RAILWAY REPURIFICATION SYSTEM.
D. LIFTING DEVICES SHALL BE DESIGNED TO BE MODIFIED TO BE COMPATIBLE WITH ANY RAILWAY REPURIFICATION SYSTEM.
E. ALL WORKSHOPS SHALL SUBMIT PRE-ATTACHED FLUIDRAIN FILLER DESIGN AND DETAILS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
F. VENDOR SHALL SUBMIT PRE-ATTACHED FLUIDRAIN FILLER DESIGN AND DETAILS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
G. LIFITNG DEVICES SHALL BE DESIGNED TO BE MODIFIED TO BE COMPATIBLE WITH ANY RAILWAY REPURIFICATION SYSTEM.
TEMPORARY TRAFFIC CONTROL
AT OR NEAR GRADE CROSSINGS

1. SCRRA Employee in Charge (EIC) and Law Enforcement Officer/Flagger will be present at all times at the crossing if the work is of intermediate-term stationary, short-term stationary, or short duration.

2. The Highway-Rail Crossing will be closed to road users if the work is of long-term stationary duration.

A. Carles

NOTES:

1. SCRRA Employee in Charge (EIC) and Law Enforcement Officer/Flagger will be present at all times at the crossing if the work is of intermediate-term stationary, short-term stationary, or short duration.

2. A Law Enforcement Officer/Flagger will be present at all times at the crossing and the railroad crossing warning signals will be relocated or installed to prevent vehicles from stopping on the track if the work is of long-term stationary duration.

LEGEND:

- Road Work Areas
- One Lane Road Ahead
- Extended Buffer Space
- Temporary Markings
- Road Work

SEE CHART AT SHEET ES4301-02.

NOTE:
NOTES:
1. Temporary traffic control planning and design shall be coordinated with the Southern California Regional Rail Authority (SCRRA) since public agencies and SCRRA are obligated to coordinate all installation, operation, maintenance, use and protection of grade crossings. All temporary traffic control plans shall be submitted to SCRRA for approval. SCRRA must approve all temporary traffic control plans and devices.

2. Temporary traffic control plans shall comply with the current editions of the Manual of Uniform Traffic Control Devices (MUTCD) published by the U.S. Department of Transportation, "Work Area Traffic Control Handbook" (WHC-2) published by Southern California Chapter of the American Public Works Association, and California MUTCD published by the State of California Department of Transportation (Caltrans).

3. SCRRA reserves the right to close the crossing to vehicle traffic before the temporary point of entry agreement or the public agency or the contractor to cancel the temporary traffic control if the public agency or contractor activity does not meet California MUTCD Section 6G requirements. In the event that SCRRA receives a request for modification or expansion, the request shall be reviewed by SCRRA. The temporary traffic control must be terminated if SCRRA determines that the temporary traffic control is not required or if the temporary traffic control is not being properly maintained or implemented.

4. The location and duration of temporary traffic control, protection or lack of protection by railroad crossing warning system in both directions, type of traffic, and temporary traffic control can affect the design and selection of temporary traffic control plans. These variable factors should be carefully studied prior to designing and implementing temporary traffic control plans. Refer to the acco.
**AVERY DENNISON OL - 1000 PREMIUM ANTI-GRAFFITI FILM**

**NDP**

**REVISED MATERIAL SPECIFICATIONS**

**FILE NAME:** S:\V8EngStds\Revisions in progress\ES4310_revB.dgn  
**DATE:** 10-14-16

**SECTION A-A**

**THIS SIGN COMPLIES WITH THE REQUIREMENTS OF CALIFORNIA PUBLIC UTILITIES COMMISSION GENERAL ORDER NO. 75-C AND MUTCD SECTION 88-2.**

**NOTE:**

**1.**ignon R15-1 shall be used on new installations and for the replacement of existing railroad crossing signs on an alternate basis. As several are required, existing wooden "crossbuck" signs shall be replaced with extruded aluminum blades per this drawing. Any four-faced sign message is required.

**2.** Two double-faced highway crossing signs shall be provided at each highway crossing of a track or tracks, one on each side of the track or on the outside of multiple track crossings except as otherwise provided.

**3.** Number of tracks sign allowed in conjunction with sign R15-3 shall be used.

**4.** The sign shall be erected on the right hand side of the roadway on each approach to the grade crossing. The sign shall be no closer than 4'-0" from the face of the curb to the center of post or where there is no curb, no closer than 8'-0" from edge of traveled way to center of post. Additionally, the signs shall be placed no closer than 4'-0" from the center line of track to the back of post except as shown for individual state requirements.

**MATERIAL NOTES:**

1. Signs shall include aluminum panel, retro-reflective sheeting, polyurethane paint, screened-process colors or film, pressure sensitive and fungus resistant.

2. Panel shall be extruded aluminum alloy 6061-T6 or equal.

3. Text font shall be Arial bold 1" as per SCRRA ES1212, MUTCD section 8B-2.

4. Panel shall be painted on all sides with two part acrylic urethane paint.

5. Retro-reflective sheeting shall conform to the requirements of ACI AC595 or CR-10 CLASS 3 or CLASS 3 retro-reflective sheeting shall have CLASS 3, 3.3, or 4 adhesive backing when shall be pressure sensitive and fungus resistant.

6. Screened-process colors and non-reflective, opaque black film shall have equivalent outdoor weatherability characteristics as the retro-reflective sheeting.

**ENGINEERING STANDARDS**

**HIGHWAY - RAILROAD CROSSING CROSSBUCK SIGN**

**METROLINK**

**SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY**

**ONE GATEWAY PLAZA, 12TH FLOOR, L.A., CA. 90012**

**MANUFACTURER AND PRODUCT**

<table>
<thead>
<tr>
<th>PRODUCT SYSTEM</th>
<th>MANUFACTURER AND PRODUCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3M SCOTCHLEAF HIGH INTENSITY PRISMATIC WHITE GRADE 3930 SHEETING</td>
</tr>
<tr>
<td>2</td>
<td>NIPPON CARBIDE RETRO-REFLECTIVE SHEETING TYPE VIPICRYSTAL GRADE</td>
</tr>
<tr>
<td>3</td>
<td>AVERY DENNISON OVERNIGHT T-9500 PRISMATIC HIGH INTENSITY SHEETING</td>
</tr>
<tr>
<td>4</td>
<td>3M PROCESS COLOR SERIES S8901K</td>
</tr>
<tr>
<td>5</td>
<td>NIPPON CARBIDE GRAFFITI RESISTANT 3803 MKK</td>
</tr>
<tr>
<td>6</td>
<td>AVERY DENNISON 4930 MKK</td>
</tr>
<tr>
<td>7</td>
<td>3M PREMIUM PROTECTIVE OVERLAY FILM 1180</td>
</tr>
<tr>
<td>8</td>
<td>NIKKALITE BRAND HI-S SCALE T-40801</td>
</tr>
<tr>
<td>9</td>
<td>AVERY DENNISON OL - 1000 PREMIUM ANTI-GRAFFITIFILM</td>
</tr>
</tbody>
</table>
NOTICE

THIS PRIVATE CROSSING IS SUBJECT TO CLOSURE
PLEASE CALL:

IF YOU BELIEVE YOU ARE LEGALLY ENTITLED TO THIS CROSSING
PROVIDE THE FOLLOWING INFORMATION WHEN CALLING:

SIGN ELEVATION

NOTE:

- TO BE USED ONLY AT PRIVATE CROSSINGS WHEN THE FOLLOWING EXIST:
- REAL ESTATE CANNOT FIND AN AGREEMENT UNABLE TO DETERMINE USE OR OWNER OF THE CROSSING.

INSTALLATION AND REMOVAL INSTRUCTIONS:

1. ONE SIGN TO BE PLACED TO FRONT OF EACH ROADWAY APPROACH MOUNTED ON 12'-0" GALVANIZED POST AND PER SCRRA ES5210 SIGN TO BE MOUNTED 7'-0" ABOVE GROUND.
2. SIGNS TO BE LOCATED 20'-0" FROM CENTERLINE OF NEAREST TRACK WITH THE CENTER OF THE POST NO LESS THAN 8'-0" FROM THE EDGE OF THE TRAVELED ROADWAY.
3. POSITION THE SIGN TO PROVIDE THE BEST POSSIBLE VIEW FROM A ROADWAY APPROACH.
5. LEAVE SIGN UP FOR MINIMUM OF 90 DAYS. IF THERE HAVE BEEN NO CALLS OR INQUIRIES AFTER THE 90 DAYS, REMOVE CROSSING. DOCUMENT DATE OF CROSSING REMOVAL, INCLUDING PICTURE AND ANY OTHER MEANS FOR PURPOSE OF DOCUMENTING RECORDS IF CALLED IS RECEIVED AND THE CROSSING IS BEING USED AND CAN BE JUSTIFIED, HANDLE WITH REAL ESTATE OR APPROPRIATE AGREEMENT.