Volume 3 of the Ontario Provincial Standard Drawings (OPSD), and the current City of London Standard Drawings, are amended as follows:

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NOTES:

A The required clearance 'x' between the utility and the ducts or concrete encasement is:

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<tr>
<td>All other cables</td>
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B Trench widths shall be kept to the minimum required for working space. Manual excavation and backfill methods shall be used, with the utility supported in place where required, where crossing under a utility is necessary.

C All dimensions are in millimetres or metres unless otherwise shown.
UNDOWELLED TREATMENT, Note 2

DOWELLED TREATMENT, Note 1

COMPOSITE OR CONCRETE PAVEMENT

NOTES:

BITUMINOUS PAVEMENT

1 Dowelled treatment is only required in existing concrete pavement or concrete base which contain load transfer devices. Dowels shall be 32mm dia, 450mm long, epoxy coated, installed at 300mm intervals at mid depth of the concrete slab, in plane to the pavement surface, parallel to the centre line of the road and set 225mm in 35mm holes with epoxy grout.

2 Undowelled treatment is only required in existing concrete pavement or concrete base which is constructed without load transfer devices at joints. Aggregate interlock is created by chipping the vertical concrete face with a light 15kg maximum pneumatic hammer.

3 The initial saw cut shall be full depth. The secondary saw cut shall be 1/4 of existing pavement depth with 25mm of chipping for aggregate interlock.

4 Where existing pavement depth is between 80mm and 120mm the 300mm wide stepped joint shall be 40mm deep.

5 In rock, the ducts shall be placed on 150mm sand bedding.

6 Bituminous pavement restoration to match existing type unless otherwise specified. The surface and top binder courses shall be placed in 40mm lifts, with other lifts placed at 80mm maximum.

A All voids below the pavement shall be filled with granular 'A' backfill.

B All dimensions are in millimetres unless otherwise shown.
Rigid duct coupling where applicable

Styrofoam bedding

12mm thick x 250mm long neoprene sleeve c/w 4 stainless steel band straps

Concrete structure Note 1

SECTION A–A

Rigid duct direct buried Note 2

PLAN

DETAIl A

WOBBLE JOINT

NOTES:

1. Concrete structures include bridge structure, concrete footing, electrical maintenance hole, concrete duct bank, concrete vault, etc.
2. For number, sizes and orientation of ducts refer to contract drawings.
3. All dimensions are in millimetres unless otherwise shown.
Finished grade

Duct access

Concrete encasement

Steel reinforcement

Bottom of knock-out for precast or 300mm above floor for poured

Electrical maintenance hole

RIGID DUCTS, CONCRETE ENCASED

NOTES:
1 Grout to be placed full depth, flush with both walls.
2 Grout to be placed within steel pipe, around all ducts, to a minimum depth of 75mm.
A All dimensions are in millimetres or metres unless otherwise shown.
NOTES:
1 For duct entry details see STS-1.06.
2 For handholes with metal frames, ground wire shall be attached to frame using a ground lug suitable for #6 AWG stranded copper wire.
3 For handholes with metal covers and non metallic frames, the ground wire shall be attached to the handhole cover using a ground lug suitable for #6 AWG copper wire.

A All dimensions are in millimetres unless otherwise shown.
NOTES:
1 Duct entry holes to be filled with grout, full depth, flush with both walls.
2 Rigid ducts terminating in maintenance holes, handholes, or other permanent openings of underground systems shall be provided with an end bell. Rigid ducts entering the bottom of handholes shall be fitted with RPVC coupling.
A For installation details see STS-1.05.
B All dimensions are in millimetres unless otherwise shown.
NOTES:
1. TOP OF SERVICE BOX SHALL BE LEVEL TO CONFORM TO FINISHED GRADE.
2. ALL DUCTS USED IN OPEN CUT INSTALLATION TO BE RIGID PVC CONDUITS.
3. END OF ALL DUCTS MUST BE CAPPED UNTIL WIRES PULLED.
4. BACKFILL UNDER ROAD AND IN ISLAND TO BE GRANULAR.
5. BACKFILL IN BOULEVARDS TO BE SELECTED EXCAVATED MATERIAL AS SPECIFIED IN SPECIFICATIONS.
6. ALL DUCTS MUST BE FREE AND CLEAR OF ALL DEBRIS AND OBSTRUCTIONS (DIRT, STONE, ETC.)
7. CONTRACTOR TO SUPPLY AND PLACE 5mm POLYPROPYLENE FISH ROPE IN ALL DUCTS.
8. CONTRACTOR TO SUPPLY AND INSTALL GROUND ROD/PLATE AND CONNECTOR IN ALL NEW SERVICE BOXES WHERE INDICATED IN CONTRACT.
9. END OF ALL DUCTS MUST HAVE RPVC COUPLINGS INSTALLED.
10. 75mm INSPECTION CONDUIT REQUIRED FOR GROUND ROD/PLATE CONNECTION OUTSIDE OF HANDHOLE.
11. SERVICE BOXES AND COVERS SHALL MEET ANSI/SCTE77-2007 TIER 15 LOAD RATING.
12. ALL SERVICE BOXES SHALL HAVE SELF TAPPING STAINLESS STEEL HEX BOLTS WITH WASHERS AND GROMMETS.
13. FOR APPROVED MANUFACTURES SEE APPROVED MANUFACTURES LIST IN SUPPLEMENTAL STANDARDS DOCUMENT.

CITY OF LONDON STANDARD DRAWING

PREFABRICATED SERVICE BOX ASSEMBLIES
NOTES:
A. BOXES SHALL BE STACKABLE CONCRETE COMPOSITE TYPE ONLY.
B. BOXES AND COVER SHALL MEET ANSI/SCITE 77-2007 TIER 15 LOAD RATING.

CITY OF LONDON STANDARD DRAWING
TYPICAL LOOP AND STREET LIGHTING JUNCTION BOX

DWG STS-1.08 DATE 2014-08-18 APPROVED BY CITY ENGINEER
PLAN

SECTION A-A

NOTES:
1 For duct installation details see STS-1.05.
A For general installation details see STS-1.04.
B All dimensions are in millimetres unless otherwise shown.

FINISHED GRADE

FRAME WITH COVER OPSD-401.010, TYPE A, OR OPSD-401.030 IF THE HANDHOLE IS IN A PAVED SHOULDER

10MM MIN 75MM MAX CEMENT MORTAR FOR ADJUSTMENT

PRECAST CONCRETE

125MM DIA HOLES FOR DUCT ENTRY, 4 REQUIRED, NOTE 1

WWF CIRCULAR STEEL 250MM²/M

DUCT ENTRY HOLE
NOTE 1

CITY OF LONDON STANDARD DRAWING

ELECTRICAL HANDHOLE

PRECAST CONCRETE - 600 X 600MM

APPROVED BY CITY ENGINEER
3. HANDHOLE MAY IN CERTAIN CASES BE PLACED IN FRONT OF POLE BASE (APPROVAL REQUIRED BY TRAFFIC SIGNAL TECHNOLOGIST)

4. CENTRE OF SIGNAL POLE SHALL NOT EXCEED 5.0m FROM THE CONCRETE BULL NOSE OR BE LESS THAN 3.0m FROM CONCRETE BULL NOSE (APPROVAL REQUIRED FROM TRAFFIC SIGNAL TECHNOLOGIST IF OUTSIDE OF THESE DIMENSIONS)

NOTES
1. CONTRACTOR TO SUPPLY AND PLACE 5.0mm POLYPROPYLENE FISH STRING IN ALL CONDUITS.
2. DIMENSIONS IN mm EXCEPT AS NOTED.
3. HANDHOLE MAY IN CERTAIN CASES BE PLACED IN FRONT OF POLE BASE (APPROVAL REQUIRED BY TRAFFIC SIGNAL TECHNOLOGIST)
4. CENTRE OF SIGNAL POLE SHALL NOT EXCEED 5.0m FROM THE CONCRETE BULL NOSE OR BE LESS THAN 3.0m FROM CONCRETE BULL NOSE (APPROVAL REQUIRED FROM TRAFFIC SIGNAL TECHNOLOGIST IF OUTSIDE OF THESE DIMENSIONS)
NOTES:
1. For offset and burial depth, see contract drawings.
2. Top elevation of handhole shall be measured from the highest grade elevation.

A All dimensions are in millimetres or metres unless otherwise shown.
TRAFFIC SIGNAL POLE
CONNECTED TO HH BY 2-75mm
RIGID PVC TYP.
ADDITIONAL CONDUIT MAY BE
REQUIRED FOR STREETLIGHTING

HH — ELECTRICAL HANDHOLE

DUCT COLOUR CODING
SPRAY PAINT DUCT ENDS

DUCT CROSSINGS:
NORTH/SOUTH — GREEN
EAST/WEST — ORANGE
TO POLES — YELLOW
TO CONTROLLER — BLACK

CITY OF LONDON STANDARD DRAWING

TYPICAL DUCT CONFIGURATION

DWG STS-1.12 DATE 2014-08-18 APPROVED BY CITY ENGINEER
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<th>Side Rd. F4PB or F8PB</th>
<th>Side Rd. F4PB or F8PB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>Black</td>
<td>Side Rd. F4PB or F8PB</td>
<td>Side Rd. F4PB or F8PB</td>
</tr>
</tbody>
</table>

CITY OF LONDON STANDARD DRAWING

CABLE ASSIGNMENT FOR TRAFFIC SIGNAL CONTROL

DWG STS-2.02 DATE 2017-11-02 APPROVED BY CITY ENGINEER
NOTES:

1. 7 conductor riser cable to be installed to all traffic signal heads.
2. Riser cable connection to be made to the designated conductor in the cable group as indicated in the contract drawings, together with connection to the outgoing conductor.
3. 5-conductor riser cable to be installed to all pedestrian signal heads.
   A. For traffic signal cable groups, abbreviations and colour coding, refer to contract drawings.
   B. Details shown are typical only. For multiple equipment installations on the same pole, maintain riser cable type and colour coding and connect to the designated conductors shown on the contract drawings.
   C. Green conductors ‘with yellow tracer’ used as ground shall be tagged ‘Ground’ in the pole handhole or junction box.
   D. Unused conductors of signal head riser cables (from the pole handhole) shall be terminated with insulated spring type connectors. Use one spare conductor for ground connection as shown.
   E. All handhole connections and terminations shall be made with insulated spring type connectors. Bundle and tape groups of connectors neatly in the pole handhole. Leave a 1500mm loop of each cable coiled in the nearest handhole and a 500mm loop in each pole handhole.
   F. All conductors designed as ground shall be grounded in the signal head and at the pole ground stud. A #6 AWG type RWU (GREEN) system ground wire shall be run contiguously through the system and connected to each pole ground stud.

---

CITY OF LONDON STANDARD DRAWING

TRAFFIC SIGNAL EQUIPMENT – POLE WIRING DIAGRAM

DWG STS-2.03  DATE  2009-10-16  APPROVED BY CITY ENGINEER
NOTES:

1. Number of ground rods and size of ground wire shall be as indicated in the contract.

A. The meter base (if required) shall be bonded in conformance with the requirements of the Electrical Safety Authority. Meter base shall be placed on the side of the pole that is most accessible to the supply authority.

B. All dimensions are in millimetres unless otherwise shown.
EQUIPMENT LAYOUT

DEAD FRONT 'A'

DEAD FRONT 'B'

SCHEMATIC WIRING DIAGRAM

Incoming supply 120/240 Volt

Photoelectric Controller

To Traffic Signal Controller

To Highway Lighting

ELECTRICAL EQUIPMENT LIST

1. Main circuit breaker – 240V, 100A, 2-pole.
   (ampacity as indicated elsewhere in the contract).
7. Branch circuit breakers – 240V, 1-pole (number of breakers and ampacity as indicated elsewhere in the contract.)
8. Solid neutral assembly – 100A minimum.
9. Ground lug for #6 AWG stranded copper ground wire.
10. Ground lug for #2/0 AWG stranded copper ground wire.
12. Drip shield.
13. Secondary neutral and ground bus according to CSA and project requirements.
14. Primary barrier. (see note c)
15. Secondary barrier. (see note c)
17. #6 AWG RWU90 wire.
18. #12 AWG RWU90 wire.

LEGEND:

- Denotes terminal connection.
- Denotes #3, #4, or #6 AWG RWU90 wire.
- Denotes #12 AWG RWU90 wire.
- Denotes field wiring (sizes are indicated elsewhere on the contract drawings).

Ground Bus.

NOTE:

A: This standard is read in conjunction with STSs 3.03, 3.04, 3.05, 3.06, 3.07 and MTOD-2440.061.
B: All control wiring to be 12 AWG RWU90.
C: Both cable guards extend beyond upper deadfront by 13mm.
# BILL OF MATERIALS

<table>
<thead>
<tr>
<th>Item No.</th>
<th>QTY.</th>
<th>Description</th>
<th>Manufacturer</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Main Breaker 100A 2P</td>
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<td>BAB 2100</td>
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<td>1</td>
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<td>BAB 2060</td>
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<td>Traffic Signal Brkr. 50A 1P</td>
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<td>BAB 1050</td>
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<td>BAB 1015</td>
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<td>1</td>
<td>Photo Electric Cont. Bkr. 15A 1P</td>
<td>CH</td>
<td>BAB 1015</td>
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<tr>
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<td>1</td>
<td>Lighting Contactor 65A 3P</td>
<td>XBTE066D000A</td>
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<tr>
<td>7</td>
<td>4</td>
<td>Branch Circuit Breakers 30A 1P</td>
<td>CH</td>
<td>BAB 1030</td>
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<tr>
<td>8</td>
<td>1</td>
<td>Solid Neutral Assembly 100A</td>
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<td>N100</td>
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<tr>
<td>9</td>
<td>1</td>
<td>Secondary Lightning Arrestor</td>
<td>GE</td>
<td>9L15ECB001</td>
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</tbody>
</table>

**NOTES:**

A – This unit is available less contactor and with alternate breakers.

B – Unit weight: 45 Kg

C – Cabinet comes complete with lamicoid type 3S nameplate see details below (Located inside door)

---

(MANUFACTURER)

TYPE 3S
LONDON.
TBA
120/240 VOLT.
100 AMP
(DATE OF MANUFACTURE)

---

CITY OF LONDON STANDARD DRAWING
SUPPLY CONTROL CABINET ASSEMBLY TYPE 3S
EQUIPMENT LIST

| DWG STS-3.03 | DATE 2009-10-16 | APPROVED BY CITY ENGINEER |
Cover Plate
Note 1 (Typ.)

Top View

Front View

Back View

Side View

Bottom View

Plan View

Side View

Cover Plate Detail

NOTES:
1. All plates shall be the same size.

A. All dimensions are in millimetres with tolerances ±3 unless otherwise shown.

CITY OF LONDON STANDARD DRAWING
SUPPLY CONTROL CABINET ASSEMBLY TYPE 3S ENCLOSURE

DWG STS-3.04 DATE 2010-09-07 APPROVED BY CITY ENGINEER
A. All dimensions are in millimeters with tolerances ±3 unless otherwise shown.
NOTE:
A. For wiring details and bill of material, refer to STS-3.02 and STS-3.03.
EQUIPMENT LAYOUT

DEAD FRONT 'A'

DEAD FRONT 'B'

ELECTRICAL EQUIPMENT LIST

1. Main circuit breaker, 240V, 100A, 2-pole.
3. Solid neutral assembly, 100A min. ampacity.
4. Ground lug for #6 AWG stranded copper ground wire.
5. Ground lug for #2/0 AWG stranded copper ground wire.
7. Drip Shield.
8. Locate secondary neutral and ground bars according to CSA and project requirements.
9. Primary Barrier.
10. Secondary barrier.

12. Copper bus bar.
13. #6 AWG RWU90 wire.
14. #12 AWG RWU90 wire.

Denotes terminal connection.
Denotes #6 AWG RWU90 wire.
Denotes #12 AWG RWU90 wire.
Denotes field wiring (sizes are indicated elsewhere on the contract drawings).
Ground link.
# BILL OF MATERIALS

<table>
<thead>
<tr>
<th>Item No.</th>
<th>QTY.</th>
<th>Description</th>
<th>Manufacturer</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Main Breaker 100A 2P</td>
<td>SQ.D</td>
<td>002100</td>
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<td>5</td>
<td>Branch Breakers 35A 1Pole</td>
<td>SQ.D</td>
<td>00135</td>
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<tr>
<td>3</td>
<td>1</td>
<td>Branch Breaker 60A 1 Pole</td>
<td>SQ.D</td>
<td>00160</td>
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<tr>
<td>4</td>
<td>1</td>
<td>Solid Neutral Assembly 100A min.</td>
<td>SQ.D</td>
<td>CH200SN</td>
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<td>5</td>
<td>1</td>
<td>Ground Lug For #6 Copper Wire</td>
<td>T&amp;B</td>
<td>ADR 25-21</td>
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<tr>
<td>6</td>
<td>1</td>
<td>Ground Lug for #2/0 Copper</td>
<td>GE</td>
<td>9L15ECB001</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>Secondary Lighting Arrester</td>
<td>GE</td>
<td>9L15ECB001</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>Drip Shield</td>
<td>B&amp;M</td>
<td>Custom</td>
</tr>
</tbody>
</table>

## NOTES:

A - TYPE 3M NAMEPLATE SEE DETAIL BELOW  
B - PANEL IS SERVICE ENTRANCE READY

**MANUFACTURER**  
TYPE 3M  
LONDON LS3M  
100 AMP 120/240 VOLT  
(DATE OF MANUFACTURE)
NOTES:
1. All plates shall be the same size.
2. Bolt and hole pattern to suit meter hub.
3. Ground stud shall be complete with washers and nuts.
4. Cover plate studs shall be complete with washers and nuts.
A. All dimensions are in millimetres with tolerances ±3 unless otherwise shown.

CITY OF LONDON STANDARD DRAWING
LS3M SUPPLY CONTROL CABINET ASSEMBLY TYPE 3M ENCLOSURE

DWG STS-3.10 DATE 2010-09-07 APPROVED BY CITY ENGINEER

Cover Plate Detail
NOTES:
A. All dimensions are in millimetres with tolerances ±3 unless otherwise shown.

CITY OF LONDON STANDARD DRAWING
LS3M SUPPLY CONTROL CABINET ASSEMBLY TYPE 3M
DEAD FRONT PANEL

DWG STS–3.11 DATE 2009-1-22 APPROVED BY CITY ENGINEER
NOTES:
A. All dimensions are in millimetres with tolerances ±3 unless otherwise shown.
NOTES:
A. For wiring details and list of materials, refer to STS-3.08 and STS-3.09.
POWER SUPPLY PEDESTAL ASSEMBLY
(PEDESTAL SOLUTIONS INC. SL27 MODEL)

NOTES:
A. All dimensions are in millimetres unless otherwise shown.

12.7mm PLASTIC INSERT (TYP.)

19mm THROUGH HOLES
(TYPICAL USE GANING UNITS)

PREFAB CONCRETE BASE (BY BROOKLIN CONCRETE,
MODEL BCP 20PED)

POWER SUPPLY (27") PEDESTAL AND BASE ASSEMBLY

CITY ENGINEER
PREFAB CONCRETE BASE

POWER SUPPLY PEDESTAL ASSEMBLY
(PEDESTAL SOLUTIONS INC. SL42 MODEL)

NOTES:
A. All dimensions are in millimetres unless otherwise shown.

TOP VIEW

SIDE ELEVATION

FRONT ELEVATION

ISOMETRIC VIEW

PREFABED CONCRETE BASE (BY BROOKLIN CONCRETE, MODEL BCP 20PED)
ALUMINUM TRAFFIC SIGNAL ARMS TO A MAXIMUM OF 4.6m AND 3.6m FOR 5.8m LD POLES AT 90°
ALUMINUM TRAFFIC SIGNAL ARMS TO A MAXIMUM OF 6.7m AND 6.7m FOR 5.8m HD POLES AT 90°

NOTES:
A. All dimensions are in millimetres or metres unless otherwise shown.

CITY OF LONDON STANDARD DRAWING
ALUMINUM TRAFFIC SIGNAL POLE BASE MOUNTED

POLE TABLE

<table>
<thead>
<tr>
<th>POLE TYPE</th>
<th>Pole Length &quot;a&quot; m</th>
<th>Bottom O.D. &quot;b&quot; m</th>
<th>Top O.D. &quot;c&quot; m</th>
<th>Wall Thickness mm</th>
<th>Bolt Spacing &quot;d&quot; m</th>
<th>Bolt Circle Dia. &quot;e&quot; m</th>
<th>Stud/Bolt Size &quot;f&quot; m</th>
<th>Hand Hole Size &quot;h&quot; by &quot;i&quot; mm</th>
<th>Hand Hole Height &quot;g&quot; mm</th>
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</thead>
<tbody>
<tr>
<td>TP5—550A—AB</td>
<td>1.5</td>
<td>127</td>
<td>127</td>
<td>4.0</td>
<td>134.5</td>
<td>190</td>
<td>19</td>
<td>64x127</td>
<td>450</td>
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<tr>
<td>TP12—645C—AB</td>
<td>3.6</td>
<td>152</td>
<td>114</td>
<td>4.7</td>
<td>171</td>
<td>242</td>
<td>19</td>
<td>64x127</td>
<td>356</td>
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<tr>
<td>TP15—645C—AB</td>
<td>4.6</td>
<td>152</td>
<td>114</td>
<td>4.7</td>
<td>171</td>
<td>242</td>
<td>19</td>
<td>64x127</td>
<td>356</td>
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<tr>
<td>TP19—866C—AB</td>
<td>5.8LD</td>
<td>203</td>
<td>168</td>
<td>4.7</td>
<td>207</td>
<td>292</td>
<td>25</td>
<td>102x174</td>
<td>510</td>
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<tr>
<td>TP19—1080E—AB</td>
<td>5.8HD</td>
<td>254</td>
<td>203</td>
<td>6.3</td>
<td>287</td>
<td>406</td>
<td>32</td>
<td>102x174</td>
<td>510</td>
</tr>
</tbody>
</table>
NOTES:

1. All 'ET' shafts shall be 6.3mm wall thickness.
2. All 'E' type single arm streetlight poles shall have shafts of 4.7mm wall thickness.
3. All 'E' type double arm streetlight poles shall have shafts of 6.3mm wall thickness.
4. All dimensions are in millimetres or metres unless otherwise shown.

Reference to Pole Numbering

Lettering at Start: —ET — Combination Signal and Lighting Pole
—E — Lighting Pole

CITY OF LONDON STANDARD DRAWING
ALUMINUM COMBINATION AND STREETLIGHT POLE BASE MOUNTED

DWC STS-4.02 DATE 2017-11-02 APPROVED BY CITY ENGINEER
11 gauge galvanized octagonal steel traffic signal pole see fabrication data.

NOTES:
1. The diameter shall be measured across the flats.
2. All dimensions are in millimetres or metres unless otherwise shown.

FABRICATION DATA

<table>
<thead>
<tr>
<th>Pole Type</th>
<th>Pole Length &quot;a&quot;</th>
<th>Bottom O.D. &quot;b&quot;</th>
<th>Top O.D. &quot;c&quot;</th>
<th>Maximum arm length</th>
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<tr>
<td></td>
<td>m</td>
<td>mm</td>
<td>mm</td>
<td>Arm 1 m</td>
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<td>Pedestal</td>
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<td>160</td>
<td>80</td>
<td>n/a</td>
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<td>8315</td>
<td>4.6</td>
<td>160</td>
<td>80</td>
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<td>8524</td>
<td>7.3</td>
<td>184</td>
<td>100</td>
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<td>8624</td>
<td>7.3</td>
<td>248</td>
<td>125</td>
<td>6.1</td>
</tr>
</tbody>
</table>
NOTE:
A. All dimensions are in millimetres unless otherwise shown.
B. Pole cap to be welded.

CITY OF LONDON STANDARD DRAWING

PEDESTRIAN PUSHBUTTON POLE

DWG STS-4.04 DATE 2014-08-18 APPROVED BY CITY ENGINEER
NOTE:
A All dimensions are in millimetres unless otherwise shown.
B Frangible base shall be installed according to the manufacturer’s recommendations.

CITY OF LONDON STANDARD DRAWING

POLE MOUNTING DETAILS
FOR BASE MOUNTED METAL POLE

DWG STS-4.05 DATE 2017-11-03
APPROVED BY CITY ENGINEER
Tapered elliptical bracket
OPSD 2420.01

SINGLE OR DOUBLE TAPERED
ELLIPTICAL BRACKET AND LUMINAIRE

Metal Pole
STS-4.01
STS4.02
STS4.03

Handhole

Handhole

Finished grade

Concrete footing

BASE MOUNTED
FRANGIBLE BASE MOUNTED

CITY OF LONDON STANDARD DRAWING
METAL LIGHTING POLE
BASE MOUNTED

DWG STS-4.06
DATE 2009-1-22
APPROVED BY CITY ENGINEER
Plywood template

Direction of conduits as shown in contract

Plywood template set level. Remove to finish concrete after initial set.

20mm chamfer

Finished grade line

Note 3

Anchorage Note 1

Fibre tubing formwork, 600mm minimum depth

4–10M ties @ 150mm c/c

See table for number of 10M ties @ 450mm c/c

75mm rigid duct sleeve Note 2

ELEVATION LAYOUT

NOTES:

1 For anchorage assembly see STS–5.03.

2 Minimum of two sleeves required for each concrete footing. Three sleeves as specified.

3 Top of footing shall be installed flush with finished grade in paved or concrete areas and 75mm ±15mm above finished grade in earth or granular areas.

A For pole mounting details see STS–4.05.

B All pole bases shall be constructed in accordance with OPSS 616.

C Anchor assembly and conduits are to be placed in the centre of footing.

D Concrete shall be poured as one monolithic slab and formed, placed, vibrated, cured, finished and protected in accordance with OPSS 904.

E Direction of conduit sleeve entry to be marked with indentation on top of footing.

F All dimensions are in millimetres unless otherwise shown.

G To be read in conjunction with STS–5.02.
**NOTES:**
1. For anchorage assembly see STS—5.03.
2. Minimum of two sleeves required for each concrete footing. Three sleeves as specified.
3. Top of footing shall be installed flush with finished grade in paved or concrete areas and 75mm ±15mm above finished grade in earth or granular areas.
4. Concrete shall be poured as one monolithic slab and formed, placed, vibrated, cured, finished and protected in accordance with OPSS 904.
5. Direction of conduit sleeve entry to be marked with indentation on top of footing.
6. All dimensions are in millimetres unless otherwise shown.
7. To be read in conjunction with STS—5.01.

**Maintenance replacement only for existing conditions**

### CONCRETE FOOTING FOR BASE MOUNTED POLE

<table>
<thead>
<tr>
<th>POLE</th>
<th>FOUNDATION</th>
<th>CAGE</th>
<th>ANCHOR ASS.</th>
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<tbody>
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<td>C—CONCRETE</td>
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<tr>
<td></td>
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</tr>
<tr>
<td>S</td>
<td>8312</td>
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<td>C</td>
<td>KCH15 DECORATIVE CONCRETE POLE</td>
<td>4.6</td>
<td>760</td>
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<tr>
<td>C</td>
<td>KCH25 DECORATIVE CONCRETE POLE</td>
<td>7.6</td>
<td>760</td>
</tr>
</tbody>
</table>
INSTRUCTIONS:
1. Do not remove studs from threaded ferrules.
2. Place anchorage in footing with wood template over formwork.
3. Tie anchorage to steel in footing.
4. Tie ducts to anchorage.
5. Level anchorage in all directions with a carpenter's level and secure in the level position prior to pouring concrete to the top of the formwork.
6. When concrete has achieved initial set, remove nuts, washers, and wood template and finish top of concrete.
7. Replace wood template, nuts and washers and hand tighten.

NOTES:
1. J struts not required in assembly with bolt circle diameter less than 406mm.
2. Studs shall be factory set in ferrule with preapplied thread locking compound.
3. Assembly nuts shall be shipped hand tight only.
4. Instruction sticker shall be attached to top face of the wood template.
5. Plywood template to be provided for accurate setting of the anchorage assembly.
A. All dimensions are in millimetres unless otherwise shown.
B. Assembly to be manufactured by ACROW RICHMOND or approved equivalent to meet current OPSS 616.
C. All steel components shall be hot dip galvanized in accordance with CSA standards G-164M.

<table>
<thead>
<tr>
<th>STUD DIA</th>
<th>BOLT CIRCLE DIA A mm</th>
<th>STUD DISTANCE B mm</th>
<th>ANCHORAGE DEPTH C mm</th>
<th>ANCHORAGE DEPTH FOR STRUCTURES C mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>32mm</td>
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<td>457</td>
<td>250</td>
</tr>
<tr>
<td>25mm</td>
<td>292</td>
<td>207</td>
<td>457</td>
<td>250</td>
</tr>
<tr>
<td>22mm</td>
<td>242</td>
<td>171</td>
<td>457</td>
<td>250</td>
</tr>
<tr>
<td>19mm</td>
<td>190</td>
<td>135</td>
<td>305</td>
<td>250</td>
</tr>
</tbody>
</table>

CITY OF LONDON STANDARD DRAWING

ANCHORAGE ASSEMBLY

DWG STS-5.03 DATE 2010-09-07 APPROVED BY CITY ENGINEER
NOTES:
1. For offset and pole type, see contract drawings.
2. Top of foundation shall be measured from the highest grade elevation.
3. Top of foundation to be at grade within 300mm of sidewalk.

A All dimensions are in millimetres or metres unless otherwise shown.
NOTES:
1. For offset and burial depth, see contract drawings.
2. Burial depth shall be measured from the lowest grade elevation at pole.

A. All dimensions are in millimetres or metres unless otherwise shown.

POLE ADJACENT TO SIDEWALK

CITY OF LONDON STANDARD DRAWING

INSTALLATION OF DIRECT BURIED POLES IN SLOPES

DWG STS-5.05  DATE 2009-1-22  APPROVED BY CITY ENGINEER
50 CHAMFER (ALL ROUND)

CABINET EXTEND BASE

4 - 13mm Topcon screws

4 - 75, 1 - 50 (TYP.) RPVC COUPLINGS TO BE INSTALLED ON ALL CONDUITS

NOTES:
1. ALL DUCTS TO BE RIGID P.V.C.
   C.S.A. C22.2 NO 211.2
2. 5 DUCTS INTO M1 BASE 4-75mm,
   1-50mm
3. ALL ANCHOR BOLTS, NUT AND WASHERS
   ARE TO BE HOT DIPPED GALVANIZED
4. ALL 4 ANCHOR BOLTS TO BE 13 x 300
5. USE HEX NUTS ONLY
6. DUCTS TO BE INSTALLED 200mm FROM
   BACK EDGE OF BASE
7. ALL DIMENSIONS ARE IN mm
   UNLESS OTHERWISE SHOWN.
1. ALL DUCTS TO BE RIGID PVC
   C.S.A. C22.2 No 211.2

2. 6 DUCTS INTO TRAFFIC CONTROLLER BASE 4–75mm, 2–50mm

3. USE 13mm COATED 'TAPCON' SELF TAPPING SCREWS FOR ANCHORING THE TRAFFIC CABINET AND UPS CABINET TO THE CONCRETE BASE

4. DUCTS IN TRAFFIC CABINET TO BE INSTALLED 375mm FROM FRONT EDGE OF BASE
The diagram shows a traffic cabinet with the following details:

- **UPS Riser**: Marked as a section on the diagram.
- **4-75, 2-50 (TYP) RPVC Couplings**: To be installed on all conduits.
- **Traffic Cabinet Extend Base**: Indicated near the bottom of the diagram.
- **50 Chamfer (All Around)**: Covered on the sides of the traffic cabinet.

**Dimensions:**
- Width: 450
- Height: 1050
- Depth: 900

**Reference:**
- City of London Standard Drawing
- M1 Controller Cabinet and UPS Cabinet Base Detail

**Details:**
- DWG: STS - 6.02 (2of2)
- Date: 2017-11-03
- Approved by: [Signature]

**NTS**
1. Line L1 to be connected to 120V circuit of power supply.
2. Line L2 to be connected by a photoelectric control or connected to 120V lighting system.
3. Fuse holder to be in-line type, 600V, complete with 15A KTK fuse and insulating boots.
4. Install flasher mechanism into knockout hole on the top of flasher beacon by use of lockring and gasket provided with flasher mechanism unit.

A. All field cuts, threads and holes to be deburred.
B. All dimensions are in millimetres unless otherwise shown.
NOTES:
1. LOCK RING OR ADAPTER SHALL BE USED WITH HEADS WITHOUT INTEGRALLY CAST MATCHING SERRATIONS. RINGS ARE TO BE OF BRASS OR BRONZE, WITH SUFFICIENT CONTACT AREA TO COVER FLANGE ON SIGNAL HOUSING.

A. THE PLUMBIZER IS TO BE INSTALLED BETWEEN THE RED AND AMBER SECTIONS OF THE TRAFFIC SIGNAL HEAD, UNLESS OTHERWISE SPECIFIED.

B. PLUMBIZER TO BE USED ON IPS INSTALLATIONS ONLY.

C. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
NOTE:
A. This drawing should be read in conjunction with STS-7.05 and OPSD 2501.02

DUAL-END HANGER

CITY OF LONDON STANDARD DRAWING

TRAFFIC SIGNAL (IPS)
DUAL BRACKET HANGER DETAILS

DWG STS-7.03 DATE 2014-08-18 APPROVED BY CITY ENGINEER
NOTE:
A All dimensions are in millimetres unless otherwise shown.

CITY OF LONDON STANDARD DRAWING

TRAFFIC SIGNAL
DOUBLE ARM BRACKET

DWG STS-7.04 DATE 2006-1-22 APPROVED BY CITY ENGINEER
NOTES:
1 Where a grade difference exists, the attachment height shall be adjusted so that the 5.0m signal head clearance is obtained.

2 Where the traffic signal head is not over the travelled portion of the pavement clearance shall be set using the elevation of the finished pavement at the edge of pavement directly in line with the arm.

3 Wiring aperture to be field drilled at a dimension $A'$ equal to the pole diameter at the point of arm attachment or 25mm below overlapping sectional steel joints. The aperture to be 25mm dia, de-burred, protected with zinc rich paint and fitted with a 20mm ID rubber grommet.

4 Drip loops to be 450mm max. Loops between 300mm and 450mm in length to be bonded to pole with 16mm stainless steel strapping.

5 For external conduit system on wood or concrete poles refer to OPSD-2552.01 or OPSD-2554.01.

A For orientation and location of poles, arms and traffic signal heads refer to layout drawings.

B For arm attachment details refer to OPSD-2501.02.

C All dimensions are in millimetres or metres unless otherwise shown.
NOTES:
A Dimension 'A' to be equal to the pole diameter at the point of attachment.
B For orientation of signal head, pedestrian pushbutton and instruction sign, refer to traffic signal layout.
C All dimensions are in millimetres or metres unless otherwise shown.
D 3.6m pole to be used when pedestrian heads are required on a stand-alone pole and traffic signal heads are not required on the same pole.
NOTES: FRONT VIEW

1 Line L1 to be connected to 120V circuit of power supply.
2 Line L2 to be connected by a photoelectric control or connected to 120V lighting system.
3 Fuse holder to be in-line type, 600V, complete with 15A KTK fuse and insulating boots.
4 Install flasher mechanism into knockout hole on the top of flasher beacon by use of lockring and gasket provided with flasher mechanism unit.

A All field cuts, threads and holes to be deburred.

B All dimensions are in millimetres unless otherwise shown.

CITY OF LONDON STANDARD DRAWING
FLASHER BEACON AND DOWNLIGHT FOR ROADWAY SIGN AND WIRING DIAGRAM

| DWG STS-8.01 | DATE 2014-08-18 | APPROVED BY CITY ENGINEER |
NOTES:
1. Line L1 to be connected to 120V circuit of power supply.
2. Fuse holder to be in-line type, 600V, complete with 15A KTK fuse and insulating boots.
3. Install flasher mechanism into knockout hole on the top of flasher beacon by use of lockring and gasket provided with flasher mechanism unit.
4. All field cuts, threads and holes to be deburred.
5. All dimensions are in millimetres unless otherwise shown.

CITY OF LONDON STANDARD DRAWING
FLASHER BEACON FOR ROADWAY SIGN
AND WIRING DIAGRAM

DWG STS-8.02 DATE 2014-08-18
APPROVED BY CITY ENGINEER

WIRING DIAGRAM
1. Line L1 to be connected to 120V circuit of power supply.
2. Line L2 to be controlled by a photoelectric control or connected to 120V lighting system.
3. Fuse holder to be in-line type, 600V, complete with 15A KTK fuse and insulating boots.
4. Install flasher mechanism into knockout hole on the side of flasher beacon by use of lockring and gasket provided with flasher mechanism unit.

A All field cuts, threads and holes to be deburred.
B All dimensions are in millimetres
CITY OF LONDON STANDARD DRAWING

TYPICAL LOOP LAYOUTS

A - STOP BAR LOOPS
START LOOP 4.5m FROM EDGE OF PAVEMENT.
EXTEND LENGTH OF LOOP AS NECESSARY TO
ACHIEVE A MINIMUM 7.0m BEHIND STOP BAR.

NOTE 'A':
IF 4.5m FROM EDGE OF PAVEMENT PLACES
THE LOOP BEHIND THE STOP BAR, START
THE LOOP 10.0m INFRONT OF STOP BAR AND
EXTEND 9.0m BEHIND STOP BAR.

B - SET BACK STOP BAR LOOPS
START FRONT EDGE OF LOOP 3.0m AHEAD
OF SET BACK STOP BAR AND EXTEND 7.0m BEHIND.
NOTE: LOOP MAY REQUIRE EXTENDING
FOWARDS IF 'X' AREA IS GREATER
THAN 7.0m.

C - BIKE LOOPS
PAINT BICYCLE LOOP
DETECTOR MARKING CENTRALLY OVER LOOP

D - RIGHT TURN LANE LOOPS
START THE BACK EDGE OF RIGHT TURN
LOOP AT THE SAME POINT OF THE ADJACENT
LOOP (SHORTER LENGTH LOOP TO
ALLOW FOR 2nd AND 3rd CAR TO PLACE CALL).

E - LEFT TURN ADVANCE LOOPS
START THE FRONT EDGE THE LOOP
15.0m BEHIND THE STOP BAR AND
EXTEND THE LOOP 10.0m BACK.

NOTE 'A':
IF 4.5m FROM EDGE OF PAVEMENT PLACES
THE LOOP BEHIND THE STOP BAR, START
THE LOOP 10.0m INFRONT OF STOP BAR AND
EXTEND 9.0m BEHIND STOP BAR.
NOTES:
1 Dimensions as indicated elsewhere in the contract.
A All dimensions are in millimetres unless otherwise shown.
NOTES:
1 For location of junction box, manhole or pole splice, refer to layout drawings.
A For sections A-A & B-B, refer to STS-9.03.
B For splice to extra low voltage cable, refer to STS-9.04.
C All dimensions are in millimetres or metres unless otherwise shown.

CITY OF LONDON STANDARD DRAWING

LOOP DETECTOR INSTALLATION DETAILS

DETAIL 'C'
STS-9.03

For dimensions see layout drawings

'N' turns of loop wire in saw-cut slot

Edge of pavement

Loop leads in saw-cut slot

Splice point, Note 1

300 mm min

PLAN
SIMPLE LOOP
Splice point, Note 1

Winding direction

300 mm min

Leads from adjacent loop in saw cut slot

PLAN
DIAMOND LOOP

Winding direction

For crossing of pavement butt or irregularity, Detail 'B' STS-9.03

Edge of pavement

Loop leads

Extra low voltage cable

SIMPLE/DIAMOND LOOP CONNECTIONS

Splice point

Note 1

X

Y

Loop leads

Extra low voltage cable

DUPLex LOOP CONNECTIONS

Splice point

Note 1

X

Y

Loop leads

Extra low voltage cable

DUPLex LOOP CONNECTIONS

NOTES:
1 For location of junction box, manhole or pole splice, refer to layout drawings.
A For sections A-A & B-B, refer to STS-9.03.
B For splice to extra low voltage cable, refer to STS-9.04.
C All dimensions are in millimetres or metres unless otherwise shown.

CITY OF LONDON STANDARD DRAWING

LOOP DETECTOR INSTALLATION DETAILS I

DWG STS-9.02
DATE 2009-1-22
APPROVED BY CITY ENGINEER
Drill 32mm dia hole through pavement

Bottom of pavement

Joint sealant compound

50mm dia RPVC duct to splice point

SECTION A-A OF STS-9.02

DETAIL ‘A’

Bottom of saw cut slot

Top of finished pavement

Round off sharp corners

Electrical cable sealant compound

SECTION B-B OF STS-9.02

DETAIL -Pavement butt or irregularity

DETAIL ‘B’

NOTES:

1 Where cable is installed prior to the finished top course paving, the maximum depth of cover shall be 100mm.

A This drawing shall be read in conjunction with STS-9.02.

B All dimensions are in millimetres or metres unless otherwise shown.

CITY OF LONDON STANDARD DRAWING

LOOP DETECTOR INSTALLATION DETAILS II

DWG STS-9.03  DATE 2009-1-22  APPROVED BY CITY ENGINEER
Burndy" type butt splice and rubber splicing tape with premium electrical vinyl tape

Low voltage cable
Insulated resin splices or silicon gel insulation molded cover snap-lock type splices.
3M Scotchcast kit or approved equivalent.

EXTRA LOW VOLTAGE CABLE TO DETECTOR CABLE—SPlicing DETAIL

LOW VOLTAGE CABLE—SPlicing DETAIL

NOTES:
A Splices shall not be used unless shown on the wiring diagrams, quantity sheets, layout drawings or approved by the Contract Administrator.
B All dimensions are in millimetres unless otherwise shown.
C. Connections for aluminum to copper conductors must be dual rated AL–CU or CU–AL connectors.
THE 2 WIRE NAVIGATOR PBS IS THE PEDESTRIAN INTERFACE TO THE
'NAVIGATOR ACCESSIBLE PEDESTRIAN SYSTEM'. THE SYSTEM IS TO
INCLUDE A CENTRAL CONTROL UNIT (CCU), A CONFIGURATOR, AND PUSH
BUTTON STATIONS. THE PBS IS TO PROVIDE CUES VIA BOTH A
VIBRATING ARROW BUTTON AND AUDIBLE SOUNDS MAKING THE
INTERSECTION ACCESSIBLE FOR ALL PEDESTRIANS. ALL SOUNDS SHALL
EMANATE FROM THE BACK OF THE UNIT. THE WEATHER—PROOF
SPEAKER IS TO BE PROTECTED BY A VANDAL RESISTANT SCREEN. A
SUNLIGHT VISIBLE RED 'LED' SHALL LATCH "ON" TO CONFIRM THE
BUTTON HAS BEEN PUSHED. PBS SHALL INCLUDE FRAME, SIGN, ADA
COMPLIANT PUSH BUTTON, AND MOUNTING HARDWARE.

BY INTERFACING WITH THE CENTRAL CONTROL UNIT THAT IS TO BE
INSTALLED IN THE TRAFFIC CONTROL CABINET, THE PBS SHALL PROVIDE
THE FOLLOWING STANDARD FEATURES:
- CONFIRMATION OF THE BUTTON PUSH VIA LATCHING LED, SOUND,
  AND VIPROTACTILE BOUNCE.
- DIRECTION OF TRAVEL (WITH EXTENDED BUTTON PUSH).
- STANDARD LOCATING TONE DURING 'DON'T WALK' (AND CLEARANCE
  IF DESIRED).
- CUCKOO, CHIRP, OR STANDARD VOICE MESSAGE DURING WALK.
- STANDARD LOCATING TONE, CUSTOM SOUND, OR VERBAL
  COUNTDOWN DURING PED CLEARANCE.
- ALL SOUNDS AUTOMATICALLY ADJUST TO AMBIENT OVER 60dB
  RANGE.
- SOUNDS SHALL HAVE MINIMUM AND MAXIMUM VOLUME
  INDEPENDENTLY SET.
- ALL SOUNDS ARE SYNCHRONIZED.
- EXTENDED BUTTON PUSH CAN TURN ON, BOOST VOLUMES, AND/OR
  MUTE ALL SOUNDS EXCEPT THOSE ON ACTIVATED CROSSWALK.
- SPECIAL EMERGENCY MESSAGES AVAILABLE.

NOTE:
A. ALL DIMENSIONS ARE IN
   MILLIMETRES UNLESS OTHERWISE
   SHOWN.
B. ENCAPSULATE REAR TERMINAL
   WITH SILICONE SEALANT PRIOR
   TO INSTALLATION

CITY OF LONDON STANDARD DRAWING
2 WIRE NAVIGATOR
PUSH BUTTON STATION (PBS)

DATE 2014-08-18
APPROVED BY
CITY ENGINEER
SPECIFICATIONS

BODY MATERIAL: ALUMINUM, POWDER COATED
COLOUR: YELLOW

BUTTON MATERIAL: 316 STAINLESS STEEL

PIEZO DRIVEN SOLID STATE SWITCH:
- OPERATING TEMPERATURE: -34°C TO 74°C
- OPERATING VOLTAGE: 18 VDC NOMINAL
- OPERATING LIFE: GREATER THAN 100 MILLION OPERATIONS.
- SWITCH HOLD TIME: 6 SECONDS MINIMUM.

LED:
- OPERATING MODE: LATCHING—ACTIVATES ONLY DURING NON-WALK PHASES AND STAYS ON UNTIL THE BEGINNING OF WALK PHASE.
- REQUIRES "LATCHING PUSH BUTTON CONTROL UNIT" WHICH IS INSTALLED IN THE INTERSECTION CONTROL CABINET.

BEEPER:
- SOUNDS SIMULTANEously WITH 'LED' FLASH.
- DIFFERENT TONES FOR PRESS AND RELEASE.

NOTE:

A. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
PEDESTRIANS

MUST PUSH BUTTON TO CROSS

DO NOT START
Wait for Your Walk Signal

START CROSSING
Stay alert for turning vehicles

DO NOT CROSS
Finish crossing If Already Started

NOTE
1. MATERIAL TO BE 203mm
   1.6mm GAUGE ALUMINUM

CITY OF LONDON STANDARD DRAWING
PEDESTRIAN CROSSING INFORMATION SIGN

DWG STS-9.07 L/R DATE 2014-08-18 APPROVED BY CITY ENGINEER
MUST PUSH BUTTON TO CROSS

START CROSSING
Stay alert for turning vehicles

DO NOT CROSS
Finish crossing If Already Started

TIME REMAINING
To Finish Crossing

DO NOT START
Wait for Your Walk Signal

NOTE
1. MATERIAL TO BE 1.6mm GAUGE ALUMINUM

CITY OF LONDON STANDARD DRAWING
PEDESTRIAN CROSSING INFORMATION SIGN FOR COUNTDOWN SIGNALS

DATE 2014-08-16 APPROVED BY CITY ENGINEER

DWG STS-9.09 L/R
PEDESTRIANS

START CROSSING
Stay alert for turning vehicles

DO NOT CROSS
Finish crossing if already started

TIME REMAINING
To finish crossing

DO NOT START
Wait for your walk signal

INFORMATION
Call 519-661-8410

NOTE
1. MATERIAL TO BE 1.6mm GAUGE ALUMINUM

CITY OF LONDON STANDARD DRAWING
PEDESTRIAN CROSSING INFORMATION SIGN FOR COUNTDOWN SIGNALS AT NON-ACTUATED LOCATIONS

DWG STS-9.10 DATE 2014-08-18 APPROVED BY CITY ENGINEER
TRAFFIC SIGNAL HEAD

OPTICAL PRE-EMPTION DETECTOR

OPTICAL PRE-EMPTION DETECTOR CABLE (75mm DRIP LOOP)

ALUMINUM SINGLE MEMBER MAST ARM

POLE WIRING APERTURE, FIELD DRILL, DEBURRED

16mm STAINLESS STEEL STRAPPING 4.5KN ULTIMATE STRENGTH

MAXI BRACKET & 20mm GALVANIZED STEEL NIPPLE OR MANUFACTURER'S BRACKET

MAST ARM MOUNTING

A. ASSEMBLY TO MOUNTED ON SPAN CABLES OVER TOP OF ROADWAY WITHIN 1.0M OF TRAFFIC SIGNALS SPECIFIED.

B. ALL HARDWARE FITTINGS SHALL BE CAST ALUMINUM WITH STAINLESS STEEL MOUNTING HARDWARE

NOTE:

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

EMERGENCY PRE-EMPTION UNIT

19mm DIA. THREADED POLY PIPE

19mm RPVC LB

19mm DIA. THREADED POLY PIPE

38mm DIA. REDUCER

38mm DIA. T FITTING

38mm DIA. AL. PIPE

EYE BALANCER

CABLE CLAMP ASSEMBLY

STABILISING CABLE

A. ASSEMBLY TO MOUNTED ON SPAN CABLES OVER TOP OF ROADWAY WITHIN 1.0M OF TRAFFIC SIGNALS SPECIFIED.

B. ALL HARDWARE FITTINGS SHALL BE CAST ALUMINUM WITH STAINLESS STEEL MOUNTING HARDWARE

SPAN MOUNTED

CITY OF LONDON STANDARD DRAWING

EMERGENCY OPTICAL PRE-EMPTION DETECTOR HEAD

DWG STS-9.11 DATE 2017-11-02

APPROVED BY CITY ENGINEER
CITY OF LONDON STANDARD DRAWING

DECORATIVE DOWNTOWN CONCRETE PEDESTRIAN POLE,
BASE MOUNTED (4.6m)

NOTES:
1) TO BE USED IN CONJUNCTION
   WITH STS-10.03
2) ALL DIMENSIONS ARE IN mm
   UNLESS OTHERWISE SHOWN

90mmx255mm
RECESSED HANDHOLE
& COVERPLATE C/W
GROUND CONNECTOR
PLUS ROBERTSON
SCREWS

40mm RIGID P.V.C. DUCT
(C.S.A. C22.2 NO.211.2)

ANTS ROD (55,000
PSI MIN YIELD)
19mm ANCHOR BOLTS
x 685mm LENGTH

C20 NUT COVERS

4CAST ALUM.
90mm DIA.
WIRING HOLE

4 X 22mm HOLES ON 300mm DIA. BOLT CIRCLE TO
ACCEPT 19mm ANCHOR BOLTS x 685mm LENGTH:
MAX BOLT PROJECTION 50mm

BASEPLATE DETAIL

15° KING CLASSIC
HIGHWAY/MAN OR USI
CAMBRIDGE SPUN
CONCRETE POLE
(AZTEC JADE)

FINISHED GRADE

600 MIN

BOLE PROJECfION
MIN 40mm MAX 50mm

DUCT 150mm ABOVE
TOP OF BASE

C20 BASEPLATE
(SEE DETAIL)

900

4.57m
1. HOLE TO BE AUGERED OR "HYDRO VAC".

2. ADD 150mm GRAVEL TO BOTTOM OF HOLE TO FIRM POLE BASE SETTINGS.

3. SET POLE ENSURING BASE OF POLE IS AT FINISHED GRADE.

4. BACKFILL AND TAMP BOTTOM 450mm BEFORE FINAL PLUMBING OF POLE.
   THEN CONTINUE BACKFILL.

5. USE NON-SHRINK MATERIAL FOR BACKFILL FOR TAMING EVERY 300mm.
   UP TO THE LEVEL OF EXISTING UNDERBASE.

NOTES:
1) TO BE USED IN CONJUNCTION WITH STS-10.03.
2) ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SHOWN.
ELEVATION

FLOWER POT HOLDERS
x 450mm LENGTH (IPS ALUM. PIPE)
C/W CAST ALUM. ARROWHEADS
PAINT: GREEN RAL 6012

FLOWER POTS
BY OTHERS

TOP VIEW

100-FIN CAP (MOD)
PAINT: GREEN RAL 6012
50 x 75 ALUM.
RECT. TUBING

15° KING CLASSIC HIGHWAYMAN
OR USI CAMBRIDGE
SPUN CONCRETE POLE

COLOUR & FINISH
AZTEC JADE

2-PIECE CAST ALUMINIUM
CLAMPING DEVICE
(PAINT: FEDERAL GREEN)

KING K020 GLOBE OR
LUMEC NW003 70W HPS LUMINAIRE
DAPPLED POLYCARBONATE,
TYPE III, GLASS REFRACTOR
C/W DECORATIVE BASKET
& K50 (MOD) CAPITAL
PAINT: GREEN RAL 6012

4x22mm HOLES ON 300mm DIA. BOLT
CIRCLE TO ACCEPT 19mm ANCHOR
BOLTS x 685mm LENGTH

NOTE:
A. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SHOWN
B. POLES ARE TO BE PRE-DRILLED FROM THE MANUFACTURER FOR ALL WIRING
APERTURES, BRACKETS AND BANNER ARMS.

ELEVATION LUMINAIRE DETAIL

PLAN—BASEPLATE DETAIL

DECORATIVE DOWNTOWN CONCRETE PEDESTRIAN POLE

CITY OF LONDON STANDARD DRAWING

DWG STS-10.03
DATE 2017-11-06
APPROVED BY CITY ENGINEER

90° BACK OF CURB
LUMINAIRE ARM
150 DIA.
WIRING HOLE
(4) CAST ALUM.
C30 NUT COVERS
(PAINT: GREEN RAL 6012)

4.57m
4270
3660
216
90°
MIN DIST.
1000
FLOWER POT HOLDERS
CITY OF LONDON STANDARD DRAWING

DECORATIVE DOWNTOWN CONCRETE POLE,
BASE MOUNTED (7.6m)

NOTES:
1) TO BE USED IN CONJUNCTION WITH STS-10.06 AND STS-10.07
2) ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE ShOWN
1. Hole to be augered or "hydro vac".

2. Add 150mm gravel to bottom of hole to firm pole base settings.

3. Set pole ensuring base of pole is at finished grade.

4. Backfill and tamp bottom 450mm before final plumbing of pole then continue to backfill.

5. Use non-shrink material for backfill for tamping every 300mm up to the level of existing underbase.

25' KING CLASSIC HIGHWAYMAN OR USI CAMBRIDGE SPUN CONCRETE POLE (AZTEC JADE)

NOTES:
1) To be used in conjunction with STS-10.06 and STS-10.07
2) All dimensions are in mm unless otherwise shown.
2—FLOWERPOT HANGERS
x 450mm LENGTH (IPS ALUM. PIPE)
C/W CAST ALUM. ARROWHEADS
PAINT GREEN RAL 6012

FLOWER POTS
BY OTHERS

ROADWAY LUMINAIRE
(PAINT: GREEN RAL 6012)

TOP VIEW

100—FIN CAP
PAINT GREEN RAL 6012

1800

LUMINAIRE DETAIL

2—BANNER ARMS
(25mm IPS ALUM. PIPE) C/W
CAST ALUM. BANNER BALLS
PAINT: GREEN RAL 6012

2—PIECE CAST ALUMINIUM
CLAMPING DEVICE
(PAINT: GREEN RAL 6012)

KING KG20 GLOBE OR
LUMEC NW003 70W HPS LUMINAIRE
DAPPLED POLYCARBONATE,
TYPE III, GLASS REFRACTOR
C/W DECORATIVE BASKET
& K50 (MOD) CAPITAL
(PAINT: GREEN RAL 6012)

25' KING CLASSIC HIGHWAYMAN OR USI CAMBRIDGE
SPUN CONCRETE POLE

COLOUR & FINISH
AZTEC JADE

NOTE:
A. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SHOWN
B. POLES ARE TO BE PRE-DRILLED FROM THE MANUFACTURER FOR ALL WIRING APERTURES, BRACKETS AND BANNER ARMS.

CITY OF LONDON STANDARD DRAWING

DECORATIVE DOWNTOWN CONCRETE POLE

DWG STS-10.06
DATE 2017-11-06
APPROVED BY CITY ENGINEER
2—FLOWERPOT HOLDERS
x 450mm LENGTH (IPS ALUM. PIPE)
C/W CAST ALUM. ARROWHEADS
PAINT: GREEN RAL 6012

FLOWER PUTS
BY OTHERS

TOP VIEW

ROADWAY LUMINAIRE
(PAINT: GREEN RAL 6012)

100—FIN CAP
PAINT: GREEN RAL 6012

NOTE:
A. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SHOWN
B. POLES ARE TO BE PRE-DRILLED FROM THE MANUFACTURER FOR ALL WIRING APERTURES, BRACKETS AND BANNER ARMS.

CITY OF LONDON STANDARD DRAWING
DECORATIVE DOWNTOWN CONCRETE
POLE IN CENTRE MEDIAN ISLAND

DWG STS-10.07 DATE 2017-11-07 APPROVED BY CITY ENGINEER
PLAN VIEW

IN HANDHOLE EACH CIRCUIT TO BE FUSED INDIVIDUALLY WITH KTK15 INLINE FUSE KIT

GROUND STUD

DUCT 150mm ABOVE FINISHED GRADE

500mm Ø

JUNCTION BOX

40 or 50mm FLEX DUCT

#6 AWG STRANDED BARE GROUND TO BE CONNECTED TO GROUND ROD AS REQUIRED

#6 AWG INSULATED GROUND

50mm RIGID PVC (TYP.)

LOW VOLTAGE CABLES

COMPRESSION CONNECTORS COMPLETE WITH 3M SCOTCHCAST KITS FOR ALL U/G CONNECTIONS

NOTES:
1) REFER TO STS-10.09 FOR TYPICAL WIRING
2) ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SHOWN

CITY OF LONDON STANDARD DRAWING

DECREATIVE DIRECT BURIED POLE LAYOUT (TYP.)

DWG STS-10.08
DATE 2009-1-22
APPROVED BY CITY ENGINEER
#12 AWG stranded copper ground wire to luminaire(s)

Note 1

Ground stud

'BURNDY' type compression connectors, copper to copper with 3M Scotchcast kits

Low voltage cables

#12 AWG low voltage riser wires

Fuse holder kit with 600V, 15A KTK fuse

Pole Handhole

Junction Box

Tap run where required

Line 1
Neutral 1
Line 2
Neutral 2
Line 3
Neutral 3

Cable to ground electrode connection

#6 AWG insulated stranded copper ground wire

Cable to cable ground connection

Ground electrode located as indicated on lighting layout drawings

NOTES:

A. Underground connections will only be permitted where 3 or more circuits are to be connected in a decorative concrete pole handhole otherwise OPSD 2255.020 shall apply.
**LUMINAIRE SPECIFICATIONS**

CATALOGUE No: K118-EAR-11-100(MOG)
- HPS-120(MT)-K5/K9-PBC-GR

QUANTITY:
GLOBE MAT'L: ACRYLIC
IES CLASSIFIC: TYPE 11
WATTAGE: 100W
LIGHT SOURCE: HIGH PRESSURE SODIUM
LIGHT VOLTAGE: 120V (MULTI-TAP)
POLE ADAPTOR: K5/K9
OPTIONS: PHOTO BUTTON CELL: GENERAL ELECTRIC RING

**POLE SPECIFICATIONS**

CATALOGUE No: KT14-G-E51
S/F K5

QUANTITY:
SECTION: FLUTED OCTAGAGONAL
COLOUR: AZTEC JADE
FINISH: ETCHED
POLE TOP: 9" (229mm) FL/FL
POLE BUTT: 9 1/2" (241mm) FL
POLE LENGTH: 18' 5" (468mm)
APPROX WEIGHT: 1,370 lbs.
PHOTOCELL

SC 245-105-R3-PY AEL FIXTURE C/W
100 W 120V HPS TOP HAT
FIXTURE

SPlicing IN
HANDHOLE

FUSING THROUGH IN
LINE FUSE KIT

GROUND STUD

#6 GROUNDWIRE CONNECTED
TO GROUND LUG INSIDE HANDHOLE

FINISHED GRADE

COMPACTED SOIL

#6 AWG GROUND TYP.

REDUCER COUPLING
(TYP.)

50mm RPVC (TYP.)

40mm FLEX DUCT
TO COUPLING
LOW VOLTAGE CABLE

254x254x6.35
ALUMINUM PLATE WELDED TO
BASE OF POLE WITH DRAIN HOLE

BLACK EPOXY COATING TO EXTEND
ABOVE GROUND LINE (1.2m MAX. - 0.6m MIN)

HANDHOLE

WIRING
APERATURE

FINISHED GRADE

USUALLY 1.5m
BUT MAY VARY -
SEE LAYOUT
DRAWING

NOTE:
1. Fuse holder to be in-line type, 600V,
complete with 15A KTK fuse and
insulating boots.
GROVES 150mm APART (C TO C) IN THE DIRECTION OF CROSSWALK

1.5m MINIMUM (TYPICAL)

1.6m MINIMUM

3m TYPICAL

1.5m (MINIMUM DROP CURB TYPICAL)

LIMIT OF RAMP (TYPICAL)

SIDEWALK GROOVES IN THE NORTH / SOUTH DIRECTION EXTEND THROUGH THE EAST / WEST SIDEWALK

RADIUS = 50mm

RADIUS = 10mm

TOTAL WIDTH = 600mm

DETAIL OF GROOVES

CITY OF LONDON STANDARD DRAWING

CNIB RAMPS

DWG STS-11.00 DATE 2009-1-22 APPROVED BY CITY ENGINEER
Curb cut for sidewalk transition (see DWG. SR-L2)

Concrete sidewalk to extend to the back edge of pole base

Extended crosswalk line must line up with edge of pole

Concrete sidewalk transition

Pedestrian push button poles

Tactile plates (see DWG. STS-11.06 to 11.09)

Start crosswalk in line with concrete curb cut.

Fill with concrete if required

NOTE:
Each location is site specific and requires consultation with the roadway lighting and traffic control division.

City of London Standard Drawing

Sidewalk transition locations at new signalized intersections

DWG: STS – 11.01
DATE 2014 08 23
APPROVED BY CITY ENGINEER:
CURB CUT FOR SIDEWALK TRANSITION (SEE DWG. SR-1.2)

PEDESTRIAN PUSH BUTTON POLES

EXTENDED CROSSWALK LINE MUST LINE UP WITH EDGE OF POLE

CONCRETE SIDEWALK TRANSITION

TACTILE PLATES (SEE DWG. STS-11.06 TO 11.09)

START CROSSWALK IN LINE WITH CONCRETE CURB CUT.

NOTE:

EACH LOCATION IS SITE SPECIFIC AND REQUIRES CONSULTATION WITH THE ROADWAY LIGHTING AND TRAFFIC CONTROL DIVISION.

CITY OF LONDON STANDARD DRAWING

SIDEWALK TRANSITION LOCATIONS AT NEW SIGNALIZED INTERSECTIONS

DWG: STS – 11.02
DATE 2014 08 23
APPROVED BY CITY ENGINEER: 
NTS
NOTE:

EACH LOCATION IS SITE SPECIFIC AND REQUIRES CONSULTATION WITH THE ROADWAY LIGHTING AND TRAFFIC CONTROL DIVISION.

TYPICAL INTERSECTION

EXTENDED CROSSWALK LINE MUST LINE UP WITH EDGE OF POLE.

NOTE:

EACH LOCATION IS SITE SPECIFIC AND REQUIRES CONSULTATION WITH THE ROADWAY LIGHTING AND TRAFFIC CONTROL DIVISION.

TYPICAL INTERSECTION

EXTENDED CROSSWALK LINE MUST LINE UP WITH EDGE OF POLE.

NOTE:

EACH LOCATION IS SITE SPECIFIC AND REQUIRES CONSULTATION WITH THE ROADWAY LIGHTING AND TRAFFIC CONTROL DIVISION.

TYPICAL INTERSECTION

EXTENDED CROSSWALK LINE MUST LINE UP WITH EDGE OF POLE.

NOTE:

EACH LOCATION IS SITE SPECIFIC AND REQUIRES CONSULTATION WITH THE ROADWAY LIGHTING AND TRAFFIC CONTROL DIVISION.

TYPICAL INTERSECTION

EXTENDED CROSSWALK LINE MUST LINE UP WITH EDGE OF POLE.

NOTE:

EACH LOCATION IS SITE SPECIFIC AND REQUIRES CONSULTATION WITH THE ROADWAY LIGHTING AND TRAFFIC CONTROL DIVISION.

TYPICAL INTERSECTION

EXTENDED CROSSWALK LINE MUST LINE UP WITH EDGE OF POLE.

NOTE:

EACH LOCATION IS SITE SPECIFIC AND REQUIRES CONSULTATION WITH THE ROADWAY LIGHTING AND TRAFFIC CONTROL DIVISION.

TYPICAL INTERSECTION

EXTENDED CROSSWALK LINE MUST LINE UP WITH EDGE OF POLE.

NOTE:

EACH LOCATION IS SITE SPECIFIC AND REQUIRES CONSULTATION WITH THE ROADWAY LIGHTING AND TRAFFIC CONTROL DIVISION.

TYPICAL INTERSECTION

EXTENDED CROSSWALK LINE MUST LINE UP WITH EDGE OF POLE.

NOTE:

EACH LOCATION IS SITE SPECIFIC AND REQUIRES CONSULTATION WITH THE ROADWAY LIGHTING AND TRAFFIC CONTROL DIVISION.

TYPICAL INTERSECTION

EXTENDED CROSSWALK LINE MUST LINE UP WITH EDGE OF POLE.

NOTE:

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TYPICAL INTERSECTION

EXTENDED CROSSWALK LINE MUST LINE UP WITH EDGE OF POLE.

NOTE:

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TYPICAL INTERSECTION

EXTENDED CROSSWALK LINE MUST LINE UP WITH EDGE OF POLE.
NOTE:
EACH LOCATION IS SITE SPECIFIC AND REQUIRES CONSULTATION WITH THE ROADWAY LIGHTING AND TRAFFIC CONTROL DIVISION.

CITY OF LONDON STANDARD DRAWING

SIDEWALK TRANSITION LOCATIONS AT NEW SIGNALIZED INTERSECTIONS

DWG: STS – 11.04
DATE 2014 08 23
APPROVED BY CITY ENGINEER: 
NTS
NOTE:
EACH LOCATION IS SITE SPECIFIC AND REQUIRES CONSULTATION WITH THE ROADWAY LIGHTING AND TRAFFIC CONTROL DIVISION.

CITY OF LONDON STANDARD DRAWING

SIDEWALK TRANSITION LOCATIONS AT NEW SIGNALIZED INTERSECTIONS

DWG: STS - 11.05
DATE: 2014 08 23
APPROVED BY CITY ENGINEER: [Signature]

NOTES:

- Pole 'A' and Pole 'B' are specific to each location and require consultation.
- Pedestrian push button pole is located.
- Extend back edge of crosswalk on both sides to the back edge of pole base with 1.5m on each side.
- Curb cut for extended crosswalk line must line up with the edge of pole.
- Start crosswalk in line with concrete curb cut.
- Concrete boulevard to back edge of pole base.
- Curb cut for sidewalk transition varies.
- Tactile plates vary.
- Sidewalk transition locations vary at new signalized intersections.
CITY OF LONDON STANDARD DRAWING

TACTILE PLATE LOCATION DETAILS AND CROSS-SECTIONS

DWG: STS - 11.06  DATE: 2014 08 21  APPROVED BY: [Signature]

NTS

SECTION 'A'-A

SECTION 'B'-B

SECTION 'C'-C

CURB AND GUTTER

TACTILE PLATE

CONC. CURB & GUTTER

CONC. SIDEWALK

0.9m (MIN.)

0.15-0.2m

1.0m

1.2m (MIN.)

2% MAX. SLOPE

4% MAX. SLOPE

4% MAX. SLOPE

2.12m MIN.

4\% MAX. SLOPE

4\% MAX. SLOPE

4\% MAX. SLOPE

(1.5m MINIMUM)

(1.5m MINIMUM)

SAFE PED. CROSSING ROUTE

SAFE PED. CROSSING ROUTE

VARIES

VARIES

VARIES

VARIES

NARROW SIDEWALK DETAIL

MID-BLOCK TRANSITION DETAIL

CURB AND GUTTER

(SEE DWG. STS-11.06 TO 1.049)

TACTILE PLATE

(SEE DWG. STS-11.06 TO 1.049)
TACTILE PLATE - ISLAND LOCATIONS AND CROSS-SECTIONS

CITY OF LONDON STANDARD DRAWING

CURB RAMP AT MEDIAN
(NARROW ISLAND)

RAISED MEDIAN

SECTION 'D'-'D'

CURB & GUTTER

TACTION PLATE

SAFETY PED. CROSSING ROUTE
(1.5m MINIMUM)

1.0m

TACTILE PLATE

CONC. SIDEWALK

CURB RAMP AT MEDIAN
(WIDE ISLAND)

SECTION 'E'-'E'

SAFETY PED. CROSSING ROUTE
(1.5m MINIMUM)

1.0m

CITY OF LONDON STANDARD DRAWING

TACTILE PLATE - ISLAND LOCATIONS AND CROSS-SECTIONS

DWG: STS - 11.07

DATE 2012 08 23

APPROVED BY
CITY ENGINEER: Shane Agee

NTS
TACTILE PLATE DETAIL

SECTION THROUGH TACTILE PLATE

NOTE: CONCRETE MUST PROTRUDE THROUGH ALL LIFTING HOLES AND BE WIPED FLUSH. ANY HOLES SHALL BE FILLED WITH CONCRETE CAULKING.

CROSS-SECTION OF TACTILE PLATE

ACCESS RAMP TO ROAD

DRAINAGE SLOTS ON EACH FRONT CORNER. MINIMUM 100mm WIDE

TACTILE PLATE

CURB & GUTTER

NODE DETAIL

LIFTING HOLE FILLED WITH CONCRETE

CONCRETE
NOTES:

1. CONFIGURATION LAYOUT OF PLATES IS NOT LIMITED TO THE EXAMPLES SHOWN.
2. MORE OR LESS PLATES MAY BE REQUIRED TO COVER THE REQUIRED TRANSITION AREA.
3. FOR DISTANCES FROM PLATE TO BACK EDGE OF CURB AND EDGE OF TRANSITION, SEE STS—11.06.
4. USE OF DETAILS 'B' & 'C' REQUIRE PRIOR APPROVAL BY TRANSPORTATION PLANNING & DESIGN OR ROADWAY LIGHTING & TRAFFIC CONTROL DIVISIONS.

CITY OF LONDON STANDARD DRAWING

TACTILE PLATE LAYOUT

DWG: STS - 11.09 DATE 2015 02 26 APPROVED BY CITY ENGINEER: [Signature]