COLUMBIA GREENWAY
RAIL TO TRAIL IMPROVEMENTS - CENTRAL PHASE 1

IN THE CITY OF
WESTFIELD
HAMPDEN COUNTY

CITY OF WESTFIELD BID NO. 2523

REFERENCE MANUALS


DESIGN DESIGNATION
DESIGN SPEED = 20 MPH

LENGTH OF PROJECT = 2,535.00 FT = 0.480 MILES

APRIL 8, 2015
## General Symbols

### Existing
- NBD: North Bound Drive
- SBD: South Bound Drive
- BD: Bike Lane
- W: Water
d- D: Drainage
- T: Telephone
- U: Utilities
- B: Bike
- F: Fire
- G: Gas
- K: Key
- P: Street Name

### Proposed
- NBD: North Bound Drive
- SBD: South Bound Drive
- BD: Bike Lane
- W: Water
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## Pavement Markings and Signing Symbols

### Existing

### Proposed

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

## General Notes

1. **General Information:**
   - The construction section of this project is located in the Central Phase 1 area of the Columbia Greenway project. The project is designed to improve the connectivity and safety of the area through the addition of bike lanes, sidewalks, and improved pedestrian areas.

2. **Construction Coordination:**
   - The construction contract is being performed by the contractor, and the project is being constructed in accordance with the plans and specifications provided by the City of Columbia.

3. **Stormwater Management:**
   - Stormwater management plans are being developed to ensure proper drainage and prevent erosion during construction.

4. **Traffic Control:**
   - Traffic control plans are being developed to ensure the safety of all workers and the public during construction.

5. **Utility Coordination:**
   - Coordination with local utility companies is ongoing to ensure that all necessary adjustments are made to accommodate the construction of the project.

6. **Project Management:**
   - The project team is working closely with the City of Columbia to ensure that the project is completed on time and within budget.

7. **Public Involvement:**
   - Public involvement is being encouraged through community meetings and regular updates on project progress.

8. **Future Use:**
   - The completed project will provide improved connectivity and safety for all users, including pedestrians, cyclists, and motorists.

### Abbreviations

#### Utilities

### Alignment/Diagrams

#### Profiles

### General

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALP</td>
<td>Alternate Profile</td>
</tr>
<tr>
<td>CRP</td>
<td>Corrugated Pipe</td>
</tr>
<tr>
<td>FIO</td>
<td>Fire Hydrant</td>
</tr>
<tr>
<td>GRP</td>
<td>Gas Hydrant</td>
</tr>
<tr>
<td>LSC</td>
<td>Lighting fixture</td>
</tr>
<tr>
<td>MCT</td>
<td>Medium Trench</td>
</tr>
<tr>
<td>MVC</td>
<td>Medium Valve</td>
</tr>
<tr>
<td>SMT</td>
<td>Street Name</td>
</tr>
</tbody>
</table>

### Additional Notes

- **Traffic:**
  - Biker lanes and pedestrian areas are being developed to accommodate the needs of all users.

- **Waste Management:**
  - Waste management plans are being developed to ensure proper disposal of construction waste.

- **Sustainability:**
  - Sustainable practices are being incorporated into the project to minimize environmental impact.
# Traffic Sign Summary

<table>
<thead>
<tr>
<th>Control Number</th>
<th>Sign Height</th>
<th>Sign Width</th>
<th>Text</th>
<th>Number of Signs Required</th>
<th>Text Color</th>
<th>Color</th>
<th>Post Size</th>
<th>Unit Price</th>
<th>Area in Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1-1</td>
<td>18&quot; 18&quot;</td>
<td></td>
<td>See 2008 Manual on Uniform Traffic Control Devices for State &amp; Highways</td>
<td>4</td>
<td>RED BLACK WHITE</td>
<td>PS-4</td>
<td>1.95</td>
<td>7.82</td>
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<td>R1-4</td>
<td>12&quot; 18&quot;</td>
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<td>WHITE BLACK BLACK</td>
<td>PS-1</td>
<td>1.50</td>
<td>1.50</td>
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<tr>
<td>D-1L</td>
<td>Varies 12&quot;</td>
<td></td>
<td>See 2008 Manual on Uniform Traffic Control Devices for State &amp; Highways</td>
<td>4</td>
<td>GREEN WHITE WHITE</td>
<td>1 W/O U.</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>D-1R</td>
<td>Varies 12&quot;</td>
<td></td>
<td>See 2008 Manual on Uniform Traffic Control Devices for State &amp; Highways</td>
<td>4</td>
<td>GREEN WHITE WHITE</td>
<td>1 W/O U.</td>
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<td>GREEN WHITE WHITE</td>
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<td>4</td>
<td>GREEN WHITE WHITE</td>
<td>1 W/O U.</td>
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<td>1.00</td>
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</tr>
<tr>
<td>S1-1</td>
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<td>See 2008 Manual on Uniform Traffic Control Devices for State &amp; Highways</td>
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<tr>
<td>S1-5</td>
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<td>1 W/O U.</td>
<td>3.00</td>
<td>3.00</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
High intensity reflective sheeting shall be used for all signs. See "Standard Highway Signs as Specified in the 2009 MUTCD" for text dimensions and 1990 Massachusetts Highway Department Standard Drawing for signs and supports.
NOTES:
1. Paint a non-yellow line 3' to be placed at the construction baseline in all locations above the Columbia Greenway Rail Trail where there is more than 12' from path interruptions.
2. At all intersections, 1/2 of a non-yellow line should be placed at the construction baseline from the path interruption to stop the trail. 1/2 of the line should be placed to allow for turning and on to the access path.
3. All access paths shall be striped for their entire length with a 12' solid yellow center line (or 500).
4. All pavement markings on rail trail and access path shall be reflectorized paint.

**TYPICAL RAIL TRAIL STRIPING AT INTERSECTIONS**

**TYPICAL PATH ENDS PAVEMENT MARKING**

**COLUMBIA GREENWAY RAIL TRAIL**
1. Contraction joints are to be spaced at a maximum of 20 feet apart.
2. The joints are to be sawed and located in the depressions of the corrugations.
3. End of corrugated ridges to be beveled.
4. For description of materials and construction methods see standard specifications and special provisions.
5. Scored cement concrete to be 4000 psi, 3 4", 610 lb/cy.
6. Through flush with adjacent pavement for drainage.

Notes:
- Construction joint detail
- Bond breaker
- Formed edge
- Scored cement concrete

Details:
- Parker bench
- Gravel borrow type b
- Gravel borrow type b
- 4" loam seed
- 2.0' scored concrete
- 2 1/4" 2 1/4" 1" R
- 3/8" 1/2" 1-3/4" 1/8" bond breaker
- Construction joint detail
- 12" (min)
- 6" (min)
Bracket Options

FORERUNNER RAIL
(See Cross-Section Below)

8' O.C. Nom.
48" Min.

Footing depth 2" Nom.

FORERUNNER RAIL
TM

3" POSTS
TYPICAL

INTERNAL RETAINING ROD
Variable pitch connection system for ease of installation, high angle bias ability and elimination of unsightly external fasteners.

OPTIONAL WRAP AROUND BRACKET PANEL BRACKET
Specially designed two-point connection ensures fixity of rail ends for increased strength.

BASE MATERIAL
1 3/4"

"No-Mar" Polyester Powder finish coat

"U"-Channel specially formed high strength architectural shape.

INTERIOR GUIDE CHANNEL
Channel forms lower limit of raceway for retaining rod and allows for high angle bias ability.

REINFORCED POST
Internal rib increases against wind loading as well as other horizontally applied forces (Only on 2 1/2" aluminum posts).

VALUES SHOWN ARE NOMINAL AND NOT TO BE USED FOR INSTALLATION PURPOSES. SEE PRODUCT SPECIFICATION FOR INSTALLATION REQUIREMENTS.
SHEET NOTES

1. ALL CONCRETE SHALL BE 3' 0" THICK WITH 2% AIR voidS UNLESS NOTED OTHERWISE

2. STREET SSD 2' PAVEMENT AT CURB FROM PIPE SATE OR MINIMUM 1.5' SIDEWALK SPACE

3. SHEET TO BE USED FOR BULKHEAD DRAWING