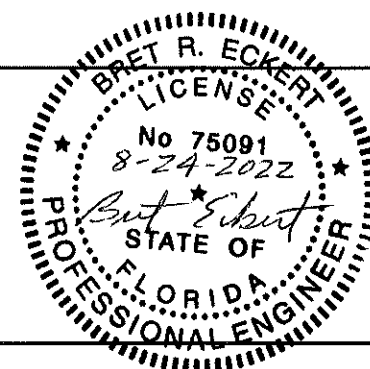


SHEET NO.	CONTENTS
1	General Notes
2	QuadGuard® M10 24" to Thrie Beam Guardrail, Unidirectional
3	QuadGuard® M10 24" to Single Slope Concrete Barrier, Unidirectional
4	QuadGuard® M10 24" to Vertical Concrete Barrier, Unidirectional
5	QuadGuard® M10 24" to 31" W-Beam Guardrail, Bidirectional
6	QuadGuard® M10 24" to Thrie-Beam Guardrail Bidirectional
7	QuadGuard® M10 24" to Single Slope Concrete Barrier, Bidirectional
8	QuadGuard® M10 24" to Vertical Concrete Barrier, Bidirectional
9	QuadGuard® M10 24" to Safety Shape Concrete Barrier, Bidirectional
10, 11, 12	QuadGuard® M10 24" Concrete Pad
13	QuadGuard® II Conversion Concrete Pad 1 Bay Extension

**QUADGUARD® M10 SYSTEM TL-3 (Permanent)  
APL 544-001-003**

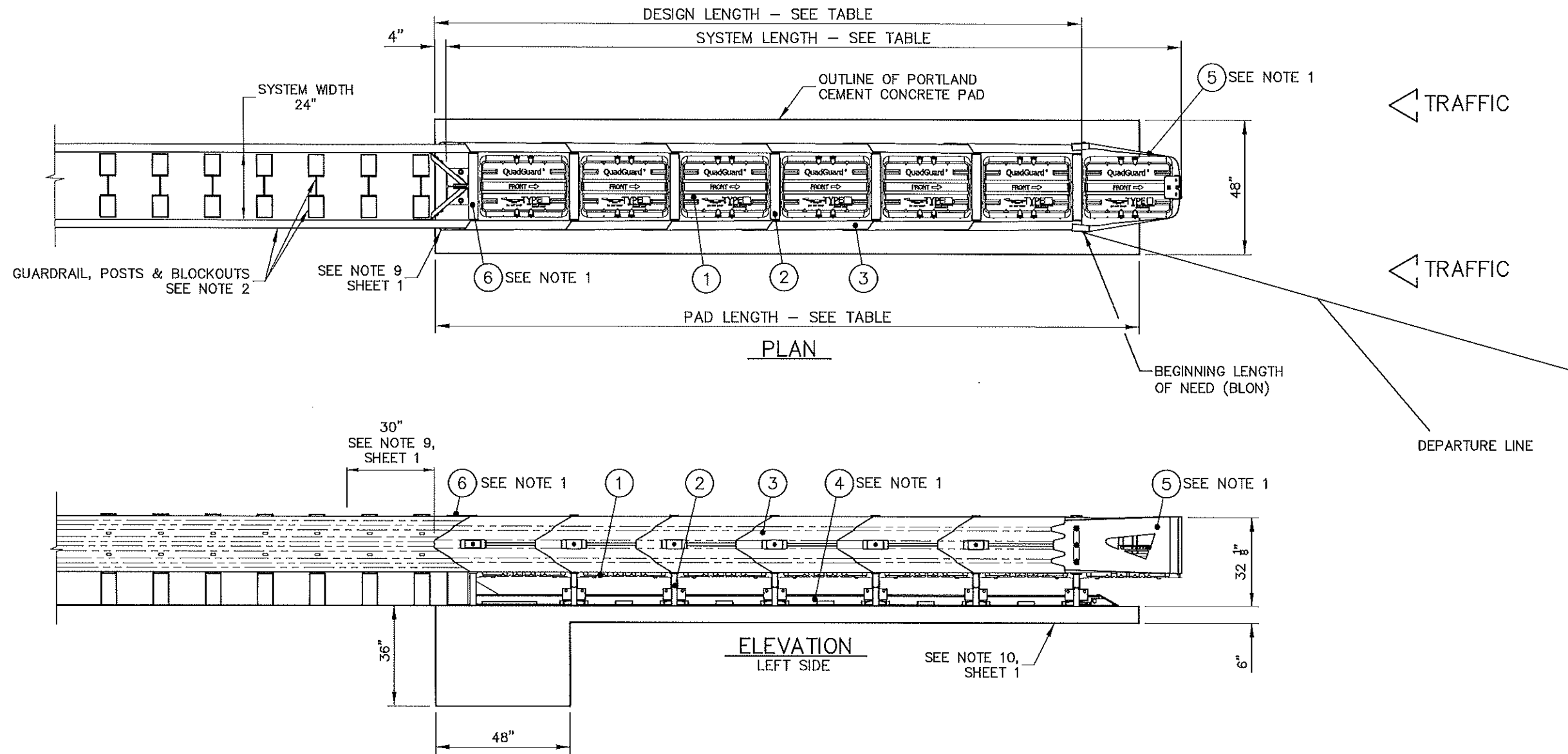
- The energy absorbing system represented on these Approved Products List (APL) drawings is a proprietary design by Energy Absorption Systems, of VALTIR, LLC, and marketed under the name QUADGUARD® M10 System (QGM10).
- The QGM10 is a redirective, non-gating crash cushion which is well suited for shielding hazards. The QGM10 is used for permanent installations. The beginning length of need shall be at the point of intersection between the face of the crash cushion and the departure line.
- The 6-bay QGM10 has been evaluated to MASH crash test criteria and is suitable for Test Level 3 crash cushion applications.
- The QGM10 shall be assembled and installed in accordance with the manufacturer's detailed drawings, procedures and specifications, product manual or installation guide. Information and copies of the above documents are available on the Approved Product List (APL).
- The QGM10 is available in 24" nominal width.
- Only the QGM10 Type I and Type II energy absorbing cartridges shall be used as shown on the drawings.
- All metallic compounds shall meet the galvanizing requirements for guardrail, FDOT Specification Section 967.
- Units of measurements are in English units.
- Ensure adequate space is provided for all rear fender panels to slide rearward 30" upon impact.
- QGM10 shall be placed on a min. 6" thick reinforced 4000 PSI Portland Cement concrete pad as detailed in the drawings. As an alternate, a min. 8" thick concrete, 4000 psi Portland Cement concrete roadway measuring at least 12'-0" wide by 50'-0" long. Existing concrete pads or new pads with below ground obstructions are acceptable with anchor blocks located at the front of the pad.
- See the QUADGUARD® M10 System Product manual for a description of its impact performance characteristics and design limitations before placing a system at a given site. Information and copies of current manual are available on the APL.
- For proper impact performance, the QGM10 system must be restored to its original length and condition after each impact.
- The QGM10 tension strut backup is the primary backup to be used on Florida Department of Transportation projects.



DRAWN: R. VENZON	DATE: 09/22/2017	MODEL: N/A	QUADGUARD® M10 24" TL-3 (PERMANENT)
CHECKED: A. VAN BROCKLIN	DATE: 10/20/2017	TRAFFIC DIRECTION: N/A	
UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCH. DIMENSIONS ACCORDING TO ASME Y14.5-2018 AND OMS-SE-003 UNLESS OTHERWISE SPECIFIED.		DO NOT SCALE DRAWING	APL 544-001-003
REVISION DESCRIPTION		ECO DATE REV BY CHK	
UPDATED TABLE OF CONTENTS, UPDATED NOTES		7203 05/19/20 F JMS BRE	FLORIDA
RENUMBERED SHEETS WAS SHEET 1 OF 12, ADDED 8" NON-REINFORCED CONCRETE OPTION		7427 05/27/21 G JMS BRE	
BORDER WAS THP BORDER		8151 08/12/22 H RJV RCB	DRAWING: 60-39-21



FLORIDA  
REV: H  
SHEET: 1 of 13



NOTES:

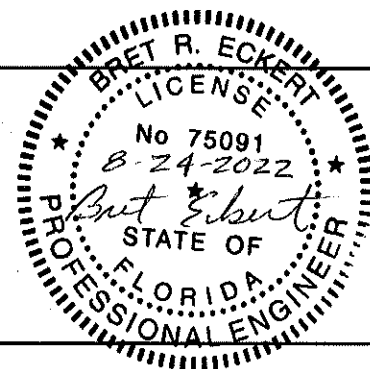
1. BACKUP, MONORAIL AND NOSE ASSEMBLIES NOT INCLUDED IN MODEL NUMBER. ORDER SEPARATELY.
2. GUARDRAIL, POSTS, BLOCKOUTS AND HARDWARE ARE STANDARD HIGHWAY ISSUE AND ARE NOT INCLUDED WITH QUADGUARD® M10 SYSTEM.
3. GUARDRAIL TERMINATED BEHIND QUADGUARD® M10 FENDER PANELS.

PERMANENT CRASH CUSHION DESIGN TABLE								
BAYS	24" WIDTH	SYSTEM LENGTH	DESIGN LENGTH	PAD LENGTH	DESIGN SPEED	TEST LEVEL	NO. OF CARTRIDGES	
	MODEL #						TYPE I	TYPE II
6	QM10024	22'-0"	19'-2"	21'-0"	60 mph	TL-3	4	3

NOTE: FOR HIGH SPEED FACILITIES WITH A DESIGN SPEED OF ≥ 50 MPH USE A TL-3 SYSTEM.

KEY

- |                    |                 |
|--------------------|-----------------|
| ① QG M10 CARTRIDGE | ④ MONORAIL      |
| ② DIAPHRAGM        | ⑤ NOSE ASSEMBLY |
| ③ FENDER PANEL     | ⑥ BACKUP        |



DRAWN: R. VENZON	DATE: 09/22/2017	MODEL: SEE TABLE
CHECKED: A. VAN BROCKLIN	DATE: 10/20/2017	TRAFFIC DIRECTION: UNIDIRECTIONAL
UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCH. DIMENSIONS ACCORDING TO ASME Y14.5-2018 AND QMS-SE-003 UNLESS OTHERWISE SPECIFIED.		
REVISION DESCRIPTION	ECO	DATE
ADDED TL-3 TO TITLE	7203	05/19/20
WAS SHEET 2 OF 12	7427	05/27/21
BORDER WAS THP BORDER	8151	08/12/22

QUADGUARD® M10 24" TL-3 (PERMANENT) TO THRIE-BEAM GUARDRAIL

APL 544-001-003

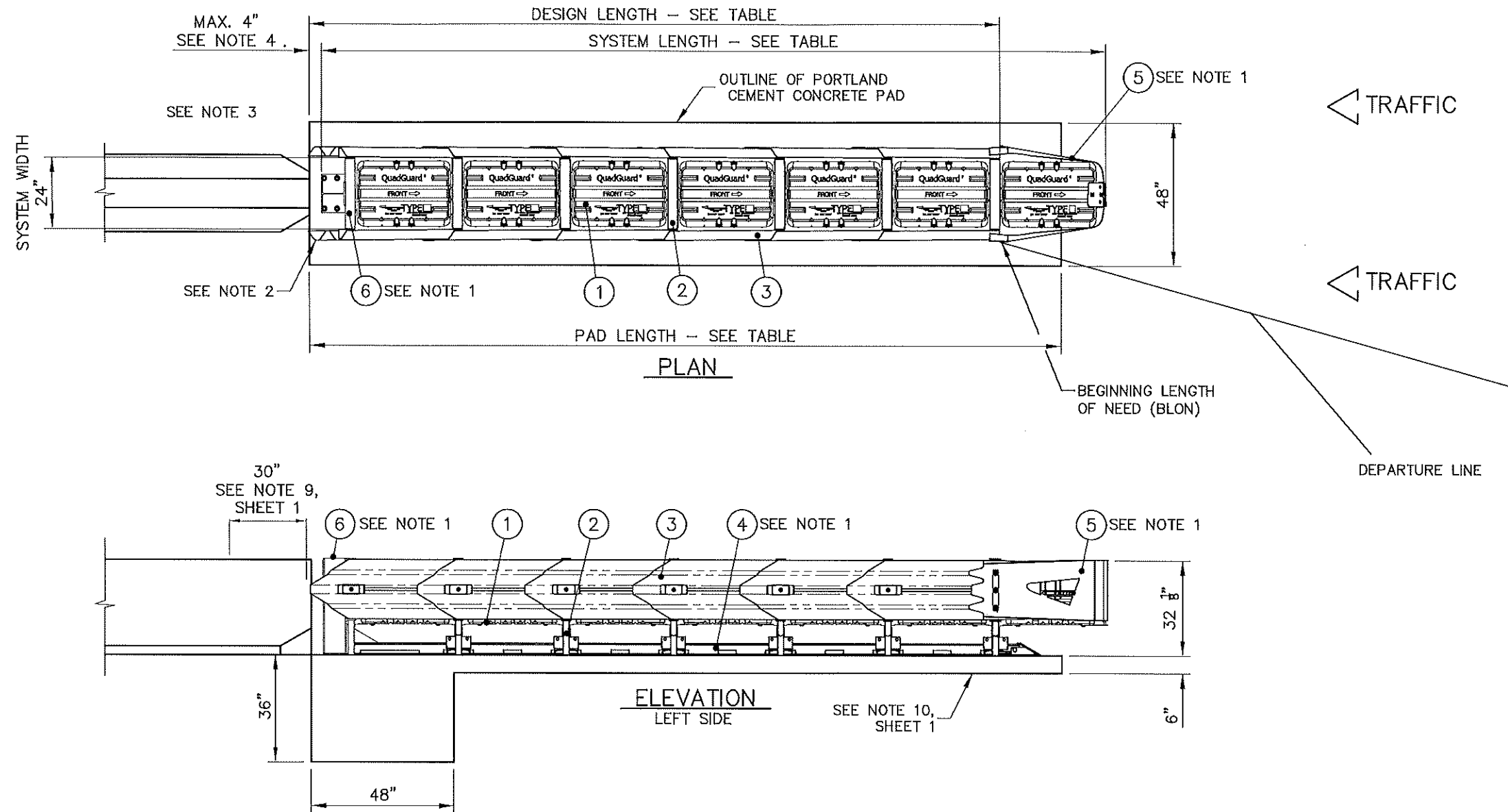
FLORIDA

DRAWING: 60-39-21

REV: H

SHEET: 2 of 13

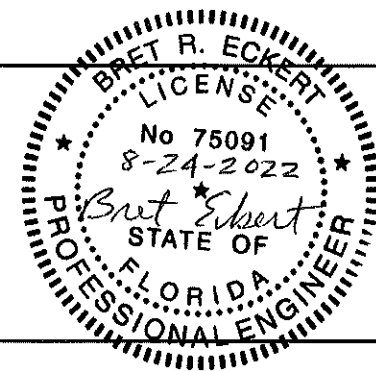




- NOTES:
1. BACKUP, MONORAIL AND NOSE ASSEMBLIES NOT INCLUDED IN MODEL NUMBER. ORDER SEPARATELY.
  2. CHAMFER ENDS OF BARRIER AT 15 DEGREES, TAPER (1:4).
  3. CAUTION:  $\phi$  OF QUARDGUARD® M10 SYSTEM SHALL BE PARALLEL TO  $\phi$  OF BARRIER  $\pm 1'$ .
  4. CAUTION: MAX. 4" CLEARANCE BETWEEN BACKUP AND END OF BARRIER.

BAYS	24" WIDTH MODEL #	SYSTEM LENGTH	DESIGN LENGTH	PAD LENGTH	DESIGN SPEED	TEST LEVEL	NO. OF CARTRIDGES	
							TYPE I	TYPE II
6	QM10024	22'-0"	19'-2"	21'-0"	60 mph	TL-3	4	3

NOTE: FOR HIGH SPEED FACILITIES WITH A DESIGN SPEED OF  $\geq 50$  MPH USE A TL-3 SYSTEM.

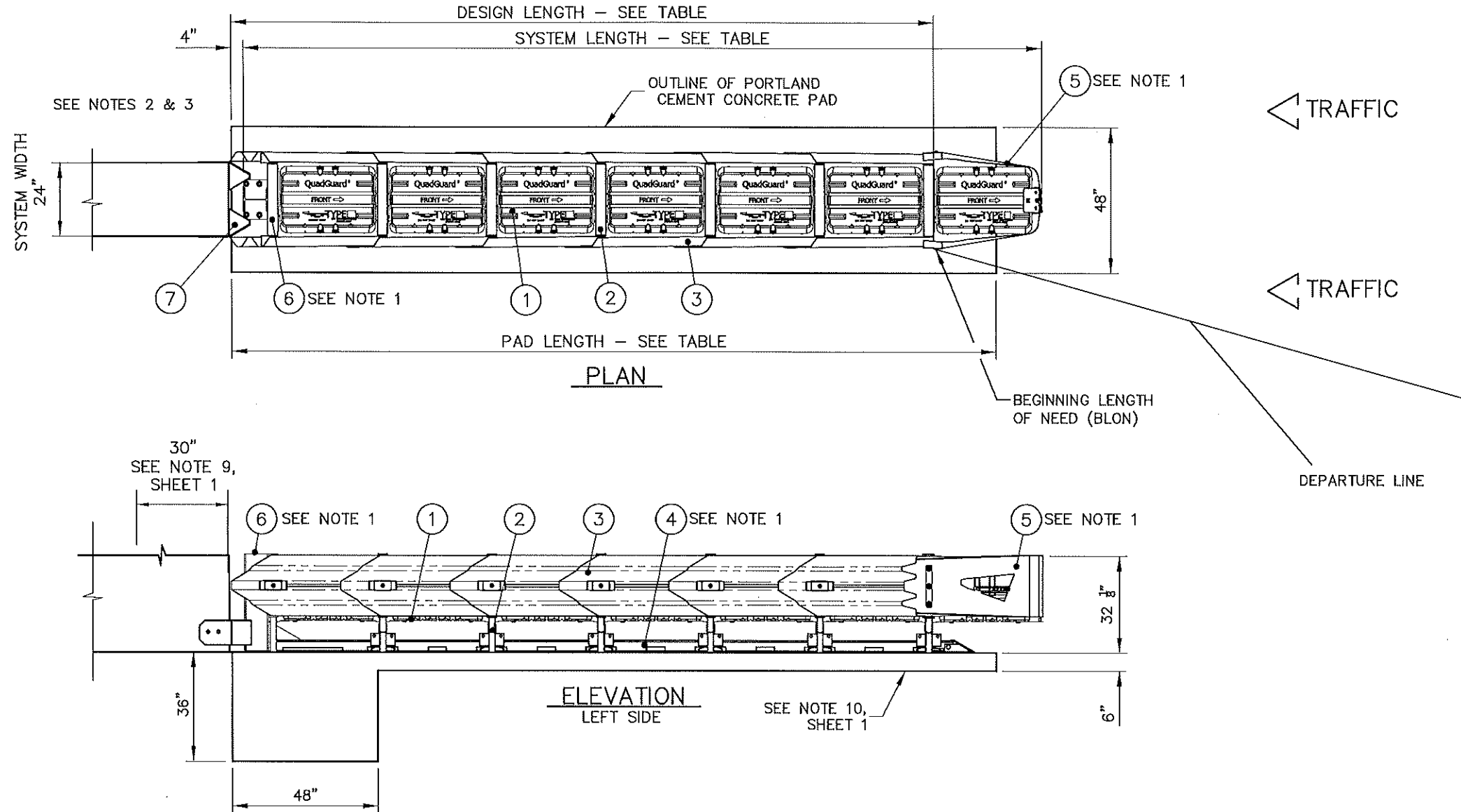


KEY		DRAWN: R. VENZON DATE: 09/25/2017 MODEL: SEE TABLE	QUADGUARD® M10 24" TL-3 (PERMANENT) TO CONCRETE BARRIER	FLORIDA
① QG M10 CARTRIDGE	④ MONORAIL			
② DIAPHRAGM	⑤ NOSE ASSEMBLY	UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCH. DIMENSIONS ACCORDING TO ASME Y14.5-2018 AND OMS-SE-003 UNLESS OTHERWISE SPECIFIED.		SHEET: 3 of 13
③ FENDER PANEL	⑥ BACKUP	REVISION DESCRIPTION		
		ECO DATE REV BY CHK		
		ADDED TL-3 TO TITLE 7203 05/19/20 F JMS BRE		
		WAS SHEET 3 OF 12 7427 05/27/21 G JMS BRE		
		BORDER WAS THP BORDER 8151 08/16/22 H RJV RCB	DRAWING: 60-39-21	



VALTIR  
FLORIDA  
SHEET: 3 of 13

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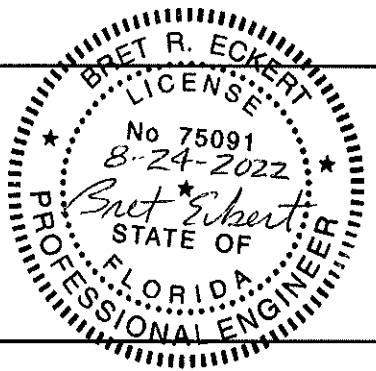


- NOTES:
1. BACKUP, WHEEL DEFLECTORS, MONORAIL AND NOSE ASSEMBLIES NOT INCLUDED IN MODEL NUMBER. ORDER SEPARATELY. WHEEL DEFLECTORS ARE ACCESSORY ITEMS.
  2. WHEEL DEFLECTORS MAY BE USED ON EITHER SIDE OR BOTH FOR UNIDIRECTIONAL APPLICATIONS AS NEEDED.
  3. CAUTION: MAX. 4" CLEARANCE BETWEEN BACKUP AND WALL

PERMANENT CRASH CUSHION DESIGN TABLE								
BAYS	24" WIDTH	SYSTEM LENGTH	DESIGN LENGTH	PAD LENGTH	DESIGN SPEED	TEST LEVEL	NO. OF CARTRIDGES	
	MODEL #						TYPE I	TYPE II
6	QM10024	22'-0"	19'-2"	21'-0"	60 mph	TL-3	4	3

NOTE: FOR HIGH SPEED FACILITIES WITH A DESIGN SPEED OF  $\geq$  50 MPH USE A TL-3 SYSTEM.

KEY	
① QG M10 CARTRIDGE	⑦ WHEEL DEFLECTOR
② DIAPHRAGM	
③ FENDER PANEL	
④ MONORAIL	
⑤ NOSE ASSY	
⑥ BACKUP	



DRAWN: R. VENZON	DATE: 09/25/2017	MODEL: SEE TABLE
CHECKED: A. VAN BROCKLIN	DATE: 10/20/2017	TRAFFIC DIRECTION: UNIDIRECTIONAL
UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCH. DIMENSIONS ACCORDING TO ASME Y14.5-2018 AND OMS-SE-003 UNLESS OTHERWISE SPECIFIED.		DO NOT SCALE DRAWING
REVISION DESCRIPTION	ECO	DATE
ADDED TL-3 TO TITLE	7203	05/19/20
WAS SHEET 4 OF 12	7427	05/27/21
BORDER WAS THP BORDER	8151	08/16/22
REV	BY	CHK
F	JMS	BRE
G	JMS	BRE
H	RJV	RCB

QUADGUARD® M10 24" TL-3 (PERMANENT)  
TO VERTICAL CONCRETE BARRIER

APL 544-001-003

FLORIDA

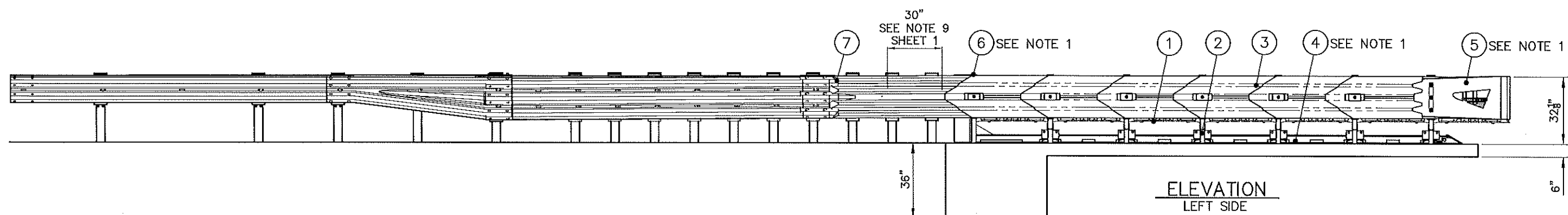
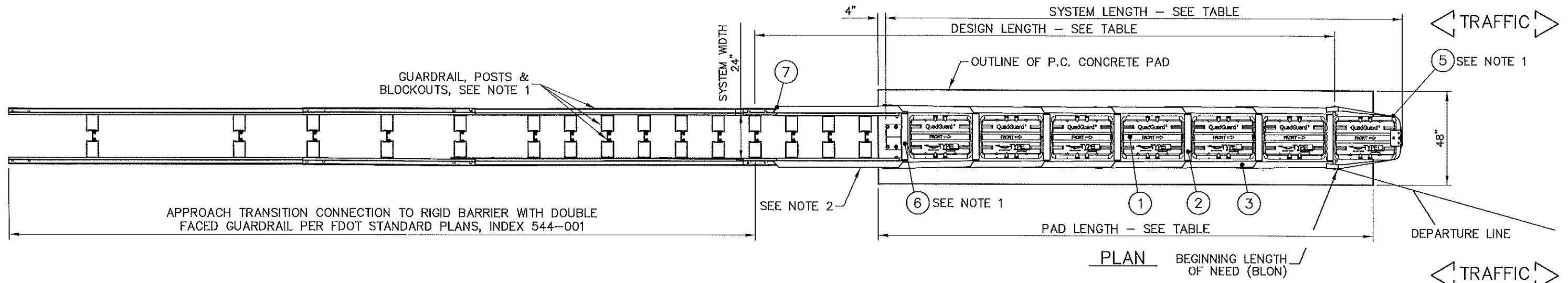
DRAWING: 60-39-21

REV: H

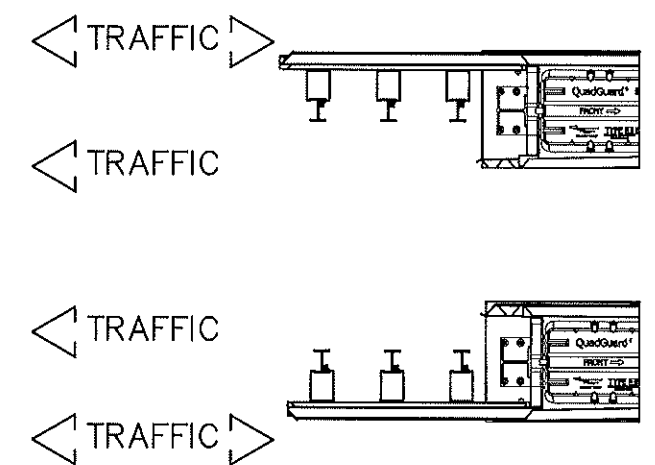
SHEET: 4 of 13



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TRANSITION CONFIGURATION OPTIONS

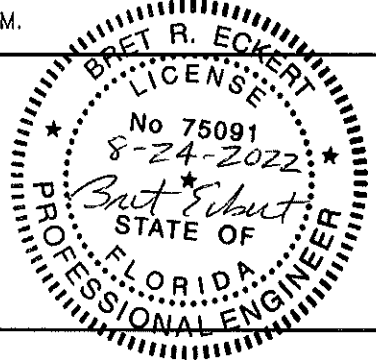


- NOTES:
1. BACKUP, MONORAIL, TRANSITION PANEL AND NOSE ASSEMBLIES NOT INCLUDED IN MODEL NUMBER. ORDER SEPARATELY.
  2. GUARDRAIL, POSTS, BLOCKS AND HARDWARE ARE STANDARD HIGHWAY ISSUE AND ARE NOT INCLUDED WITH QUADGUARD® M10 SYSTEM.
  3. TRANSITION PANEL SHALL BE ANGLED SUCH THAT MAXIMUM GAP FROM FENDER PANEL OVERLAP DOES NOT EXCEED .78".

PERMANENT CRASH CUSHION DESIGN TABLE

BAYS	24" WIDTH MODEL #	SYSTEM LENGTH	DESIGN LENGTH	PAD LENGTH	DESIGN SPEED	TEST LEVEL	NO. OF CARTRIDGES	
							TYPE I	TYPE II
6	QM10024	22'-0"	25'-0"	21'-0"	60 mph	TL-3	4	3

NOTE: FOR HIGH SPEED FACILITIES WITH A DESIGN SPEED OF ≥ 50 MPH USE A TL-3 SYSTEM.



KEY	
① QG M10 CARTRIDGE	⑦ TRANSITION PANEL
② DIAPHRAGM	
③ FENDER PANEL	
④ MONORAIL	
⑤ NOSE ASSEMBLY	
⑥ BACKUP	

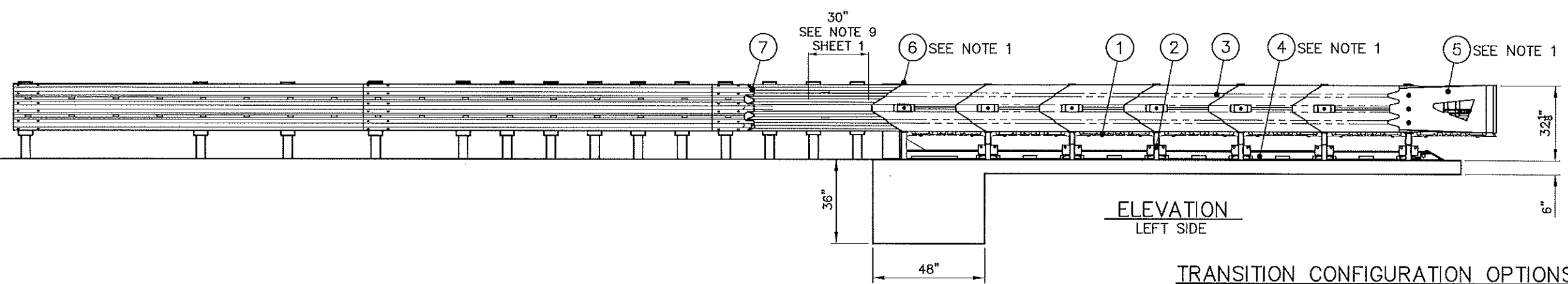
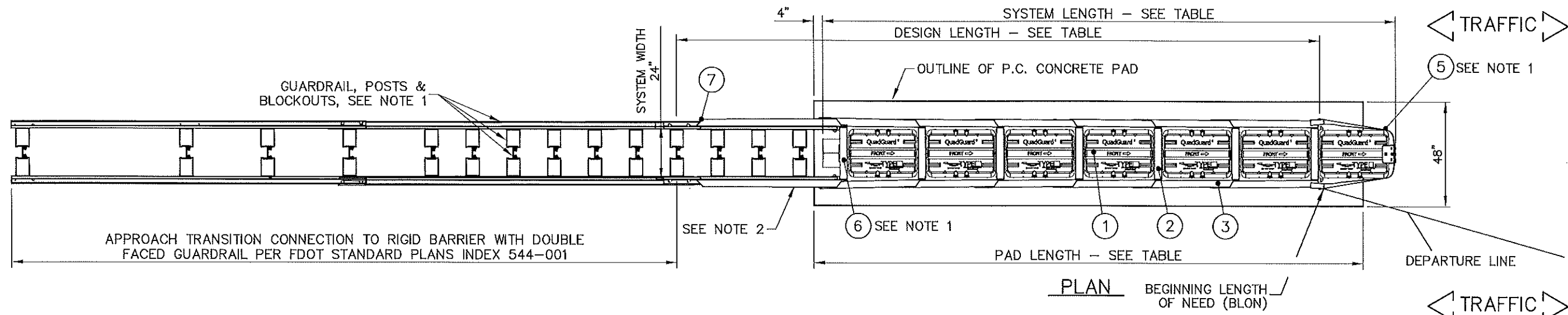
DRAWN: J. SIMMONS	DATE: 01/22/2020	MODEL: SEE TABLE
CHECKED: B. ECKERT	DATE: 01/27/2020	TRAFFIC DIRECTION: BIDIRECTIONAL
UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCH. DIMENSIONS ACCORDING TO ASME Y14.5-2018 AND QMS-SE-003 UNLESS OTHERWISE SPECIFIED.		DO NOT SCALE DRAWING
REVISION DESCRIPTION	ECO	DATE
ADDED TL-3 TO TITLE, CORRECTED DEPARTURE LINE AND DESIGN LENGTH, WAS SHEET 6	7203	05/19/20
WAS SHEET 7	7427	05/27/21
BORDER WAS THP BORDER	8151	08/16/22
	REV	BY
	F	JMS
	G	JMS
	H	RJV
	CHK	BRE
		BRE
		RCB

QUADGUARD®M10 24" TL-3 (PERMANENT) TO 31" W-BEAM GUARDRAIL
APL 544-001-003
FLORIDA
DRAWING: 60-39-21
REV: H

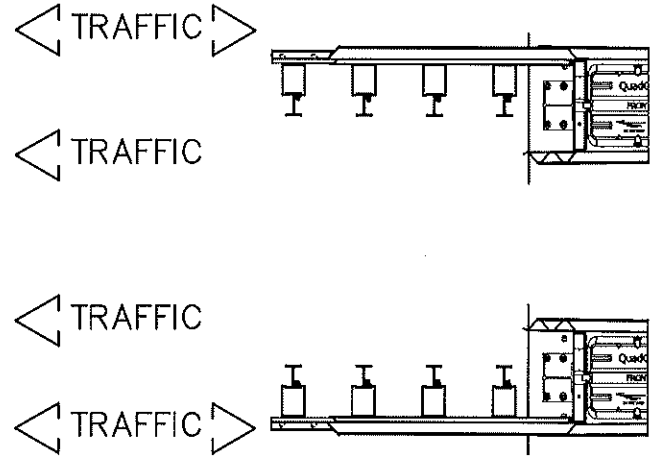


FLORIDA  
REV: H  
SHEET: 5 of 13

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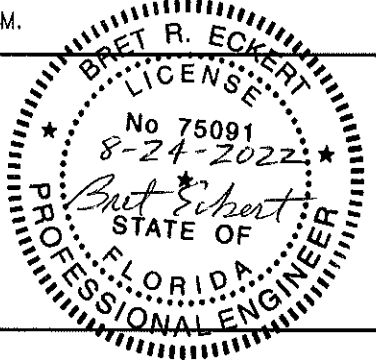
TRANSITION CONFIGURATION OPTIONS



- NOTES:
1. BACKUP, MONORAIL, TRANSITION PANEL AND NOSE ASSEMBLIES NOT INCLUDED IN MODEL NUMBER. ORDER SEPARATELY.
  2. GUARDRAIL, POSTS, BLOCKS AND HARDWARE ARE STANDARD HIGHWAY ISSUE AND ARE NOT INCLUDED WITH QUADGUARD® M10 SYSTEM.
  3. TRANSITION PANEL SHALL BE ANGLED SUCH THAT MAXIMUM GAP FROM FENDER PANEL OVERLAP DOES NOT EXCEED .78".

PERMANENT CRASH CUSHION DESIGN TABLE								
BAYS	24" WIDTH	SYSTEM LENGTH	DESIGN LENGTH	PAD LENGTH	DESIGN SPEED	TEST LEVEL	NO. OF CARTRIDGES	
	MODEL #						TYPE I	TYPE II
6	QM10024	22'-0"	25'-0"	21'-0"	60 mph	TL-3	4	3

NOTE: FOR HIGH SPEED FACILITIES WITH A DESIGN SPEED OF ≥ 50 MPH USE A TL-3 SYSTEM.



KEY	
① QG M10 CARTRIDGE	⑦ TRANSITION PANEL
② DIAPHRAGM	
③ FENDER PANEL	
④ MONORAIL	
⑤ NOSE ASSEMBLY	
⑥ BACKUP	

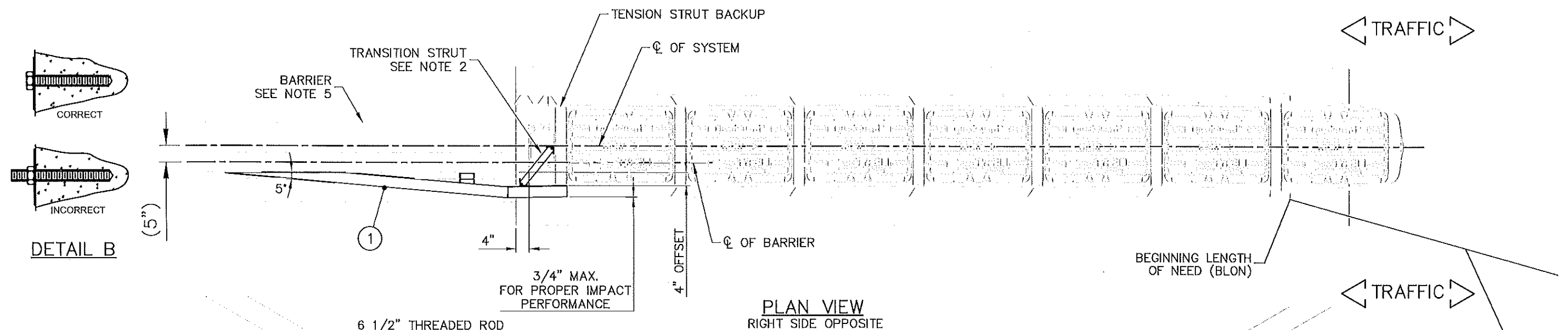
DRAWN: J. SIMMONS	DATE: 05/19/2020	MODEL: SEE TABLE			
CHECKED: B. ECKERT	DATE: 05/20/2020	TRAFFIC DIRECTION: BIDIRECTIONAL			
UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCH. DIMENSIONS ACCORDING TO ASME Y14.5-2018 AND QMS-SE-003 UNLESS OTHERWISE SPECIFIED.					
REVISION DESCRIPTION	ECO	DATE	REV	BY	CHK
ADDED THIS SHEET, SHEETS 7-10 BECAME SHEETS 9-12		7203	05/19/20	F	JMS BRE
WAS SHEET 8		7427	05/27/21	G	JMS BRE
BORDER WAS THP BORDER		8151	08/16/22	H	RJV RCB

QUADGUARD® M10 24" TL-3 (PERMANENT) TO THRIE-BEAM GUARDRAIL	
APL 544-001-003	
DRAWING: 60-39-21	REV: H
FLORIDA	

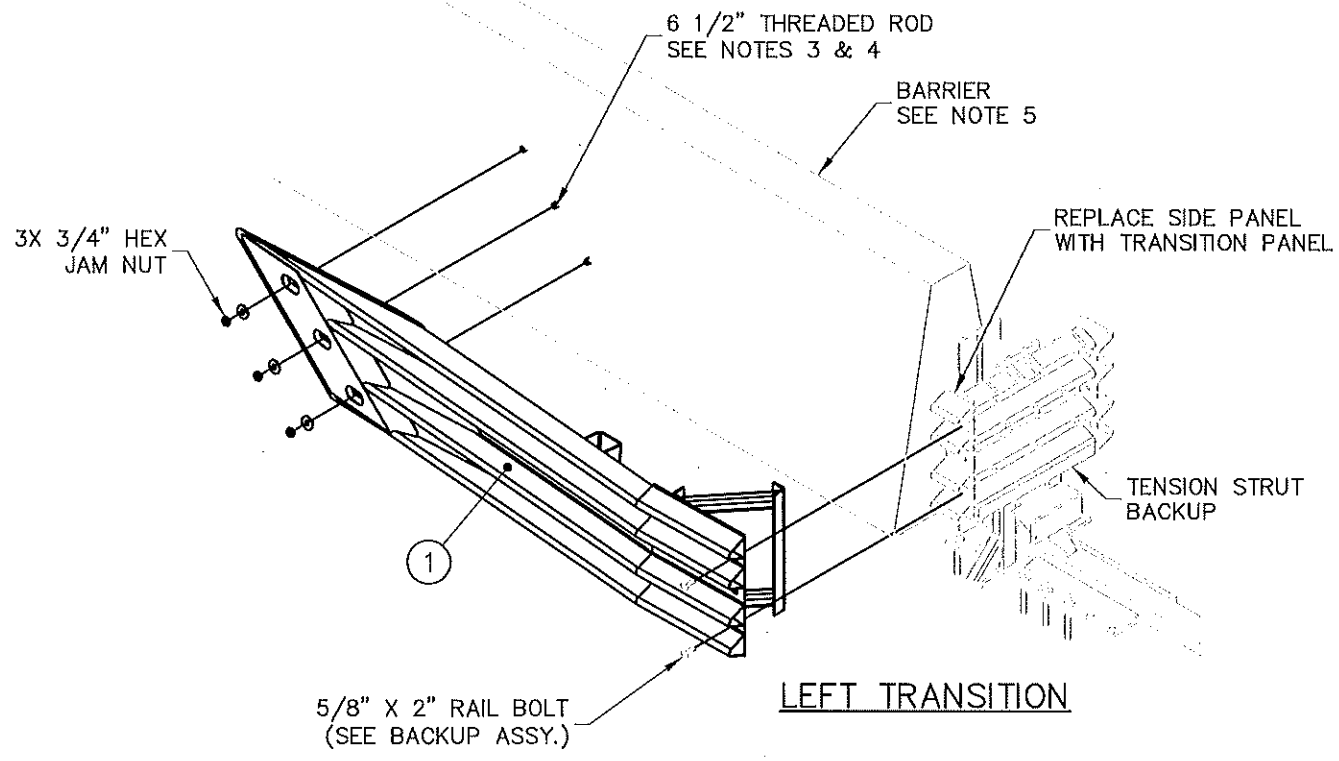


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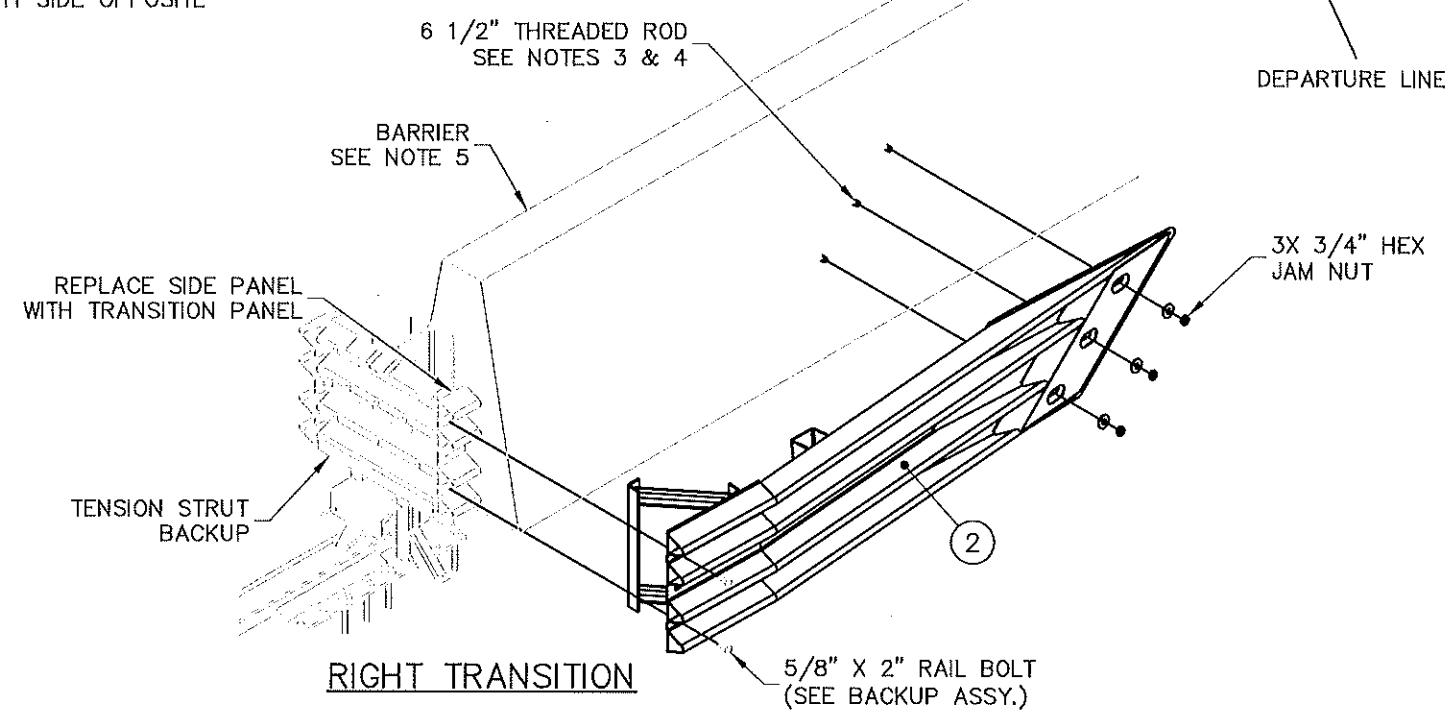
QMS-FE-018 Rev 0, (06/01/2022)



PLAN VIEW  
RIGHT SIDE OPPOSITE



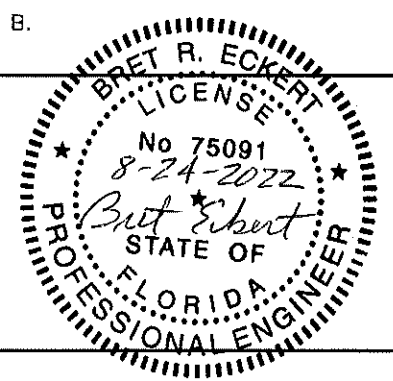
LEFT TRANSITION



RIGHT TRANSITION

- NOTES:
1. IMPACT FORCES COULD BE TRANSFERRED INTO TERMINAL END OF THE BARRIER. ADEQUATE ANCHORAGE IS REQUIRED FOR PROPER IMPACT PERFORMANCE.
  2. POSITION TRANSITION STRUT TO CONTACT (1/4" GAP ACCEPTABLE) WIDE FLANGE BEAM OF BACKUP BEFORE ATTACHING TO BACKUP AND ANCHORING TO BARRIER.
  3. USE TRANSITION PANEL AS TEMPLATE FOR DRILLING. ENSURE FLUSH FIT TO BARRIER. RECOMMENDED HOLE DEPTH 5. FINAL TORQUE TO BE 100 FT-LBS (TYP).
  4. ANCHOR STUD END SHOULD BE FLUSH WITH OUTSIDE SURFACE OF ANCHOR NUT, SEE DETAIL B.
  5. STATE APPROVED SINGLE SLOPE CONCRETE BARRIER. SEE SHEET 9

KEY	
①	TRANSITION ASSY, 6 IN, SINGLE SLOPE, L
②	TRANSITION ASSY, 6 IN, SINGLE SLOPE, R



DRAWN: J. SIMMONS	DATE: 01/22/2020	MODEL: SEE TABLE			
CHECKED: B. ECKERT	DATE: 01/27/2020	TRAFFIC DIRECTION: BIDIRECTIONAL			
UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCH. DIMENSIONS ACCORDING TO ASME Y14.5-2018 AND QMS-SE-003 UNLESS OTHERWISE SPECIFIED.					
REVISION DESCRIPTION	ECO	DATE	REV	BY	CHK
ADDED TL-3 TO TITLE, WAS SHEET 7	7203	05/19/20	F	JMS	BRE
WAS SHEET 9	7427	05/27/21	G	JMS	BRE
BORDER WAS THP BORDER	8151	08/16/22	H	RJV	RCB

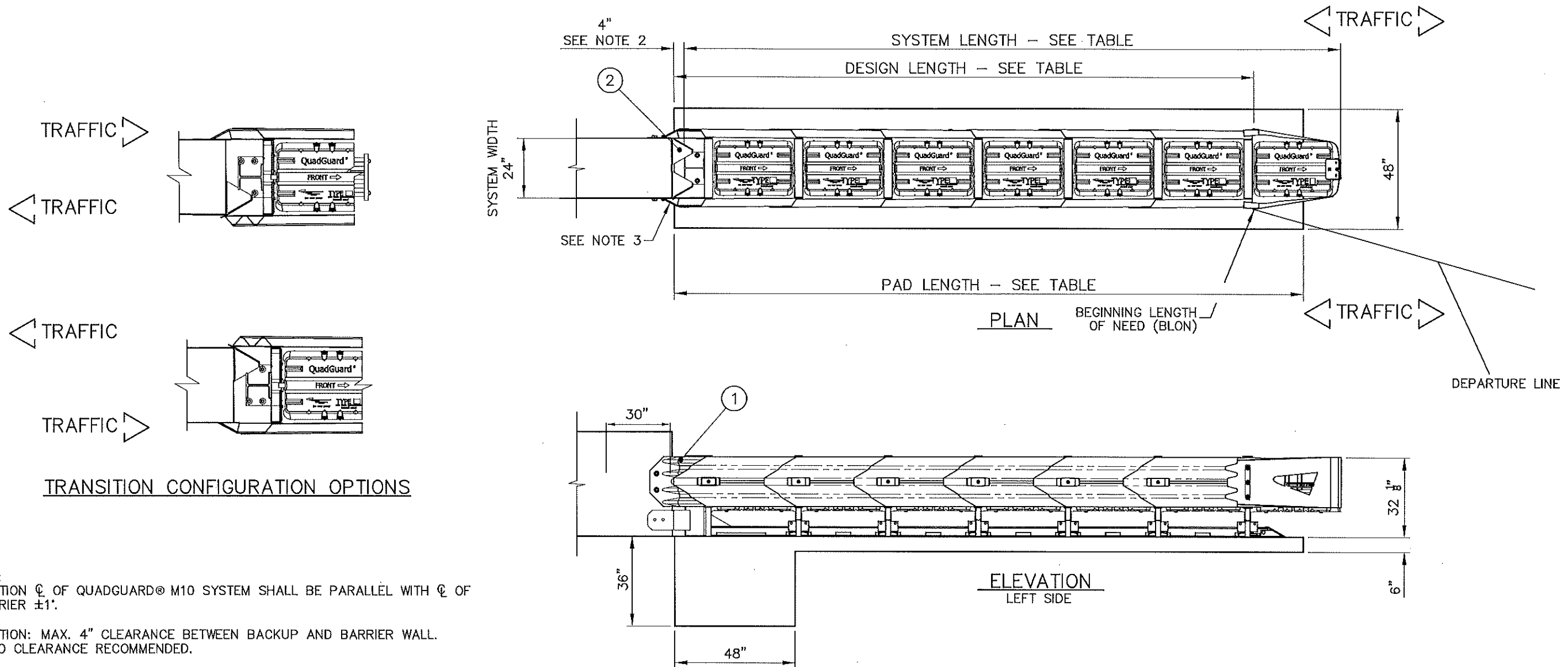
QUADGUARD® M10 24" TL-3 (PERMANENT) TO SINGLE SLOPE CONCRETE BARRIER
APL 544-001-003
FLORIDA
DRAWING: 60-39-21
REV: H

VALTIR

FLORIDA

SHEET: 7 of 13

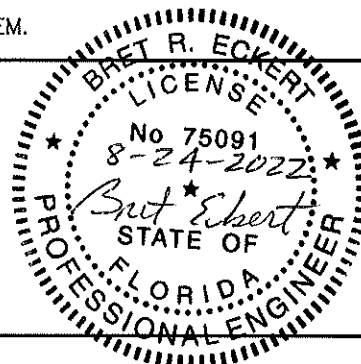
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- NOTES:
1. CAUTION  $\phi$  OF QUADGUARD® M10 SYSTEM SHALL BE PARALLEL WITH  $\phi$  OF BARRIER  $\pm 1^\circ$ .
  2. CAUTION: MAX. 4" CLEARANCE BETWEEN BACKUP AND BARRIER WALL. ZERO CLEARANCE RECOMMENDED.
  3. TRANSITION PANEL SHALL BE ANGLED SUCH THAT MAXIMUM GAP FROM FENDER PANEL OVERLAP DOES NOT EXCEED .78".

BAYS	24" WIDTH MODEL #	SYSTEM LENGTH	DESIGN LENGTH	PAD LENGTH	DESIGN SPEED	TEST LEVEL	NO. OF CARTRIDGES	
							TYPE I	TYPE II
6	QM10024	22'-0"	19'-2"	21'-0"	60 mph	TL-3	4	3

NOTE: FOR HIGH SPEED FACILITIES WITH A DESIGN SPEED OF  $\geq 50$  MPH USE A TL-3 SYSTEM.



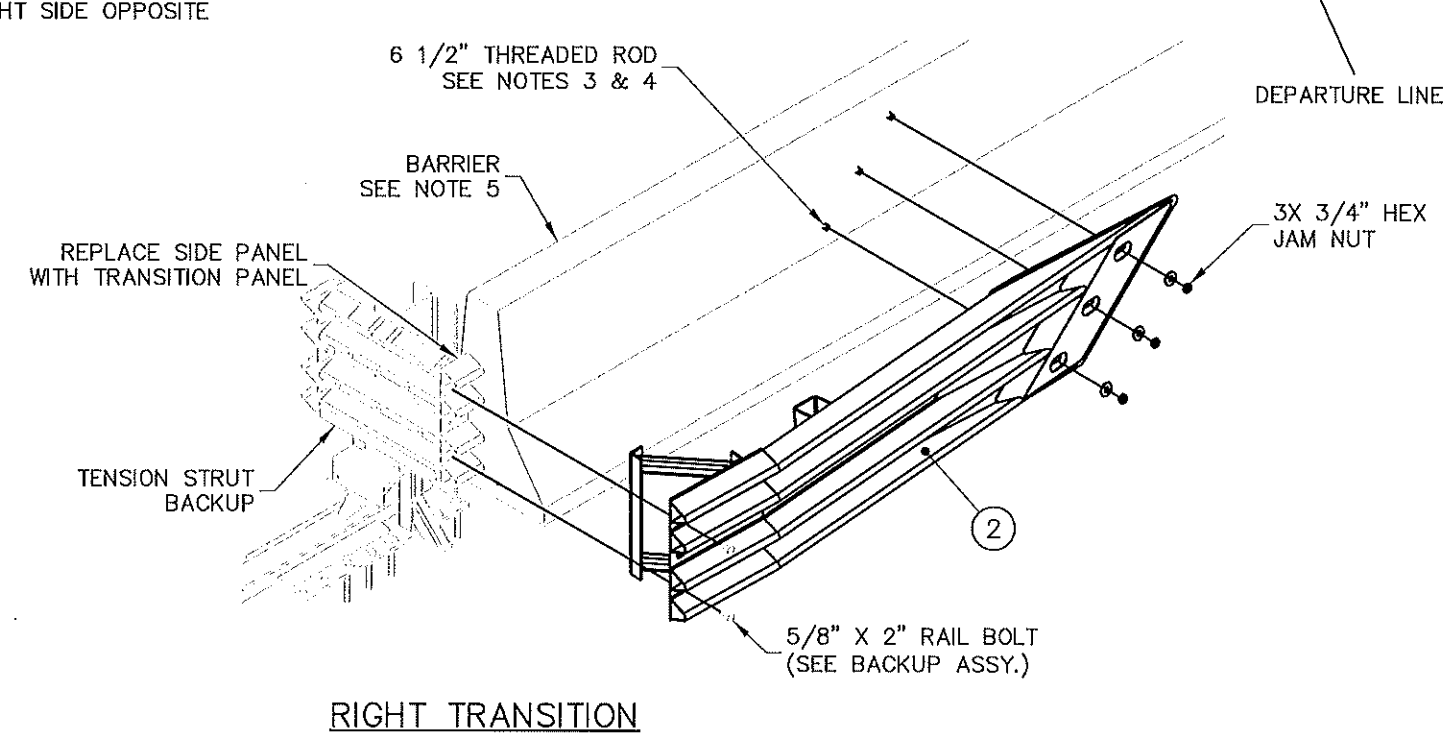
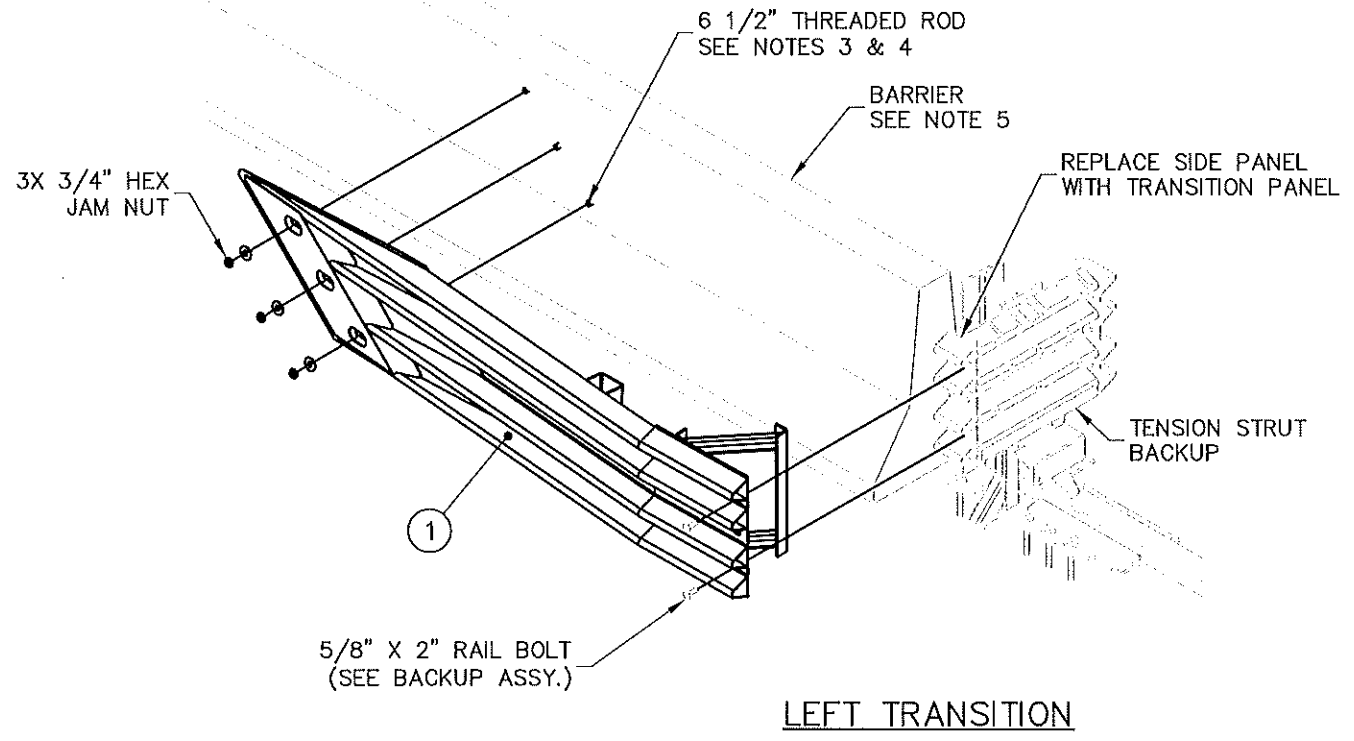
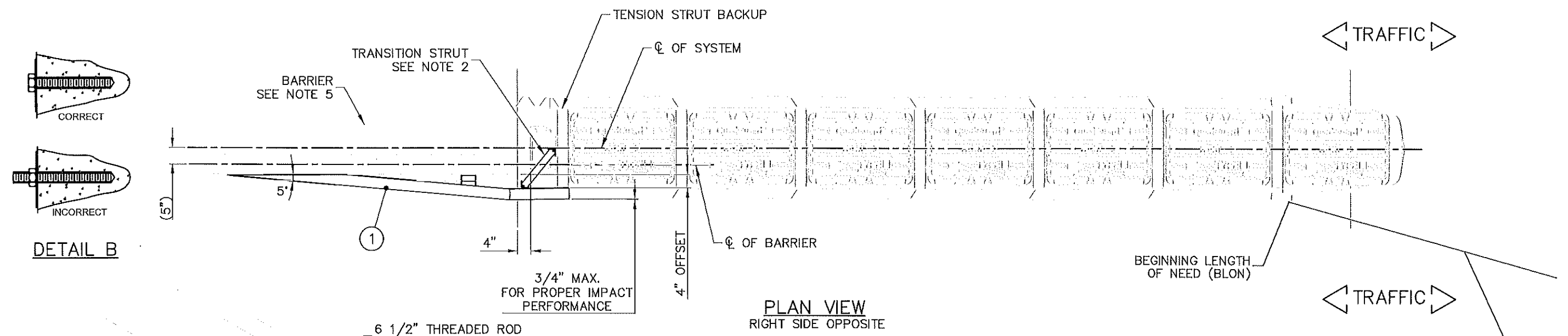
KEY		DRAWN: J. SIMMONS DATE: 01/22/2020 MODEL: SEE TABLE	QUADGUARD® M10 24" TL-3 (PERMANENT) TO VERTICAL CONCRETE BARRIER	VALTIR				
① TRANSITION PANEL					CHECKED: B. ECKERT DATE: 01/27/2020 TRAFFIC DIRECTION: BIDIRECTIONAL	APL 544-001-003		
② WHEEL DEFLECTOR		UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCH. DIMENSIONS ACCORDING TO ASME Y14.5-2018 AND QMS-SE-003 UNLESS OTHERWISE SPECIFIED.	DO NOT SCALE DRAWING					
		REVISION DESCRIPTION	ECO	DATE	REV	BY	CHK	
		CORRECTED DEPARTURE LINE AND DESIGN LENGTH, ADDED TL-3 TO TITLE, WAS SHEET B	7203	05/19/20	F	JMS	BRE	
		WAS SHEET 10	7427	05/27/21	G	JMS	BRE	
		BORDER WAS THP BORDER	8151	08/16/22	H	RJV	RCB	
			DRAWING: 60-39-21	REV: H	SHEET: 8 of 13			



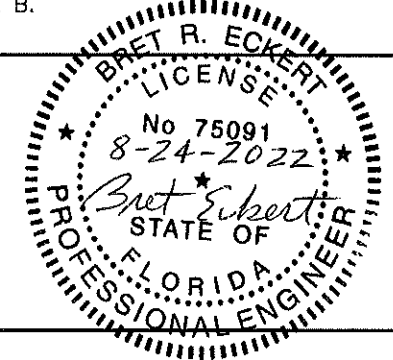
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QMS-FE-046 Rev 0, (05-01/2022)





- NOTES:
1. IMPACT FORCES COULD BE TRANSFERRED INTO TERMINAL END OF THE BARRIER. ADEQUATE ANCHORAGE IS REQUIRED FOR PROPER IMPACT PERFORMANCE.
  2. POSITION TRANSITION STRUT TO CONTACT (1/4" GAP ACCEPTABLE) WIDE FLANGE BEAM OF BACKUP BEFORE ATTACHING TO BACKUP AND ANCHORING TO BARRIER.
  3. USE TRANSITION PANEL AS TEMPLATE FOR DRILLING. ENSURE FLUSH FIT TO BARRIER. RECOMMENDED HOLE DEPTH 5. FINAL TORQUE TO BE 100 FT-LBS (TYP).
  4. ANCHOR STUD END SHOULD BE FLUSH WITH OUTSIDE SURFACE OF ANCHOR NUT, SEE DETAIL B.
  5. STATE APPROVED SAFETY SHAPE (NJ, F, K) CONCRETE BARRIER.



KEY	
①	TRANSITION ASSY, 4 IN, L
②	TRANSITION ASSY, 4 IN, R

DRAWN: J. SIMMONS	DATE: 01/22/2020	MODEL: N/A
CHECKED: B. ECKERT	DATE: 01/27/2020	TRAFFIC DIRECTION: BIDIRECTIONAL
UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCH. DIMENSIONS ACCORDING TO ASME Y14.5-2018 AND QMS-SE-003 UNLESS OTHERWISE SPECIFIED.		DO NOT SCALE DRAWING
REVISION DESCRIPTION	ECO	DATE
CORRECTED DEPARTURE LINE, WAS SHEET 9, ADDED TL-3 TO TITLE	7203	05/19/20
WAS SHEET 11	7427	05/27/21
BORDER WAS THP BORDER	8151	08/16/22
REV	BY	CHK
F	JMS	BRE
G	JMS	BRE
H	RJV	RCB

QUADGUARD® M10 24" TL-3 (PERMANENT) TO SAFETY SHAPE CONCRETE BARRIER
APL 544-001-003
FLORIDA
DRAWING: 60-39-21
REV: H

VALTIR

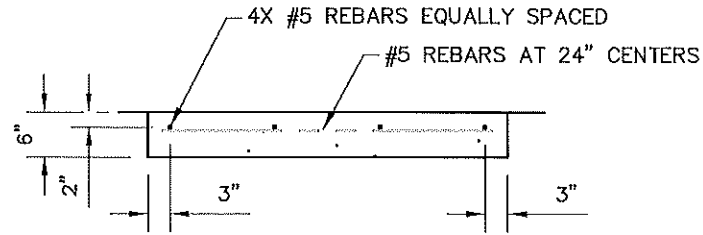
9 of 13

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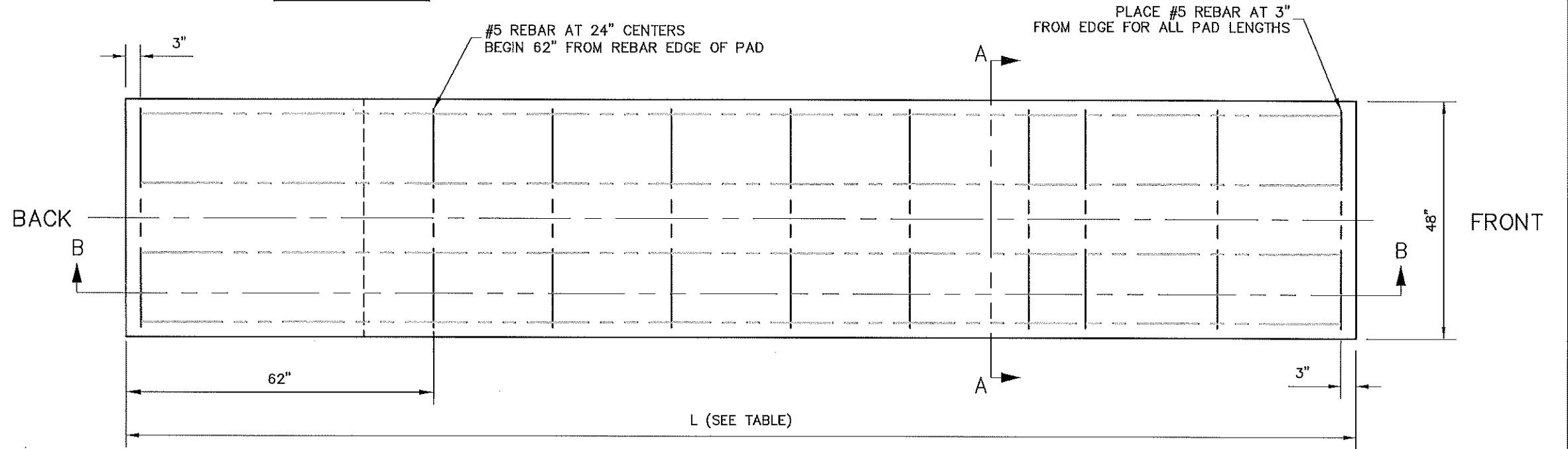
QMS-FE-018 Rev 9, (06/01/2022)

TABLE

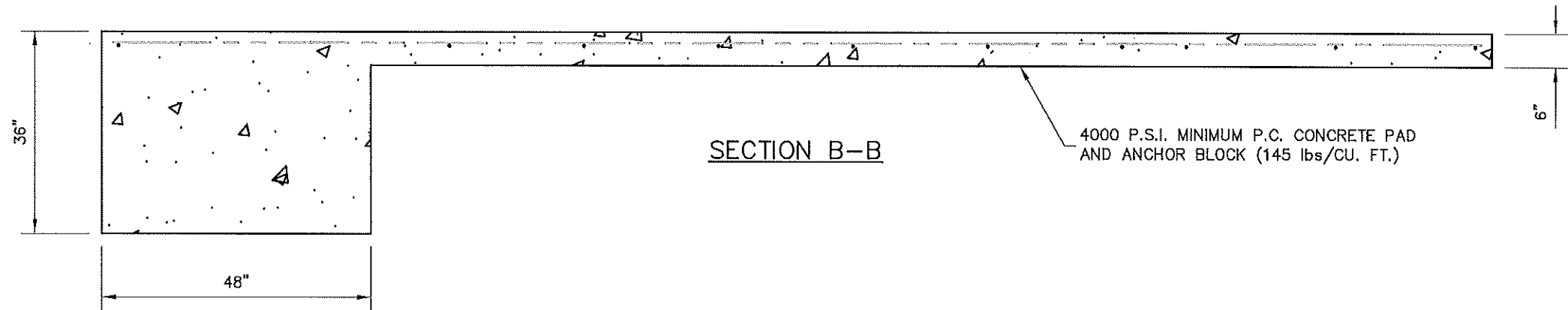
NO. OF BAYS	"L" (PAD LENGTH)	REBAR REQUIRED	YARDS OF CONCRETE IN PAD
6	21'-0"	118'-8"	3.1



SECTION A-A



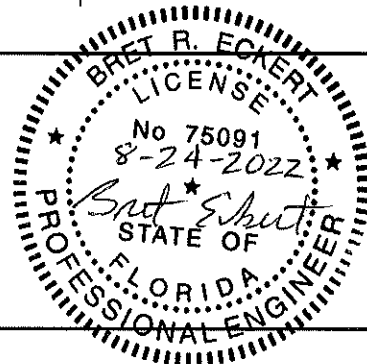
PLAN VIEW



SECTION B-B

NOTES:

- CROSS SLOPE OF PAD SHALL NOT EXCEED 1:10 AND NOT VARY MORE THAN 2% FROM FRONT TO BACK.
- ANCHOR BLOCK LOCATION IS RECOMMENDED AT BACK OF CONCRETE PAD. EXISTING CONCRETE PADS OR NEW PADS WITH BELOW GROUND OBSTRUCTIONS ARE ACCEPTABLE WITH ANCHOR BLOCKS LOCATED AT THE FRONT OF THE PAD.



DRAWN: R. VENZON	DATE: 09/22/2017	MODEL: N/A
CHECKED: A. VAN BROCKLIN	DATE: 10/20/2017	TRAFFIC DIRECTION: N/A
UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCH. DIMENSIONS ACCORDING TO ASME Y14.5-2018 AND OMS-SE-003 UNLESS OTHERWISE SPECIFIED.		DO NOT SCALE DRAWING
REVISION DESCRIPTION	ECO	DATE
ADDED TL-3 TO TITLE	7203	05/19/20
WAS SHEET 5, UPDATED DESCRIPTION	7427	05/27/21
BORDER WAS THP BORDER	8151	08/16/22
REV	BY	CHK
F	JMS	BRE
G	JMS	BRE
H	RJV	RCB

QUADGUARD® M10 24" TL-3 (PERMANENT)  
CONCRETE PAD WITH ANCHOR BLOCK

APL 544-001-003

FLORIDA

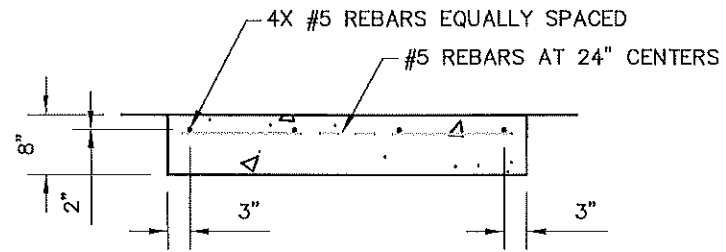
DRAWING: 60-39-21

REV: H

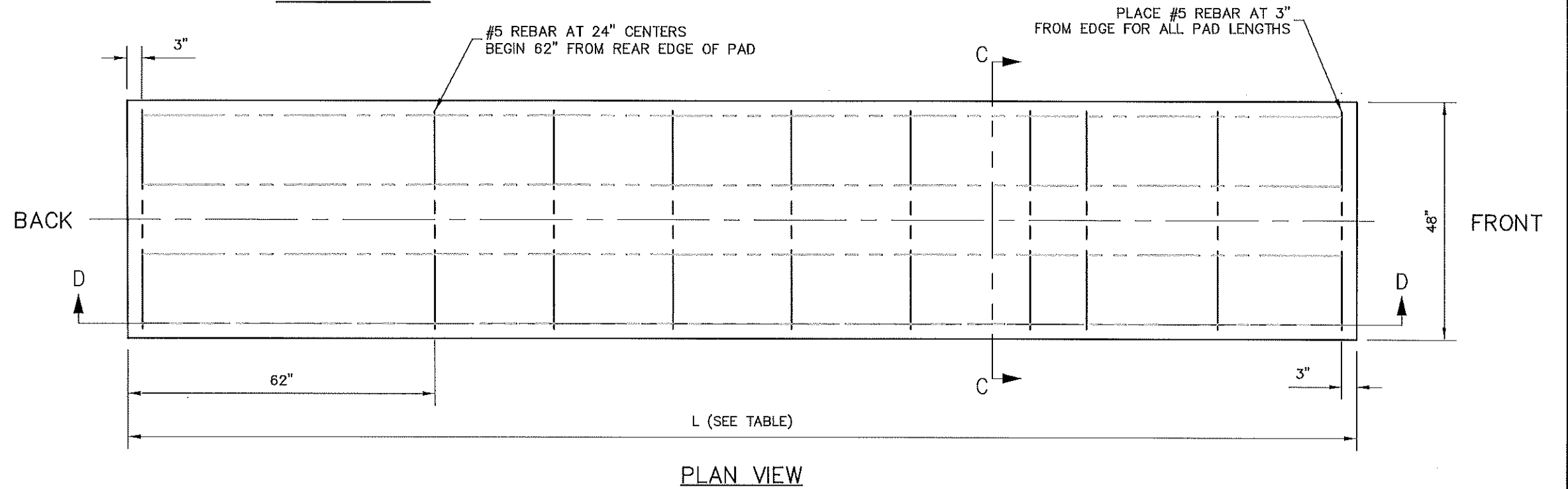
SHEET: 10 of 13



TABLE			
NO. OF BAYS	"L" (PAD LENGTH)	REBAR REQUIRED	YARDS <sup>3</sup> OF CONCRETE IN PAD
6	21'-0"	118'-8"	2.1



SECTION C-C

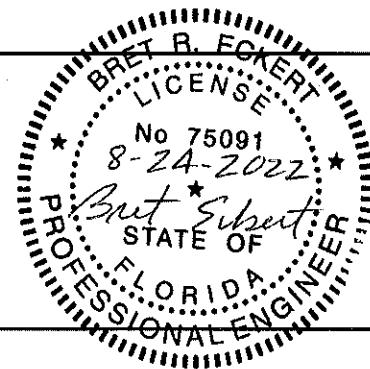


SECTION D-D

4000 P.S.I. MINIMUM P.C. CONCRETE PAD AND ANCHOR BLOCK (145 lbs/CU. FT.)

NOTES:

- CROSS SLOPE OF PAD SHALL NOT EXCEED 1:10, AND NOT VARY MORE THAN 2% FROM FRONT TO BACK.
- TO PREVENT SLIDING DURING AN IMPACT, PAD MUST BE INSTALLED AGAINST OR TIED TO AN EXISTING STRUCTURE. OTHERWISE ADDITIONAL BELOW GRADE SUPPORTS MUST BE ADDED AS DETERMINED NECESSARY BY THE PROJECT ENGINEER.



DRAWN: J. SIMMONS	DATE: 05/19/2020	MODEL: N/A
CHECKED: B. ECKERT	DATE: 05/20/2020	TRAFFIC DIRECTION: N/A
UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCH. DIMENSIONS ACCORDING TO ASME Y14.5-2018 AND QMS-SE-003 UNLESS OTHERWISE SPECIFIED.		DO NOT SCALE DRAWING
REVISION DESCRIPTION	ECO	DATE
ADDED THIS SHEET, PREVIOUS SHEET 6 BECAME SHEET 7	7203	05/19/20
WAS SHEET 6, UPDATED DESCRIPTION	7427	05/27/21
BORDER WAS THP BORDER	8151	08/16/2022
	REV	BY
	F	JMS
	G	JMS
	H	RJV
	CHK	CHK
	BRE	BRE
	BRE	RCB

QUADGUARD® M10 24" TL-3 (PERMANENT) CONCRETE PAD, 8" REINFORCED

APL 544-001-003

FLORIDA

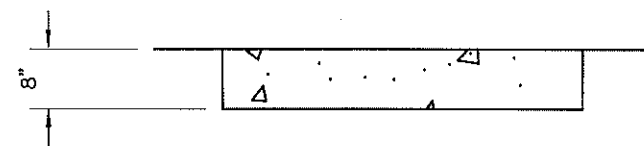
DRAWING: 60-39-21

REV: H

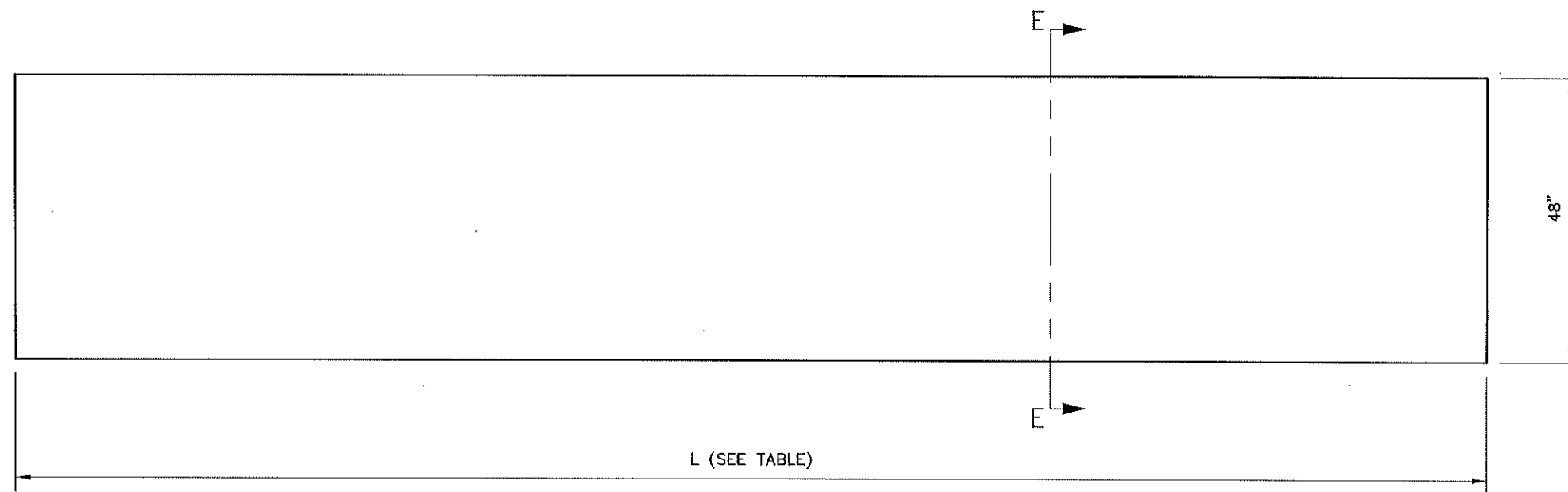
SHEET: 11 of 13



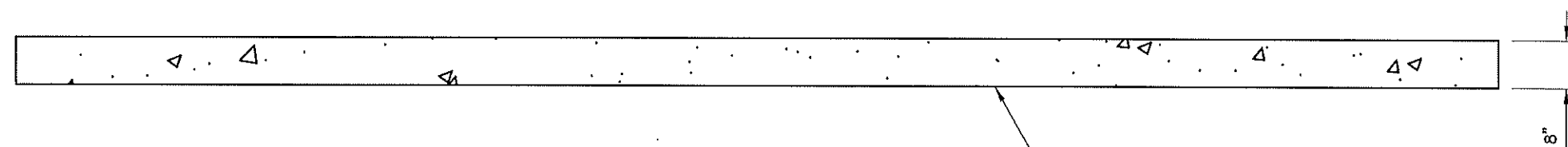
TABLE		
NO. OF BAYS	"L" (PAD LENGTH)	YARDS OF CONCRETE IN PAD
6	21'-0"	2.1



SECTION E-E



PLAN VIEW

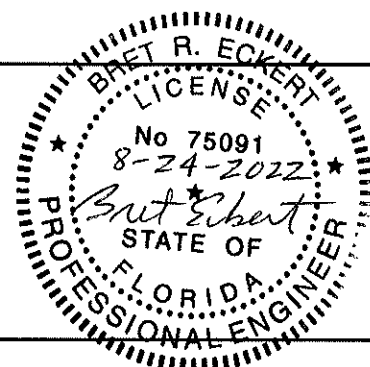


ELEVATION VIEW

4000 P.S.I. MINIMUM P.C. CONCRETE PAD  
145 lbs/CU. FT.

NOTES:

- CROSS SLOPE OF PAD SHALL NOT EXCEED 1:10 AND NOT VARY MORE THAN 2% FROM FRONT TO BACK.
- TO PREVENT SLIDING DURING AN IMPACT, PAD MUST BE INSTALLED AGAINST OR TIED TO AN EXISTING STRUCTURE. OTHERWISE ADDITIONAL BELOW GRADE SUPPORTS MUST BE ADDED AS DETERMINED NECESSARY BY THE PROJECT ENGINEER.



DRAWN: J. SIMMONS	DATE: 01/04/2021	MODEL: N/A
CHECKED:	DATE:	TRAFFIC DIRECTION: N/A
UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCH. DIMENSIONS ACCORDING TO ASME Y14.5-2018 AND QMS-SE-003 UNLESS OTHERWISE SPECIFIED.		DO NOT SCALE DRAWING
REVISION DESCRIPTION	ECO	DATE
ADDED THIS SHEET, SHEET 12 BECAME SHEET 13	7247	05/27/21
BORDER WAS THP BORDER	8151	08/16/22

QUADGUARD® M10 24" TL-3 (PERMANENT)  
CONCRETE PAD, 8" NON-REINFORCED

APL 544-001-003

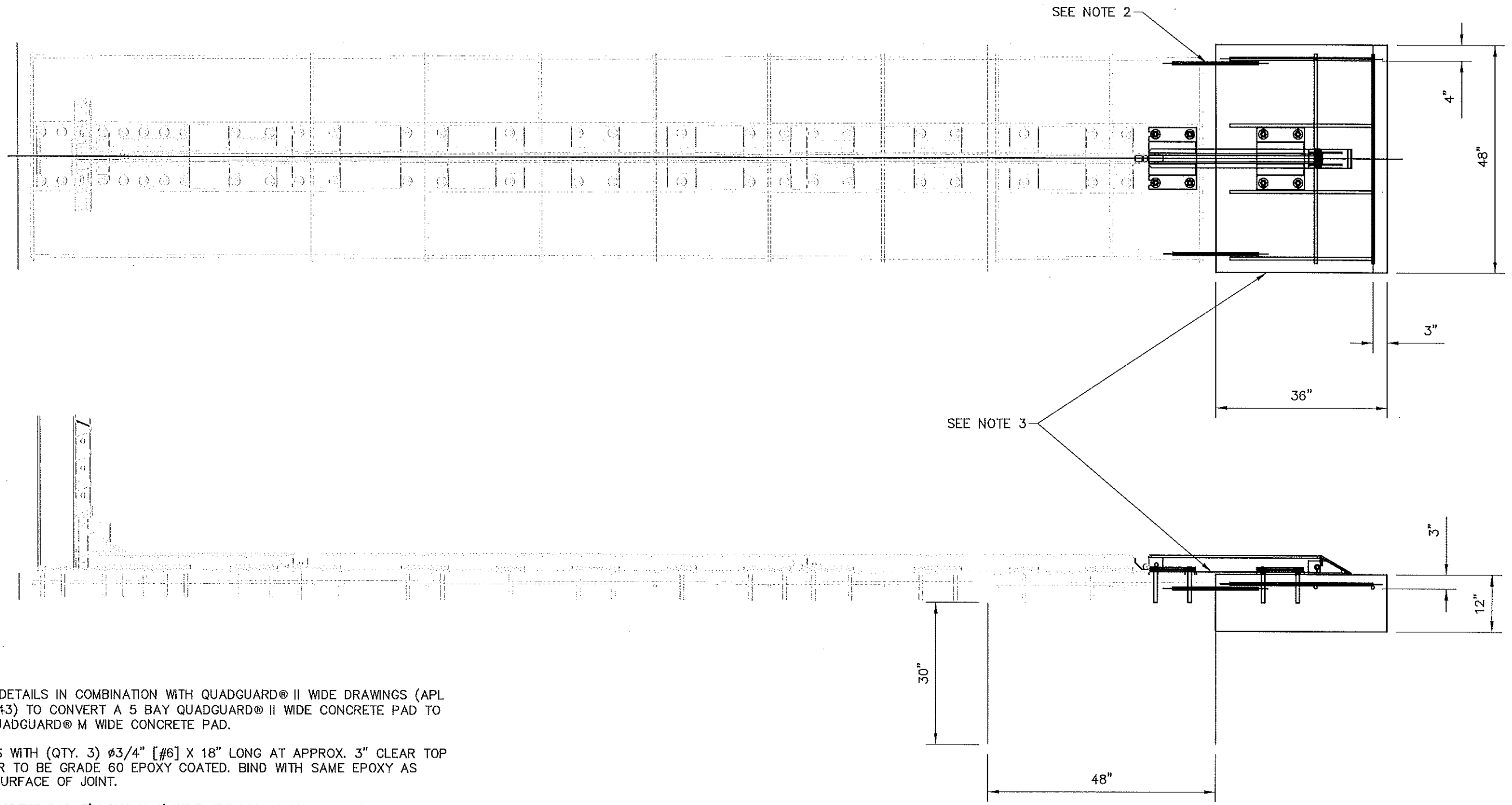


FLORIDA

DRAWING: 60-39-21

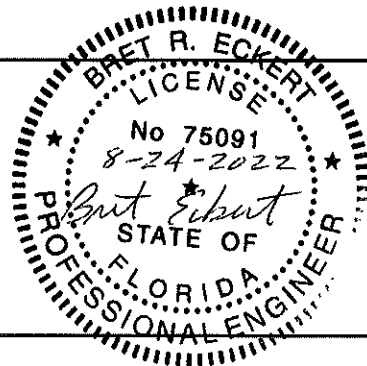
REV: H

SHEET: 12 of 13



NOTES:

1. USE THESE DETAILS IN COMBINATION WITH QUADGUARD® II WIDE DRAWINGS (APL 544-000-043) TO CONVERT A 5 BAY QUADGUARD® II WIDE CONCRETE PAD TO A 6 BAY QUADGUARD® M WIDE CONCRETE PAD.
2. DOWEL PADS WITH (QTY. 3)  $\phi 3/4"$  [#6] X 18" LONG AT APPROX. 3" CLEAR TOP FACE. REBAR TO BE GRADE 60 EPOXY COATED. BIND WITH SAME EPOXY AS USED FOR SURFACE OF JOINT.
3. EXTEND CONCRETE PAD 3' LONG X 4' WIDE. EXISTING CONCRETE SURFACE TO BE TREATED WITH EPOXY (SIKADUR 32 OR BURKE HI-VIS OR EQUAL). PAD ADDITION TO BE 12" MIN. THICK, 4000 PSI MIN. REINFORCE WITH  $\phi 5/8"$  [#5] BOTH WAYS AT 12" MAX. CENTERS AT 2" MIN. CLEAR TOP FACE.



DRAWN: J. SIMMONS	DATE: 03/23/2020	MODEL: N/A
CHECKED: B. ECKERT	DATE: 03/23/2020	TRAFFIC DIRECTION: N/A
UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN INCH. DIMENSIONS ACCORDING TO ASME Y 14.5-2018 AND OMS-SE-003 UNLESS OTHERWISE SPECIFIED.		DO NOT SCALE DRAWING
REVISION DESCRIPTION	ECO	DATE
UPDATED NOTES, ADDED TL-3 TO TITLE	7203	05/19/20
WAS SHEET 12	7427	05/27/21
BORDER WAS THP BORDER	8151	08/16/22

QUADGUARD® M10 24" TL-3 (PERMANENT) CONVERSION
APL 544-001-003
FLORIDA
DRAWING: 60-39-21



REV: H	SHEET: 13 of 13
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OMS-FE-018 Rev 0, (06/01/2022)