COLD CLIMATE RCC PLACEMENT

MIFE PAULETTO

MPAULETTO AND ASSOCIATES, LLC
COLD CLIMATE RCC PLACEMENT

- Managing Aggregates
- Placement Preparation
- Planning & Involvement
- Placement
- Placement with Formwork
Managing Aggregates
RCC Aggregate Wash

The Challenges of Dams in Cold Climates
Design, Construction, Permitting and Environmental Issues

Fall 2017 Workshops and Field Tours
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Fall 2017 Workshops and Field Tours
### Trial Placement Schedule

#### SITE C / TRIAL PLACEMENT SCHEDULE

<table>
<thead>
<tr>
<th>Layer</th>
<th>Joint Type</th>
<th>Start Date/Time</th>
<th>Time between Layers (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layer 10</td>
<td>Hot</td>
<td>12/12/16 9:00</td>
<td>12/12/16 21:00</td>
</tr>
<tr>
<td>Layer 9</td>
<td>Hot</td>
<td>12/11/16 19:00</td>
<td>12/12/16 9:00</td>
</tr>
<tr>
<td>Layer 8</td>
<td>Hot</td>
<td>12/10/16 23:00</td>
<td>12/11/16 19:00</td>
</tr>
<tr>
<td>Layer 7</td>
<td>Hot</td>
<td>12/9/16 21:00</td>
<td>12/10/16 23:00</td>
</tr>
<tr>
<td>Layer 6</td>
<td>Hot</td>
<td>12/8/16 17:00</td>
<td>12/9/16 21:00</td>
</tr>
<tr>
<td>Layer 5</td>
<td>Hot</td>
<td>12/7/16 10:00</td>
<td>12/8/16 17:00</td>
</tr>
<tr>
<td>Layer 4</td>
<td>Hot</td>
<td>12/6/16 13:00</td>
<td>12/7/16 10:00</td>
</tr>
<tr>
<td>Layer 3</td>
<td>Hot</td>
<td>12/5/16 13:00</td>
<td>12/6/16 13:00</td>
</tr>
<tr>
<td>Layer 2</td>
<td>Hot</td>
<td>12/4/16 13:00</td>
<td>12/5/16 13:00</td>
</tr>
<tr>
<td>Layer 1</td>
<td>Hot</td>
<td>12/3/16 13:00</td>
<td>12/4/16 13:00</td>
</tr>
<tr>
<td>Layer 0-Let</td>
<td>Cold</td>
<td>12/2/16 13:00</td>
<td>12/3/16 13:00</td>
</tr>
</tbody>
</table>

#### Notes:
1. Blocks A & B suit with Conforming RCC/CVC & Alternative IV/RCC Mixes (as designed)
2. Blocks A & B joints designed as per specified Initial Set between 18-24 hours, Final Set <48 hours
3. Block C layers 1-5 (downstream 5m lane placed beside Blocks A & B) built with Alternative IV/RCC Mixes
4. Block C layers 6-10 (downstream 5m lane placed beside Blocks A & B) built with Conforming RCC/CVC Mixes
5. Block C joints designed as per alternative Initial Set between 28-34 hours, Final Set <48 hours
6. Upstream and downstream faces of Block C proposed in IV/RCC (layers 1-5) / GEVR (layers 6-10) against vertical forms
7. Coring of Blocks A & B Layers 1-10 after 90 days; between 03/27/2017 and 03/31/2017 → RCC Start 04/15/2017
8. Coring of Blocks A & B Layers 11-13 and Block C after 90 days; between 05/01/2017 and 05/10/2017
9. Training layers 2 weeks before RCC Start to be arranged in a different area
## Trial Placement Schedule

<table>
<thead>
<tr>
<th>Layer #</th>
<th>Start Date</th>
<th>Start Time</th>
<th>(Duration)</th>
<th>(End Time)</th>
<th>Hours before next Layer</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Jan-27</td>
<td>6:00 AM</td>
<td>3.5 hrs</td>
<td>9:30 AM</td>
<td>40 hrs</td>
</tr>
<tr>
<td>12</td>
<td>Jan-26</td>
<td>2:00 PM</td>
<td>3.5 hrs</td>
<td>5:30 PM</td>
<td>20 hrs</td>
</tr>
<tr>
<td>11</td>
<td>Jan-25</td>
<td>6:00 PM</td>
<td>4 hrs</td>
<td>10:00 PM</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Dec-21</td>
<td>9:00 PM</td>
<td>3.5 hrs</td>
<td>12:30 AM</td>
<td>837 hrs</td>
</tr>
<tr>
<td>9</td>
<td>Dec-20</td>
<td>5:00 PM</td>
<td>3.5 hrs</td>
<td>8:30 PM</td>
<td>28 hrs</td>
</tr>
<tr>
<td>8</td>
<td>Dec-19</td>
<td>11:00 PM</td>
<td>3.5 hrs</td>
<td>2:30 AM</td>
<td>18 hrs</td>
</tr>
<tr>
<td>7</td>
<td>Dec-19</td>
<td>7:00 AM</td>
<td>3.5 hrs</td>
<td>10:30 AM</td>
<td>16 hrs</td>
</tr>
<tr>
<td>6</td>
<td>Dec-17</td>
<td>8:00 PM</td>
<td>3.5 hrs</td>
<td>11:30 PM</td>
<td>35 hrs</td>
</tr>
<tr>
<td>5</td>
<td>Dec-17</td>
<td>8:00 AM</td>
<td>3.5 hrs</td>
<td>11:30 AM</td>
<td>12 hrs</td>
</tr>
<tr>
<td>4</td>
<td>Dec-15</td>
<td>10:00 AM</td>
<td>3.5 hrs</td>
<td>1:30 PM</td>
<td>46 hrs</td>
</tr>
<tr>
<td>3</td>
<td>Dec-14</td>
<td>1:00 PM</td>
<td>3.5 hrs</td>
<td>4:30 PM</td>
<td>21 hrs</td>
</tr>
<tr>
<td>2</td>
<td>Dec-13</td>
<td>1:00 PM</td>
<td>4 hrs</td>
<td>5:00 PM</td>
<td>24 hrs</td>
</tr>
<tr>
<td>1</td>
<td>Dec-12</td>
<td>9:00 AM</td>
<td>5 hrs</td>
<td>2:00 PM</td>
<td>28 hrs</td>
</tr>
</tbody>
</table>

**Christmas Break:**
- Dec-21: 9:00 PM - 12:30 AM
- Dec-20: 5:00 PM - 8:30 PM
- Dec-19: 11:00 PM - 2:30 AM
- Dec-17: 7:00 AM - 10:30 AM
- Dec-15: 8:00 PM - 11:30 AM
- Dec-14: 10:00 AM - 1:30 PM
- Dec-13: 1:00 PM - 4:30 PM
- Dec-12: 9:00 AM - 2:00 PM
Paco: Need To Have Expert On Test Fill

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Fall 2017 Workshops and Field Tours
CVC Placement After RCC

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12/17/2016 22:31
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Placement with Formwork

Pre-Cast, Stay Form, Vertical & Reinforcing
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