PROPOSED TYPICAL SECTION
PIEDMONT AVENUE
1ST ST. TO SUPERIOR ST.
STA. 10+45 TO STA. 16+60
NOTE: OVERLAY 1 1/2" WEAR COURSE STA 9+12 TO 10+45
NO SCALE

EXISTING TYPICAL SECTION
PIEDMONT AVENUE
1ST ST. TO SUPERIOR ST.
STA. 9+12 TO STA. 16+60
NO SCALE

RECORD DRAWING
PROPOSED TYPICAL SECTION

GARFIELD AVENUE
STA. 20+21 TO STA. 21+30
NO SCALE

EXISTING TYPICAL SECTION

GARFIELD AVENUE
STA. 20+21 TO STA. 21+30
NO SCALE

RECORD DRAWING

PIEDMONT AVE / W. SUPERIOR ST. MILL AND OVERLAY
GARFIELD TYPICAL SECTIONS
STATE AID PROJECT NO. 118-109-15 (MWB) CITY PROJECT NO. 0093TR,0094TR
SHEET NO. 4 OF 29 SHEETS
PROPOSED TYPICAL SECTION
WEST SUPERIOR STREET
GARFIELD AVE. TO MICHIGAN ST.
STA 32+33 TO STA. 46+00
NO SCALE

EXISTING TYPICAL SECTION
WEST SUPERIOR STREET
GARFIELD AVE. TO MICHIGAN ST.
STA. 32+33 TO STA. 46+00
NO SCALE

RECORD DRAWING

CERTIFIED BY          EDWARD H. FRENCH  AGC NO. 11785  DATE
SUPERIOR TYPICAL SECTIONS
STATE AID PROJECT NO. 118-109-15 (MTB)  CITY PROJECT NO. 00937R.00941R  SHEET NO. 5 OF 29 SHEETS
### A. Removal Items

<table>
<thead>
<tr>
<th>Location</th>
<th>Concrete C &amp; G</th>
<th>Concrete Walk</th>
<th>Vault Roof</th>
<th>Paving</th>
<th>Saw Bit. Pavement</th>
<th>Mill-WT (Luminous Surface)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piedmont Ave.</td>
<td>2104.501</td>
<td>2104.503</td>
<td>2104.503</td>
<td>2104.505</td>
<td>2104.513</td>
<td>2232.501</td>
</tr>
<tr>
<td>W. Superior Street</td>
<td>8324</td>
<td>8234</td>
<td>8324</td>
<td>8324</td>
<td>8324</td>
<td>8324</td>
</tr>
</tbody>
</table>

**Note:**
- Includes sawing and removal of adjacent pavement 3 from face of C & G.
- Includes sawing and removal of adjacent curb and gutter on Piedmont, right side.

### B. Aggregate, Concrete and Bituminous Quantities

#### B1. Geometric Description

<table>
<thead>
<tr>
<th>Location</th>
<th>Granular Borrow (L)</th>
<th>Aggregate Base (L)</th>
<th>Aggregate Base (C)</th>
<th>Mix Wearing Course</th>
<th>LVG Non-Wearing Course</th>
<th>Concrete Mixes Bituminous</th>
<th>Concrete Mixes</th>
<th>Plant Mixes Bituminous</th>
<th>Plant Mixes</th>
<th>Concrete Mixes</th>
<th>Concrete Mixes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piedmont Ave.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5500 TO 1040</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1040 TO 1560</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1560 TO 2040</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2040 TO 2350</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2350 TO 3930</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
- To be used for vault fill and sloping.
- Concrete and LP CI incidental to this item.
- FC C & G base under new C & G paid as aggregate base (C)

#### B2. Record Drawing

- Piedmont Ave. / W. Superior St. Mill and Overlay
- ST. PLATES, QUANTITY CHARTS
- STATE AID PROJECT NO. 118-109-15 (MB)  CITE PROJECT NO. 6093TR.0094TR
- SHEET NO. 6 OF 29 SHEETS

---

**Certified by:**

EDWARD H. FRENCH

REG. NO. 11785 DATE
<table>
<thead>
<tr>
<th>STRUCTURE NUMBER</th>
<th>STATION</th>
<th>LOCATION</th>
<th>REMOVE MH</th>
<th>8&quot; PVC PIPE SEWER</th>
<th>SAN SEWER</th>
<th>PVC CONNECT</th>
<th>PVC SEWER SERVICE</th>
<th>RECONSTRUCT</th>
<th>CASTING FRAME</th>
<th>ADJUST FRAME</th>
<th>PROP</th>
<th>EXISTING FLOW</th>
<th>DRAWN TO</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traverse Ave.</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH E</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH F</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH G</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH H</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH I</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH J</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH K</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH L</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH M</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH N</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH O</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH P</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH Q</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH R</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH S</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH T</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH U</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH V</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH W</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH X</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH Y</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH Z</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W. Superior St.</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH A</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH B</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH C</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH D</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH E</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH F</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH G</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH H</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH I</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH J</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH K</td>
<td>9+00.0</td>
<td>26.7 FT</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td>EACH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Abandoned sanitary line will be plugged at both ends. Incidental to 2104.509; Remove MH.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Spot repairs include excavation, required adaptors and/or fittings, appropriately sized PVC pipe, select granular backfill (MOD), compaction, and disposal of excavated material.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Furnish and install new city of Duluth sanit. casting M256. Spec No. 256.516</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. All existing castings not used for this project shall be removed to the city of Duluth tool house at 40th Ave. West. The contractor shall coordinate and deliver the castings to the city of Duluth sewer division storage facility at 40th Avenue West. It shall be the contractor’s responsibility to unload the castings. Payment will be incidental to item 256.516 casting assembly. Upon completion of the unloading, the castings will become the property of the city of Duluth.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Certified by: Edward H. French

Reg. No. 11785 Date: 

State Aid Project No. 118-109-15 (WTB) City Project No. 000137, 00947R Sheetc. No. 7 of 29 sheets.
## EXISTING STORM DRAINAGE STRUCTURES

<table>
<thead>
<tr>
<th>STRUCTURE NUMBER</th>
<th>STATION</th>
<th>LOCATION</th>
<th>REMOVE SEWER PIPE</th>
<th>REMOVE MH OR CB</th>
<th>RECONSTRAIN DRAINAGE STRUCT</th>
<th>CASTING FRAME AND RING</th>
<th>ADJUST TOP OF CASTING ELEV.</th>
<th>PROP. EXISTING TOP OF CASTING ELEV.</th>
<th>FLOWLINE TO</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIEDMONT AVE.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH 3</td>
<td>10+43.2</td>
<td>11.0 RT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>REBUILD TOP 2'0 UNDER NEW CASTING ITEM</td>
</tr>
<tr>
<td>CB 3L</td>
<td>10+11.0</td>
<td>31.2 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NO WORK</td>
</tr>
<tr>
<td>CB 3B</td>
<td>10+73.3</td>
<td>29.7 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NO WORK</td>
</tr>
<tr>
<td>MH 4</td>
<td>12+57.9</td>
<td>11.2 RT</td>
<td></td>
<td>2</td>
<td>1</td>
<td>675.87</td>
<td>670.22</td>
<td></td>
<td>SE</td>
<td>MH 3</td>
</tr>
<tr>
<td>CB 4A</td>
<td>12+31.9</td>
<td>24.4 RT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 4</td>
</tr>
<tr>
<td>CB 4B</td>
<td>12+40.0</td>
<td>12.7 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 4</td>
</tr>
<tr>
<td>CB 5H</td>
<td>12+98.8</td>
<td>81.9 FT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 4</td>
</tr>
<tr>
<td>CB 9A</td>
<td>14+42.6</td>
<td>12.7 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NH 7</td>
</tr>
<tr>
<td>CB 12B</td>
<td>15+63.6</td>
<td>12.7 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 8</td>
</tr>
<tr>
<td>CB 5C</td>
<td>15+54.5</td>
<td>24.7 RT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 8</td>
</tr>
<tr>
<td>W. SUPERIOR STREET</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CB 21A</td>
<td>3+17.0</td>
<td>28.0 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 21</td>
</tr>
<tr>
<td>CB 21B</td>
<td>3+28.0</td>
<td>37.7 RT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SOUTH NO WORK</td>
</tr>
<tr>
<td>CB 8A</td>
<td>3+55.5</td>
<td>23.4 RT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 21</td>
</tr>
<tr>
<td>CB 8B</td>
<td>3+56.4</td>
<td>39.9 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NO WORK</td>
</tr>
<tr>
<td>CB 9D</td>
<td>3+70.6</td>
<td>29.8 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 21</td>
</tr>
<tr>
<td>MH 18</td>
<td>3+47.5</td>
<td>20.3 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NO WORK</td>
</tr>
<tr>
<td>CB 8D</td>
<td>3+47.5</td>
<td>20.3 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NO WORK</td>
</tr>
<tr>
<td>MH 9</td>
<td>3+47.6</td>
<td>20.3 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NO WORK</td>
</tr>
<tr>
<td>CB 9A</td>
<td>3+48.8</td>
<td>25.4 RT</td>
<td></td>
<td>2</td>
<td>1</td>
<td>638.36</td>
<td>638.84</td>
<td>631.74</td>
<td>MH 9</td>
<td></td>
</tr>
<tr>
<td>CB 9B</td>
<td>3+48.8</td>
<td>32.1 RT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 9</td>
</tr>
<tr>
<td>MH 10</td>
<td>3+52.3</td>
<td>39.8 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 9</td>
</tr>
<tr>
<td>CB 10A</td>
<td>3+51.2</td>
<td>46.5 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 10</td>
</tr>
<tr>
<td>CB 10B</td>
<td>3+52.4</td>
<td>46.5 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 10</td>
</tr>
<tr>
<td>CB 10C</td>
<td>3+54.5</td>
<td>29.9 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 10</td>
</tr>
<tr>
<td>MH 11</td>
<td>3+56.5</td>
<td>41.7 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 11</td>
</tr>
<tr>
<td>CB 11A</td>
<td>3+57.0</td>
<td>24.4 RT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 11</td>
</tr>
<tr>
<td>MH 12</td>
<td>3+57.0</td>
<td>24.4 RT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 11</td>
</tr>
<tr>
<td>CB 12A</td>
<td>3+57.0</td>
<td>24.4 RT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 11</td>
</tr>
<tr>
<td>MH 13</td>
<td>3+58.7</td>
<td>42.2 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 12</td>
</tr>
<tr>
<td>CB 14A</td>
<td>4+10.6</td>
<td>40.4 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 12</td>
</tr>
<tr>
<td>CB 14B</td>
<td>4+17.4</td>
<td>47.2 LT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MH 12</td>
</tr>
<tr>
<td>CB 15</td>
<td>4+61.7</td>
<td>25.4 RT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NCR</td>
</tr>
<tr>
<td>CB 16</td>
<td>4+62.7</td>
<td>17.9 RT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NCR</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### NOTES:
1. ABANDONED CATCH BASIN LEADS WILL BE PLUGGED AT BOTH ENDS AND FILLED WITH HIGH SLUMP CONCRETE AS DESCRIBED IN THE SPECIAL PROVISIONS. THIS WORK IS INCIDENTAL TO MH AND CB REMOVAL.
2. DRAINAGE STRUCTURE CASTINGS NOT REUSED ON THIS PROJECT SHALL BE REMOVED AND MAY BE STOCKPILED ON SITE. THE CONTRACTOR SHALL COORDINATE AND DELIVER THE CASTINGS TO THE CITY OF DULUTH SEWER DIVISION STORAGE FACILITY AT 40TH AVENUE WEST. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UNLOAD THE CASTINGS. PAYMENT WILL BE INCIDENTAL TO ITEM 2104.590. REMOVE MANHOLE OR CATCH BASIN UPON COMPLETION OF THE UNLOADING THE CASTINGS WILL BECOME THE PROPERTY OF THE CITY OF DULUTH.

---

**RECORD DRAWING**

**EXISTING STORM SYSTEM**

**PROMISE AVE. / W. SUPERIOR ST. MILL AND OVERLAY**

**STATE AID PROJECT NO. 116-109-15 (MB) CITY PROJECT NO. 0093609414**

**SHEET NO. 8 OF 29 SHEETS**

**CERTIFIED BY EDWARD H. FRENCH**

**SIGNATURE**

**REG. NO. 11785 DATE**

---

**D**
STORM LID AND FRAME

SANITARY SOLID LID AND FRAME

CASTINGS WITH FABRIC (INCIDENTAL)

DETAIL NO. 5010 CITY OF DULUTH STANDARD

DETAIL NO. 5020 CITY OF DULUTH STANDARD

NO PLAN CHANGES

CERTIFIED BY EDWARD H. FRENCH

Piedmont Ave. / W. Superior St. Mill. And Overlay

State Aid Project No. 118-109-15 (W TB) City Project Nos. 0093r, 0094r

Manhole Castings, Details

Sheet No. 11 of 29 Sheets
NOTES:
1. IN SOIL USE 20F10A-04-PG 40" x 2.00" 12 GA ANCHOR (IN CONCRETE USE 20F10A-2.5-PG 30" x 2.00" 12 GA ANCHOR) WITH 16012P-10-PG 10" x 1.75" 14 GA GALVANIZED TELSPAR POST, ALL SHALL CONFORM TO MnDOT 5401.
2. MOUNTING (PUNCHING CODE) FOR TYPE "C" SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
3. ALL RISER (VERTICAL) TELSPAR POSTS SHALL BE SPLICED, THE DRIVEN STUB POSTS SHALL BE AT LEAST 40" LONG POSTS IN SOIL AND 80" LONG IN CONCRETE.
4. USE 5/16" STAINLESS STEEL BOLTS, WASHERS, AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
5. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.

CITY OF DULUTH CATCH BASIN CASTING 5005

NOTE: SEE SPECIAL PROVISIONS AND POST SPECIFICATIONS.
FIRE HYDRANT SETTING DETAIL

W-4

HYDRANT - CITY OF GULF SHORES STANDPIPE

WOOD BLOCKING

18'-24"

2'-6" Min.

1/3 CUBIC YARD CRUSHED STONE

ALTERNATE TIE RODS

NOTE: VALVES SHALL BE CONNECTED DIRECTLY TO AN ANCHORING TIE Rod WHENEVER DIRECT CONNECTION IS NOT POSSIBLE. ALTERNATE TIE RODS OR WELDING MAY BE USED.

TYPICAL STREET SERVICE - WATER

SPEC. 2504.603 - LIN. FT.

W-5

WATERMAIN

12'

18" Min. From Joint

NOTE: EXCAVATE 6" UNDER IN-PLACE MAIN

OF TAP

EXCAVATION FOR TAPPING WATER SERVICE

THIS ITEM INCLUDES AS INCIDENTAL EXCAVATION, INSTALLATION LABOR AND MATERIALS AS SHOWN, WATERMAIN TAP AND CORP. SELECT GRANULAR BACKFILL UNDER STREET AND WALK AREAS INCIDENTAL. SELECT ONSET MATERIAL FOR OTHER AREAS INCIDENTAL. SEE SPECIAL PROVISIONS.

CURB BOX WILL BE SUPPLIED BY CITY AT CARVILLE SHOP AND INSTALLED BY CONTRACTOR (INCIDENTAL TO CURB STOP AND BOX (2504.602))

45° BEND COUPLING

CORPORATION STOP DIRECT CONNECTION

WATERMAIN

WOOD SUPPORT

CONNECT TO EXISTING SERVICE (INCIDENTAL)

45°
NOTES:

1. The curb and gutter transition on the ramp will be paid for as linear feet of concrete curb or
   concrete curb and gutter.

2. The ramp area will be paid for as concrete walk. The truncated dome area shall be considered
   incidental.

3. A 1/2 inch preformed joint filler material, ASH6O M 213

4. When possible, provide a path of travel 4' - 0" wide behind the pedestrian ramp. A relatively flat
   4' - 0" width will allow wheelchairs to navigate around the pedestrian ramp.

5. When a median is not wide enough for two pedestrian ramps and a 4' landing between them,
   the pedestrian crossing shall be cut through the median at street level.

6. If 8' to 10' is the required offset of the detectable warning (truncated dome area) from the front
   face of curb, or place the detectable warning at the back of curb.

7. ADA required truncated dome area shall be 2'-0" min. in direction of travel, and shall extend the
   full width (5'-0" or 4'-0" typ.) of the curb ramp. This 2'-0" by 2'-0" or 4'-0" wide (typ.) truncated
   dome area shall contrast visually with the adjacent walking surface. The entire truncated dome area
   shall be a light color (light gray, white, or yellow) when the adjacent sidewalk is a dark color.
   The entire truncated dome area shall be a dark gray when the adjacent sidewalk is a "white" or
   light gray cement color.

8. 4'-0" for new construction 3'-0" allowed for retrofits or preservation projects.

PLAN VIEW OF DIAGONAL RAMP

PLAN VIEW OF PERPENDICULAR RAMP

CURB OR CURB AND GUTTER

5'-4" (6 CURB)
3'-4" (6 CURB)
4'-0" DESIRABLE

SECTION A-A

CONCRETE WALK
0.08 FT./FT. OR FLATTER
0.02 FT./FT. MAX

15/16" (TYP.)
5/8" MIN.

DOME SPACING

ROUND ALL SLOPED INTERSECTIONS

ELEVATION OF RAMP

6'-0"
6'-3"
(6 CURB & 0.08 FT./FT. SLOPE)
(6 CURB & 0.08 FT./FT. SLOPE)

记录图：人行道坡道

[Certified by: Edward H. French]
[Reg. No. 11785 Date: ]
[State Aid Project No. 118-169-15 (MTB) City Project No. 00931R.0014TR Sheet No. 15 of 29 Sheets]
TRAFFIC CONTROL PLAN

NOTES:

1) The contractor shall furnish, install and maintain the devices in this traffic control plan (unless otherwise noted).
2) All traffic control devices shall conform to the Minnesota Manual on Uniform Traffic Control Devices Including "Temporary Traffic Control Zone Layouts" dated January 2004. Available at:
(http://www.dot.state.mn.us/trafficeng/steppub/figmanual2004/index.html)
3) Field conditions may require modifications of this layout as deemed necessary by the engineer.
4) The number and placement of traffic control devices will depend upon the sequence of the contractor's operation.
5) All distances are approximate.
6) The contractor is responsible for protecting any work areas near traffic in accordance with MnMUTC.
7) If the contractor decides to perform the construction work in a sequence other than shown in this traffic control plan, the contractor shall provide complete revised traffic control plans to be approved by the engineer.
8) All traffic control devices, including overhead signs on roads open to traffic that are not consistent with traffic operation, shall be covered, removed or revised as directed by the engineer.
9) "Road Work Ahead" signs shall be mounted approx. 300 ft (1 block) in advance of the construction and shall have a type "A" low intensity flashing amber warning light mounted on them.
10) Type "A" low intensity amber warning lights shall be mounted on all advance warning signs and on all type I and II barricades when used at night or to identify hazards.
11) Additional signing may be required for separate lane closures. The signing shall be in conformance with "Temporary Traffic Control Zone Layouts." Field manual dated January 2004 and shall be considered incidental to "Traffic Control."

TRAFFIC ~ BILL OF MATERIALS

<table>
<thead>
<tr>
<th>SIGN NO.</th>
<th>MESSAGE</th>
<th>SIZE</th>
<th>NO. REQ'D</th>
<th>SIGN NO.</th>
<th>MESSAGE</th>
<th>SIZE</th>
<th>NO. REQ'D</th>
</tr>
</thead>
<tbody>
<tr>
<td>W21-4</td>
<td></td>
<td>3 ft x 3 ft</td>
<td>7</td>
<td>W21-4</td>
<td>TYPE III BARRICADE</td>
<td>8 ft</td>
<td>AS REQ'D</td>
</tr>
<tr>
<td>W21-X5 (R or L)</td>
<td>3 ft x 3 ft</td>
<td>AS REQ'D</td>
<td>MUST</td>
<td>W20-X3 (R or L)</td>
<td>STANDARD NO. 4 ENCAPSULATED LENS BARREL</td>
<td>AS REQ'D</td>
<td></td>
</tr>
<tr>
<td>W20-X3 (R or L)</td>
<td>4 ft x 4 ft</td>
<td>AS REQ'D</td>
<td>MUST</td>
<td>W20-X3 (R or L)</td>
<td>3 ft x 3 ft</td>
<td>AS REQ'D</td>
<td></td>
</tr>
</tbody>
</table>

0 400

Attention: Construction on this job will be "under traffic". Because of the frequent changes in channelization and lane closures, no traffic control for these operations are shown. All traffic control will be the responsibility of the contractor and must conform to the MnMUTC manual.

No sheet changes

Certified by: Edward F. French
Project Manager
Reg No: 11785 Date:

Traffic Control Plan

State Aid Project No: 11-01-15 (MTB) City Project No: 03939-009418 Sheet No: 21 of 29 Sheets
NOTES:
1. CONSTRUCTION C/L IS 6.00 FT. LEFT OF PLAT C/L.

<table>
<thead>
<tr>
<th>CONTROL POINT</th>
<th>BDP</th>
<th>PC</th>
<th>RADIUS</th>
<th>PT</th>
<th>PT</th>
<th>CDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC = 9+12.04</td>
<td>15°</td>
<td></td>
<td>6.00</td>
<td>1184</td>
<td>1192</td>
<td>17+19.65</td>
</tr>
<tr>
<td>1/2&quot;OVERLAY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PC = 9+12.04

124 STREET
C/L = 10+00.00

20° RAD. PT.
33+90.00 51.00 LT
N = 33377562.04
E = 4846232.72
DELTA = 30°29'49"

20° RAD. PT.
34+37.78 51.00 LT
N = 33376113.66
E = 4846375.70

15° RAD. PT.
20+52.24 46.00 LT
N = 3337242.58
E = 4846283.51
DELTA = 45°26'31"

15° RAD. PT.
33+39.82 11+85.63
N = 3337587.95
E = 4840487.97
DELTA = 20°36'59"

1/2"OVERLAY

264

260

274

20° RAD. PT.
10+12.74 40.00 RT
N = 33377998.82
E = 4839680.24

PT = 11+91.93

1106

1109

1192

17+19.65

9+12.04

20° RAD. PT.
33+80.00 51.00 LT
N = 3337562.04
E = 4846232.72
DELTA = 30°29'49"

20° RAD. PT.
34+37.78 51.00 LT
N = 33376113.66
E = 4846375.70

15° RAD. PT.
20+52.24 46.00 LT
N = 3337242.58
E = 4846283.51
DELTA = 45°26'31"

15° RAD. PT.
33+39.82 11+85.63
N = 3337587.95
E = 4840487.97
DELTA = 20°36'59"

1/2"OVERLAY

264

260

274

20° RAD. PT.
10+12.74 40.00 RT
N = 33377998.82
E = 4839680.24

PT = 11+91.93

1106

1109

1192

17+19.65

9+12.04

20° RAD. PT.
33+80.00 51.00 LT
N = 3337562.04
E = 4846232.72
DELTA = 30°29'49"

20° RAD. PT.
34+37.78 51.00 LT
N = 33376113.66
E = 4846375.70

15° RAD. PT.
20+52.24 46.00 LT
N = 3337242.58
E = 4846283.51
DELTA = 45°26'31"

15° RAD. PT.
33+39.82 11+85.63
N = 3337587.95
E = 4840487.97
DELTA = 20°36'59"

1/2"OVERLAY

264

260

274

20° RAD. PT.
10+12.74 40.00 RT
N = 33377998.82
E = 4839680.24

PT = 11+91.93

1106

1109

1192

17+19.65

9+12.04

20° RAD. PT.
33+80.00 51.00 LT
N = 3337562.04
E = 4846232.72
DELTA = 30°29'49"

20° RAD. PT.
34+37.78 51.00 LT
N = 33376113.66
E = 4846375.70

15° RAD. PT.
20+52.24 46.00 LT
N = 3337242.58
E = 4846283.51
DELTA = 45°26'31"

15° RAD. PT.
33+39.82 11+85.63
N = 3337587.95
E = 4840487.97
DELTA = 20°36'59"

1/2"OVERLAY

264

260

274
SILO FENCE DETAILS

TO PROTECT AREAS FROM SHEET FLOW
(SEE SPEC. 3886)

SILT FENCE

LENGTH POST AT 6 FT. MAX. SPACING
STAPLES
GEO TEXTILE FABRIC, 36" WIDE
FABRIC ANCHORAGE
ANCHOR BACKFILL
WITH TAMPER SOIL

DIRECTION OF
RUNOFF FLOW

PREASSEMBLED, MAINTAINED

EROSION CONTROL NOTES

(revised 03/07/03)

1. MNDOT STD SPEC. 1803.5, EROSION CONTROL SHALL APPLY ALONG WITH THE CITY OF DULUTH, CONTRACTOR WILL BE CO-PERMITTEE FOR THE MPCE NPDES STORMWATER CONSTRUCTION PERMIT FOR THIS PROJECT — CONTRACTORS SIGNATURE ON PERMIT IS REQUIRED UPON RECEIVING LETTER OF INTENT (LOI)

SUBMIT INITIAL EROSION CONTROL (EC) SCHEDULE AT PRECON. SUBMIT EC SCHEDULE ALTERATIONS/ADJUSTMENTS WEEKLY THEREAFTER FOR ENGINEERS APPROVAL. GRUBBING AND GrADING SHALL BE SCHEDULED TO MINIMIZE EXPOSURE TO EROSION.

2. THE CONTRACTOR IS RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL ON THIS PROJECT. CONTRACTOR SHALL PLACE OR OTHERWISE CONSTRUCT EROSION CONTROL AND SEDIMENT CONTAINMENT DEVICES TO PREVENT THE RUNOFF, TRACKING OR LOSS OF SEDIMENT FROM DISTURBED AREAS OF THE PROJECT SITE. EXPOSED AREAS SHALL DRAIN TO PROTECTED BASINS OR SILO FENCE.

A. SEDIMENT AND EROSION CONTROL DEVICES SHALL BE FUNCTIONAL BEFORE SITE IS DISTURBED.

5. TOTAL DISTURBED AREA IS 3.2 ACRES. BEGINNING IMPERVIOUS IS 3.2 ACRES. NEW IMPERVIOUS IS 3.0 ACRES. TOTAL CHANGE IN IMPERVIOUS IS 6.3%.

6. RECEIVING WATER IS LAKE SUPERIOR.

7. THE SURFACE OF STRIPPED AREAS SHALL BE PERMANENTLY OR TEMPORARILY PROTECTED FROM SOIL EROSION IF NOT WORKED WITHIN 7 DAYS. USE PINNED EROSION CONTROL BLANKET (OVER SEED/FERTILIZER) OR APPROVED EQUAL.

8. THE FOLLOWING CONTROLS WILL BE IMPLEMENTED AT THE CONSTRUCTION SITE:

A. EROSION AND SEDIMENT CONTROLS
   - EROSION CONTROL BLANKETS SHALL BE USED ON ALL SLOPES 1:3 OR STEEPER AND OVER 5 FEET HIGH AND TO A 10 FOOT WIDTH IN ALL DITCH BOTTOMS.
   - PERMANENT VEGETATION WILL BE ESTABLISHED AFTER TOPSOIL IS REPREATED.
   - SILO FENCES WILL PREVENT SEDIMENT FROM DISCHARGING FROM SITE.
   - TRIANGULAR DITCH CHECKS, OR APPROVED EQUAL, WILL REDUCE VELOCITIES AND REDUCE EROSION IN DITCHES.
   - STORM INLETS AND OUTLET ARROWS SHALL BE PROTECTED WITH SEDIMENT CONTAINMENT DEVICES.
   - STABILIZED CONSTRUCTION ENTRANCE TO REDUCE SEDIMENT TRACKING.

9. ALL SLOPES AND DITCHES SHALL BE STABILIZED PRIOR TO OPENING NEW CULVERTS INTO EXISTING DRAINAGE WAYS.

10. IF ANY STOCKPILE IS TO REMAIN IN PLACE FOR MORE THAN 3 DAYS, SEDIMENT AND EROSION CONTROL DEVICES SHALL BE USED.

11. WATER PUMPED OR OTHERWISE DISCHARGED FROM THE SITE DURING CONSTRUCTION Dewatering SHALL BE DIRECTED TOWARD SEDIMENT CONTAINMENT OR FILTERING DEVICE.

12. THE CONTRACTOR SHALL TAKE ALL POSSIBLE PRECAUTIONS TO PREVENT APPRECIABLE SOIL TRACKING ONTO ROADWAYS.

13. STABILIZED CONSTRUCTION ENTRANCE(S) SHALL BE REMOVED AND AREA RESTORED AFTER GRADING IS COMPLETE.

14. THE CONTRACTOR SHALL MAINTAIN THE SEDIMENT AND EROSION CONTROL MEASURES UNTIL THE SITE IS STABILIZED IN ACCORDANCE WITH MNDOT 1803.5. CONTRACTOR QC PROGRAM SHALL ENSURE ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE ROUTINELY INSPECTED AND LOGGED INCLUDING AFTER EACH RAIN EVENT. ALL NONFUNCTIONAL DEVICES SHALL BE REPAIRED OR REPLACED OR CLEANED WITH NO ADDITIONAL COMPENSATION MADE THEREFOR.

NO PLAN CHANGES

CERTIFIED BY EDWARD H. FRENCH
REG NO. 11785 DATE

PIEDMONT AVE. / W. SUPERIOR ST. MALL AND OVERLAY
EROSION CONTROL
STATE AID PROJECT NO. 118-189-15 (MTB) CITY PROJECT NOS. 0093TR,0094TR SHEET NO. 24 OF 29 SHEETS
GENERAL CONSTRUCTION REQUIREMENTS

EPOXY

The road surface shall be cleaned at the direction of the engineer just prior to application. Pavement cleaning shall consist of at least brushing with a rotary broom (non-metallic), or as recommended by the material manufacturer and acceptable to the engineer. New Portland cement concrete surfaces shall be sandblasted cleaned to remove any surface treatments and/or water. On low speed (speed limit 35 or less) urban Portland cement concrete roadways, sandblasting cleaning shall be used for all epoxy pavement markings.

The epoxy marking application shall immediately follow the pavement cleaning. Glass beads shall be applied immediately after application of the epoxy resin line to provide an immediate no-track system.

An epoxy resin line 4 inches wide and 15 mill thickness (net), requires an application rate of one (1) gallon of components per 320 feet of line. Glass beads shall be applied at a pound per gallon rate sufficient to achieve an acceptable no-track system.

Operations shall be conducted only when the road surface temperatures are 50 degrees F or greater.

Permanent pavement markings shall not be placed over temporary markings except when specified in specifications or special provisions.

LOCATION

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>4&quot; SOLID LINE WHITE EPOXY</th>
<th>4&quot; BROKEN LINE WHITE EPOXY</th>
<th>4&quot; DOUBLE SOLID YELLOW EPOXY</th>
<th>CROSSWALK MARKING EPOXY</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIEDMONT AVENUE</td>
<td>2564.603</td>
<td>2564.603</td>
<td>2564.603</td>
<td>2564.610</td>
</tr>
<tr>
<td>1ST. ST. TO SUPERIOR ST.</td>
<td>1477 1056</td>
<td></td>
<td></td>
<td>1477 500</td>
</tr>
<tr>
<td>GARFIELD AVENUE</td>
<td>260 478</td>
<td>240 0</td>
<td></td>
<td>260 133</td>
</tr>
<tr>
<td>BRIDGE TO SUPERIOR ST.</td>
<td>240 2426</td>
<td>240 480</td>
<td></td>
<td>240 1289</td>
</tr>
<tr>
<td>SUPERIOR STREET</td>
<td>2307</td>
<td>2858</td>
<td></td>
<td>2307 612</td>
</tr>
<tr>
<td>GARFIELD TO MICH. ST.</td>
<td>240 2426</td>
<td>240 480</td>
<td></td>
<td>240 1289</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3959</td>
<td>480</td>
<td>1916</td>
<td>612</td>
</tr>
</tbody>
</table>

RECORD DRAWING

CERTIFIED BY EDWARD H. FROCH

REG. NO. 11795 DATE

PAVEMENT MARKINGS

STATE AID PROJECT NO. 119-109-13 (MB) CITY PROJECT NOS. 9939TR 9994TR SHEET NO. 26 OF 29 SHEETS
PEDESTRIAN INDICATION MODIFICATIONS

EXISTING 12" "WALK" "DON'T WALK" ROTATE BOTTOM PED INDICATION
NEW 12" "HAND / WALKING MAN"
NEW PEDESTRIAN PUSH BUTTON

TRAFFIC SIGNAL MODIFICATIONS
1. MODIFY PEDESTRIAN INDICATORS AS SHOWN WITH
NEW LED HAND/WALKING MAN INDICATORS
2. WIRE FOR FUTURE EIV AS SHOWN AND
FUTURE EIV LIGHT
3. FURNISH AND INSTALL NEW VIDEO DETECTION
SYSTEM AS SHOWN
4. FURNISH AND INSTALL NEW CONTROLLER AND CABINET
ON EXISTING CONCRETE BASE
5. FURNISH AND INSTALL NEW 4 HOPE IN 5"X5" FROM M1 #6 TO M1 #8
AND FROM M1 # 8 TO THE CONTROLLER CABINET
6. FURNISH AND INSTALL TWO NEW PEDESTRIAN PUSH BUTTONS

RECORD DRAWING

CERTIFIED BY: EDWARD M. FRENCH

NOTE:
1. ALL CAMERA DETECTION DEVICES SHALL BE FURNISHED AND
INSTALLED BY THE CONTRACTOR
2. THE CONTRACTOR SHALL PROVIDE ALL CABLES AND INSTALL
CAMERAS ON LUMINAIRE EXTENSIONS AS PER DETAIL
3. THE CONTRACTOR SHALL RUN ONE CONTINUOUS PULL (WITHOUT
SPlices) OF 5/16" PR NO. 16 CABLE BETWEEN THE TRAFFIC SIGNAL
BASE AND THE TRAFFIC SIGNAL CONTROLLER CABINET FOR EACH CAMERA.
4. CABLES FOR CAMERA OPERATION SHALL MEET THE FOLLOWING:
SPECIFICATION: "BELDEN 5/16" PR NO. 16 CABLE #46262"
5. CAMERA CABLE AND 5/16" PR NO. 16 CABLE SHALL BE SPLICE IN EACH
SIGNAL BASE BY EACH WIRE BEING A TWISTED OVERLAP, SOLDERED
INDIVIDUALLY INSULATED AND THE ENTIRE SPlice HEAT SHRINK
JACKETED