NOTE TO DESIGNER: Designer shall identify any project specific changes to the standard sheets or specifications. All changes shall be approved by City of Wichita and identified on "MODIFICATIONS TO SIGNAL STANDARDS OR SPECS". Design shall update peak hour volumes for the design intersection(s).

## GENERAL NOTES

1. TRAFFIC SIGNAL SPECIFICATIONS (PART 700), STANDARD DRAWINGS, CHECKLISTS, AND OTHER INFORMATION MAY BE FOUND ONLINE AT: HTTPS://WICHITA.GOV/PWU/PAGES/REGULATIONS.ASPX
   IF THERE IS A DISCREPANCY BETWEEN OR AMONG THE FOLLOWING CONTRACT DOCUMENTS, THE GOVERNING RANKING OR ORDER OF PRECEDENCE IS:
   A. INFORMATION RECEIVED AT PREBID / ADDENDUM(S)
   B. PLANS
   C. PROJECT SPECIAL PROVISIONS
   D. SPECIAL PROVISIONS
   E. STANDARD SPECIFICATIONS

   THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCY RELATED TO THE WORK BEING PERFORMED.

2. ALL WORK WILL BE CONFINED WITHIN THE EXISTING ROADWAY RIGHT-OF-WAY OR RIGHT-OF-WAY SHOWN PER PLAN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY AND KEEP INSTALLATION OF ALL EQUIPMENT AND DEVICES WITHIN THE APPROVED RIGHT-OF-WAY.

3. CONTRACTOR SHALL MAINTAIN 2 FT CONDUIT CLEARANCE FROM ALL LANDSCAPED FEATURES AND IRRIGATION SYSTEMS EXISTING WITHIN THE RIGHT-OF-WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE INCURRED TO ANY EXISTING UNDERGROUND SPRINKLER SYSTEM DURING CONSTRUCTION. ANY LANDSCAPING OR IRRIGATION SYSTEMS DISTURBED DURING CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ORIGINAL CONDITION OR AS ACCEPTABLE BY THE ENGINEER AND OWNER THEREOF. NO ADDITIONAL PAYMENT WILL BE MADE.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL DISTURBED WORK AREAS. RESTORATION INCLUDES SEEDING, FERTILIZING, MULCHING, AND THE REMOVAL OF ALL UNUSED MATERIAL AND DEBRIS FROM THE WORK AREA ACCORDING TO THE STANDARD SPECIFICATIONS AND AS REQUIRED BY THE ENGINEER. ALL GRADING WORK SHALL SLOPE AWAY FROM FOUNDATIONS TO PREVENT PONDING. ADEQUATE TEMPORARY PROTECTION AGAINST EROSION SHALL BE PROVIDED ACCORDING TO CITY OF WICHITA SPECIFICATIONS.

5. THE CONTRACTOR SHALL DETERMINE ANY CONFLICTS WITH EXISTING UTILITIES PRIOR TO INITIATION OF CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE ENGINEER UPON DETERMINATION OF ANY UTILITY CONFLICTS.

6. LOCATING, TRACING, AND POTHOLING FOR EXISTING UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR. DISTURBED AREAS SHALL BE RESTORED WITH SIMILAR MATERIAL AND CONSTRUCTION METHODS. NO ADDITIONAL PAYMENT WILL BE MADE FOR LOCATING OR POTHOLING EXISTING UTILITIES, INCLUDING PAVEMENT RESTORATION. ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY FOR LOCATING EXISTING UTILITIES SHALL NOT BE PAID FOR DIRECTLY BUT IS SUBSIDIARY TO OTHER ITEMS OF THE CONTRACT.

7. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL CALL DIG SAFE AT 811 OR 1-800-344-7233 (1-800-DIG SAFE) TO REQUEST THE UTILITIES BE MARKED IN THAT AREA. THE CONTRACTOR SHALL ALSO CONTACT ANY AND ALL UTILITIES AND LOCAL GOVERNMENT AGENCIES NOT PARTICIPATING IN LOCATION SERVICES.

8. THE CITY WILL SURVEY AND STAKE LOCATIONS WHERE POLES, FOUNDATIONS, CABINETS, POWER SERVICES, AND SERVICE BOXES ARE TO BE INSTALLED. THE CONTRACTOR SHALL COORDINATE AND SCHEDULE STAKING WITH THE CITY WITH ADVANCED NOTICE. STAKED LOCATIONS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO ANY EXCAVATION.

9. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION. ALL TRAFFIC CONTROL PLANS AND LANE CLOSURES SHALL BE PRE-APPROVED BY THE ENGINEER IF NOT SPECIFICALLY PROVIDED IN THE CONTRACT DOCUMENTS.

10. THE PUBLIC PASSAGE ON THE EXISTING SIDEWALK OR PEDESTRIAN PATHWAY SHOULD BE SAFE, PROTECTED, AND ADA ACCESSIBLE. IF PUBLIC PASSAGE IS NOT POSSIBLE, A REROUTE AROUND THE WORK AREA IS REQUIRED. REROUTE MUST BE CLEARLY IDENTIFIED, ADA ACCESSIBLE, AND MEET ALL APPLICABLE REGULATIONS.

11. POWER COMPANY SHALL BE NOTIFIED AT LEAST TWO (2) WEEKS AND AGAIN AT 72 HOURS PRIOR TO THE ANTICIPATED SIGNAL TURN ON. THE CONTRACTOR SHALL NOTIFY THEM TO COORDINATE POWER HOOK-UP, INSTALLATION OF LUMINAIRES (IF APPLICABLE), AND ANY OTHER ITEMS REQUIRED FOR COMPLETION OF THE TRAFFIC SIGNAL. IF AVAILABLE, PROVIDE ENGINEER WITH ANY WORK ORDER/CASE NUMBERS.

12. HIGH VOLTAGE POWER LINES MAY BE WITHIN THE PROJECT LIMITS. ALL WORK IS TO BE PERFORMED IN CONFORMANCE WITH ALL STATE, LOCAL, FEDERAL, UTILITY, AND CONTRACT REQUIREMENTS. THE CITY HAS NO CONTROL OVER THE MEANS, METHODS, CHOICE OF EQUIPMENT, SEQUENCING OF WORK, AND SAFETY PRACTICES USED WHEN WORKING IN, ON, OR AROUND HIGH VOLTAGE LINES OR OTHER UTILITY STRUCTURES AS THESE ITEMS ARE THE RESPONSIBILITY OF THE PARTIES CONTROLLING THE PHYSICAL PERFORMANCE OF THE WORK.

13. ALL GROUNDING SYSTEMS SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND MANUFACTURER SPECIFICATIONS. FOLLOW APPLICABLE NEC REQUIREMENTS FOR INSTALLATION OF ALL PROJECT MATERIALS. THE CONTRACTOR SHALL PROPERLY GROUND ALL EQUIPMENT, CABINET, AND GROUND RODS PER APPLICABLE STANDARDS OR AS DIRECTED BY ENGINEER.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE ELECTRICAL SERVICE CONNECTION IN THE CITY'S NAME AT THE LOCATIONS SHOWN ON THE PLANS. DIRECT COSTS FOR PERMANENT ELECTRICAL SERVICES TO BE PAID BY CITY. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SERVICE (IF REQUIRED).

15. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT CATALOG CUTS OR SHOP DRAWINGS FOR ALL EQUIPMENT TO BE INSTALLED. IT IS THE PRIME CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL SHOP DRAWINGS, TESTING RESULTS, AND ALL OTHER REQUIRED SUBMITTALS PRIOR TO SUBMITTING FOR ENGINEER'S APPROVAL. THE ENGINEER WILL NOT REVIEW ANY SUBMITTED DOCUMENTATION OR BEGIN ANY TESTING PERIODS UNTIL THIS WORK IS COMPLETE.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND SALVAGING EXISTING EQUIPMENT AS NOTED. DAMAGE TO ANY EXISTING TRAFFIC SIGNAL EQUIPMENT DUE TO THE CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND THE CONTRACTOR SHALL REPORT ANY OPERATIONAL PROBLEMS TO THE TRAFFIC MAINTENANCE DEPARTMENT (316) 268-4013. THE EQUIPMENT SHALL BE REPLACED OR REPAIRED (AS DIRECTED BY THE CITY) WITH APPROVED MATERIALS IN CONFORMANCE WITH THE CURRENT STANDARD DETAILS, SPECIFICATIONS, PRACTICES AND POLICIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY STORED EXISTING MATERIALS (REMOVED FOR CONSTRUCTION) TO BE RE-INSTALLED.

17. WHEN SALVAGED EQUIPMENT IS NOT TO BE REINSTALLED, IT SHALL BE DELIVERED UNDAMAGED TO THE CITY OF WICHITA OR RESPECTIVE OWNER. IF NOT OTHERWISE IDENTIFIED ON THE PLANS, EQUIPMENT SHOULD BE DELIVERED TO CENTRAL MAINTENANCE FACILITY (CMF) AT 1801 S MCLEAN BLVD, WICHITA, KS 67213. THE CONTRACTOR SHALL SCHEDULE THE DELIVERY WITH TRAFFIC SIGNAL MAINTENANCE A MINIMUM OF 24 HOURS IN ADVANCE. THE STORED EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL REMOVED BY OWNER FROM THE WORK SITE OR DELIVERED TO THE OWNER.

18. THE TRAFFIC SIGNAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE EXACT CONSTRUCTION SCHEDULE SO THAT INSPECTION OF THE TRAFFIC SIGNAL INSTALLATION CAN BE MADE OF ALL PHASES, INCLUDING CONDUIT INSTALLATIONS.

19. THE CONTRACTOR SHALL PROVIDE THE CITY AN ELECTRONIC LIST OF GPS READINGS (EXCEL FORMAT) FOR ALL INSTALLED DEVICES, PULL BOXES, SERVICE BOXES, CABINETS, POWER METERS, AND TRANSFORMERS. THE GPS READINGS SHALL MATCH THE CITY OF WICHITA'S CURRENT GEOGRAPHIC INFORMATION SYSTEM (GIS) WITH 'SUB-METER' ACCURACY. THE PROJECT SURVEY SHALL BE BASED ON NAD83, KANSAS STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, U.S. SURVEY FEET DEFINITION. THE VERTICAL DATUM SHALL BE NAVD88. GPS AND THREE TIE-POINT MEASUREMENTS SHALL BE OBTAINED FOR EACH BURIED ELECTRICAL PULL BOX PRIOR TO PLACING BACKFILL MATERIAL. CONDUITS WHICH ARE NOT PLACED IN A STRAIGHT LINE, SHALL BE LOCATED AS NEEDED IN ORDER TO ESTABLISH ITS EXACT LOCATION AND DEPTH.

## TRAFFIC SIGNAL TURN-ON AND ACCEPTANCE PROCEDURE

1. AT LEAST TWO (2) WORKING DAYS PRIOR TO SCHEDULED SIGNAL ACTIVATION, ALL TESTING SHOULD BE COMPLETED AND SUCCESSFUL, ALL DEFECTS AND DEFICIENCIES CORRECTED, ALL INDICATIONS OPERATIONAL AND PROPERLY AIMED, CABLES TAGGED, CABINETS AND SURROUNDING AREAS CLEANED OF DEBRIS, CONTROLLER FULLY OPERATIONAL PERFORMING ALL TIMING FUNCTIONS REQUIRED, ALL OTHER ITEMS OF WORK ASSOCIATED WITH THE SIGNAL COMPLETED, AND ALL SIGNS AND PAVEMENT MARKINGS PROPERLY INSTALLED UNLESS OTHERWISE APPROVED BY THE ENGINEER.

2. THE CONTRACTOR SHALL REVIEW AND SUBMIT TO THE ENGINEER A COMPLETED "CITY OF WICHITA TRAFFIC SIGNAL INSPECTION CHECKLIST" AVAILABLE ONLINE AT WWW.WICHITA.GOV. THE CHECKLIST MUST BE COMPLETED PRIOR TO CITY, TRAFFIC SIGNAL MAINTENANCE, OR ENGINEERING FULL INSPECTION.

3. THE ENGINEER AND CITY WILL CONDUCT A FULL INSPECTION OF THE SIGNAL SYSTEM. UPON SATISFACTORY CONDITIONS OF THE SIGNAL SYSTEM, THE TURN-ON SCHEDULE WILL BE CONFIRMED. THE CITY SHALL BE NOTIFIED AT LEAST ONE (1) WEEK IN ADVANCE OF THE ANTICIPATED SIGNAL TURN-ON DATE. ANY DEFICIENCIES FOUND DURING THE FINAL INSPECTION SHALL RESULT IN THE RESCHEDULING OF THE ACTIVATION.

4. ACTUAL ACTIVATION SHALL CONSIST OF THE FOLLOWING STEPS:
   A. INSTALLATION OF ALL REQUIRED EQUIPMENT IN THE CONTROLLER CABINET
   B. TESTING OF INSTALLED EQUIPMENT
   C. UNBAGGING OF ALL SIGNAL HEADS AND SIGNS (IF APPLICABLE)
   D. ACTIVATION OF THE SIGNAL WITH THE CONTRACTOR'S FLAGGER STOPPING ALL TRAFFIC MOMENTARILY AS THE SIGNAL IS TURNED ON.
   E. MINOR RE-AIMING OF SIGNAL HEADS, IF NECESSARY

5. ACTIVATION OF THE TRAFFIC SIGNAL SHALL NOT BE SCHEDULED FOR WEEKENDS, FRIDAYS OR DAYS RIGHT BEFORE PUBLIC HOLIDAYS. ENERGIZING OF SIGNAL (TURN-ON) TO OCCUR MONDAY - THURSDAY, 9:00 AM - 3:00 PM UNLESS SPECIFICALLY APPROVED OTHERWISE BY THE ENGINEER.

6. TEST PERIOD - FOLLOWING COMPLETION OF ALL ELECTRICAL APPARATUS HOOKUPS AND THE SYSTEM TURN-ON, THE SIGNALS SHALL OPERATE SATISFACTORILY FOR 30 DAYS UNDER NORMAL OPERATION PRIOR TO ACCEPTANCE BY THE CITY. DURING THE TEST PERIOD, THE SIGNALS SHALL OPERATE TROUBLE-FREE WITH NO MAJOR OR MINOR FAILURES OF THE CONTROLLER OR ITS COMPONENTS AS DETERMINED BY THE TRAFFIC ENGINEER. SHOULD ANY DEFECT DEVELOP UNDER NORMAL AND PROPER OPERATING CONDITIONS DURING THE TESTING PERIOD AND PRIOR TO ACCEPTANCE BY THE CITY, THIS MALFUNCTION SHALL BE CORRECTED BY AND AT THE EXPENSE OF THE CONTRACTOR, INCLUDING ALL LABOR, MATERIALS AND ASSOCIATED COSTS. MINOR FAILURES SUCH AS LAMP FAILURES OR LOOP DETECTOR RE-TUNING WILL NOT BE THE BASIS FOR STARTING A NEW TEST PERIOD, PROVIDED THE FAILURES ARE REPAIRED IMMEDIATELY AND THE SAME FAILURES DO NOT RECUR DURING THE REMAINDER OF THE TEST PERIOD. A MAJOR MALFUNCTION OR FAILURE OF THE CONTROLLER AND ITS COMPONENTS WILL RESULT IN A NEW 30 DAY TEST PERIOD BEING IMPLEMENTED AFTER THE REPAIRS HAVE BEEN MADE. COMPLETION OF THE TEST PERIOD DOES NOT ABSOLVE THE CONTRACTOR OF ANY WARRANTY.

7. IF A TRAFFIC SIGNAL MALFUNCTION OCCURS BETWEEN SUCCESSFUL TURN-ON AND FINAL ACCEPTANCE AND THE SIGNAL MALFUNCTION IS DUE TO FAULTY WORK BY THE CONTRACTOR, THE CITY MAINTENANCE DIVISION MAY TAKE CORRECTIVE ACTION AND HAS THE DISCRETION TO BILL THE CONTRACTOR FOR ALL RELATED EXPENSE, INCLUDING OVERHEAD.

8. FINAL ACCEPTANCE BY THE CITY IS CONDITIONAL UNTIL THE CONTRACTOR HAS CORRECTED ALL DEFECTS AND PUNCH LIST ITEMS. FINAL ACCEPTANCE WILL BE BY WRITTEN NOTICE OF ENGINEER.

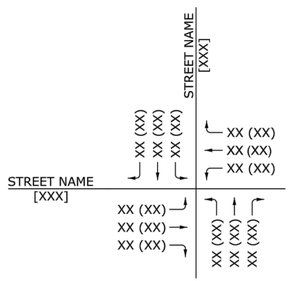
9. WARRANTY - THE WARRANTY PERIOD BEGINS ONCE THE FINAL ACCEPTANCE BY THE CITY HAS OCCURRED. CONFIRMATION OF THE ACCEPTANCE SHOULD BE PROVIDED IN WRITTEN DOCUMENTATION.

## LEGEND

| | | | |
|---|---|---|---|
| | LUMINAIRE | | DETECTION ZONE |
| | TRAFFIC SIGNAL POLE | | 3" CONDUIT |
| | TRAFFIC SIGNAL PEDESTAL | | 2" CONDUIT |
| | APS PUSHBUTTON STATION | | 1 1/2" CONDUIT |
| | TRAFFIC SIGNAL HEAD W/TYPE DESIGNATION | | SIGN ON 1 BRACKET |
| | TRAFFIC SIGNAL HEAD W/TYPE DESIGNATION & BACKPLATE | | SIGN ON 2 BRACKETS |
| | PEDESTRIAN SIGNAL & PUSHBUTTON | SB / ADV | RADAR DETECTION (ADVANCE OR STOP BAR) |
| | PAD MOUNTED CONTROLLER | | VIDEO DETECTOR |
| | SERVICE BOX | | PTZ CCTV |
| | SECONDARY SERVICE POINT | 23 | DETECTOR NUMBER |
| P.B. | PEDESTRIAN PUSH BUTTON | 6 | POLE/PEDESTAL NUMBER |
| | | 2 | SERVICE BOX NUMBER |

## PEAK HOUR VOLUMES

A.M. (P.M.) PEAK HOUR VOLUME
[XXX] 24-HOUR VOLUME (TWO-WAY ADT)




A.M. PEAK HOUR = X:XX - X:XX AM
P.M. PEAK HOUR = X:XX - X:XX PM
COUNTS CONDUCTED XX/XX/XX

## EXISTING EQUIPMENT REMOVAL SUMMARY

| LOCATION | DESCRIPTION OF ITEM | QUANTITY |
|---|---|---|
| STA. 9+84, LT. | TYPE A SIGNAL HEAD POLE MOUNTED | 1 |
| | | |
| | | |
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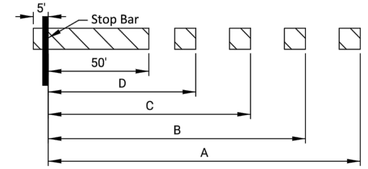
| | | |

## ADVANCE DETECTION DISTANCE & TIMING CALCULATION

| SPEED (MPH) | MIN. ADVANCE DETECTION ZONE DISTANCES (FEET) A | B | C | D | *TOTAL EXT. (SEC.) |
|---|---|---|---|---|---|
| 60 | 610 | 420 | 260 | 92 | 2.0 |
| 55 | 490 | 320 | 210 | 92 | 2.0 |
| 50 | 420 | 260 | 92 | - | 2.0 |
| 45 | 320 | 210 | 92 | - | 2.0 |
| 40 | 260 | 92 | - | - | 2.0 |
| 35 | 210 | 92 | - | - | 2.0 |
| <35 MPH NO ADVANCE DETECTION. STOP BAR ZONE ONLY (55' TYP.) | | | | | |

*DETECTOR EXTENSION TIMINGS SHALL BE PROGRAMMED INTO THE TRAFFIC SIGNAL CONTROLLER.




## MODIFICATIONS TO SIGNAL STANDARDS OR SPECS

| NO. | DESCRIPTION OF ITEM | SPEC. NO. | SHEET NO. |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| 11 | | | |
| 12 | | | |

| NO. | DATE | REVISIONS | BY | APP'D |
|---|---|---|---|---|
| 3 | | | | |
| 2 | | | | |
| 1 | | | | |

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

*TRAFFIC SIGNAL GENERAL NOTES*

TRAFFIC ENGINEER: *MIKE ARMOUR, P.E.* APP'D 01/27/22

| PROJECT NUMBER | ORG NUMBER | DATE |
|---|---|---|
| 472-2023-085940 | 40109523 | 07-31-24 |

*CITY ENGINEER'S OFFICE*
*CITY HALL - SEVENTH FLOOR*
*455 NORTH MAIN STREET*
*WICHITA, KANSAS 67202-1620*
*(316) 268-4501*

SHEET: 19 OF 35

*TR-101*