### Reinforcing Steel Table

<table>
<thead>
<tr>
<th>Mark</th>
<th>Location</th>
<th>Bar Size</th>
<th>Number of Bars</th>
<th>Sketch</th>
</tr>
</thead>
<tbody>
<tr>
<td>H-1</td>
<td>Vertical</td>
<td>No. 3</td>
<td>5-6</td>
<td></td>
</tr>
<tr>
<td>H-2</td>
<td>Horizontal</td>
<td>3/4</td>
<td>5-6</td>
<td></td>
</tr>
<tr>
<td>H-3</td>
<td>Horizontal</td>
<td>1/2</td>
<td>2-3</td>
<td></td>
</tr>
<tr>
<td>H-4</td>
<td>Horizontal</td>
<td>1/2</td>
<td>2-3</td>
<td></td>
</tr>
<tr>
<td>V-1</td>
<td>Vertical</td>
<td>1/2</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>V-2</td>
<td>Vertical</td>
<td>1/2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

### Staking Configuration for Two-Way Traffic

- **Direction of Travel**
  - Pinned Connection (Typ.)
  - 20' Concrete Barrier (Typ.)
- **Stake (Typ.)**
- **Traffic in Either Direction**

### Staking Configuration Adjacent to an Excavation or Shoulder Slope

- **Excavation or Shoulder Slope**
- **Traffic This Side Only**
  - 2% Deformed Bar ASTM A706 Grade 60
- **48' Deformed Bar**
- **Traffic this Side Only**
  - 2% Deformed Bar ASTM A706 Grade 60

### Non-Staked Barrier

- Shown adjacent to excavation or shoulder slope (See Note No. 11)

### Staked Median Barrier

- See Staking Configuration for Two-Way Traffic (See Note No. 11)

### Staked Shoulder Barrier

- See Staking Configuration Adjacent to an Excavation or Shoulder Slope (See Note No. 11)

### REVISIONS

- **DATE** | **NO.** | **DATE** | **NO.** | **DATE** | **NO.** | **DATE** | **NO.** | **DATE** | **NO.** | **DATE** | **NO.** | **DATE** | **NO.** | **DATE** | **NO.** |
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<tbody>
<tr>
<td>06-01</td>
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<td>05-02</td>
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<td>04-27</td>
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<td>03-11</td>
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<td>03-09</td>
<td>WM</td>
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</tbody>
</table>

**STANDARD DRAWING**

**20' Concrete Barrier**

- Requires Sheets 1 of 3 and 3 of 3

**Sheet 2 of 3**

**ENGLISH**

**STANDARD DRAWING NO.**

**612-15**

**BOISE, IDAHO**

**DESIGN-BUILD SERVICES ENGINEER**

**Kendall Skaggs**

**DESIGN-BUILD SERVICES ENGINEER**

**Kendall Skaggs**

**DATE**

**01/09/99**

**DATE**

**01/09/99**

**DATE**

**01/09/99**
1. Place using Class 40AF concrete. Ensure that reinforcing steel is in accordance with Section 708 - Metal. Provide minimum concrete cover over reinforcing steel unless otherwise noted.

2. Ensure that reinforcing steel bends are made in accordance with the latest A.C.I. Standard Practices and American Specifications.

3. The dimensions shown in the concrete barriers are measured from front to back. The side faces are not to be used unless otherwise noted.

4. A 4" white PVC sleeve may be used to form the lifting hole if used. Leave the PVC sleeve in place.

5. Support the barrier with a crashrail or crash beam. The crashrail or crash beam should be designed to connect to a bridge or a similar structure.

6. Pin connect barrier units when post-speed is 35 mph or higher.

7. Pin connect 20' concrete barriers may be angled approximately 10° from a horizontal plane. Angled units are to be connected to a 30° turn.

8. When connecting 20' concrete barriers, the option to 10' concrete barriers, the ends of the barriers should be bent mechanically not with heat.

9. Ensure that the barrier is offset 20' from the edge of normal shoulders when transitioning to or from a 10' barrier guardrail.

10. When introducing the concrete barrier, the barrier should be in accordance with the concrete barrier layout, offset and flare rate table.

11. The barrier can be installed with or without stakes, and for 44° of deflection between the barriers.

12. When installed as a median barrier, between two-way traffic on highways, with less than 24" between the edges of traveled way, and the barrier use four stakes in every other panel, with end panels, only two stakes.

13. When placed 3° to 24" from the edge of an excavation or shoulder, small points, use two stakes per panel along the traffic edge.

14. On bridge decks, use anchor bolts or deck bolts in lieu of stakes. Use four bolts per barrier segment. Ensure that anchor bolts are emplaced a minimum depth of 8" or per the installation instructions of the bonding material.

15. Do not state on bolt bar anti units that extend across bridge expansion joints.

16. The following apply when stakes, anchor bolts, or deck bolts are used.

17. Ensure that the stakes or bolts do not protrude beyond the exterior face of the barrier surfaces.

18. Do not drill anchor holes into prestressed concrete deck panels.

19. Ensure that bridge deck anchor holes are drilled or bored smooth and round.

20. Do not use expansion anchors.

21. Teffen deck bolts down well. Bolt length should allow at least one course of threads to show outside of the hot when tightened.

22. Drawings not to scale.