## Concrete Base

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<td>V1 &amp; V2 Poured in Place Concrete Bases</td>
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<td>Maximum Pole Base Loading</td>
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**DRAWING INDEX**  
CONCRETE BASE

**ISSUE DATE**: SEPTEMBER 2018  
**APPROVED BY**: D. EPA
BASE TYPE (i.e. V1 or V2) SHALL BE
IMPRINTED IN CONCRETE WITH 25mm
HIGH LETTERS. LOCATE IMPRINT SO IT
IS VISIBLE AFTER POLE INSTALLATION.

B (ANCHOR BOLT CIRCLE)
F (ANCHOR BOLTS)

SERVICE PILASTER AND STANDING PAD
(WHERE SERVICE PANEL IS REQUIRED)

CONCRETE SHALL HAVE ATTAINED
A COMPRESSIVE STRENGTH OF 30MPa
PRIOR TO POLE INSTALLATION.

SEE DRAWING CE1.2
FOR REBAR DETAILS.

VOLUME OF APPROXIMATE
CONCRETE MASS

BASIS TYPE
POLE TYPE
A
B
C
D
E
F (ANCHOR BOLTS)
VOLUME OF
CONCRETE
APPROXIMATE
MASS
V1
3.0m TRAFFIC SIGNAL POLES & TYPE 4A SIGNAL POSTS
197
280
350
1300
600
4-25mm x 915mm LONG AISI / SAE 4140 BOLTS
0.43 m³
1080 kg
V2
TYPE 5 SHAFTS & 7.5m POST TOP LUMINAIRE POLES & 7.6m, 9.1m DAVIT LUMINAIRE POLES
197
280
350
1800
600
4-25 mm x 915mm LONG AISI / SAE 4140 BOLTS
0.61 m³
1530 kg

NOTES:
1. REFER TO CONTRACT DRAWINGS, MMCD AND CITY CONSTRUCTION SPECIFICATIONS FOR FURTHER INFORMATION.
2. BASES TO BE IMPRINTED WITH DATE AND BASE TYPE ON TOP OF PEDESTAL.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.

SCALE: N.T.S.

CONCRETE BASES
V1 & V2 POURED IN PLACE CONCRETE BASES
CONCRETE BASES

V1 & V2 POURED IN PLACE CONCRETE BASES
DATE & BASE TYPE (I.E. 'V3', 'V4' OR 'V5') SHALL BE IMPRINTED IN CONCRETE WITH 25mm HIGH LETTERS. LOCATE IMPRINT SO IT IS VISIBLE AFTER POLE INSTALLATION

CONCRETE SHALL HAVE ATTAINED A COMPRESSIVE STRENGTH OF 30MPa PRIOR TO POLE INSTALLATION

SEE DRAWING CE1.4 FOR REBAR DETAILS.

CONCRETE BASE

<table>
<thead>
<tr>
<th>BASE TYPE</th>
<th>POLE TYPE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D (ANCHOR BOLTS)</th>
<th>VOLUME OF CONCRETE</th>
<th>APPROXIMATE MASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>V3</td>
<td>TYPE 1 AND 3 SHAFTS</td>
<td>197</td>
<td>280</td>
<td>80</td>
<td>4-25mm x 915mm GALVANIZED AISI / SAE 4140 BOLTS</td>
<td>2.08 m³</td>
<td>5206 kg</td>
</tr>
<tr>
<td>V4</td>
<td>TYPE S POLES</td>
<td>243</td>
<td>343</td>
<td>160</td>
<td>4-25mm x 1220mm GALVANIZED GRADE 150 DYWIDAG BOLTS PRE-ASSEMBLED IN A CAGE</td>
<td>2.37 m³</td>
<td>5925 kg</td>
</tr>
<tr>
<td>V5</td>
<td>TYPE L POLES</td>
<td>276</td>
<td>390</td>
<td>140</td>
<td>4-38mm x 1370mm GALVANIZED AISI / SAE 4140 BOLTS PRE-ASSEMBLED IN A CAGE</td>
<td>2.37 m³</td>
<td>5925 kg</td>
</tr>
</tbody>
</table>

NOTES:
1. REFER TO CONTRACT DRAWINGS, MMCD AND CITY CONSTRUCTION SPECIFICATIONS FOR FURTHER INFORMATION.
2. BASES TO BE IMPRINTED WITH DATE AND BASE TYPE ON TOP OF PEDESTAL.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.

CONCRETE BASES

ISSUE DATE: SEPTEMBER 2018
APPROVED BY: D. EPA

SCALE: N.T.S.
D (ANCHOR BOLTS)

B (ANCHOR BOLT CIRCLE)

'V' GROOVE DRAIN TO START AT ZERO DEPTH AND WIDTH IN THE CENTRE OF THE BASE AND EXTEND TO A 10mm DEPTH AND WIDTH AT THE OUTSIDE EDGE (ORIENT IN THE SAME DIRECTION AS CONDUIT)

LOCATE CONDUITS IN THE CENTRE OF ANCHOR BOLT CIRCLE

COIL 900mm OF GROUND CONDUCTOR

NUTS AND WASHERS ARE SUPPLIED WITH POLE BOLT KITS.

TROWEL FINISH TOP AND CHAMFER EDGES

50 (UNLESS OTHERWISE NOTED)

PROVIDE AT LEAST 900mm GROUND WIRE LOOP

1-53mm DB2 (ORANGE)

27mmØ RPVC

300

150

600

20mm CHAMFERED EDGE (TYPICAL)

CONDUIT SHALL EXTEND 100mm ABOVE TOP OF CONCRETE RPVC COUPLING (TYPICAL)

FINISHED GRADE

2 x 53mm DB2 CONDUIT (ORANGE)

2 x 53mm RPVC CONDUIT (UNLESS OTHERWISE NOTED) - 6 MAX.

11-10M REINFORCING STEEL TIES (TYPICAL) SPACED AT 100

8-25M REINFORCING STEEL BARS (3 EACH FACE) EQUALLY SPACED (TYPICAL)

4 ANCHOR BOLTS IN CAGE

12-20M REINFORCING STEEL BARS (4 EACH FACE) EQUALLY SPACED TYPICAL

5-10M REINFORCING STEEL TIES (TYPICAL) SPACED AT 340

MINIMUM 75mm COVER, ALL OTHER REINFORCING STEEL SHALL HAVE MINIMUM 50mm COVER.

NOTE:
1. SEE DRAWING CE1.3 FOR NOTES AND ADDITIONAL DETAILS.
2. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED.
DATE & BASE TYPE SHALL BE IMPRINTED IN CONCRETE WITH 25mm HIGH LETTERS. LOCATE IMPRINT SO IT IS VISIBLE AFTER POLE INSTALLATION.

CONCRETE SHALL HAVE ATTAINED A COMPRESSIVE STRENGTH OF 30MPa PRIOR TO POLE INSTALLATION.

SEE DRAWING CE1.6 FOR REBAR DETAILS.

### BASE TYPE POLE TYPE ANCHOR BOLTS VOLUME OF CONCRETE APPROXIMATE MASS

<table>
<thead>
<tr>
<th>BASE TYPE</th>
<th>POLE TYPE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>ANCHOR BOLTS</th>
<th>VOLUME OF CONCRETE</th>
<th>APPROXIMATE MASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>V6</td>
<td>TYPE M POLES</td>
<td>762</td>
<td>2700</td>
<td>2500</td>
<td>1200</td>
<td>ANCHOR BOLTS SHALL BE INCLUDED (6-38mm GALVANIZED AISI/SAE 4140 BOLTS SHALL BE SUPPLIED IN PRE-ASSEMBLED CAGE)</td>
<td>3.69 m³</td>
<td>9221 kg</td>
</tr>
</tbody>
</table>

**NOTES:**
1. REFER TO CONTRACT DRAWINGS, MMCD AND CITY CONSTRUCTION SPECIFICATIONS FOR FURTHER INFORMATION.
2. BASES TO BE IMPRINTED WITH DATE AND BASE TYPE ON TOP OF PEDESTAL.
3. SEE PLANS FOR SIGNAL/SIGN ARM ORIENTATION.
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.

**SCALE:** N.T.S.
THE TOP OF THE CONCRETE BASE MAY BE LOCATED UP TO 100mm OFF CENTER

1 x 53mm DB2 COUPLING (ORANGE)
2 x 53mm RPVC COUPLING (TYPICAL)

20mm CHAMFERED EDGE (TYPICAL)

RPVC/DB2 CONDUIT (ORANGE) (UNLESS OTHERWISE NOTED) LOCATE IN THE CENTRE OF ANCHOR BOLT CAGE

CONDUIT SHALL EXTEND 100mm ABOVE TOP OF CONCRETE RPVC COUPLINGS (TYPICAL)

PLAN VIEW

CONCRETE BASES
V6 POURED IN PLACE CONCRETE BASE

ELEVATION

SCALE: N.T.S.

NOTE:
1. SEE DRAWING CE1.5 FOR NOTES AND ADDITIONAL DETAILS.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.

CITY OF VANCOUVER
STANDARD DETAIL DRAWINGS
ENGINEERING SERVICES - VANCOUVER, B.C.
DRAWING No. CE1.6

CONCRETE BASES
V6 POURED IN PLACE CONCRETE BASE

ISSUE DATE: SEPTEMBER 2018
APPROVED BY: D. EPA

REV. REVISION DATE APPROVED

12-20M REINFORCING BARS (4 EACH FACE) EQUALLY SPACED (TYPICAL)

SIGNS / SIGN ARM ORIENTATION

ANCHOR BOLT CAGE

"V" GROOVE DRAIN TO START AT ZERO DEPTH AND WIDTH IN THE CENTRE OF THE BASE AND EXTEND TO A 10mm DEPTH AND WIDTH AT THE OUTSIDE EDGE (ORIENT IN THE SAME DIRECTION AS CONDUIT)

COIL 900mm OF GROUND CONDUCTOR

TROWEL FINISH TOP & CHAMFER EDGES

50 (UNLESS OTHERWISE NOTED)

FINISHED GRADE

4-10M REINFORCING STEEL TIES AROUND ANCHOR BOLTS (TYPICAL) SPACED AT 100

GALVANIZED ANCHOR BOLTS IN CAGE

2 x 53mm RPVC CONDUIT (UNLESS OTHERWISE NOTED)

2 x 53mm DB2 CONDUIT (ORANGE) (UNLESS OTHERWISE NOTED) - 5 MAXIMUM

7-10M REINFORCING STEEL TIES (TYPICAL) SPACED AT 400

MINIMUM 75mm COVER ON BOTTOM. ALL OTHER REINFORCING SHALL HAVE MINIMUM 50mm COVER.

NATIVE SOIL SEPARATION REQUIRED AROUND GROUND PLATE:
- 300mm BETWEEN CONCRETE BASE AND PLATE
- 150mm ON TOP, BOTTOM AND SIDE

PROVIDE AT LEAST 900mm GROUND WIRE LOOP

27mmØ RPVC

SCALE: N.T.S.
<table>
<thead>
<tr>
<th>Type of Base</th>
<th>Depth (m)</th>
<th>Type of Pole</th>
<th>Attachments</th>
<th>Factored Load (kN, m)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fx</td>
</tr>
<tr>
<td>V1</td>
<td>1.3</td>
<td>3m Traffic Signal Pole</td>
<td>2-Ped Heads, 1-Secondary Head, 8x8x8x12&quot;</td>
<td>0.5</td>
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<tr>
<td></td>
<td></td>
<td>Type 4A Signal Post</td>
<td>2-Ped Signals, 1-Signal Head, 8x8x8&quot;</td>
<td>0.65</td>
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<tr>
<td></td>
<td></td>
<td>Type 5 Shaft</td>
<td>1-Primary Head, 3x12&quot;</td>
<td>0.65</td>
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<tr>
<td>V2</td>
<td>1.8</td>
<td>7.6m Single Davit Pole SL</td>
<td>2-32&quot;x60&quot; Banners, 2-Secondary Street Signs (8&quot;x48&quot;)</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.6m Single Davit Pole TS</td>
<td>2-32&quot;x60&quot; Banners, 1-Secondary Head, 8x8x8x12&quot;</td>
<td>1.04</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9.1m Single Davit Pole SL</td>
<td>2-32&quot;x60&quot; Banners, 1-Secondary Street Signs (8&quot;x48&quot;)</td>
<td>1.3</td>
</tr>
<tr>
<td>V3</td>
<td>2.0</td>
<td>9.1m Single Davit Pole TS</td>
<td>2-Pedestrian Signs, 1-Secondary Head, 8x8x8&quot;</td>
<td>1.17</td>
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<tr>
<td></td>
<td></td>
<td>Type 1 Shaft</td>
<td>2-Pedestrian Signs, 1-Secondary Head, 8x8x8x12&quot;</td>
<td>1.8</td>
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<tr>
<td></td>
<td></td>
<td>Type 3 Shaft</td>
<td>1-Primary Signal Head, 3x12&quot;</td>
<td>1.5</td>
</tr>
<tr>
<td>V4</td>
<td>2.2</td>
<td>Type S</td>
<td>1-Primary Signal Head, 3x12&quot;</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Type L</td>
<td>1-Secondary Head, 8x8x8x12&quot;</td>
<td>3.2</td>
</tr>
<tr>
<td>V5</td>
<td>2.2</td>
<td>Type M</td>
<td>1-Secondary Head, 8x8x8x12&quot;</td>
<td>4.1</td>
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</tbody>
</table>

**CONCRETE BASES**

**MAXIMUM POLE BASE LOADING**

**ISSUE DATE:** SEPTEMBER 2018

**APPROVED BY:** D. EPA