



PEDERNALES ELECTRIC COOPERATIVE

SPECIFICATION

FOR

IDENTIFICATION TAGGING GUIDELINES

Specification Number: 600-100-1013

Approved:   
Paul Lochte, P.E.  
Electrical Engineering Director

Original Date: October 2, 2013

Date	Prepared By	Reviewed By	Revision	Initials
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## 1.0 SCOPE

This specification addresses developing and installing an identification tagging system for PEC equipment which includes poles, switches, and all URD primary equipment and conductors. The overall objective of the specification is to provide PEC with a consistent identification tagging guideline, which will be used as a tool to improve the distribution system across the Cooperative.

All PEC Districts are in agreement concerning the necessity of the comprehensive identification tagging as well as the standards and methods governing the tagging program. Implementation of the program would be immediate, with all new equipment, poles and URD primary conductor receiving the ID tags on an “as-built” basis. Retroactive tagging would need to be budgeted and planned on a yearly basis.

Ownership and allocation of pole and switch numbers would reside with the Engineering Department and the Vendor. Each District would be allotted a range of tag numbers which would be dispensed on an “as-needed” basis. This would ensure that all PEC Districts would be using consistent materials and would allow blanket pricing for the tags. PEC Pole tags will need to be installed on any new pole to meet the current NESC Section 21 Rule 217A3 standards. Pole and switch numbers will be turned in with the “As Builds Process” to District Planning and entered into the PEC mapping system.

Tagging for primary URD equipment and conductor would be managed at the District level utilizing Engineering Standards-approved materials. A methodology for the URD tagging system has been approved and is currently being used in several PEC Districts during new construction.

Positive and accurate identification of equipment is the focus of implementing this specification and leads to several additional benefits listed below:

- **Safety:**
  - A positive identification of poles, switches, and URD cables lessens the likelihood of mistakes during normal operations as well as restoration duties. All approved tagging materials will meet current ANSI Z535.3 - Criteria for Safety Symbols standards, NESC standards and 29 CFR 1910.303 OSHA standards.
- **Improved restoration times:**
  - A consistent tagging system allows trouble-shooting and switching times to be reduced, and for approved switching plans to be implemented in the event of larger outages.

- **Inventory accuracy:**
  - All equipment (poles, switches, lights, etc) can be more accurately counted and tracked by utilizing the tagging system.
- **Mapping accuracy:**
  - Mapping systems would be more accurate and easier for PEC field crews to use for navigation related to PEC equipment.

## 2.0 IDENTIFICATION TAGGING GUIDELINES & REQUIREMENTS

First step will require that all shrubbery on the front & side of all PEC equipment be trimmed and pruned when necessary.

- PEC easements call for 5 foot on the sides and 10 foot in front of the equipment as required by 29 CFR 1910.303 OSHA standards and NESC standards.

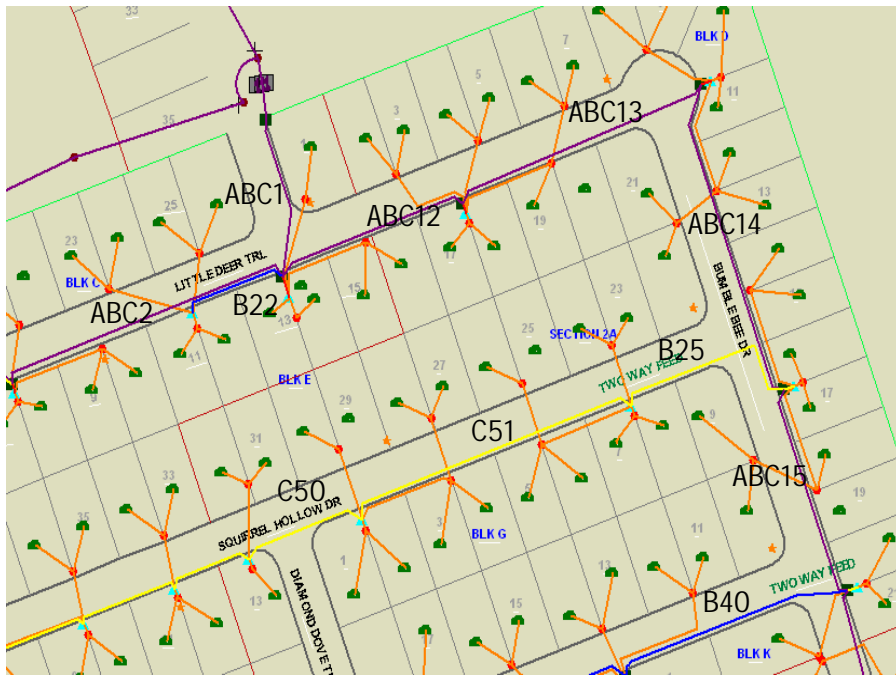


**Figure 1 – Example shown not in compliance with PEC easement requirements**

- Next step is to go every Vault and Transformer identifying all the cables, phasing and location the cables go. As PEC field personnel complete this task, PEC field personnel will make the corrections on GIS. This is a very

critical step to keep consistency between the field and GIS, and must not be missed during this process.

- At that time PEC field personnel can begin numbering PEC cables starting at the riser.
  - ABC or CBA depending on the way the phasing comes from the riser.
  - Numbers will begin with 0 from the riser.
  - Cable numbering instructions are located in Section 3.0, Performance Guidelines for Numbering.



**Figure 2**

- PEC field personnel will set up at each Vault or Transformer and mark the appropriate numbers and verbiage on the inside lids in reference to where that cable is located in this vault.
  - Example of this task as shown in Figure 3. This vault has two LBC3's. C10 comes in on the right pipe for C phase. B10 comes in on the left pipe for B phase.



**Figure 3**

- PEC field personnel will Tag the cables the same as marked on the lids. Also if cables need to be re-taped because of phase changes, that task can be done at this time.



**Figure 4**



**Figure 5**

- Be sure to move the fault indicators directly under the corresponding outside number as shown in Figure 7.
- Installing the stickers and Two Way Feed/Does Not Phase labels on the outside of each piece of equipment will be the last task to complete as shown in Figure 6.



**Figure 6**



### 3.0 PERFORMANCE GUIDELINES FOR NUMBERING

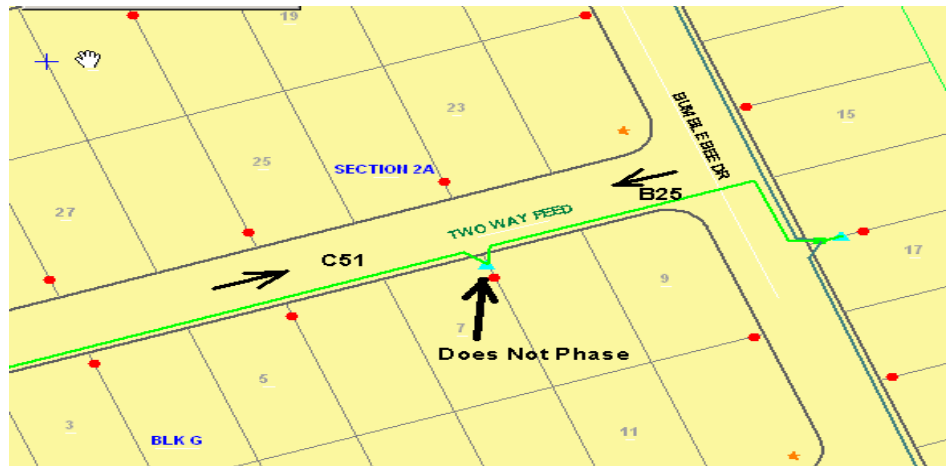
- Example of numbering the cables as shown in Figure 7:
  - PEC enclosure will have A1, B1 and C1 coming in and A2, B2 and C2 leaving out. Use AF, BF and CF for Stub-Outs.
  - The single phase taps will be a higher number but using the 2 to correspond to the 3 phase leaving. For example A2 for A phase leaving and 12 for the tap leaving.
  - On this PEC Vault B22 is also a tap which corresponds with B2 leaving.
  - If the Transformer is directly behind the Vault, we will use a T. On this vault it is labeled "AT".
  - We are now relocating the PEC Three-In-One label down to leave more room for the numbering.
  - The order of the exterior labels will correspond with the order of the cables inside the equipment.



**Figure 7**

- When we have two way feeds.
- We want to see the cables as two totally different numbers.

Figures 8 through 11 will show PEC field personnel how they can work the numbering to make this transition.



**Figure 8**



**Figure 9**



**Figure 10**



**Figure 11**

- Sometimes PEC field personnel may have a situation where one of the 3 phases drops off to catch a transformer.
- In this case PEC field personnel can number for example C26 instead of C16 so when PEC field personnel goes back to the next vault they can continue the required sequence numbering as shown in Figures 12 through 15.



**Figure 12**



**Figure 13**



**Figure 14**

**Figure 15**



## ATTACHMENT 1 Pole and Switch Tag

Equipment	Number of Required Tags	
Recloser	1	<p><b>Notes:</b></p> <ol style="list-style-type: none"> <li>1. All pole tags shall be located on the roadside of pole.</li> <li>2. All switch/equipment tags shall be located on roadside of pole, except when there are multiple pieces of equipment on pole. Switch/Equipment tags will then be placed directly below the corresponding switch/equipment at the height indicated on this drawing.</li> <li>3. Tags shall not cover up pole birth mark. If pole birth mark is facing directly towards roadside, the tags may be offset up to maximum of 25 degrees either direction.</li> </ol>
Fuse	1	
Regulator	1	
3Ph Recloser (one Tap)	1	
3-1Ph Reclosers(one tap)	1	
3-1Ph Fuses(one tap)	1	
Multiple Taps	1 for each tap	

**SWITCH NUMBER**  
FIVE DIGIT NUMBER.

**POLE NUMBER**  
SIX DIGIT NUMBER

Material Number	Item Description
2001790	Tag Pole 6 Digit
2002044	Tag Switch/Equipment 5 Digit
3000460	Tag Nail 1 1/2", Round


  

	<b>PEDERNALES ELECTRIC COOPERATIVE, INC.</b>	<b>Pole and SwitchTag</b>						
	<b>CONSTRUCTION ASSEMBLY UNIT</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: 0.8em;">drawn:</td> <td style="font-size: 0.8em;">approved</td> <td style="font-size: 0.8em;">date:</td> </tr> <tr> <td style="font-size: 0.8em;"><b>JBS</b></td> <td style="font-size: 0.8em;"><b>MJB</b></td> <td style="font-size: 0.8em;">December 16, 2013</td> </tr> </table>	drawn:	approved	date:	<b>JBS</b>	<b>MJB</b>	December 16, 2013
drawn:	approved	date:						
<b>JBS</b>	<b>MJB</b>	December 16, 2013						

## ATTACHMENT 2 Single Phase Transformer and Enclosure Tagging

Tags Not To Scale

Material Number	Material Description	Material Number	Material Description
3000400	DECAL URD A, B, C, T, 0-9 REFLECTIVE KIT	3000430	DECAL URD NBR 4 REFLECTIVE (QTY=25)
3000421	DECAL URD LETTER A REFLECTIVE (QTY=25)	3000431	DECAL URD NBR 5 REFLECTIVE (QTY=25)
3000423	DECAL URD LETTER B REFLECTIVE (QTY=25)	3000432	DECAL URD NBR 6 REFLECTIVE (QTY=25)
3000424	DECAL URD LETTER C REFLECTIVE (QTY=25)	3000433	DECAL URD NBR 7 REFLECTIVE (QTY=25)
3000425	DECAL URD LETTER T REFLECTIVE (QTY=25)	3000434	DECAL URD NBR 8 REFLECTIVE (QTY=25)
3000450	DECAL URD LETTER F REFLECTIVE (QTY=25)	3000435	DECAL URD NBR 9 REFLECTIVE (QTY=25)
3000426	DECAL URD NBR 0 REFLECTIVE (QTY=25)	3000291	DECAL PEC - TX
3000427	DECAL URD NBR 1 REFLECTIVE (QTY=25)	3000470	TAG SILICONE ADHESIVE SEALANT
3000428	DECAL URD NBR 2 REFLECTIVE (QTY=25)	2001790	TAG POLE 6 DIGIT
3000429	DECAL URD NBR 3 REFLECTIVE (QTY=25)		



**PEDERNALES ELECTRIC  
COOPERATIVE, INC.**  
IDENTIFICATION TAGGING SPECIFICATIONS

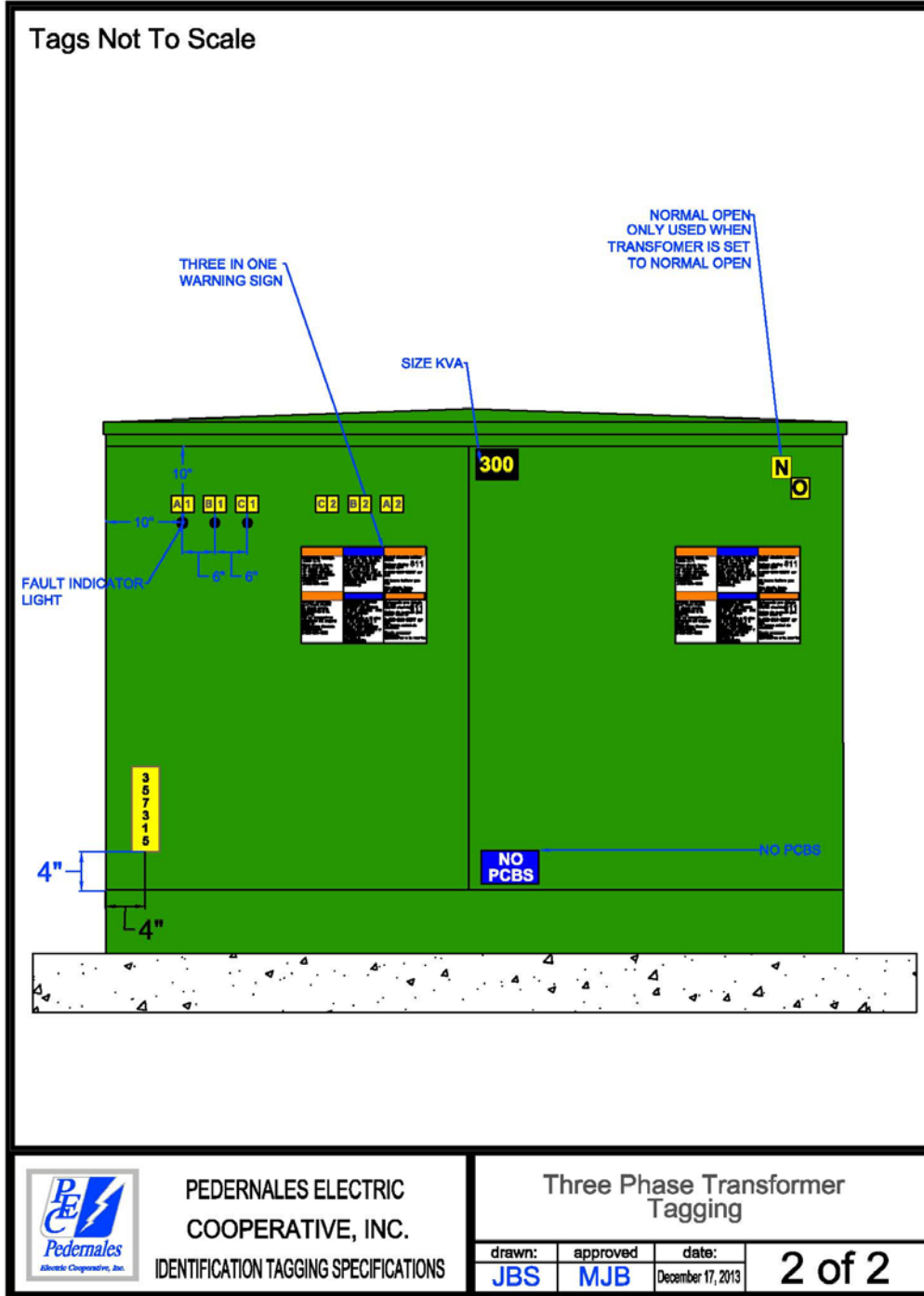
Single Phase Transformer  
and Enclosure Tagging

drawn: <b>JBS</b>	approved: <b>MJB</b>	date: December 17, 2013
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1 of 2



# ATTACHMENT 3 Three Phase Transformer Tagging



NOTES:

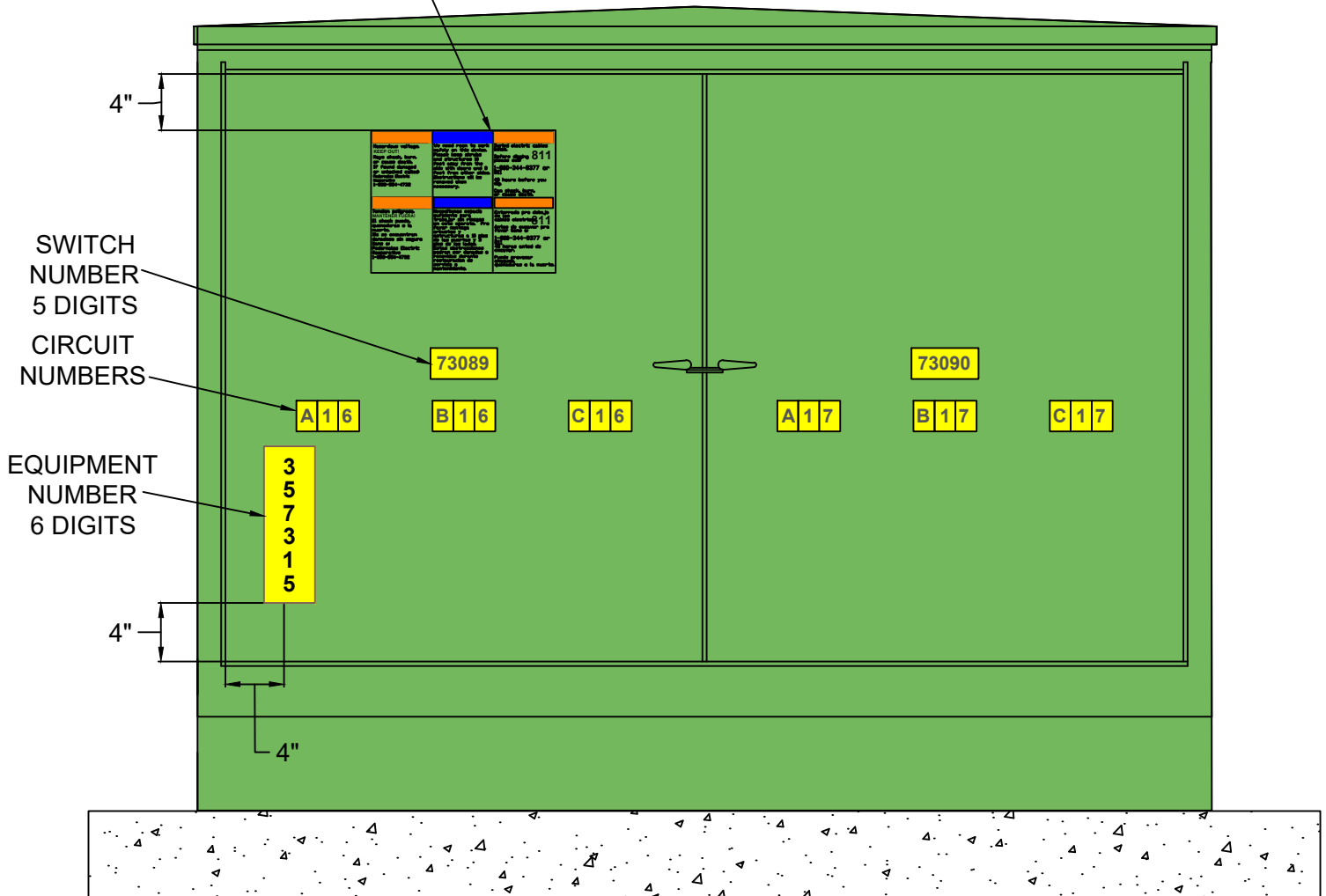
- SWITCH/EQUIPMENT TAGS WILL BE PLACED DIRECTLY BELOW THE CORRESPONDING SWITCH/EQUIPMENT AT THE HEIGHT INDICATED ON THIS DRAWING.
- SEE PAGE 2 OF 2 (600-105) FOR DECAL AND TAG PART NUMBERS.
- TAGS NOT TO SCALE.
- REPEAT FOR ALL DOORS OF SWITCHGEAR ENCLOSING SWITCHES OR FUSES.



*Michelle Galloway*

02/08/2019

THREE IN ONE  
WARNING SIGN  
CENTERED HORIZONTALLY  
ON DOOR



SWITCHGEAR

REV | A | DATE | 01/30/2019 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | EJD | APR | MMG



MATERIAL  
SPECIFICATION

TYPICAL SWITCHGEAR ENCLOSURE  
TAGGING PAGE 1 OF 2

drawn: RWC	approved: MMG	date: 01/30/2019	600-104



*Michelle Galloway*

02/08/2019

SEE PAGE 1 OF 2 (600-104) FOR PLACEMENT DIAGRAM

MATERIAL NUMBER	ITEM DESCRIPTION
3000421	DECAL URD NBR A REFLECTIVE (QTY=25)
3000423	DECAL URD NBR B REFLECTIVE (QTY=25)
3000424	DECAL URD NBR C REFLECTIVE (QTY=25)
3000425	DECAL URD NBR T REFLECTIVE (QTY=25)
3000426	DECAL URD NBR 0 REFLECTIVE (QTY=25)
3000427	DECAL URD NBR 1 REFLECTIVE (QTY=25)
3000428	DECAL URD NBR 2 REFLECTIVE (QTY=25)
3000429	DECAL URD NBR 3 REFLECTIVE (QTY=25)
3000430	DECAL URD NBR 4 REFLECTIVE (QTY=25)
3000431	DECAL URD NBR 5 REFLECTIVE (QTY=25)
3000432	DECAL URD NBR 6 REFLECTIVE (QTY=25)
3000433	DECAL URD NBR 7 REFLECTIVE (QTY=25)
3000434	DECAL URD NBR 8 REFLECTIVE (QTY=25)
3000435	DECAL URD NBR 9 REFLECTIVE (QTY=25)
3000291	DECAL PEC-TX
3000470	TAG SILICONE ADHESIVE SEALANT
3000483	TAG POLE 6 DIGIT
3000484	TAG SWITCH/EQUIP 5 DIGIT
3000350	DECAL HAZARDOUS VOLTAGE WILL SHOCK

REV | A | DATE | 01/30/2019 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | EJD | APR | MMG



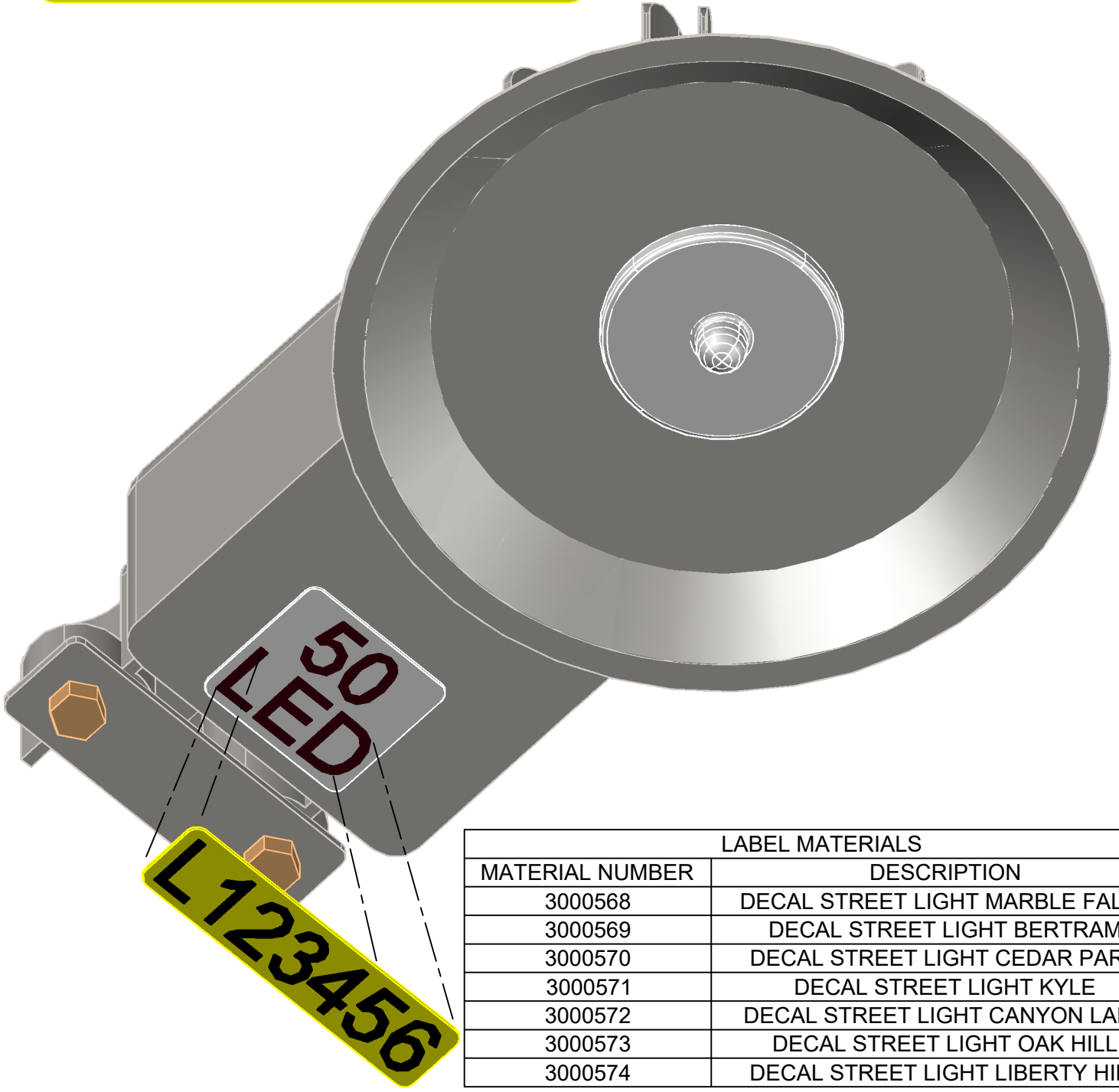
MATERIAL  
SPECIFICATION

TYPICAL SWITCHGEAR ENCLOSURE  
TAGGING PAGE 2 OF 2

drawn:	approved:	date:
RWC	MMG	01/30/2019

600-105

# L123456



LABEL MATERIALS	
MATERIAL NUMBER	DESCRIPTION
3000568	DECAL STREET LIGHT MARBLE FALLS
3000569	DECAL STREET LIGHT BERTRAM
3000570	DECAL STREET LIGHT CEDAR PARK
3000571	DECAL STREET LIGHT KYLE
3000572	DECAL STREET LIGHT CANYON LAKE
3000573	DECAL STREET LIGHT OAK HILL
3000574	DECAL STREET LIGHT LIBERTY HILL

**LIGHT TRACKING NOTES:**

1. WHEN MOUNTED ON A PEC POLE, LIGHTS ARE TRACKED BY THE POLE NUMBER.
2. WHEN MOUNTED ON A MEMBER'S POLE, PLACE MEMBER'S LIGHT NUMBER STICKER OVER EXISTING LIGHT STICKER COVERING THE "LED" LETTERS.
3. LIGHTS SHALL BE 120/277 VOLTS.

REV | A | DATE | 01/20/2023 | REVISION | ISSUED FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG

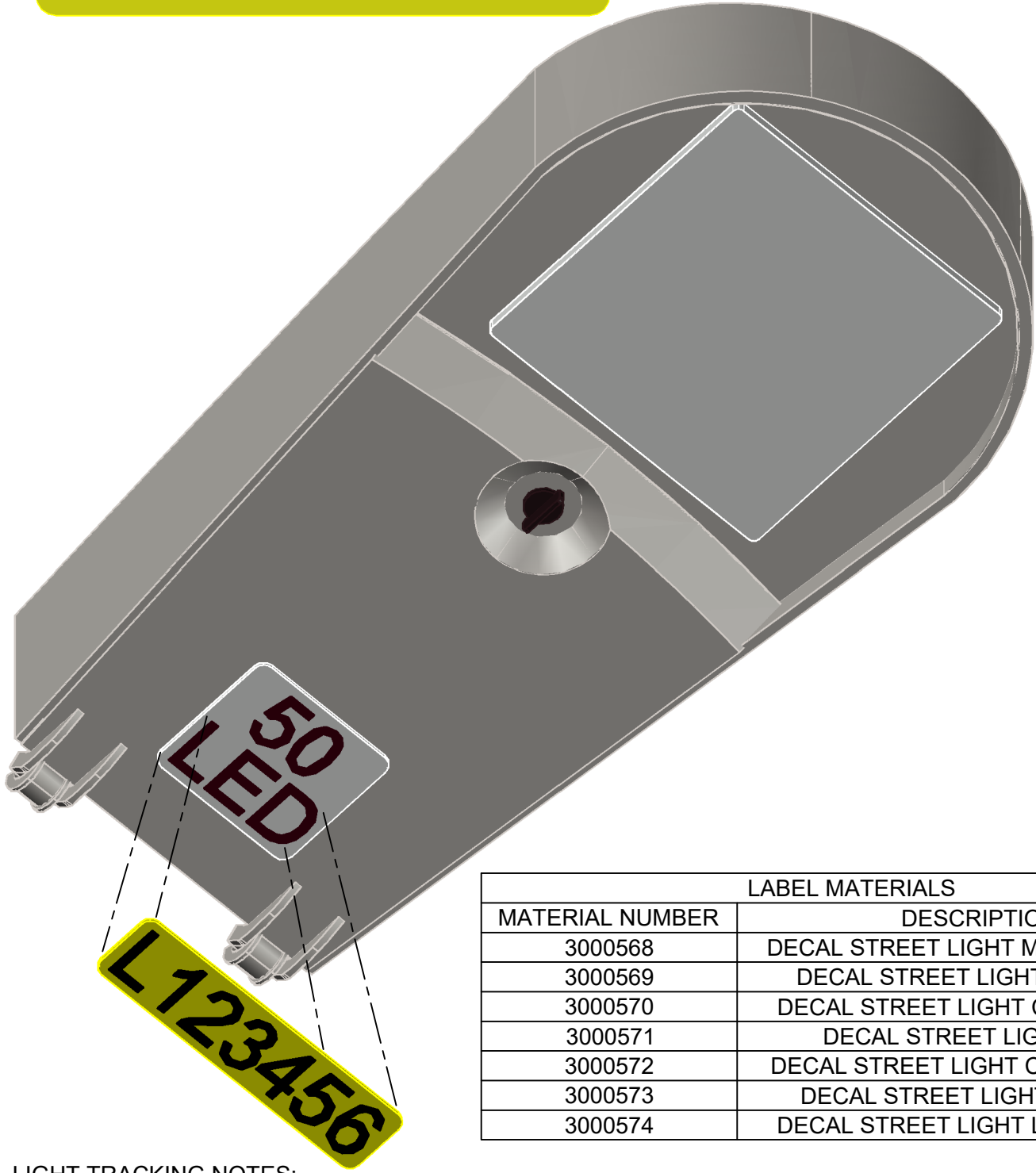


**LABELING AND TAGGING SPECIFICATIONS**

**LABELING FOR LIGHT ON MEMBER-OWNED POLE  
50W AREA LED LIGHT**

drawn:	approved:	date:	LIGHT LABELS AREA
RWC	MMG	01/20/2023	

# L 123456



LABEL MATERIALS	
MATERIAL NUMBER	DESCRIPTION
3000568	DECAL STREET LIGHT MARBLE FALLS
3000569	DECAL STREET LIGHT BERTRAM
3000570	DECAL STREET LIGHT CEDAR PARK
3000571	DECAL STREET LIGHT KYLE
3000572	DECAL STREET LIGHT CANYON LAKE
3000573	DECAL STREET LIGHT OAK HILL
3000574	DECAL STREET LIGHT LIBERTY HILL

**LIGHT TRACKING NOTES:**

1. WHEN MOUNTED ON A PEC POLE, LIGHTS ARE TRACKED BY THE POLE NUMBER.
2. WHEN MOUNTED ON A MEMBER'S POLE, PLACE MEMBER'S LIGHT NUMBER STICKER OVER EXISTING LIGHT STICKER COVERING THE "LED" LETTERS.
3. LIGHTS SHALL BE 120/277 VOLTS.

REV | A | DATE | 01/20/2023 | REVISION | ISSUED FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG



## LABELING AND TAGGING SPECIFICATIONS

LABELING FOR LIGHT ON MEMBER-OWNED POLE  
50W STREET AND 100W AREA/STREET LED LIGHT

drawn:	approved:	date:	LIGHT LABELS AREA/STREET
RWC	MMG	01/20/2023	