1. General Notes:
   1.1. Roof uplift loading is determined using ASCE 7-10.
   1.2. Connection capacity of fasteners is determined in accordance with 2015 National Design Specification for Wood Construction.

2. Trusses:
   2.1. Trusses are assumed to be a maximum of 24" o.c. and the lay-on gable frame members are a maximum of 24" o.c.
      2.1.1. Layout shows both the connection location under analysis as well as the tributary area of that connection.
      2.1.2. The connection point represents the worst-case location of a typical layout based on the largest tributary area.

3. Capacity:
   3.1. Connection into lay-on gable is made with (4) 0.131 x 3.25" nails toe nailed at each lay-on gable web location.
      3.1.1. Nails are toenailed at 70° angle from the vertical.
   3.2. Connection into hip truss is made with (1) 0.131 x 3.25" nail spaced at 12° o.c.
   3.3. Roof slope may be 4/12 ≤ θ ≤ 12/12 (18° ≤ θ ≤ 45°). Upper and lower bounds are considered to ensure the required capacity is available throughout the range.
Figure 1: Truss Layout

Figure 2: Connection Details
**Minimum Fastener & Edge Distances Minimums**

<table>
<thead>
<tr>
<th>Description</th>
<th>Description</th>
<th>Value</th>
<th>Calculated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edge Distance</td>
<td>NDS Table 11.5.1C Perpendicular to Grain Loaded Edge</td>
<td>4D</td>
<td>$4 \times (0.131&quot;) = \frac{1}{2}&quot;$</td>
</tr>
<tr>
<td>Spacing Between Rows</td>
<td>NDS Table 11.5.1D Perpendicular to Grain L/D=11 &gt; 6</td>
<td>5D</td>
<td>$5 \times (0.131&quot;) = \frac{5}{8}&quot;$</td>
</tr>
</tbody>
</table>

**Lay-On Gable**

<table>
<thead>
<tr>
<th>Description</th>
<th>Reference</th>
<th>Value</th>
<th>Calculated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edge Distance</td>
<td>NDS Table 11.5.1C Parallel to Grain L/D=11 &gt; 6</td>
<td>1.5D</td>
<td>$1.5 \times (0.131&quot;) = \frac{3}{16}&quot;$</td>
</tr>
<tr>
<td>Spacing Between Rows</td>
<td>NDS Table 11.5.1D Parallel to Grain Max of 1.5D and $\frac{1}{2}$ spacing</td>
<td>1.5 x (0.131&quot;) = $\frac{3}{16}&quot;$</td>
<td>between rows</td>
</tr>
</tbody>
</table>

**Table 1: Fastener Spacing & Edge Distance Minimums**

![Figure 3: Visualization of Fastener Spacing & Edge Distances](image_url)
Figure 4: Visualization of Pure Withdrawal & Pure Lateral Loading

ROOF SLOPE +110° - 90° = ANGLE BETWEEN UPLIFT AND LATERAL FORCE