

# ORIGINATION FORM

Proposed Revisions to a Standard Plans Index  
(Please provide all information – Incomplete forms will be returned)

## Contact Information:

Date: July 17, 2018  
Originator: **Ed Cashman**  
Phone: (850) 414-4314  
Email: edward.cashman@dot.state.fl.us

## Standard Plans:

Index Number: **700-120**  
Sheet Number (s): 1-9  
Index Title: Electronic Display Sign - Roadside Flashing  
Beacons

## Summary of the changes:

Redeveloped Index; Renamed Index, Added Configurations and Assembly type designations to combine for a new Alpha-Numeric Identification process.

## Commentary / Background:

The primary concern was that some signs (the RRFB in particular) were mounted too low and may interfere with sidewalk users. Also, it was not readily apparent that Conventional-Power and Solar-Power was an option for each assembly type.

## Other Affected Offices / Documents: (Provide name of responsible personnel)

- | Yes                                 | No                                  |                                       |
|-------------------------------------|-------------------------------------|---------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Other Standard Plans – Ed Cashman     |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | FDOT Design Manual –                  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Basis of Estimates Manual –           |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Standard Specifications – Dan Hurtado |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Approved Product List –               |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Construction –                        |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Maintenance –                         |

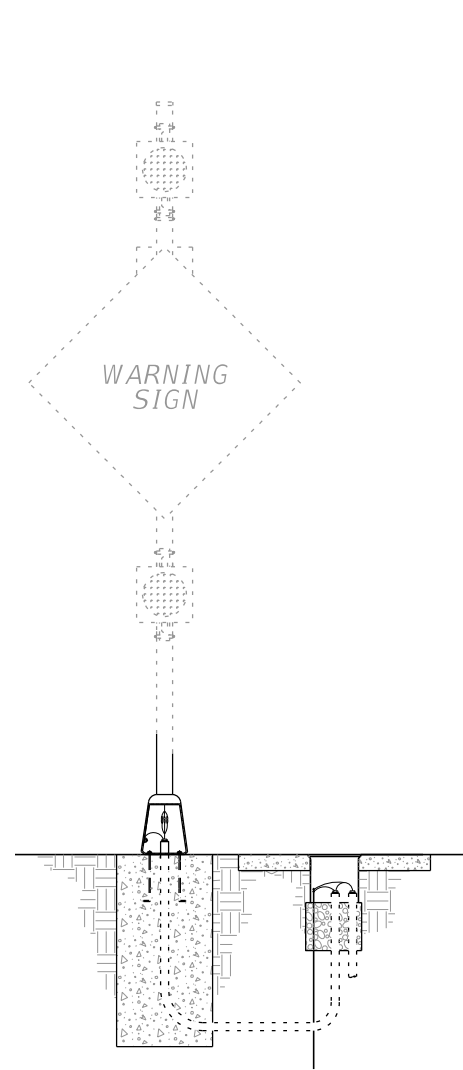
## Origination Package Includes: (Email or hand deliver package to Derwood Sheppard)

- | Yes                                 | N/A                                 |   |
|-------------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Redline Mark-ups                          |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Proposed Standard Plan Instructions (SPI) |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Revised SPI                               |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Other Support Documents                   |

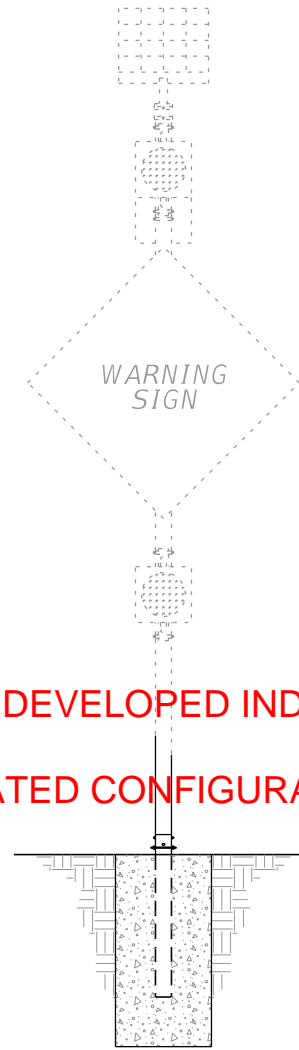
## Implementation:

- Design Bulletin (Interim)    DCE Memo    Program Mgmt. Bulletin    FY-Standard Plans (Next Release)

Contact the Roadway Design Office for assistance in completing this form

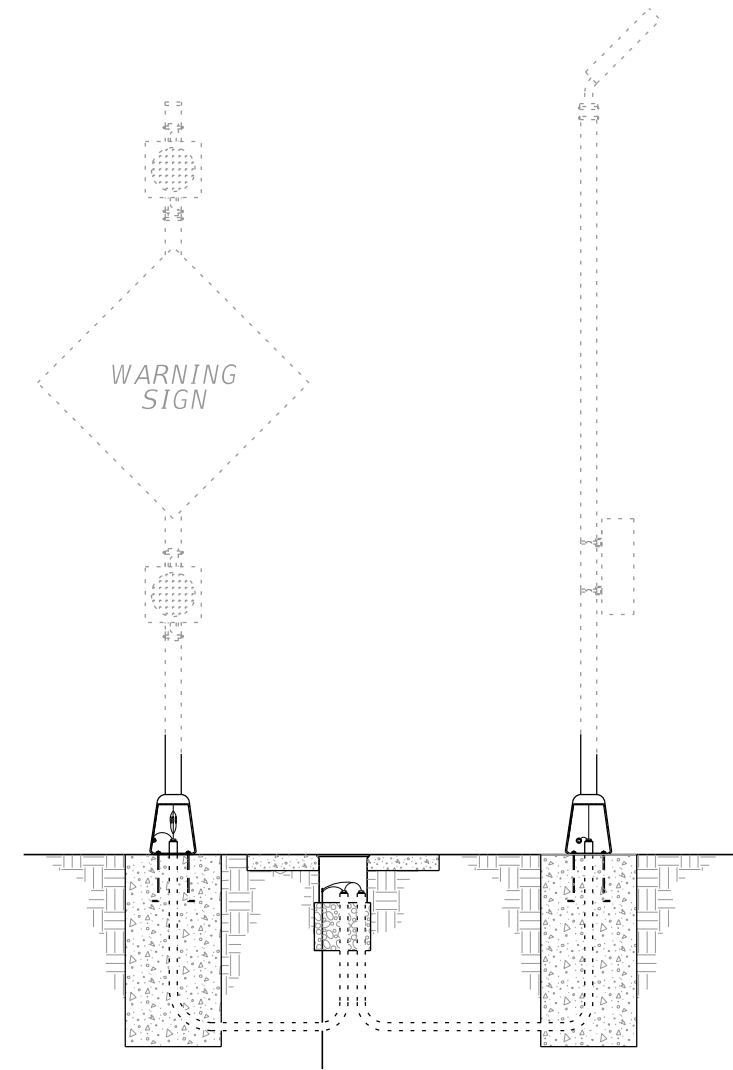


CONVENTIONAL POWERED BEACON  
(With Transformer Base & Pull Box)



REDEVELOPED INDEX  
UPDATED CONFIGURATION

SOLAR POWERED BEACON  
(With Slip Base)



SOLAR POWERED BEACON WITH AUXILIARY POLE  
(With Transformer Base & Pull Box)

**GENERAL NOTES:**

1. Use aluminum materials that meets the requirements of Aluminum Association Alloy 6061-T6 (ASTM B209, B221, B308 or B429), except as noted in the Plans.
2. Install sign panel, wind beam and columns in accordance with Index 700-010 and Specifications 700.
3. Install sign column so that the height and offset are in accordance with Index 700-101.
4. When aluminum column (post) are installed with a frangible transformer bases, engage all threads on the transformer base and post unless the aluminum post is fully seated into base.
5. Meet the requirements of Specifications 646 for aluminum poles and transformer bases.

**UPDATED NOTES**

6. Install a concrete slab around all flashing beacon assemblies on slopes 6:1 or greater. The minimum slab dimension is 4'-0" by 5'-0".
7. Install a concrete slab around all pull boxes. The minimum slab dimension is 4'-0" by 4'-0". In urban areas where space is limited slab dimensions may be adjusted as shown in the plans.
8. For beacon assemblies connected to conventional power, provide single pole non-fused watertight breakaway electrical connectors in the frangible transformer base.
9. Install the connection of controller cabinet and solar panel to the column in accordance with manufacturer's recommendations.
10. When wire entry holes are drilled in the sign column, use a bushing or rubber grommet to protect conductors.
11. Orient solar panel to face South for optimal exposure to sunlight.

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ENHANCED HIGHWAY SIGNING ASSEMBLIES

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11/01/18

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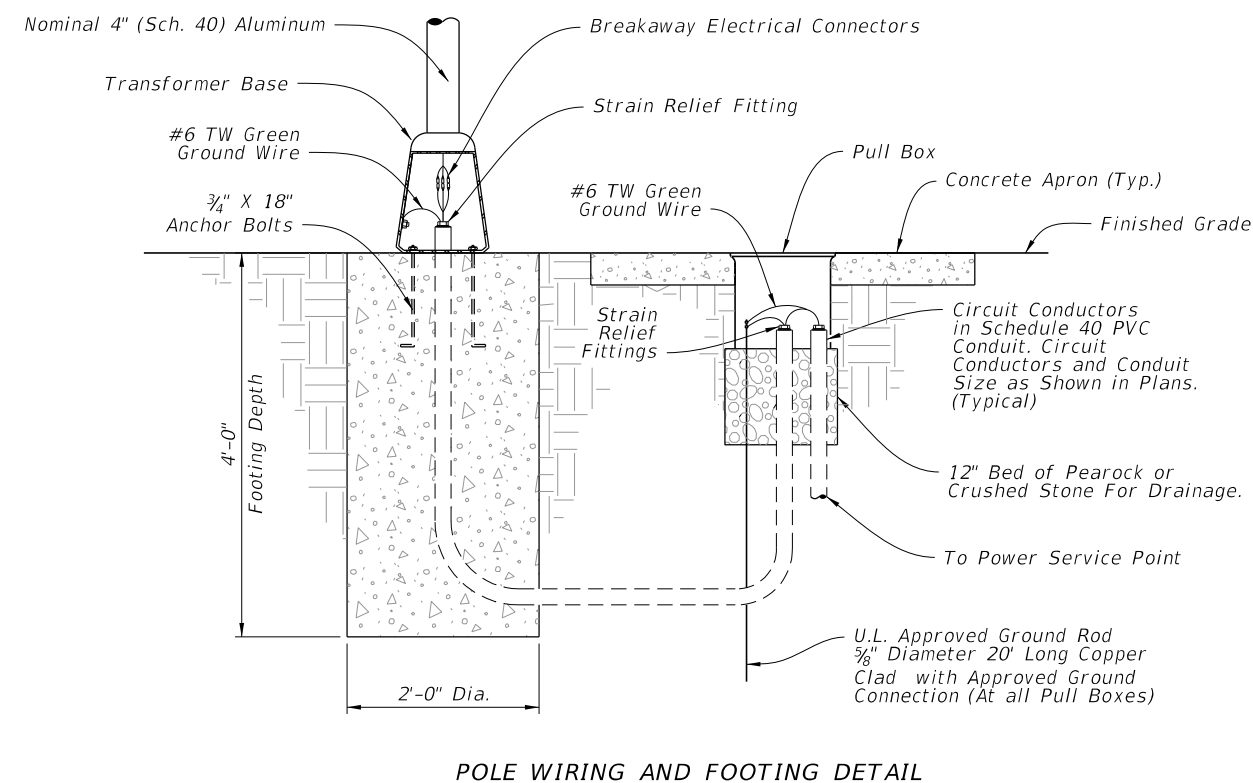
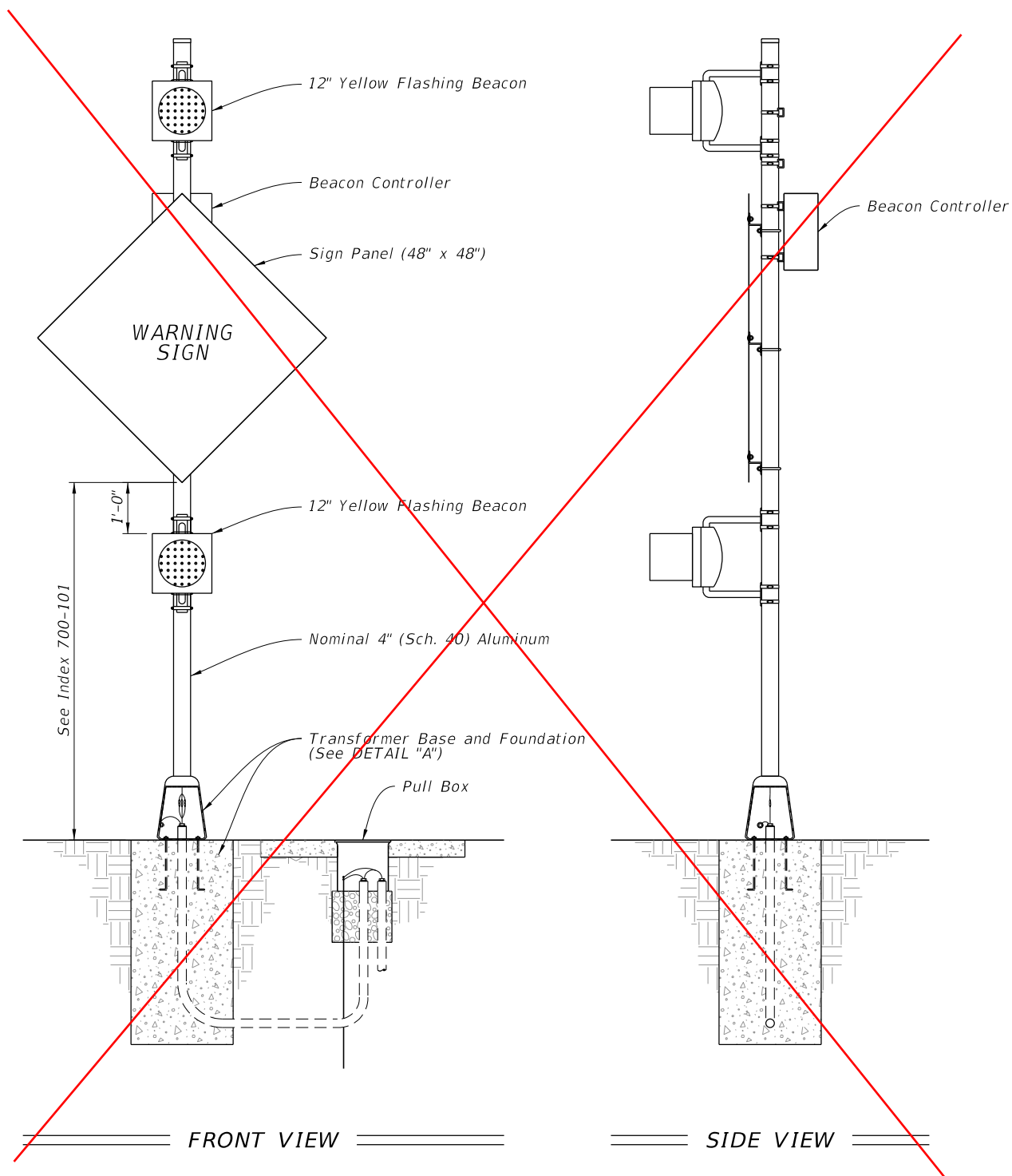
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STANDARD PLANS

~~ELETRONIC DISPLAY SIGN -  
ROADSIDE FLASHING BEACONS~~

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POLE WIRING AND FOOTING DETAIL

DETAIL "A"

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CONDUIT, WIRING, AND FOUNDATION DETAILS  
~~CONVENTIONAL POWERED WARNING SIGN DETAILS~~

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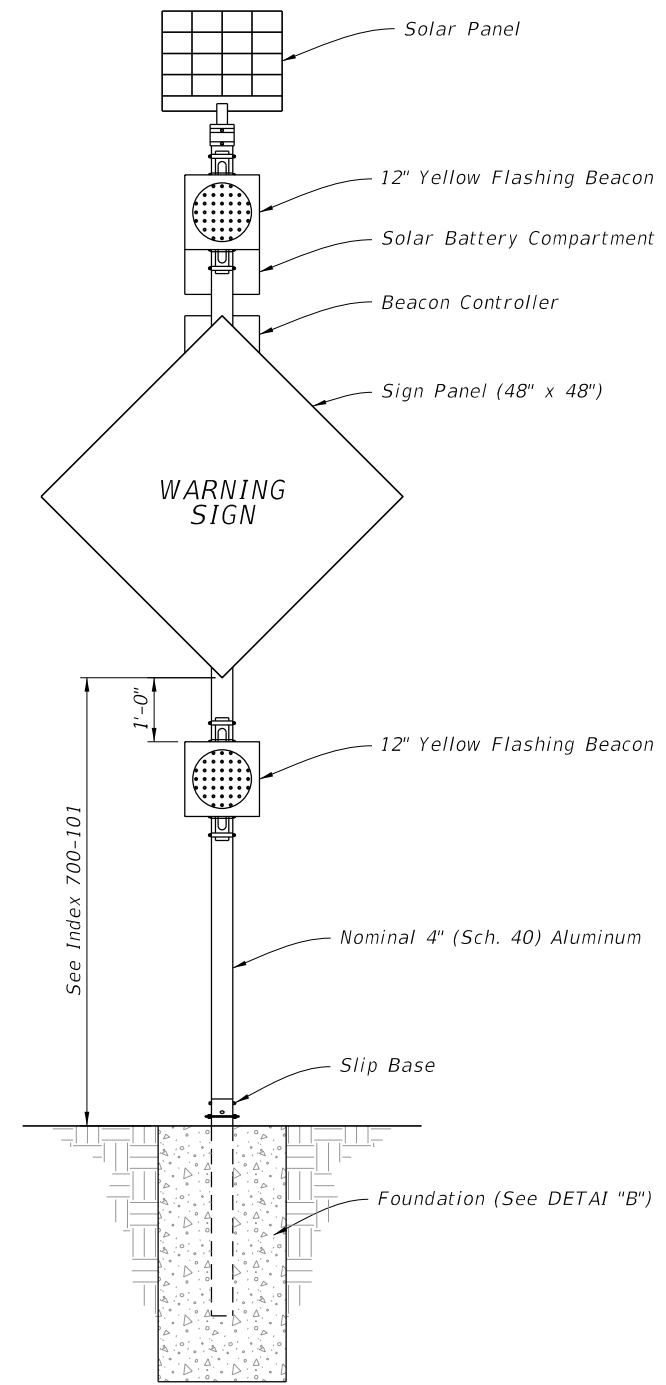
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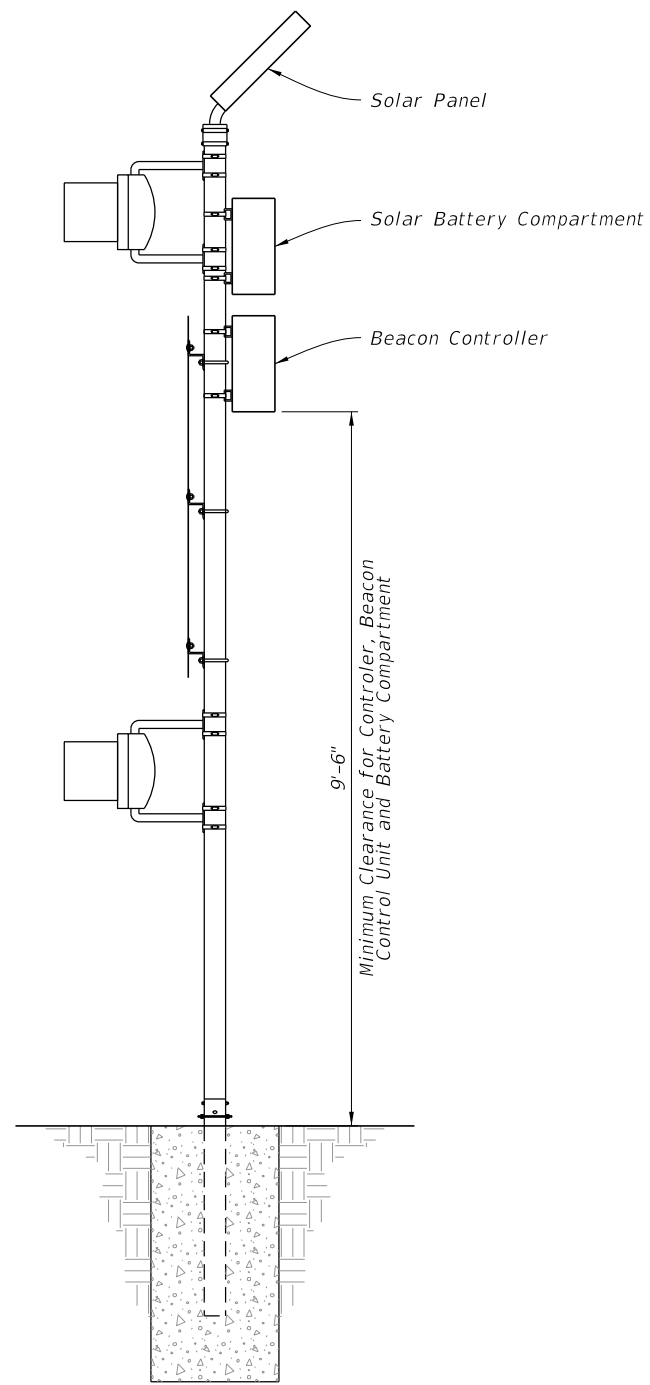
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TABLE 1 STANDARD WARNING SIGN COLUMN SIZE		
Sign Height	Column Size	Footing Depth
7'	4.5"	4'
8.5'	5"	4.5'



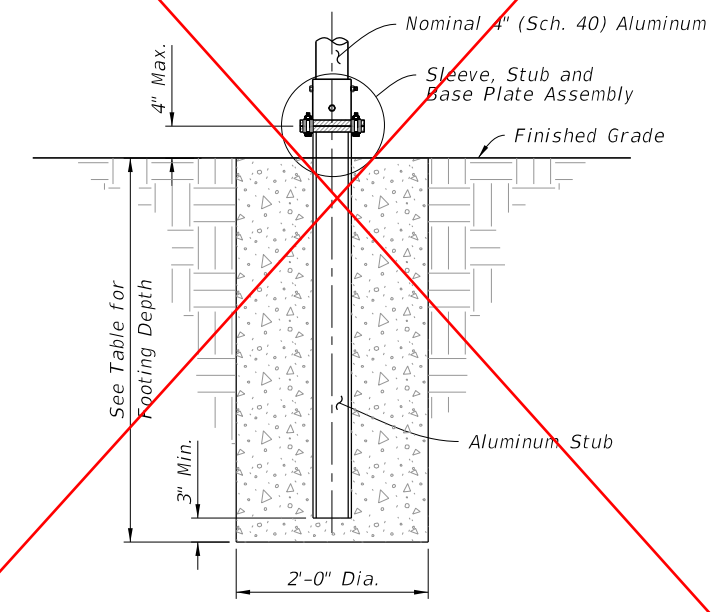
FRONT VIEW



SIDE VIEW

NOTES:

1. Install the sign column slip base in accordance with Index 700-010.
2. Use beacon and beacon controllers that are listed on the Approved Products List (APL).
3. Details show a typical warning sign with two flashing beacon heads. When only one beacon is required, install upper beacon.



SLIP BASE AND FOOTING DETAIL

DETAIL "B"

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ROADSIDE SIGN ASSEMBLY - 1

~~SOLAR POWERED WARNING SIGN DETAILS~~

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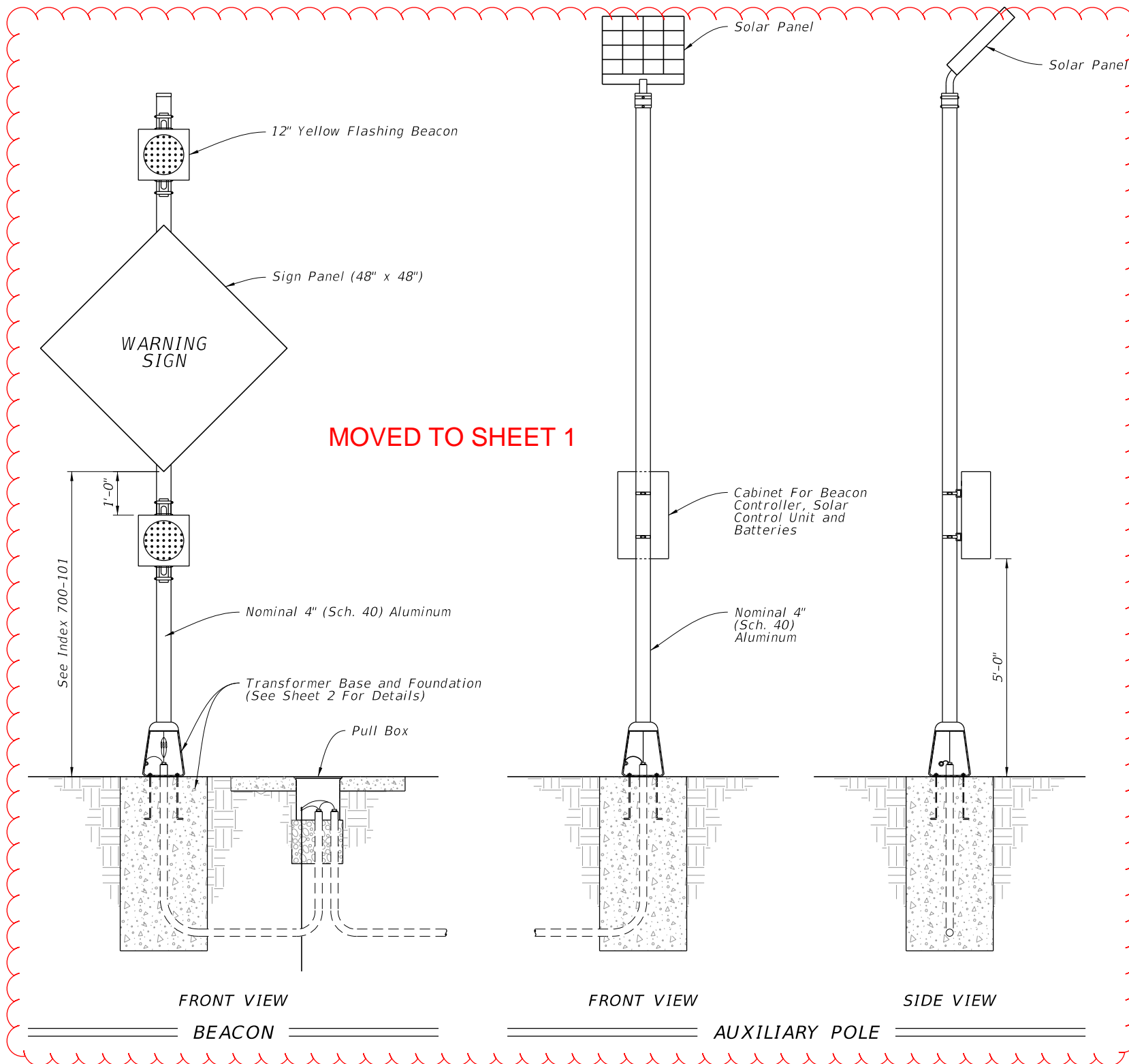
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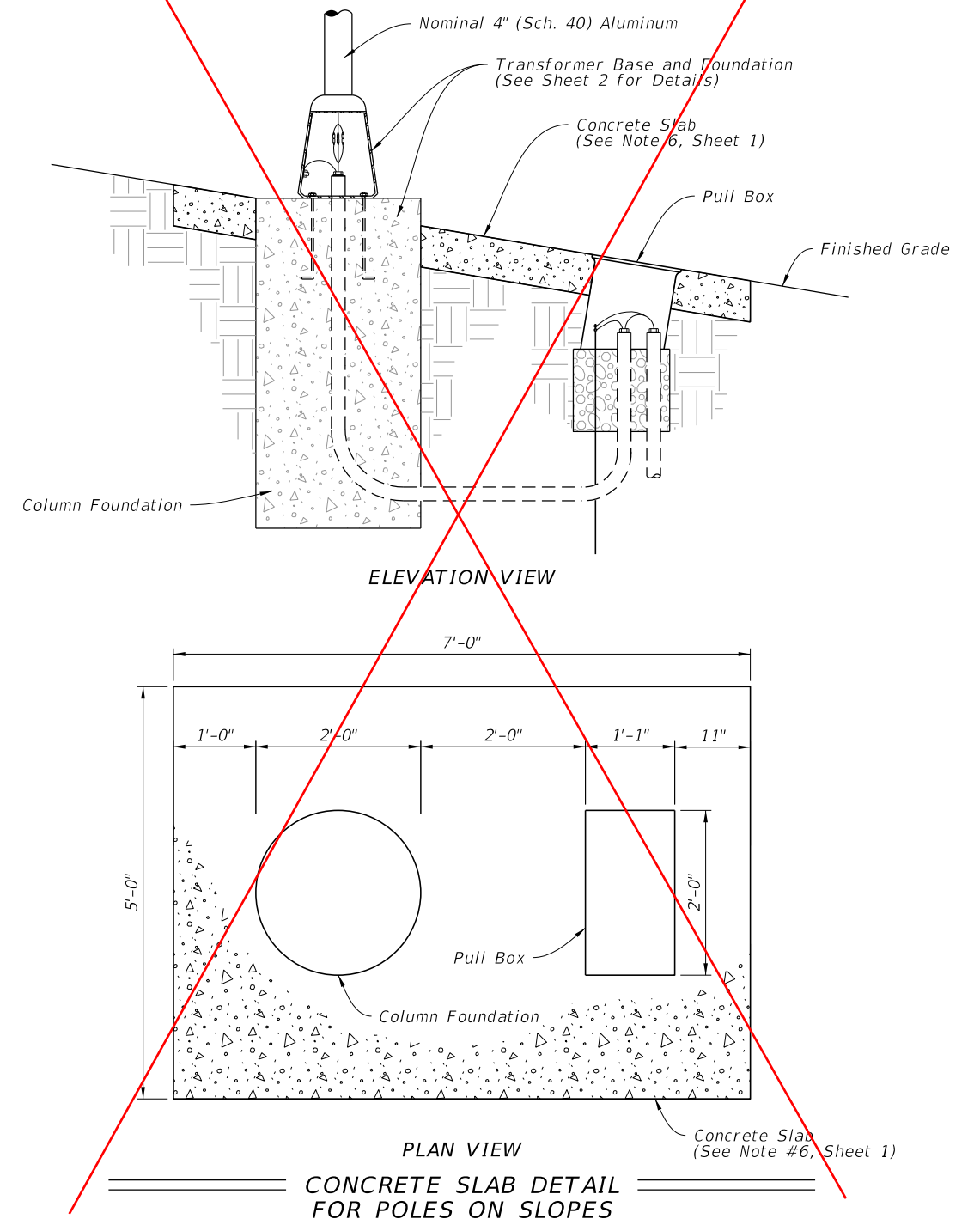
**REDEVELOPED INDEX**



**MOVED TO SHEET 1**

**NOTES:**

1. Install a separate pole for mounting the solar panel, controller and batteries for all flashing beacon assemblies with solar panels, controllers and batteries weighing more than 170 lbs.
2. Install the auxiliary pole as close to the right of way as possible.
3. Install the auxiliary pole so that the height is the same as the column for the beacon assembly.
4. Payment for the separate pole, foundation, conduit and wiring are included in the cost of the electronic warning sign with flashing beacon.



**ROADSIDE SIGN ASSEMBLY - 2**

~~SOLAR POWERED BEACON WITH AUXILIARY POLE AND CONCRETE SLAB DETAIL~~

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~~ELECTRONIC DISPLAY SIGN -  
ROADSIDE FLASHING BEACONS~~

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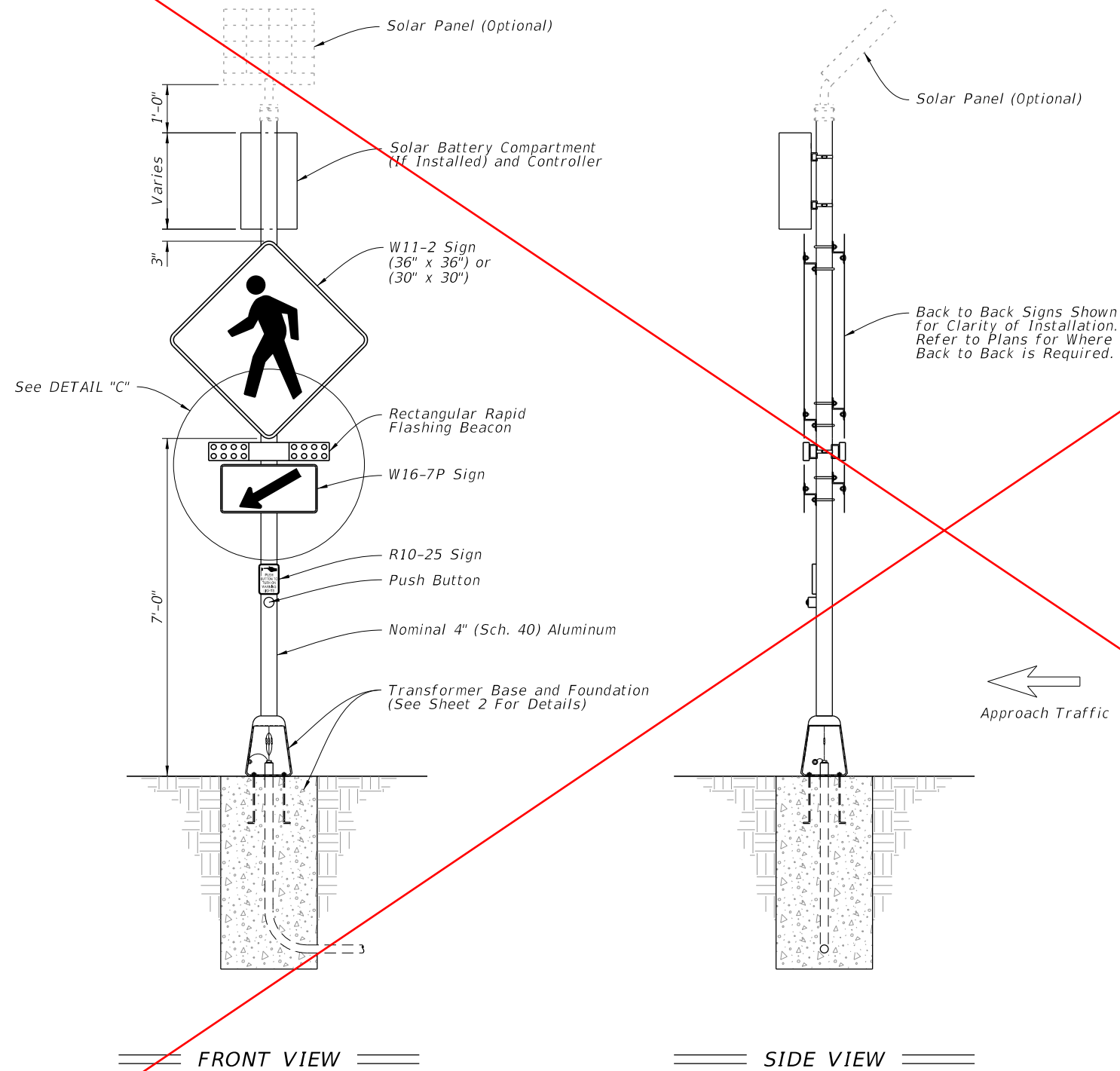
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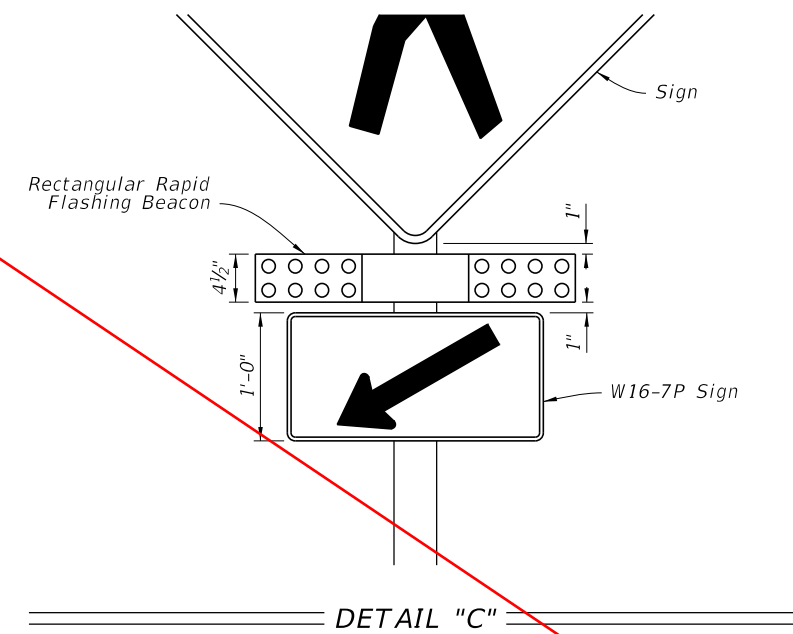
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MOVED TO NEW INDEX 654-001




**NOTES:**

1. A transformer base is required for both conventional powered and solar powered applications. (Conventional Power Shown)
2. Use Rectangular Rapid Flashing Beacon (RRFB) equipment and hardware that are listed on the Approved Products List (APL).
3. Install the RRFB in pairs, one on either side of approach traffic.
4. Install controller on the backside of post from approach traffic.
5. Install a 30" X 30" W11-2 sign on single lane facilities and a 36" X 36" W11-2 sign for multi-lane facilities.
6. Install push button and R10-25 sign in accordance with Index 665-001.



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**RECTANGULAR RAPID FLASHING BEACON (RRFB) DETAILS**

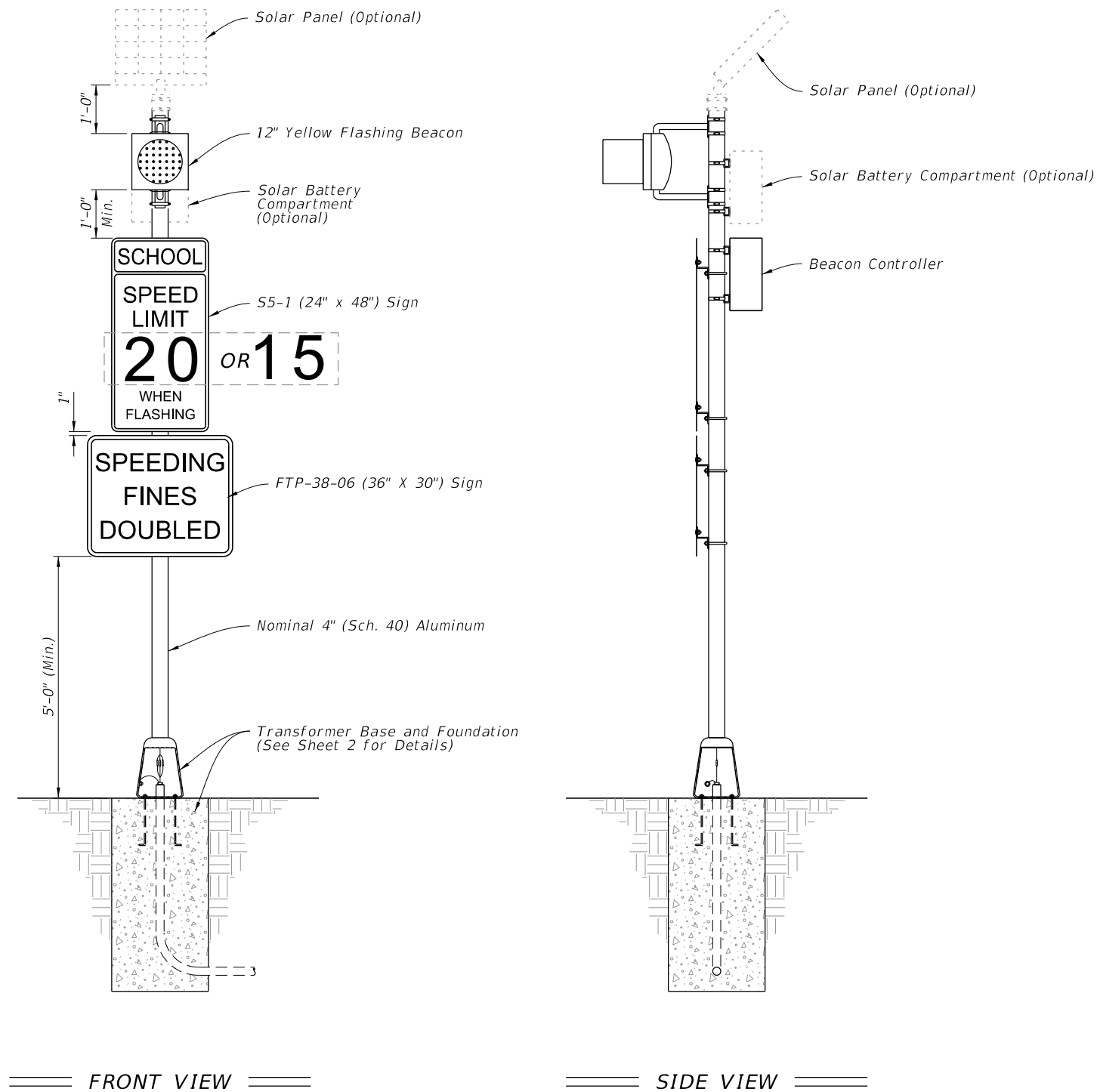
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ENHANCED HIGHWAY SIGNING ASSEMBLIES

ROADSIDE SIGN ASSEMBLY - 3

REDEVELOPED INDEX



Changed Notes

**NOTES:**  
 1. A transformer base is required for both conventional powered and solar powered applications. (Conventional Power Shown)  
~~2. Use beacons and beacon controllers that are on the Approved Products List (APL).~~

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ROADSIDE SIGN ASSEMBLY - 4  
~~SCHOOL REGULATORY SIGN DETAILS~~

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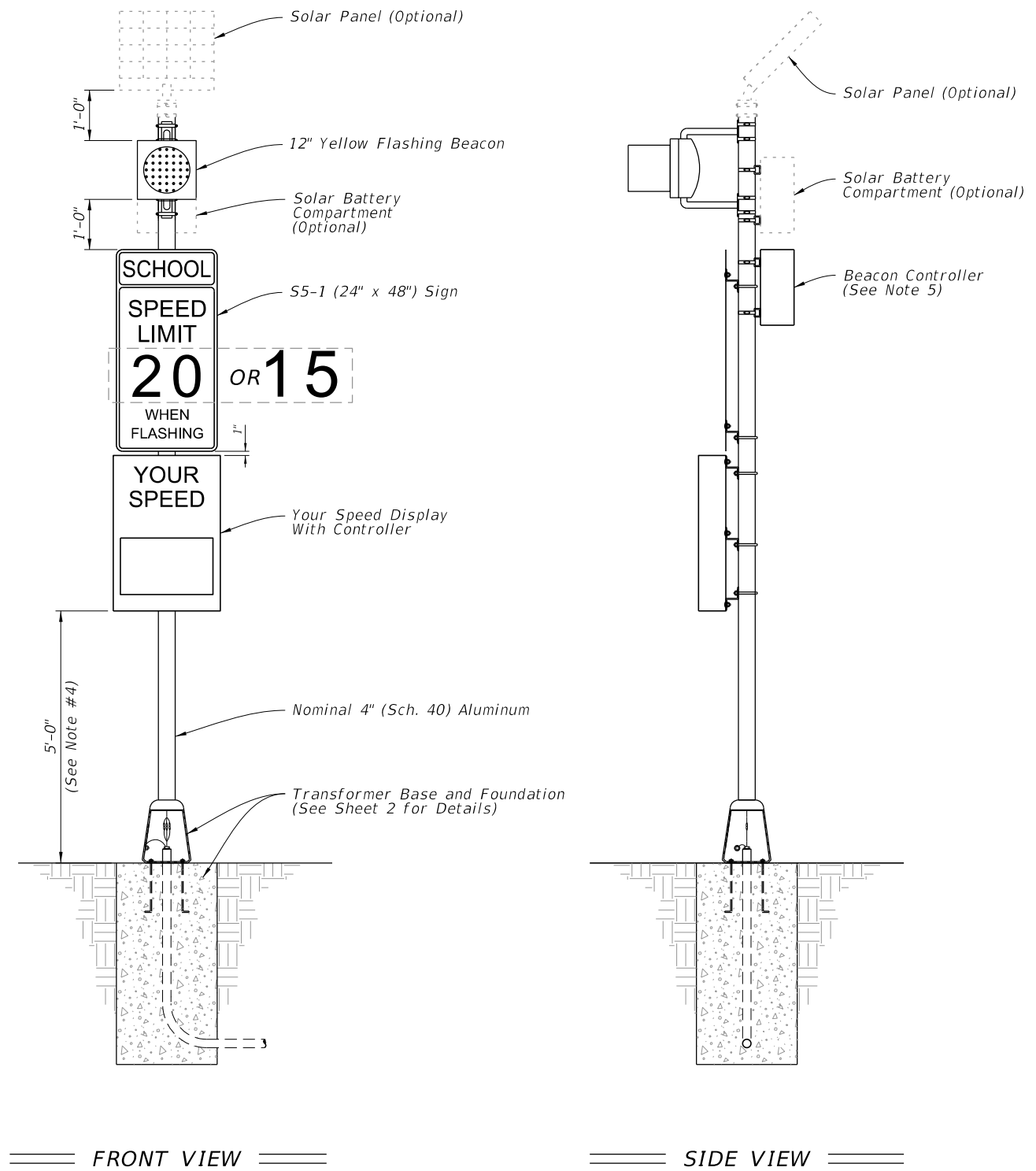
~~ELETRONIC DISPLAY SIGN -  
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- NOTES:**
1. A transformer base is required for both conventional powered and solar powered applications. (Conventional Power Shown)
  2. Use speed feedback display, beacons, beacon controllers and installation hardware that are on the Approved Products List (APL).
  3. For posted speeds less than 45 mph, install a speed feedback display with numeral heights of 15" and for posted speeds 45 mph or greater, install a speed feedback display with numeral heights of 18"
  4. Only speed display units weighing 62 lbs. or less may be mounted with a 5'-0" clearance. Mount speed display units that weigh more than 62 lbs. with a 7'-0" clearance.
  5. The beacon controller and solar batteries may be in the same compartment.

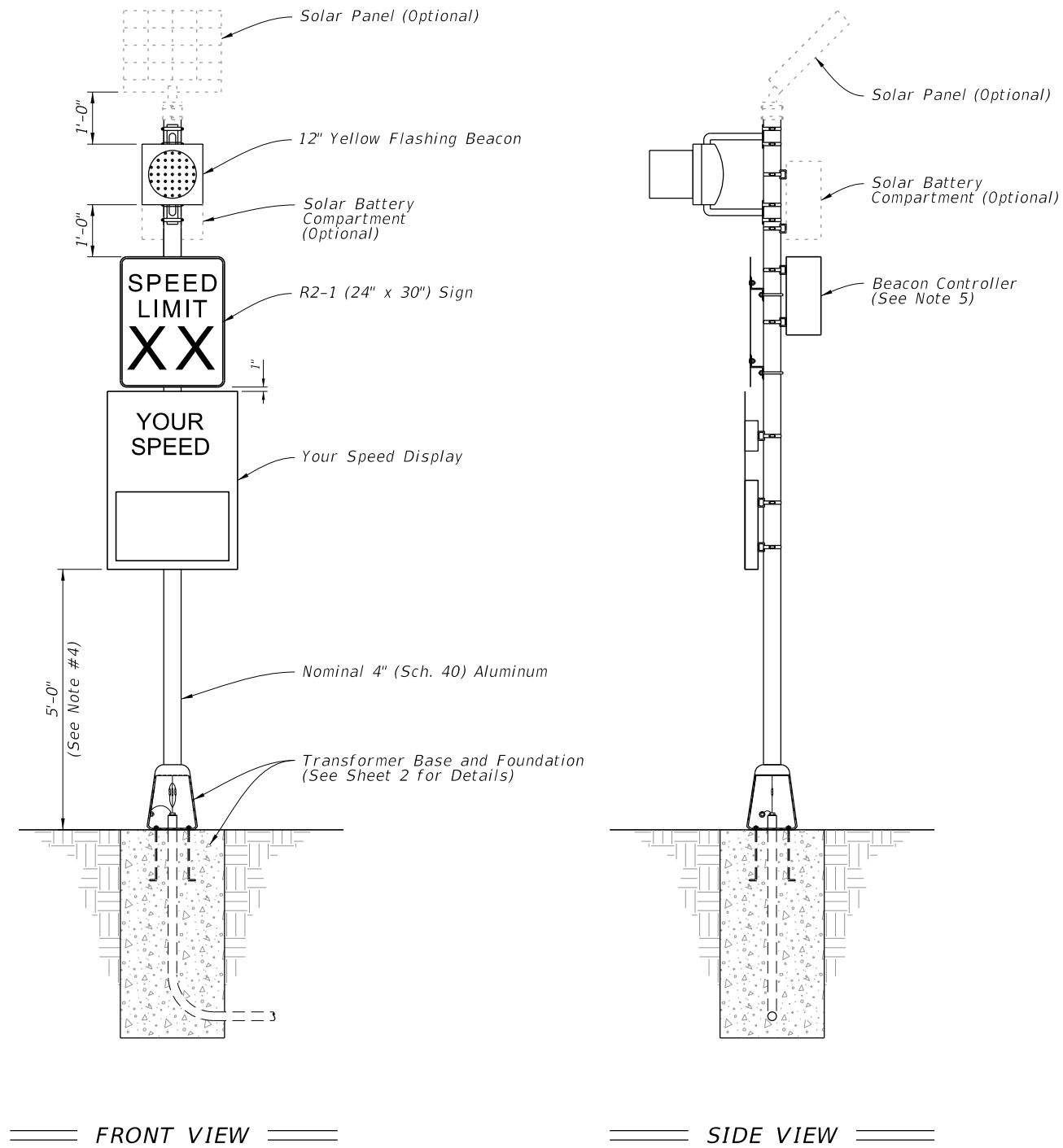
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~~SCHOOL REGULATORY WITH SPEED FEEDBACK DETAILS~~

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NOTES:

1. A transformer base is required for both conventional powered and solar powered applications. (Conventional Power Shown)
2. Use speed feedback display, beacons, beacon controllers and installation hardware that are on the Approved Products List (APL).
3. For posted speeds less than 45 mph, install a speed feedback display with numeral heights of 15" and for posted speeds 45 mph or greater, install a speed feedback display with numeral heights of 18"
4. Only speed display units weighing 62 lbs. or less may be mounted with a 5'-0" clearance. Mount speed display units that weigh more than 62 lbs. with a 7'-0" clearance.
5. The beacon controller and solar batteries may be in the same compartment.

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ROADSIDE SIGN ASSEMBLY - 6

~~REGULATORY SIGN WITH SPEED FEEDBACK DETAILS~~

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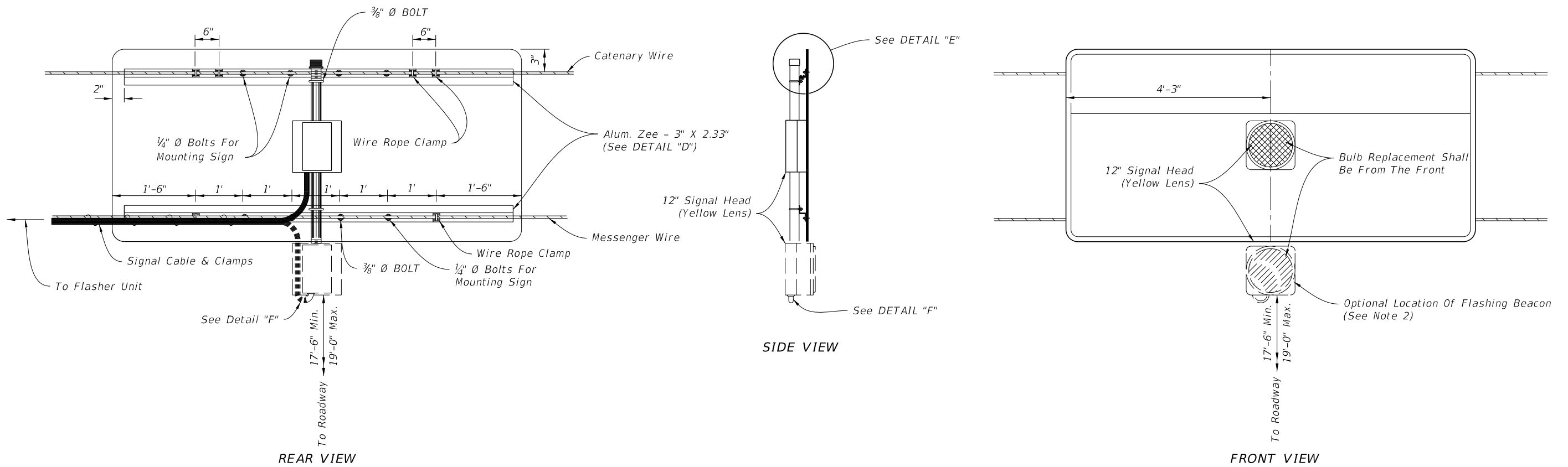


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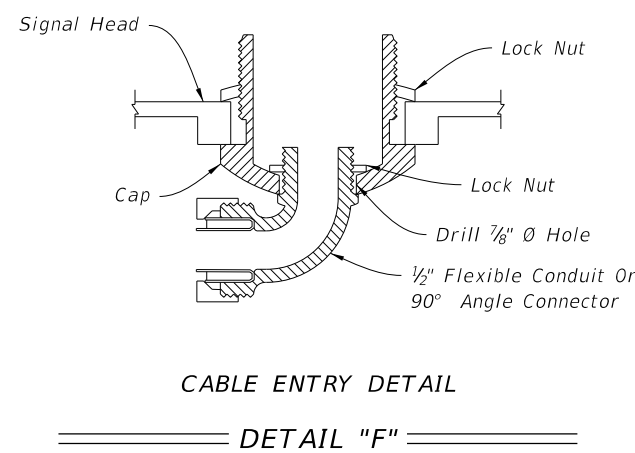
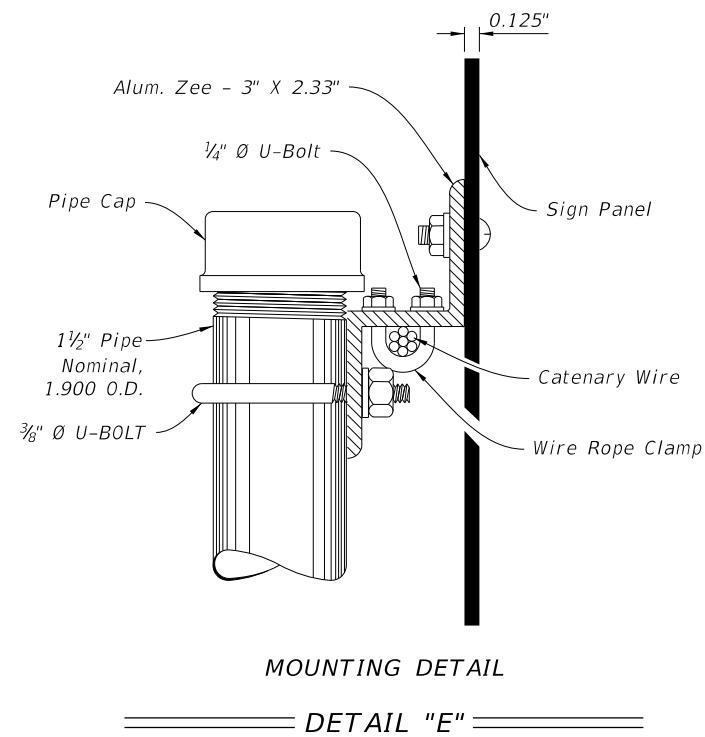
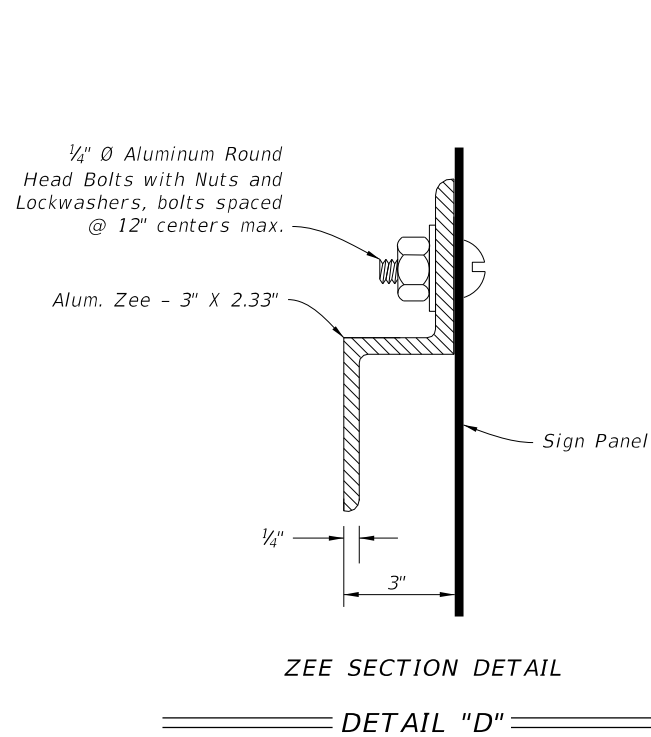
~~ELECTRONIC DISPLAY SIGN -  
ROADSIDE FLASHING BEACONS~~

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OVERHEAD SCHOOL SIGN ASSEMBLY



NOTES:

1. Flasher unit and cabinet to be placed on the strain pole supporting overhead sign assembly or on service pole. The flasher unit not to overhang private property or sidewalk.
2. Optional flashing beacon will be called for in the Plans. They may be placed within or below the panel, or face to the rear.

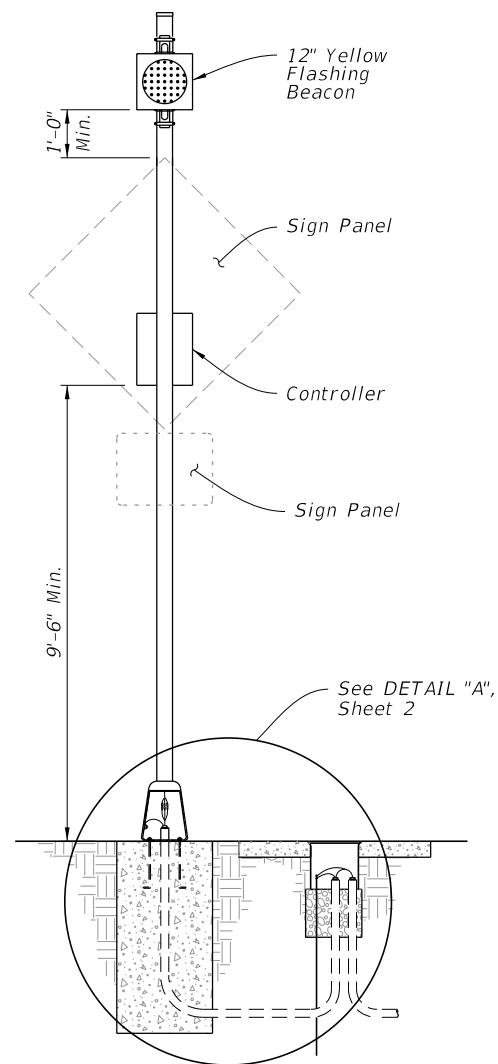
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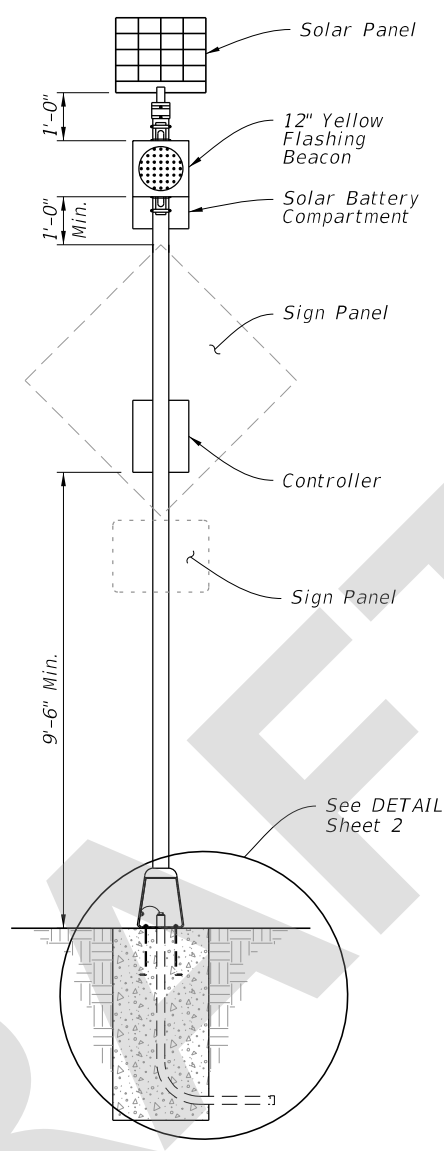
OVERHEAD SIGN ASSEMBLY  
~~OVERHEAD SCHOOL SIGN~~

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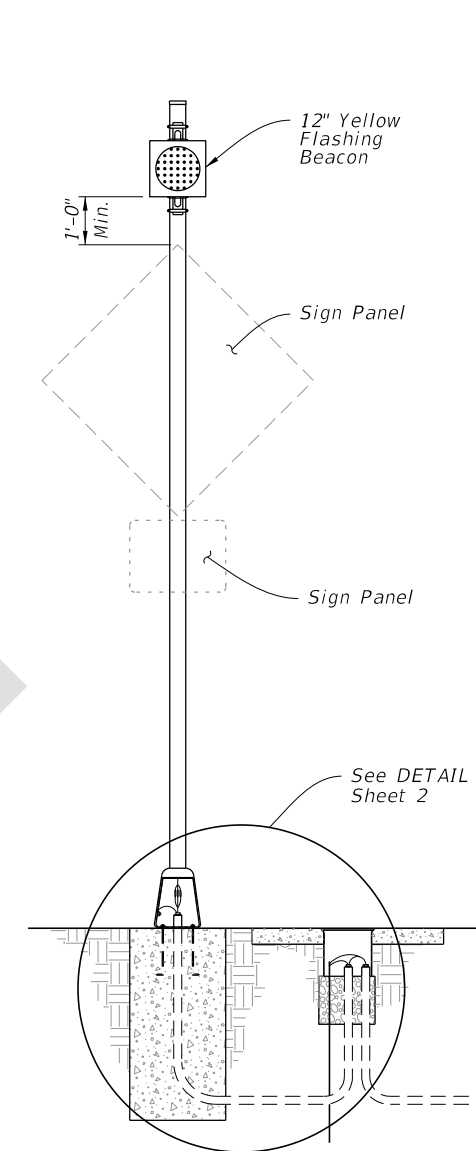
FRONT VIEW

**POWER CONFIGURATION 'A'**  
**CONVENTIONALLY-POWERED**  
 (Type A1 Shown)



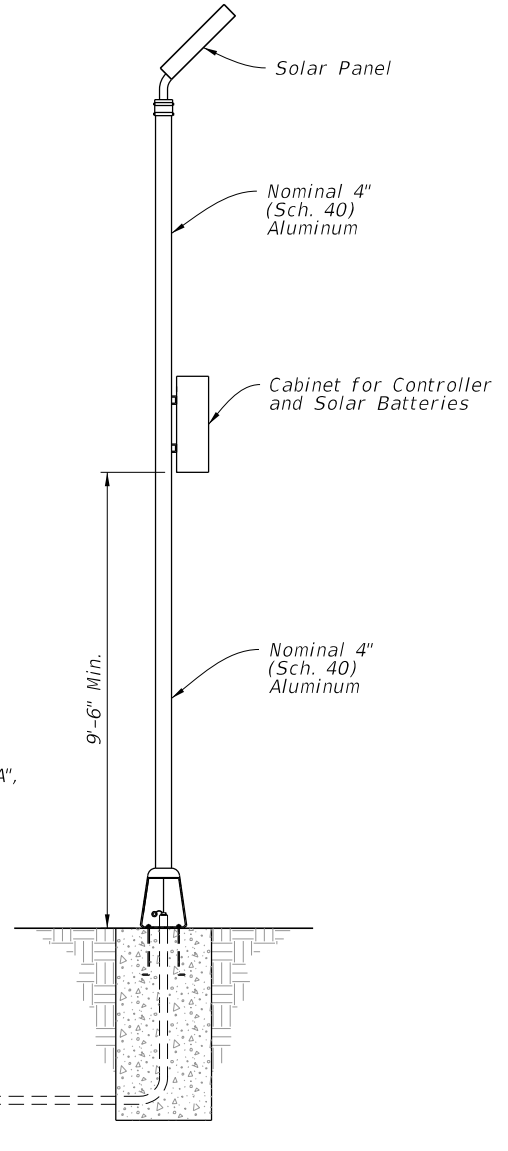
FRONT VIEW

WITHOUT AUXILIARY POLE



SIGN ASSEMBLY  
FRONT VIEW

WITH AUXILIARY POLE



AUXILIARY POLE

**POWER CONFIGURATION 'B'**  
**SOLAR-POWERED**  
 (Type B1 Shown)

**GENERAL NOTES:**

1. Install sign assemblies based on Alpha-Numeric Type designation shown in the Plans (e.g., Type A1). Assembly Type is based on Power Configuration 'Alpha' Identification shown above and Numerical Identification shown on Sheet 3 thru 8.
2. Install sign panel and wind beam in accordance with Index 700-010 and Specification 700.
3. Engage all threads on the transformer base and post unless the aluminum post is fully seated into base.
4. Meet the requirements of Specification 646 for aluminum poles and transformer bases.
5. Install a concrete slab around all flashing beacon assemblies on slopes 6:1 or greater. The minimum slab dimension is 4'-0" by 5'-0".
6. When wire entry holes are drilled in the sign column, use a bushing or rubber grommet to protect conductors.

**POWER CONFIGURATION 'B' NOTES:**

1. Install a separate pole for mounting the solar panel, controller and batteries for all flashing beacon assemblies with solar panels, controllers and batteries weighing more than 170 lbs.
2. Install the auxiliary pole as close to the right of way boundary as possible.
3. Install the auxiliary pole so that the height is the same as the column for the beacon assembly.
4. Orient solar panel to face South for optimal exposure to sunlight.
5. The controller and the solar batteries may be located in the same compartment.

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3	Roadside Sign Assembly-1
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7	Roadside Sign Assembly-5
8	Roadside Sign Assembly-6
9	Overhead Sign Assembly

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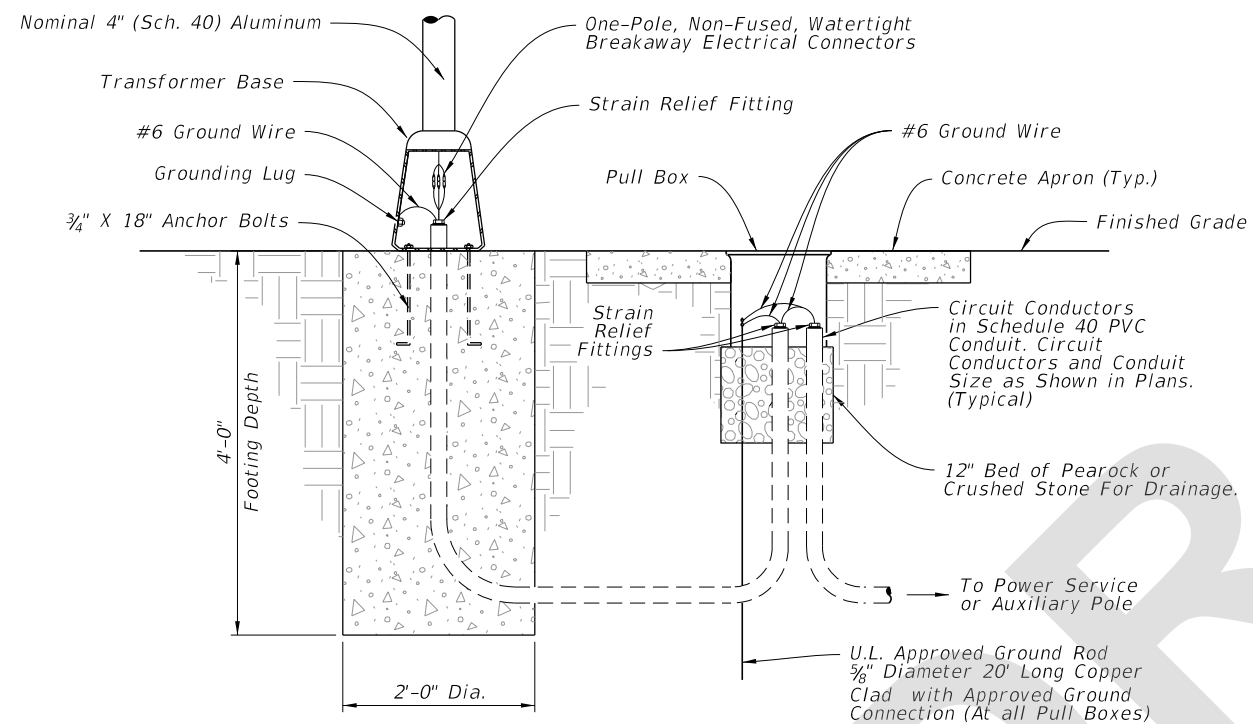
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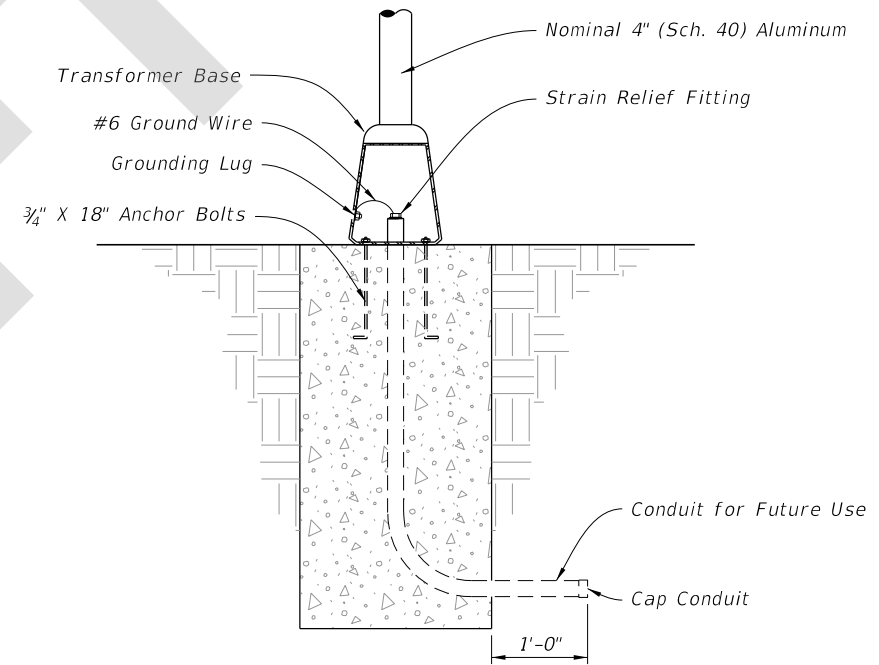
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DETAIL "A"



DETAIL "B"

CONDUIT, WIRING, AND FOUNDATION DETAILS

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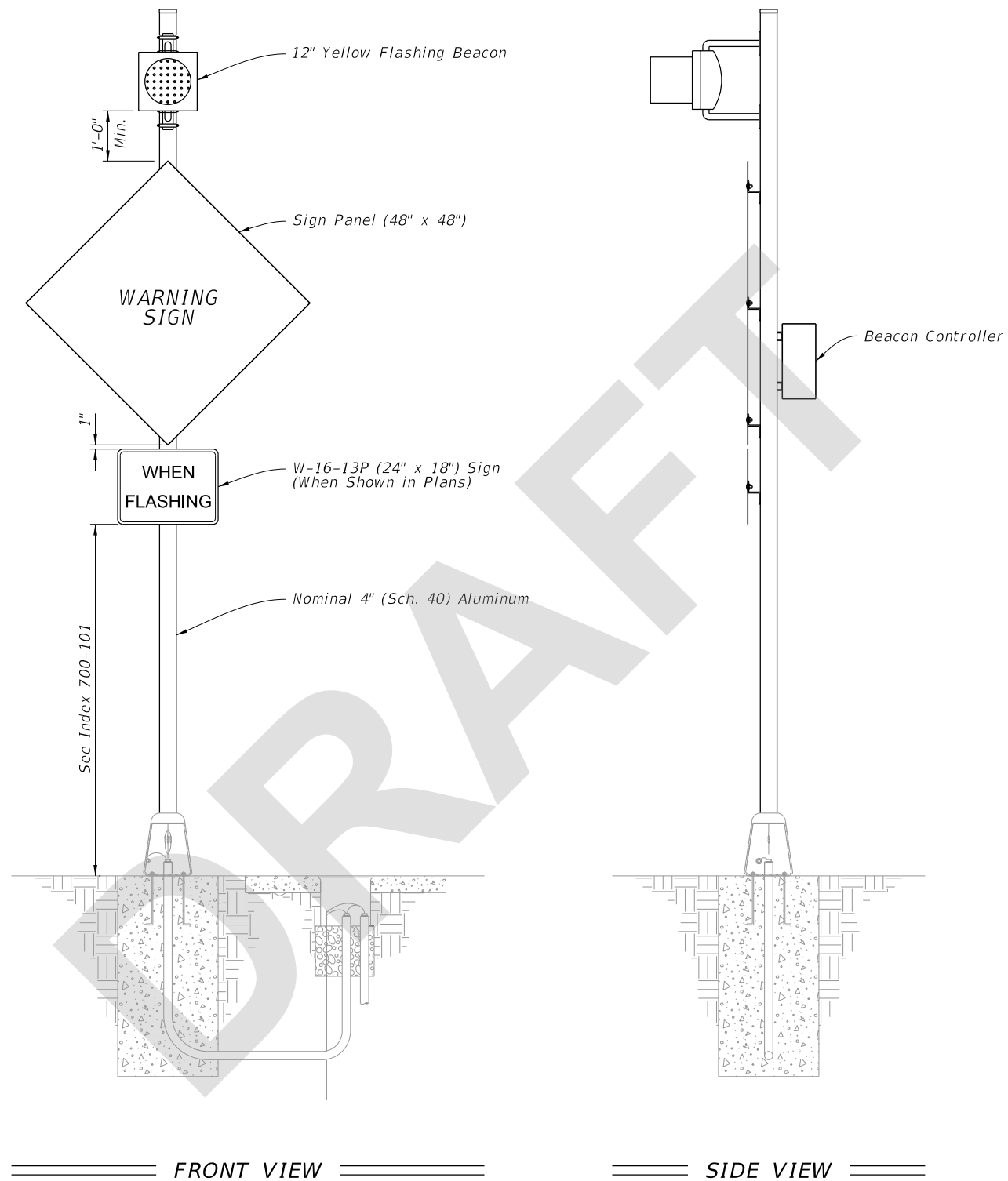


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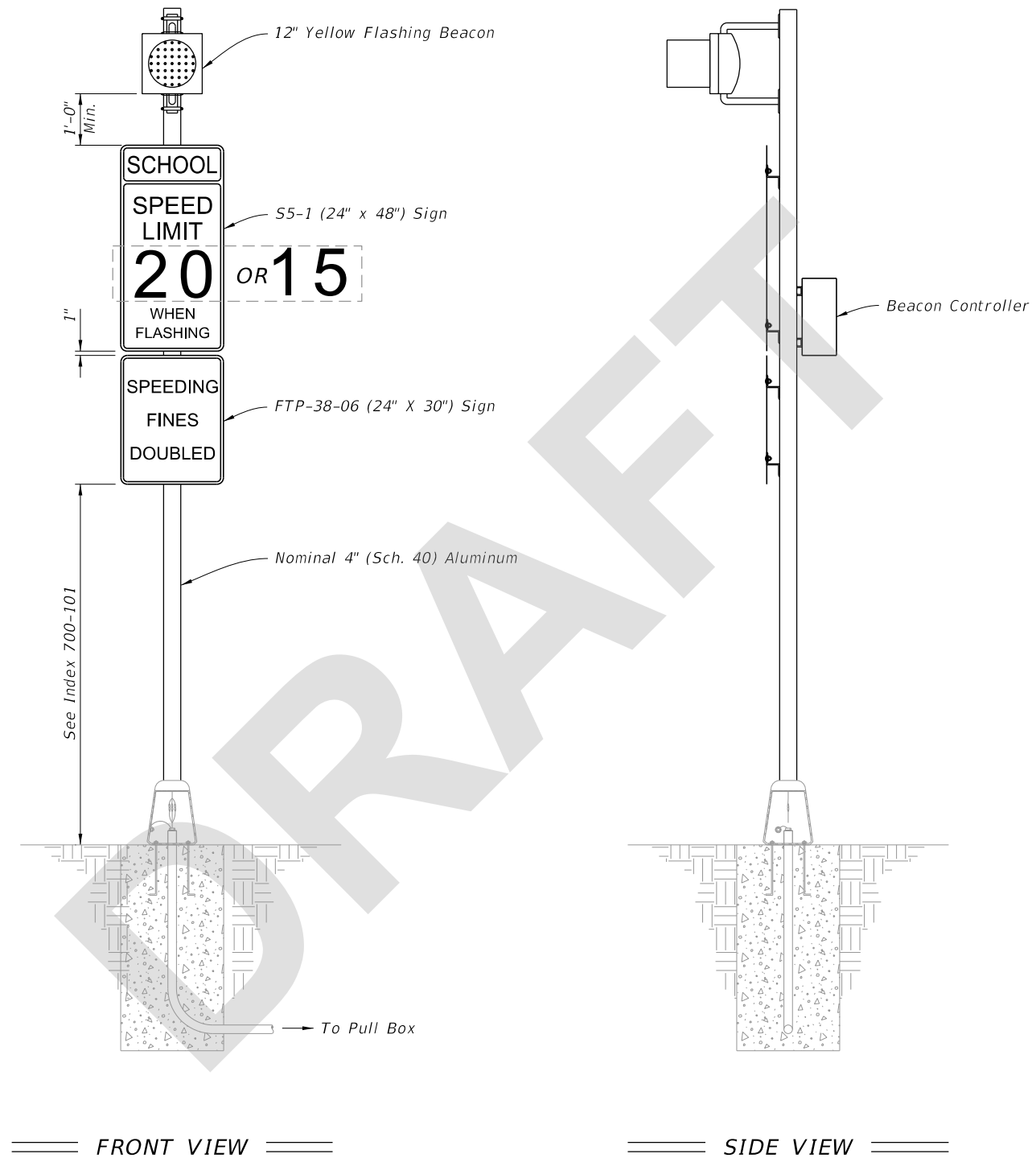
**NOTE:**

Type A1 Assembly (conventionally-powered) is shown.  
Type B1 Assemblies (solar-powered) similar.

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**ROADSIDE SIGN ASSEMBLY-1**

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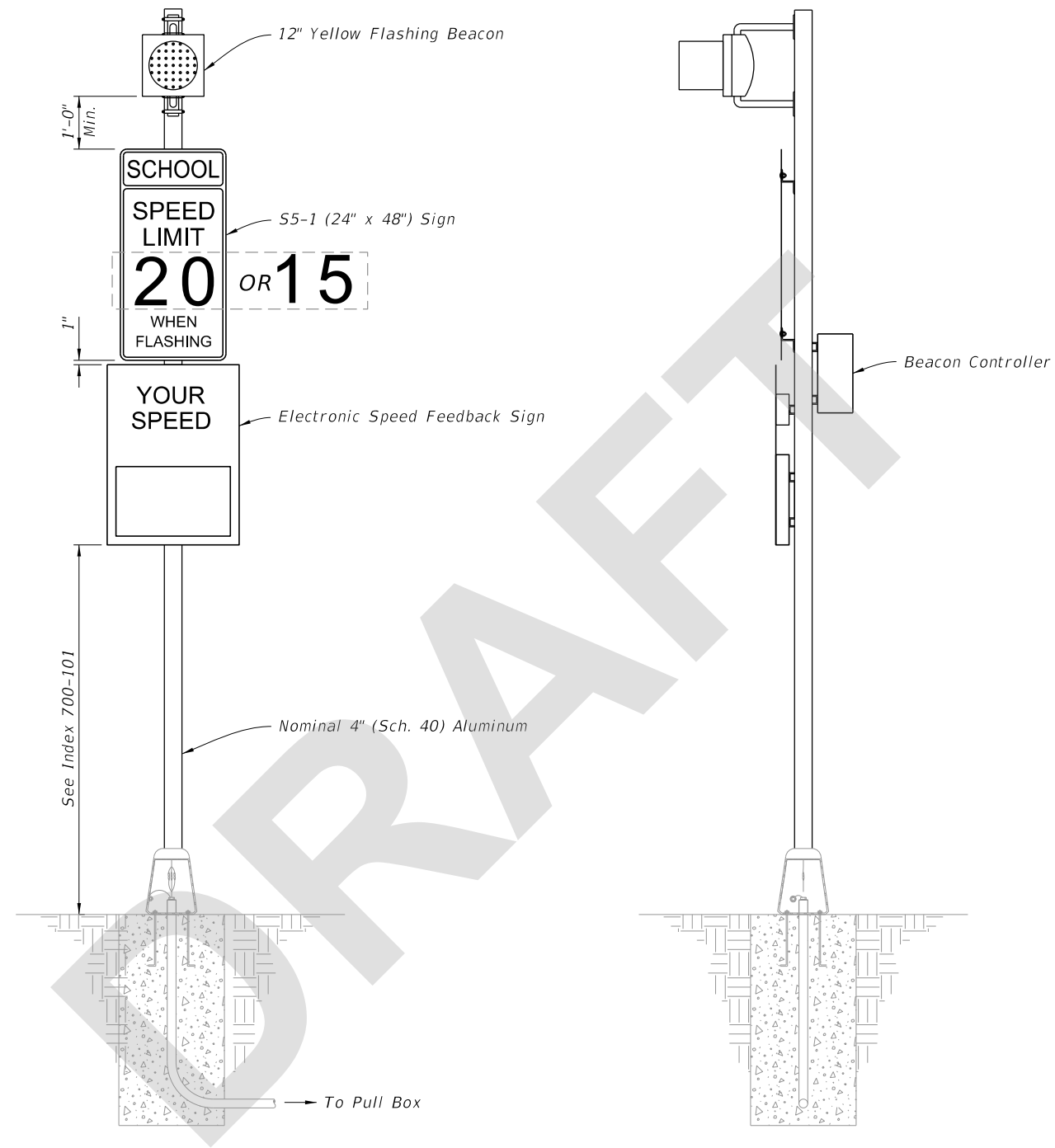
**NOTE:**

Type A2 Assembly (conventionally-powered) is shown.  
Type B2 Assemblies (solar-powered) similar.

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**ROADSIDE SIGN ASSEMBLY-2**

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FRONT VIEW

SIDE VIEW

**NOTES:**

1. Type A3 Assembly (conventionally-powered) is shown. Type B3 Assemblies (solar-powered) similar.
2. Use electronic speed feedback sign with 15" high numerals for posted speed of 45 mph or less, and 18" high numerals for posted speeds greater than 40 mph.

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**ROADSIDE SIGN ASSEMBLY-3**

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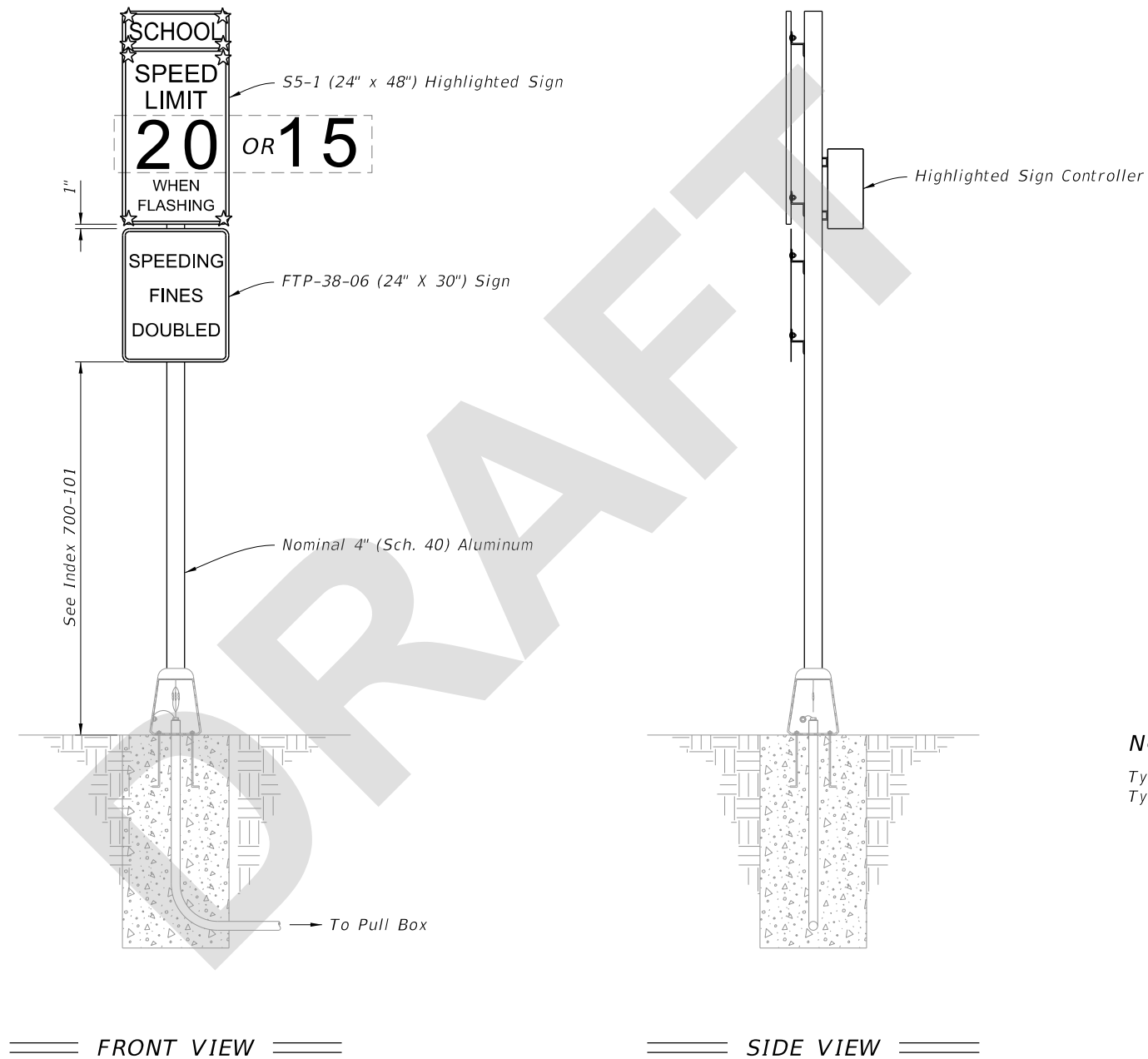
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**NOTE:**

Type A4 Assembly (conventionally-powered) is shown.  
Type B4 Assemblies (solar-powered) similar.

**ROADSIDE SIGN ASSEMBLY-4**

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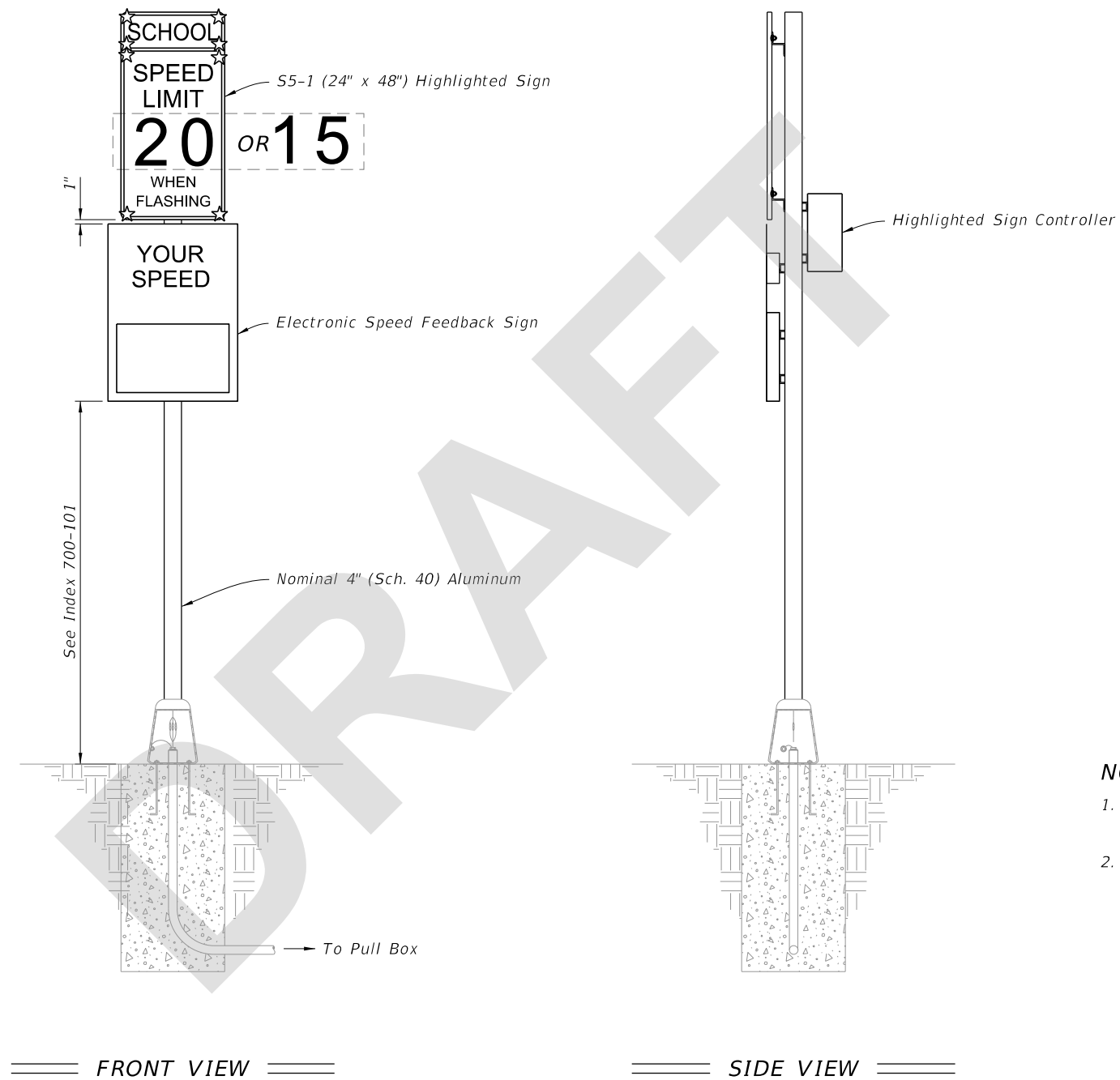


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**NOTES:**

1. Type A5 Assembly (conventionally-powered) is shown. Type B5 Assemblies (solar-powered) similar.
2. Use electronic speed feedback sign with 15" high numerals for posted speed of 45 mph or less, and 18" high numerals for posted speeds greater than 40 mph.

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**ROADSIDE SIGN ASSEMBLY-5**

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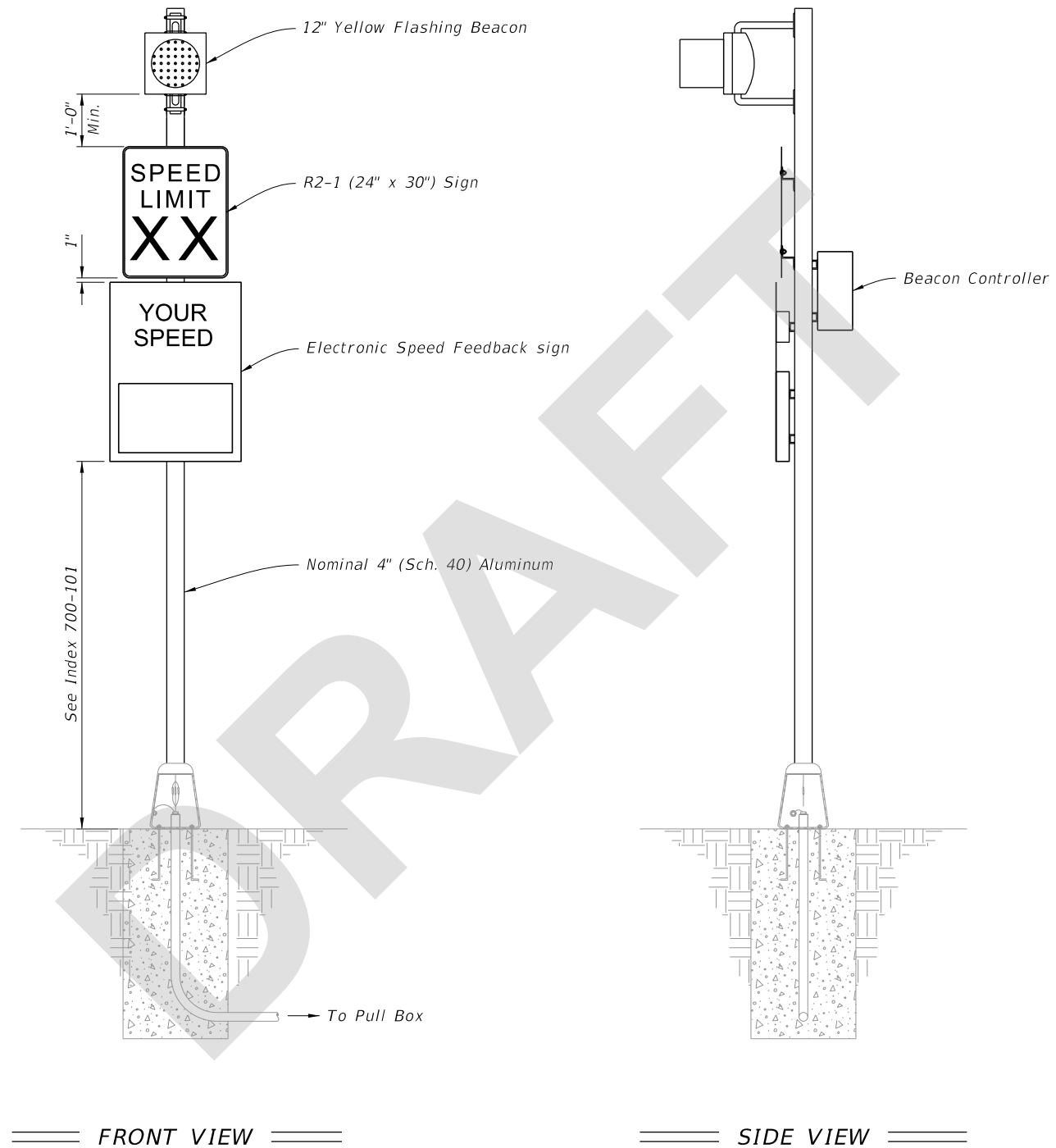


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**NOTES:**

1. Type A6 Assembly (conventionally-powered) is shown. Type B6 Assemblies (solar-powered) similar.
2. Use electronic speed feedback sign with 15" high numerals for posted speed of 45 mph or less, and 18" high numerals for posted speeds greater than 40 mph.

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**ROADSIDE SIGN ASSEMBLY-6**

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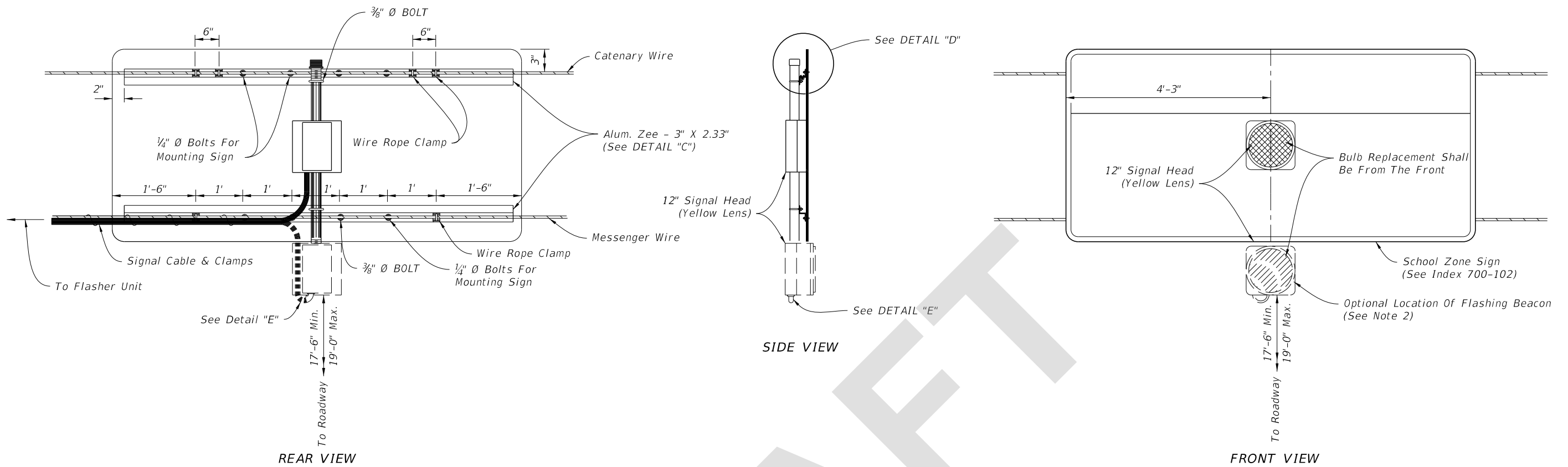


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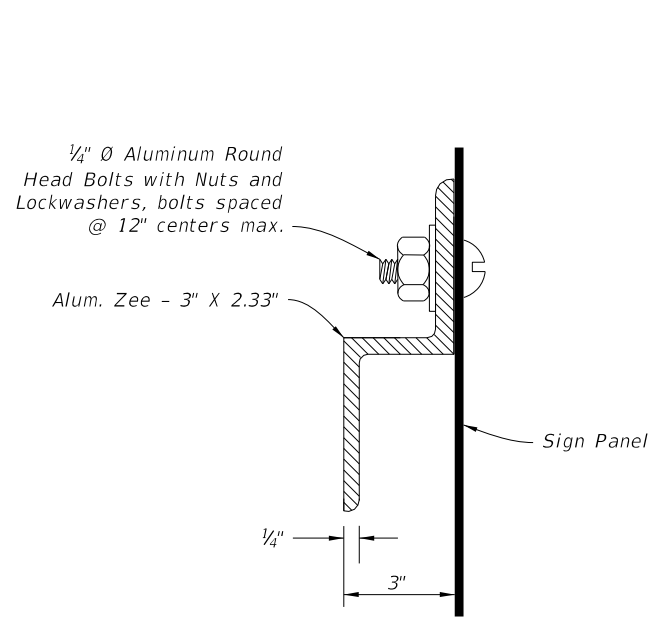
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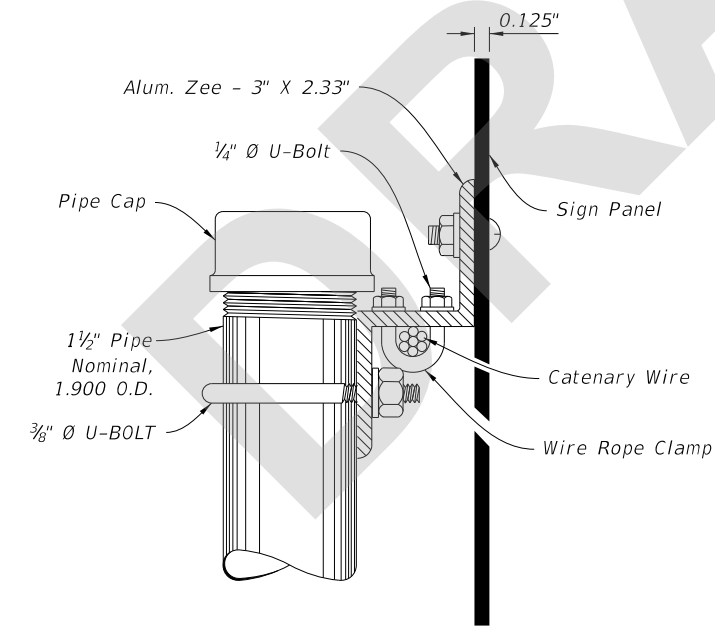


OVERHEAD SCHOOL SIGN ASSEMBLY



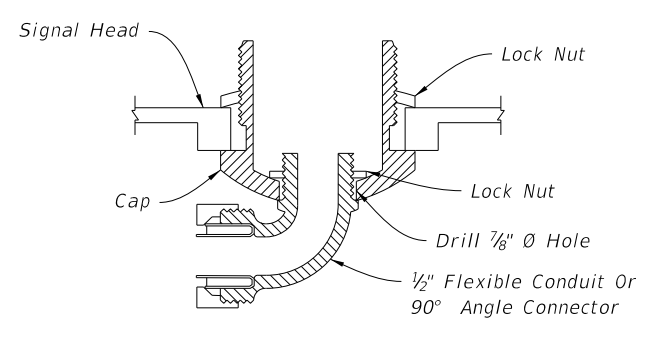
ZEE SECTION DETAIL

DETAIL "C"



MOUNTING DETAIL

DETAIL "D"



CABLE ENTRY DETAIL

DETAIL "E"

NOTES:

1. Flasher unit and cabinet to be placed on the strain pole supporting overhead sign assembly or on service pole. The flasher unit not to overhang private property or sidewalk.
2. Optional flashing beacon will be called for in the Plans. They may be placed within or below the panel, or face to the rear.

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OVERHEAD SIGN ASSEMBLY

LAST REVISION 11/01/18	DESCRIPTION:		FY 2019-20 STANDARD PLANS	ENHANCED HIGHWAY SIGNING ASSEMBLIES	INDEX	SHEET
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