GENERAL NOTES

1. This drawing is an exclusive design by Engineers Absorption Systems, Inc. and is copyrighted under the trade name QuadGuard. Any infringement on the rights of the designer shall be the sole responsibility of the user.

2. This standard drawing is produced by the Florida Department of Transportation acting for the user and its agencies. This standard drawing provides the general graphic and information necessary to detail identified components of the QuadGuard System and their incorporation into an existing project.

3. This standard drawing is subject to being either a free-standing element or a part of a larger system, and the preparation of shop drawings and other drawings shall be necessary to detail the specific application of the QuadGuard System in detail.

4. The QuadGuard shall be manufactured in accordance with the manufacturer's detailed drawings, procedures, and specifications.

5. The QuadGuard is available in standard units of 24", 30", 36", 42", and 48" widths for narrow lanes and 60" and 90" widths for wide lanes. The width of the lane shall be noted on the plans, elevations, or contract documents for each lane.

6. Only the QuadGuard Type 2 and Type 3 units shall be used in bag and use as indicated in the "BAY SELECTION GUIDELINES" table.

7. Concrete and/or precast concrete backup assemblies shall be constructed with 4000 psi concrete, compressive strength concrete.

8. The QuadGuard shall be constructed on grade and be suitably supported.

9. All metallic components shall meet the general requirements for guardrails, Index No. 400.

10. A yellow Type 2 or Type 3 units shall be centered 3" in front of the face of the guardrail. Mounting hardware shall be in conformance with Index Nos. 1000 and 1005. The use of the guardrail shall be included in the cost of the QuadGuard.

DESIGN NOTES AND GUIDELINES

1. The QuadGuard System is designed to function as a barrier or guardrail to be installed in accordance with the manufacturer's instructions.

2. The QuadGuard System is designed to function as a barrier or guardrail to be installed in accordance with the manufacturer's instructions. The number of units to be used in a specific application will be determined by the design engineer, and the manufacturer's instructions shall be followed. The number of units to be used in a specific application will be determined by the design engineer, and the manufacturer's instructions shall be followed. The length of each unit shall be determined in accordance with the manufacturer's instructions.

3. All units of the QuadGuard System are to be connected to the existing traffic lane by means of a universal joint. A universal joint is to be used at the end of each unit of the QuadGuard System, and the universal joint is to be connected to the existing traffic lane by means of a universal joint.

BAY SELECTION GUIDELINES

<table>
<thead>
<tr>
<th>Bay Speed</th>
<th>No. Of Bags</th>
<th>Number of Cartridges</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤40</td>
<td>1</td>
<td>1</td>
<td>6' 8&quot;</td>
</tr>
<tr>
<td>45</td>
<td>1</td>
<td>1</td>
<td>8' 8&quot;</td>
</tr>
<tr>
<td>60</td>
<td>2</td>
<td>2</td>
<td>10' 8&quot;</td>
</tr>
<tr>
<td>75</td>
<td>3</td>
<td>3</td>
<td>13' 8&quot;</td>
</tr>
<tr>
<td>90</td>
<td>4</td>
<td>4</td>
<td>16' 8&quot;</td>
</tr>
</tbody>
</table>

The manufacturer provides QuadGuard units with a 90° bend for use with speeds up to 75 mph. These longer units may be utilized when installed in the plane or as directed by the Engineer.

QuadGuard HS units shall be selected for conventional 9-bag units.

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

QuadGuard

General System Features and Bay Selection Guidelines
PERMANENT FOUNDATION FOR TENSION STRUT BACKUP ASSEMBLY

NOTES

1. The foundation depicted on this sheet is applicable to QuadGuard systems for both narrow and wide hazards, 2'-6" square or square.

2. For the number of legs required see Table 1.

3. Provision shall be made for rear fender pass to slide rearward upon impact 2'-6" min.

4. For barrier connection see "TRANSITIONS", Sheet Nos. 4 and 5.
**Estimated Foundation Quantities**

<table>
<thead>
<tr>
<th>No. of</th>
<th>L₀</th>
<th>P</th>
<th>Required</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slab</td>
<td></td>
<td></td>
<td>Reinforced</td>
<td>Nonreinforced</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>metric (m³)</td>
<td>metric (m³)</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>3</td>
<td>0.9</td>
<td>0.8</td>
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<tr>
<td>4</td>
<td>15</td>
<td>3</td>
<td>1.5</td>
<td>1.4</td>
</tr>
<tr>
<td>5</td>
<td>15</td>
<td>4</td>
<td>1.8</td>
<td>1.5</td>
</tr>
<tr>
<td>6</td>
<td>20</td>
<td>5</td>
<td>2.1</td>
<td>1.6</td>
</tr>
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<td>7</td>
<td>25</td>
<td>6</td>
<td>2.4</td>
<td>1.8</td>
</tr>
<tr>
<td>9</td>
<td>30</td>
<td>6</td>
<td>3.0</td>
<td>2.2</td>
</tr>
</tbody>
</table>

**Rigid Foundation Notes**

1. The reinforced Portland cement concrete (RPCC) foundation is designed to the EPRI foundation system. The slab foundation shall be constructed of reinforced concrete with a minimum thickness of 150 mm or as required by the Engineer. The foundation shall be placed on a firm, stable subgrade or compacted fill, and the surface shall be compacted to a minimum density of 95% of the specified density. The foundation shall be designed to resist the loads and moments imposed by the superstructure.

2. The nonreinforced Portland cement concrete (NPC) foundation shall be placed on a firm, stable subgrade or compacted fill, and the surface shall be compacted to a minimum density of 95% of the specified density.

3. For additional information see the General Notes.

**Reinforced and Nonreinforced Concrete Pad Systems**

**Cement Concrete Foundations**

**Temporary Foundations**
The axis of the QuadGuard relative to concrete barriers will be established on a case-specific basis. The QuadGuard supplier shall furnish dimensional data for backfill between the barrier wall end and the system foundation, and for the alignment between the face of the barrier wall and the rear diaphragms where dimensions other than those above apply.

**QuadGuard SYSTEM**

5'-9" / 1'-6"

**BARRIER WALL TRANSITION NOTE**

Barrier wall free end must be reinforced in accordance with Index No. 405 and temporary works must be adequately anchored for proper layout performance in accordance with Index No. 405.

**QuadGuard TO CONCRETE BARRIER WALL**

TRANSITIONS
GUARDRAIL TRANSITION TO TEMPORARY DIVERSION OR DETOUR STRUCTURES

Note: Timber or steel posts may be used, timber posts shown.

Transition Flange说明:
1 1⁄2" Or Fisher for 45 mph
1 1⁄2" Or Fisher for 50-75 mph