### Traffic Signal Legend

#### (Not to Scale)

<table>
<thead>
<tr>
<th>Item</th>
<th>Existing</th>
<th>Proposed</th>
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<tbody>
<tr>
<td>Controller Cabinet</td>
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<tr>
<td>Communication Cabinet</td>
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<tr>
<td>Master Controller</td>
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<tr>
<td>Masthead Master Controller</td>
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<tr>
<td>Uninterruptible Power Supply</td>
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<tr>
<td>Service Installation w/ Pole Mounts</td>
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<tr>
<td>Red/Green Mounts w/ Ground Mounts</td>
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<tr>
<td>Telephone Connection</td>
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<tr>
<td>Steel Mast Arm Assembly and Pole</td>
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<td>Aluminum Mast Arm Assembly and Pole</td>
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<tr>
<td>Steel Combination Mast Arm Assembly and Pole w/ Reflective Trim</td>
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<tr>
<td>Signal Post</td>
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<tr>
<td>Wood Pole</td>
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<tr>
<td>Guy Wire</td>
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<tr>
<td>Sign Head w/ Reflective Backplate</td>
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<tr>
<td>Sign Head w/ Reflective Backplate - Highly Reflective</td>
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<tr>
<td>Flasher Installation</td>
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<tr>
<td>Pedestrian Signal Head</td>
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<tr>
<td>Pedestrian Push Button w/ Accessible Pedestrian Push Button</td>
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<tr>
<td>Radar Detectors</td>
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<tr>
<td>Video Detection Camera</td>
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<tr>
<td>High/Low Detection Zone</td>
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<tr>
<td>Pan, Tilt, Zoom (PTZ) Camera</td>
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<tr>
<td>Emergency Vehicle Light Detector</td>
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<tr>
<td>Compass Beacon</td>
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<tr>
<td>Wireless Interconnection</td>
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<tr>
<td>Wireless Interconnect Radio Repeater</td>
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### Standard Traffic Signal Design Details

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- **Communication Cabinet**
- **Master Controller**
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#### Notes

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**LOOP DETECTOR NOTES**

1. Each pair of loop wires shall be placed in a separate empty coilable nonmetallic conduit from the edge of pavement to the manhole. Spacing between the holes, drilled in the pavement shall not be less than 6" (150 mm). Empty coilable nonmetallic conduit shall be included in the cost of the loop wire.

2. The number of loop turns shall be as recommended by the manufacturer. Adjacent sides of the loops shall be installed in such a way that the current flows in the same direction to reinforce its magnetic fields for small vehicle detection.

3. Each loop lead-in shall be identified and permanently tagged in the manhole. Each lead-in cable tag shall indicate the location of the loop, loop rotation (clockwise/counter-clockwise), loop lead-in direction on loop cable number and location in cabinet. Number of turns in the detector loops in water proof ink as indicated on the District 1 standard traffic signal design detail. The contractor shall mark loop locations on record drawings and present to the engineer after final inspection. Loops shall be marked by lane and loop number. See detail below.

4. All loop cables shall be fastened with plastic tie wrap to the manhole hooks.

5. In asphalt pavement, loops should be placed in the center and shoulders marked at the curb with a saw-cut. The saw-cut shall be cut in accordance with local and EPA dust control requirements. Detector loops shall not be installed in wet conditions and the saw-cuts must be free of debris and residue such as dust and water which is to be achieved by the use of compressed air, wire brushing and heat drying according to sealant manufacturer requirements. The detector wire shall be held in place by the use of form wedges. Wedges shall be spaced no more than 18" (450 mm) apart.

6. Loop splices shall be soldered using a soldering iron, blow torches or other devices which oxidize copper cable shall not be allowed for soldering operations. See detail below.

7. Presized detector loops shall be used, as shown on the plans, where new concrete pavement is proposed. The installation of presized loops shall be in accordance with the District 1 specifications or as directed by the engineer.

**LOOP LEAD-IN CABLE TAG**

- **A.** Lane 1 is the lane closest to the centerline of the roadway.
- **B.** Loop 4 is the loop in the lane closest to the intersection.
- **C.** Label loop cable "in" on loop cable "out".
- **D.** Label loop cable clockwise or loop cable counterclockwise.

**STATE OF ILLINOIS**

**DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE**

**STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

**TS-05**

**DETAILED DRAWING SHEET**

**TOTAL SHEETS**

**SHEET NUMBER**

**SCALES**

**DEPARTMENT OF TRANSPORTATION**

**ILLINOIS**
NOTES:
1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 6 FT. 6 IN. ABOVE SIDEWALK LEVEL AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE SIGNAL POST IN THE TRAFFIC SIGNAL INSTALLATION PLAN.
2. THE PEDESTRIAN SIGNALS MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA, INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE CONCRETE SIGNAL SIGNALING Retrofit SURFACE LEVELING AND UPHILLING TO THE CASSETTE SURFACE UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
4. THE PEDESTRIAN SIGNAL MAST ARM SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATION AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.

TRAFFIC SIGNAL EQUIPMENT OFFSET

<table>
<thead>
<tr>
<th>TRAFFIC SIGNAL EQUIPMENT</th>
<th>COMBINATION CURB AND CURTAIN MINIMUM DISTANCE FROM BACK OF CURB TO CURTAINLINE OF FOUNDATION</th>
<th>SHOULDERS/NON-CURVED AREA MINIMUM DISTANCE FROM CURTAINLINE OF FOUNDATION TO CURTAINLINE OF FOUNDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRAFFIC SIGNAL MAST ARM POLE</td>
<td>6 FT (1.8m) SHOULDER/MOUNTED SIGNAL POLE</td>
<td>6 FT (1.8m) MINIMUM</td>
</tr>
<tr>
<td>TRAFFIC SIGNAL POST</td>
<td>4 FT (1.2m) SHOULDER</td>
<td>4 FT (1.2m) MINIMUM</td>
</tr>
<tr>
<td>PEDESTRIAN SIGNAL POST</td>
<td>4 FT (1.2m) PEDESTRIAN</td>
<td>4 FT (1.2m) MINIMUM</td>
</tr>
<tr>
<td>PEDESTRIAN Pushbutton POLE</td>
<td>4 FT (1.2m) PEDESTRIAN</td>
<td>4 FT (1.2m) MINIMUM</td>
</tr>
<tr>
<td>PEDESTRIAN Pushbutton POST</td>
<td>4 FT (1.2m) PEDESTRIAN</td>
<td>4 FT (1.2m) MINIMUM</td>
</tr>
<tr>
<td>TEMPORARY MOUND POLE</td>
<td>6 FT (1.8m) MINIMUM</td>
<td></td>
</tr>
<tr>
<td>TEMPORARY MOUND POST</td>
<td>6 FT (1.8m) MINIMUM</td>
<td></td>
</tr>
<tr>
<td>CONTROLLER CABINET</td>
<td>6 FT (1.8m) SHOULDER MINIMUM</td>
<td></td>
</tr>
<tr>
<td>CONTROLLER CABINET POST</td>
<td>6 FT (1.8m) SHOULDER MINIMUM</td>
<td></td>
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</tbody>
</table>

NOTES:
1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL DEVICE WHERE THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.
3. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.
NOTES:
1. Conduit depth shall be a minimum of 30" (760mm) below the bottom of the handhole for any cutting ground.
2. The minimum conduit depth applies to all conduits placed under roadway pavement, multi-use paths, sidewalks and soil subgrade.
3. The minimum conduit depth applies to all conduits, heavy duty conduits and double conduits.

HANDHOLE WITH MINIMUM CONDUIT DEPTH

POST CAP MOUNT

MAST ARM MOUNT

EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL

NOTE:
1. All electrical items, except items #2 and #11 shall be aluminum or cast iron.
2. Item #1- OZ/GEDNEY FSX-1-50 or equivalent.
3. Item #2- MULBERRY CON-O-SHADE LAMP SHIELD or equivalent.

SHEET NO. 6 OF 7 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOTE:
2. Removal of the existing conduit from the handhole and the modification of the conduit shall be performed with the use of the proper tools.
3. The conduit shall remain in the handhole to prevent any damage to the conduit.

HANDHOLE TO INTERCEPT EXISTING CONDUIT

NOTE:
2. Removal of the existing conduit from the handhole and the modification of the conduit shall be performed with the use of the proper tools.
3. The conduit shall remain in the handhole to prevent any damage to the conduit.

SHROUD

NOTE:
1. The height of the shroud shall cover the anchor bolts, nuts and mast arm pole base.
2. The supplier shall verify the above dimensions based on mast arm requirements.
3. Dimension "A" is equal to the diameter of the mast arm pole at the top of the shroud.

MODIFY EXISTING TYPE "D" FOUNDATION TO TYPE "C" FOUNDATION

NOTE:
2. Removal of the existing conduit from the handhole and the modification of the conduit shall be performed with the use of the proper tools.
3. The conduit shall remain in the handhole to prevent any damage to the conduit.

MODIFY EXISTING TYPE "D" FOUNDATION

NOTE:
2. Removal of the existing conduit from the handhole and the modification of the conduit shall be performed with the use of the proper tools.
3. The conduit shall remain in the handhole to prevent any damage to the conduit.
PEDESTRIAN PUSH BUTTON POST, TYPE A

SIGN TABLE

<table>
<thead>
<tr>
<th>SIGN</th>
<th>DIMENSIONS</th>
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<tbody>
<tr>
<td>R10-3a</td>
<td>9&quot; (228mm) X 12&quot; (305mm)</td>
</tr>
<tr>
<td>R10-3b</td>
<td>9&quot; (228mm) X 12&quot; (305mm)</td>
</tr>
<tr>
<td>R10-3c</td>
<td>9&quot; (228mm) X 15&quot; (381mm)</td>
</tr>
</tbody>
</table>

GROUND ROD
NO. 6 GROUND CABLE
GROUND CLAMP

4.5" (114mm) OUTSIDE DIAMETER
GALVANIZED STEEL POST

ACCESSIBLE PEDESTRIAN STATION
PEDESTRIAN PUSH BUTTON OR
SIGN (SEE SIGN TABLE)

SQUARE CAST IRON GALVANIZED BASE
CENTERED ON TYPE A FOUNDATION

1/2" (13mm) DIAMETER X 11" (280mm) LENGTH ANCHOR BOLT,
6" (152mm) THREAD LENGTH, 12" (305mm) GALVANIZE LENGTH.
3" (76mm) THREAD LENGTH SHALL EXTEND ABOVE TOP OF FOUNDATION.

2.5" (65mm) RIGID GALVANIZED
STEEL CONDUIT, CONDUIT TO
EXTEND 1" (25mm) ABOVE TOP
OF FOUNDATION WITH GROUNDING
BUSHING.

BOLT PATTERN

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DEPARTMENT OF TRANSPORTATION
STATE OF ILLINOIS

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USER NAME
PLOT SCALE
50.0000 ' / in.

PLOT DATE
1/13/2014

DATE DESIGNED
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REVISED