PROJECT #36374.002
STAGECOACH EMERGENCY TRAFFIC SIGNAL
8801 STAGECOACH ROAD

2019-2021 BOND PROGRAM
1. All electrical work shall be performed in accordance with the current editions of the NFPA 70 (2017 National Electrical Code, NFPA 101) current edition life safety code, state electrical code and local electrical code.

2. Extend green equipment grounding conductor (e.g.: from ground bar at main breaker to control panel and to first pole. Solidly bond e.g.: to ground lug of control cabinet and to pole ground. Ensure that only one neutral-to-ground bond exists in the system and that it is at the main breaker.

3. Electrical service shall be provided by the city/county to a service pole with external right-of-way breaker (main breaker). Galvanized steel service riser, meter loop (if required), and weatherhead at a minimum A.W.G. #12 (typical) shall be used. If the engineer determines this is not feasible, then a trenching method as shown in the standard drawings may be used.

4. Traffic signal poles shall be galvanized with metal handhole covers. Backplates shall be metal and supplied for all signal heads.

5. Pavement markings shown for reference only. See permanent pavement marking details.

6. Foundation for all poles shall be extended if necessary to accommodate the requirements for signal head clearance above roadway only at locations where the ground elevation at the pole is below the elevation of the roadway (see notes on standard drawing). Payment will be included in section 714 traffic signal mast arm and pole with foundation of the standard specifications for highway construction, current edition.

7. All concrete pull boxes shall be (type 2 HD) unless otherwise indicated. All conduit shall be three (3") inch diameter unless specified on plans.

8. Contractor shall notify all existing utility owners before beginning work on this project.

11. Luminaire assemblies shall be of the full cutoff type.

15. Hardware inputs may be determined by supplier. Each detector output shall input the controller through a separate input unless otherwise noted and be programmed to activate the associated phase combination (comb.) Detectors shall also be programmed to provide vehicle count data (Lampara).

16. The local radio with antenna shall be compatible with the existing closed loop coordination system in the city/county.

17. To determine utility clearances above the traffic signal pole, refer to the pole schedule for vertical shaft height. Where the pole schedule indicates that a luminaire arm will be used, thirty-eight (38') feet should be used to determine utility clearance above the luminaire arm. Where the pole schedule indicates a traffic signal pole without a luminaire arm, a height of twenty-one (21') feet should be used. Additional utility clearances above the traffic signal pole shall be determined. An additional six (6') feet should be used directly above "video detector" at locations shown on the signal plans.

18. The desirable minimum distance from the face of roadway curb or shoulder edge to the face of non-breakaway pole or obstruction is six (6') feet. Refer to traffic signal plans for specific location of poles, controller and any other non-breakaway obstructions. Refer to "Design Parameters: Minimum Clear Zone Distance" for minimum distance from the edge of traveled way to the face of a non-breakaway pole or obstruction. Traffic signal poles or any other non-breakaway obstruction shall not be installed within the clear zone.

19. As determined by the engineer, foundation embedment may be decreased by a maximum of two feet if competent rock is encountered prior to achieving plan embedment and at least half of the remaining plan embedment length is keyed into competent rock.

20. Connection of traffic signal display to field wiring shall utilize an approved terminal strip behind hand-hole cover at base of pole. Terminal strip shall provide protection to prevent exposure to the public in the event that pole cover is missing. Payment for terminal strips shall be included in Item 714 traffic signal mast arm and pole with foundation of the standard specifications for highway construction, current edition.

21. Controller cabinet layout and orientation shall conform to MISA standards.

22. One video programming module shall be provided for aiming and setup of detectors if the video system cannot be adjusted through hardware and software provided by items within the job.

23. Traffic signal contractor shall notify the resident engineer or assigned department project inspector each day prior to signal related work. No work on traffic signals will be allowed or approved without prior notification.

24. All steel poles shall be designed to meet the AASHTO standard specifications for structural integrity of roadway signs, luminaires and traffic signals, 4th edition (2001) with 2003 and 2006 Interims.

25. Door panel test push buttons shall activate indicated phases. Detector assignments and/or side panel jumpers may require modification.

26. All system detector racks and associated equipment shall be protected by the main controller cabinet power surge protection.

27. In pull boxes, pole bases, junction boxes and controller cabinets, the direction of each cable run shall be indicated by attaching a permanent tag of rigid plastic or non-ferrous metal to the conduit. Tags shall be embossed, stamped or engraved with letters 1/4" or greater in height and secured to the conduit with nylon or plastic ties. In instances where the conduit or conduit entrances are not visible or accessible, a direction tag shall be attached to each cable.

28. The contractor shall perform all work possible that will minimize the time that the traffic signal is out of operation. If, in the opinion of the engineer, traffic warrants it the contractor shall provide flagmen to direct traffic while the traffic signal is out of operation.
## Stagecoach Emergency Traffic Signal

**Sheet No.**

**Scale**

**Project No.**

**Date**

**Design**

**Check**

**Drawn By**

**Revision**

### Table: Traffic Signal Quantities

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<tr>
<th>Item #</th>
<th>Item Description</th>
<th>Unit</th>
<th>Quantity</th>
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<tr>
<td>701</td>
<td>Actuated Controller TS1-Type 2 (8 Phases)</td>
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<td>Feeder Wire</td>
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<td>Standard Signs</td>
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**Sub-Total**
NOTE TO CONTRACTOR:
1. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.
2. ALL FEEDER WIRES SHALL BE 2--PAIR SHIELDED (WITH GROUND WIRE). FW's TO BE GROUNDED AT ONLY ONE END. (AT FIRE STATION OR CABINET).
PHASING DIAGRAM

PHASE 1 ACTUATED
BY FIRE STATION

SIGNAL FACES
12" LENSES

NOTE:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS
3. FLASHERS
5. THE FLASHING YELLOW BALL FOR SIGNAL HEADS 1, 2, 3, & 4 SHALL BE 12" LENSES

INTERVAL CHART

<table>
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<tr>
<th>SIGNAL FACES</th>
<th>EMERGENCY SIGNAL 1</th>
<th>CLR.</th>
<th>EMERGENCY SIGNAL 2</th>
<th>CLR.</th>
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NOTE:
1. RIGHT HAND SLIDE ASSEMBLY LEFT SLIDE OPPOSITE.
2. DRILL HOLE #1 1/8" X 1/8" ON CORNER AND CONTAINING #10-32 RIGHT HAND SLIDE ASSEMBLY. #8 LEFT HAND SLIDE ASSEMBLY ARE NEEDED TO FASTEN SLIDE ASSEMBLY TO UNDER SIDE OF CONTROLLER SHELF SHELL.

FRONT VIEW

RIGHT SIDE ASSEMBLY

CONTROLLER CABINET UTILITY DRAWER

ISSUED AS STANDARD DRAWING

DATE  ISSUE  REVISION

STANDARD DRAWING SD-5
NOTE: WHERE LEFT TURN HEAD (HEAD I IN D1 AND D2) IS NOT CALLED FOR ON PLANS, MOST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LINES AS SHOWN ON DETAILS.

GENERAL NOTES:

1. FOUR SECTION "PROTECTED/PERMITS" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF 10 FT. (3.0 M) TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

3. WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLANS CENTERING IN LINES MORE THAN 6 FT (1.8 M) TO THE LEFT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE, MAST ARM SHALL BE CUT TO APPROPRIATE LENGTH AS DETERMINED BY THE ENGINEER. A NEW END CAP PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MAST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.

4. SIGNAL HEAD SPACING SHALL BE NO GAP, BE LESS THAN EIGHT 18" FEET BETWEEN HEADS IN CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.

5. ALL SIGNAL HEADS SHOWN ON THE DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.

6. MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 63 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 40-5 OF 2009 MUTCD.