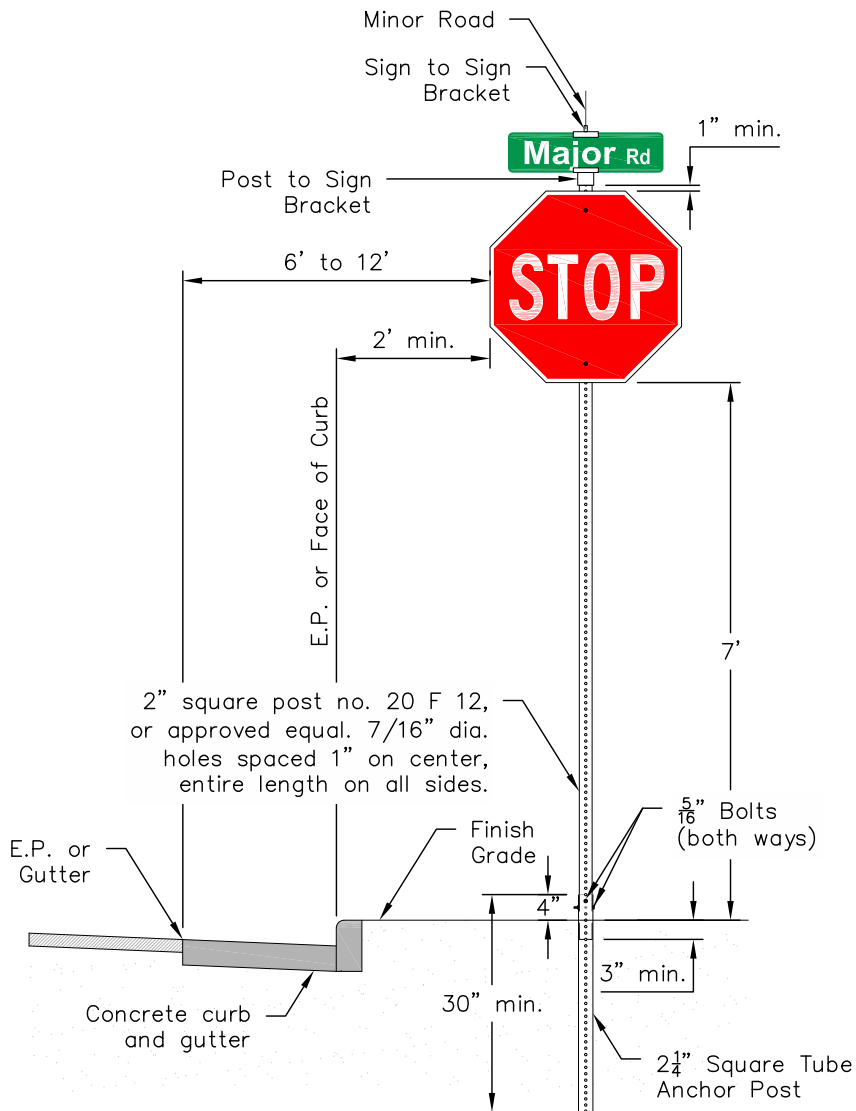


Traffic Signs and Markings Standard Details	
TR-1	Stop Sign and Street Name Signs
TR-2	Roadside Sign Installation
TR-3	Cul-De-Sac Signs and Markings
TR-4	Intersection Striping
TR-5	Standard Crosswalk
TR-6	Crosswalk Markings and Stop Line Locations
TR-6a	Mid Block Crosswalk - Low Risk
TR-6b	Mid Block Crosswalk - Medium Risk
TR-6c	Mid Block Crosswalk - High Risk
TR-6d	Skewed Crosswalk - Single-Lane
TR-6e	Skewed Crosswalk - Multi-Lane
TR-7	Auxiliary Lane Striping and RPMs
TR-8	Raised Pavement Markers
TR-8a	Two-Way-Left-Turn-Lane Striping and RPMs
TR-8b	Type DB RPMs
TR-9	Hatch Lines
TR-10	Accessible Parking Signs
TR-10a	Accessible Parking Stalls - Perpendicular
TR-10b	Accessible On-Street Parking - Approach to Intersection
TR-10c	Accessible On-Street Parking - After a Driveway
TR-10d	Accessible On-Street Parking - Before a Driveway
TR-10e	Accessible On-Street Parking - Mid-Block
TR-11	Loading Zone Signs and Markings
TR-12	Speed Hump Signs and Markings
TR-13	Zig-Zag Markings - Single-Lane
TR-13a	Zig-Zag Markings - Multi-Lane
TR-13b	Zig Zag Markings - On a Curve
TR-14	Shark Teeth Enhanced Markings
TR-15	Bridge Signs and Markings
TR-16	School Zone Signs and Markings
TR-16a	MUTCD Table 2C-4
TR-17	Overhead Street Name Sign
TR-17a	Overhead Street Name Sign Sample
TR-18	Bike Lane Pavement Markings
TR-19	EP Line Private Roads and Driveways - Light Traffic
TR-19a	EP Line Private Roads and Driveways - Heavy Traffic
TR-20	Traffic Division Maintenance Sticker



#### STREET NAME SIGNS:

1. White background shall be type IV High Intensity prismatic reflective sheeting or approved equal with transparent green vinyl overlay.
2. Lettering shall be first letter uppercase/lower case format and conform to the detail below and the latest edition of the "Standard Highways Signs" manual.
3. Street name shall conform to the proper Hawaiian spelling as assigned by the County of Hawai'i, Planning Department.

#### STOP SIGNS:

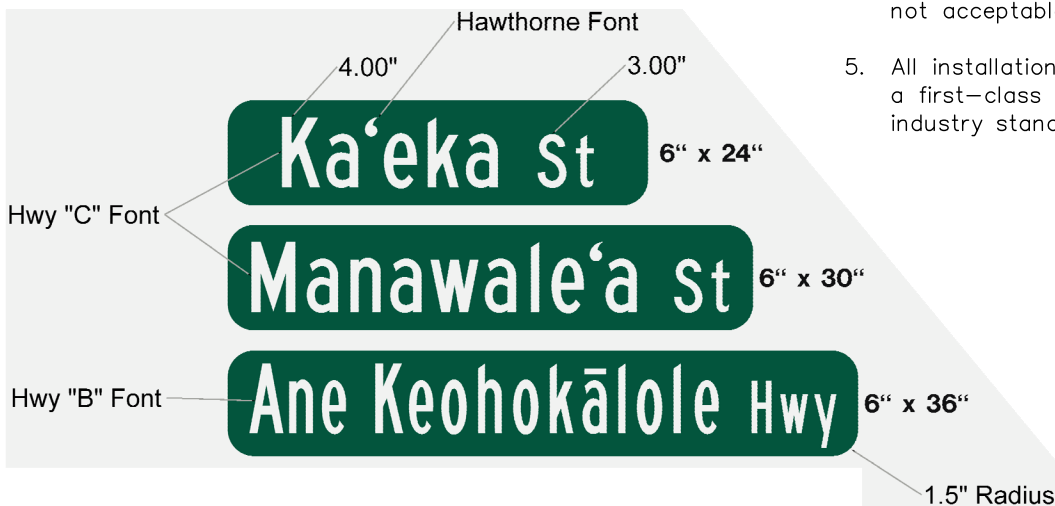
1. Stop sign typically faces minor road.
2. 30"x30" minimum size with Type IV High Intensity prismatic reflective sheeting or approved equal.

#### SIGN PLATES:

1. 0.080 inch minimum thickness, aluminum (ASTM B 209, alloy 6061-T6, flat sheet).
2. Street name plates shall be 24", 30" or (36" Maximum)

#### NOTES:

1. The inside of the 2-1/4" anchor post must be kept free of impediments to assure easy insertion of the 2" sign post.
2. Square tube sign post shall be telescoping perforated telespar tubing or approved equal.
3. Sign dimensions shall conform to the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD) and the Standard Highway Signs manual.
4. Flanged channel post and orthogonal posts are not acceptable.
5. All installations shall be firm and performed in a first-class workman-like manner according to industry standards.



COUNTY OF HAWAII

#### STOP SIGN AND STREET NAME SIGNS

APPROVED:

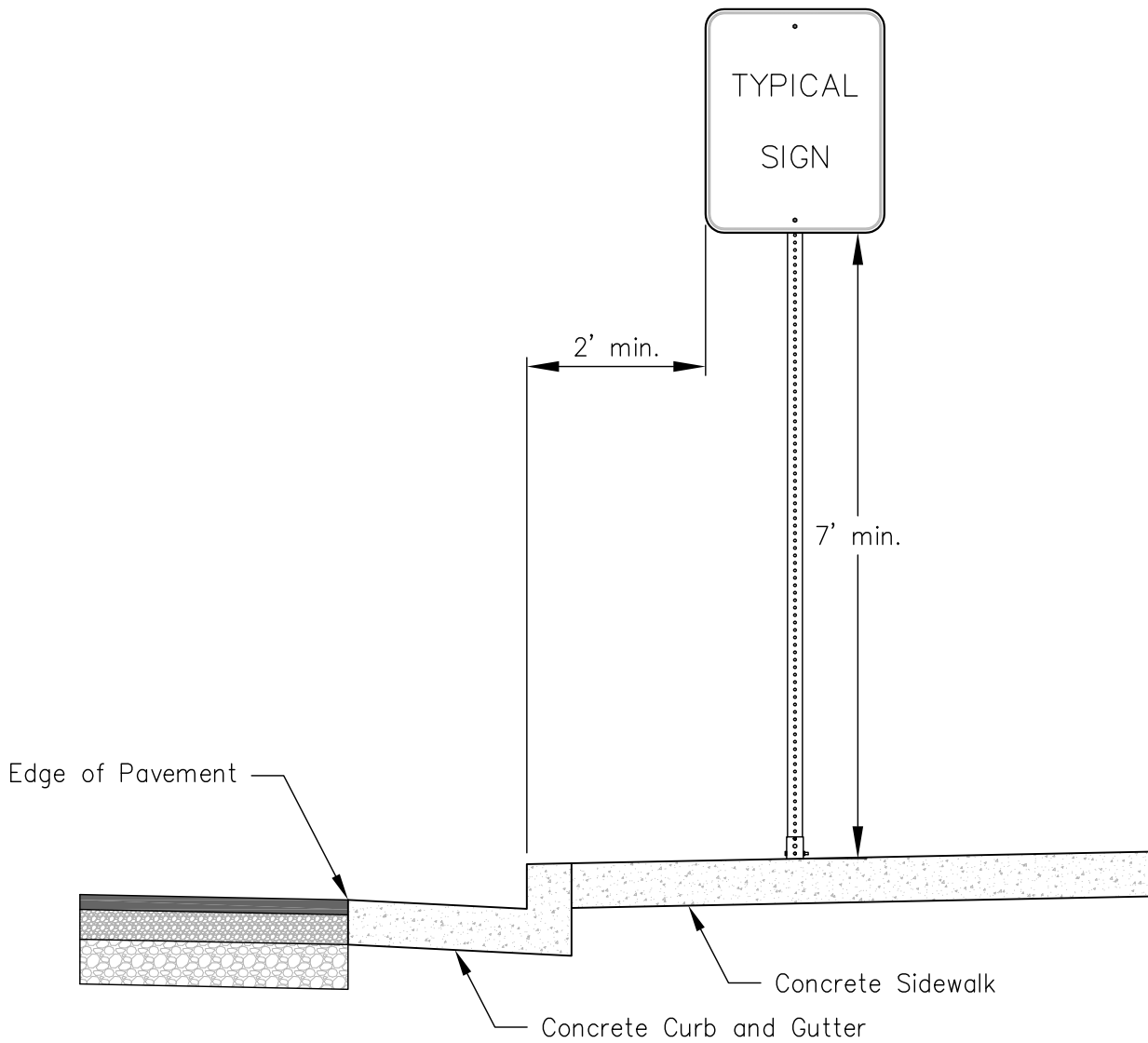
*Amstar*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: N.T.S.

STANDARD  
DETAILS

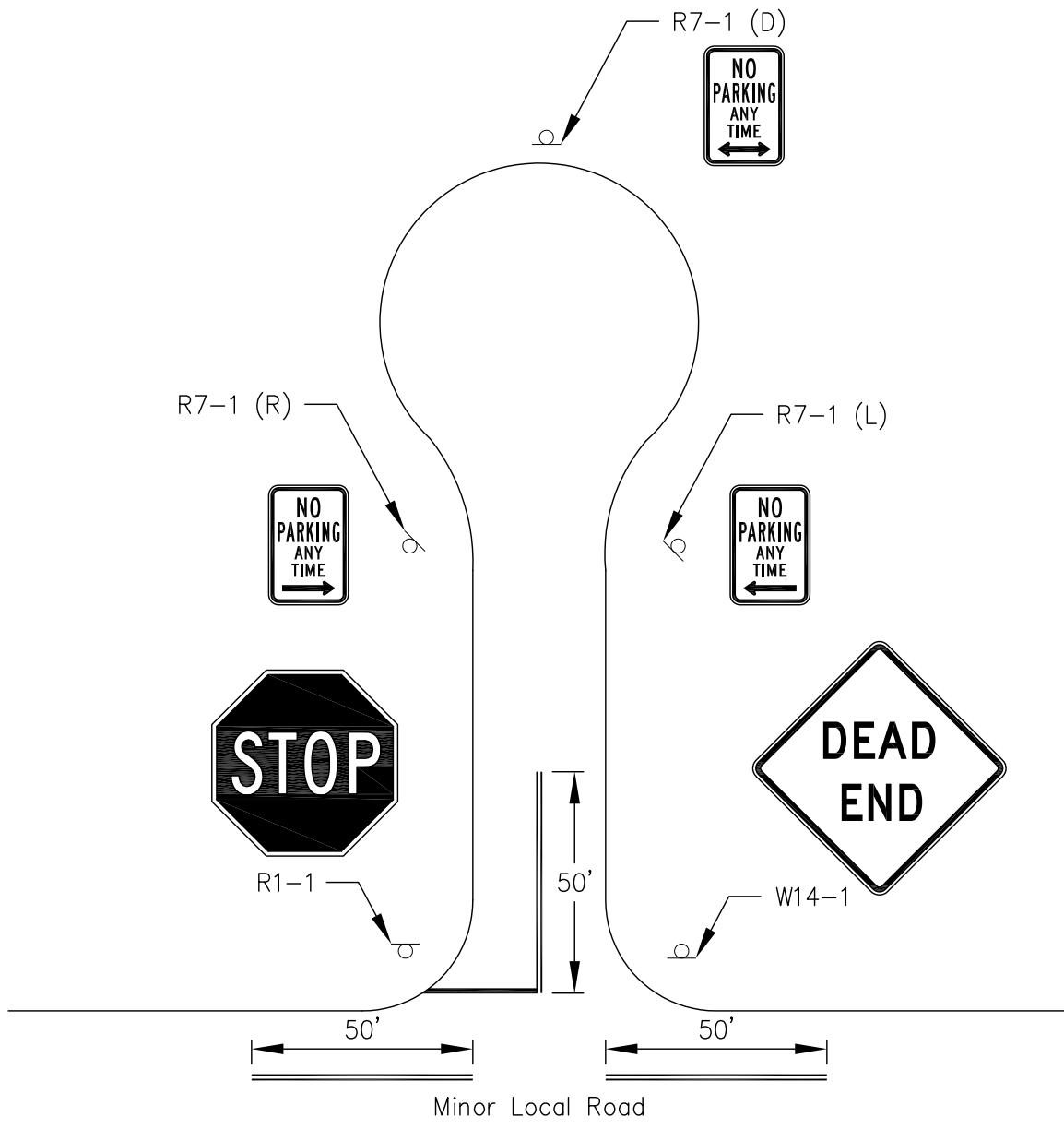
TR-1



ROADSIDE SIGN  
 Business or Residential District  
 (Typical Installation)

NOTE:

1. All traffic signs shall be completely reflectorized with Type IV High Intensity retroreflective sheeting.



# NOTES:

1. The use of R7-1 signs are site specific, with sign locations dependent on the lot frontages onto the cul-de-sac.
2. A W14-1 sign should be used if the end of the cul-de-sac cannot be easily seen from the through street.
3. All traffic signs shall be completely reflectorized with Type IV High Intensity retroreflective sheeting.
4. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
5. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used, but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

## CUL-DE-SAC SIGNS AND MARKINGS

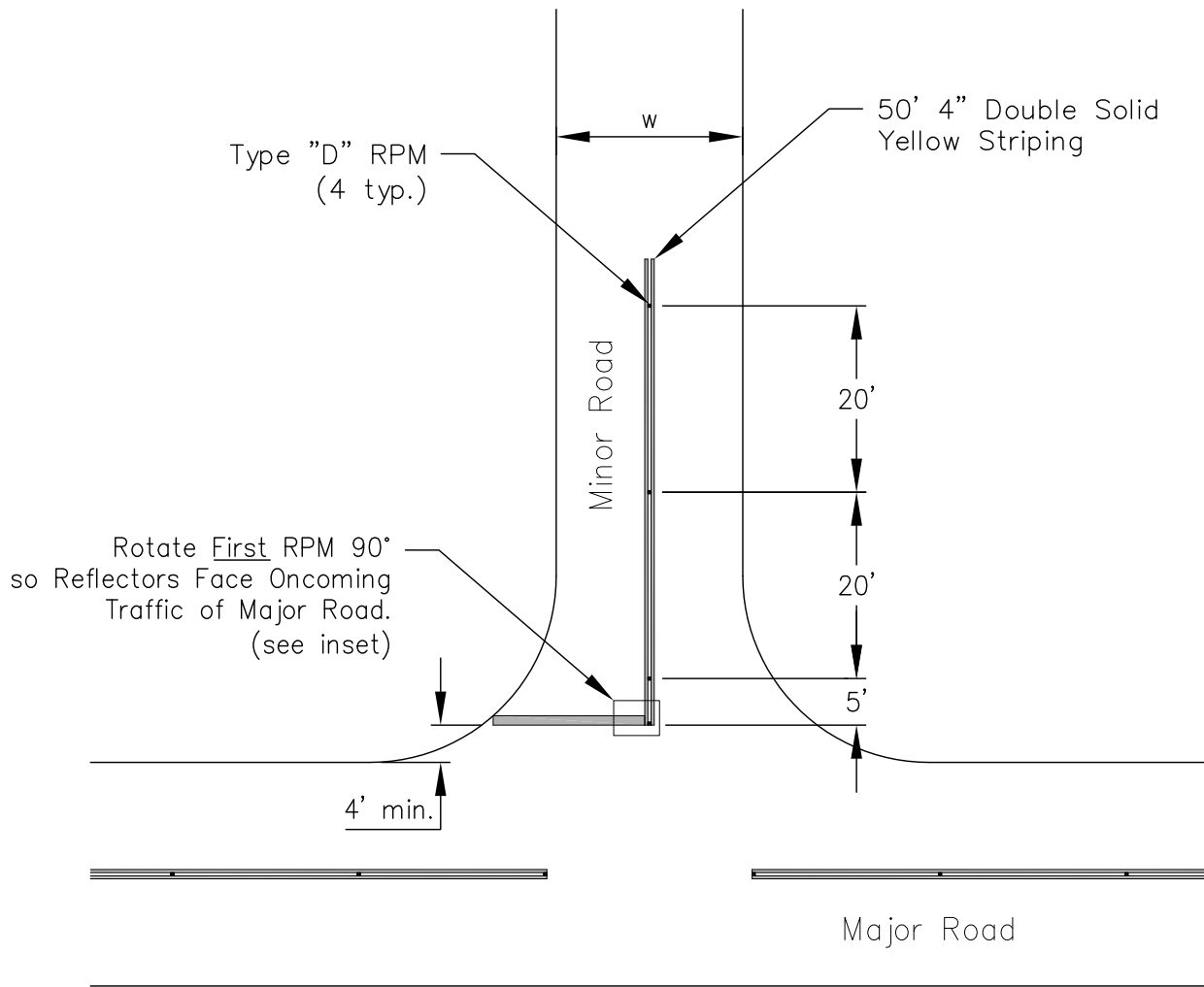
APPROVED: *Amstar*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=40'

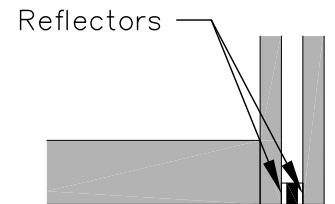
STANDARD  
DETAILS

TR-3



### TYPICAL INTERSECTION STRIPING

Scale: 1'=20'



### INSET - RPM DETAIL

Scale: 1'=3'

### NOTES:

- Centerline striping:
  - Install double solid yellow centerline striping when paved road width is  $\geq 16'-9"$ .
  - No striping when width is  $< 16'-9"$ .
- Edge line striping and RPMs as required per project.
- For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
- Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used, but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

### INTERSECTION STRIPING

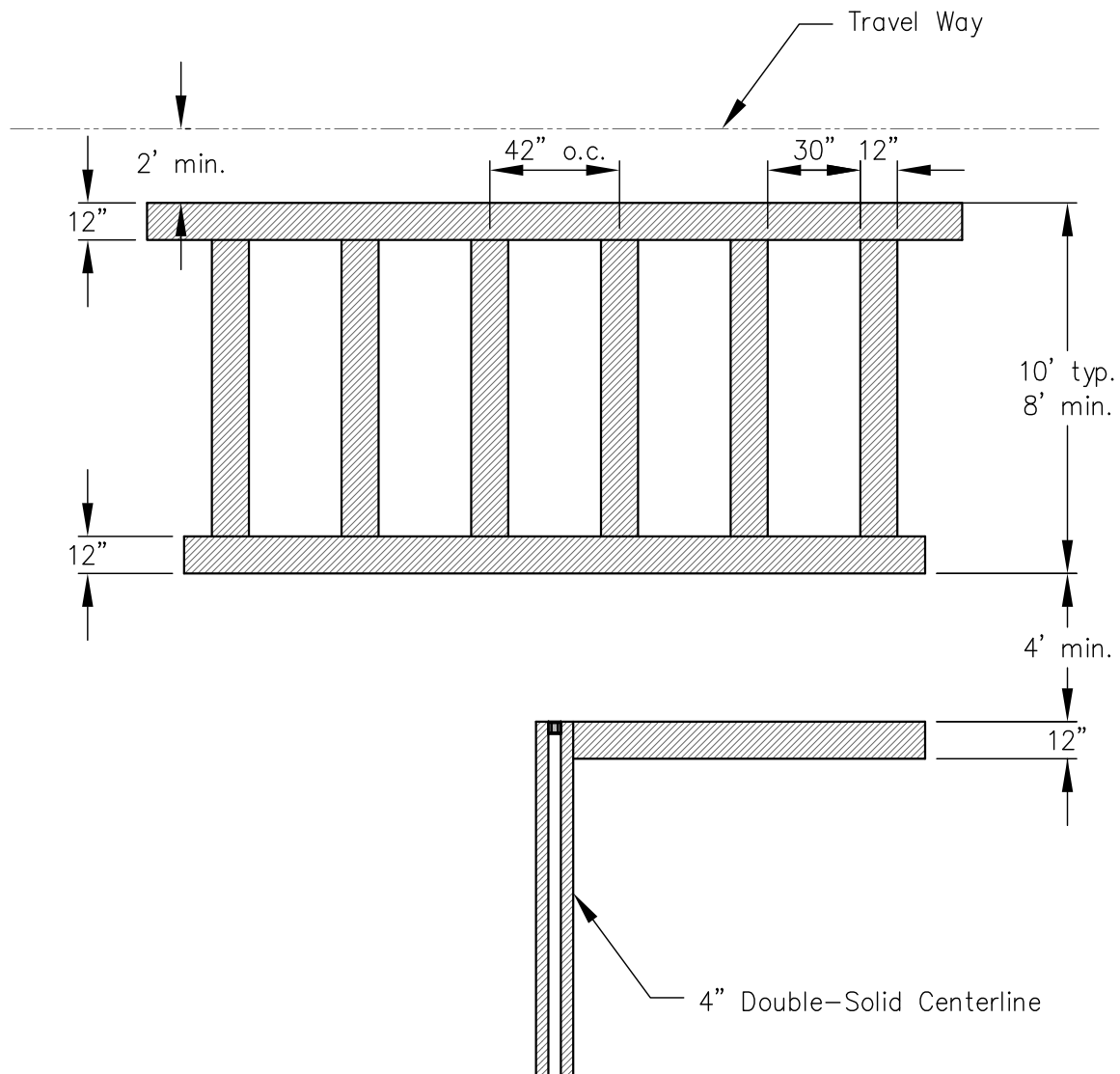
APPROVED: *Amstar*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: NOTED

STANDARD  
DETAILS

TR-4



STANDARD CROSSWALK  
Ladder Style

NOTES:

1. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
2. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used, but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

**STANDARD CROSSWALK**

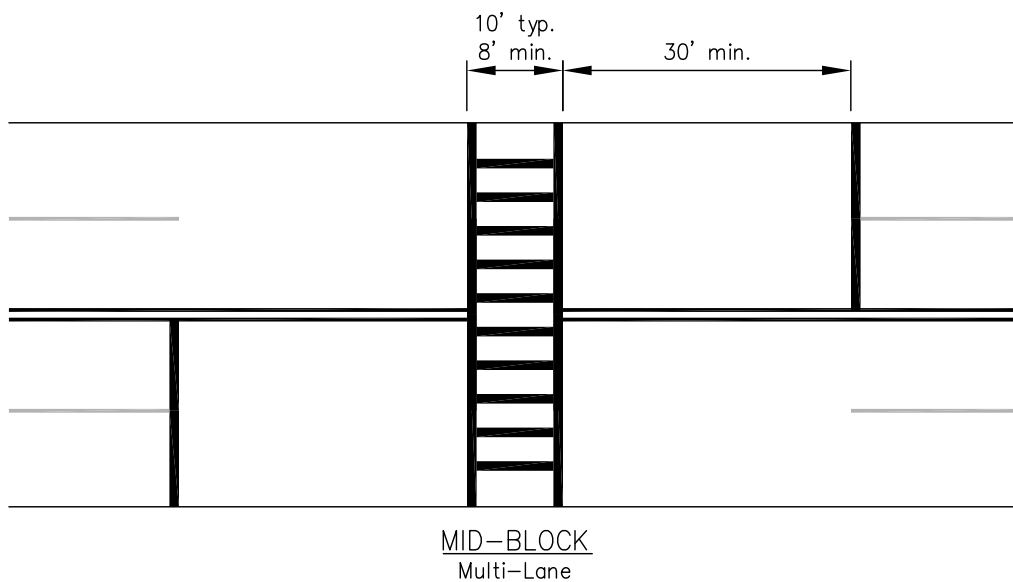
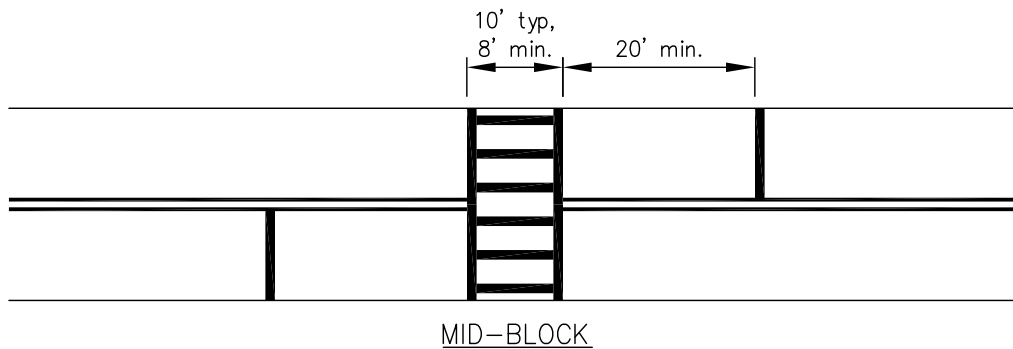
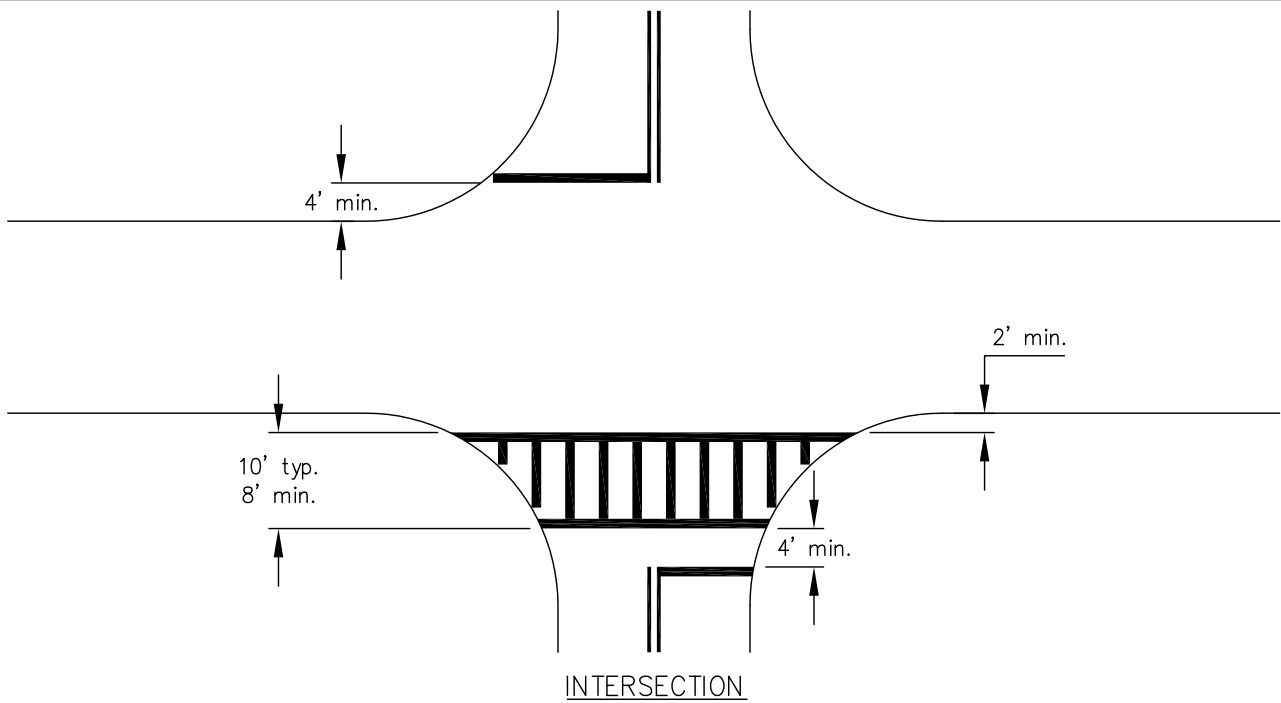
APPROVED: *Amstar*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=5'

**STANDARD  
DETAILS**

**TR-5**



**NOTES:**

1. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
2. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

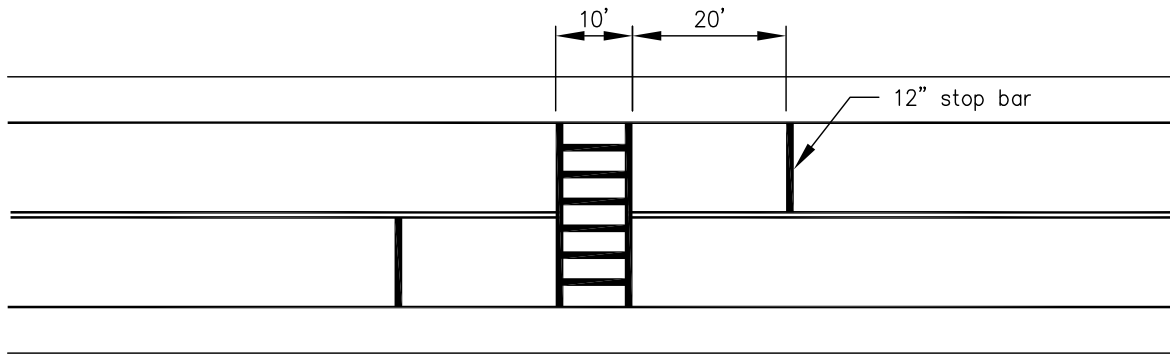
**CROSSWALK MARKINGS  
AND STOP LINE LOCATIONS**

APPROVED: *Amstar*  
TRAFFIC DIVISION

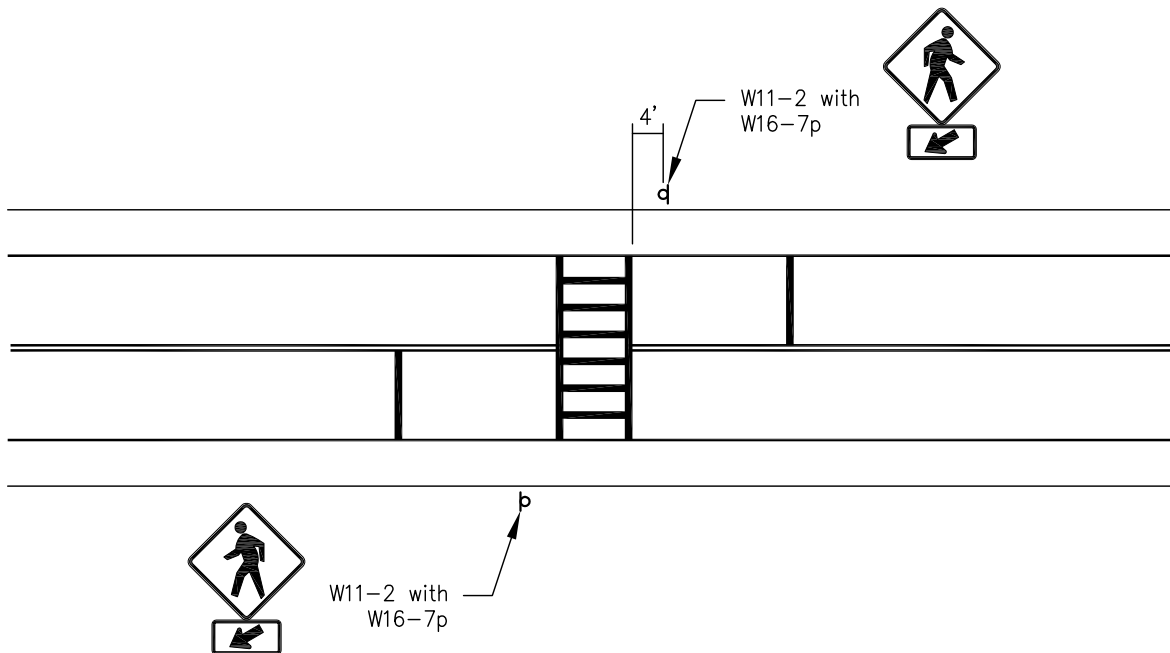
DATE: 07-08-20  
SCALE: 1"=20'

STANDARD  
DETAILS

TR-6



LOW-RISK CROSSING  
Striping Plan



LOW-RISK CROSSING  
Signage Plan

NOTES:

1. Provide sufficient stopping sight distance at the stop bars, per design speed.
2. Install R7-1 signs, 30' minimum on each side of crosswalk and to provide adequate sight distance.
3. All traffic signs shall be completely reflectorized with Type IV High Intensity retroreflective sheeting.
4. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
5. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

**MID-BLOCK CROSSWALK  
LOW-RISK**

APPROVED: *Amstar*

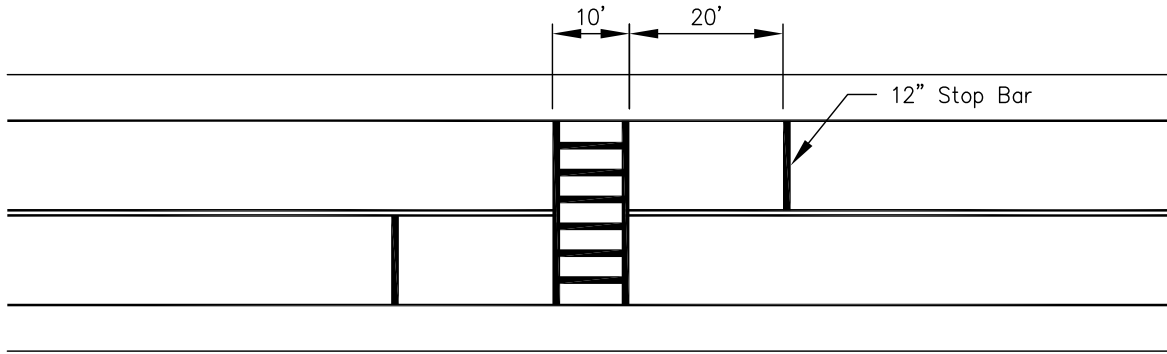
TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: N.T.S.

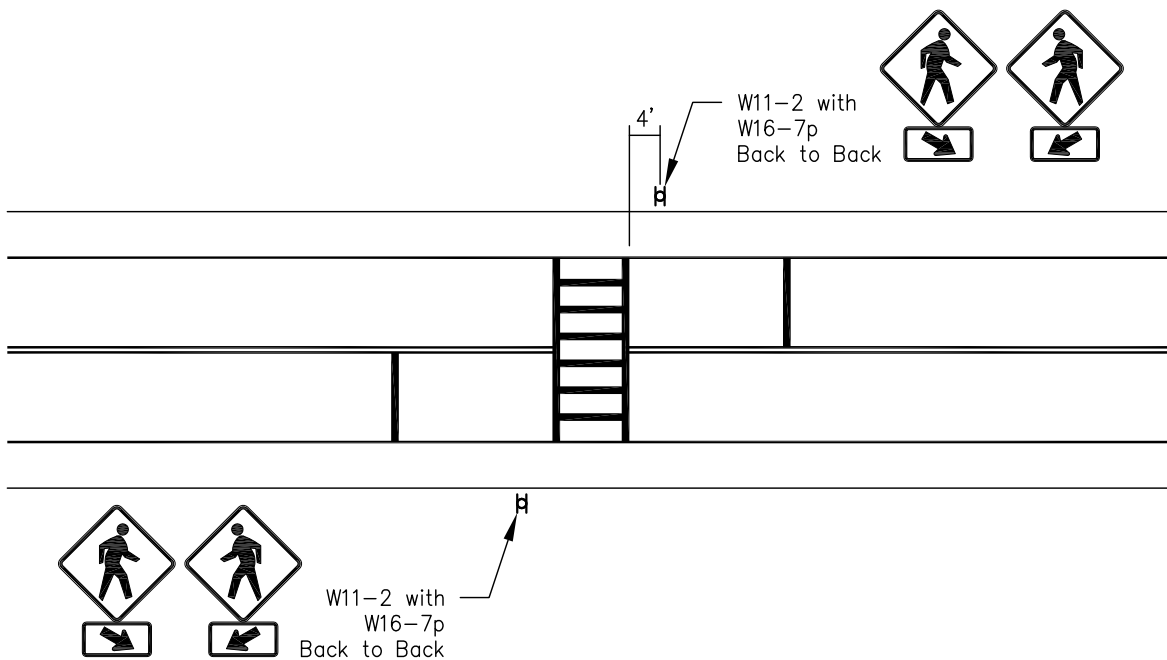
**STANDARD  
DETAILS**

**TR-6a**





MEDIUM-RISK CROSSING  
Striping Plan



MEDIUM-RISK CROSSING  
Signage Plan

NOTES:

1. Provide sufficient stopping sight distance at the stop bars, per design speed.
2. Install R7-1 signs, 30' minimum on each side of crosswalk and to provide adequate sight distance.
3. All traffic signs shall be completely reflectorized with Type IV High Intensity retroreflective sheeting.
4. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
5. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

**MID-BLOCK CROSSWALK  
MEDIUM-RISK**

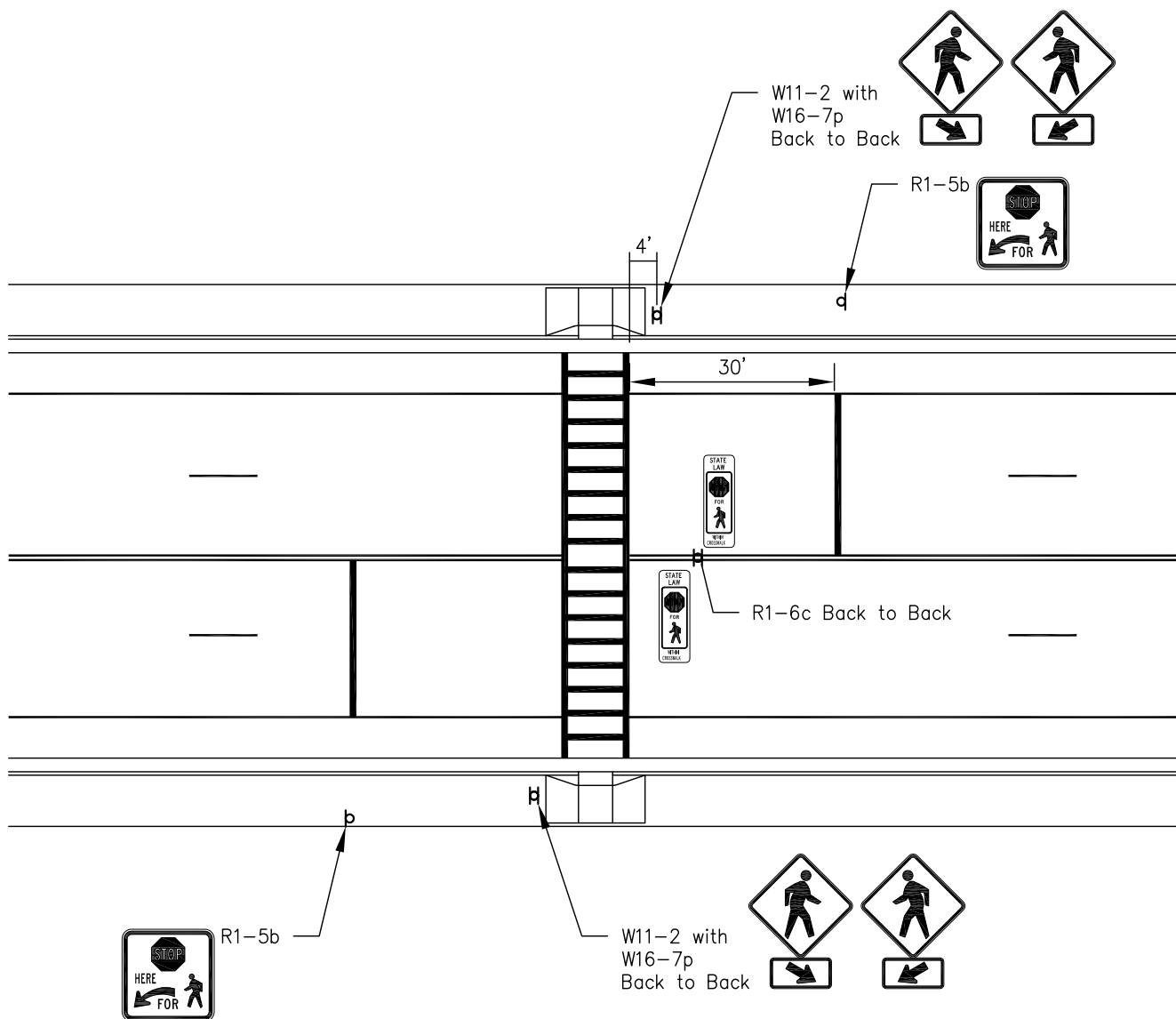
APPROVED: *Amstar*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: N.T.S.

**STANDARD  
DETAILS**

**TR-6b**



Offset Sign  
as Required  
(typ.)

# HIGH-RISK CROSSING Signage Plan

## NOTES:

1. Provide sufficient stopping sight distance at the stop bars, per design speed.
2. Install R7-1 signs, 30' minimum on each side of crosswalk and to provide adequate sight distance.
3. All traffic signs shall be completely reflectorized with Type IV High Intensity retroreflective sheeting.
4. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
5. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

## **MID-BLOCK CROSSWALK HIGH-RISK**

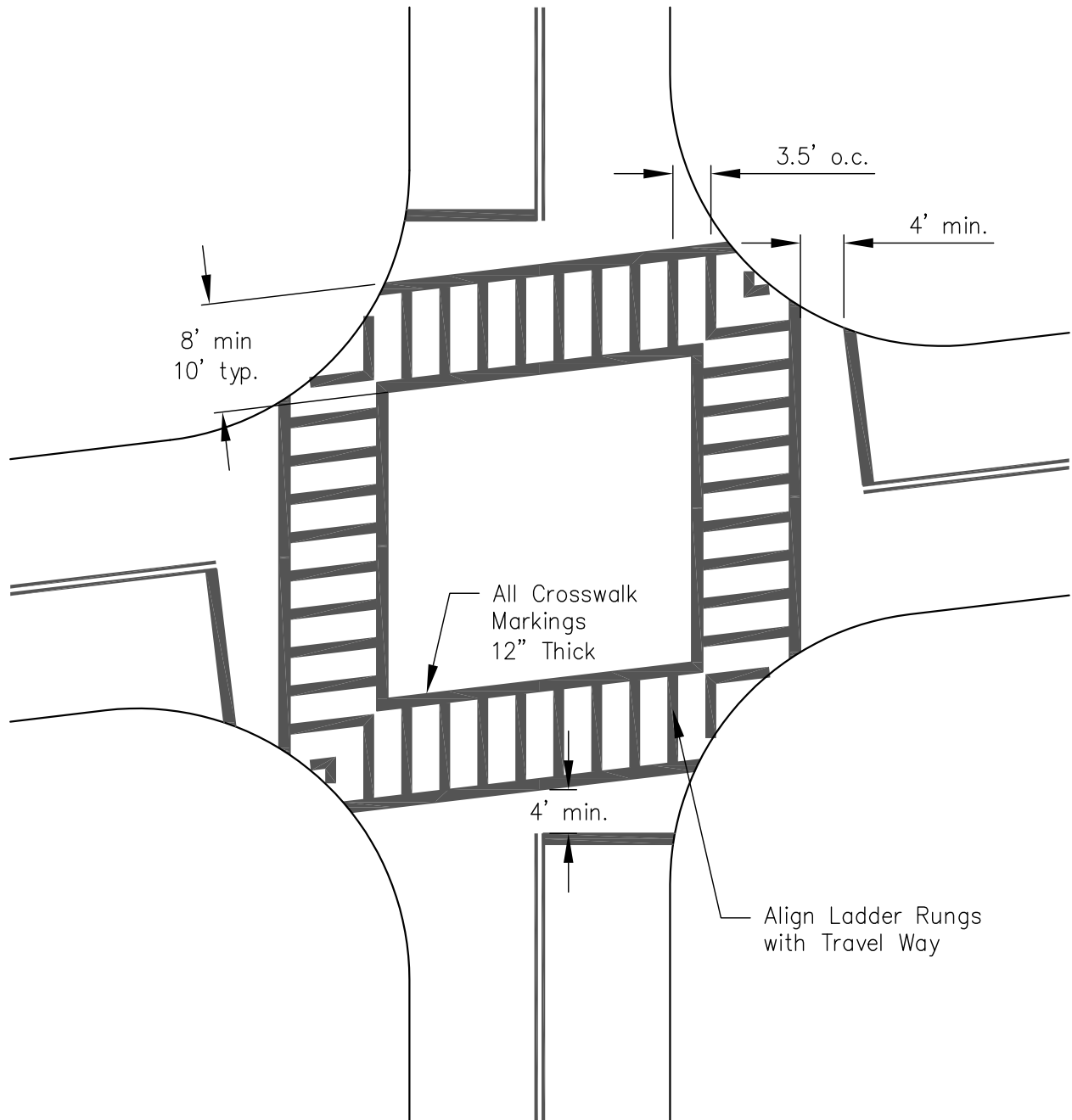
APPROVED: *Amstar*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: N.T.S.

STANDARD  
DETAILS

TR-6c



SINGLE-LANE SKEWED INTERSECTION

NOTES:

1. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
2. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used, but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

**SKEWED CROSSWALK  
SINGLE-LANE**

APPROVED: \_\_\_\_\_

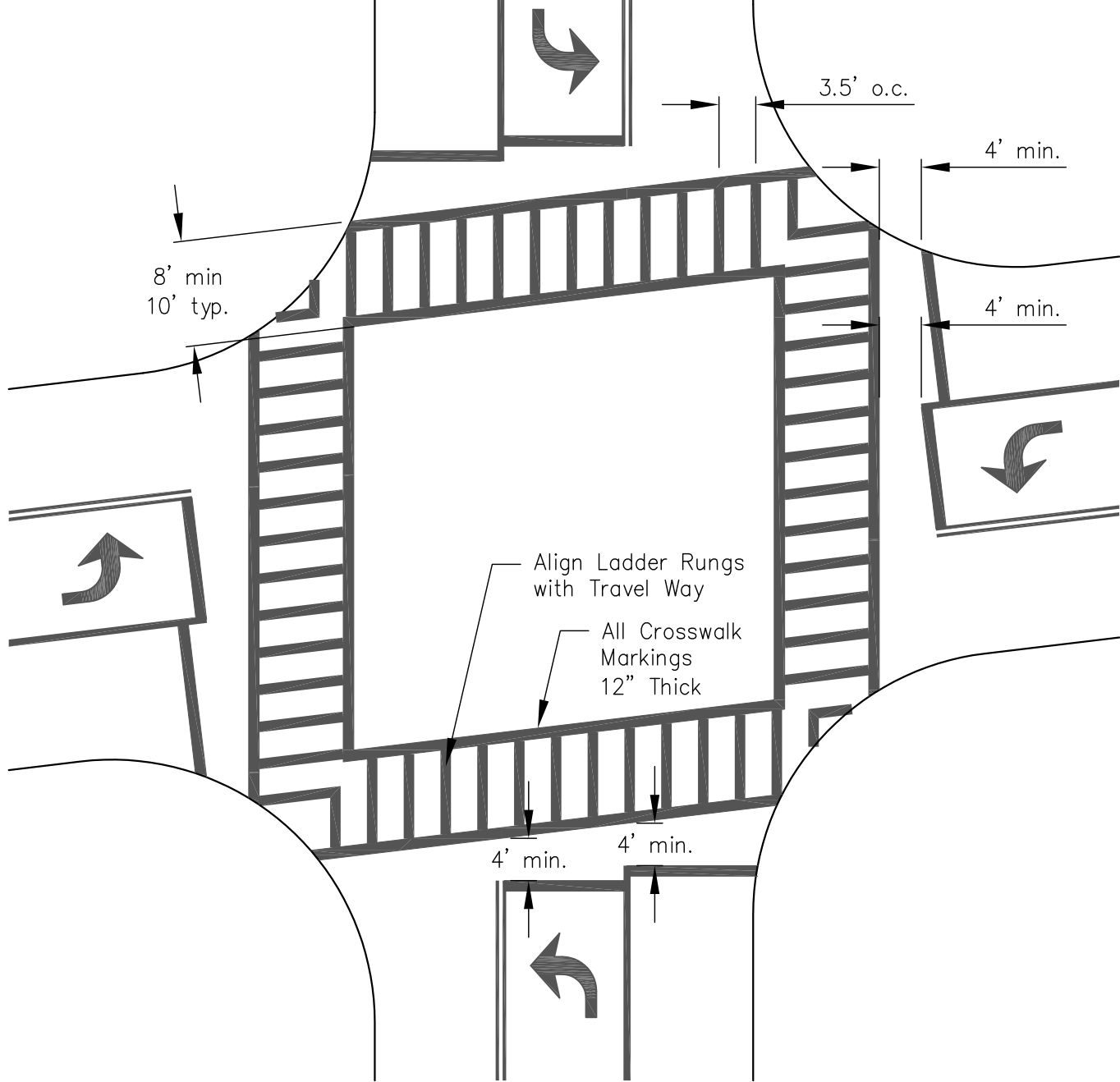
*Amstar*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: N.T.S.

**STANDARD  
DETAILS**

**TR-6d**



MULTI-LANE SKEWED INTERSECTION  
Staggered Stop Lines

NOTES:

1. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
2. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used, but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

**SKEWED CROSSWALK  
MULTI-LANE**

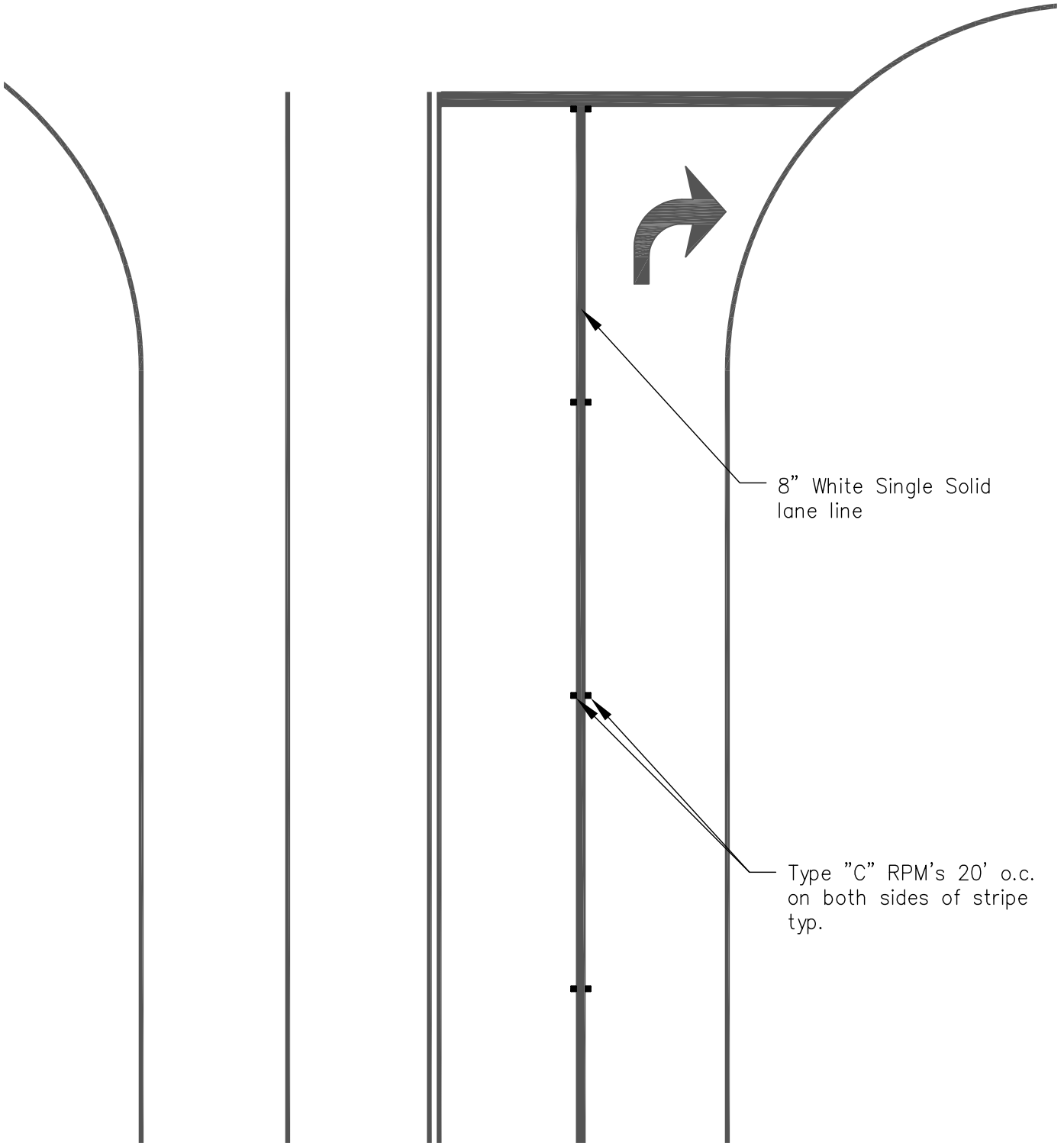
APPROVED: *Amita*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: N.T.S.

STANDARD  
DETAILS

TR-6e



COUNTY OF HAWAII

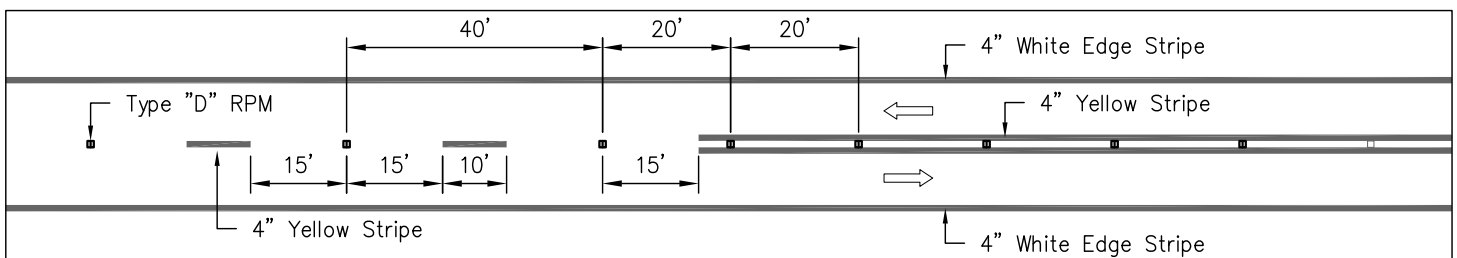
### AUXILIARY LANE STRIPING AND RPMs

APPROVED: *Amstar*  
TRAFFIC DIVISION

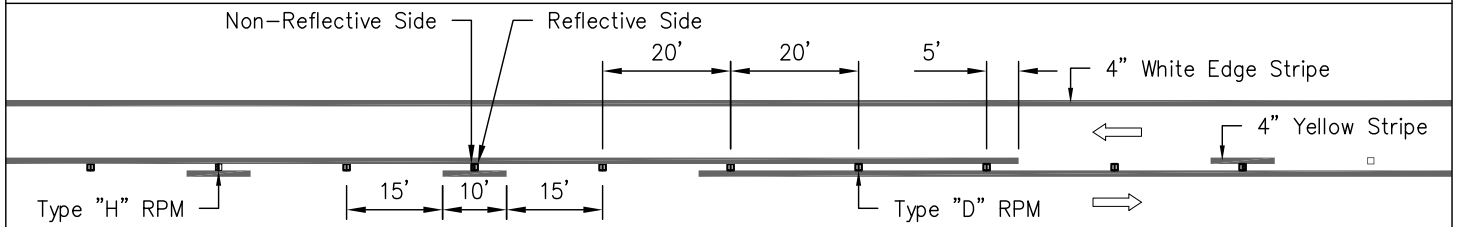
DATE: 07-08-20  
SCALE: 1"=10'

STANDARD  
DETAILS

TR-7

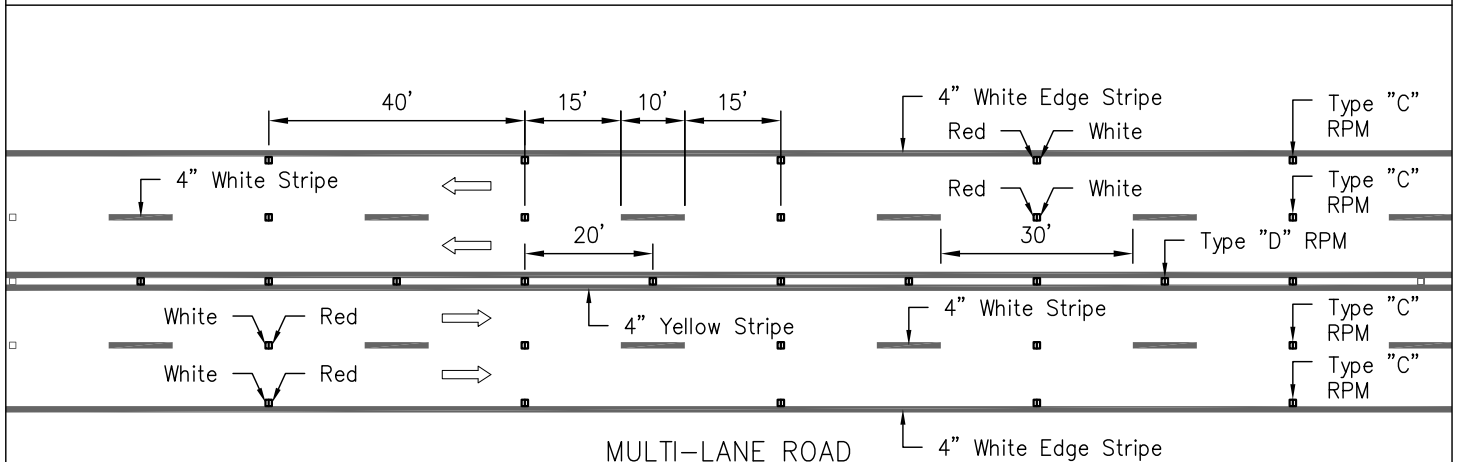


**2-LANE ROAD**  
PASSING PERMITTED AND PASSING PROHIBITED

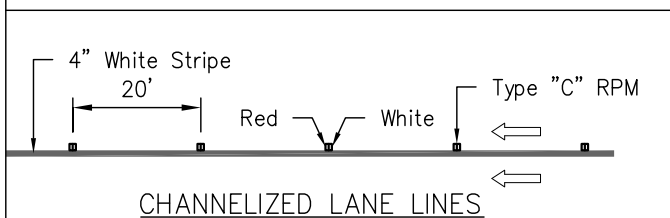


NOTE: Type "H" Positioned with Reflective Surface Facing No-Passing Direction.

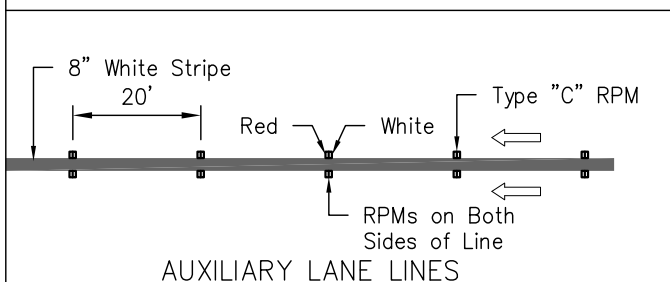
**2-LANE ROAD**  
PASSING PROHIBITED



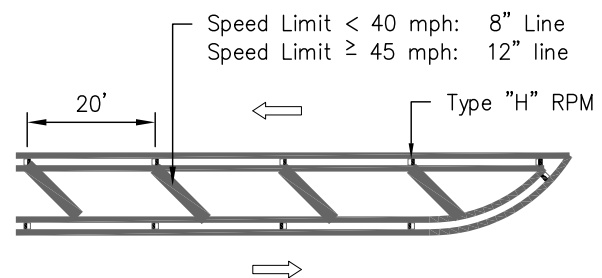
**MULTI-LANE ROAD**  
LANE LINES AND CENTERLINE



**CHANNELIZED LANE LINES**



**AUXILIARY LANE LINES**



NOTE: Type "H" Positioned with Reflective Surface Facing No-Passing Direction.

**MEDIAN ISLAND**

TYPE "D" RPM  
Yellow Reflective Yellow Reflective

TYPE "H" RPM  
Yellow Reflective Non-Reflective

TYPE "C" RPM  
Red Reflective White Reflective

TYPE "F" OR "DB" RPM  
Blue Reflective Blue Reflective



COUNTY OF HAWAII

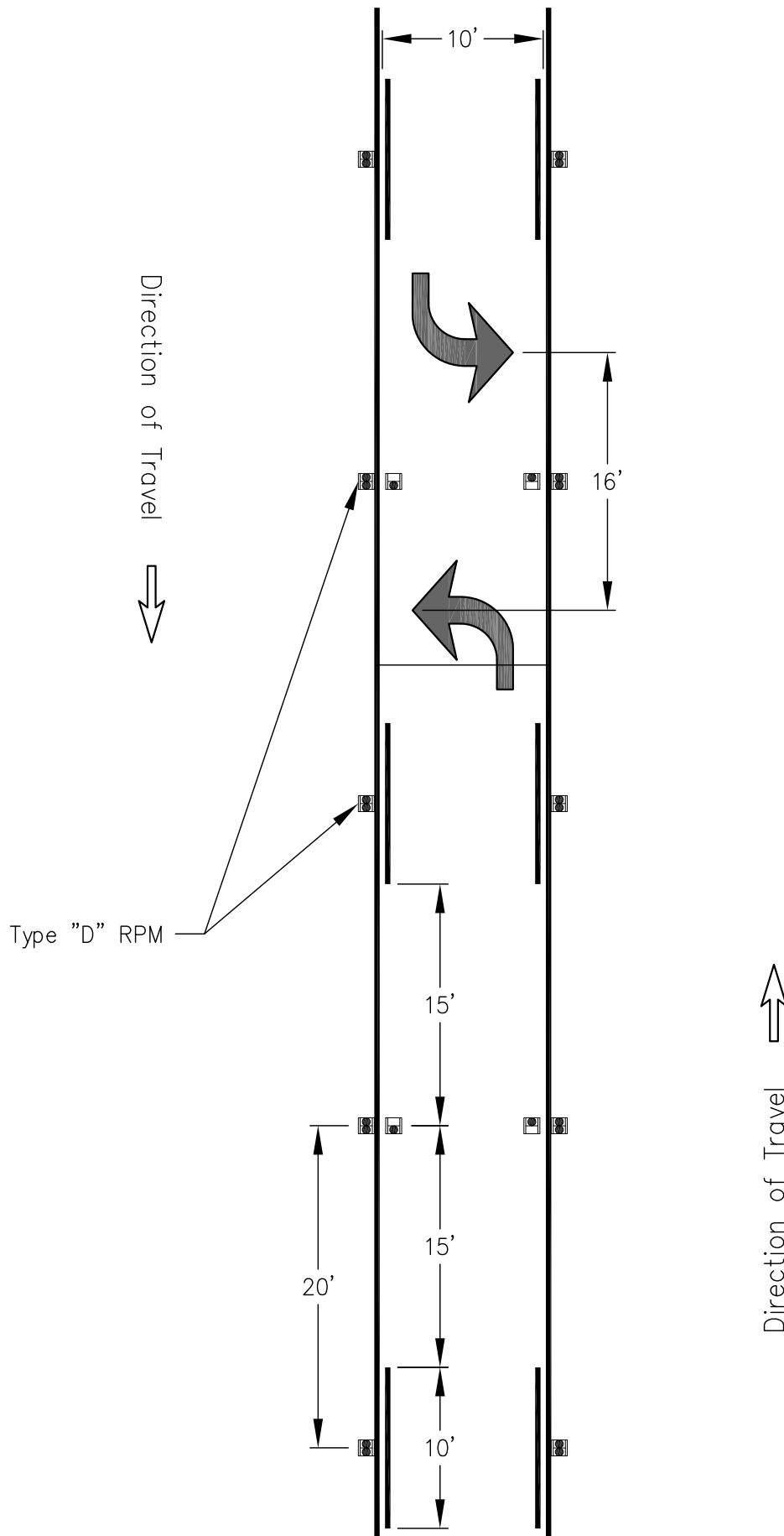
## RAISED PAVEMENT MARKERS

APPROVED: TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=30'

STANDARD  
DETAILS

TR-8



COUNTY OF HAWAII

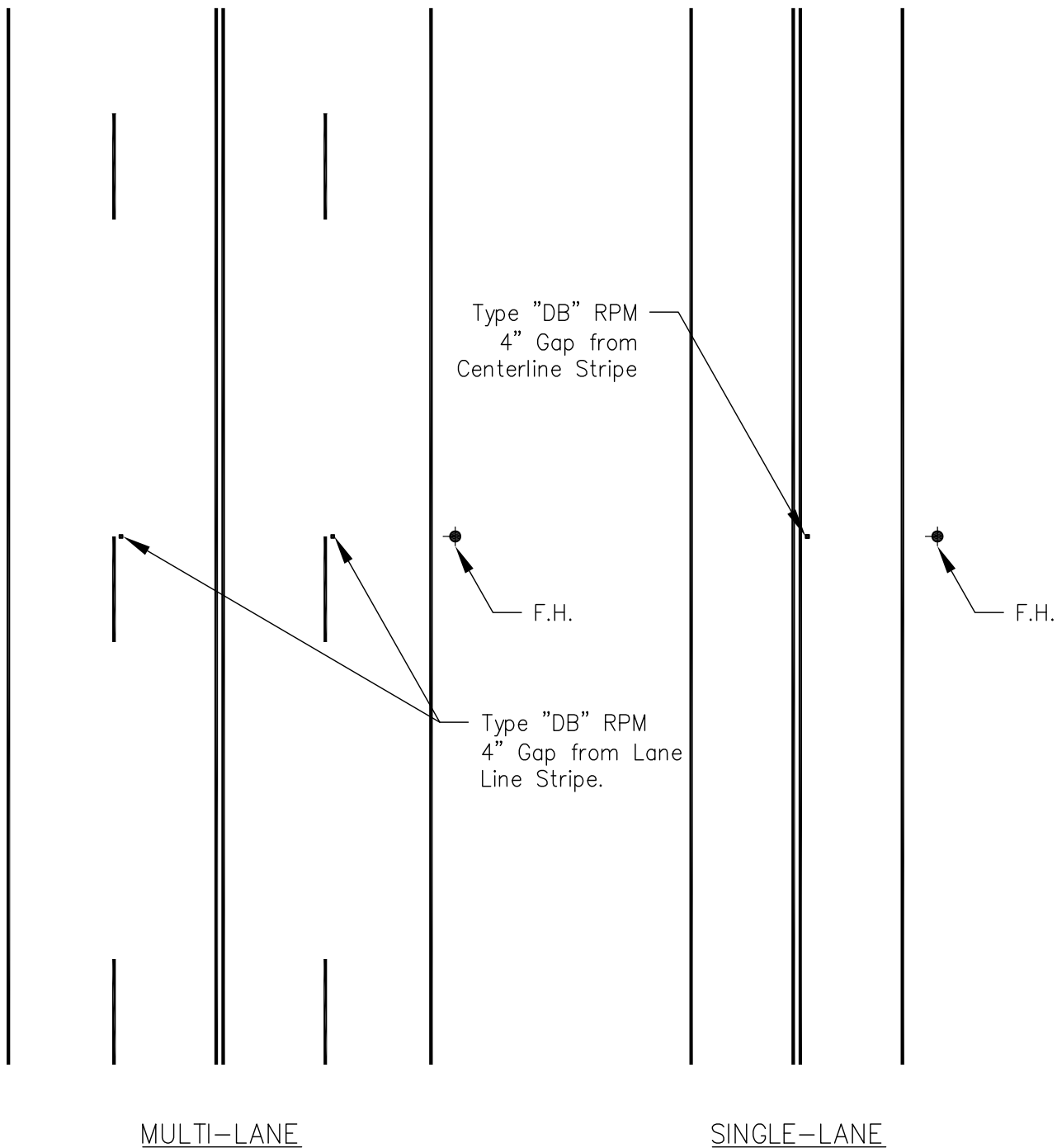
## TWO-WAY-LEFT-TURN-LANE STRIPING AND RPMs

APPROVED: *Amstar*  
TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=10'

STANDARD  
DETAILS

TR-8a



COUNTY OF HAWAII

## TYPE "DB" RPMS

APPROVED: *Amstar*

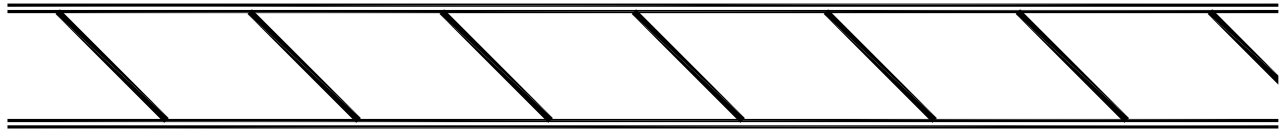
TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: N.T.S.

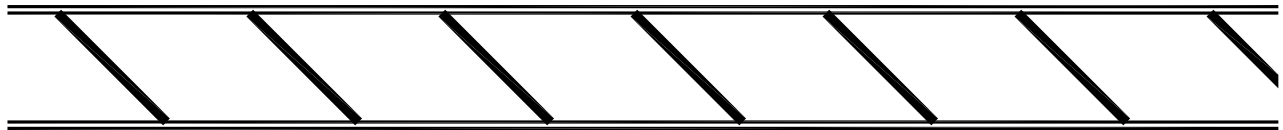
STANDARD  
DETAILS

TR-8b

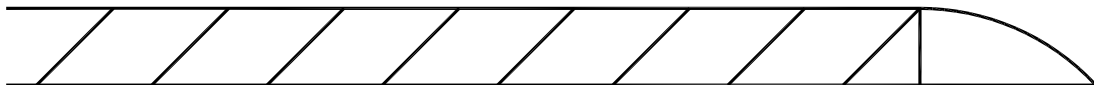




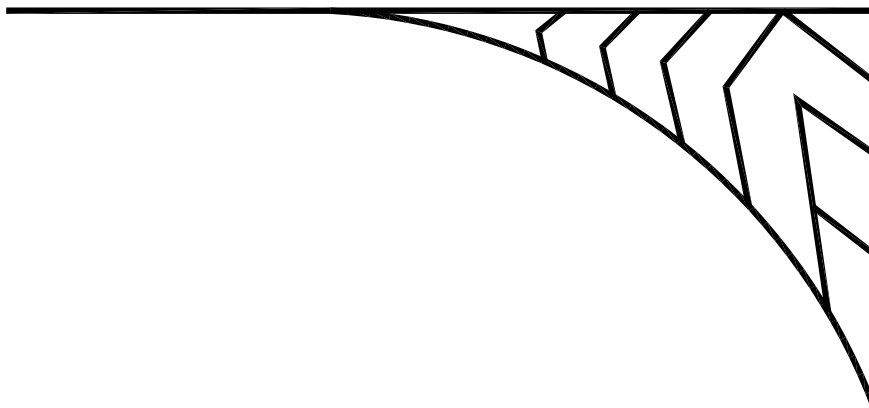
MEDIAN ISLAND  
Speed Limit <45 mph  
(8" Hatch Lines)



MEDIAN ISLAND  
Speed Limit ≤45 mph  
(12" Hatch Lines)



SHOULDER ISLAND  
(4" Hatch Lines)



AUXILIARY LANE ISLAND  
(8" Lines)



COUNTY OF HAWAII

## HATCH LINES

APPROVED: *Amstar*  
TRAFFIC DIVISION

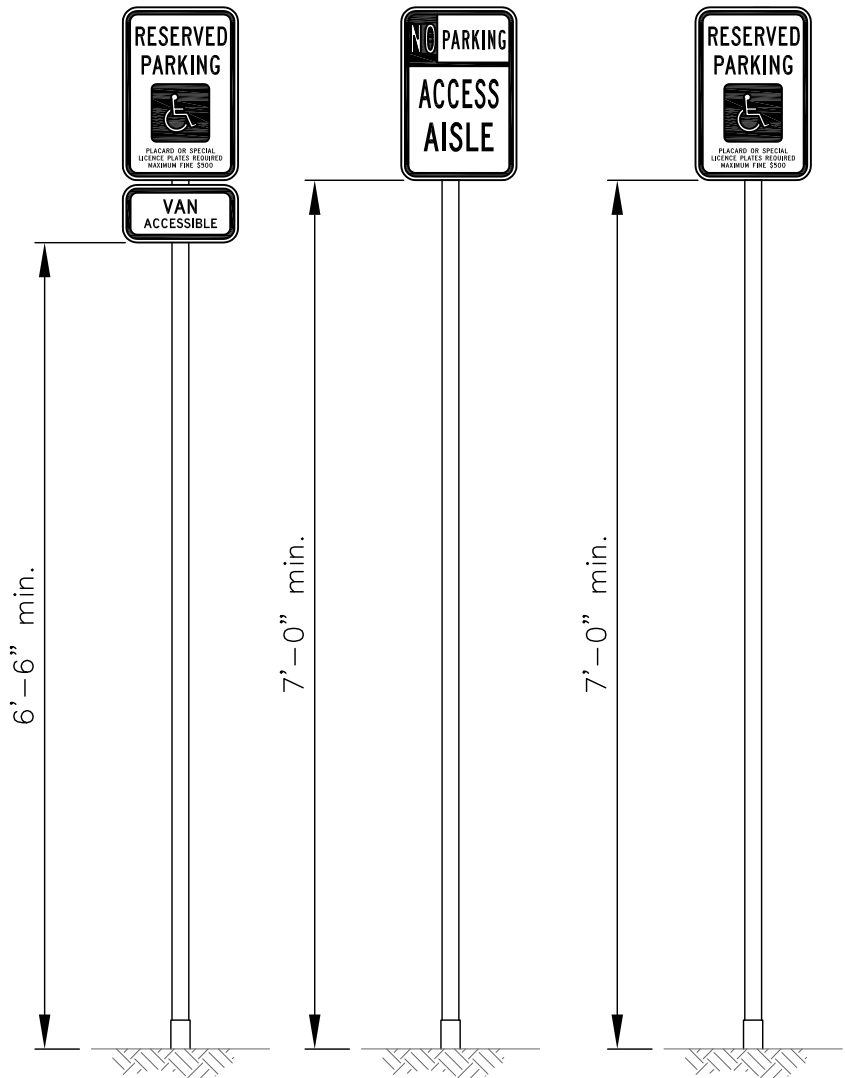
DATE: 07-08-20  
SCALE: 1"=20'

STANDARD  
DETAILS

TR-9



SIGN DETAIL  
N.T.S.



SIGN MOUNTING  
Scale: 1"=20'

NOTES:

1. Reserved parking and van accessible signs shall have a green legend with a white background for time-limit parking and a blue legend with a white background for unrestricted parking.
2. No parking access aisle signs shall have a red legend with a white background.
3. Van accessible signs shall be used only when wheelchair accessibility is provided.
4. All traffic signs shall be reflectorized with Type IV High Intensity Retroreflective Sheeting.



COUNTY OF HAWAII

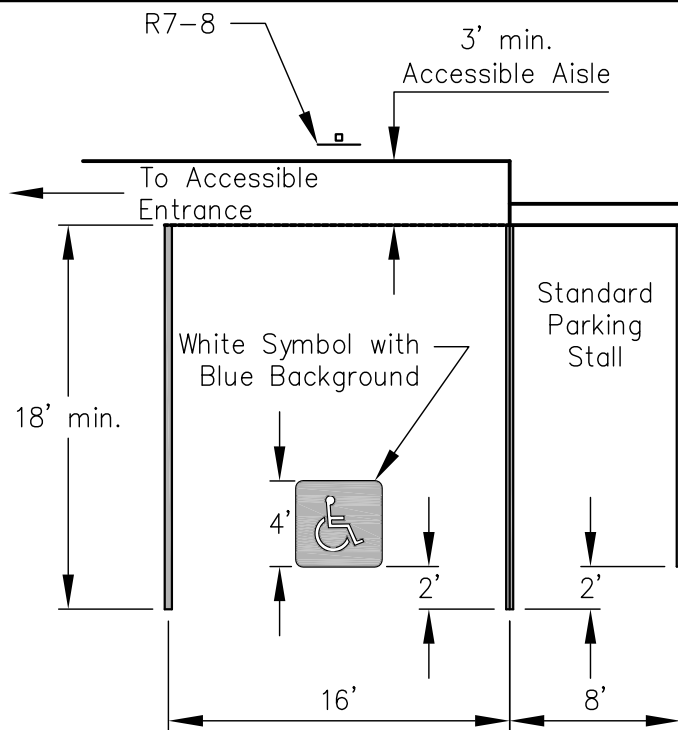
**ACCESSIBLE PARKING SIGNS**

APPROVED: *Amstar*  
TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: NOTED

STANDARD  
DETAILS

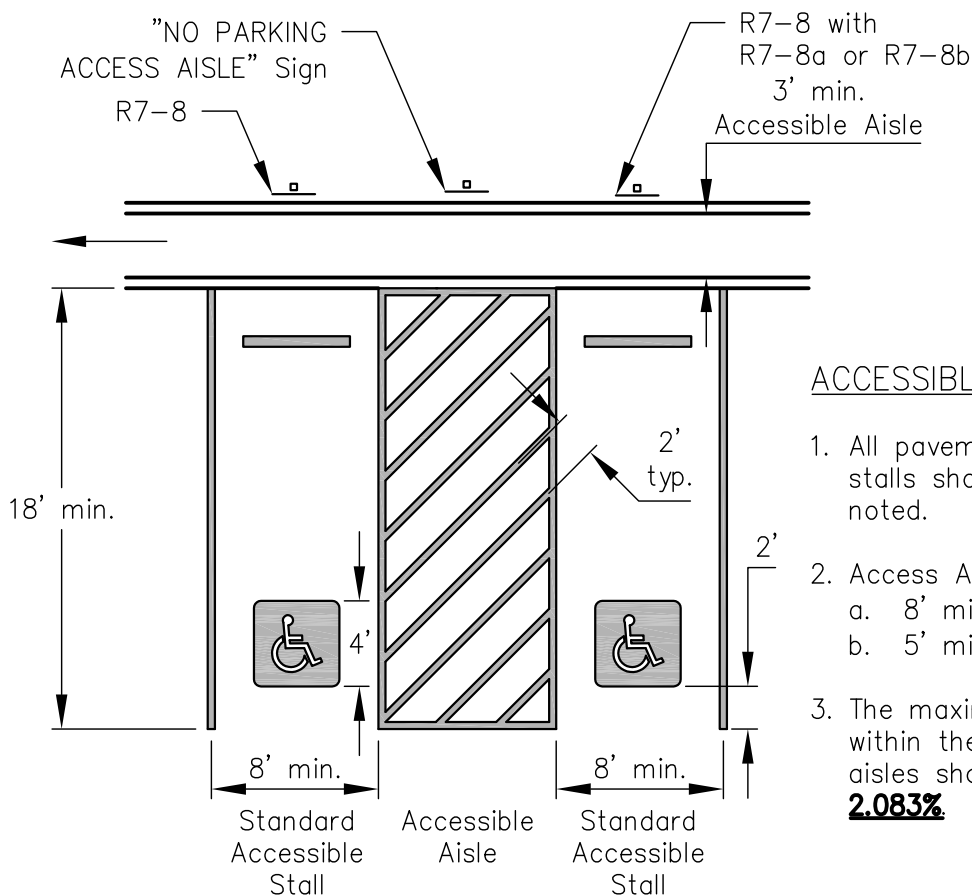
TR-10



SINGLE STALL

ACCESSIBLE STALL NOTES:

1. Accessible parking stalls, access aisles, and routes shall be located at the shortest accessible route to an accessible entrance to a facility and shall comply with the ADA accessibility guidelines.
2. All pavement markings for accessible stalls shall be **white**, unless otherwise noted.
3. An alternative to the multiple stall design shown is to stripe all spaces 11' wide with a 5' access aisle. "VAN ACCESSIBLE" signs are not needed when using this universal design.
4. The maximum slope in all directions within the accessible stall shall not exceed **1:48** or **2.083%**.



MULTIPLE STALLS

ACCESSIBLE STALL NOTES:

1. All pavement markings for accessible stalls shall be **white**, unless otherwise noted.
2. Access Aisle:
  - a. 8' min. for van accessible stalls.
  - b. 5' min. for standard accessible stalls.
3. The maximum slope in all directions within the accessible stalls and access aisles shall not exceed **1:48** or **2.083%**.

NOTE:

1. All traffic signs shall be completely reflectorized with **Type IV** High Intensity retroreflective sheeting.



COUNTY OF HAWAII

**ACCESSIBLE PARKING STALLS  
PERPENDICULAR**

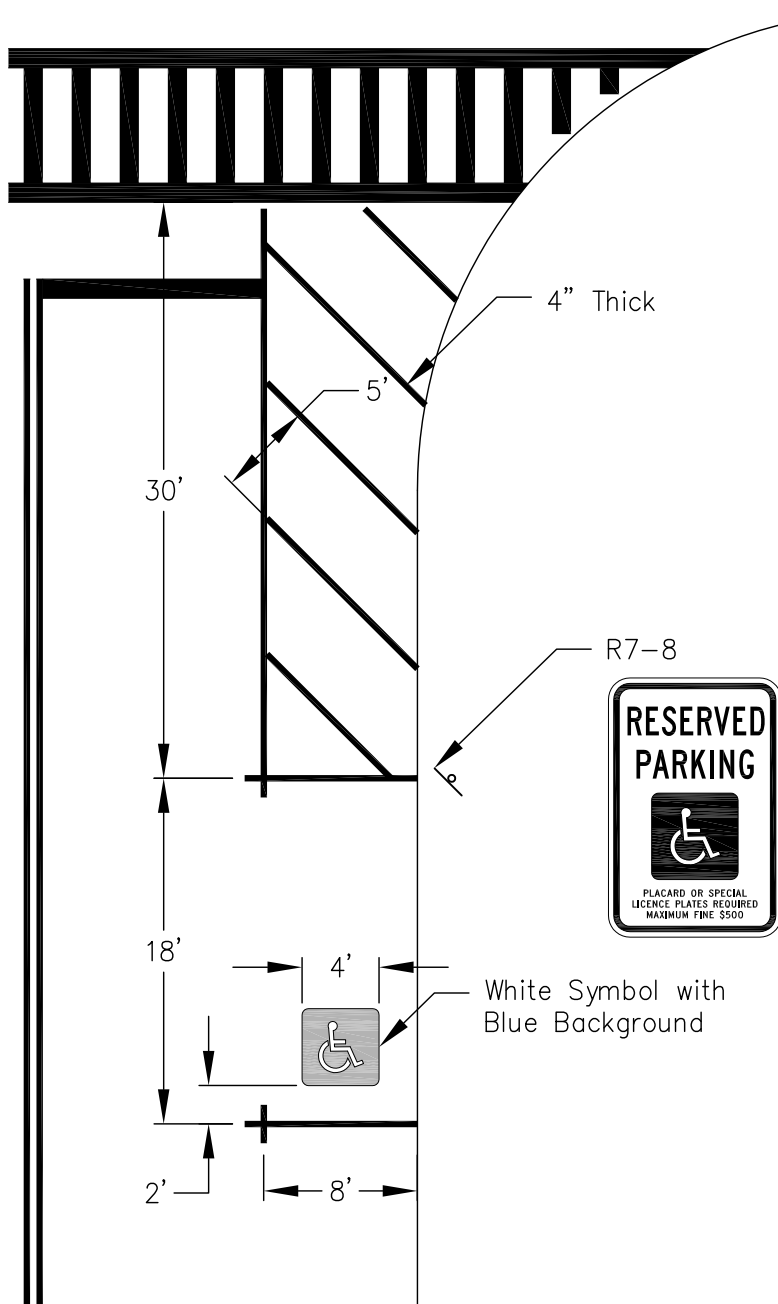
APPROVED: *Amita*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: N.T.S.

STANDARD  
DETAILS

TR-10a



#### ACCESSIBLE STALL NOTES:

1. All pavement markings for accessible stalls shall be white, unless otherwise noted.
2. The reserved parking stall shall be a minimum of 30' from the crosswalk (as applicable).
3. The pavement markings for the hatched island shall be white, unless otherwise noted.
4. The R7-8 sign shall be installed in accordance with County standard detail TR-9.

#### ACCESSIBLE ON-STREET PARKING Approach to Intersection

#### NOTES:

1. All traffic signs shall be completely reflectorized with Type IV High Intensity retroreflective sheeting.
2. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
3. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used, but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

#### **ACCESSIBLE ON-STREET PARKING APPROACH TO INTERSECTION**

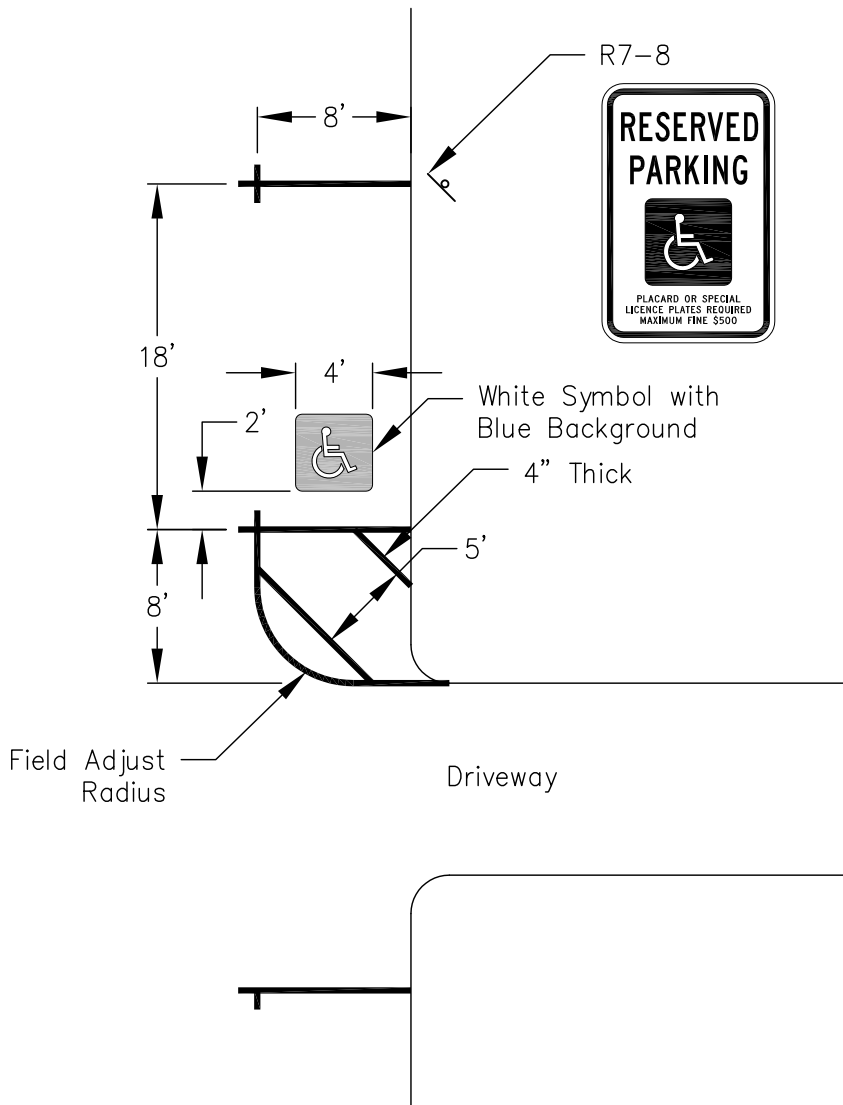
APPROVED: *Amtar*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=10'

**STANDARD  
DETAILS**

**TR-10b**



### ACCESSIBLE STALL NOTES:

1. All pavement markings for accessible stalls shall be white, unless otherwise noted.
2. The reserved parking stall shall be a minimum of 8' from the driveway.
3. The pavement markings for the hatched island shall be white, unless otherwise noted.
4. The R7-8 sign shall be installed in accordance with County standard detail TR-9.

### ACCESSIBLE ON-STREET PARKING After a Driveway

### NOTES:

1. All traffic signs shall be completely reflectorized with Type IV High Intensity retroreflective sheeting.
2. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
3. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used, but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

### **ACCESSIBLE ON-STREET PARKING AFTER A DRIVEWAY**

APPROVED: *Amstar*

TRAFFIC DIVISION

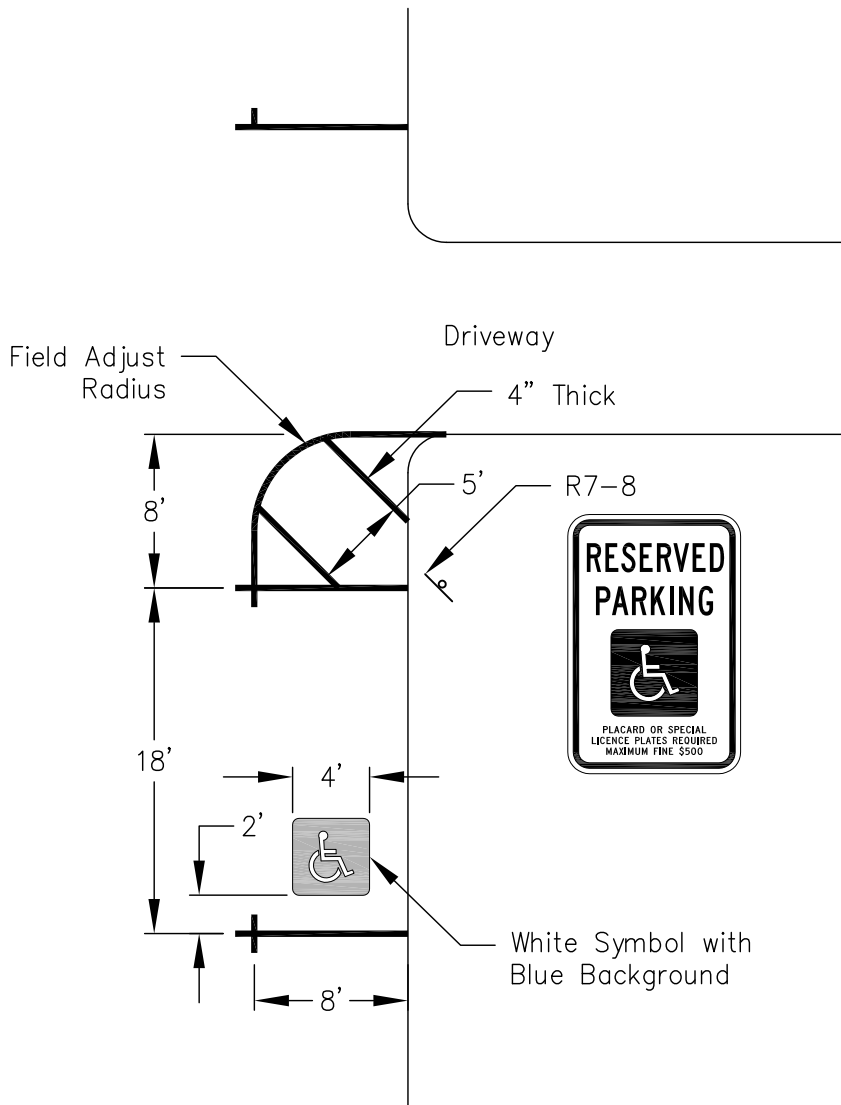
DATE: 07-08-20  
SCALE: 1"=10'

STANDARD  
DETAILS

TR-10c

### ACCESSIBLE STALL NOTES:

1. All pavement markings for accessible stalls shall be white, unless otherwise noted.
2. The reserved parking stall shall be a minimum of 8' from the driveway.
3. The pavement markings for the hatched island shall be white, unless otherwise noted.
4. The R7-8 sign shall be installed in accordance with County standard detail TR-9.



### ACCESSIBLE ON-STREET PARKING Before a Driveway

### NOTES:

1. All traffic signs shall be completely reflectorized with Type IV High Intensity retroreflective sheeting.
2. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
3. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used, but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

### **ACCESSIBLE ON-STREET PARKING BEFORE A DRIVEWAY**

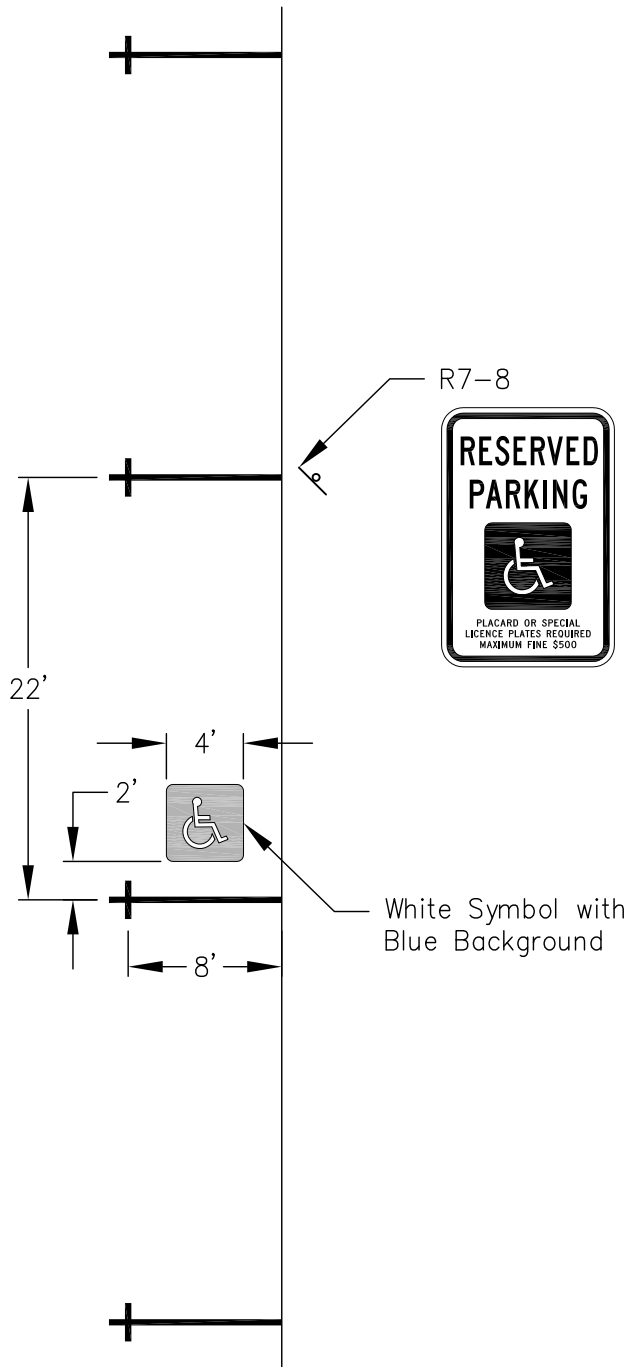
APPROVED: *Amstar*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=10'

STANDARD  
DETAILS

TR-10d



### ACCESSIBLE STALL NOTES:

1. All pavement markings for accessible stalls shall be white, unless otherwise noted.
2. The R7-8 sign shall be installed in accordance with County standard detail TR-9.

### ACCESSIBLE ON-STREET PARKING Mid-Block

### NOTES:

1. All traffic signs shall be completely reflectorized with Type IV High Intensity retroreflective sheeting.
2. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
3. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used, but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

### **ACCESSIBLE ON-STREET PARKING MID-BLOCK**

APPROVED: \_\_\_\_\_

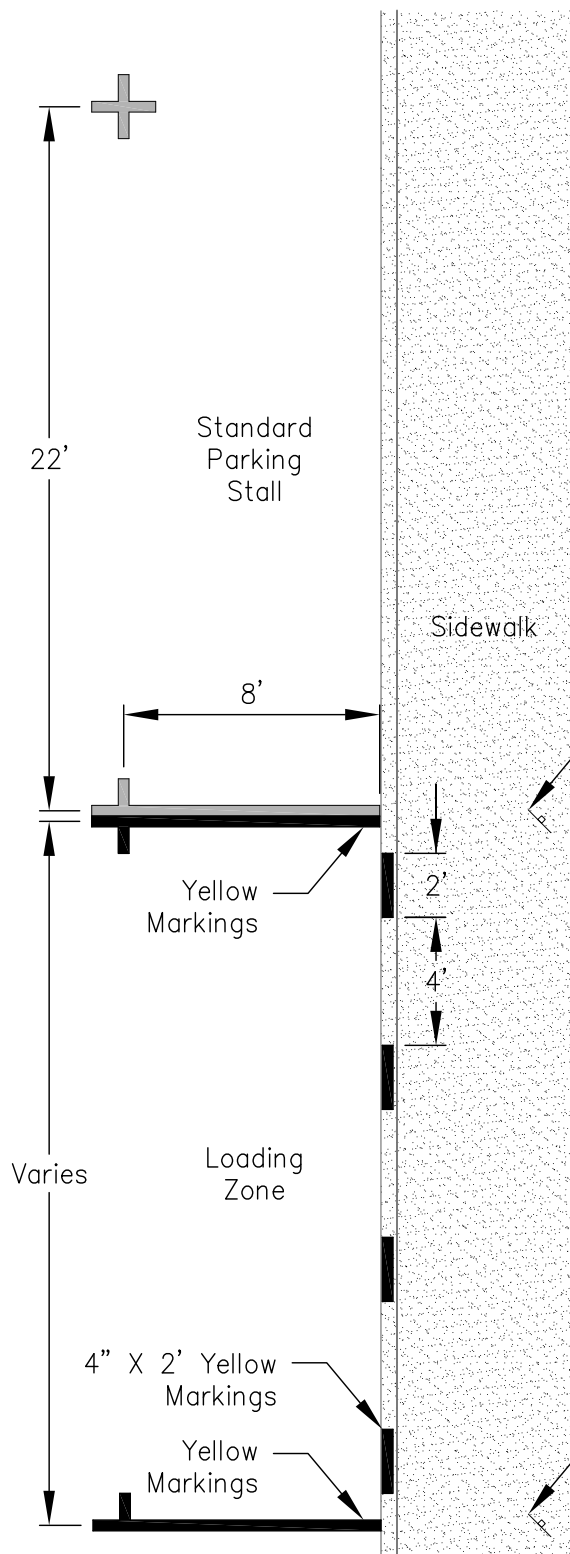
*Amstar*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=10'

**STANDARD  
DETAILS**

**TR-10e**



### LOADING ZONE NOTES:

1. Loading zone markings shall be yellow, unless otherwise noted.
2. Loading zone dimensions may vary and are site-specific.
3. Loading zone signs (type and placement) are site-specific.
4. 4" thick X 2' long curb markings are located on the top front edge of curb only.

Sidewalk

Install Sign as Required

Install Sign as Required

### NOTE:

1. All traffic signs shall be completely reflectorized with Type IV High Intensity retroreflective sheeting.



COUNTY OF HAWAII

### LOADING ZONE SIGNS AND MARKINGS

APPROVED: *Amstar*

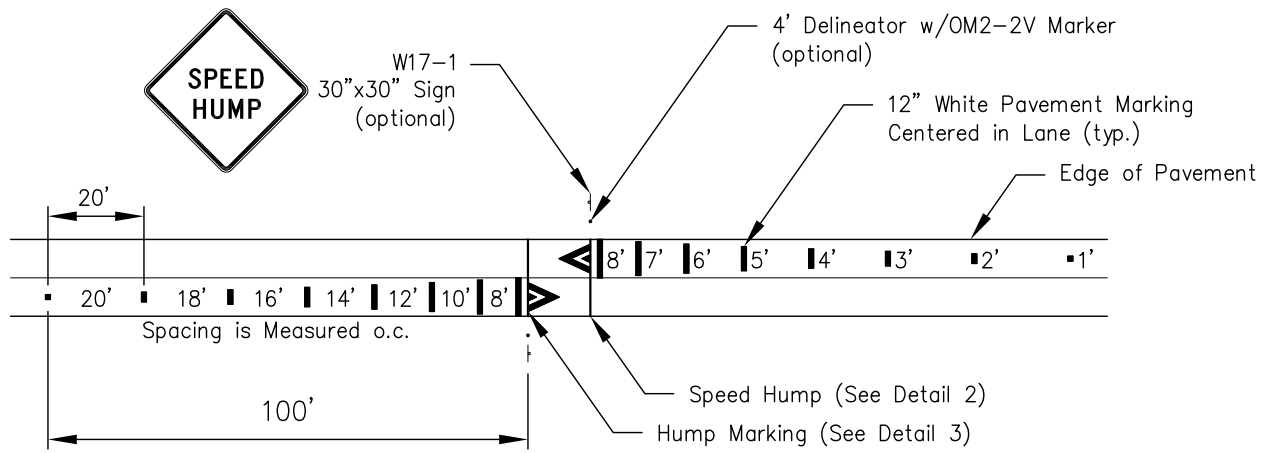
TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=6'

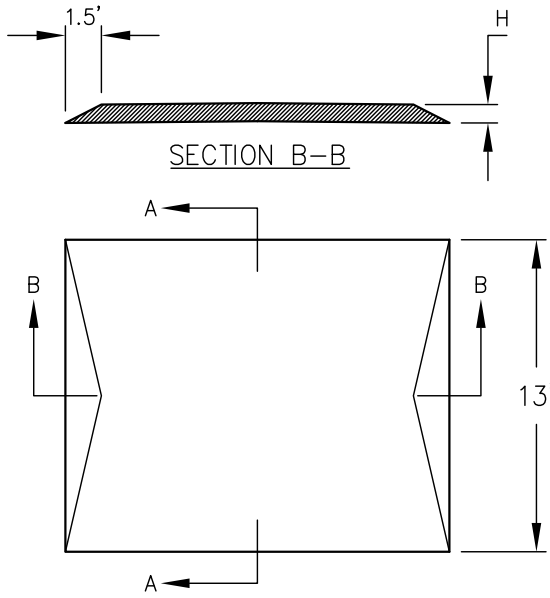
STANDARD  
DETAILS

TR-11

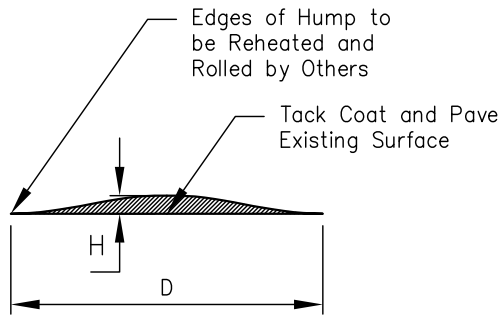




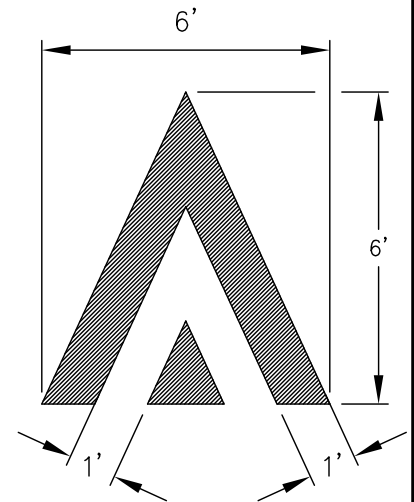
DETAIL 1  
Typical Signs and Markings  
Scale: 1"=40'



DETAIL 2  
Speed Hump  
Scale: 1"=4'



SECTION A-A



DETAIL 3  
Hump Marking  
Scale: 1"=4'

### SINUSOIDAL PROFILE OF HUMP

D (FT)	0.00	0.82	1.64	2.48	3.28	4.10	4.92	5.74	6.50	7.26	8.08	8.90	9.72	10.52	11.36	12.18	13.00
H (IN)	0.00	0.12	0.47	0.98	1.57	2.17	2.68	2.95	3.00	2.95	2.68	2.17	1.57	0.98	0.47	0.12	0.00

### NOTE:

1. All traffic signs shall be completely reflectorized with Type IV High Intensity retroreflective sheeting.



COUNTY OF HAWAII

## **SPEED HUMP SIGNS AND MARKINGS**

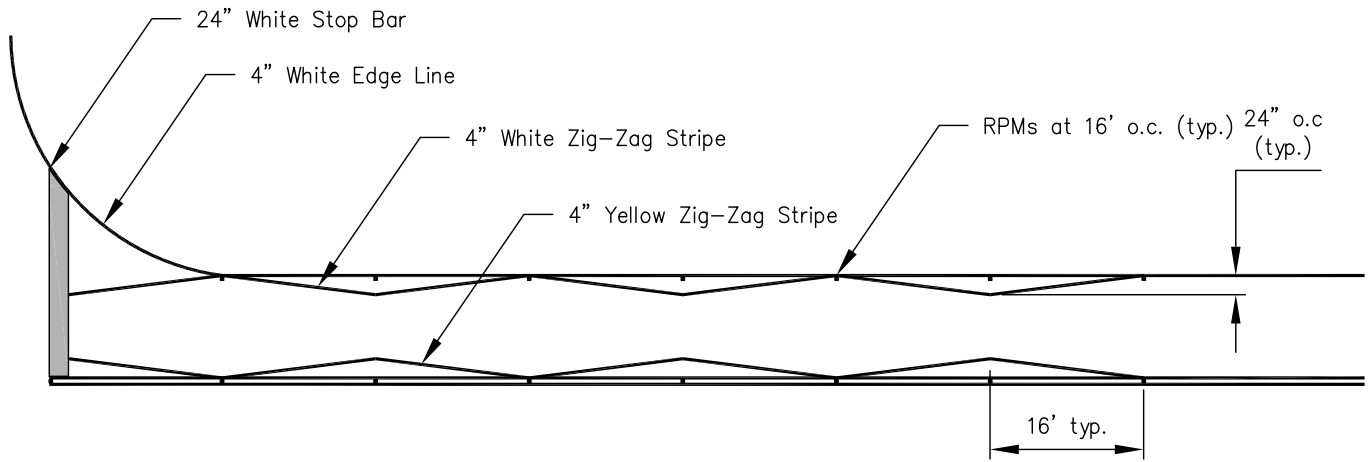
APPROVED: *Amstar*

TRAFFIC DIVISION

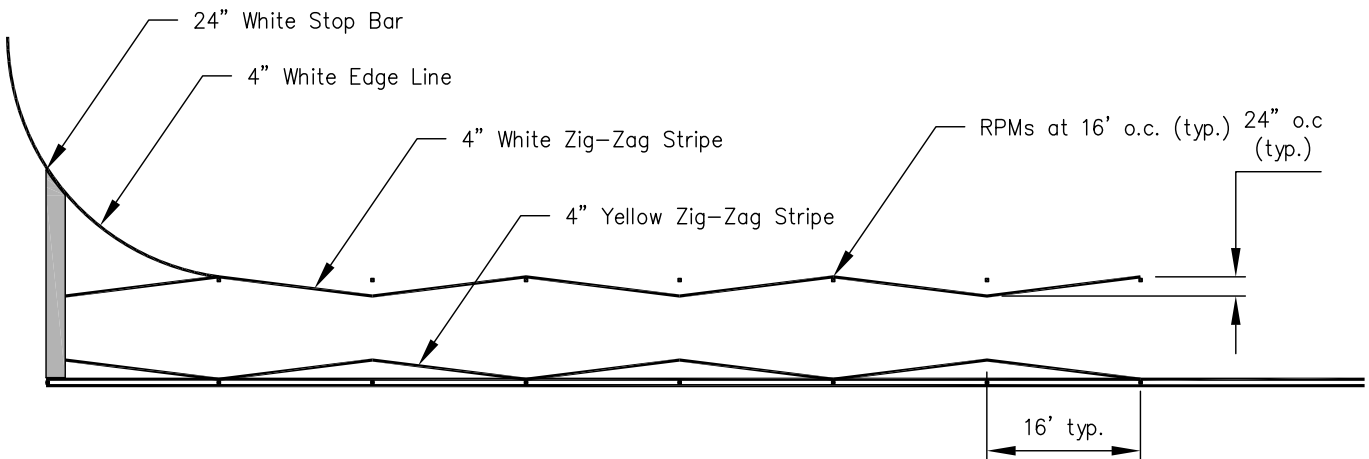
DATE: 07-08-20  
SCALE: NOTED

STANDARD  
DETAILS

TR-12



TYPICAL SINGLE-LANE ZIG-ZAG MARKINGS  
with Edge Lines



TYPICAL SINGLE-LANE ZIG-ZAG MARKINGS  
without Edge Lines

ZIG-ZAG NOTES:

1. Each zig-zag segment is 16' long on a typical straight roadway section.
2. All zig-zag markings shall be 4" wide and have a 24" offset measured on center (o.c.).
3. The zig-zag markings shall be field-adjusted as required.
4. The stop bar striping shall be 24" wide.

NOTES:

1. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
2. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

**ZIG-ZAG MARKINGS  
SINGLE-LANE**

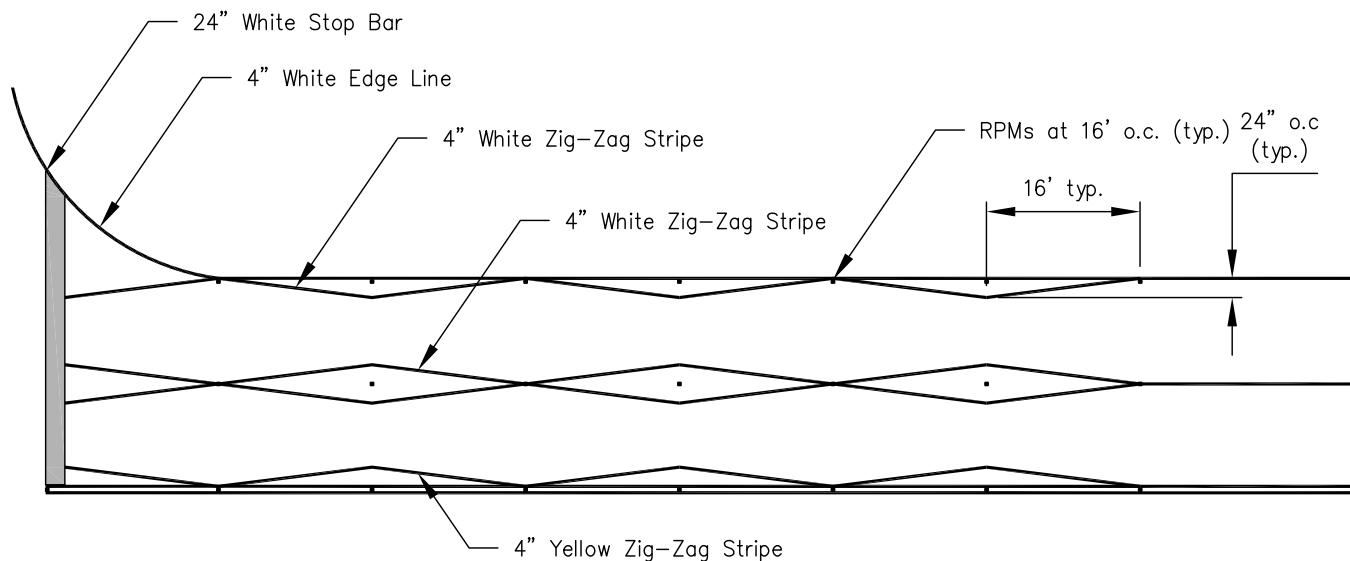
APPROVED: *Amtar*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=20'

**STANDARD  
DETAILS**

**TR-13**



TYPICAL MULTI-LANE ZIG-ZAG MARKINGS  
with Edge Lines

ZIG-ZAG NOTES:

1. Each zig-zag segment is 16' long on a typical straight roadway section.
2. All zig-zag markings shall be 4" wide and have a 24" offset measured on center (o.c.).
3. The zig-zag markings shall be field-adjusted as required.
4. The stop bar striping shall be 24" wide.

NOTES:

1. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
2. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

**ZIG-ZAG MARKINGS  
MULTI-LANE**

APPROVED: \_\_\_\_\_

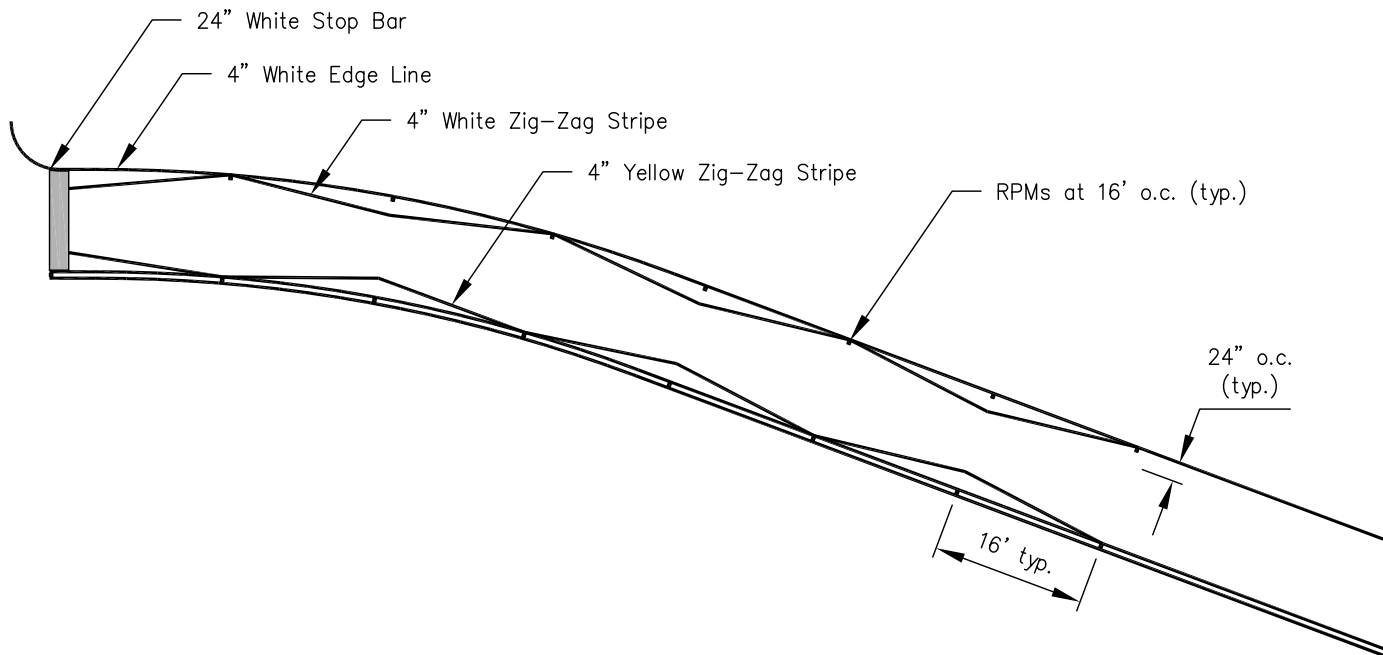
*Amstar*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=20'

STANDARD  
DETAILS

TR-13a



### ZIG-ZAG MARKINGS on a Curve

#### ZIG-ZAG NOTES:

1. For a zig-zag on a curve, the segment on the inside of the curve shall be 16' long.
2. All zig-zag markings shall be 4" wide and have a 24" offset measured on center (o.c.).
3. The zig-zag markings shall be field-adjusted as required.
4. The stop bar striping shall be 24" wide.

#### NOTES:

1. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
2. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

### **ZIG-ZAG MARKINGS ON A CURVE**

APPROVED: \_\_\_\_\_

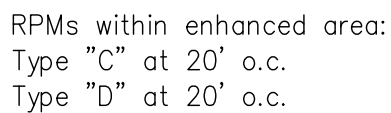
*Amstar*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=20'

**STANDARD  
DETAILS**

**TR-13b**





or

if  $V_b > 25$  mph

$$L_b' = 1.47 \cdot V_b \cdot t_g$$

$L_b'$  = Distance required from end of bridge to oncoming vehicle on non-yield approach to allow design vehicle to clear from yield bar to end of bridge.

$V_b$  = posted speed on non-yield approach.

$t_g$  = average travel time for design vehicle to clear from yield bar to end of bridge.

Bridge No.: \_\_\_\_\_

Bridge Location: \_\_\_\_\_

Bridge Length (BL): \_\_\_\_\_

IDEAL

MIN.

 $V_a$  = \_\_\_\_\_ $V_b$  = \_\_\_\_\_ $L_a$  = \_\_\_\_\_ $L_b$  = \_\_\_\_\_**a to b =** \_\_\_\_\_ $t_g$  = \_\_\_\_\_ $L_b'$  = \_\_\_\_\_ **$L_b' + BL =$**  \_\_\_\_\_NOTES:

1. Narrow bridges: any bridge or culvert having a roadway clearance less than the width of the approach travel lanes and equal to or greater than 19' – yield condition not required.
2. One lane bridges: any bridge or culvert having a roadway clearance less than the width of the approach travel lanes and less than 19' – yield condition required.
3. Provide stopping sight distance for yield control on both approaches and sight distance at the yield bar for design vehicle to safely clear bridge.
4. Use posted speed to check desirable sight distance requirements, use advisory speed(s) to check minimum sight distance requirements.
5. Typical design vehicle length of 30'.
6. Provide clear line of sight from a to b.

Relocate to Point 2 if  
Yield Ahead not Required

STOPPING SIGHT  
DISTANCE FOR  
YIELD CONTROL

POSTED SPEED (mph)	$L_a$ or $L_b$ (ft)
15	70
20	90
25	115
30	140
35	165
40	195
45	220
50	245
55	285

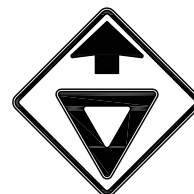
AASHTO "Green Book" pg. 658 and 670.  
Assume reduction to 50% of midblock speed.

4" Single Solid White Striping

16"x24" Yield Striping



For One-Lane Bridge  
Condition ONLY.



OPTIONAL: For Yield  
Condition, when Yield  
Sign Visibility is  
Restricted.

Install at Point 2



or

if  $V_a > 20$  mph

COUNTY OF HAWAII

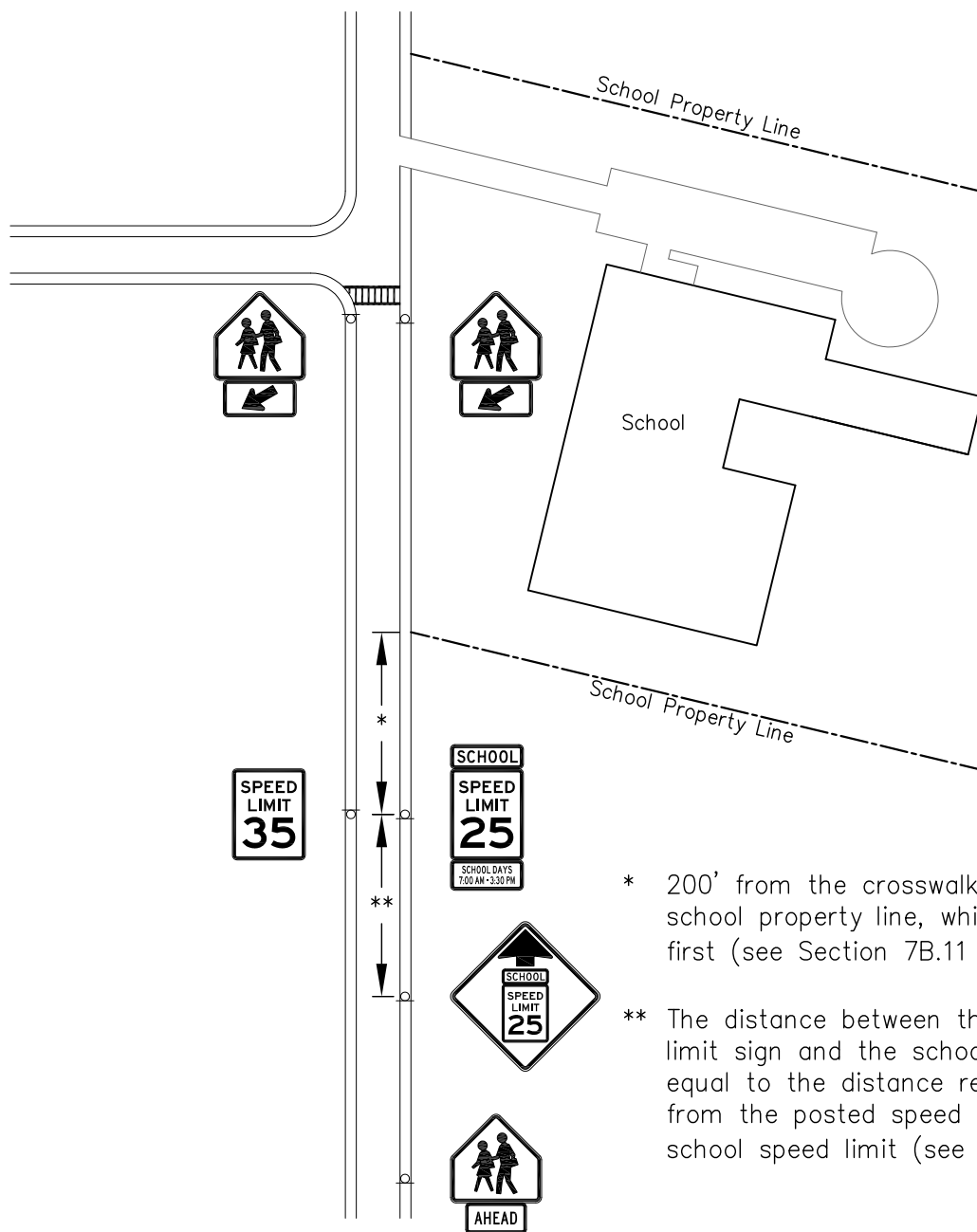
## BRIDGE SIGNS AND MARKINGS

APPROVED: \_\_\_\_\_

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=40'STANDARD  
DETAILS

TR-15



- \* 200' from the crosswalk or 100' from the school property line, whichever is encountered first (see Section 7B.11 in MUTCD).
- \*\* The distance between the advance school speed limit sign and the school speed limit sign is equal to the distance required to decelerate from the posted speed limit of roadway to school speed limit (see TR-16a)

Signage Typical on Both Sides of School

#### NOTES:

1. All traffic signs shall be completely reflectorized with Type IV High Intensity retroreflective sheeting.
2. For crosswalks and stop lines, the contractor shall apply high skid-resistant white corundum (or equivalent) at a rate equal to the rate of application of the glass beads.
3. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) may be used, but shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

### SCHOOL ZONE SIGNS AND MARKINGS

APPROVED: *Amtar*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=100'

STANDARD  
DETAILS

TR-16

Table 2C-4: Guidelines for Advance Placement of Signs

20 mph	225 ft
25 mph	325 ft
30 mph	460 ft
35 mph	565 ft
40 mph	670 ft
45 mph	775 ft
50 mph	885 ft
55 mph	990 ft
60 mph	1,100 ft
65 mph	1,200 ft
70 mph	1,250 ft
75 mph	1,350 ft



COUNTY OF HAWAII

**MUTCD TABLE 2C-4**

APPROVED: \_\_\_\_\_

*Amstar*

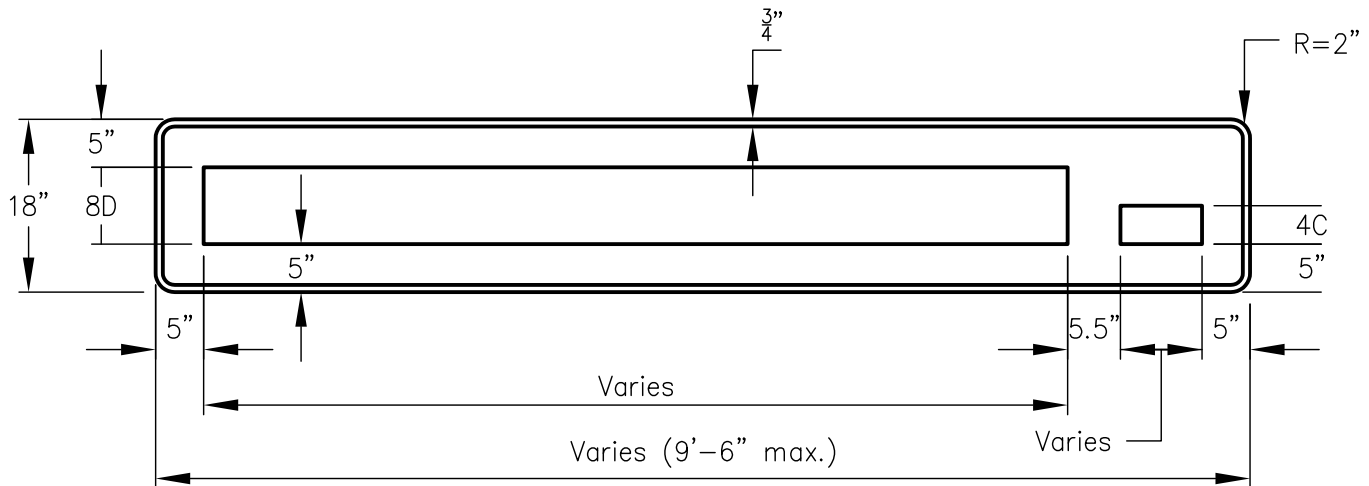
TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: N.T.S.

STANDARD  
DETAILS

TR-16a





OVERHEAD STREET NAME SIGN DETAIL

SIGN NOTES

1. Legend shall be the same on both sides of sign.
2. Colors: Legend and Border – white, Background – green.
3. Lettering shall be first letter uppercase/lowercase format.
4. Street name shall conform to the proper Hawaiian spelling as assigned by the County of Hawaii, Planning Department.
5. Include all 'okinas and kahakos.

NOTE:

1. All traffic signs shall be completely reflectorized with Type IV High Intensity retroreflective sheeting.



COUNTY OF HAWAII

**OVERHEAD STREET NAME SIGN**

APPROVED: *Amstar*

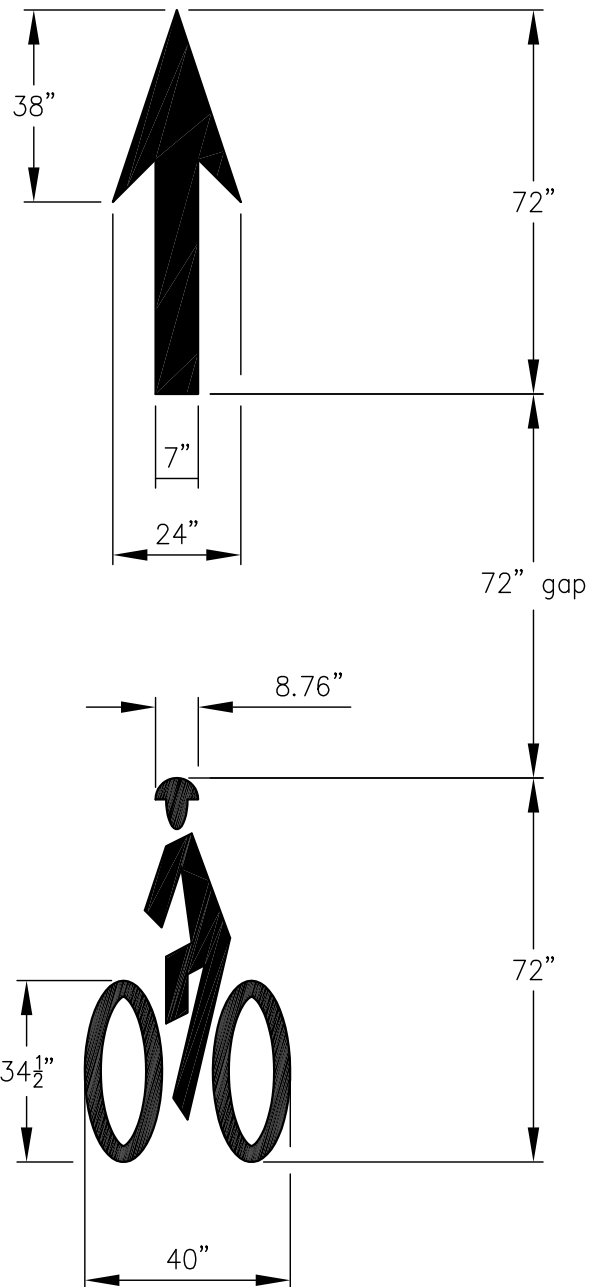
TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=20'

STANDARD  
DETAILS

TR-17





NOTES:

1. Heat applied pre-formed thermoplastic pavement marking tape with visible temperature indicators (or equivalent pavement marking tape) shall be used for all bike lane symbols and legends and shall be made of a durable, high skid-resistant material.



COUNTY OF HAWAII

**BIKE LANE  
PAVEMENT MARKINGS**

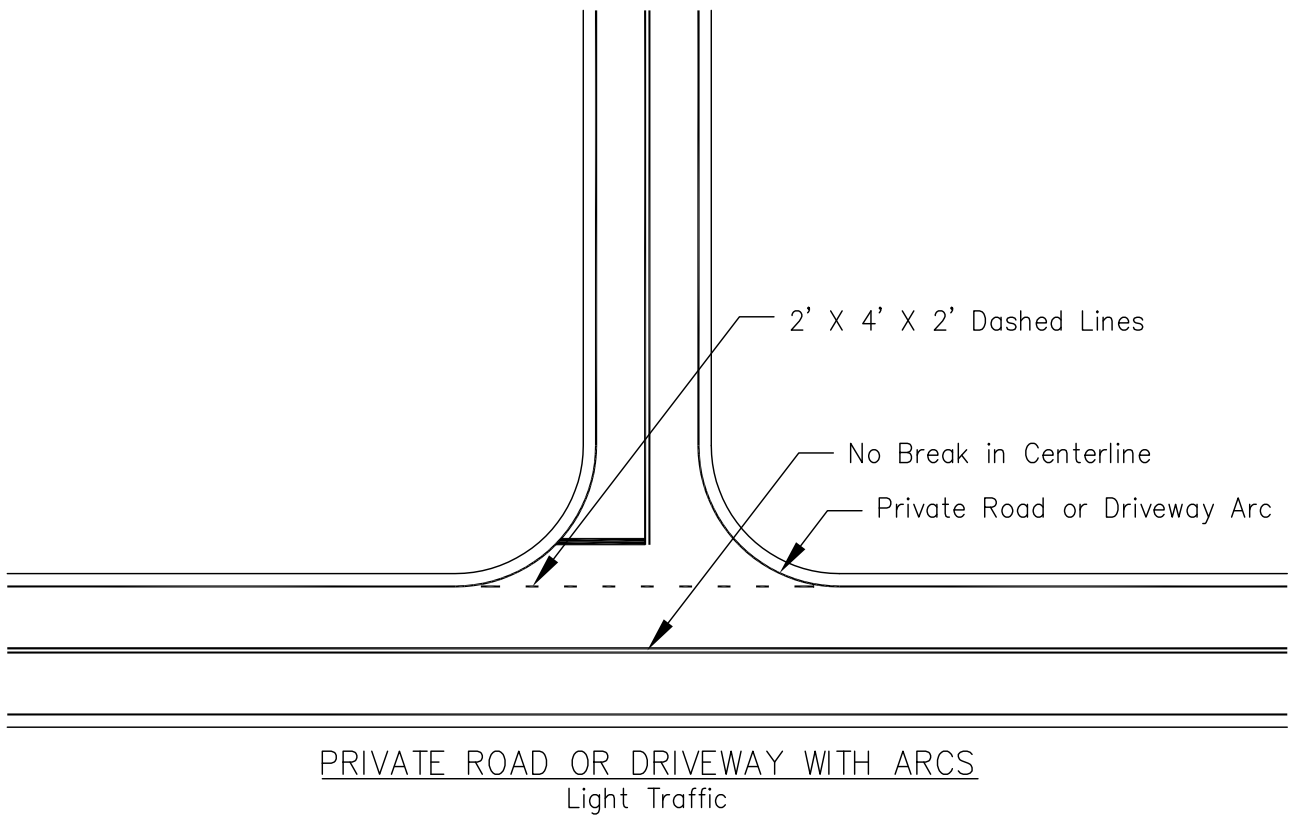
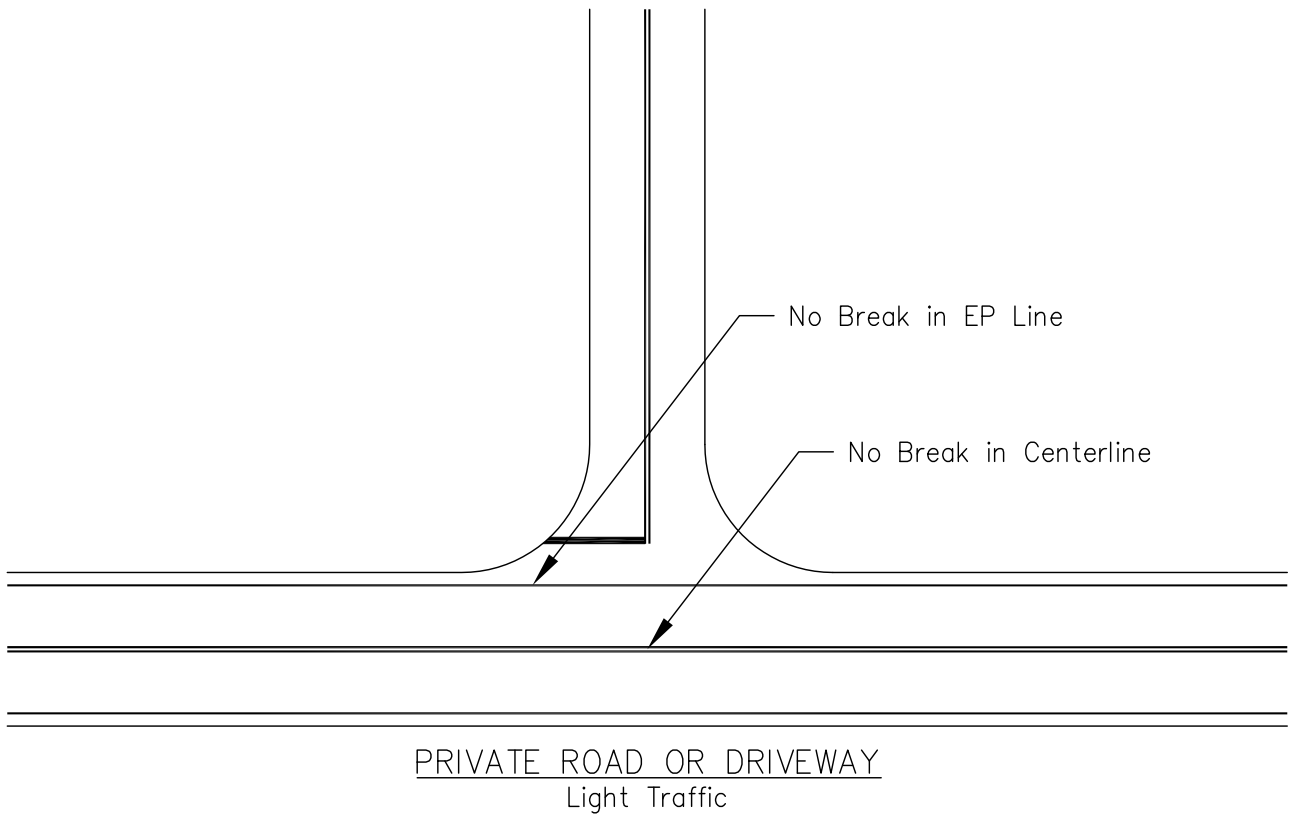
APPROVED: *Amstar*

TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=3'

**STANDARD  
DETAILS**

**TR-18**



COUNTY OF HAWAII

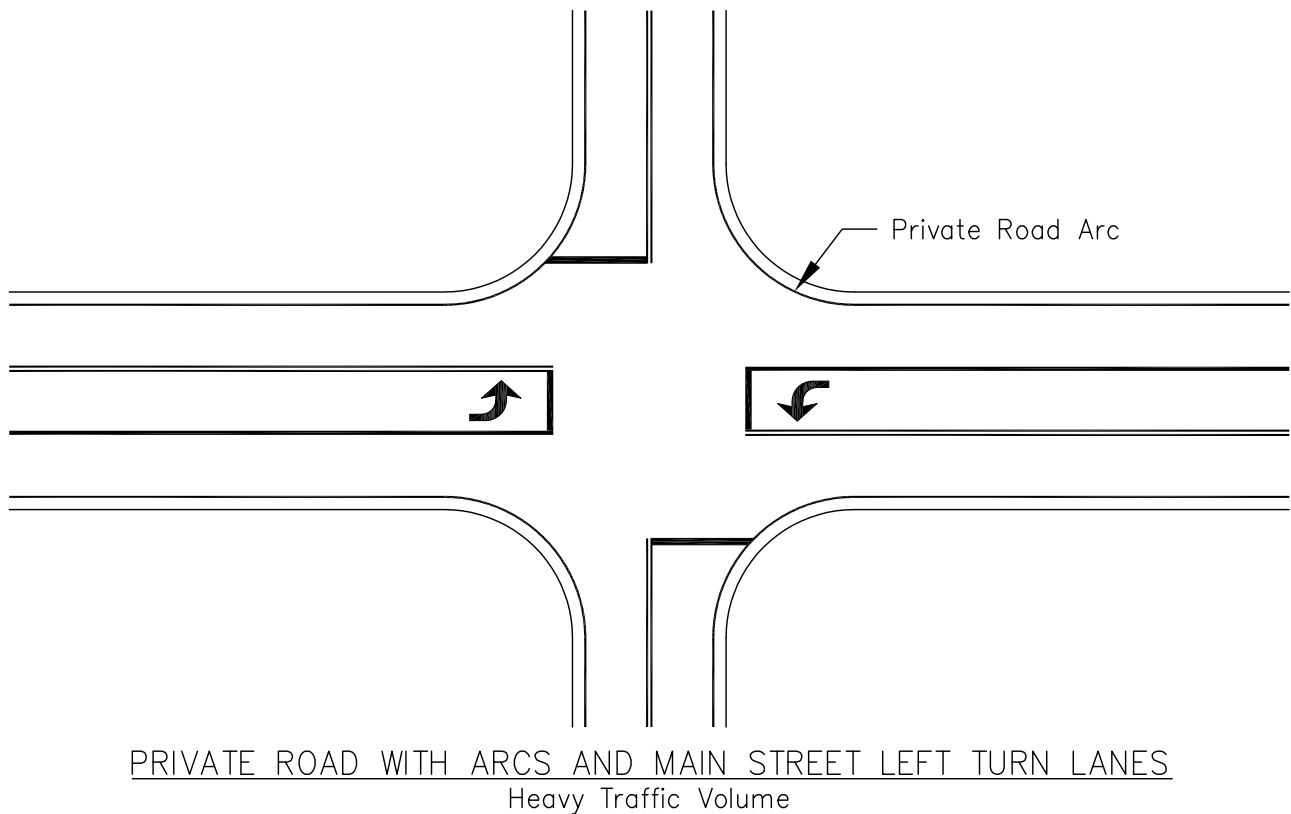
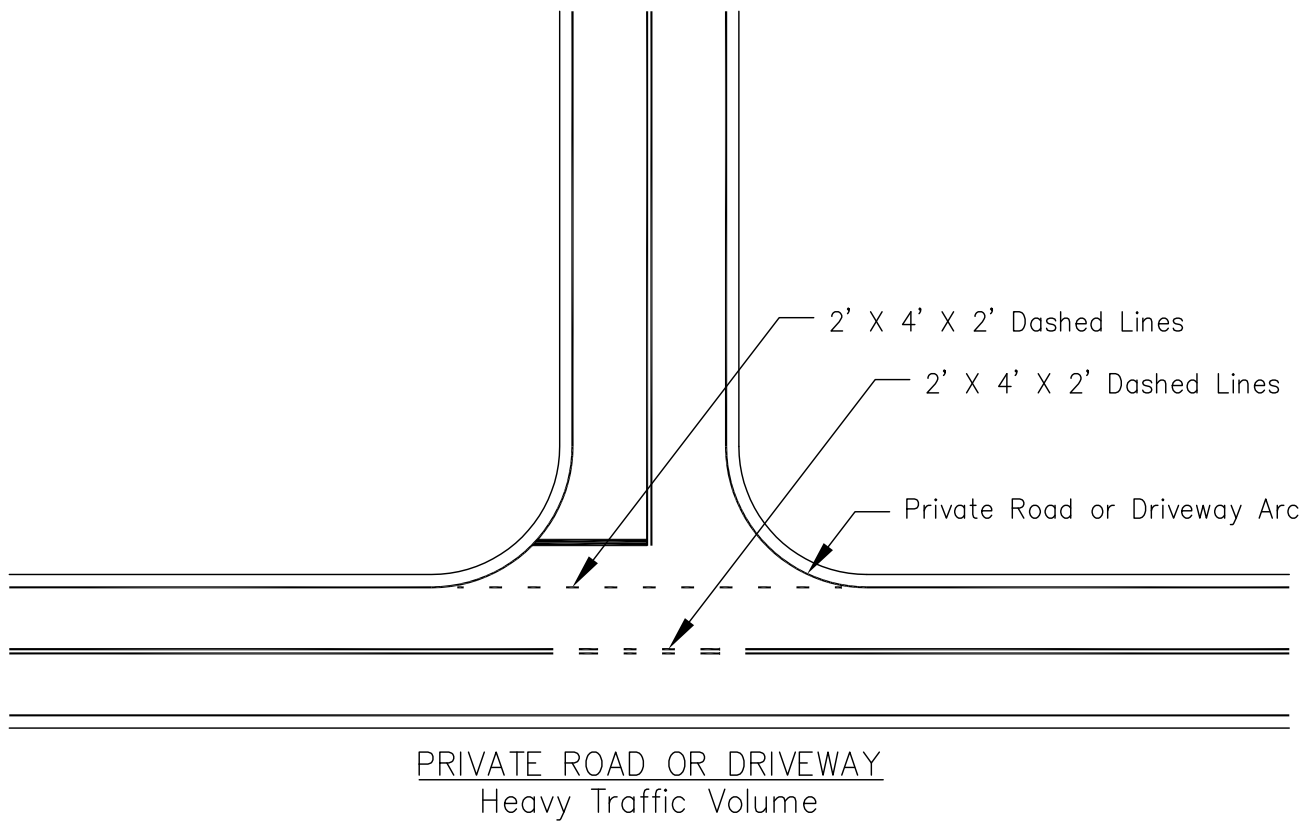
# **EP LINES FOR PRIVATE ACCESSES LIGHT TRAFFIC**

APPROVED: *Amstar*  
TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=30'

STANDARD  
DETAILS

TR-19



COUNTY OF HAWAII

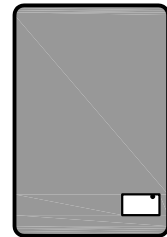
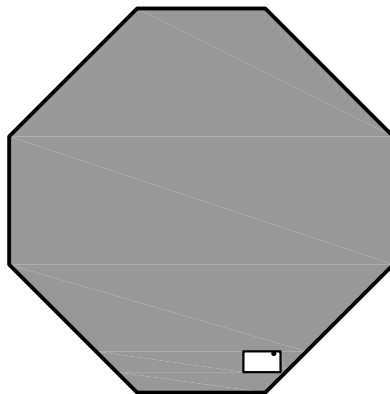
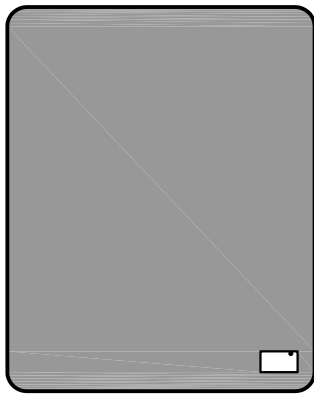
# **EP LINES FOR PRIVATE ACCESSES HEAVY TRAFFIC**

APPROVED: *Amstar*  
TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: 1"=30'

STANDARD  
DETAILS

TR-19a



NOTES:

1. Install Traffic Division maintenance sticker on the back of each single sided sign.
2. Stickers shall be placed on the bottom right hand corner of the sign.
3. Notch out the number that coincides with the month that the sign was installed on.



COUNTY OF HAWAII

**TRAFFIC DIVISION  
MAINTENANCE STICKER**

APPROVED: *Amstar*  
TRAFFIC DIVISION

DATE: 07-08-20  
SCALE: N.T.S.

STANDARD  
DETAILS

TR-20