1. SCOPE

1.1 The standards for non-flammable substances are designed to ensure the safe placement and protection of steel casing when placed in or near railroad rights-of-way. The primary objectives are to prevent leaks and ensure the integrity of the steel casing for both the carrier and adjacent railroad systems. These standards include specific requirements for installation methods, minimum cover requirements, and protection standards for the carrier systems. They are intended to be used in conjunction with the SCRRA Design Criteria Manual and other relevant railroad standards.

2. GENERAL REQUIREMENTS

2.1 The installation of steel casing shall comply with the specifications and requirements in this section, and any applicable standards and regulations. The carrier systems shall be designed to prevent leaks of any substance and be constructed to provide a secure and durable enclosure for the carrier system.

3. CARRIER PIPE

3.1 Installation of carrier pipe shall comply with the requirements of this section. The carrier pipe shall be constructed of approved material and shall be installed with the appropriate cover and protection. The minimum cover requirements are specified in Table 1.

4. CASING PIPE

4.1 Casing pipe shall be installed with the appropriate cover and protection as specified in Table 1. The casing shall be constructed of approved materials and shall be installed with the appropriate cover and protection.

5. CONSTRUCTION

5.1 The carrier and casing pipes shall be installed in accordance with the specifications and requirements in this section. The carrier and casing pipes shall be installed with the appropriate cover and protection, and the installation shall be verified with the appropriate tests and inspections.

6. INSTALLATION

6.1 The installation of the carrier and casing pipes shall comply with the requirements of this section. The carrier and casing pipes shall be installed with the appropriate cover and protection, and the installation shall be verified with the appropriate tests and inspections.

7. USE OF WATER JETTING

7.1 Use of water jetting shall comply with the requirements of this section. The use of water jetting shall be limited to the installation of the carrier and casing pipes, and the use of water jetting shall be verified with the appropriate tests and inspections.

8. PIPELINE ROWS

8.1 The pipeline rows shall comply with the requirements of this section. The pipeline rows shall be designed and constructed to prevent leaks and ensure the integrity of the carrier and casing systems.

9. APPROVAL OF PLANS

9.1 The approval of plans shall be issued by SCRRA prior to the installation of the carrier and casing pipes. The approval of plans shall be verified with the appropriate tests and inspections.

10. EXECUTION OF WORK

10.1 The execution of work shall be supervised by SCRRA and comply with the requirements of this section. The execution of work shall be verified with the appropriate tests and inspections.

11. COMPLETION

11.1 Upon completion of the work, the carrier and casing pipes shall be verified with the appropriate tests and inspections. The carrier and casing pipes shall be verified with the appropriate tests and inspections.

NOTES:

NOTES:

5. CONSTRUCTION

6. INSTALLATION

7. USE OF WATER JETTING

8. PIPELINE ROWS

9. APPROVAL OF PLANS

10. EXECUTION OF WORK

11. COMPLETION

NOTES:

NOTES:
1. SCOPE

This Standard, either individually or in combination with any other Standard(s) and/or manual(s), shall be used to govern the construction of all pipelines installed on the property of the Southern California Regional Rail Authority (SCRRA). The Standard must be authorized by SCRRA. Requests for exceptions will be considered through the normal approval processes and requirements are available on our website at www.socaler.com.

2. General Requirements

(a) Casing Pipe shall be of steel and shall be used to protect the Carrier Pipe from damage. Casing Pipe shall be designed and installed to conform to the requirements of the current edition of the American Society of Mechanical Engineers (ASME) and the American National Standards Institute (ANSI) Code for Pressure Piping.

(b) Carrier Pipe shall be of steel and shall be designed and installed to conform to the requirements of the current edition of the American Society of Mechanical Engineers (ASME) and the American National Standards Institute (ANSI) Code for Pressure Piping.

(c) The Carrier Pipe shall be laid with sufficient slack so that it is not in tension.

(d) The Carrier Pipe shall be laid with a sufficient slack so that it is not in tension.

(e) Pipes and joints shall be of steel and of new design constructed capable of carrying the pressures and temperatures of the pipeline fluids. The Carrier Pipe shall be designed and fabricated to withstand the maximum internal pressure and temperature expected during operation.

3. Carrier Pipe

(a) Casing Pipe shall be of steel and shall be used to protect the Carrier Pipe from damage. Casing Pipe shall be designed and installed to conform to the requirements of the current edition of the American Society of Mechanical Engineers (ASME) and the American National Standards Institute (ANSI) Code for Pressure Piping.

(b) Carrier Pipe shall be of steel and shall be designed and installed to conform to the requirements of the current edition of the American Society of Mechanical Engineers (ASME) and the American National Standards Institute (ANSI) Code for Pressure Piping.

(c) The Carrier Pipe shall be laid with sufficient slack so that it is not in tension.

(d) The Carrier Pipe shall be laid with a sufficient slack so that it is not in tension.

4. Casing Pipe

(a) Casing Pipe and joints shall be of steel and of new design constructed capable of carrying the pressures and temperatures of the pipeline fluids. The Carrier Pipe shall be designed and fabricated to withstand the maximum internal pressure and temperature expected during operation.

(b) Carrier Pipe shall be of steel and shall be designed and installed to conform to the requirements of the current edition of the American Society of Mechanical Engineers (ASME) and the American National Standards Institute (ANSI) Code for Pressure Piping.

(c) The Carrier Pipe shall be laid with sufficient slack so that it is not in tension.

(d) The Carrier Pipe shall be laid with a sufficient slack so that it is not in tension.

5. Construction

(a) Casing Pipe shall be constructed so that it forms a continuous barrier of any substance in the pipeline which may cause the formation of a waterway under the pipe. Casing Pipe shall be laid in such a manner so as to prevent the formation of a waterway under the pipe, such as a waterway under the pipe due to the presence of a waterway under the pipe due to the presence of any other substance in the pipeline which may cause the formation of a waterway under the pipe.

(b) Carrier Pipe shall be constructed so that it forms a continuous barrier of any substance in the pipeline which may cause the formation of a waterway under the pipe. Casing Pipe shall be laid in such a manner so as to prevent the formation of a waterway under the pipe, such as a waterway under the pipe due to the presence of a waterway under the pipe due to the presence of any other substance in the pipeline which may cause the formation of a waterway under the pipe.

(c) The Carrier Pipe shall be laid with sufficient slack so that it is not in tension.

(d) The Carrier Pipe shall be laid with a sufficient slack so that it is not in tension.

6. Cathodic Protection

Where Casing and/or Carrier Pipe is Cathodically Protected, it shall be monitored and a suitable test made to ensure that entire Casing and Carrier Pipe are adequately protected from corrosion. The test shall be in accordance with the recommendation of the current edition of the Cathodic Protection Committee.

7. Inspection and Testing

Current Amends shall govern the inspection and testing of the facility within SCRRA right-of-way.

(a) The Carrier Pipe shall be tested at 100% of the circumference.

(b) The Carrier Pipe shall be tested at 100% of the circumference.

(c) The Carrier Pipe shall be tested at 100% of the circumference.

8. Seals and Supports

(a) The Carrier Pipe shall be tested at 100% of the circumference.

(b) The Carrier Pipe shall be tested at 100% of the circumference.

(c) The Carrier Pipe shall be tested at 100% of the circumference.

9. Vents

(a) Casing Pipe and joints shall be of steel and of new design constructed capable of carrying the pressures and temperatures of the pipeline fluids. The Carrier Pipe shall be designed and fabricated to withstand the maximum internal pressure and temperature expected during operation.

(b) Carrier Pipe shall be of steel and shall be designed and installed to conform to the requirements of the current edition of the American Society of Mechanical Engineers (ASME) and the American National Standards Institute (ANSI) Code for Pressure Piping.

(c) The Carrier Pipe shall be laid with sufficient slack so that it is not in tension.

10. Shut-off Valves

(a) Accessible emergency shut-off valves shall be installed within effective distance of each use of the Carrier Pipe. The Carrier Pipe shall be installed in such a manner as to allow access to the shut-off valve. The Carrier Pipe shall be designed and fabricated to withstand the maximum internal pressure and temperature expected during operation.

(b) Carrier Pipe shall be designed and fabricated to withstand the maximum internal pressure and temperature expected during operation.

(c) The Carrier Pipe shall be designed and fabricated to withstand the maximum internal pressure and temperature expected during operation.

11. Longitudinal Pipelines

(a) Pipelines laid longitudinally on SCRRA right-of-way shall be located as far as practicable from any structures and shall be protected from damage by such structures. The carrier pipe shall be protected from damage by such structures. The Carrier Pipe shall be protected from damage by such structures. The Carrier Pipe shall be protected from damage by such structures.

(b) Carrier Pipe shall be protected from damage by such structures. The Carrier Pipe shall be protected from damage by such structures. The Carrier Pipe shall be protected from damage by such structures.

(c) Carrier Pipe shall be protected from damage by such structures. The Carrier Pipe shall be protected from damage by such structures. The Carrier Pipe shall be protected from damage by such structures.
**ENGINEERING STANDARDS**

**STATION FENCING**

**PLATFORM EDGE FENCE AND INTER-TRACK FENCE**

**SCALE:** ¾" = 1'-0"

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**NOTES:**

1. ALL METAL SHALL BE HOT-DIP GALVANIZED STEEL

2. CONCRETE FOOTINGS TO HAVE A MINIMUM COMpressive STRENGTH OF 2500 PSI AT 28 DAYS.
**NOTES:**

1. THIRD RAIL IS REQUIRED FOR FENCE HEIGHT OF 8'-0" OR HIGHER.
2. CONCRETE FOOTING TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.

**MATERIAL SPECIFICATIONS:**

A. STEEL MATERIAL FOR FENCE FRAMEWORK, I.E., CORRUGATED PALES AND POSTS, WHEN GALVANIZED PRIOR TO FORMING, SHALL CONFORM TO THE REQUIREMENTS OF ASTM A924/A924M, WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI THE STEEL SHALL BE HIT-TO-GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A653/A653M WITH A MINIMUM ZINC COATING WEIG OF 0.90 0.770 (276 G/M2), COATING DESIGNATION G-90.

B. MATERIAL FOR CORRUGATED PALES SHALL BE A MINIMUM 2.75" X .75" X 14 GA. PRE-OILED 6" O.C. NOM. IN THE HORIZONTAL FENCE RAIL SHALL BE SPACED 6" O.C. NOM. BETWEEN FRAME PANELS. STAINLESS STEEL SECURITY FASTENERS SHALL BE USED TO FASTEN EACH PALE TO THE INTER-TRACK FENCE POSTS AND GATE POSTS SHALL MEET THE MINIMUM SIZE REQUIREMENTS OF TABLE 1.

C. MATERIAL FOR STEEL FENCE PRIVACY SCREENING ORR REQUIRED BY SORRA SHALL BE TYPE B PRE-OILED. FENCES PROVIDING COMPLETE SCREENING COVERAGE BETWEEN PANELS AND AT BASE TO POST CONNECTING PRIVACY SCREENING SHALL PROVIDE SCREENING FROM TOP RAIL TO BOTTOM RAIL AND BE CAPABLE OF WITHSTANDING WEATHER WITHOUT WEARING THE CAPABILITIES OF THE FENCING SMALL.

**FENCE SELECTION CRITERIA:**

1. CHAIN LINK FENCING SHALL BE USED ONLY FOR MAINTENANCE OF EXISTING CHAIN LINK FENCES.
2. WELDED WIRE MESH OR HIGH SECURITY ORNAMENTAL FENCING SHALL BE USED FOR ALL FORM OF HORIZONTAL FENCES AS DIRECTED BY SORRA.
3. TUBULAR STEEL FENCING WILL BE USED FOR PROPERTY LEASES AND STORAGE FACILITIES WHERE AESTHETICS ARE A MAJOR CONCERN AND AS DIRECTED BY SORRA.
4. INTER-TRACK FENCING SHALL BE USED BETWEEN THE TRACKS AT ALL STATIONS.
5. CONCRETE BLOCK WALLS SHALL BE USED FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS.
6. TEMPORARY RAILING TYPE K WITH WELDED WIRE MESH FENCING SHALL BE USED FOR ALL PARKING FENCES, K-RAIL AND FENCE ANCHORS SHALL BE AS PER CALTRANS STANDARDS 3 x 12 GA.
7. LANDSCAPE UNITS SHALL NOT BE ALLOWED TO GROW ON THE FENCE UNLESS WRITTEN APPROVAL IS GRANTED BY SORRA, IF LANDSCAPE UNITS ARE ALLOWED TO GROW THE WALL SHALL BE TENDED REGULARLY TO THAT THEY WILL NOT EXTEND OVER THE WALL SAFETY MEASURES REQUIRED BY SORRA SHALL BE FOLLOWED IN THE INFINITY OF THE UNITS.
NOTES:

1. SEE ES5103 FOR FENCE SELECTION CRITERIA.
2. ALL STEEL TUBING TO BE HOT-DIP GALVANIZED PER ASTM A500 AND ASTM A653.
3. ALL CONCRETE FOOTINGS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2,500 PSI.
4. FENCE GRADE REQUIRED PRIOR TO FENCE INSTALLATION LOCATIONS OF
   START / END POSTS, CORNER POSTS AND GATE POSTS REQUIRED PRIOR TO
   FENCE INSTALLATION.

NOTES:

A. PICKETS: 1 INCH SQUARE STEEL TUBULAR MEMBERS MANUFACTURED PER
   ASTM A-500 AND ASTM A653 HAVING A FIELD STRENGTH OF 35,000 PSI
   WALL THICKNESS SHALL BE 16 GAUGE, MINIMUM. ATTACH EACH PICKET TO
   HARD BY WELDING WITH 309 METAL AND WELDING.
B. POSTS: 3 INCH SQUARE STEEL TUBULAR MEMBERS MANUFACTURED PER
   ASTM A-500 AND ASTM A653 HAVING A FIELD STRENGTH OF 35,000 PSI
   WALL THICKNESS SHALL BE 14 GAUGE, MINIMUM. ATTACH EACH PICKET TO
   POSTS BY WELDING WITH THE GAS METAL ARC METHOD.
C. RAILS: 2 INCH SQUARE STEEL TUBULAR MEMBERS MANUFACTURED PER
   ASTM A-500 AND ASTM A653 HAVING A FIELD STRENGTH OF 35,000 PSI
   WALL THICKNESS SHALL BE 14 GAUGE, MINIMUM.
D. FINISH: ALL COMPONENTS TO BE GIVEN A 4-STAGE PRE-TREATMENT PROCESS
   THAT CLEANS AND PREPARES THE GALVANIZED SURFACE FOR THE FINISH COAT.
   ALL METAL IS THEN TO BE GIVEN A POLYESTER BOUNDARY POWDER COATING
   APPLIED BY THE ELECTROSTATIC SPRAY PROCESS, TO A THICKNESS OF 2.5 MILS.
   THE FINISH IS THEN TO BE BAKED IN A 450 DEG. OVEN FOR 20 MINUTES.
   COLOR FOR FINISH TO BE BLACK.

COLOR FOR FINISH TO BE BLACK.
THE FINISH IS THEN TO BE BAKED IN A 450 DEG. OVEN FOR 20 MINUTES.
COLOR FOR FINISH TO BE BLACK.
NOTES:
1. SEE ES5103 FOR FENCE SELECTION CRITERIA.
2. WELDED WIRE FENCE FABRIC TO BE #6 GAUGE HARDENED STEEL WIRE WELDED INTO A 2" X 3" RECTANGULAR PATTERN PER ASTM A120, CLASS C1, 12 OZ. PER SQUARE FOOT. HOT-DIP GALVANIZED AFTER WELDING.
3. TRIANGULAR SHAPED STIFFENING BEAM TO BE PLACED HORIZONTALLY, F'-0" DOWN FROM TOP OF WELDED WIRE MESH PANEL.
4. POSTS, BRACE RAILS AND GATE FRAMES SHALL BE STANDARD WEIGHT SHEET STEEL PER ASTM A36 WITH A MINIMUM YIELD STRENGTH OF 36,000 PSI.
5. DIAGONAL BRACING AT 500 FT. MAXIMUM SPACING AND AT ALL END, GATE AND CORNER POSTS.
6. BREAKAWAY NUT SHALL BE PLACED ON THE INSIDE (TRACK SIDE) OF THE FENCE PANEL.
7. CONCRETE FOOTINGS TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI.
8. POST EMBEDMENT AND FOOTING FOR LINE POST SHOWN ON THIS DRAWING. POST CROWNED AT GATE POST AND END POSTS TO BE 18" DEEP.
9. ALL FOOTINGS TO BE CROWNED AT TOP FOR DRAINAGE.
10. GATE FRAME, POSTS AND BRACE SMALL BE AS PER CHAIN LINK FENCE STANDARD, ES5106.
NOTES:
1. TERMINAL BRACE BAND TO BE USED AT TERMINAL AND CORNER POSTS. STACK BANDS AS CLOSELY AS POSSIBLE WHERE APPLICABLE.
2. AT TERMINAL AND CORNER POST WHERE SPACING BETWEEN POST IS LESS THAN 10'-4" O.C. REDUCE POST SPACING BY INCREMENTS OF 3" TO ENSURE VERTICAL WIRE CAN BE CAPTURED BY BRACKET. CUT PANEL TO FIT IN FIELD.
3. PRELIMINARY FOOTING SIZES AND EMBEDMENT ONLY. POSTING AND EMBEDMENT MAY CHANGE UPON ENGINEERING REVIEW OF WIND LOAD AND SOIL Bearing Conditions.
4. SQUARE POSTS SHOWN ON PLANS. ROUND POSTS MAY BE USED BUT MUST BE UNIFORM FOR ALL POSTS. A SINGLE ROUND POST WITH TERMINAL BRACE BANDS MAY BE USED IN LIEU OF TWO POSTS AT ANGLE POINTS ALONG FENCE ALIGNMENT. POSTS AND BRACKETS SHALL MEET ALL OTHER CRITERIA AS SPECIFIED ON THESE STANDARD DRAWINGS.

FOR CORNER ANGLES OF 20° TO 150° (60° TO 30° TO 60° (ACUTE)). USE TWO TERMINAL POSTS WITH MINIMAL GAP BETWEEN POSTS FOR PRESS PIES WITH TWO TERMINAL POSTS; SHALL BE 12" IN DIAMETER.

EARS OF BRACKETS MAY BE HAND FORGED IN FIELD TO ACCOMMODATE CHANGES IN DIRECTION UP TO 30°.

TOP VIEW (LINE POST)
TOP VIEW (CORNER POST)
TOP VIEW (TERMINAL POST)

FRONT VIEW (LINE POST)
SIDE VIEW
FRONT VIEW (CORNER POST)
FRONT VIEW (TERMINAL POST)

FOR DETAILS SEE ES5105-03
CONCRETE FOOTING OR MONOLITHIC POUR FOR PIERS.
PIERS WITH TWO TERMINAL POSTS SHALL BE 18" IN DIAMETER.
PITS WITH MINIMAL GAP BETWEEN POSTS FOR PRESS PIES WITH TWO TERMINAL POSTS; SHALL BE 12" IN DIAMETER.

CONCRETE FOOTING MAY CHANGE UPON PRELIMINARY FOOTING SIZES AND EMBEDMENT ONLY. POSTING AND EMBEDMENT MAY CHANGE UPON ENGINEERING REVIEW OF WIND LOAD AND SOIL Bearing Conditions.

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

ACCOMMODATE CHANGES IN HAND FORGED IN FIELD TO EARS OF BRACKETS MAY BE HAND FORGED IN FIELD TO ACCOMMODATE CHANGES IN DIRECTION UP TO 30°.

BRACE BANDS MAY BE USED IN LIEU OF TWO POSTS AT ANGLE POINTS ALONG FENCE ALIGNMENT. POSTS AND BRACKETS SHALL MEET ALL OTHER CRITERIA AS SPECIFIED ON THESE STANDARD DRAWINGS.

WELDED WIRE MESH FENCING (TYPE B)
RIGHT OF WAY FENCING
WELDED WIRE MESH FENCING (TYPE B)
NOTES:
1. BREAKAWAY NUT SHALL BE PLACED ON THE INSIDE (TRACK SIDE) OF THE FENCE PANEL.
2. WIRE MESH PANEL SHALL BE HOT-DIP GALVANIZED AFTER WELDING.
3. ALL STEEL MATERIALS SHALL BE GALVANIZED TO PREVENT CORROSION, UNLESS OTHERWISE NOTED.

WIRE 8.5GA BASIC BRITE
HORIZONTAL WIRES
(76) FRONT
(77) BACK

DETAIL SCALE 1" = 1'-0"

SIDE VIEW SCALE 1" = 1'-0"

PLAN SCALE 1" = 1'-0"

TEST SCALE 1" = 1'-0"

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

ENGINEERING STANDARDS
WELDED WIRE MESH FENCING (TYPE B)
RIGHT OF WAY FENCING
PANEL AND POST DETAILS

METROLINK.
ASSISTANT DIRECTOR, DESIGN
PRINCIPAL ENGINEER, DESIGN & STANDARDS
11/02/17
A. CARLOS

A
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C
D
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SCALE: 1" = 1'-0"
TABLE 1

<table>
<thead>
<tr>
<th>FENCE HEIGHT</th>
<th>B (in.)</th>
<th>D (in.)</th>
<th>ROUND 10</th>
<th>&quot;H&quot;</th>
<th>FULL FORMED ROUND 10</th>
<th>END POSTS</th>
<th>LATCH &amp; CORNER POSTS</th>
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</thead>
<tbody>
<tr>
<td>6'-0&quot;</td>
<td>10&quot;</td>
<td>2'-6&quot;</td>
<td>1½&quot;</td>
<td>1½&quot; x 1½&quot;</td>
<td>1½&quot; x 1½&quot;</td>
<td>2&quot;</td>
<td>3½&quot; x 3½&quot;</td>
</tr>
<tr>
<td>6'-0&quot;</td>
<td>12&quot;</td>
<td>3'-0&quot;</td>
<td>2&quot;</td>
<td>2½&quot; x 2½&quot;</td>
<td>3½&quot; x 3½&quot;</td>
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TABLE 2

<table>
<thead>
<tr>
<th>GATE POST 6'-0&quot; AND LESS</th>
<th>GATE LENGTH AS SPECIFIED</th>
</tr>
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<tbody>
<tr>
<td>STANDARDS</td>
<td></td>
</tr>
<tr>
<td>ENDED</td>
<td></td>
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<tr>
<td>3½&quot; x 3½&quot;</td>
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<td></td>
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<tr>
<td>8½&quot; x 8½&quot;</td>
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</tbody>
</table>

FABRIC TYPES:
- TYPE CL-4: 48" FABRIC
- TYPE CL-6: 72" FABRIC
NOTES:

1. EXISTING ELEMENTS OF RIGHT-OF-WAY SECURITY WILL BE INTEGRATED INTO THE DESIGNS TO PROVIDE EFFECTIVE DETERRENCE WITH MINIMUM OF ADDITIONAL CONSTRUCTION FOR SECURITY ENHANCEMENTS. ADDITIONAL CONSTRUCTION IS NOT REQUIRED WHERE EXISTING SECURITY FEATURES ARE ACCEPTABLE. APPLICABLE ELEMENTS SUCH AS FENCES, SIGNS WITH POSTS (AT LEAST SIX INCHES IN WIDTH), MONUMENTS, RAILING ABUTMENTS OR PERMANENT LANDSCAPING MORE THAN THREE FEET TALL, ARE ALL ACCEPTABLE DETERRENTS. IF FENCE, WALL OR BUILDING IS ABUTTED BY A BRIDGE OR TUNNEL, IT WILL BE CARRIED OUT AS PART OF THE INSTALLATION.

2. SECURITY GATE TYPICAL PLAN PER ES5207-02 ILLUSTRATES FOUR LOCATIONS ON AN EXISTING QUANTUM THAT CAN BE USED TO BLOCK ACCESS 

3. SECURITY GATES WILL BE LOCATED AT A DISTANCE OF AT LEAST 25 FEET FROM THE RAILWAY TO ALLOW AUTHORIZED VEHICLES TO STOP CLEAR OF TRAFFIC TO OPEN/CLOSE LOCKED GATES. THE GATE/SCALE SHEET IS ADDED TO THE FIELD TO ACCOUNT FOR OBSTRUCTIONS. DETERRENCE, SECURITY GATES WILL NOT BE CLOSED OFF WITH BOLLARDS, K-RAIL, OR OTHER BARRIERS.

4. INSTALLATION OF BOLLARDS ON GATE POSTS MAY BE ADJUSTED TO ACCOUNT FOR EXISTING ULTIMATE OR OTHER EXISTING SECURITY ELEMENTS. LOCATIONS OF UNDERGROUND UTILITIES MUST BE CLEARLY ESTABLISHED PRIOR TO ANY EXCAVATION.

5. BOLLARDS WILL BE SPACED 60" TO 66" ON CENTER (FREIGHT/ PASSENGER) AND 6'-0" TO 6'-6" ON CENTER (K-Rail). entfernt nicht 12 FEET IN LENGTH.

6. SECURITY GATE POSTS AND BOLLARDS WILL BE SPRAY PAINTED "SAFETY YELLOW" WITH ONE PANELED O.D. AND ONE PANELED I.D. O.D.

7. LOCKING POST/BOLLARD WILL BE BABED TO HINGE POST THEN CUT AND GRIND THREADED END INTO POST TO MARK SIGNAL AND COMMUNICATION CABLES AND CONDUITS.

8. INSTALLATION OF BOLLARDS MUST NOT BLOCK DRAINAGE FROM TRACK OR ACCOUNT FOR OBSTRUCTIONS, PEDESTRIAN FACILITIES AND SIGNAL HOUSE.

9. STOP BOLT WILL BE 1" IN DIAMETER BY 7" LONG. BOTH ENDS OF THE BOLT WILL BE WELDED TO HINGE POST THEN CUT AND GRIND THREADED END INTO POST TO MARK AUTORIZATIONS ON THE TRACK SIDE OF THE PARKING AREA TO ALLOW AUTHORIZED VEHICLES TO STOP CLEAR OF TRAFFIC TO OPEN/CLOSE LOCKED GATES. THIS DISTANCE SHALL BE ADJUSTED IN THE FIELD TO ACCOUNT FOR OBSTRUCTIONS. DETERRENCE, SECURITY GATES WILL NOT BE CLOSED OFF WITH BOLLARDS, K-RAIL, OR OTHER BARRIERS.

10. THE REMOVEABLE BOLLARD WILL BE USED IF THE LOCATION OF THE BOLLARD IS LESS THAN 12 FEET IN LENGTH.

S & G OR EQUAL ENVIRONMENTAL PADLOCK
NOTES:
1. FOR NOTES AND LEGEND SEE ES5107-01.
2. TO BE DETERMINED IN FIELD BY SCRRA.

SECTION
SCALE: 3" = 1'-0"

NOTCH LOWER HINGE RING, SEE CORRESPONDING DETAIL AT

"I" PIN STOP BOLT, SEE NOTE A, THIS SHEET

LOWER HINGE POST

NOTE: HINGE POST AND STOP BOLT NOT SHOWN FOR CLarity

STOP BOLT

HINGE POST

HINGE POST

HINGE POST

LOWER HINGE RING

LOWER HINGE RING

LOWER HINGE RING

LOWER HINGE RING

HINGE POST

HINGE POST

HINGE POST

HINGE POST

HINGE RETAINER RING

HINGE RETAINER RING

HINGE RETAINER RING

HINGE RETAINER RING

DETAIL
SCALE: 3" = 1'-0"

VIEW
SCALE: 3" = 1'-0"

TYPICAL SECURITY GATE LAYOUT PLAN

NOTE:
PLAN SHOWS FOUR DIFFERENT SCENARIOS, ONE IN EACH QUADRANT.

R.O.W. SECURITY ACCESS GATE DETAILS
SWING GATE - SINGLE

SWING GATE - DOUBLE

NOTES:
1. THIS DRAWING IS FOR REFERENCE ONLY. GATE CONFIGURATION WILL VARY BY LOCATION.
2. STEEL MATERIAL FOR GATE COMPONENTS SHALL BE COMMERCIAL STEEL WITH A MINIMUM
   YIELD STRENGTH OF 45,000 PSI.
3. GATE POSTS SHALL BE STEEL, 6" x 3/16" MINIMUM.
4. HORIZONTAL RAILS SHALL BE STEEL, 1.75" x 14 GAUGE, MINIMUM.
5. VERTICAL (END) RAILS SHALL BE STEEL, 2" SQUARE x 11 GAUGE, MINIMUM.
6. PICKETS SHALL BE STEEL TUBING, 1" SQUARE x 14 GAUGE, MINIMUM.
7. ALL RAILS AND PICKETS SHALL BE JOINED BY WELDING.
8. ALL GATE HARDWARE (POSTS, ASSEMBLIES, TRACK, FOOTINGS, ETC.) PER MANUFACTURER'S
   REQUIREMENTS.
9. GATE COLOR SHALL MATCH PMS-BLACK UNLESS SPECIFIED OTHERWISE (PER SCRRA APPROVAL).
10. GATE SHALL MEET THE COATING PERFORMANCE CRITERIA OF ASTM F2408.

CONCRETE FOOTING
END RAIL (TYP.)
PICKET (TYP.)
GATE HINGE (TYP.)
GATE POST (TYP.)
FLUSH TOP RAIL (TYP.)
FLUSH BOTTOM RAIL (TYP.)
SINGLE SLIDE GATE LAYOUT

DOUBLE SLIDE GATE LAYOUT

NOTES:
1. THIS DRAWING IS FOR REFERENCE ONLY. LAYOUT WILL VARY BY LOCATION.
2. FURNISH AND INSTALL FIRE DEPARTMENT KEY ACCESS BOX PER LOCAL FIRE CODE.
3. ACCESS CONTROL SYSTEM PER SECTION 28 15 00 OF THE SCRRA STANDARD SPECIFICATIONS.
4. FURNISH AND INSTALL PAINTED STOP BAR (12" WIDE, SOLID WHITE LINE).
5. GATE OPERATOR PER SECTION 32 31 32 OF THE SCRRA STANDARD SPECIFICATIONS.
SLIDE GATE DETAILS

AUTOMATED VEHICULAR DRIVEWAY GATE

NOTES:

1. THIS DRAWING IS FOR REFERENCE ONLY. GATE CONFIGURATION WILL VARY BY LOCATION.

2. STEEL MATERIAL FOR GATE COMPONENTS SHALL BE COMMERCIAL STEEL WITH A YIELD STRENGTH OF 45,000 PSI.

3. STOP POSTS AND GUIDE POSTS SHALL BE STEEL, 6" x ¾" MINIMUM.

4. HORIZONTAL RAILS SHALL BE STEEL, 1.75" x ¾ GAUGE, MINIMUM.

5. VERTICAL (END) RAILS SHALL BE STEEL, 2" SQUARE x 11 GAUGE, MINIMUM.

6. PICKETS SHALL BE STEEL TUBING, 1" SQUARE x 14 GAUGE, MINIMUM.

7. ALL RAILS AND PICKETS SHALL BE JOINED BY WELDING.

8. ALL GATE HARDWARE (POSTS, ASSEMBLIES, TRACK, FOOTINGS, ETC.) PER MANUFACTURER'S REQUIREMENTS.

9. GATE COLOR SHALL BE PMS-BLACK, UNLESS SPECIFIED OTHERWISE (PER SCRRA APPROVAL).

10. GATE SHALL MEET THE COATING PERFORMANCE CRITERIA OF ASTM F2408.

---

PLAN VIEW

PROFILE VIEW

SLIDE GATE - SINGLE

PROFILE VIEW

SLIDE GATE - DOUBLE

---

ENGINEERING STANDARDS

AUTOMATED VEHICULAR DRIVEWAY GATE

SLIDE GATE DETAILS

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

PRINCIPAL ENGINEER, DESIGN & STANDARDS

ASSISTANT DIRECTOR, DESIGN

---

As for the diagram, it illustrates the details of a sliding gate, including various components such as the gate, guide roller assemblies, guide tracks, guide posts, concrete footings, and support rails. The diagram shows different views of the gate, including plan and profile views, and indicates the required clearances and dimensions for proper installation. The notes page provides specific guidelines and requirements for the gate components, ensuring compliance with SCRRA standards.
NOTES:
1. SIGN CONTRACTOR SHALL ENGINEER FABRICATION & INSTALLATION OF SIGN STRUCTURE TO SATISFY ALL LOCAL CODES & WIND LOAD FACTORS. FIELD VERIFY SITE CONDITIONS PRIOR TO FABRICATION.
2. CONTRACTOR TO DETERMINE BEST SIGN MOUNTING APPLICATION PER SITE CONDITION.
3. SIGN PANEL TO BE PAINTED DURAPLY OR MEDEX W/ SMOOTH-FINISHED EDGES & SEAMS.
4. FONT SHALL BE PER SCRRA STANDARD ES3301-02.

FONT COLOR: BLACK
BACKGROUND COLOR: WHITE

For Information call 1-800-371-5465

LOGO COLORS PER ES3301-02

CONSTRUCTION SIGN DETAIL
MATERIAL SPECIFICATIONS:

POSTS:
- 12 GAGE 1.005" THICK SQUARE STEEL TUBE (ASTM A-36)
- WITH 3/4" DIAM MOUNTING HOLES P.D.E.
- ALL GALVANIZED IN ACCORDANCE WITH ASTM A-386
- 2" TUBE @ 2.45 LBF/T
- 2¼" TUBE @ 2.77 LBF/T

ANCHORS:
- 12 GAGE 1.005" THICK SQUARE STEEL TUBE (ASTM A-36)
- WITH 3/4" DIAM MOUNTING HOLES P.D.E.
- ALL GALVANIZED IN ACCORDANCE WITH ASTM A-386
- 2¾" TUBE @ 3.14 LBF/T

HARDWARE:
- GALVANIZED ALUMINUM, VANDAL RESISTANT
- BOLTS: 3/4" DIAMETER CARRIAGE BOLTS, 2024-T4 ALLOY
- NUTS: TAMPER RESISTANT ALUMA OR EQUAL
- WASHERS: FLAT 3/8" I.D., ¾" O.D.

2" SQUARE POST

2¼" SQUARE POST

2½" SQUARE ANCHOR

2½" SQUARE POST

2½" SQUARE ANCHOR

2½" SQUARE ANCHOR

2½" SQUARE ANCHOR

GROUND LINE

SECTION B-B
THRU SIGN AND POST

SECTION D-D
THRU SIGN AND POST

SECTION A-A
THRU POST AND ANCHOR

SECTION C-C
THRU POST AND ANCHOR

IN POST AND
ANCHOR (TYP)

ANCHOR (TYP)

ANCHOR (TYP)

SIGN (TYP)

SIGN (TYP)

SIGN (TYP)

IN S T E 2 '-2 "  I N T O  A N C H O R

IN S T E 2 '-2 "  I N T O  A N C H O R

IN S T E 2 '-2 "  I N T O  A N C H O R

WITH NUT & WASHERS

WITH NUT & WASHERS

WITH NUT & WASHERS

3½" LONG BOLT
WITH NUT & WASHERS

3½" LONG BOLT
WITH NUT & WASHERS

3½" LONG BOLT
WITH NUT & WASHERS

1/2" DIA HOLES
IN POST AND
ANCHOR (TYP)

1/2" DIA HOLES
IN POST AND
ANCHOR (TYP)

1/2" DIA HOLES
IN POST AND
ANCHOR (TYP)

2½" SQUARE ANCHOR

2½" SQUARE ANCHOR

2½" SQUARE ANCHOR

V
A R I E
S
V
A R I E
S

450x509

450x509

450x509

450x509
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
80 WILSHIRE BLVD, SUITE 1500, L.A., CA, 90007

ENGINEERING STANDARDS

MILE POST

METROLINK

5

NOTE 1

3 CHARACTER SIGN

VERTICAL)

2 CHARACTER SIGN

(VERTICAL)

1 CHARACTER SIGN

2 CHARACTER SIGN

(HORIZONTAL)

ELEVATION OF TIE OF NEAREST TIE

SIGN ELEVATION

PLAN

LOCATION OF SIGN

SECTION

ELEVATION OF TIE OF NEAREST TIE

2 SQUARE POST

SEE ES5216

DOUBLE SIDED SIGN

SEE INSTALLATION

NOTE 1

HOLE (TYP)

1/8" DIA. BOLT (TYP)

MANUFACTURER AND PRODUCT

PRODUCT

SYSTEM

1

3M SCOTCHLITE HIGH INTENSITY PRISMATIC WHITE GRADE 3930 SHEETING

2

NIPPON CARBIDE RETRO-REFLECTIVE SHEETING TYPE VMICRYSTAL GRADE

3

AVERY DENNISON OIL-1000 PREMIUM ANTI-GRAFFITI FILM

4

AVERY DENNISON 4930 PINE 1/8" THICK ALUMINUM, ALCOA 6063-T6 OR EQUAL

5

AVERY DENNISON 4930 PER SCRRA ES5210

FONT / GRAPHICS

1

NIPPON CARBIDE GRAFFITI RESISTANT 3803 INK

2

AVERY DENNISON 4930 PINE 1/8" THICK ALUMINUM, ALCOA 6063-T6 OR EQUAL

3

NIPPON CARBIDE RETRO-REFLECTIVE SHEETING TYPE VMICRYSTAL GRADE

4

AVERY DENNISON OIL-1000 PREMIUM ANTI-GRAFFITI FILM

5

AVERY DENNISON OIL-1000 PREMIUM ANTI-GRAFFITI FILM

SIGN NOTES:

1. SIGNS SHALL INCLUDE ALUMINUM PANEL, RETROREFLECTIVE SHEETING, POLYURETHANE PAINT,
   SCREENED-PROCESS COLORS OR FILM. UV PROTECTION OVERLAY, ANTI-GRAFFITI OVERLAY, POSTS,
   ANCHORS AND HARDWARE.

2. FONT SHALL BE SCRRA ES1212, SIZE AS INDICATED.

3. PANEL SHALL BE PAINTED ON ALL SIDES WITH TWO PART ACRYLIC POLYURETHANE PAINT COATING.

4. RETROREFLECTIVE SHEETING SHALL CONFORM TO THE REQUIREMENTS OF ASTM D4956, CLASS IX,
   OR GREATER. RETROREFLECTIVE SHEETING SHALL HAVE CLASS 1, 3, OR 4 ADHESIVE BACKING
   WHICH SHALL BE PRESSURE SENSITIVE AND TUNGUS RESISTANT.

5. SCREENED-PROCESS COLORS AND NONREFLECTIVE OPAQUE BLACK FILM SHALL HAVE EQUIVALENT
   OUTDOOR WEARABILITY CHARACTERISTICS AS THE RETROREFLECTIVE SHEETING.

INSTALLATION NOTES:

1. THE SIGN SHALL BE SET PER THE LOCATION OF SIGN DETAIL ON THIS SHEET. EXCEPTIONS SHALL
   REQUIRE THE APPROVAL OF SCRRA.

2. TO ALLOW MILE POSTS TO BE READ FROM BOTH DIRECTIONS, ONE DOUBLE-FACED ALUMINUM PANEL
   WITH WHITE REFLECTIVE SHEETING BACKGROUND AND BLACK PLASTIC NUMERALS SHALL BE MOUNTED
   AT RIGHT ANGLES TO THE TRACK AT EACH LOCATION.

3. IN SINGLE TRACK TERRITORY, MILE POSTS SHALL BE SET ON THE FIELD SIDE OF THE TRACK AS
   ONE POSTS IN THE DIRECTION OF INCREASING MILE POSTS. IN MULTIPLE TRACK TERRITORY
   MILE POSTS SHALL BE SET ON THE SIDE OF THE TRACK FARTHEST TO THE RIGHT.

4. IN MULTIPLE TRACK TERRITORY WHERE SEPARATE TRACKS EXIST, THE LETTER "X" SHALL PRECEDE
   THE MILE POST NUMBERS ON THE NEAREST LINE. AT THE OPTION OF SCRRA, WHERE THE DISTANCE
   SEPARATING THE TWO LINES IS NOT SUFFICIENT TO WARRANT SUCH DESIGNATION, THE LETTER "X"
   MAY NOT PRECEDE THE MILE POST NUMBERS ON THE NEAREST LINE.

5. WHEN THE EXACT MILE POST STATION FALLS WITHIN THE LIMITS OF A BRIDGE, GRADE CROSSING
   OR OTHER FEATURE WHERE IT WOULD BE IMPRACTICAL TO LOCATE A SIGN, THE MILE POST SHALL
   BE SET AT THE END OF THE FEATURE NEAREST THE EXACT MILE POST STATION.

6. HORIZONTAL SIGNS ARE PREFERRED. VERTICAL SIGNS SHALL BE USED ONLY WHERE HORIZONTAL
   CLEARANCE IS RESTRICTED.

7. SCRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRA APPROVED USES ONLY. ANY
   FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRA.

8. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN
   THE SELECTION AND USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED
   FOR NON-SCRRA APPROVED USES:

9. THIS INFORMATION AGREES THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH
   AND REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF

10. ALL RIGHTS RESERVED.

ALL RIGHTS RESERVED.

DESCRIPTION

ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRA.
**SIGN NOTES:**

1. Signs shall include aluminum panel, retroreflective sheeting, permanent paint, and reflective colored film to reflect protection overlay, anti-graffiti overlay, posts, anchors, and hardware.

2. Font shall be per SCRRA ES1703, size as indicated.

3. Panels shall be printed on all sides with two part acrylic polystyrene panel coating.

4. Retroreflective sheeting shall conform to the requirements of ASTM D4956, Class IX or greater. Retroreflective sheeting shall have class 1, 2, or 4 sheen backing which shall be pressure sensitive and fungus resistant.

5. Screened-process colors and nonreflective opaque black film shall have equivalent outdoor weatherability characteristics as the retroreflective sheeting.

**INSTALLATION NOTES:**

1. The sign shall be set per the location of sign detail on this sheet. Exceptions shall require the approval of SCRRA.

2. In single track territory, signs shall be located to the right of the track as viewed from an approaching train. In multiple track territory or where signs are adjacent to main tracks, the signs shall be placed on the field side of the outside tracks. On multiple main tracks, where track centers are 25 feet or greater, the signs shall be centered between tracks to the right of the track as viewed from an approaching train.

3. Reduce speed signs will be located 2500 feet in advance of the restricted location and will indicate the maximum speed permitted for that portion of the corridor. The middle two speeds are the higher speed to passenger trains and the lower speed to freight trains. Where one speed is shown, it applies to all trains.

4. Reduce speed signs will be placed to indicate where speed of train may be increased. Such signs shall not be placed when there is less than one half mile between the end of one speed restriction and the beginning of another speed restriction.

**MATERIAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>SHEETING</th>
<th>MANUFACTURER AND PRODUCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>GREEN</td>
<td>AVERY DENNISON OMN-CUBE T-11507</td>
</tr>
<tr>
<td>YELLOW</td>
<td>AVERY DENNISON OMN-CUBE T-11501</td>
</tr>
<tr>
<td>WHITE</td>
<td>AVERY DENNISON OMN-CUBE T-11500</td>
</tr>
</tbody>
</table>

**ENGINEERING STANDARDS**

**PERMANENT SPEED RESTRICTION SIGNS**
NOTES:

1. Markings shall be applied to the web of the rail with OSHA safety white spray paint. Black paint background may be used when white paint alone is difficult to see.

2. Markings to be made using 2½" gothic lettering stencil.

3. Speed change markings shall be applied on both field side of all main and siding tracks. Speed change markings shall be aligned with the permanent speed restriction sign.

4. Permanent speed restriction markings on existing rail that is being replaced shall be stenciled on the new replacement rail with the same permanent speed restriction in the exact same location.

- MP 08.05: 60/30 -
- MP 08.05: 79/45 -

VIEW "A"

VIEW "B"

PERMANENT SPEED RESTRICTION MARKING
SEE NOTE 4

PERMANENT SPEED RESTRICTION MARKING
SEE NOTE 4
SIGN NOTES:
1. SIGN SHALL INCLUDE ALUMINUM PANEL, RETROREFLECTIVE SHEETING, SCREENED-PROCESS COLORS OR FILM, ANTI-GRAFFITI OVERLAY, ANCHORS AND HARDWARE.
2. FONT SHALL BE PER SCRRA (5122), SIZE AS INDICATED.
3. PANEL SHALL BE PAINTED ON ALL SIDES WITH TWO PART ACRYLIC POLYURETHANE PAINT COATING.
4. RETROREFLECTIVE SHEETING SHALL CONFORM TO THE REQUIREMENTS OF ASTM D4956, CLASS I OR GREATER. RETROREFLECTIVE SHEETING SHALL HAVE CLASS 1, 3, OR 4 ADHESIVE BACKING WHICH SHALL BE PRESSURE SENSITIVE AND FOUGA RESISTANT.
5. SCREENED-PROCESS COLORS AND NONREFLECTIVE OPAQUE BLACK FILM SHALL HAVE EQUIVALENT OUTDOOR WEATHERABILITY CHARACTERISTICS AS THE RETROREFLECTIVE SHEETING.

INSTALLATION NOTES
1. TO ALLOW MILE POSTS TO BE READ FROM BOTH DIRECTIONS, ONE DOUBLE-FACED ALUMINUM PANEL SHALL BE MOUNTED AT ANGLE TO THE TRACK AT EACH LOCATION.
2. THE SIGN SHALL BE SET FOR THE LOCATION OF SIGN DETAIL ON THIS SHEET, EXCEPT AS MOUNTED AT NEAR TIE ELEVATION OF TOP OF NEAREST TIE.
3. NO TRESPASSING/TENTH MILE SIGN WITH EVEN NUMBERS SHALL BE SET FOR THE WESTWARD DIRECTION AND WITH ODD NUMBERS ON THE EASTWARD DIRECTION IN THE RIGHT SIDE OF THE TRACK. NO TRESPASSING SIGNS SHALL BE SET FOR BOTH DIRECTIONS WHERE TRESPASSING/TENTH MILE SIGNS ARE NOT PRESENT.
4. WHEN THE EXACT MILE POST STATION FALLS WITHIN THE LIMITS OF A BRIDGE, GRADE CROSSING OR OTHER FEATURE WHERE IT WOULD BE IMPRACTICAL TO LOCATE A SIGN, THE MILE POST SHALL INSTEAD BE SET AT THE END OF THE FEATURE NEAREST THE EXACT MILE POST STATION.
5. NO TRESPASSING SIGN ONLY, WILL BE INSTALLED ON FOUR CORNERS OF INCR. 5'-6" TENTH MILE GRADE CROSSING WITHIN 50 FEET FROM THE EDGE OF CROSSING.
6. NO TRESPASSING/TENTH MILE SIGN SHALL BE PLACED ON CENTER FENCE AT STATIONS.

MATERIAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>PRODUCT SYSTEM</th>
<th>MANUFACTURER AND PRODUCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH INTENSITY SHEETING MATERIAL</td>
<td>1 3M DIAMOND GRADE DG-3-4090</td>
</tr>
<tr>
<td>BLACK</td>
<td>2 AVERY DENNISON OMNI-CUBE T-11500</td>
</tr>
<tr>
<td>3M-EC FILM 883B OR 8831 INK</td>
<td>1 AVERY DENNISON BLACK VINYL OL-2000 OR 4930 INK</td>
</tr>
<tr>
<td>3M DIAMOND GRADE DG-3-4092</td>
<td>1 AVERY DENNISON OMNI-CUBE T-11508</td>
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<tr>
<td>3M DIAMOND GRADE DG-3-4092</td>
<td>1 AVERY DENNISON OMNI-CUBE T-11508</td>
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<tr>
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<td>1 AVERY DENNISON OMNI-CUBE T-11508</td>
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<td>1 AVERY DENNISON OMNI-CUBE T-11508</td>
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<tr>
<td>3M DIAMOND GRADE DG-3-4092</td>
<td>1 AVERY DENNISON OMNI-CUBE T-11508</td>
</tr>
<tr>
<td>NIKKALITE BRAND HI-SCALE F-40801</td>
<td>2 AVERY DENNISON DL-1000 PREMIUM ANTI-GRAFFITIFILM</td>
</tr>
<tr>
<td>AVERY DENNISON BLACK VINYL OL-2000 OR 4930 INK</td>
<td>1 AVERY DENNISON OMNI-CUBE T-11500</td>
</tr>
<tr>
<td>AVERY DENNISON BLACK VINYL OL-2000 OR 4930 INK</td>
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<td>3M DIAMOND GRADE DG-3-4092</td>
<td>1 AVERY DENNISON OMNI-CUBE T-11500</td>
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</table>

ENGINEERING STANDARDS

- No trespassing and tenth mile post sign

METROLINK
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
500 WILSHIRE BLVD, SUITE 1500, L.A., CA 90017
NOTES:
1. Markings shall be applied to the web of the rail with OSHA safety white spray paint. Black paint background may be used when white paint alone is difficult to see.
2. Markings to be made using 2¾” gothic lettering stencil.
3. Milepost markings shall be applied on both field sides of all main and siding tracks and every tenth mile (0.10) as located by proper survey. Milepost markings do not need to be applied to siding tracks.
4. Milepost markings existing on rail that is being replaced shall be stenciled on the new replacement rail with the same milepost markings in the exact same location.

MILE POST RAIL MARKING

1. Milepost markings shall be applied on both field sides of all main and siding tracks and every tenth mile (0.10) as located by proper survey. Milepost markings do not need to be applied to siding tracks.
2. Milepost markings existing on rail that is being replaced shall be stenciled on the new replacement rail with the same milepost markings in the exact same location.

NOTES:

MILEPOST MARKINGS

- **SAME MILEPOST MARKINGS IN THE EXACT SAME LOCATION.**

MARKINGS TO BE MADE USING 2¾” GOTHIC LETTERING STENCIL.

MILE POST MARKINGS

MILEPOST MARKINGS TO BE APPLIED ON BOTH FIELD SIDES OF ALL MAIN AND SIDING TRACKS AND EVERY TENTH MILE (0.10) AS LOCATED BY PROPER SURVEY. MILEPOST MARKINGS DO NOT NEED TO BE APPLIED TO SIDING TRACKS.

MARKINGS TO BE APPLIED TO THE WEB OF THE RAIL WITH OSHA SAFETY WHITE SPRAY PAINT. BLACK PAINT BACKGROUND MAY BE USED WHEN WHITE PAINT ALONE IS DIFFICULT TO SEE.
**SIGN NOTES:**

1. Signs shall include aluminum panel retroreflective sheathing, polyester film, and self-process colors on film or film by protection overlay, anti-graffiti/overlay, posts, anchors, and hardware.
2. Panel shall be painted on all sides with two part acrylic polyurethane paint coating.
3. Retroreflective sheathing shall conform to the requirements of AGA Class 3 or greater. Retroreflective sheathing shall have Class 3 or 4 adhesive backing which shall be pressure sensitive and fungus resistant.

**INSTALLATION NOTES:**

1. Purpose to assist train crews and others in accurately determining locations for speed restrictions and form B track bulletins.
2. Where used as specified by the general code operating rules.
3. Placement: All signs on this page are displayed to the field side of the track, for the appropriate direction of traffic movement. Actual location may be adjusted slowly to avoid obstructions and utilities. Care must be used with placement to ensure signs do not obstruct walkway, maintenance road, drainage ditches, sewer tracks, etc. In all cases placement must conform to the clearances specified in CPUC GC 26.0. When installing 2-piece flag holder, drive flag base with flag base driver only. Do not strike reflective tape applied to flag base.
4. Distance from field side of nearest rail to the edge of flag shall not be less than 9 feet nor more than 15 feet, unless otherwise prescribed by Rule 5.4.

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**MANUFACTURER AND PRODUCT**

<table>
<thead>
<tr>
<th>MATERIAL SPECIFICATIONS</th>
<th>MANUFACTURER AND PRODUCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHEETING (YELLOW)</td>
<td>1           3M DG3 4091</td>
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<tr>
<td></td>
<td>2           AVERY DENNISON OMNI·CORE T-11501</td>
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<tr>
<td>SHEETING (RED)</td>
<td>1           3M DG3 4092</td>
</tr>
<tr>
<td></td>
<td>2           AVERY DENNISON OMNI·CORE T-11508</td>
</tr>
<tr>
<td>ANTI-GRAFFITI OVERLAY</td>
<td>1           3M PREMIUM PROTECTIVE OVERLAY FILM 1860</td>
</tr>
<tr>
<td></td>
<td>2           NIKKALITE BRAND HI-Scale T-4088</td>
</tr>
<tr>
<td>PANEL</td>
<td>1           ¾&quot; THICK ALUMINUM, ALCOA 6061-T6 OR EQUAL</td>
</tr>
<tr>
<td></td>
<td>2           AVERY DENNISON OL-1000 PREMIUM ANTI-GRAFFITI FILM</td>
</tr>
<tr>
<td>POSTS, ANCHORS &amp; HARDWARE</td>
<td>1</td>
</tr>
</tbody>
</table>
REVISED INSTALLATION NOTE 1

WHISTLING POINT / QUIET ZONE SIGN

SIGN NOTES:
1. SIGNS SHALL INCLUDE ALUMINUM PANEL, RETROREFLECTIVE SHEETING, MULTIPURPOSE PANEL, SCREENED-PROCESS COLORS OR FILM, UV PROTECTION OVERLAY, ANTI-GRAPHITE OVERLAY, POSTS, ANCHORS AND HARDWARE.

2. FONT SHALL BE PER SCRRA ES1212, SIZE AS INDICATED.

3. PANEL SHALL BE PAINTED ON ALL SIDES WITH TWO PART ACRYLIC POLYURETHANE PAINT.

4. RETROREFLECTIVE SHEETING SHALL CONFORM TO THE REQUIREMENTS OF ASTM D4956, CLASS IX OR GREATER. RETROREFLECTIVE SHEETING SHALL HAVE EQUIVALENT OUTDOOR WEATHERABILITY CHARACTERISTICS AS THE RETROREFLECTIVE SHEETING.

5. SCREENED-PROCESS COLORS AND NONREFLECTIVE OPAQUE BLACK FILM SHALL HAVE EQUIVALENT OUTDOOR WEATHERABILITY CHARACTERISTICS AS THE RETROREFLECTIVE SHEETING.

INSTALLATION NOTES:
1. THE SIGN SHALL BE SET PER THE LOCATION OF SIGN DETAIL ON THIS SHEET EXCEPT WHERE THE INSTALLATION NOTES REQUIRE THE SIGN BE LOCATED TO THE RIGHT OF THE APPROACHING TRAIN IN SINGLE TRACK TERRITORY OR WHERE SIGNS ARE LOCATED TO THE RIGHT OF THE TRACK AS VIEWED FROM AN APPROACHING TRAIN. IN MULTIPLE TRACK TERRITORY, SIGNS SHALL BE CENTERED BETWEEN TRACKS TO THE RIGHT OF THE TRACK AS VIEWED FROM AN APPROACHING TRAIN, NO LESS THAN 120' TO CROSSING.

2. IN SINGLE TRACK TERRITORY, SIGNS SHALL BE LOCATED TO THE RIGHT OF THE TRACK AS VIEWED FROM AN APPROACHING TRAIN IN MULTIPLE TRACK TERRITORY OR WHERE SIGNS ARE LOCATED TO THE RIGHT OF THE APPROACHING TRAIN IN SINGLE TRACK TERRITORY. THE SIGNS SHALL BE PLACED ON THE FIELD SIDE OF THE OUTSIDE TRACKS. IN MULTIPLE TRACK TERRITORY, SIGNS SHALL BE CENTERED BETWEEN TRACKS TO THE RIGHT OF THE TRACK AS VIEWED FROM AN APPROACHING TRAIN, NO LESS THAN 120' TO CROSSING.

3. QUIET ZONE SIGN SHALL BE USED ONLY AT LOCATIONS THAT HAVE BEEN LEGALIZED AS QUIET ZONES.

4. WHERE THERE ARE MULTIPLE PUBLIC CROSSINGS LESS THAN 1320' APART, THE SIGN IN THE ADVANCE OF THE FIRST CROSSING SHALL INCLUDE A SECOND PANEL DISPLAYING A NUMERAL WHICH REPRESENTS THE NUMBER OF CROSSINGS INVOLVED.

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

ENGINEERING STANDARDS
WHISTLING POINT / QUIET ZONE SIGN

SIGN ELEVATION
LOCATION OF SIGN

PLAN
SECTION
STORES, ANCHORS & HARDWARE

REVISION
DATE
DRAWN BY
SHEET
CROSSINGS INVOLVED.

SIGN NOTES:
1. SIGNS SHALL INCLUDE ALUMINUM PANEL, RETROREFLECTIVE SHEETING, MULTIPURPOSE PANEL, SCREENED-PROCESS COLORS OR FILM, UV PROTECTION OVERLAY, ANTI-GRAPHITE OVERLAY, POSTS, ANCHORS AND HARDWARE.

2. FONT SHALL BE PER SCRRA ES1212, SIZE AS INDICATED.

3. PANEL SHALL BE PAINTED ON ALL SIDES WITH TWO PART ACRYLIC POLYURETHANE PAINT.

4. RETROREFLECTIVE SHEETING SHALL CONFORM TO THE REQUIREMENTS OF ASTM D4956, CLASS IX OR GREATER. RETROREFLECTIVE SHEETING SHALL HAVE EQUIVALENT OUTDOOR WEATHERABILITY CHARACTERISTICS AS THE RETROREFLECTIVE SHEETING.

5. SCREENED-PROCESS COLORS AND NONREFLECTIVE OPAQUE BLACK FILM SHALL HAVE EQUIVALENT OUTDOOR WEATHERABILITY CHARACTERISTICS AS THE RETROREFLECTIVE SHEETING.

INSTALLATION NOTES:
1. THE SIGN SHALL BE SET PER THE LOCATION OF SIGN DETAIL ON THIS SHEET EXCEPT WHERE THE INSTALLATION NOTES REQUIRE THE SIGN BE LOCATED TO THE RIGHT OF THE APPROACHING TRAIN IN SINGLE TRACK TERRITORY OR WHERE SIGNS ARE LOCATED TO THE RIGHT OF THE TRACK AS VIEWED FROM AN APPROACHING TRAIN. IN MULTIPLE TRACK TERRITORY, SIGNS SHALL BE CENTERED BETWEEN TRACKS TO THE RIGHT OF THE TRACK AS VIEWED FROM AN APPROACHING TRAIN, NO LESS THAN 120' TO CROSSING.

2. IN SINGLE TRACK TERRITORY, SIGNS SHALL BE LOCATED TO THE RIGHT OF THE TRACK AS VIEWED FROM AN APPROACHING TRAIN IN MULTIPLE TRACK TERRITORY OR WHERE SIGNS ARE LOCATED TO THE RIGHT OF THE APPROACHING TRAIN IN SINGLE TRACK TERRITORY. THE SIGNS SHALL BE PLACED ON THE FIELD SIDE OF THE OUTSIDE TRACKS. IN MULTIPLE TRACK TERRITORY, SIGNS SHALL BE CENTERED BETWEEN TRACKS TO THE RIGHT OF THE TRACK AS VIEWED FROM AN APPROACHING TRAIN, NO LESS THAN 120' TO CROSSING.

3. QUIET ZONE SIGN SHALL BE USED ONLY AT LOCATIONS THAT HAVE BEEN LEGALIZED AS QUIET ZONES.

4. WHERE THERE ARE MULTIPLE PUBLIC CROSSINGS LESS THAN 1320' APART, THE SIGN IN THE ADVANCE OF THE FIRST CROSSING SHALL INCLUDE A SECOND PANEL DISPLAYING A NUMERAL WHICH REPRESENTS THE NUMBER OF CROSSINGS INVOLVED.

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

ENGINEERING STANDARDS
WHISTLING POINT / QUIET ZONE SIGN

SIGN ELEVATION
LOCATION OF SIGN
ENGINEERING STANDARDS

YARD LIMIT SIGN FOR TERMINAL TRACKS

SIGN PLATE DETAIL 1

OPTIONAL CUT FOR LIMITED CLEARANCE DETAIL 2

INSTALL SIGN IN LINE WITH SIGNAL

YELLOW SIGN PANEL 1/8"

NOTE: ALL OTHER DIMENSIONS PER DETAIL 1.

SIGNAL

ELEVATION OF TOP OF NEAREST TIE

YARD LIMIT TERRITORY

OTHER THAN YARD LIMIT TERRITORY

PLAN

ELEVATION LOCATION OF SIGN DETAIL 4

NOTE: MATERIAL SPECIFICATIONS

PRODUCT SYSTEM MANUFACTURER AND PRODUCT

HIGH INTENSITY SHEETING (YELLOW)

1 3M DCI 4081

2 AVERY DENNISON ORNL, GROB 1-1500

ANTI - GRAFFITI OVERLAY

1 3M PREMIUM PROTECTIVE OVERLAY FILM 1560

2 NIKKALITE BRAND NO-SCALE T-40807

3 AVERY DENNISON OIL-1000 PREMIUM ANTI - GRAFFITI FILM

PANEL

1 3/8" THICK ALUMINUM, ALOA 6061-T6 OR EQUAL

POSTS, ANCHORS & HARDWARE

1 PER SCRRA ES5210

SIGN NOTES:
1. SIGN SHALL INCLUDE ALUMINUM PANEL, RETROREFLECTIVE SHEETING, POLYURETHANE PAINT, SCREENED-PROCESS COLORS OR FILM, UV PROTECTION OVERLAY, ANTI-GRAFFITI OVERLAY, POSTS, ANCHORS AND HARDWARE.

2. PANEL SHALL BE PAINTED ON ALL SIDES WITH TWO PART ACRYLIC POLYURETHANE PAINT COATING.

3. RETROREFLECTIVE SHEETING SHALL COMPLY WITH THE REQUIREMENTS OF ASTM D4956, CLASS IX OR GREATER. RETROREFLECTIVE SHEETING SHALL HAVE CLASS 1, 3, OR 4 ADHESIVE BACKING WHICH SHALL BE pressure sensitive and fungus resistant.

INSTALLATION NOTES:
1. THE SIGN SHALL BE SET PER THE LOCATION OF SIGN DETAIL ON THIS SHEET. EXCEPTIONS SHALL REQUIRE THE APPROVAL OF SCRRA.

2. SIGN SHALL BE INSTALLED TO INDICATE LIMIT OF TERRITORY OPERATED UNDER RULE 6.13.

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY

180 WILSHIRE BLVD., SUITE 1500, L.A., CA. 90017

ASSISTANT DIRECTOR, DESIGN

PRINCIPAL ENGINEER, DESIGN & STANDARDS

METROLINK
**SIGN DETAIL**

1. Signs shall include aluminum panel, retroreflective sheeting, polyurethane paint, screened-process colors on film, UV protection overlay, anti-graffiti overlay, posts, anchors and hardware.

2. Font shall be per SCRRA ES5210, size as indicated.

3. Panel shall be painted on all sides with two part acrylic polyurethane paint coating.

4. Retroreflective sheeting shall conform to the requirements of ASTM D4956, Class IX or greater. Retroreflective sheeting shall have Class 1, 3, or 4 adhesive backing which shall be pressure sensitive and fungus resistant.

5. Screened-process colors and nonreflective opaque black film shall have equivalent outdoor weatherability characteristics as the retroreflective sheeting.

**INSTALLATION NOTE:**

1. The sign shall be set per the location of sign detail on this sheet. Exceptions shall require the approval of SCRRA.

**SIGN NOTES:**

1. Signs shall include aluminum panel, retroreflective sheeting, polyurethane paint, screened-process colors on film, UV protection overlay, anti-graffiti overlay, posts, anchors and hardware.

2. Font shall be per SCRRA ES5210, size as indicated.

3. Panel shall be painted on all sides with two part acrylic polyurethane paint coating.

4. Retroreflective sheeting shall conform to the requirements of ASTM D4956, Class IX or greater. Retroreflective sheeting shall have Class 1, 3, or 4 adhesive backing which shall be pressure sensitive and fungus resistant.

5. Screened-process colors and nonreflective opaque black film shall have equivalent outdoor weatherability characteristics as the retroreflective sheeting.

**ENGINEERING STANDARDS**

**CONTROL POINT (CP) LIMIT SIGN**

**METROLINK**

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
820 WILSHIRE BLVD., SUITE 1500, L.A., CA. 90017
**Notes:**

1. Both rails to be marked on the web on field side with OSHA safety orange spray paint.
2. Marking to be made using 2¾" gothic lettering stencil.
3. Rails to be marked directly opposite each other aligned with the southeast insulated joint.
SIGN NOTES:
1. Signs shall include aluminum panel, retroreflective sheeting, polymethylmethacrylate panels, screened-process colors or film, anti-graffiti overlay, posts, anchors and hardware.
2. Font shall be per SCRRA ES5210, size as indicated.
3. Panel shall be painted on all sides with two part acrylic polymerthane paint coating.
4. Retroreflective sheeting shall conform to the requirements of ASTM D 4556, Class X or greater. Retroreflective sheeting shall have class 1.3 or 4 adhesive backing which shall be pressure sensitive and fungus resistant.
5. Screened-process colors and nonreflective opaque black film shall have equivalent outdoor materiality characteristics as the retroreflective sheeting.

INSTALLATION NOTES:
1. The sign shall be set per the location of sign detail on the sheet. Exceptions shall require the approval of SCRRA.
2. Signs shall be placed at all stations and business tracks listed on the applicable schedule page.
3. In two territory, one sign is required at each end of signs in plan view from approaching trains.
4. At other locations in the territory where signs are required, signs shall be mounted on both sides of post at timetable station location.
5. In other than CTC or two territory, signs shall be mounted on both sides of post and located at timetable station location.
6. To minimize the length of the sign, abbreviations that make meaning clear may be used. Requirements for station signs shall specify mounting hardware required for typical mounting details.
7. Station sign shall be placed on opposite side of switch stand 10'-0" ahead of switch points.

MATERIAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Product System</th>
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<tbody>
<tr>
<td></td>
<td>High Intensity Sheeting (Panel)</td>
</tr>
<tr>
<td></td>
<td>Font / Graphics (Ink)</td>
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<td></td>
<td>Anti-</td>
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<tr>
<td></td>
<td>Panel</td>
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<tr>
<td>High Intensity Sheeting (Panel)</td>
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<tr>
<td>Font / Graphics (Ink)</td>
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</tr>
<tr>
<td>Anti- Graffiti Overlay</td>
<td>3</td>
</tr>
<tr>
<td>Panel</td>
<td>1</td>
</tr>
<tr>
<td>Posts, Anchors &amp; Hardware</td>
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<tr>
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<td>3</td>
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</tbody>
</table>

AZUSA  SAN DIMAS

NARROW SIGN  WIDE SIGN

BLACK LETTERS  BLACK LETTERS

WHITE PANEL  WHITE PANEL

1/8" DiA. Hole (TYP)  3/8" DiA. Hole (TYP)

4"  4"

LENGTH VARIES IN 6" INCREMENTS UP TO 2'-6" MAX

FIELD SIDE OF NEAREST TRACK 9'-0" MIN AND MAX SPECIFIED LOCATIONS

TOP OF POST SHALL BE SET AT ONE TENTH MILE AND MAX MILE MARKER LOCATIONS

PLAN

STATION SIGNS FOR OTHER THAN CTC TERRITORY

ENGINEERING STANDARDS

METROLINK

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

STATION SIGNS SHALL BE PLACED ON OPPOSITE SIDE OF SWITCH STAND 10'-0" AHEAD OF SWITCH POINTS.

4"  4"

LENGTH VARIES IN 6" INCREMENTS FROM 3'-0" MIN TO 6'-0" MAX

USING ALUMINUM PANEL, RETROREFLECTIVE SHEETING, SCREENED-PROCESS COLORS OR FILM, ANTI-GRAFFITI OVERLAY, POSTS, ANCHORS AND HARDWARE.

FULL NAME: A. CARLOS

THE SIGN SHALL BE SET PER THE LOCATION OF SIGN DETAIL ON THE SHEET. EXCEPTIONS SHALL REQUIRE THE APPROVAL OF SCRRA.

THE SIGN SHALL BE PLACED AT ALL STATIONS AND BUSINESS TRACKS LISTED ON THE APPROPRIATE SCHEDULE PAGE.

IN TWO TERRITORY, ONE SIGN IS REQUIRED AT EACH END OF SIGNS IN PLAN VIEW FROM APPROACHING TRAINS.

AT OTHER LOCATIONS IN THE TERRITORY WHERE SIGNS ARE REQUIRED, SIGNS SHALL BE MOUNTED ON BOTH SIDES OF POST AT TIMETABLE STATION LOCATION.

IN OTHER THAN CTC OR TWO TERRITORY, SIGNS SHALL BE MOUNTED ON BOTH SIDES OF POST AND LOCATED AT TIMETABLE STATION LOCATION.

TO MINIMIZE THE LENGTH OF THE SIGN, ABBREVIATIONS THAT MAKE MEANING CLEAR MAY BE USED. REQUIREMENTS FOR STATION SIGNS SHALL SPECIFY MOUNTING HARDWARE REQUIRED FOR TYPICAL MOUNTING DETAILS.

STATION SIGN SHALL BE PLACED ON OPPOSITE SIDE OF SWITCH STAND 10'-0" AHEAD OF SWITCH POINTS.

THE SIGN SHALL BE SET PER THE LOCATION OF SIGN DETAIL ON THE SHEET. EXCEPTIONS SHALL REQUIRE THE APPROVAL OF SCRRA.

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STATION SIGN SHALL BE PLACED ON OPPOSITE SIDE OF SWITCH STAND 10'-0" AHEAD OF SWITCH POINTS.
**ENGINEERING STANDARDS**

**MECHANICAL LIMIT AND NO RIDE ZONE SIGNS**

**INFORMATION AGREED THAT IT ASSUMES ALL LIABILITY ARISING FROM SUCH REPRESENTATIONS OF ANY KIND ARE DISCLAIMED. ANYONE MAKING USE OF THESE STANDARDS IS THE SOLE RESPONSIBILITY OF THE USER AND SHOULD NOT BE USED WITHOUT CONSULTING A REGISTERED PROFESSIONAL ENGINEER. ALL WARRANTIES AND CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. EXCEPT FOR THE ACCURACY OR COMPLETENESS OF THE DATA OR INFORMATION CONTAINED HEREIN. THE SELECTION AND USE OF THESE SCRRA ENGINEERING STANDARDS ARE INTENDED FOR SCRRA APPROVED USES ONLY. NO PART OF THESE STANDARDS SHOULD BE REPRODUCED OR DISTRIBUTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN PERMISSION OF SCRRA. USE.**

**SIGN NOTES:**

1. SIGNS SHALL INCLUDE ALUMINUM PANEL, RETROREFLECTIVE SHEETING, POLYURETHANE PAINT, SCREENED-PROCESS COLORS ON FILM, UV PROTECTION OVERLAY, ANTI-GRAFFITI OVERLAY, POSTS, ANCHORS AND HARDWARE.

2. FONT SHALL BE SCRRA ES1212, SIZE AS INDICATED.

3. PANEL SHALL BE PAINTED ON ALL SIDES WITH TWO PART ACRYLIC POLYURETHANE PAINT COATING.

4. RETROREFLECTIVE SHEETING SHALL CONFORM TO THE REQUIREMENTS OF ASTM D4796, CLASS 1 OR GREATER, AND FAILURE TO COMPLY WITH ANY SCRRA SPECIFICATION SHALL BE CONSIDERED A VIOLATION OF SCRRA POLICY.

5. SCREENED-PROCESS COLORS AND NONREFLECTIVE, OPAQUE BLACK FILM SHALL HAVE EQUIVALENT OUTDOOR WEATHERABILITY CHARACTERISTICS AS THE RETROREFLECTIVE SHEETING.

**INSTALLATION NOTES:**

1. THE SIGNS SHALL BE SET AT THE LOCATION OF SIGN DETAIL ON THIS SHEET EXCEPT IN ADDITION TO THE LOCATION OF SIGN DETAIL ON THIS SHEET. EXCEPTIONS SHALL REQUIRE THE APPROVAL OF SCRRA.

2. THE POST SHALL BE SET ON THE RIGHT HAND SIDE OF THE TRACK AS ONE FACES THE YARD.

3. FACING OF THE SIGN SHALL BE SET FACING TRAINS APPROACHING THE YARD.

4. SCRRA WILL DESIGNATE STATIONS AT WHICH SIGNS WILL BE USED AND THE DISTANCES THEY WILL BE SET OUTSIDE THE HEAD BLOCKS.

**MATERIAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>PRODUCT</th>
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<tr>
<td>1. 3M SCOTCHLITE HIGH INTENSITY PRISMATIC WHITE GRADE 3930 SHEETING</td>
<td></td>
</tr>
<tr>
<td>2. NIPPON CARBIDE RETRO-REFLECTIVE SHEETING TYPE VM CRYSTAL GRADE</td>
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<tr>
<td>3. AVERY DENNISON OPTICAL T-9500 PRISMATIC HIGH INTENSITY SHEETING</td>
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<tr>
<td>4. 3M PROCESS COLOR SERIES 8851 AY</td>
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<td>5. NIPPON CARBIDE GRAFFITI RESISTANT 3803 AY</td>
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<td>6. AVERY DENNISON 4930 AY</td>
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<td>7. 3M PREMIUM PROTECTIVE OVERLAY FILM 1660</td>
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<tr>
<td>8. NIPPON CARBIDE RETRO-REFLECTIVE SHEETING</td>
<td></td>
</tr>
<tr>
<td>9. AVERY DENNISON OMNI - VIEW T - 9500 PRISMATIC SHEETING</td>
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**POSTS, ANCHORS & HARDWARE**

- PANEL: 1/4" THICK ALUMINUM, ALCOA 6061-T6 OR EQUAL
- ANCHORS & POSTS: 1 PER SCRRA ES5210

**PLAN**

- MECHANICAL LIMIT SIGN
- NO RIDE ZONE SIGN

**LOCATION OF SIGN**

- CENTER OF POST SHALL BE SET 2'-0" FROM THE NEAREST TRACK
- ELEVATION OF TOP OF NEAREST TIE
- SET SIGN AT RIGHT ANGLE TO TRACK
- FIELD SIDE OF TRACK
- 3"-0" MIN. - 5"-0" MAX.
NOTES

1. Target plate to have non-reflective white vinyl applied to both sides.

2. Handle shall be schedule 40 PVC slotted to accommodate target plate.

3. Handle shall be secured to target plate with two ¼” x 20 x 1 ¼” plated hex head bolts. Nuts shall be ¼” x 20 round base weld nuts.

4. A 1” black border shall be silk screened to both sides of target plate with no space between edge of target plate and border.
### MATERIAL SPECIFICATIONS

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<tr>
<td>3</td>
<td>AVERY DENNISON ONHI-1 T-8500 PRISOMATIC HIGH INTENSITY SHEETING</td>
</tr>
</tbody>
</table>

### SIGN NOTES:

1. SIGNS OR MARKERS SHALL INCLUDE ALUMINUM PANEL RETROREFLECTIVE SHEETING, POLYURETHANE FOAM, SCREENED-PROCESS COLORS OR FILM, UV PROTECTION OVERLAY, ADVANCE OVERLAY, POSTS, ANCHORS AND HARDWARE.

2. FONT SHALL BE PER SCRRA ES5210, SIZE AS INDICATED.

3. PANEL SHALL BE PAINTED ON ALL SIDES WITH TWO PART ACRYLIC POLYURETHANE PAINT, SCREENED-PROCESS COLORS OR FILM, UV PROTECTION OVERLAY, ANTI-GRAFFITI OVERLAY, POSTS, ANCHORS AND HARDWARE.

4. RETROREFLECTIVE SHEETING SHALL CONFORM TO THE REQUIREMENTS OF ASTM D4956, CLASS IX OR GREATER. RETROREFLECTIVE SHEETING SHALL HAVE CLASS 1, 3, OR 4 ADHESIVE BACKING WHICH SHALL BE PRESSURE SENSITIVE AND FUNGUS RESISTANT.

5. SCREENED-PROCESS COLORS AND NONREFLECTIVE OPAQUE BLACK FILM SHALL HAVE EQUIVALENT OUTDOOR WEATHERABILITY CHARACTERISTICS AS THE RETROREFLECTIVE SHEETING.

### INSTALLATION NOTES:

1. SIGNS OR MARKERS SHALL BE PLACED ADJACENT TO ALL SCRRA AND 3RD PARTY UNDERGROUND COMMUNICATION AND ELECTRICAL CABLES.

2. SIGN FACE SHALL BE ORIENTED PERPENDICULAR TO CABLE.

3. EDGE OF SIGN OR MARKER POST SHALL BE SET NO CLOSER THAN 2'-6" FROM THE FIELD SIDE OF THE NEAREST RAIL, EXCEPTIONS SHALL REQUIRE THE APPROVAL OF SCRRA. INSTALLER SHALL AVOID DAMAGING UNDERGROUND UTILITY.

4. SIGNS OR MARKERS SHALL BE PLACED:
   - NO MORE THAN 500' APART
   - AT EVERY VICTICE LOCATION
   - AT EVERY POINT OF CHANGE OF DIRECTION
   - ON EACH SIDE OF BORE OR BRIDGE ATTACHMENT
   - WITHIN SIGHT OF MARKERS BEFORE AND AFTER
   - TO THE ACTUAL OFFSET SHALL BE PERMANENTLY NOTED ON THE SIGN OR MARKER.

5. MARKERS SHALL BE INDIIVIDUALLY NUMBERED AND SHOWN ON THE AS-BUILT DRAWINGS.

---

**WARNING**

UNDERGROUND CABLE

BEFORE DIGGING
NOTIFY METROLINK
AT 1-888-446-9720

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**FIBER OPTIC CABLE MARKER**

**SIGN PANEL**

**WARNING**

UNDERGROUND CABLE

BEFORE DIGGING
NOTIFY METROLINK
AT 1-888-446-9720