NEW PASSENGER TERMINAL
BID PACKAGE 2C - ISSUE FOR BID
VOLUME 1 OF 3
CIVIL, LANDSCAPING, STRUCTURAL
FEBRUARY 10, 2012
<table>
<thead>
<tr>
<th>SPEC. NUMBER</th>
<th>ITEM DESCRIPTION</th>
<th>UNIT</th>
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<tbody>
<tr>
<td>L-105.7.1</td>
<td>REMOVE LIGHT AND FOUNDATION (STREET)</td>
<td>EACH</td>
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<tr>
<td>L-105.7.2</td>
<td>REMOVE LIGHT AND FOUNDATION (SIDEWALK)</td>
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<tr>
<td>L-108-5.1</td>
<td>1/C NO. 8 AWG, 5KV, TYPE L-824 CABLE, SERIES LIGHTING CABLE</td>
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<td>1/C NO. 6 AWG, BARE COPPER COUNTERPOISE WIRE INSTALLED</td>
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<td>L-125-5.1</td>
<td>MEDIUM INTENSITY TAXIWAY EDGE LIGHT, L861, 30&quot; HEIGHT, 6.6A, BASE MOUNT, 360 BLUE LENS, LED LAMP</td>
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<tr>
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<td>TEMPORARY TAXIWAY EDGE LIGHTING</td>
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</tbody>
</table>

**Notes:**
- All work is to be performed in accordance with the latest edition of the AASHTO Green Book and other relevant codes and standards.
- All materials and workmanship shall conform to the specifications and standards set forth in the contract documents.
- All work shall be done in a workmanlike manner and in accordance with good engineering practices and the prevailing trade practices.
- The contractor shall be responsible for all labor, materials, equipment, and services necessary to complete the work as specified.

**Important:**
- All quantities are approximate and subject to change based on the final inspection and measurement.
- Final payment shall be made upon completion and acceptance of the work.

**Contractor:**
- RS&H
- Duluth International Airport Authority

**Project:**
- New Terminal Expansion

**Supervision:**
- RS&H Consulting Engineers
- N.H. Consulting Engineers, Inc.
- Plumbing Engineering
- Neshoba & Associates, P.A.
- Engineering Geologists

**Materials:**
- Concrete
- Steel
- Brick
- Glass
- Wood
- Electrical

**Equipment:**
- Excavators
- Dredges
- Crushers
- Compactors

**Safety:**
- All workers shall wear appropriate personal protective equipment.
- Site shall be kept clean and tidy at all times.
- All electrical work shall be done by a qualified electrician.

**Payment:**
- Payment shall be made in accordance with the terms and conditions set forth in the contract documents.

**Signatures:**
- [Contractor's Signature]
- [Contractor's Name]
- [Date]

**As Owner:**
- [Owner's Signature]
- [Owner's Name]
- [Date]
CONTRACT LAYOUT PLAN NOTE:

1. PROJECT LAYOUT PLAN CLARTS INDICATED THE APPEARANCE OF CONSTRUCTION FOR THE DEVELOPMENT PROPOSED. DEVELOPMENT IS SUBJECT TO THE DISCRETION OF CITY OF BLAINE AND THE DEPARTMENT. ALL DEVELOPMENT IN THIS PLAN IS SUBJECT TO THE DISCRETION OF THE RELEVANT GOVERNMENT AGENCY, THE CITY OF BLAINE.

2. OWNER INSTRUCTIONS TO OLD FOR THE CONSTRUCTION CONTRACTOR, SUBJECT TO CHANGE ON THE DATE OF COMPLETION OF THE CONTRACT.

3. SMALLstück IN CHARGE OF THIS WORK MAY BE ORDERED TO THE CONTRACTOR WITHOUT WRITTEN ORDER FROM THE CONTRACTOR. SMALLstück SHALL BE ORDERED TO THE CONTRACTOR AND SMALLstück SHALL BE ORDERED TO THE CONTRACTOR WITHOUT WRITTEN ORDER FROM THE CONTRACTOR.

4. ALL CHARGES OF SMALLstück IN THE CONTRACTOR MAY BE ORDERED TO THE CONTRACTOR WITHOUT WRITTEN ORDER FROM THE CONTRACTOR.

5. CONTRACTOR SHALL SUPPLY ALL WORKS THAT ARE NOT IN THE CONTRACTOR'S CONTRACT. CONTRACTOR SHALL SUPPLY ALL WORKS THAT ARE NOT IN THE CONTRACTOR'S CONTRACT. CONTRACTOR SHALL SUPPLY ALL WORKS THAT ARE NOT IN THE CONTRACTOR'S CONTRACT.

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**EXISTING ABOVE GROUND STORAGE TANKS**
**FENCING NOTES**

1. The location of fence shall be as shown in the complete drawings and approved by the architect. All fencing materials shall be in accordance with the specification and approved by the architect. The fence shall be constructed in accordance with the specifications and approved by the architect.

2. The fence shall be constructed in accordance with the specifications and approved by the architect. The fence shall be constructed in accordance with the specifications and approved by the architect. The fence shall be constructed in accordance with the specifications and approved by the architect. The fence shall be constructed in accordance with the specifications and approved by the architect.

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**TABLE:**

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>OPTION</th>
<th>NOTES</th>
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<tr>
<td>TYPE 5</td>
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</tr>
</tbody>
</table>

**TYPICAL FENCE LAYOUT**

1. The fence shall be constructed in accordance with the specifications and approved by the architect. The fence shall be constructed in accordance with the specifications and approved by the architect. The fence shall be constructed in accordance with the specifications and approved by the architect. The fence shall be constructed in accordance with the specifications and approved by the architect.

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TYPE C. SEEROL DITCH CHECK

NOTES:

1. SEE ND-109, 2006, 3000 & EER

2. SEE ND-109, 2006, 3000 & EER

3. SEE ND-109, 2006, 3000 & EER

TYPE C. SEEROL DITCH SYSTEM DITCH CHECK

NOTES:

1. SEE ND-109, 2006, 3000 & EER

2. SEE ND-109, 2006, 3000 & EER

3. SEE ND-109, 2006, 3000 & EER

4. SEE ND-109, 2006, 3000 & EER

SUMP DEWATERING FOR POND

DEWATERING DIRECTLY FROM TRASH PUMP

TYPE C. SEEROL DITCH SYSTEM DITCH CHECK

NOTES:

1. SEE ND-109, 2006, 3000 & EER

2. SEE ND-109, 2006, 3000 & EER

3. SEE ND-109, 2006, 3000 & EER

4. SEE ND-109, 2006, 3000 & EER
### Existing Drainage Structure Table

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<tr>
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<th>Existing Drainage</th>
<th>CS 114</th>
<th>Existing Drainage</th>
<th>CS 12</th>
<th>Existing Drainage</th>
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### Proposed Drainage Structure Table

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### Existing Sanitary Structure Table

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**Note:** The tables above are placeholders and do not contain any specific data. They are designed to match the structure of the tables in the original document.
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<th>Area</th>
<th>Coordinate</th>
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<tr>
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<td>B12.18</td>
<td>Site A1</td>
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<tr>
<td>A2</td>
<td>B12.71</td>
<td>Site A2</td>
</tr>
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<td>A3</td>
<td>B12.55</td>
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<td>B12.06</td>
<td>Site A7</td>
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Note: The table provides coordinates for various areas labeled A1 to A7. Each coordinate is in a specific format, which may require specific software or tools for interpretation.
LANDSCAPE NOTES:

1. Landscape plans shall not be used for landscape installation unless exclusively dated and marked "for construction," review all landscape specifications and details prior to installation.
2. Notify the landscape architect seven (7) working days prior to soil and landscape installation. The contractor shall verify all dimensions and conditions at the job site.
3. Lay out design as per the landscape plan.
4. All existing hardscape and landscape that is to remain should be protected prior to and during construction.
5. The landscape contractor shall verify all quantities on the drawing plant list for general reference.
6. The contractor is responsible for verifying all underground utilities prior to starting construction.
7. Locations and sizes are approximate. Field verify all information prior to starting work.
8. Establish grade at walks, curbs, planters, other structures, etc. Grading shall provide slopes that are smooth and continuous.
9. Position drainage shall be provided in all areas.
10. The landscape contractor shall report any discrepancies on the landscape plan to landscape architect and get written approval before commencing with construction.
11. All symbols on the plan are not be interpreted as site at installation. They are illustrated on the landscape plan as graphic representations.
12. Clean up all areas, sweep walks and driveways, and haul away debris.
<table>
<thead>
<tr>
<th>QUAN.</th>
<th>CODE</th>
<th>BOTANICAL NAME</th>
<th>COMMON NAME</th>
<th>SIZE</th>
<th>SPACING</th>
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<tbody>
<tr>
<td>4</td>
<td>AJ</td>
<td>Acer freemani 'Autumn Blaze'</td>
<td>Autumn Blaze Maple</td>
<td>3 cal</td>
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<tr>
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<td>TB</td>
<td>Tilia americana 'Boulevard'</td>
<td>Boulevard Linden</td>
<td>3 cal</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>PP</td>
<td>Picea glauca densata</td>
<td>Black Hills Spruce</td>
<td>6 ft</td>
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</tr>
<tr>
<td>2</td>
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<td>95</td>
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<tr>
<td>136</td>
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<tr>
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<td>Ninebark</td>
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<td>5&quot; o.c.</td>
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<tr>
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<td>LB</td>
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<td>Little Blue Stem</td>
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<td>LM</td>
<td>Alchemilla mollis</td>
<td>Lady's Mantle</td>
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<td>PR</td>
<td>Eryngium yuccifolium</td>
<td>Rattlesnake master</td>
<td>4 pots</td>
<td>15&quot; o.c.</td>
</tr>
</tbody>
</table>

NOTES:
- T5 - TACONITE SCREENING WITH EDGING, SEE DETAIL
- T5B - TACONITE SCREENING WITH WEED BARRIER, SEE DETAIL
- INSTALL ALUMINUM EDGING BETWEEN PLANTING BEDS AND SOD

EDGING TYPES (SEE SPECIFICATIONS)
- TYPE A - STRAIGHT AREAS
- TYPE B - CURVED AREAS
- TYPE C - TERMINAL BUILDING
<table>
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<tr>
<th>QUAN</th>
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<th>COMMON NAME</th>
<th>SIZE</th>
<th>SPACING</th>
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<tbody>
<tr>
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</tbody>
</table>

**PLANT LIST L103**

**NOTES:**

TS - TACONITE SCREENING WITH EDGING, SEE DETAIL.

TSB - TACONITE SCREENING WITH WOOD BARRIER, SEE DETAIL.

INSTALL ALUMINUM EDGING BETWEEN PLANTING BEDS AND SOD.

EDGING TYPES (SEE SPECIFICATIONS):

- **TYPE A** - STRAIGHT AREAS
- **TYPE B** - CURVED AREAS
- **TYPE C** - TERMINAL BUILDING
<table>
<thead>
<tr>
<th>QUAN.</th>
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<th>COMMON NAME</th>
<th>SIZE</th>
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<tbody>
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<td>Black Hills Spruce</td>
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<tr>
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<td>PP</td>
<td>Picea glauca densata</td>
<td>Black Hills Spruce</td>
<td>7' ht</td>
</tr>
<tr>
<td>2</td>
<td>PP</td>
<td>Picea glauca densata</td>
<td>Black Hills Spruce</td>
<td>8' ht</td>
</tr>
<tr>
<td>2</td>
<td>PP</td>
<td>Picea glauca densata</td>
<td>Black Hills Spruce</td>
<td>9' ht</td>
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<tr>
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<td>Picea glauca densata</td>
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<td>Ninebark</td>
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<td>115</td>
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<td>Schizachyrium scoparium</td>
<td>Little Blue Stem</td>
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PLANT LIST L106

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<th>SPACING</th>
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<tbody>
<tr>
<td>2</td>
<td>AJ</td>
<td>Acer freemani 'Autumn Blaze'</td>
<td>Autumn Blaze Maple</td>
<td>3&quot;</td>
<td>cal.</td>
</tr>
<tr>
<td>5</td>
<td>TB</td>
<td>Tilia americana 'Boulevard'</td>
<td>Boulevard Linden</td>
<td>3&quot;</td>
<td>cal.</td>
</tr>
<tr>
<td>3</td>
<td>PP</td>
<td>Picea glauca densata</td>
<td>Black Hills Spruce</td>
<td>6'</td>
<td>ht.</td>
</tr>
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<td>4</td>
<td>PP</td>
<td>Picea glauca densata</td>
<td>Black Hills Spruce</td>
<td>7'</td>
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</tr>
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<td>PP</td>
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<td>Black Hills Spruce</td>
<td>8'</td>
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<td>Picea glauca densata</td>
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<td>9'</td>
<td>ht.</td>
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<tr>
<td>2</td>
<td>SY</td>
<td>Syringa reticulata 'Ivory Silk'</td>
<td>Japanese Tree Lilac - Clump</td>
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<td>ht.</td>
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<td>ET</td>
<td>Thuja occidentalis 'Techny'</td>
<td>Techny White Cedar</td>
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<td>37</td>
<td>EE</td>
<td>Juniperus 'Icee Blue'</td>
<td>Icee Blue Juniper</td>
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<td>gal.</td>
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<tr>
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<td>JW</td>
<td>Juniperus 'Prince of Wales'</td>
<td>Prince of Wales Juniper</td>
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<tr>
<td>262</td>
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<td>Calamagrostis x acutiflora &quot;Karl Foerster&quot;</td>
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<td>Thymus Pseudolongissus</td>
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<td>4&quot;</td>
<td>pots</td>
</tr>
<tr>
<td>224</td>
<td>AM</td>
<td>Anaphalis margaritacea</td>
<td>Pearly everlasting</td>
<td>4&quot;</td>
<td>pots</td>
</tr>
<tr>
<td>57</td>
<td>DL</td>
<td>Dievilia ionica</td>
<td>Draw Honeysuckle</td>
<td>#2</td>
<td>cont.</td>
</tr>
<tr>
<td>196</td>
<td>SH</td>
<td>Sporobolus heterolepis</td>
<td>Prairie dropseed</td>
<td>#1</td>
<td>cont.</td>
</tr>
<tr>
<td>268</td>
<td>LB</td>
<td>Schizachyrium scoparium</td>
<td>Little Blue Stem</td>
<td>#1</td>
<td>cont.</td>
</tr>
<tr>
<td>47</td>
<td>LM</td>
<td>Alchemilla mollis</td>
<td>Lady's Mantle</td>
<td>#1</td>
<td>cont.</td>
</tr>
</tbody>
</table>

NOTES:
- TS - TACONITE SCREENING WITH EDGING, SEE DETAIL
- TS-B - TACONITE SCREENING WITH WEED BARRIER, SEE DETAIL
- INSTALL ALUMINUM EDGING BETWEEN PLANTING BEDS AND SOD

EDGING TYPES (SEE SPECIFICATIONS)
- TYPE A - STRAIGHT AREAS
- TYPE B - CURVED AREAS
- TYPE C - TERMINAL BUILDING

PHASE 2
PROPOSED TERMINAL

NOTES:
L105 NOT IN CONTRACT
<table>
<thead>
<tr>
<th>QUAN.</th>
<th>CODE</th>
<th>BOTANICAL NAME</th>
<th>COMMON NAME</th>
<th>SIZE</th>
<th>SPACING</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>AJ</td>
<td>Acer freemani 'Autumn Blaze'</td>
<td>Autumn Blaze Maple</td>
<td>3&quot; cal</td>
<td>col 34&quot;</td>
</tr>
<tr>
<td>4</td>
<td>TB</td>
<td>Tilia americana 'Boulevard'</td>
<td>Boulevard Linden</td>
<td>3&quot; cal</td>
<td>col 34&quot;</td>
</tr>
<tr>
<td>6</td>
<td>PP</td>
<td>Picea glauca densata</td>
<td>Black Hills Spruce</td>
<td>6 ft</td>
<td>col 34&quot;</td>
</tr>
<tr>
<td>8</td>
<td>PP</td>
<td>Picea glauca densata</td>
<td>Black Hills Spruce</td>
<td>7' ht</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>PP</td>
<td>Picea glauca densata</td>
<td>Black Hills Spruce</td>
<td>9' ht</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>PO</td>
<td>Physocarpus opulifolius</td>
<td>Ninebark</td>
<td>#2 cont</td>
<td>3' o.c.</td>
</tr>
<tr>
<td>35</td>
<td>JW</td>
<td>Juniperus 'Prince of Wales'</td>
<td>Prince of Wales Juniper</td>
<td>#2 cont</td>
<td>5' o.c.</td>
</tr>
<tr>
<td>58</td>
<td>GT</td>
<td>Geum triflorum</td>
<td>Prairie Smoke</td>
<td>4&quot; pots</td>
<td>10&quot; o.c.</td>
</tr>
<tr>
<td>150</td>
<td>SH</td>
<td>Calamagrostis × acutiflora 'Karl Foerster'</td>
<td>Karl Foerster Reed Grass</td>
<td>#1 cont</td>
<td>24&quot; o.c.</td>
</tr>
<tr>
<td>152</td>
<td>LB</td>
<td>Schizachyrium scoparium</td>
<td>Little Blue Stem</td>
<td>#1 cont</td>
<td>24&quot; o.c.</td>
</tr>
<tr>
<td>25</td>
<td>LM</td>
<td>Alchemilla mollis</td>
<td>Lady's Mantle</td>
<td>#1 cont</td>
<td>30&quot; o.c.</td>
</tr>
<tr>
<td>26</td>
<td>PR</td>
<td>Eryngium yuccifolium</td>
<td>Rattlesnake Master</td>
<td>4&quot; pots</td>
<td>15&quot; o.c.</td>
</tr>
</tbody>
</table>

**NOTES:**

1. TS - TACONITE SCREENING WITH EDGING, SEE DETAIL
2. TSB - TACONITE SCREENING WITH WOOD BARRIERS, SEE DETAIL
3. INSTALL ALUMINUM EDGING BETWEEN PLANTING BEDS AND SOD
4. EDGING TYPES (SEE SPECIFICATIONS)
   - TYPE A - STRAIGHT AREAS
   - TYPE B - CURVED AREAS
   - TYPE C - TERMINAL BUILDING
5. BENCH AND TRASH TO HAVE CONC PAD BELOW

**Diagram:**
- Limits of Landscape Construction
- Existing Stone Monument Relocated
- Parking Lot
- Phase 2
- Lawn
- Fence
- Flag Pole
- Conc Pad & Utility Box Verify Location
- Drainage 1905
- Landscape Plan Phase 2

**Scale:**
- 1" = 20'
- Plan dimension: 1728.0 x 2592.0
<table>
<thead>
<tr>
<th>QUAN.</th>
<th>CODE</th>
<th>BOTANICAL NAME</th>
<th>COMMON NAME</th>
<th>SIZE</th>
<th>SPACING</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 PP</td>
<td>P</td>
<td>Picea glauca densata</td>
<td>Black Hills Spruce</td>
<td>6' ht.</td>
<td></td>
</tr>
<tr>
<td>1 PP</td>
<td>P</td>
<td>Picea glauca densata</td>
<td>Black Hills Spruce</td>
<td>7' ht.</td>
<td></td>
</tr>
<tr>
<td>1 PP</td>
<td>P</td>
<td>Picea glauca densata</td>
<td>Black Hills Spruce</td>
<td>8' ht.</td>
<td></td>
</tr>
<tr>
<td>1 PP</td>
<td>P</td>
<td>Picea glauca densata</td>
<td>Black Hills Spruce</td>
<td>9' ht.</td>
<td></td>
</tr>
<tr>
<td>3 AJ</td>
<td></td>
<td>Acer freemanii 'Autumn Blaze'</td>
<td>Autumn Blaze Maple</td>
<td>3&quot; cal</td>
<td></td>
</tr>
</tbody>
</table>

**PLANT LIST**

**Phase 1 Line**

**Phase 1**

**Phase 2**

**Limits of Landscape Construction**

**Ex. Lawn**

**Cell Phone Lot**

**Lawn**

**Wetland**

**TS - Taconite Screening See Detail**

**TSB - Taconite Screening with Weed Barrier See Detail**
DESIGN LOADS:

Primary Seismic Data: No design required

Component Loads:

Threaded anchor rod for adhesive anchors in concrete shall be ASTM A193, Grade B7. Holes shall be drilled with a bit and cleaned using a method that complies with the manufacturer's guidelines. Consider effects of thermal movements of structural elements during construction period. The contractor is solely responsible for site safety including all temporary precautionary measures and safety precautions. Upon the request of the structural engineer the anchors shall be proof tested by the manufacturer to verify safety precautions. Refer to architectural, mechanical and electrical drawings for locations, elevations, dimensions, and architectural features and other embedded items. Refer to the specification for the existence, type, and thickness of interior ground vapor retarder. Locate a vapor barrier at or near the foundation wall for drainage and condensation control. All masonry walls shall have horizontal joint reinforcing spaced at 16" o.c. Horizontal joint reinforcing shall be truss or fillet reinforcing. Special shapes shall be provided for jambs, columns, pilasters, control joints, corners, and lintels. All masonry wall opening lintels. Refer to the detail in the drawings for masonry openings minimum jamb reinforcing.

Live Load: 100 psf (not reducible)

Hanging loads at underside of 2nd floor: 40 psf superimposed

Stairs, Corridors and Lobbies: 100 psf (not reducible)

Mechanical Rooms: 150 psf (not reducible)

Fire Trucks: 250 psf

Sidewalk: 250 psf

North terminal retaining wall and north tunnel retaining wall: HS20-44 axle load as defined by IBC 2006 table 1607.6 at a 12" depth and a minimum 1 1/2" flange width.

Stair Tread Concentrated Load: 300 lbs

Requests for information shall be submitted in writing and shall reference the part of the construction drawings where the information is indicated. The structural engineer shall respond to all requests within 10 working days. The contractor is responsible for communicating instructions to the trades on their respective trades plans. The structural engineer will not be responsible for field supervision or quality control. The information shown in the structural drawings regarding existing conditions represents the current and existing condition. The contractor shall thoroughly investigate all existing conditions including but not limited to nonstructural elements, ceiling voids, and any other type of information that may affect the installation of structural elements.

CONVENTIONAL FOOTINGS:

ACI 318-05 Building Code Requirements for Reinforced Concrete

ACI 530-05 Building Code Requirements for Masonry Structures, Allowable Stress Design

DULUTH INTERNATIONAL AIRPORT

NEW TERMINAL DESIGN

SJA ARCHITECTS

101 East Ridge Office Park, Suite 103, Danbury CT 06810

TEL: (312) 670-1800 / FAX: (312) 670-1801

MILES ENGINEERING

501 Lake Avenue South, Suite 300, Duluth MN 55802

TEL: (218) 724-8578 / FAX: (218) 724-8717

PAJ / CWB

BID PACKAGE 1 5.12.10

FOUNDATION PERMIT 6.4.10

C  2009 REYNOLDS, SMITH AND HILLS INC.

FOR FURTHER INFORMATION CONTACT:

Catherine J. Brass, Project Manager

501 Lake Avenue South

Duluth, Minnesota 55802

TEL: (218) 724-8578 / FAX: (218) 724-8717

Signature:

Date:

All bars shall be tied to prevent displacement while placing concrete. All chairs and slab bolsters shall be plastic or metal as indicated on the drawings. Concrete cover shall be 2" unless otherwise indicated. Concrete cover shall be at least 1 1/2" above the center of reinforcement. Cold-formed Light Gauge Metal Framing (Fy):

#6 and greater 2" clear earth or weather face 3/4" interior face

Columns and Beams: 1 1/2" clear to ties or stirrups

Welded connections shall be made in accordance with ANSI/AWS D1.3. Welders shall be qualified in accordance with AISC 318 and ANSI/AWS D1.3. Where spray-on fireproofing of the deck is required, the contractor shall verify that the deck finish is compatible with the proposed fireproofing material to ensure proper bonding of the fireproofing. Coordinate fireproofing with the fireproofing contractor. Provide reinforcement or frames for deck openings as indicated on the drawings. Do not cut control joints in structural slabs on metal deck.

Provide and install pour stops, column closures, end closures, cover plates and girder fillers and other accessories required for the proposed fireproofing. Coordinate fireproofing with the fireproofing contractor. Provide reinforcement or frames for deck openings as indicated on the drawings. Do not cut control joints in structural slabs on metal deck.

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Provide and install pour stops, column closures, end closures, cover plates and girder fillers and other accessories required for the proposed fireproofing. Coordinate fireproofing with the fireproofing contractor. Provide reinforcement or frames for deck openings as indicated on the drawings. Do not cut control joints in structural slabs on metal deck.
Manufacturer shall be a current member of the Steel Deck Institute (SDI).

Detail, manufacture and install non-composite steel floor deck and accessories in accordance with the SDI specifications and codes and OSHA steel erection standards. Refer to drawings for non-composite steel floor deck fastening requirements. Powder actuated or pneumatically driven fasteners are not allowed.

Where spray-on fireproofing of the deck is required, the contractor shall verify that the deck finish is compatible with the proposed fireproofing material to ensure proper bonding of the material. Coordinate locations and requirements with the architect.

Provide reinforcement or frames for deck openings as indicated on the drawings.

The design and connection detailing of all light gage material including, but not limited to exterior studs, bearing studs, headers, jambs, joists, rafters and anchorage shall be by the Light Gauge Supplier. The design for systems other than bearing framing shall meet the following criteria:

Studs shall be cold rolled steel, galvanized, C shape, with minimum 1 5/8" flange and minimum 1/2" return. They are to be punched for utility access and galvanized to G60 coating per ASTM 525 for additional spacing requirements at exterior finishes. Studs shall be installed snugly, centered, with minimum 1 3/8" torque driven fasteners at 12" OC. At all openings in exterior and bearing walls provide a minimum of two fasteners full wall length each side of opening with a minimum added fastener just past each side of framing to prevent wall panel movement. Studs shall not be used to support light gage framing not shown on the structural drawings. Interior light gauge framing is to be designed with components attached in a manner that prevents racking.

Steel fastener minimum

For all light gage non-composite support in exterior walls and non-load bearing stud walls, provide #2 x 5/8" for vertical and horizontal framing, and #3 x 5/8" for connections. A minimum of two screws per connection unless noted otherwise. Touch up all light gage material at welds with zinc-rich paint. All light gage material to be welded must be nominal 16 gauge or thicker. Welders shall be qualified in accordance with AWS D1.3 and shall be experienced in light gauge welding. No welds shall be made on gusset plates, light gage members or framing at any location. Align load bearing wall studs with floor or roof joists. Splices in studs, joists, and headers, are not permitted, unless approved in writing by the structural engineer.

For additional information on the Light Gauge Framing Association, please see www.lgfa.com.

Date: June 3, 2010

Print Name: PAJ / CWB
Signature: PAJ / CWB

TABLE 1704.3

SPECIAL INSPECTION SCHEDULE:

Special Inspections Required of Structural Elements (Per IBC 2006, Chapter 17)

1. Steel
   1.1 Welding
   1.2 Details
2. Concrete
   2.4 Sampling
   2.6 Curing techniques
   2.7 Prestressed concrete
   2.9 Verification of IN-SITU concrete strength
3.1 Level 1 Special Inspection
3.2 Level 2 Special Inspection

Date Issued: 10-21-11

RSH IMPROVING YOUR WORLD

DULUTH, MN

APPOLD DESIGN

BID PACKAGE 2C

NEW TERMINAL DESIGN

CONSULTANTS

SJA ARCHITECTS

MBJ CONSULTING ENG.

BNP ASSOCIATES INC.

APPOLD DESIGN

DULUTH INTERNATIONAL AIRPORT

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DULUTH INTERNATIONAL AIRPORT

DULUTH, MN

NEW TERMINAL DESIGN
UTILITY INVERT

3/4" EMBED PL W/ 3/4" DIA x 6" HSA AT 16" OC AS REQD

8" CONC W/#5 AT

EL = -13'-5" +/- (1388.1')

VERIFY W/CIVIL CENTERED, TYP

TFE = -8'-0"

TFE = -14'-0"

TFE = -10'-0"

TFE = -5'-6"

TFE = -5'-6"

TFE = -6'-6"

TFE = -6'-6"

TFE = -4'-6"

TFE = -10'-6"

TFE = -10'-6"

TFE = -6'-6"

TFE = -4'-6"

MATCHLINE - SEE SHEET S111

VERIFY W/CIVIL

CENTERED, TYP

SLOPE DOWN 2

SLOPING 4" UNREINFORCED SLAB ON GRADE

INV EL = -13.55' +/- (1387.87') VERIFY

TFE = -1'-0"

NEW TERMINAL INV EL = -13.58' +/- (1387.40') VERIFY

TFE = -6'-6"

TFE = -6'-6"

TFE = -4'-6"

TFE = -10'-6"

TFE = -10'-6"

TFE = -10'-6"

TFE = -10'-6"

TFE = -10'-6"

TFE = -10'-6"

TFE = -10'-6"
CANOPY ROOF PLAN - AREA B

NOTES:
1. REFER TO S115 FOR TYPICAL PLAN NOTES.
2. FABRICATOR TO PROVIDE SECTION (BUILT UP PLATE SECTION OR CUT WT OR CUT WIDE FLANGE) WITH THE FOLLOWING DIMENSIONAL PROPERTIES:
   - d max = 14"
   - d min = 6"
   - bf = 12" 
   - tf = 1 3/8"
   - tw = 3/4"
   - Fy = 50 ksi
## Steel Column Schedule

<table>
<thead>
<tr>
<th>Column Location</th>
<th>Column Type</th>
<th>Diameter</th>
<th>Length</th>
<th>Base Plate Size</th>
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<tbody>
<tr>
<td>1st Level</td>
<td>W12 x 79</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st Level</td>
<td>W12 x 96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd Level</td>
<td>W12 x 79</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd Level</td>
<td>W12 x 96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd Level</td>
<td>W12 x 79</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd Level</td>
<td>W12 x 96</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Column Base Plate and Anchor Rod Schedule

<table>
<thead>
<tr>
<th>Base Plate Size</th>
<th>Anchor Rod Details</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø1/2&quot;</td>
<td>TYP.</td>
<td></td>
</tr>
<tr>
<td>ø1&quot;</td>
<td>TYP.</td>
<td></td>
</tr>
<tr>
<td>ø2&quot;</td>
<td>TYP.</td>
<td></td>
</tr>
</tbody>
</table>

## Base Plate Details

- **Material**: HSS8-5/8 x .322
- **Diameter**: 5/16" x 6 x 1'-3" (LDH)
- **Details**: Provide 1/2" dia. drainhole at base of column.

## Notes

1. See Plan for locations.
2. See Schedule for Anchor Rod Information.
3. Column Base Plate and Anchor Rod Schedule is provided.
4. For all undesignated base plates, minimum "N" = Member Size + 4". Minimum "B" = Member Width + 1".
5. Minimum "T" = 1/2". Minimum 4 - 3/4" diameter anchor rods.
6. Anchor rods shall be ASTM F1554, Grade 36.4. Base plates shall be ASTM A36, minimum.
7. MillColumn base and/or base plate as necessary for full contact.
8. Anchor rods shall set by template and not be set into concrete after concrete is cast.
9. See sheets S301 and S302 for additional information at braced frame base plates.

## Revisions

- **Foundation Permit 6.4.10**: Not Changed
- **Building Permit 8.6.10**: 100% Review
- **BID Package 2A**: 01.24.11
- **BP 2A Conformance 05.02.11**
1. EACH DRILLED PIER BOTTOM SHALL BE APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER PRIOR TO CONCRETE PLACEMENT - SEE SPECIFICATIONS.

2. VERTICAL REINFORCING AND TIES SHALL EXTEND THE TOTAL LENGTH OF PIER.

3. FIRST TIE SHALL BE PLACED A MAXIMUM OF 6" FROM TOP OF PIER.

4. ANY LAP SPLICES IN VERTICAL REINFORCING OF THE PIER SHALL BE CLASS "B" LAP SPLICE, TYPICAL.

5. VERIFY LIGHT POLE MANUFACTURER'S RECOMMENDATIONS FOR NO GROUT BENEATH BASE PLATE.

DASHED LINE INDICATES BOND BREAKER TO BE PLACED AT TOP 6' OF DRILLED PIER

NOTE: SEE ARCH FOR BEAM WEB OPENING LOCATION.

CARE IS TO BE TAKEN NOT TO DAMAGE PORTIONS OF BEAM TO REMAIN DURING CUTTING OF BEAM WEB.