
Index 700-120 Enhanced Highway Signing Assemblies

ORIGINATION

Date: June 28, 2022

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COMMENTARY

The solar power assembly and battery unit for the wrong way vehicle detection is larger and more powerful than the one that is used for a typical enhanced highway signing assembly. As a result, the solar panel must be ground mounted and a ground mounted uninterruptible power supply (UPS) cabinet must be provided. Both the solar panel and the UPS cabinet must be installed close to the right of way line, outside the clear zone.

COMMENTS AND RESPONSES

BLACK = Industry Review Comments **BLUE** = Standard Plans Response **GREEN** = Change Made to Index

Name: Ricardo Policicchio

Date: 8/10/2022

COMMENT: Here are my comments:

1. Indicate the clearance distance from the box and cabinet to the edge of the concrete pad.

RESPONSE: This clearance is shown in Standard Plan 676-010 detail. Note 5 says to see cabinet installation details on 676-010 that includes maintenance service slab minimum dimensions.

2. Newer version of WWD includes 2 sets of thermal detectors on top of the cameras. Recommend including all features to avoid extra details in the plans. The latest detection systems does not match with standard drawing.

RESPONSE: The detector/camera types and specific placement of devices on the pole can vary by manufacturer. The standard plan is schematic in nature. Note 2 is intended to cover variability regarding exact type and placement of WWVDS components.

3. Maintenance person working in the cabinet will not be able to see the highlighted sign performance with the configuration shown on page 9.

RESPONSE: Agreed. Will update to place the cabinet and panels in a position slightly in front of the sign (so that the face is visible by technician at cabinet).

CHANGE MADE TO INDEX: Shifted cabinet and panels in plan view to be visible by technician.

Response Date: August 16, 2022

Name: Russ Snyder

Date: 8/10/2022

COMMENT: I have made some suggestions hopefully to clarify intent and enhance the revisions.

1. Detail B shows a solar panel on a pole:
 - a. What is the max height of the panel?
 - b. What is the max size of the panel?
 - c. How many panels can be attached to the pole?
 - d. What size/material is the pole?
 - e. *Note that the recently updated Tapco APL shows two sets of solar panels. The top panel is approx. 18ft above ground.

RESPONSE: The drawing depicts a generic assembly that can vary based on site conditions, manufacturer, and power requirements. We will consider making a revision to the detail/notes to make it clearer that this detail is meant to be generic and that manufacturer recommendations must be met.

2. Newer version of WWD includes 2 sets of thermal detectors on top of the cameras. Recommend including all features to avoid extra details in the plans. The latest detection systems does not match with standard drawing.

RESPONSE: The detector/camera types and specific placement of devices on the pole can vary by manufacturer. The standard plan is schematic in nature. Note 2 is intended to cover variability regarding exact type and placement of WWVDS components.

3. Detail B shows a solar panel on a pole: A transformer / breakaway base is not shown for the solar panel pole. Is it required?

RESPONSE: Bases are allowed but are not required if outside clear zone. Placing them close to ROW is intended to keep them outside clear zone.

4. Detail B shows a solar panel on a pole: Is the foundation diameter/depth/reinforcing for the solar panel pole shaft the same as for the other poles in this Index? If so, how is this information conveyed?

RESPONSE: The drawing depicts a generic assembly. Final foundation/depth/reinforcing for solar panel supports can vary by site conditions.

5. Detail B shows a solar panel on a pole: If a breakaway base is not used, what is the required embedment of the pole into the shaft?

RESPONSE: The drawing depicts a generic assembly. Final foundation/depth/reinforcing for solar panel supports can vary by site conditions.

6. Index 700-120 sht 1/11 Note 5 says "Install a concrete slab around all roadside assemblies on slopes 6:1 or greater. The minimum slab dimension is 6" by 4ft x 5ft." Index 700-120 revised sht 9/11 shows the slab on level ground. Is the intent that all Assembly-7s get maintenance slabs, or just if the slope is 6:1 or greater? Note that Index 676-010 just says if it is on a slope to

make the pad level, and thus seems to imply that a maintenance pad is required for all installations.

RESPONSE: The maintenance pads are required for all.

7. Where in Index 676-010 does it address concrete class, number/size/embedment of anchors, reinforcement, etc for the maintenance pads?

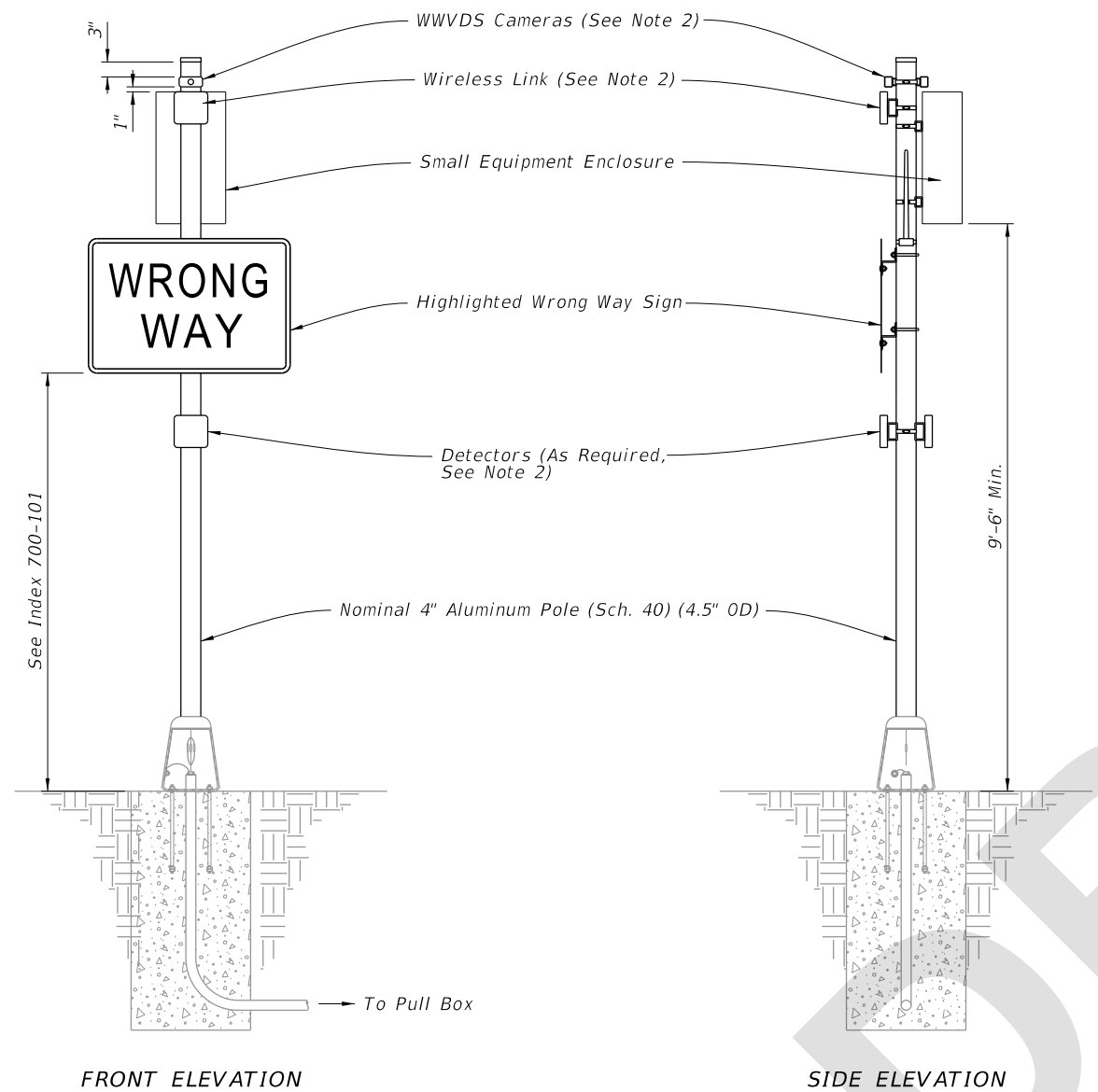
RESPONSE: Will update note #1 for both pole mount and ground mount with something similar to Note 2 on 635-001: "Maintenance Service Slab: use Class NS concrete and slope..."

CHANGE MADE TO INDEX: Updated the note 1's in Index 676-010 based on response above.

8. Note 3....says to install the solar panel pole as close to the right of way as possible. Since the panel extends beyond the pole, the note should read install pole so that the solar panel is as close to the right of way as possible. Also, shouldn't there be some required offset between R/W and pad/equipment for maintenance and construction tolerances?

RESPONSE: We believe the current language and depiction is sufficient to communicate the desired outcome to the designer (e.g., all equipment is within ROW and there is some degree of space shown between edge of equipment and ROW). The drawing depicts a generic assembly. Final placement and details can vary by site conditions and be shown in plans.

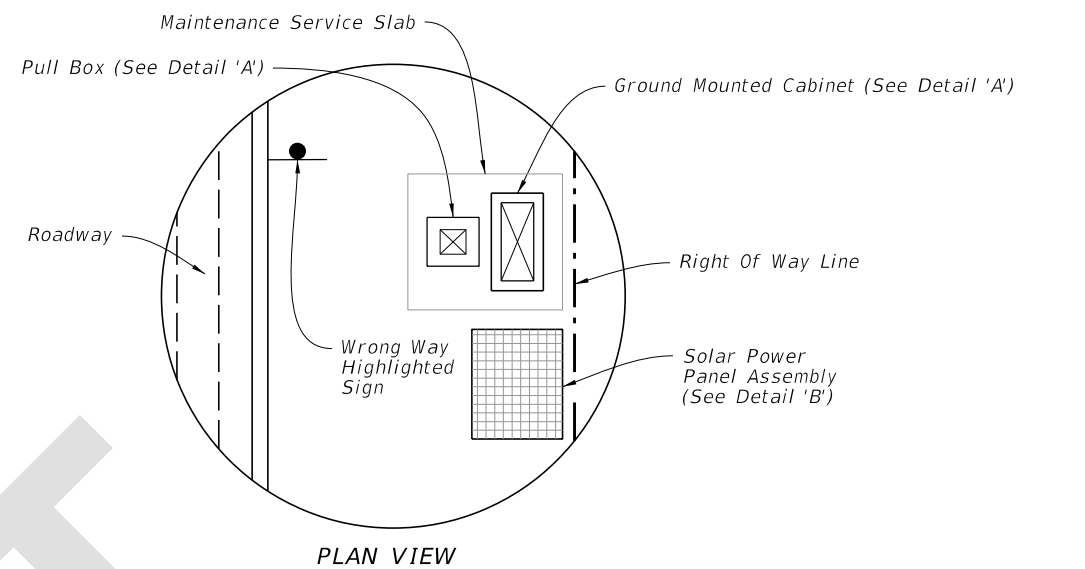
Response Date: August 16, 2022



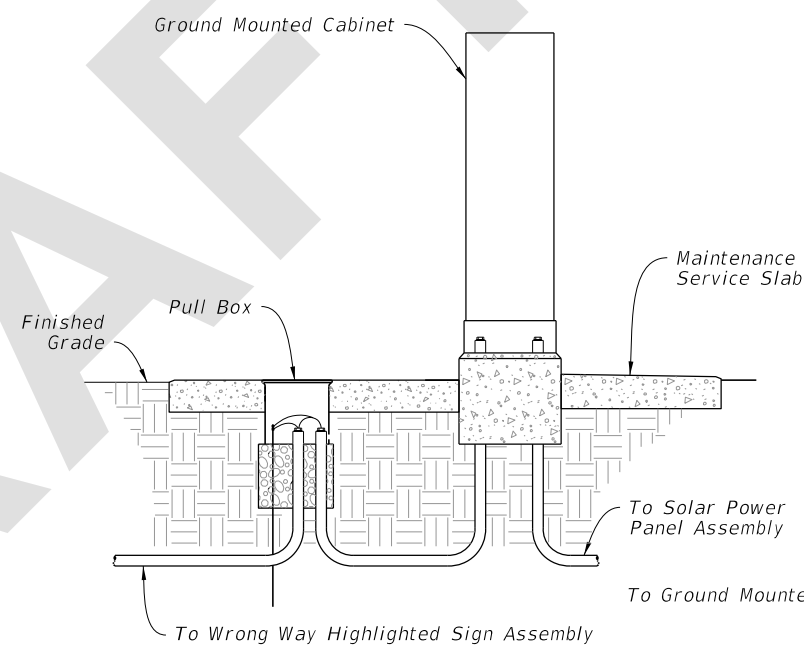
FRONT ELEVATION

SIDE ELEVATION

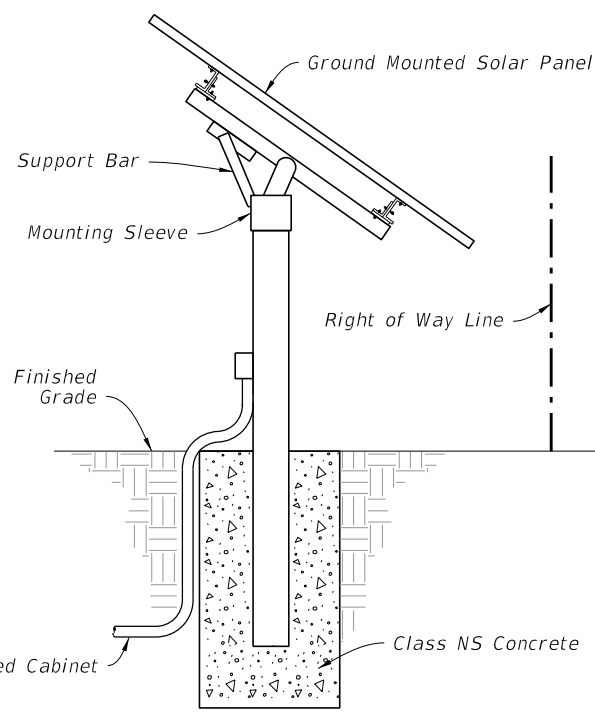
WRONG WAY HIGHLIGHTED SIGN ASSEMBLY



PLAN VIEW



DETAIL 'A'



DETAIL 'B'


SOLAR POWER ASSEMBLY

NOTES:

1. The Wrong Way Highlighted Sign Assembly detail shows a conventionally powered Type A7 assembly.
2. Install Wrong Way Vehicle Detection System (WWVDS) devices including cameras, detectors, wireless links, antennas, enclosures, and electronics in accordance with the manufacturer's instructions.
3. The Solar Power Assembly details show the grounded mounted solar panel and ground mounted cabinet. Install controller and batteries in the same ground mounted cabinet. Install a separate pole for mounting the solar panel. Install the solar panel pole and cabinet as close to the right of way boundary as possible. Orient solar panel to face South.
4. Foundation reinforcement not shown.
5. See Index 676-010 for cabinet installation details.

ROADSIDE SIGN ASSEMBLY-7

8/15/2022 8:43:26 AM

LAST REVISION 11/01/22	REVISION	DESCRIPTION:	 FY 2023-24 STANDARD PLANS	ENHANCED HIGHWAY SIGNING ASSEMBLIES	INDEX 700-120	SHEET 9 of 11
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