

Project: Cottage Grove, MN

CTSS-15 TEMPORARY SIGNAL SYSTEMS

This section pertains to the following pay items:

- TEMPORARY SIGNAL SYSTEM C (80th St & East Point Douglas)
- TEMPORARY SIGNAL SYSTEM D (80th St & Hinton Avenue)
- TEMPORARY SIGNAL SYSTEM F (East Point Douglas & Grove Plaza Entrance)

All work described herein, including furnishing, installation, operation, maintenance, adjustment, removal, and coordination of temporary portable signal systems, shall be considered incidental and paid for at the contract lump sum price for the respective bid item. No separate payment will be made for any work, materials, or equipment necessary to complete the requirements of this section.

A. Contractor Responsibilities

Contractor shall furnish, install, maintain, operate, and remove all components of the temporary signal system in accordance with the Plans, Special Provisions, and to the satisfaction of the Engineer. Each temporary signal system shall be a fully standalone, self-contained, trailer-mounted portable traffic signal system. No temporary signal system shall be tied into, connected to, or dependent upon any existing signal infrastructure, controller, conduit, or power source. All systems shall operate independently under their own power and control.

Anticipated operational durations for each temporary signal system are as follows. These durations are provided for informational and bidding purposes. Actual dates are subject to change based on construction progress and schedule.

- TEMPORARY SIGNAL SYSTEM C (80th St & East Point Douglas):
7 MONTHS
- TEMPORARY SIGNAL SYSTEM D (80th St & Hinton Avenue):
5 MONTHS
- TEMPORARY SIGNAL SYSTEM F (East Point Douglas & Grove Plaza Entrance):
7 MONTHS

B. System Requirements

Each temporary signal system shall be a portable, trailer-mounted, solar-powered unit capable of full intersection control as a standalone system. The Contractor shall select the appropriate trailer configuration based on the number of lanes and phases required at each intersection. The following system sizes are recognized and acceptable for use on this project:

- **32' Truss System** – Suitable for up to three lanes of coverage. When fully extended, the truss system shall be ballasted with concrete Jersey barrier. All costs associated with furnishing, placing, and removing Jersey barrier for ballasting purposes shall be considered incidental to the lump sum bid item for the respective temporary signal system. No separate payment will be made.
- **25' HD Trailer System** – Suitable for two or more lanes of coverage.
- **Standard 9' LD Trailer System** – Suitable for single-lane coverage.

The 25' HD and Standard 9' LD trailer systems share the same trailer footprint. The Contractor shall select the appropriate system or combination of systems at each intersection to provide full intersection control for all required phases and lanes of traffic. Dedicated left turn signal heads, including doghouse-style heads, shall be acceptable in lieu of flashing yellow arrow signal heads for temporary signal operations. The Contractor shall identify the proposed head configuration for each intersection in the shop drawing submittal.

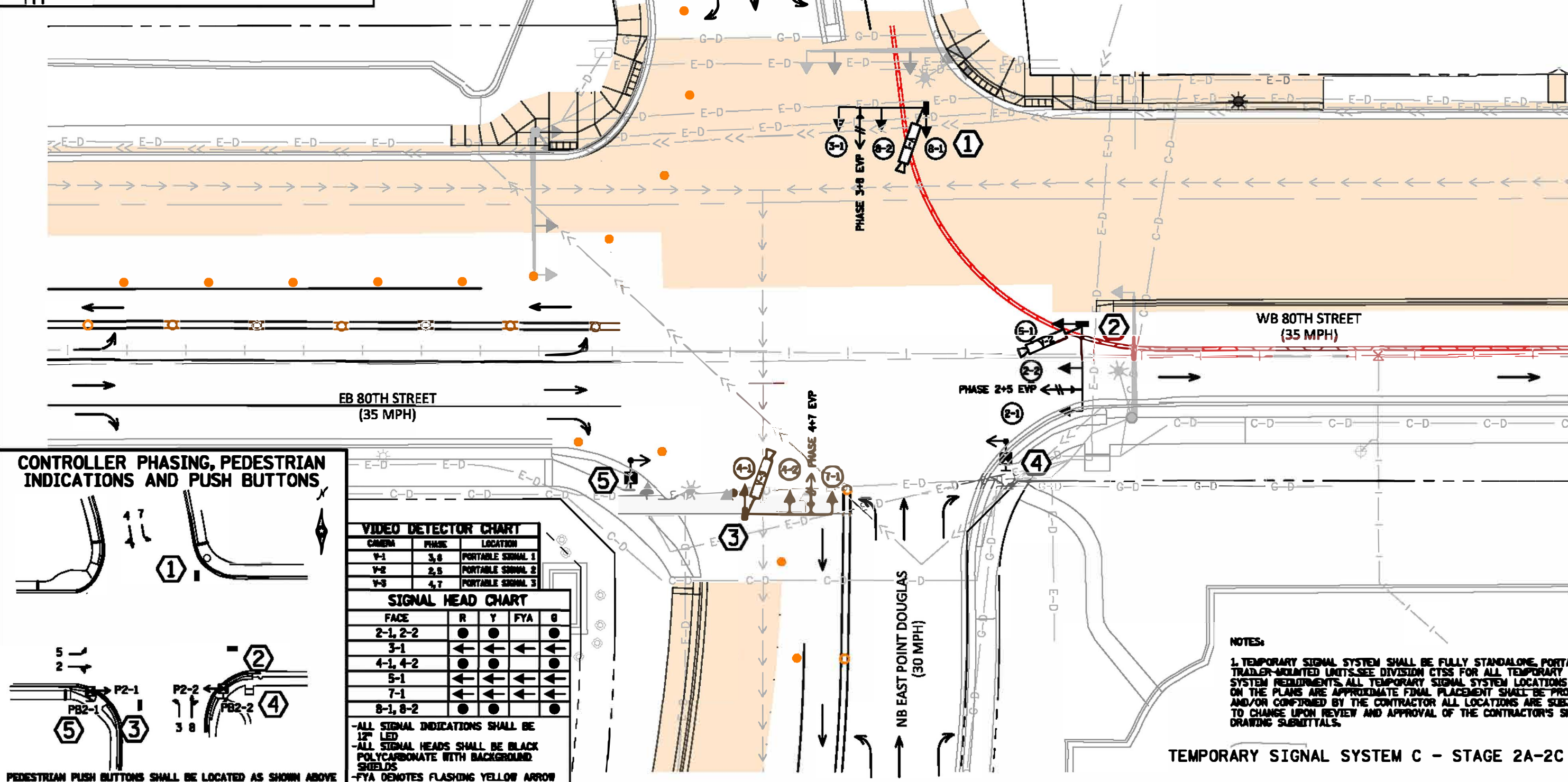
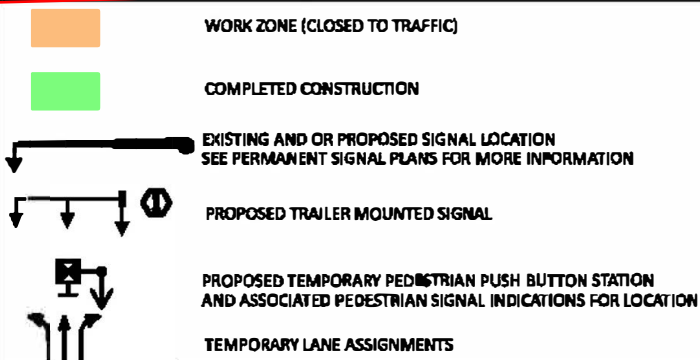
At minimum, each system shall include:

- Self-contained solar power supply with battery backup sufficient for continuous operation without external power
- ITE-compliant polycarbonate signal heads with LED indications providing a minimum of 17 feet of vertical clearance under the mast arm
- Onboard traffic signal controller with real-time remote access, monitoring, and programming capability
- PTZ (pan-tilt-zoom) camera monitoring with live video streaming for both traffic-facing and work zone-facing views
- Redundant vehicle detection (radar and/or video)
- Triple redundant wireless communication (900 MHz radio, 2.4 GHz WiFi, and cellular)
- GPS and compass for system location and orientation tracking

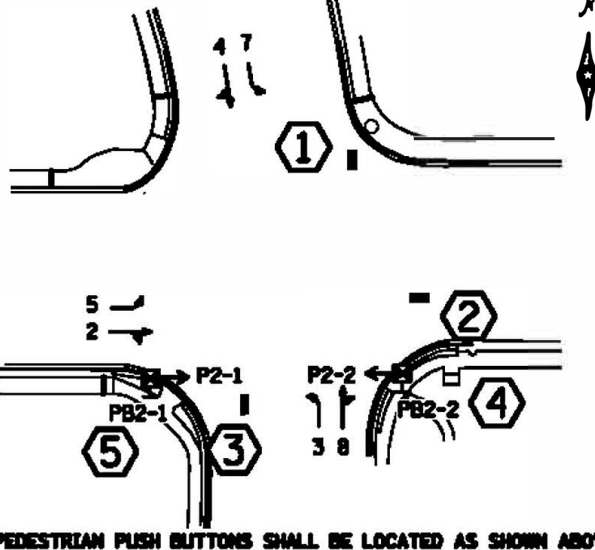
C. Contractor-Proposed Alternatives

The Contractor shall have the flexibility to propose alternative equipment configurations or system layouts that, in the Contractor's professional judgment, would provide equal or better traffic control performance for the intersections identified. Any proposed alternative shall be submitted for Engineer review and approval as part of the shop drawing submittal process.

LEGEND



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



CAMERA	PHASE	LOCATION
V-1	3,8	PORTABLE SIGNAL 1
V-2	2,5	PORTABLE SIGNAL 2
V-3	4,7	PORTABLE SIGNAL 3

FACE	R	Y	FYA	θ
2-1, 2-2	●	●	●	●
3-1	●	●	●	●
4-1, 4-2	●	●	●	●
5-1	●	●	●	●
7-1	●	●	●	●
8-1, 8-2	●	●	●	●

-ALL SIGNAL INDICATIONS SHALL BE 12" LED

-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS

-FYA DENOTES FLASHING YELLOW ARROW

NOTES:

1. TEMPORARY SIGNAL SYSTEM SHALL BE FULLY STANDALONE, PORTABLE, TRAILER-MOUNTED UNITS. SEE DIVISION CTSS FOR ALL TEMPORARY SIGNAL SYSTEM REQUIREMENTS. ALL TEMPORARY SIGNAL SYSTEM LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE FINAL PLACEMENT. ALL LOCATIONS ARE SUBJECT TO CHANGE UPON REVIEW AND APPROVAL OF THE CONTRACTOR'S SHOP DRAWING SUBMITTALS.

TEMPORARY SIGNAL SYSTEM C - STAGE 2A-2C

A

WORK ZONE (CLOSED TO TRAFFIC)

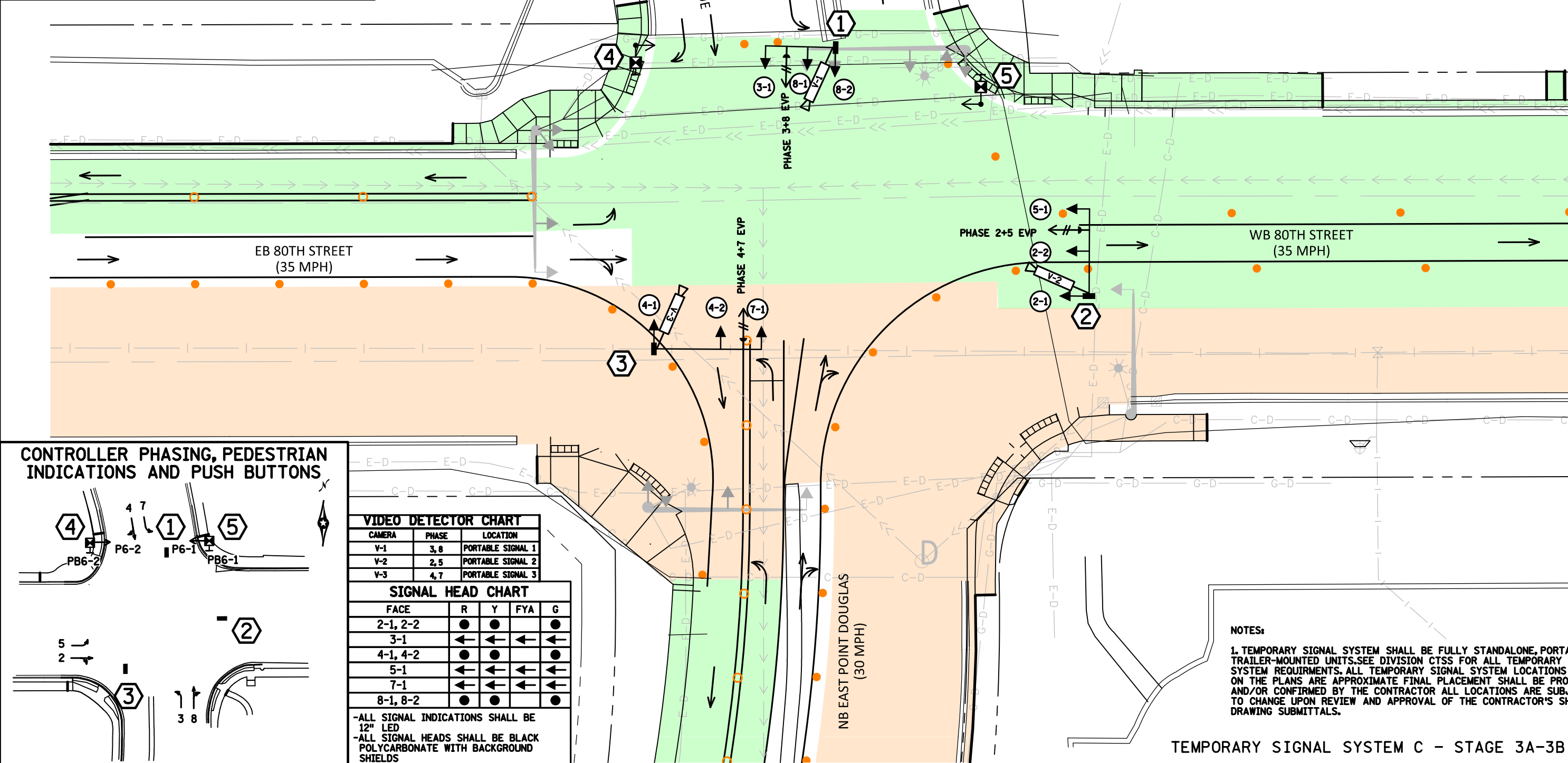
COMPLETED CONSTRUCTION

EXISTING AND OR PROPOSED SIGNAL LOCATION
SEE PERMANENT SIGNAL PLANS FOR MORE INFORMATION

PROPOSED TRAILER MOUNTED SIGNAL

PROPOSED TEMPORARY PEDESTRIAN PUSH BUTTON STATION
AND ASSOCIATED PEDESTRIAN SIGNAL INDICATIONS FOR LOCATION

TEMPORARY LANE ASSIGNMENTS



4

1

5

PB6-2

P6-2

P6-1

PB6-1

5

2

3

8

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

VIDEO DETECTOR CHART			
CAMERA	PHASE	LOCATION	
V-1	3, 8	PORTABLE SIGNAL 1	
V-2	2, 5	PORTABLE SIGNAL 2	
V-3	4, 7	PORTABLE SIGNAL 3	

SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
2-1, 2-2	●	●		●
3-1	←	←	←	
4-1, 4-2	●	●		●
5-1	←	←	←	
7-1	←	←	←	
8-1, 8-2	●	●		●

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-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS

-FYA DENOTES FLASHING YELLOW ARROW

NOTES:

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TEMPORARY SIGNAL SYSTEM C - STAGE 3A-3B

A

WORK ZONE (CLOSED TO TRAFFIC)

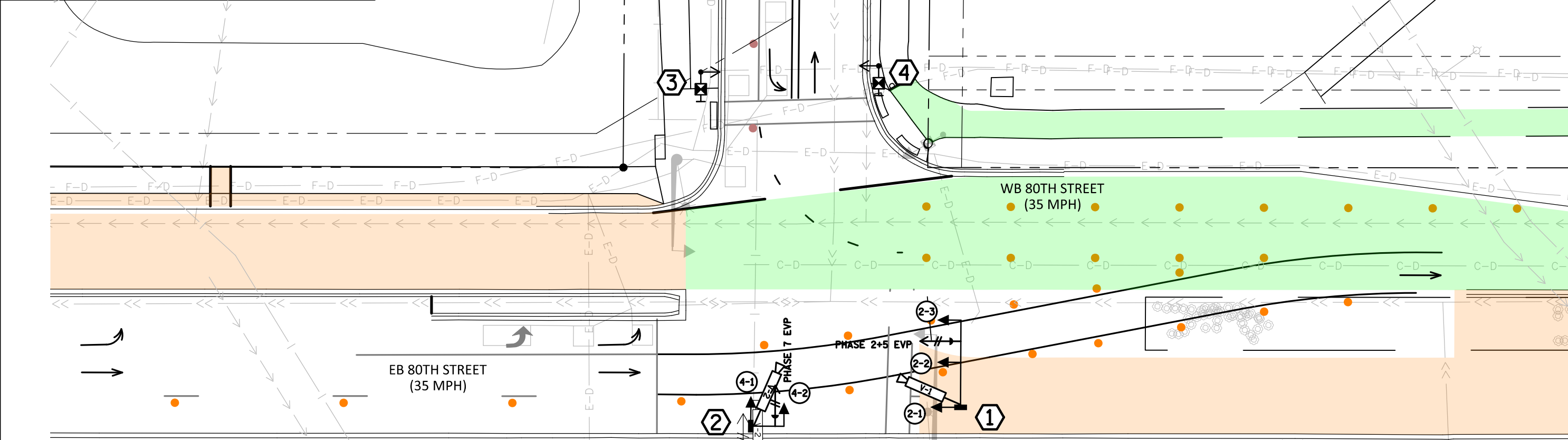
COMPLETED CONSTRUCTION

EXISTING AND OR PROPOSED SIGNAL LOCATION
SEE PERMANENT SIGNAL PLANS FOR MORE INFORMATION

PROPOSED TRAILER MOUNTED SIGNAL

PROPOSED TEMPORARY PEDESTRIAN PUSH BUTTON STATION
AND ASSOCIATED PEDESTRIAN SIGNAL INDICATIONS FOR LOCATION

TEMPORARY LANE ASSIGNMENTS



3

4

PB6-2

P6-2

P6-1

PB6-1

2

2

1

2

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

VIDEO DETECTOR CHART				
CAMERA	PHASE	LOCATION		
V-1	2	PORTABLE SIGNAL 1		
V-2	4	PORTABLE SIGNAL 2		

SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
2-1, 2-2, 2-3	●	●		●
4-1, 4-2	●	●		●

-ALL SIGNAL INDICATIONS SHALL BE 12" LED

-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS

-FYA DENOTES FLASHING YELLOW ARROW

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TEMPORARY SIGNAL SYSTEM D - STAGE 2C

WORK ZONE (CLOSED TO TRAFFIC)

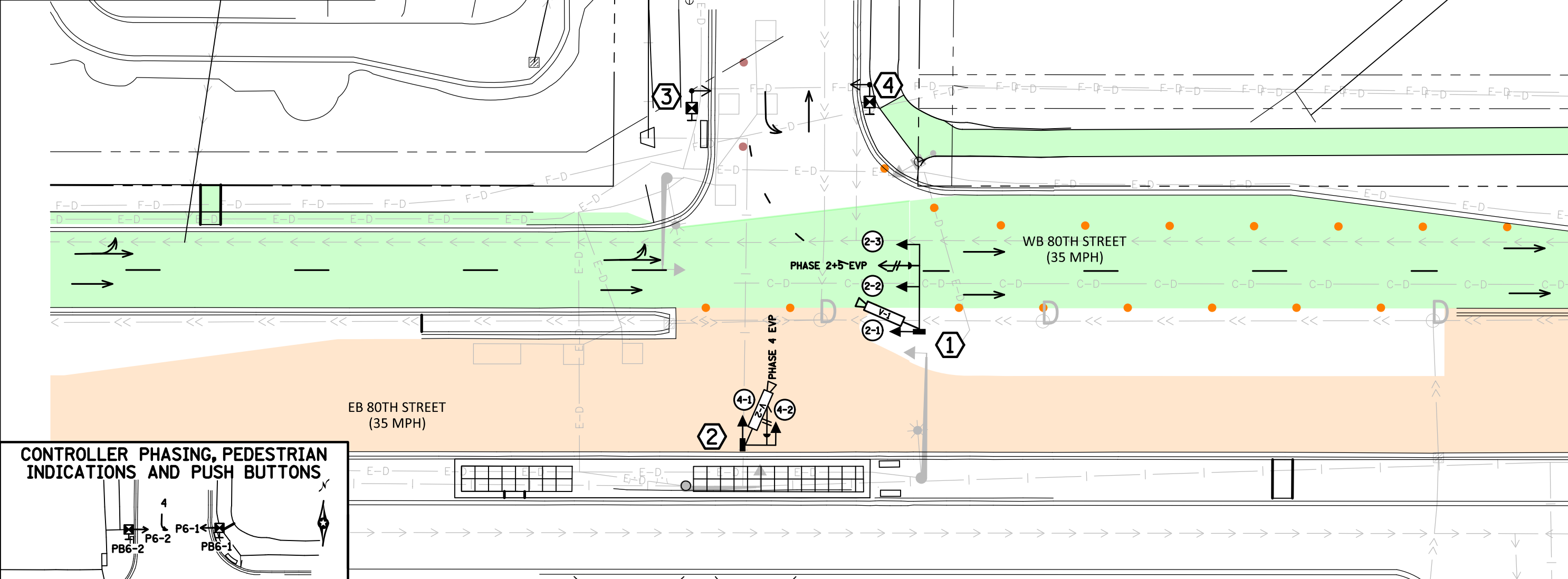
COMPLETED CONSTRUCTION

EXISTING AND OR PROPOSED SIGNAL LOCATION
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PROPOSED TRAILER MOUNTED SIGNAL

PROPOSED TEMPORARY PEDESTRIAN PUSH BUTTON STATION
AND ASSOCIATED PEDESTRIAN SIGNAL INDICATIONS FOR LOCATION

TEMPORARY LANE ASSIGNMENTS



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

VIDEO DETECTOR CHART				
CAMERA	PHASE	LOCATION		
V-1	2	PORTABLE SIGNAL 1		
V-2	4	PORTABLE SIGNAL 2		

SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
2-1, 2-2, 2-3	●	●		●
4-1, 4-2	●	●		●

-ALL SIGNAL INDICATIONS SHALL BE 12" LED

-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS

-FYA DENOTES FLASHING YELLOW ARROW

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PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

TEMPORARY SIGNAL SYSTEM D - STAGE 3A

0 15 30
SCALE FEET

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

LUCAS SIMONSON
LIC. NO. 60649 DATE 12/15/2025

Cottage Grove
Where Pride and Prosperity Meet

DESIGNED: DG
DRAWN: JAS
CHECKED: NS
CLIENT PROJ. NO.

NO. A
ISSUED FOR: ADD 3
DATE: 03/11/2026

CITY OF COTTAGE GROVE, MINNESOTA
SP 8205-159 (TH61), SP 180-102-020, SP 180-112-014, SAP 082-639-008, SAP 180-020-015

TEMPORARY SIGNAL PLANS

SHEET
TC106
OF
TC112

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A

WORK ZONE (CLOSED TO TRAFFIC)

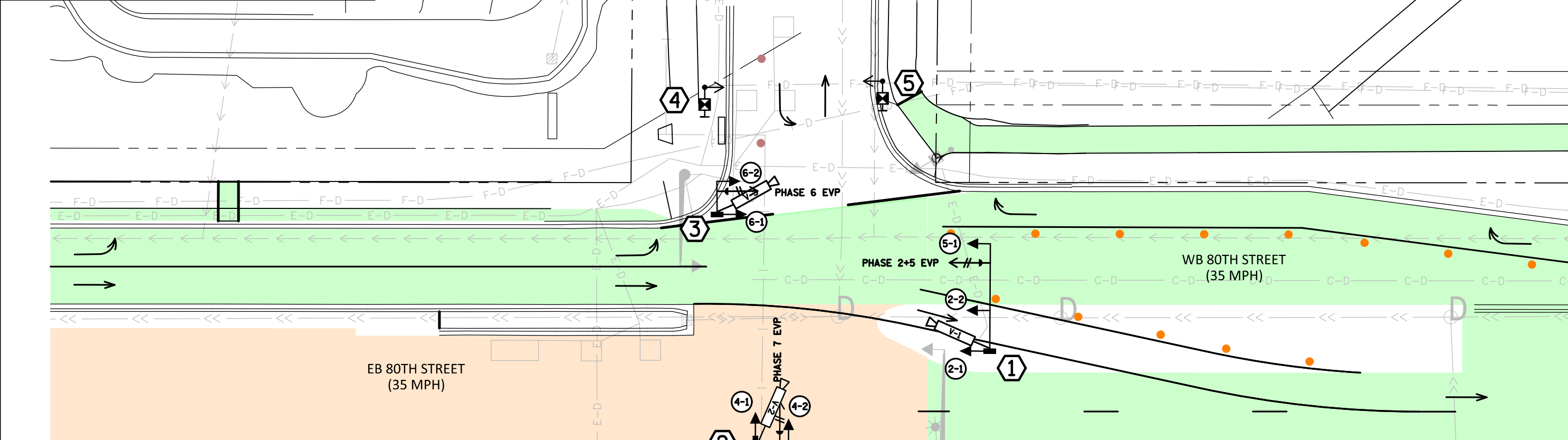
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PROPOSED TEMPORARY PEDESTRIAN PUSH BUTTON STATION
AND ASSOCIATED PEDESTRIAN SIGNAL INDICATIONS FOR LOCATION

TEMPORARY LANE ASSIGNMENTS



4

P6-2

PB6-2

3

5

2

6

P6-1

PB6-1

1

2

VIDEO DETECTOR CHART			
CAMERA	PHASE	LOCATION	
V-1	2, 5	PORTABLE SIGNAL 1	
V-2	4	PORTABLE SIGNAL 2	
V-3	6	PORTABLE SIGNAL 3	

SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
2-1, 2-2	●	●		●
5-1	←	←	←	←
4-1, 4-2	●	●		●
6-1, 6-2	●	●		●

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-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS

-FYA DENOTES FLASHING YELLOW ARROW

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

NOTES:
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TEMPORARY SIGNAL SYSTEM D - STAGE 3B

0 15 30
SCALE FEET

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LUCAS SIMONSON

60649

DATE 12/15/2025

DESIGNED DG

DRAWN JAS

CHECKED NS

CLIENT PROJ. NO.

NO. A

ISSUED FOR ADD 3

DATE 03/11/2026

CITY OF COTTAGE GROVE, MINNESOTA

SP 8205-159 (TH61), SP 180-102-020, SP 180-112-014, SAP 082-639-008, SAP 180-020-015

SHEET TC107 OF TC112

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WORK ZONE (CLOSED TO TRAFFIC)

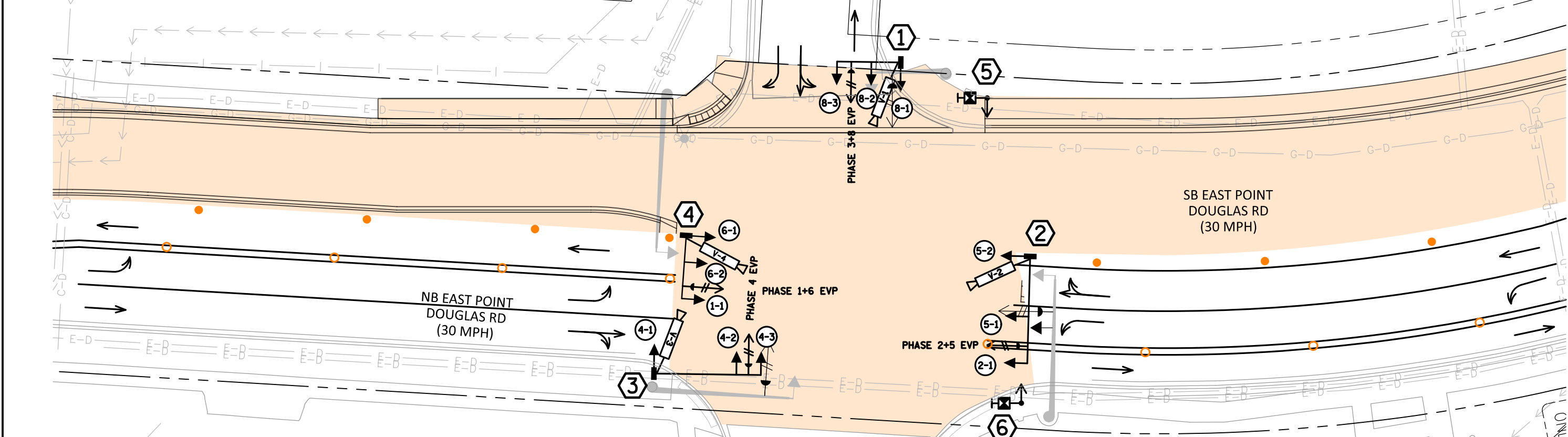
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TEMPORARY LANE ASSIGNMENTS



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

VIDEO DETECTOR CHART		
CAMERA	PHASE	LOCATION
V-1	8	PORTABLE SIGNAL 1
V-2	2	PORTABLE SIGNAL 2
V-3	4	PORTABLE SIGNAL 3
V-4	1,6	PORTABLE SIGNAL 4

SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
1-1	←	←	←	←
2-1	●	●		●
4-1, 4-2	●	●		●
4-3	←	←	←	←
5-1, 5-2	←	←	←	←
6-1, 6-2	●	●		●
8-1, 8-2, 8-3	●	●		●

-ALL SIGNAL INDICATIONS SHALL BE 12" LED

-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS

-FYA DENOTES FLASHING YELLOW ARROW

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

01530

SCALE

FEET

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LUCAS SIMONSON

60649

DATE 12/15/2025



DESIGNED	DG
DRAWN	JAS
CHECKED	NS
CLIENT PROJ. NO.	

NO.	ISSUED FOR	DATE
1A	ADD 3	03/11/2026

CITY OF COTTAGE GROVE, MINNESOTA

SP 8205-159(TH61), SP 180-102-020, SP 180-112-014, SAP 082-639-008, SAP 180-020-015

TEMPORARY SIGNAL PLANS

SHEET TC108 OF TC112

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TEMPORARY SIGNAL SYSTEM F - STAGE 2A-2C

WORK ZONE (CLOSED TO TRAFFIC)

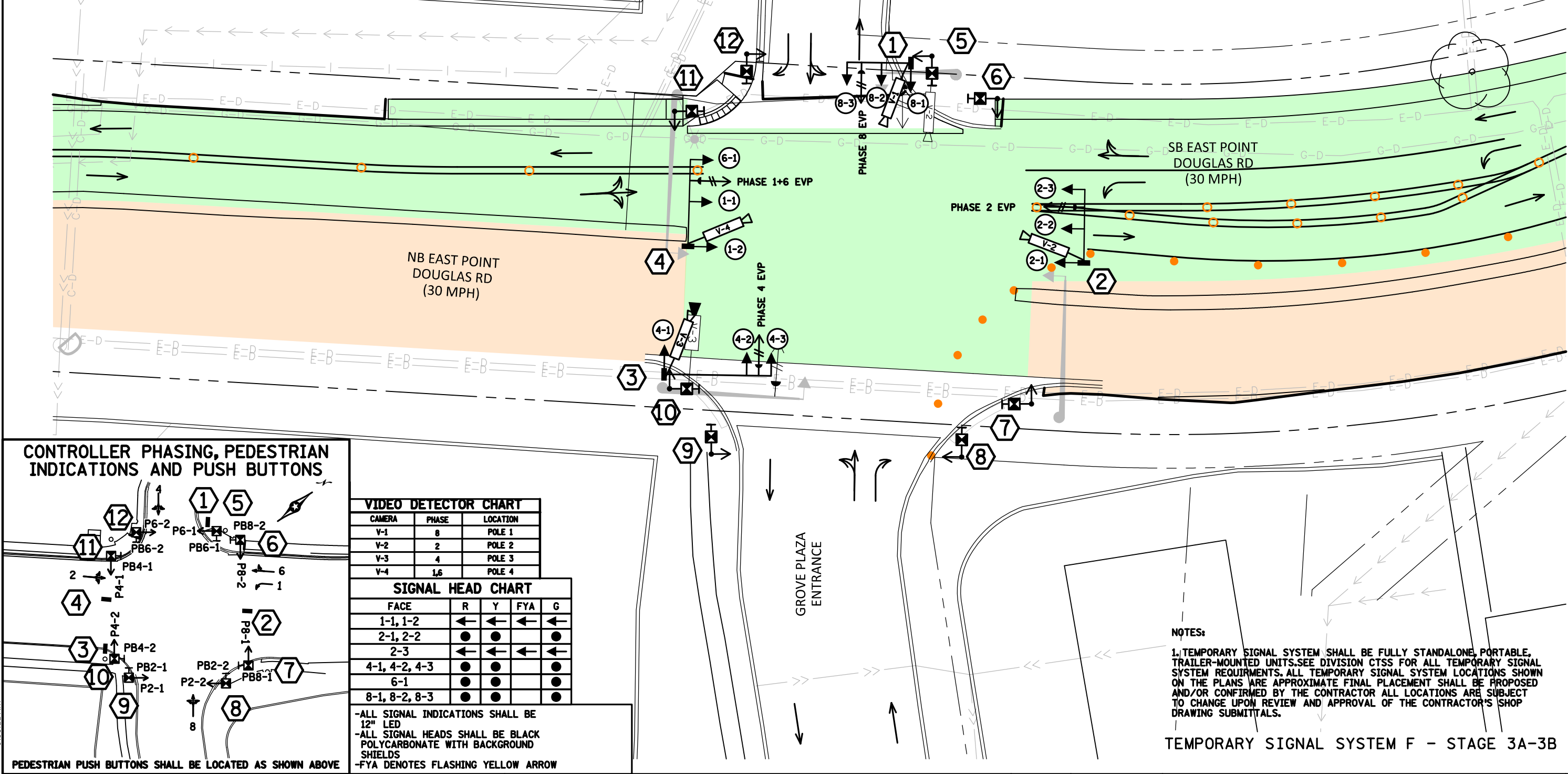
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PROPOSED TRAILER MOUNTED SIGNAL

PROPOSED TEMPORARY PEDESTRIAN PUSH BUTTON STATION
AND ASSOCIATED PEDESTRIAN SIGNAL INDICATIONS FOR LOCATION

TEMPORARY LANE ASSIGNMENTS



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

VIDEO DETECTOR CHART		
CAMERA	PHASE	LOCATION
V-1	8	POLE 1
V-2	2	POLE 2
V-3	4	POLE 3
V-4	1,6	POLE 4

SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
1-1, 1-2	←	←	←	←
2-1, 2-2	●	●	●	●
2-3	←	←	←	←
4-1, 4-2, 4-3	●	●	●	●
6-1	●	●	●	●
8-1, 8-2, 8-3	●	●	●	●

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-FYA DENOTES FLASHING YELLOW ARROW

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TEMPORARY SIGNAL SYSTEM F - STAGE 3A-3B