

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

CHICAGO HEIGHTS-GLENWOOD ROAD (FAU 3603)
AND HOLBROOK ROAD (FAU 1628)
INTERSECTION IMPROVEMENT
PROJECT: ARA-9003(332)
SECTION NO.: 09-00050-00-TL
JOB NO.: C-91-648-09
VILLAGE OF GLENWOOD
COOK COUNTY

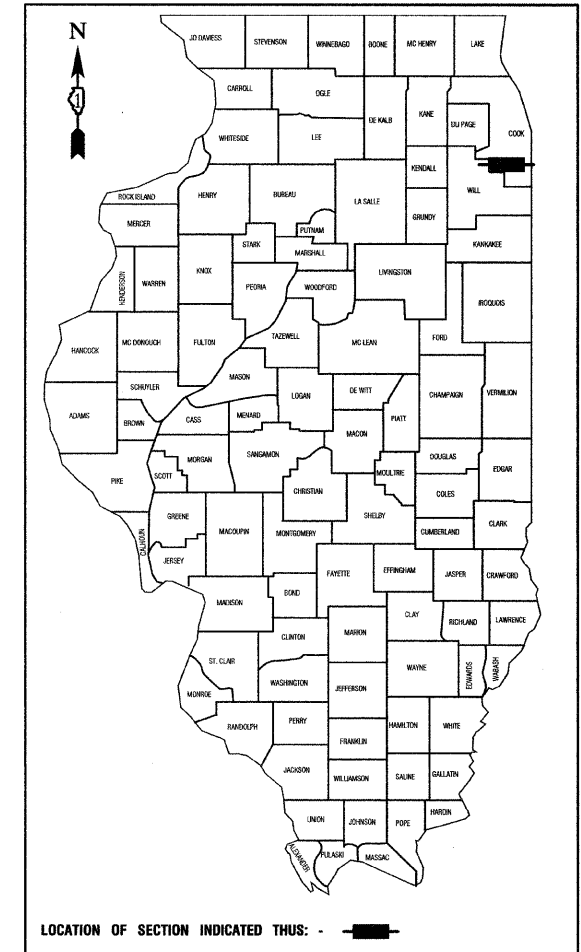
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|-----------------------|----------------|---------------------------------|--------------|-----------|
| F. A. U. NO. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 3603 | 09-00050-00-TL | COOK | 31 | 1 |
| STA. 5+66 | | TO STA. 13+20 | | |
| FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT ARA-9003 (332) | | |

CONTRACT #63320

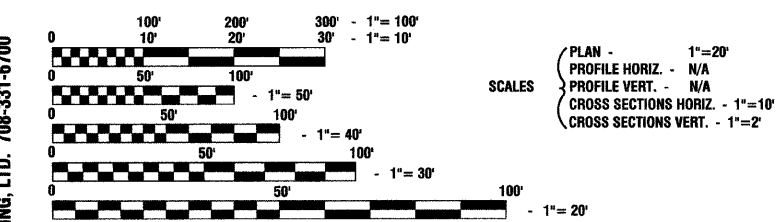
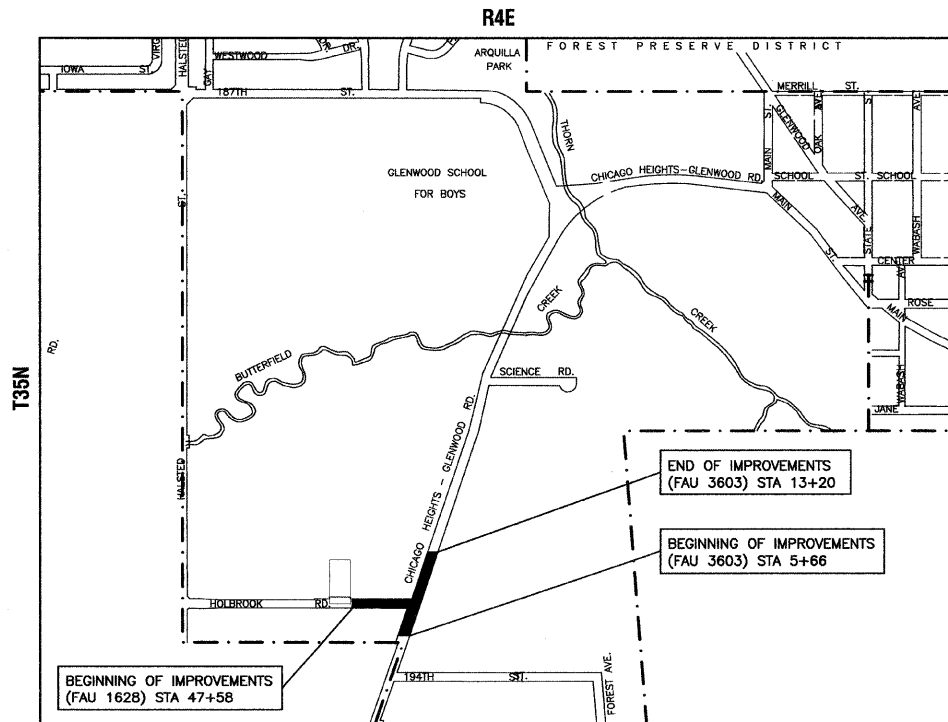
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HIGHWAY STANDARDS
SEE SHEET 2



| | | |
|-------------------------|---|---------------|
| DESIGN DESIGNATION | - CHICAGO HEIGHTS-GLENWOOD ROAD-NORTH LEG-MINOR ARTERIAL | |
| | - CHICAGO HEIGHTS-GLENWOOD ROAD-SOUTH LEG-URBAN COLLECTOR | |
| | ADT 24,400 (2030) - (TF=7.61) PV=20,600 SU=2,587 MU=1,213 | |
| | - HOLBROOK ROAD ADT 7,800 (2030) - MINOR ARTERIAL | |
| | (TF=3.02) PV=6,160 SU=1,210 MU=430 | |
| | CHICAGO HEIGHTS-GLENWOOD ROAD | HOLBROOK ROAD |
| 2007 ADT - | 21,941 | 6,439 |
| 2030 ADT - | 24,400 | 7,800 |
| EXISTING SPEED LIMIT - | 45 MPH | 35 MPH |
| PROPOSED SPEED LIMIT - | 45 MPH | 35 MPH |
| DESIGN PERIOD - | 20 YEARS | 20 YEARS |
| DESIGN SPEED LIMIT - | 50 MPH | 40 MPH |
| STREET CLASSIFICATION - | CLASS II ROAD | CLASS II ROAD |



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES, REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES, IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J. U. L. I. E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123 or 811

CONTRACT NO. 63320

PROJECT LOCATION

GROSS LENGTH= 838 FEET = 0.16 MILES
NET LENGTH= 838 FEET = 0.16 MILES

PRINTED BY THE AUTHORITY OF
THE STATE OF ILLINOIS

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Approved: 10-28-2009
Kenny M. Durkin
Village of Glenwood - Mayor

Passed: OCTOBER 29, 2009
Chris A. ...
District 1 Engineer of Local Roads & Streets

Released for Bid Based on Limited Review: OCTOBER 29, 2009
Diana M. O'Keefe
Deputy Director of Highways, Regional Engineer

PREPARED BY OR UNDER THE DIRECT SUPERVISION OF:

Paul D. Brown
10/27/2009



LICENSE EXPIRES: 11/30/11

FIELD ENGINEER: MELCHOR MANGOBA 847-705-4408
CONSULTANTS: ROBINSON ENGINEERING, LTD. 708-331-6700

HIGHWAY STANDARDS

| | |
|-----------|---|
| 000001-05 | STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS |
| 280001-05 | TEMPORARY EROSION CONTROL SYSTEMS |
| 542301-02 | PRECAST REINFORCED CONCRETE FLARED END SECTION |
| 542311-01 | GRATING FOR CONCRETE FLARED END SECTION |
| 602011-01 | CATCH BASIN - TYPE C |
| 602301-02 | INLET - TYPE A |
| 604001-03 | FRAME AND LIDS - TYPE 1 |
| 604091-02 | FRAME AND GRATE - TYPE 24 |
| 606001-04 | CONC. CURB TYPE B AND COMBINATION CONC. CURB AND GUTTER |
| 701006-03 | OFF-RD OPERATIONS, 2L, 2W, 15' TO 2' FROM PAVEMENT EDGE |
| 701301-03 | LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS |
| 701311-03 | LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY |
| 701501-05 | URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED |
| 701502-03 | URBAN LANE CLOSURE, 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE |
| 701901-01 | TRAFFIC CONTROL DEVICES |
| 720001-01 | SIGN PANEL MOUNTING DETAILS |
| 720006-02 | SIGN PANEL ERECTION DETAILS |
| 728001-01 | TELESCOPING STREET SIGN SUPPORT |
| 780001-02 | TYPICAL PAVEMENT MARKINGS |
| 781001-03 | TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS |
| 814001-02 | HANDHOLES |
| 814006-02 | DOUBLE HANDHOLES |
| 857001-01 | STANDARD PHASE DESIGNATION DIAGRAMS & PHASING SEQUENCE |
| 862001-01 | UPS |
| 877001-04 | STEEL MAST ARM ASSEMBLY & POLE 16' THROUGH 55' |
| 878001-08 | CONCRETE FOUNDATION DETAILS |
| 880006-01 | TRAFFIC SIGNAL MOUNTING DETAILS - POST & BRACKET MOUNT |
| 886006-01 | TYPICAL LAYOUTS FOR DETECTION LOOPS |

GENERAL NOTES

- ALL ROADWAY CONSTRUCTION SHALL CONFORM TO THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2007 BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION AND ALL AMENDMENTS THERETO, AND IN ACCORDANCE WITH THE LATEST EDITION OF THE SPECIFICATIONS FOR CONSTRUCTION IN THE VILLAGE OF GLENWOOD AND IN CASE OF CONFLICT, THE MORE STRINGENT CODE SHALL TAKE PRECEDENCE.
- ALL STORM SEWER, SANITARY SEWER AND WATER MAIN CONSTRUCTION SHALL CONFORM TO THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", PUBLISHED MAY 1996, AND IN ACCORDANCE WITH THE SPECIFICATIONS FOR CONSTRUCTION IN THE VILLAGE OF GLENWOOD UNLESS OTHERWISE NOTED ON THE PLANS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE UTILITY COMPANIES LOCATE THEIR FACILITIES IN THE FIELD PRIOR TO CONSTRUCTION AND SHALL ALSO BE RESPONSIBLE FOR THE MAINTENANCE AND PRESERVATION OF THESE FACILITIES. THE ENGINEER DOES NOT WARRANT THE LOCATION OF ANY EXISTING UTILITIES SHOWN ON THE PLAN. THE CONTRACTOR SHALL CALL J.U.L.I.E. AT 800-892-0123 AND THE VILLAGE OF GLENWOOD FOR UTILITY LOCATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE NATURE AND STATUS OF ALL UTILITY RELOCATION WORK PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO ENSURE THAT CONSTRUCTION OPERATIONS DO NOT INTERFERE WITH UTILITY FACILITIES AND RELOCATION WORK. THE SCHEDULE SHOULD REFLECT CONSTRUCTION SEQUENCING, WHICH COORDINATES WITH ALL UTILITY RELOCATION WORK. THE CONTRACTOR SHALL BE REQUIRED TO ADJUST THE ORDER OF ITS WORK FROM TIME TO TIME, TO COORDINATE SAME WITH UTILITY RELOCATION WORK, AND SHALL PREPARE REVISED SCHEDULE (S) IN COMPLIANCE THEREWITH AS DIRECTED BY THE OWNER. THE OWNER AND THE ENGINEER SHALL BE NOTIFIED IN WRITING BY THE CONTRACTOR AT LEAST 48 HOURS PRIOR TO THE START OF ANY OPERATION REQUIRED COOPERATION WITH OTHERS. ALL OTHER AGENCIES, UNLESS OTHERWISE NOTED, WILL BE NOTIFIED IN WRITING BY THE CONTRACTOR TEN (10) DAYS PRIOR TO THE START OF ANY SUCH OPERATION. THE UTILITY COMPANIES HAVE BEEN CONTACTED IN REFERENCE TO UTILITIES THEY OWN AND OPERATE WITHIN THE LIMITS FOR THIS PROJECT. ALL KNOWN DATA FROM THESE AGENCIES HAS BEEN INCORPORATED INTO THE PLANS. IT IS HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM OR ESTABLISH THE EXISTENCE OF ALL UTILITY FACILITIES AND THEIR EXACT LOCATIONS, WHETHER CONTAINED IN THE DATA SUBMITTED BY THESE AGENCIES OR NOT, AND TO SAFELY SCHEDULE ALL UTILITY RELOCATIONS.
- ALL CONTRACTORS SHALL KEEP ACCESS AVAILABLE AT ALL TIMES FOR ALL TYPES OF TRAFFIC AS DIRECTED BY THE OWNER AND THE OWNER'S REPRESENTATIVE.
- COMMENCING CONSTRUCTION
 - CONTRACTOR SHALL TAKE PHOTOS AND VIDEO RECORD WORK AREA PRIOR TO CONSTRUCTION FOR THE PURPOSE OF DOCUMENTING EXISTING CONDITIONS.
- THE CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES UNTIL THEY ARE NO LONGER NEEDED. ANY STAKES DESTROYED OR DISTURBED BY THE CONTRACTOR PRIOR TO THEIR USE SHALL BE RESET BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SAND BAGS PER BARRICADE.
- REMOVAL OF SPECIFIED ITEMS, INCLUDING BUT NOT LIMITED TO, PAVEMENT, SIDEWALK, CURB, CURB AND GUTTER, CULVERTS, ETC. SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR AT THE CONTRACTOR'S OWN EXPENSE. THE CONTRACTOR IS RESPONSIBLE FOR ANY PERMITS REQUIRED FOR SUCH DISPOSAL. THE REMOVAL SHALL BE ACCOMPLISHED BY MEANS OF A SAW CUT JOINT, AT THE DIRECTION OF THE ENGINEER. THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS REMOVAL ITEMS.
- ANY FIELD TILES ENCOUNTERED SHALL BE INSPECTED BY THE ENGINEER. THE DRAIN TILE SHALL BE CONNECTED TO THE STORM SEWER SYSTEM AND A RECORD KEPT BY THE CONTRACTOR OF THE LOCATIONS AND TURNED OVER TO THE ENGINEER UPON COMPLETION OF THE PROJECT.
- THE CONTRACTORS SHALL PLAN THEIR WORK BASED ON THEIR OWN BORINGS, EXPLORATIONS AND OBSERVATIONS TO DETERMINE SOIL CONDITIONS AT THE LOCATION OF THE PROPOSED WORK.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SAFETY ON THE JOB PER OSHA REGULATIONS.

- IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE PROPER BARRICADING, WARNING DEVICES AND THE SAFE MANAGEMENT OF TRAFFIC WITHIN THE AREA OF CONSTRUCTION. ALL SUCH DEVICES AND THEIR INSTALLATION SHALL CONFORM TO THE "ILLINOIS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS", LATEST EDITION, THE ILLINOIS DEPARTMENT OF TRANSPORTATION AND IN ACCORDANCE WITH THE VILLAGE OF GLENWOOD ORDINANCES.
- THE CONTRACTOR SHALL COLLECT AND REMOVE ALL CONSTRUCTION DEBRIS, EXCESS MATERIALS, TRASH, OIL AND GREASE RESIDUE, MACHINERY, TOOLS AND OTHER MISCELLANEOUS ITEMS WHICH WERE NOT PRESENT PRIOR TO PROJECT COMMENCEMENT AT NO ADDITIONAL EXPENSE TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ANY AND ALL PERMITS NECESSARY FOR THE HAULING AND DISPOSAL REQUIRED FOR CLEAN-UP AS DIRECTED BY THE ENGINEER OR OWNER. BURNING ON THE SITE IS NOT PERMITTED.
- NO UNDERGROUND WORK SHALL BE COVERED UNTIL IT HAS BEEN APPROVED BY THE ENGINEER AND THE VILLAGE OF GLENWOOD. APPROVAL TO PROCEED MUST BE OBTAINED FROM THE VILLAGE OF GLENWOOD PRIOR TO INSTALLING PAVEMENT BASE, BINDER, SURFACE AND PRIOR TO POURING ANY CONCRETE AFTER FORMS HAVE BEEN SET.
- AT THE CLOSE OF EACH WORKING DAY AND AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES AND FLOW LINES SHALL BE FREE FORM DIRT AND DEBRIS.
- TREES NOT MARKED FOR REMOVAL SHALL BE CONSIDERED AS DESIGNATED TO BE SAVED AND SHALL BE PROTECTED UNDER THE PROVISIONS OF ARTICLE 201.05 OF THE STANDARD SPECIFICATIONS.
- LIMB PRUNING SHALL BE PERFORMED UNDER THE SUPERVISION OF AN APPROVED LANDSCAPE ARCHITECT AND SHALL BE UNDERTAKEN IN A TIMELY FASHION SO AS NOT TO INTERFERE WITH CONSTRUCTION. ALL LIMBS, BRANCHES, AND OTHER DEBRIS RESULTING FROM THIS WORK SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR AT HIS OWN EXPENSE. ALL CUTS OVER ONE (1) INCH DIAMETER SHALL BE MADE FLUSH WITH THE NEXT LARGE BRANCH. WOUNDS OVER ONE (1) INCH DIAMETER SHALL BE PAINTED WITH AN APPROVED TREE PAINT. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- IF SOFT, SPONGY OR OTHER UNSUITABLE SOILS WITH UNCONFINED COMPRESSIVE STRENGTH LESS THAN 0.5 TSF ARE ENCOUNTERED AT THE BOTTOM OF THE TRENCH, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH WELL COMPACTED CRUSHED LIMESTONE BEDDING MATERIAL. IF ROCK IS ENCOUNTERED, IT SHALL BE REMOVED TO AT LEAST SIX (6) INCHES BELOW THE BOTTOM OF THE PIPE TO ALLOW PROPER THICKNESS OF BEDDING ANY UNDERCUTS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

| GRANULAR MATERIALS | 2.05 | TONS / CU YD |
|---|--------|----------------------------|
| BITUMINOUS MAT PRIME COAT (ON HMA) | 0.08 | GAL / SQ YD |
| BITUMINOUS MAT PRIME COAT (ON AGG BASE) | 0.375 | GAL / SQ YD |
| AGGREGATE PRIME COAT | 0.002 | TONS / SQ YD |
| BITUMINOUS RESURFACING | 112 | LBS / SQ YD / IN |
| SHORT TERM PAVEMENT MARKING | 10 | FT / 100 FT OF APPLICATION |
| MIX FOR CRACKS, JTS & FLGWS | 0.0003 | TONS / SQ YD |
| LEVEL BINDER (HAND METHOD) | 0.05 | TONS / SQ YD |
| SUPPLEMENTAL WATERING | 3 | GAL / SQ YD / APPLICATION |
| TEMPORARY DITCH CHECKS | 9 5 | BALES OR TONS AGGREGATE |

- THE TRENCHES FOR PIPE INSTALLATION SHALL BE KEPT DRY AT ALL TIMES DURING PIPE PLACEMENT. APPROPRIATE FACILITIES TO MAINTAIN THE DRY TRENCH SHALL BE PROVIDED BY THE CONTRACTOR AND THE COST OF SUCH SHALL BE INCIDENTAL TO THE UNIT PRICE BID AND APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR DEWATERING DURING CONSTRUCTION UNLESS APPROVED IN WRITING BY THE OWNER.
- TRENCH BACKFILL WILL BE REQUIRED TO THE FULL DEPTH ABOVE SEWERS AND WATER MAIN WITHIN TWO (2) FEET OF PROPOSED OR EXISTING PAVEMENT.
- THE PAVEMENT SHALL BE KEPT FREE OF MUD AND DEBRIS AT ALL TIMES. IT MAY BE NECESSARY TO KEEP A SWEEPER ONSITE AT ALL TIMES.
- CONSTRUCTION MATERIALS AND/OR EQUIPMENT MAY NOT BE STORED IN THE RIGHT-OF-WAY WITHOUT THE APPROVAL OF THE VILLAGE OF GLENWOOD.
- ALL DISTURBED AREAS OF THE RIGHT-OF-WAY SHALL BE FULLY RESTORED TO PRE-CONSTRUCTION CONDITIONS WITH A MINIMUM 4" TOPSOIL, SEEDING AND BLANKET.

EARTHWORK NOTES

- GENERAL
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE SOIL AND GROUNDWATER CONDITIONS AT THE SITE.
 - ANY QUANTITIES IN THE BID PROPOSAL ARE INTENDED AS A GUIDE FOR THE CONTRACTORS USE IN DETERMINING THE SCOPE OF THE COMPLETED PROJECT. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE ALL MATERIAL QUANTITIES AND APPRAISE HIMSELF OF ALL SITE CONDITIONS.
 - THE CONTRACTOR WILL NOTE THAT THE ELEVATIONS SHOWN ON THE CONSTRUCTION PLANS ARE FINISHED GRADE AND SUBGRADE ELEVATIONS (AS NOTED) AND THAT PAVEMENT THICKNESS, TOPSOIL, ETC. MUST BE ACCOUNTED FOR.
 - THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION, AND PREVENT STORMWATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS. THE FAILURE TO PROVIDE PROPER DRAINAGE WILL NEGATE ANY POSSIBLE ADDED COMPENSATION REQUESTED DUE TO DELAYS OR UNSUITABLE MATERIALS CREATED AS A RESULT THEREOF. FINAL GRADES SHALL BE PROTECTED AGAINST DAMAGE FROM EROSION, SEDIMENTATION AND TRAFFIC.
 - PLANS FOR THE SITE DEWATERING, IF EMPLOYED, SHALL BE SUBMITTED AND APPROVED PRIOR TO IMPLEMENTATION. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR DEWATERING DURING CONSTRUCTION.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE "SOIL EROSION AND SEDIMENTATION CONTROL MEASURES". THE INITIAL ESTABLISHMENT OF EROSION CONTROL PROCEDURES AND THE PLACEMENT OF SILT AND FILTER FENCING, ETC. TO PROTECT ADJACENT PROPERTY, WETLANDS, ETC. SHALL OCCUR BEFORE GRADING BEGINS.
 - ALL STORM INLETS SHALL BE PROTECTED BY INLET FILTERS AND FLARED END SECTIONS SHALL BE PROTECTED BY SILT BARRIER (FENCE OR BALES). PLACEMENTS AND MAINTENANCE OR SILT BARRIER SHALL BE AS DIRECTED BY THE ENGINEER, BASED ON ACTUAL GRADING. GRADE THE AREA WITHIN FOUR (4) FEET AROUND STRUCTURES ONE (1) FOOT BELOW RIM TO SERVE AS A SEDIMENTATION BASIN DURING CONSTRUCTION.
 - FINAL LOCATION OF DITCH CHECKS AND SILT FENCE SHALL BE ADJUSTED BASED ON ACTUAL SITE GRADING CONDITIONS. ADDITIONAL MEASURES SHALL BE ADDED AS DIRECTED BY THE ENGINEER.
- ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESEEDED AND MULCHED AS SOON AS PRACTICAL. SLOPES GREATER THAN 8% SHALL BE TREATED WITH EXCELSIOR BLANKET.

STORM SEWER NOTES

- STORM SEWER PIPE: ALL STORM SEWER PIPE SHALL BE RCP, UNLESS OTHERWISE NOTED ON THE PLANS, IN ACCORDANCE WITH THE FOLLOWING:
 - RCP: REINFORCED CONCRETE PIPE (ASTM C-76) W/ GASKETED JOINTS TYPE 1, CLASS III PER SSRBC SECTION 505.
USE CLASS IV PIPE FOR 12" TO 21". FOR ALL OTHER SIZES USE THE CHART CONTAINED IN SECTION 550 FOR TYPE 1 OR TYPE 2 CONSTRUCTION.
- "BAND SEAL" OR SIMILAR COUPLINGS SHALL BE USED WHEN JOINING SEWER PIPES OF DISSIMILAR MATERIALS.
- BEDDING: ALL STORM SEWERS SHALL BE INSTALLED ON A TYPE A GRANULAR BEDDING, 1/4" TO 1" IN SIZE (CA-7) WITH A MINIMUM THICKNESS EQUAL TO 1/4 THE OUTSIDE DIAMETER OF THE SEWER PIPE BUT NOT LESS THAN 4". BLOCKING OF ANY KIND FOR GRADE IS NOT PERMITTED. THE BEDDING MATERIALS SHALL BE COMPACTED TO 90% OF MODIFIED PROCTOR DENSITY. BEDDING SHALL EXTEND TO THE SPRINGLINE OF THE PIPE.
- CONSTRUCTION: ALL STORM SEWERS ARE TO BE CONSTRUCTED USING A LASER INSTRUMENT TO MAINTAIN LINE AND GRADE.
- COVER: THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE (1') FOOT OF COVER OVER THE TOP OF SHALLOW PIPES AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL MOUND OVER ANY PIPES WHICH HAVE LESS THAN ONE (1') FOOT OF COVER DURING CONSTRUCTION UNTIL THE AREA IS FINAL GRADED OR PAVED.
- ALL TRENCHES BENEATH PROPOSED OR EXISTING UTILITIES, PAVEMENTS, ROADWAYS, SIDEWALKS, AND FOR A DISTANCE OF TWO (2) FEET ON EITHER SIDE OF SAME, AND/OR WHERE SHOWN ON THE PLANS, SHALL BE BACKFILLED WITH SELECT GRANULAR BACKFILL, CA-7, AND THOROUGHLY MECHANICALLY COMPACTED IN 9" THICK (LOOSE MEASUREMENT) LAYERS. JETTING WITH WATER IS NOT PERMITTED. TRENCH BACKFILL SHALL BE USED ON THE ENTIRE LENGTH OF THE MAIN DRAIN. TRENCH BACKFILL SHALL BE MEASURED ACCORDING TO SECTION 208.03 OF THE STANDARD SPECIFICATIONS.
- ON ALL IMPROVEMENTS THE FRAMES AND LIDS OF EXISTING CATCH BASINS, INLETS, MANHOLES AND VALVE VAULTS WHICH ARE TO BE ABANDONED DUE TO CONSTRUCTION OF THIS IMPROVEMENT ARE TO REMAIN THE PROPERTY OF THE VILLAGE OF GLENWOOD AND BE SALVAGED. THE OWNER SHALL BE NOTIFIED AS TO AVAILABILITY FOR PICK-UP.
- THE VERTICAL AND HORIZONTAL CLEARANCES BETWEEN RELOCATED WATER MAINS AND PROPOSED OR EXISTING STORM SEWERS SHALL CONFORM TO THE REQUIREMENTS OF THE I.E.P.A. AS STATED IN THE STANDARD SPECIFICATIONS FOR WATER & SEWER MAIN CONSTRUCTION IN ILLINOIS, SECTION 31-1.02A THROUGH 31-1.02D. WHEN NORMAL CONDITIONS CANNOT BE MET, ONLY THE FOLLOWING METHODS RECOMMENDED BY THE I.E.P.A. WILL BE ACCEPTABLE TO THE ENGINEER:
 - BOTH THE WATERMAIN AND THE SEWER SHALL BE CONSTRUCTED OF SLIP ON OR MECHANICAL JOINT CAST OR DUCTILE IRON PIPE, ASBESTOS-CEMENT PRESSURE PIPE OR PRESTRESS CONCRETE PIPE MEETING WATER MAIN STANDARDS, OR;
 - THE WATER MAIN SHALL BE INSTALLED INSIDE OF A STEEL OR PVC (SDR-26 OR LESS) CASING PIPE; OR
 - THE STORM SEWER CROSSING THE WATER MAIN SHALL BE REINFORCED CONCRETE PIPE MEETING ASTM C76 WITH ASTM C361 JOINTS AND PREFORMED FLEXIBLE GASKET MATERIAL CONFORMING TO ASTM C443 PROVIDED THE GASKET IS PROPERLY SEATED TO INSURE WATER TIGHTNESS.

THIS TREATMENT IS REQUIRED FOR A DISTANCE OF AT LEAST 10 FEET HORIZONTALLY ON EACH SIDE OF THE CROSSING. ANY ADDITIONAL COST INCURRED IN COMPLYING WITH THE STANDARD SPECIFICATIONS AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- THE TOP OF ALL STRUCTURES SHALL BE FLUSH WITH THE ADJACENT SURFACE OR AT THE INDICATED ELEVATIONS SHOWN ON THE PLANS.
- FRAME ELEVATIONS ARE GIVEN ONLY TO ASSIST IN DETERMINING THE APPROXIMATE OVERALL HEIGHT OF THE STRUCTURE. FRAMES ON ALL NEW STRUCTURES WILL BE ADJUSTED TO THE FINAL ELEVATION OF THE AREA IN WHICH THEY ARE LOCATED AS PART OF THE STRUCTURE COST.
- CARE SHOULD BE TAKEN DURING CONSTRUCTION TO INSURE THAT ALL DRAIN SYSTEMS ARE RE-ESTABLISHED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY WHEN DRAIN TILE SYSTEMS ARE ENCOUNTERED OTHER THAN THOSE SHOWN IN THE PLANS FOR PROPER INSTRUCTION AND DISPOSITION.
- CHERT AGGREGATE SHALL NOT BE ALLOWED IN THE MANUFACTURING OF STORM SEWERS, END SECTIONS OR PRECAST DRAINAGE STRUCTURES.
- THE CONTRACTOR WILL BE REQUIRED TO FILL ALL ABANDONED STORM SEWERS AS INDICATED ON THE PLANS WITH CONTROLLED LOW-STRENGTH MATERIAL (CLSM) AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

LINE & SYMBOL LEGEND

EXISTING

| | |
|--|-----------------------|
| | FIRE HYDRANT |
| | VALVE |
| | SIGN |
| | MARKER FLAG |
| | FLARED END SECTION |
| | INLET |
| | CATCH BASIN |
| | MANHOLE |
| | ALUMINUM LIGHT POLE |
| | POWER POLE W/ LIGHT |
| | POWER POLE |
| | CONTOUR MINOR |
| | CONTOUR MAJOR |
| | CENTERLINE / BASELINE |
| | RIGHT OF WAY |
| | CHAIN LINK FENCE |
| | STORM SEWER |
| | SANITARY SEWER |
| | WATER MAIN |
| | BURIED CABLE TV |
| | OVERHEAD ELECTRIC |
| | BURIED TELEPHONE |
| | GAS MAIN |

PROPOSED

| | |
|--|---------------------|
| | SIGN |
| | FLARED END SECTION |
| | INLET |
| | MANHOLE |
| | ALUMINUM LIGHT POLE |
| | LOW POINT |
| | SUMMIT |
| | STORM SEWER |

| | | | | | | | | | | | | |
|--------------------------------|----------------------|---------------------|------------|---|---|--|--|--|------------------------|-------------|--------------------|-------------|
| FILE NAME = 05587-NOTE-01 - N1 | USER NAME = | DESIGNED -- BDB/JRA | REVISED -- | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD INTERSECTION IMPROVEMENTS GENERAL NOTES & LIST OF IDOT HIGHWAY STANDARDS | | | F.A.U. RTE. 3603 | SECTION 09-00050-00-TL | COUNTY COOK | TOTAL SHEETS 31 | SHEET NO. 2 |
| | PLOT SCALE = | DRAWN -- JJB | REVISED -- | | SCALE: N/A | | | SHEET NO. 2 OF 31 SHEETS | | | CONTRACT NO. 63320 | |
| | PLOT DATE = 10-29-09 | CHECKED -- JRA | REVISED -- | | STA. TO STA. | | | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT ARA-9003 (332) | | | | |
| TO STA. | | | | | | | | | | | | |

| SUMMARY OF QUANTITIES | | | | | PAVEMENT | MARKINGS | | LIGHTS | SIGNALS |
|-----------------------|----------|--|--------|------|------------------------|----------|-----|---------|---------|
| S.I. | CODE NO. | PAY ITEM | UNIT | QUAN | CONSTRUCTION TYPE CODE | | | | |
| | | | | | 1000 | SFTY-1D | | Y030-1E | Y031-1F |
| | 20200100 | EARTH EXCAVATION | CU YD | 187 | 187 | | | | |
| | 20700420 | POROUS GRANULAR EMBANKMENT, SUBGRADE | CU YD | 10 | 10 | | | | |
| | 20800150 | TRENCH BACKFILL | CU YD | 5 | 5 | | | | |
| | 21101615 | TOPSOIL FURNISH AND PLACE, 4" | SQ YD | 321 | 321 | | | | |
| | 21300010 | EXPLORATION TRENCH, SPECIAL | FOOT | 300 | | | 200 | 100 | |
| | 25100630 | EROSION CONTROL BLANKET | SQ YD | 321 | 321 | | | | |
| | 28000400 | PERIMETER EROSION BARRIER | FOOT | 618 | 618 | | | | |
| | 28000500 | INLET AND PIPE PROTECTION | EACH | 2 | 2 | | | | |
| | 28000510 | INLET FILTERS | EACH | 5 | 5 | | | | |
| | 35600716 | HOT-MIX ASPHALT BASE COURSE WIDENING, 10" | SQ YD | 142 | 142 | | | | |
| | 40600100 | BITUMINOUS MATERIALS (PRIME COAT) | GALLON | 250 | 250 | | | | |
| | 40603340 | HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70 | TON | 233 | 233 | | | | |
| | 44000100 | PAVEMENT REMOVAL | SQ YD | 141 | 141 | | | | |
| | 44000157 | HOT-MIX ASPHALT SURFACE REMOVAL, 2" | SQ YD | 2091 | 2091 | | | | |
| | 44000500 | COMBINATION CURB AND GUTTER REMOVAL | FOOT | 344 | 344 | | | | |
| | 44300200 | STRIP REFLECTIVE CRACK CONTROL TREATMENT | FOOT | 417 | 417 | | | | |
| | 50105220 | PIPE CULVERT REMOVAL | FOOT | 69 | 69 | | | | |
| | 54213669 | PRECAST REINFORCED CONCRETE FLARED END SECTIONS 24" | EACH | 2 | 2 | | | | |
| | 54247130 | GRATING FOR CONCRETE FLARED END SECTION 24" | EACH | 2 | 2 | | | | |
| | 55019500 | STORM SEWERS, TYPE 1, REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, CLASS IV 12" | FOOT | 5 | 5 | | | | |
| | 55019900 | STORM SEWERS, TYPE 1, REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, CLASS IV 24" | FOOT | 126 | 126 | | | | |
| | 60208240 | CATCH BASINS, TYPE C, TYPE 24 FRAME AND GRATE | EACH | 1 | 1 | | | | |
| | 60218400 | MANHOLES, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, CLOSED LID | EACH | 2 | 2 | | | | |
| | 60251740 | CATCH BASINS TO BE ADJUSTED WITH NEW TYPE 24 FRAME AND GRATE | EACH | 2 | 2 | | | | |
| | 60500050 | REMOVING CATCH BASINS | EACH | 1 | 1 | | | | |
| | 60605000 | COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24 | FOOT | 544 | 544 | | | | |
| | 67100100 | MOBILIZATION | L SUM | 1 | 1 | | | | |
| | 70102620 | TRAFFIC CONTROL AND PROTECTION, STANDARD 701501 | L SUM | 1 | 1 | | | | |
| | 70102622 | TRAFFIC CONTROL AND PROTECTION, STANDARD 701502 | L SUM | 1 | 1 | | | | |
| | 70300220 | TEMPORARY PAVEMENT MARKING - LINE 4" | FOOT | 1105 | | 1105 | | | |
| | 72000100 | SIGN PANEL - TYPE 1 | SQ FT | 18 | 18 | | | | |
| | 72000200 | SIGN PANEL - TYPE 2 | SQ FT | 15 | 15 | | | | |
| | 72800100 | TELESCOPING STEEL SIGN SUPPORT | FOOT | 25 | 25 | | | | |
| * | 78000100 | THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS | SQ FT | 222 | | 222 | | | |
| * | 78000200 | THERMOPLASTIC PAVEMENT MARKING - LINE 4" | FOOT | 1888 | | 1888 | | | |
| * | 78000400 | THERMOPLASTIC PAVEMENT MARKING - LINE 6" | FOOT | 430 | | 430 | | | |
| * | 78000600 | THERMOPLASTIC PAVEMENT MARKING - LINE 12" | FOOT | 21 | | 21 | | | |
| * | 78000650 | THERMOPLASTIC PAVEMENT MARKING - LINE 24" | FOOT | 74 | | 74 | | | |
| * | 78100100 | RAISED REFLECTIVE PAVEMENT MARKER | EACH | 44 | | 44 | | | |
| * | 78300100 | PAVEMENT MARKING REMOVAL | SQ FT | 74 | | 74 | | | |
| * | 78300200 | RAISED REFLECTIVE PAVEMENT MARKER REMOVAL | EACH | 44 | | 44 | | | |
| * | 81000600 | CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL | FOOT | 591 | | | | | 591 |
| * | 81000700 | CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL | FOOT | 227 | | | | | 227 |
| * | 81001000 | CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL | FOOT | 60 | | | | | 60 |
| * | 81018500 | CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL | FOOT | 34 | | | | | 34 |
| * | 81018900 | CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL | FOOT | 246 | | | 60 | | 186 |
| * | 81400100 | HANDHOLE | EACH | 4 | | | | | 4 |
| * | 81400200 | HEAVY-DUTY HANDHOLE | EACH | 4 | | | | | 4 |

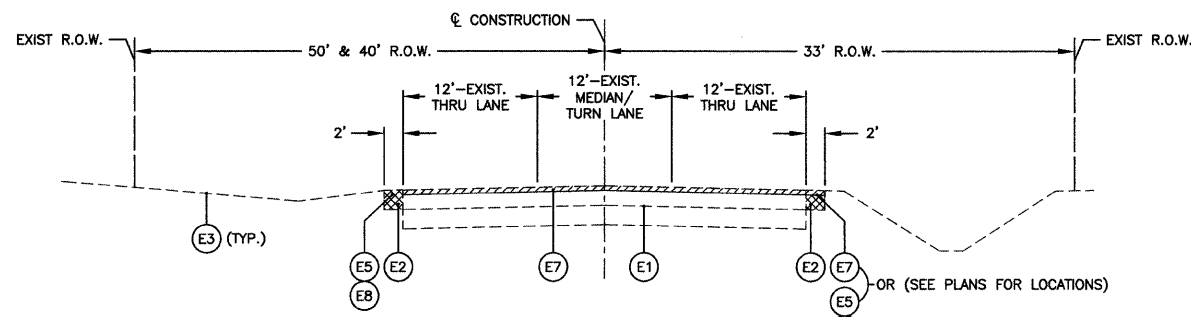
* - INDICATES SPECIALTY ITEMS

| | | | | | | | | | | | | |
|--------------------------------|----------------------|--------------------|-----------|---|---|-------------|--------------|------------------|------------------------|--------------------|-----------------|-------------|
| FILE NAME = 0587-QUAN-01 - 001 | USER NAME = | DESIGNED - BDB/JRA | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD INTERSECTION IMPROVEMENTS SUMMARY OF QUANTITIES | | | F.A.U. RTE. 3603 | SECTION 09-00050-00-TL | COUNTY COOK | TOTAL SHEETS 31 | SHEET NO. 3 |
| | PLOT SCALE = | DRAWN - JRA | REVISED - | | SCALE: N/A | SHEET NO. 3 | OF 31 SHEETS | STA. | TO STA. | CONTRACT NO. 63320 | | |
| | PLOT DATE = 10-29-09 | CHECKED - JRA | REVISED - | | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT ARA-9003 (332) | | | | | | | |
| | | | | | | | | | | | | |

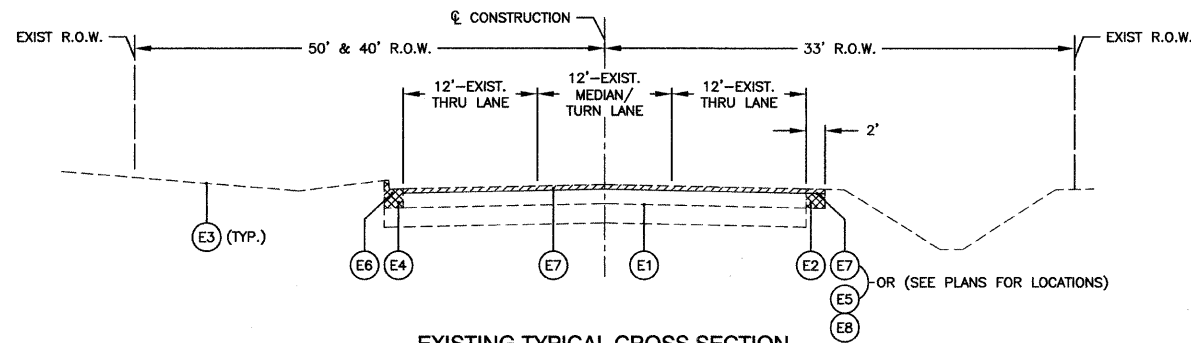
| SUMMARY OF QUANTITIES | | | | | PAVEMENT | MARKINGS | | LIGHTS | SIGNALS |
|-----------------------|---|-------|------|------------------------|----------|----------|----|---------|---------|
| S.I. CODE NO. | PAY ITEM | UNIT | QUAN | CONSTRUCTION TYPE CODE | | | | | |
| | | | | I000 | SFTY-1D | | | Y030-1E | Y031-1F |
| * 81400300 | DOUBLE HANDHOLE | EACH | 1 | | | | | | 1 |
| * 81603050 | UNIT DUCT, 600V, 3-1C NO.6, 1/C NO.8 GROUND, (XLP-TYPE USE), 1" DIA. POLYETHYLENE | FOOT | 625 | | | | | 625 | |
| * 81900200 | TRENCH AND BACKFILL FOR ELECTRICAL WORK | FOOT | 1412 | | | | | 570 | 842 |
| * 83600200 | LIGHT POLE FOUNDATION, 24" DIAMETER | FOOT | 7 | | | | | 7 | |
| * 83600215 | LIGHT POLE FOUNDATION, 24" DIAMETER, OFFSET | FOOT | 7 | | | | | 7 | |
| * 83800205 | BREAKAWAY DEVICE, TRANSFORMER BASE, 15 INCH BOLT CIRCLE | EACH | 2 | | | | | 2 | |
| * 84200700 | LIGHTING FOUNDATION REMOVAL | EACH | 2 | | | | | 2 | |
| * 84400105 | RELOCATE EXISTING LIGHTING UNIT | EACH | 2 | | | | | 2 | |
| * 85700200 | FULL-ACTUATED CONTROLLER AND TYPE IV CABINET | EACH | 1 | | | | | | 1 |
| * 87301225 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C | FOOT | 386 | | | | | | 386 |
| * 87301245 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C | FOOT | 1488 | | | | | | 1488 |
| * 87301255 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C | FOOT | 198 | | | | | | 198 |
| * 87301305 | ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR | FOOT | 1185 | | | | | | 1185 |
| * 87301805 | ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C | FOOT | 100 | | | | | | 100 |
| * 87502480 | TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT. | EACH | 3 | | | | | | 3 |
| * 87502500 | TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT. | EACH | 1 | | | | | | 1 |
| * 87502520 | TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT. | EACH | 1 | | | | | | 1 |
| * 87700160 | STEEL MAST ARM ASSEMBLY AND POLE, 24 FT. | EACH | 1 | | | | | | 1 |
| * 87700230 | STEEL MAST ARM ASSEMBLY AND POLE, 38 FT. | EACH | 1 | | | | | | 1 |
| * 87800100 | CONCRETE FOUNDATION, TYPE A | FOOT | 29 | | | | | | 29 |
| * 87800150 | CONCRETE FOUNDATION, TYPE C | FOOT | 4 | | | | | | 4 |
| * 87800400 | CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER | FOOT | 15 | | | | | | 15 |
| * 87800415 | CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER | FOOT | 15 | | | | | | 15 |
| * 88040070 | SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED | EACH | 5 | | | | | | 5 |
| * 88040090 | SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED | EACH | 3 | | | | | | 3 |
| * 88040150 | SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED | EACH | 1 | | | | | | 1 |
| * 88040160 | SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED | EACH | 1 | | | | | | 1 |
| * 88200210 | TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM | EACH | 4 | | | | | | 4 |
| * 88500100 | INDUCTIVE LOOP DETECTOR | EACH | 5 | | | | | | 5 |
| * 88600100 | DETECTOR LOOP, TYPE 1 | FOOT | 700 | | | | | | 700 |
| * 88700200 | LIGHT DETECTOR | EACH | 2 | | | | | | 2 |
| * 88700300 | LIGHT DETECTOR AMPLIFIER | EACH | 1 | | | | | | 1 |
| Z0001050 | AGGREGATE SUBGRADE 12" | SQ YD | 357 | 357 | | | | | |
| * XX004574 | UNINTERRUPTIBLE POWER SUPPLY AND TYPE III CABINET | EACH | 1 | | | | | | 1 |
| * XX006937 | GROUND ROD, 5/8" DIA. X 10 FT. | EACH | 2 | | | | 2 | | |
| X0322054 | REMOVAL OF PRECAST FLARED END SECTION | EACH | 2 | 2 | | | | | |
| X0322256 | TEMPORARY INFORMATION SIGNING | SQ FT | 77 | 77 | | | | | |
| * X8050015 | SERVICE INSTALLATION POLE MOUNTED | EACH | 1 | | | | | | 1 |
| * X8730027 | ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C | FOOT | 464 | | | | | | 464 |
| * X8730275 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 20 3C | FOOT | 386 | | | | | | 386 |
| XY008245 | SEEDING, CLASS 2A (SPECIAL) | SQ YD | 321 | 321 | | | | | |
| * X8161000 | EXPOSE AND RELOCATE EXISTING UNIT DUCT | FOOT | 30 | | | | 30 | | |
| * X0323574 | MAINTENANCE OF EXISTING LIGHTING SYSTEM | MONTH | 5 | | | | | 5 | |

* - INDICATES SPECIALTY ITEMS

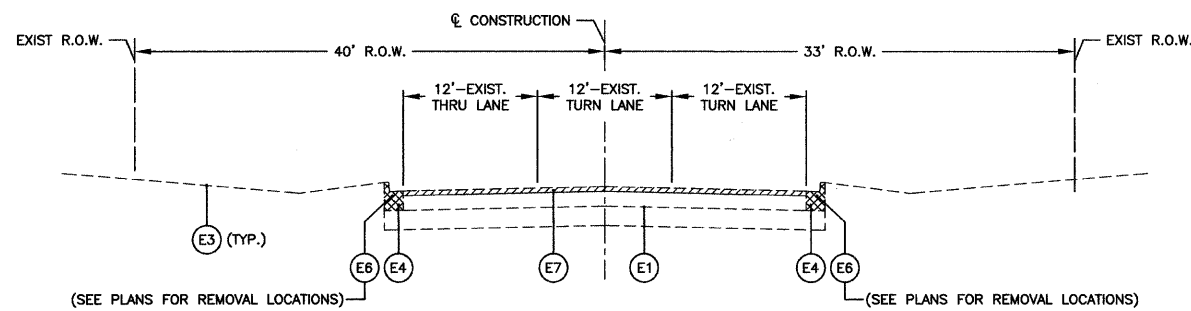
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|--------------------------------|----------------------|---------------------|------------|---|---|-------------|--------------|------------------|---------------------------------|--------------------|-----------------|-------------|--|
| FILE NAME = 0587-QUAN-01 - 002 | USER NAME = | DESIGNED -- BDB/JRA | REVISED -- | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD INTERSECTION IMPROVEMENTS SUMMARY OF QUANTITIES | | | F.A.U. RTE. 3603 | SECTION 09-00050-00-TL | COUNTY COOK | TOTAL SHEETS 31 | SHEET NO. 4 | |
| | PLOT SCALE = | DRAWN -- JRA | REVISED -- | | SCALE: N/A | SHEET NO. 4 | OF 31 SHEETS | STA. | TO STA. | CONTRACT NO. 63320 | | | |
| | PLOT DATE = 10-29-09 | CHECKED -- JRA | REVISED -- | | FED. ROAD DIST. NO. 1 | | | ILLINOIS | FED. AID PROJECT ARA-8003 (332) | | | | |
| | | | | | | | | | | | | | |



EXISTING TYPICAL CROSS SECTION
Chicago Heights-Glenwood Road
STA 8+55.95 TO STA 9+06.60 &
STA 10+55.80 TO STA 10+75.70



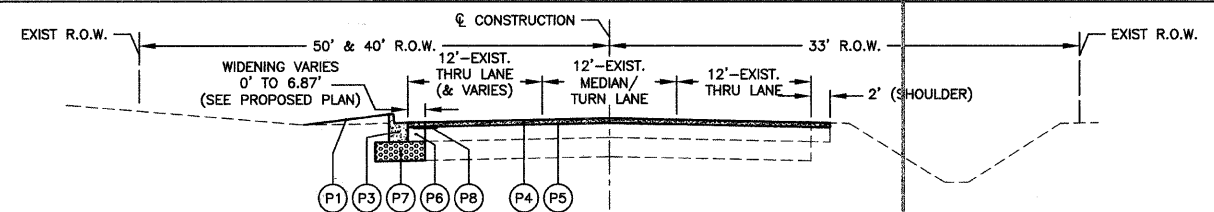
EXISTING TYPICAL CROSS SECTION
Chicago Heights-Glenwood Road
STA 9+06.60 TO STA 10+55.80



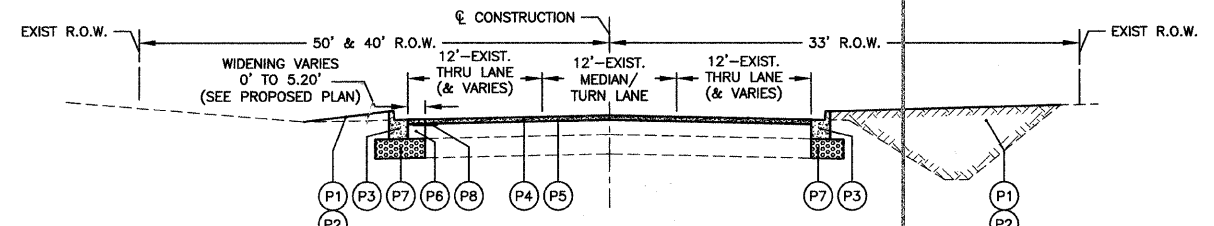
EXISTING TYPICAL CROSS SECTION
Holbrook Road
STA 47+67.50 TO STA 50+00

LEGEND (EXISTING)

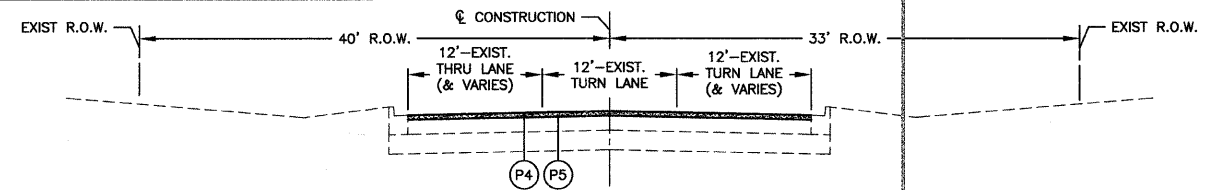
- (E1) EXISTING H.M.A. PAVEMENT STRUCTURE
- (E2) EXISTING H.M.A. SHOULDER
- (E3) EXISTING TURF
- (E4) EXISTING B-6.24 CURB & GUTTER
- (E5) FULL DEPTH PAVEMENT REMOVAL
- (E6) COMBINATION CONCRETE CURB & GUTTER REMOVAL
- (E7) HOT-MIX ASPHALT SURFACE REMOVAL, 2"
- (E8) SAWCUT FULL DEPTH



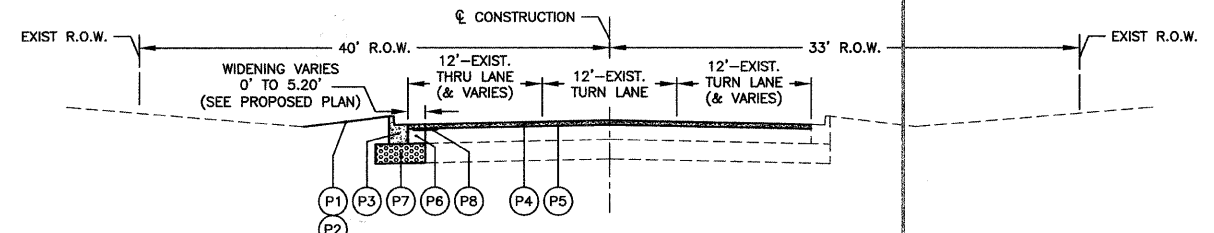
PROPOSED TYPICAL CROSS SECTION
Chicago Heights-Glenwood Road
STA 8+55.95 TO STA 9+37.35



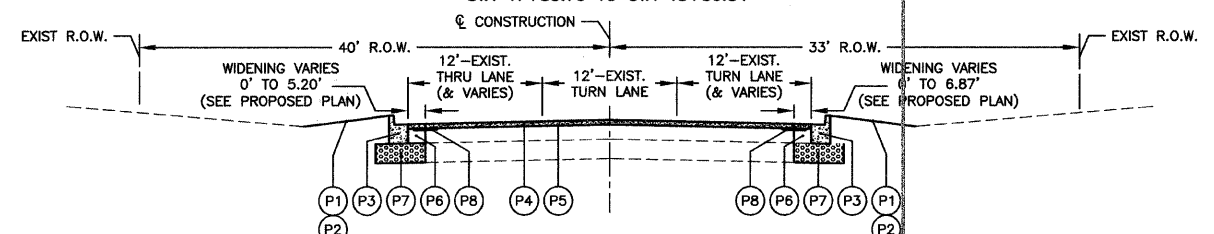
PROPOSED TYPICAL CROSS SECTION
Chicago Heights-Glenwood Road
STA 9+37.35 TO STA 10+75.75



PROPOSED TYPICAL CROSS SECTION
Holbrook Road
STA 47+67.50 TO STA 47+83.79



PROPOSED TYPICAL CROSS SECTION
Holbrook Road
STA 47+83.79 TO STA 48+86.84



PROPOSED TYPICAL CROSS SECTION
Holbrook Road
STA 48+86.84 TO STA 50+00

LEGEND (PROPOSED)

- (P1) TOPSOIL FURNISH & PLACE, 4"
- (P2) SEEDING CLASS 2A (SPECIAL)
- (P3) COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24
- (P4) HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70, 2"
- (P5) BITUMINOUS MATERIAL (PRIME COAT)
- (P6) HOT-MIX ASPHALT BASE COURSE WIDENING, 10"
- (P7) AGGREGATE SUBGRADE, 12" (EXTEND 1' BEYOND BACK OF CURB)
- (P8) STRIP REFLECTIVE CRACK CONTROL TREATMENT, 2 FEET WIDE - (FT.)

EARTHWORK QUANTITIES

| | |
|-----------------------------|----------|
| TOTAL CUT | = 187 CY |
| TOTAL TOPSOIL | = 37 CY |
| TOTAL AVAILABLE CUT TO FILL | = 150 CY |
| TOTAL FILL | = 120 CY |

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

| MIXTURE TYPE | AIR VOIDS @ Ndes |
|--|---------------------|
| PAVEMENT RESURFACING | |
| HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70 (9.5mm); 2" | 4% @ 70 Gyr. |
| PAVEMENT WIDENING | |
| HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70 (9.5mm); 2" | 4% @ 70 Gyr. |
| HMA BASE COURSE WIDENING (HMA BINDER IL-19 mm); 10" | 4% @ 70 Gyr. |

- THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LBS/SQ YD/IN.
- THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 70-22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS. FOR "PERCENT OF RAP" SEE DISTRICT ONE SPECIAL PROVISIONS.

| | | | |
|--|----------------------|--------------------|-----------|
| FILE NAME = 05587-TYPX-01 - TYPICAL SECT | USER NAME = | DESIGNED = BDB/JRA | REVISED = |
| | | CHECKED = PKB | REVISED = |
| | PLOT SCALE = | DRAWN = JJB | REVISED = |
| | PLOT DATE = 10-29-09 | CHECKED = JRA | REVISED = |




STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

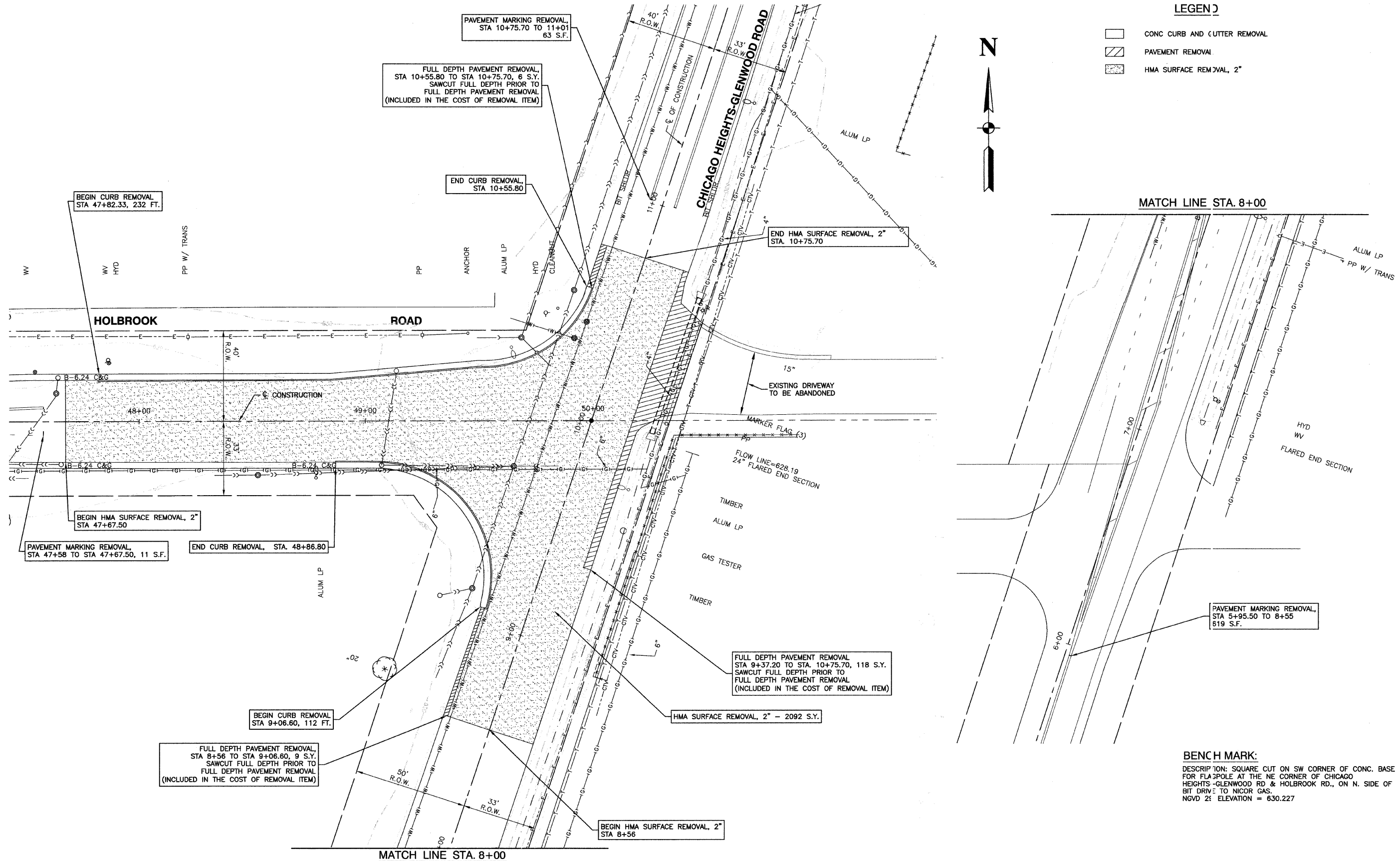
CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD
INTERSECTION IMPROVEMENTS
TYPICAL SECTIONS

| | | | | |
|--|----------------|--------|--------------|-----------|
| F.A.J. RTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 3805 | 09-00050-00-TL | COOK | 31 | 5 |
| CONTRACT NO. 63320 | | | | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT ARA-9003 (332) | | | | |

SCALE: N/A SHEET NO. 5 OF 31 SHEETS STA. TO STA.

LEGEND

-  CONC CURB AND CUTTER REMOVAL
-  PAVEMENT REMOVAL
-  HMA SURFACE REMOVAL, 2"

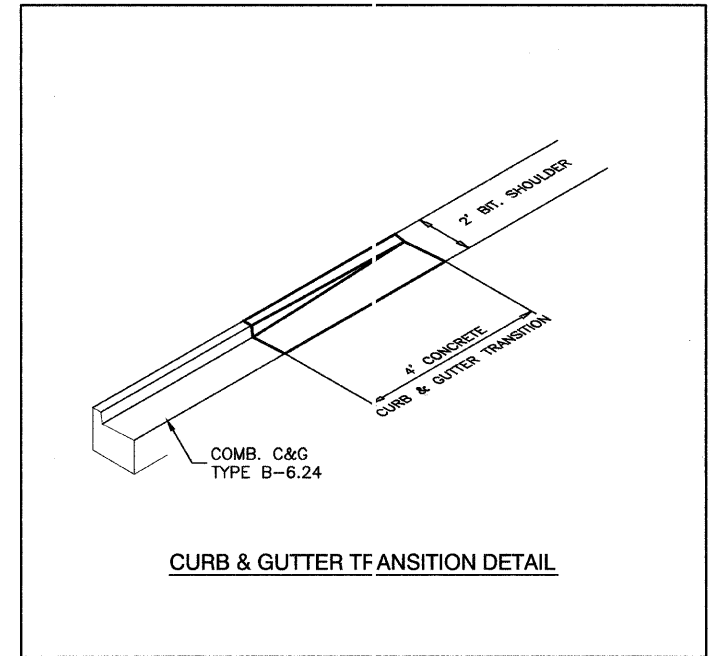
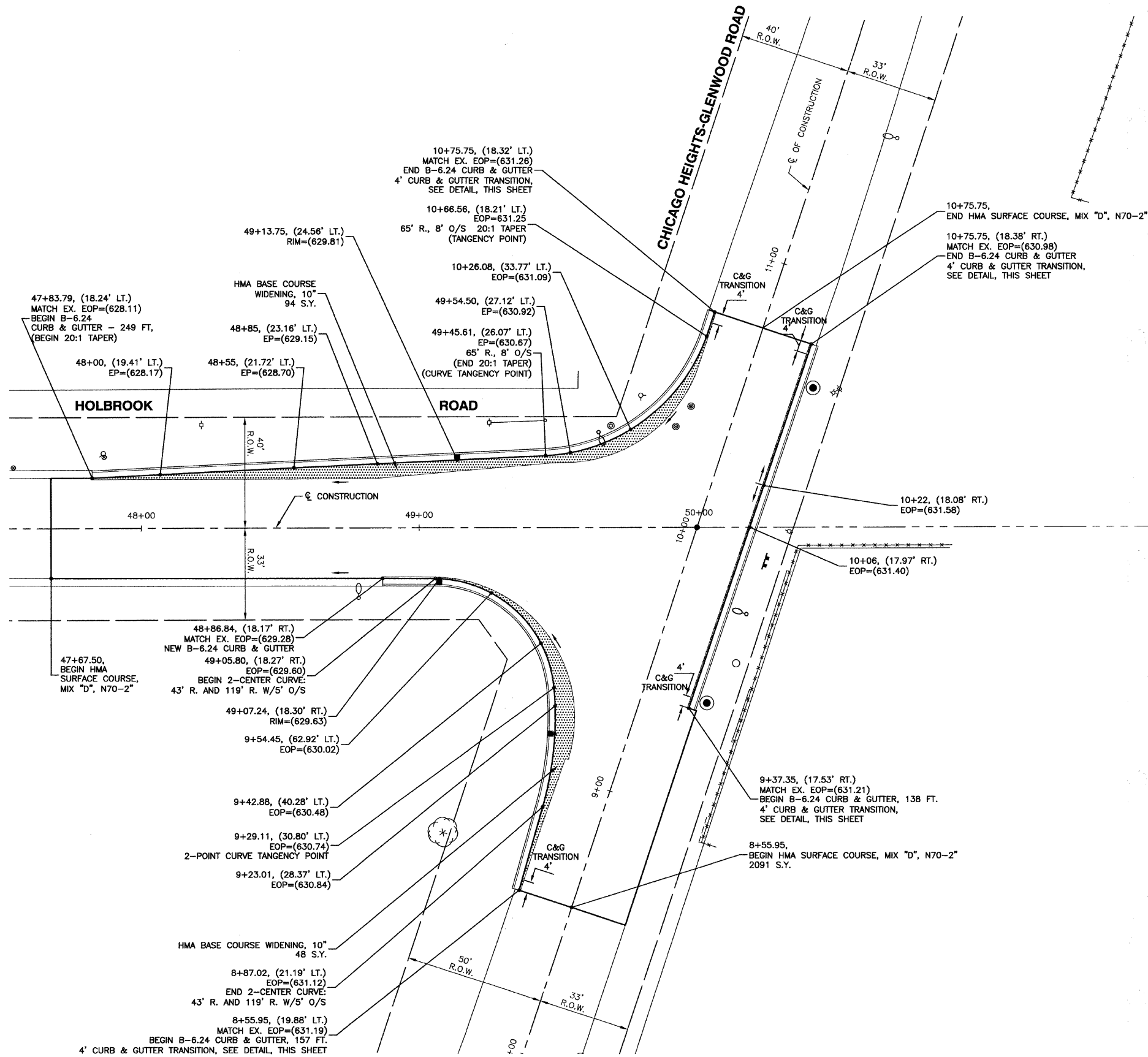


MATCH LINE STA. 8+00

MATCH LINE STA. 8+00

BENCH MARK:
 DESCRIPTION: SQUARE CUT ON SW CORNER OF CONC. BASE FOR FLAGPOLE AT THE NE CORNER OF CHICAGO HEIGHTS-GLENWOOD RD & HOLBROOK RD., ON N. SIDE OF BIT DRIVE TO NICOR GAS.
 NGVD 2nd ELEVATION = 630.227

| | | | | | | | | | | |
|-----------------------------------|----------------|---------------------|------------|---|---|--|--------------------|--------|--------------|-----------|
| FILE NAME = 05567-PLAN-01 - EXIST | USER NAME = | DESIGNED -- BDB/JRA | REVISED -- | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD INTERSECTION IMPROVEMENTS EXISTING CONDITIONS & REMOVAL PLAN | F.A. J. RTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | PLOT SCALE = | DRAWN -- JJB | REVISED -- | | | 3601 | 09-00050-00-TL | COOK | 31 | 6 |
| PLOT DATE = 10-29-09 | CHECKED -- JRA | REVISED -- | | SCALE: 1"=20' | SHEET NO. 6 OF 31 SHEETS | STA. TO STA. | CONTRACT NO. 63320 | | | |
| | | | | | | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT ARA-9003 (332) | | | | |



CURB & GUTTER TRANSITION DETAIL

LEGEND

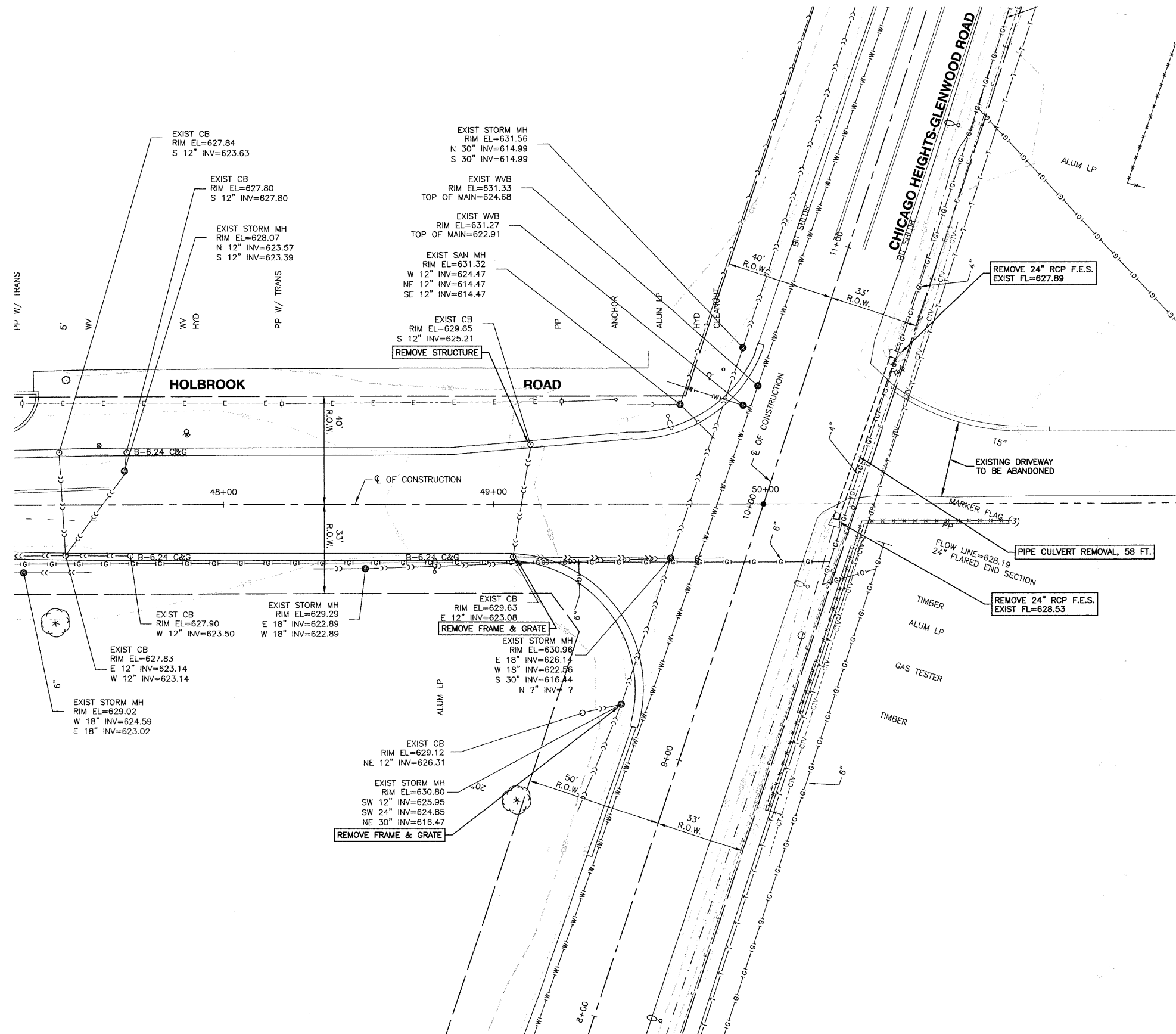
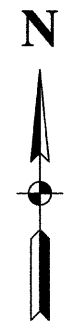
 H.M.A. BASE COURSE WIDENING

BENCH MARK:
 DESCRIPTION: SQUARE CUT ON SW CORNER OF CONC. BASE FOR FLAGPOLE AT THE NE CORNER OF CHICAGO HEIGHTS-GLENWOOD RD & HOLBROOK RD., ON N. SIDE OF BIT DRIVE TO NICOR GAS.
 NGVD 2' ELEVATION = 630.227

| | | | |
|----------------------------------|----------------------|---------------------|------------|
| FILE NAME = 05567-PLAN-01 - PROP | USER NAME = | DESIGNED -- BDB/JRA | REVISED -- |
| | | CHECKED -- PKB | REVISED -- |
| | PLOT SCALE = | DRAWN -- JJB | REVISED -- |
| | PLOT DATE = 10-29-09 | CHECKED -- JRA | REVISED -- |

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

| | | | | | | |
|---|--|--------------------------|------------------------|---------------------------------|--------------------|-------------|
| CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD INTERSECTION IMPROVEMENTS PROPOSED PLAN | | F.A. J. RTE 3603 | SECTION 09-00050-00-TL | COUNTY COOK | TOTAL SHEETS 31 | SHEET NO. 7 |
| SCALE: 1"=20' | | SHEET NO. 7 OF 31 SHEETS | | STA. TO STA. | CONTRACT NO. 63320 | |
| | | FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT ARA-9003 (332) | | |



BENCH MARK:
 DESCRIPTION: SQUARE CUT ON SW CORNER OF CONC. BASE FOR FLAGPOLE AT THE NE CORNER OF CHICAGO HEIGHTS-GLENWOOD RD & HOLBROOK RD., ON N. SIDE OF BIT DRIVE TO NICOR GAS.
 NGVD 29 ELEVATION = 630.227

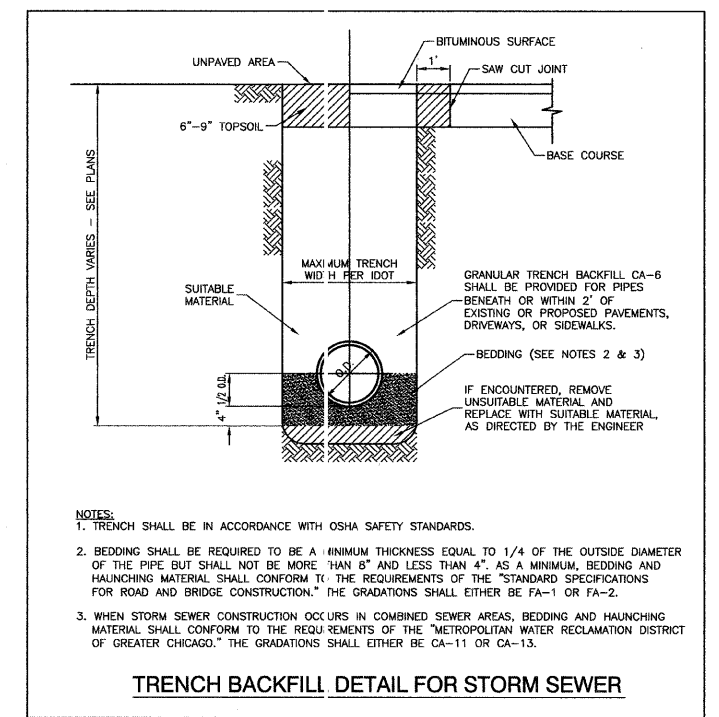
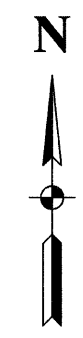
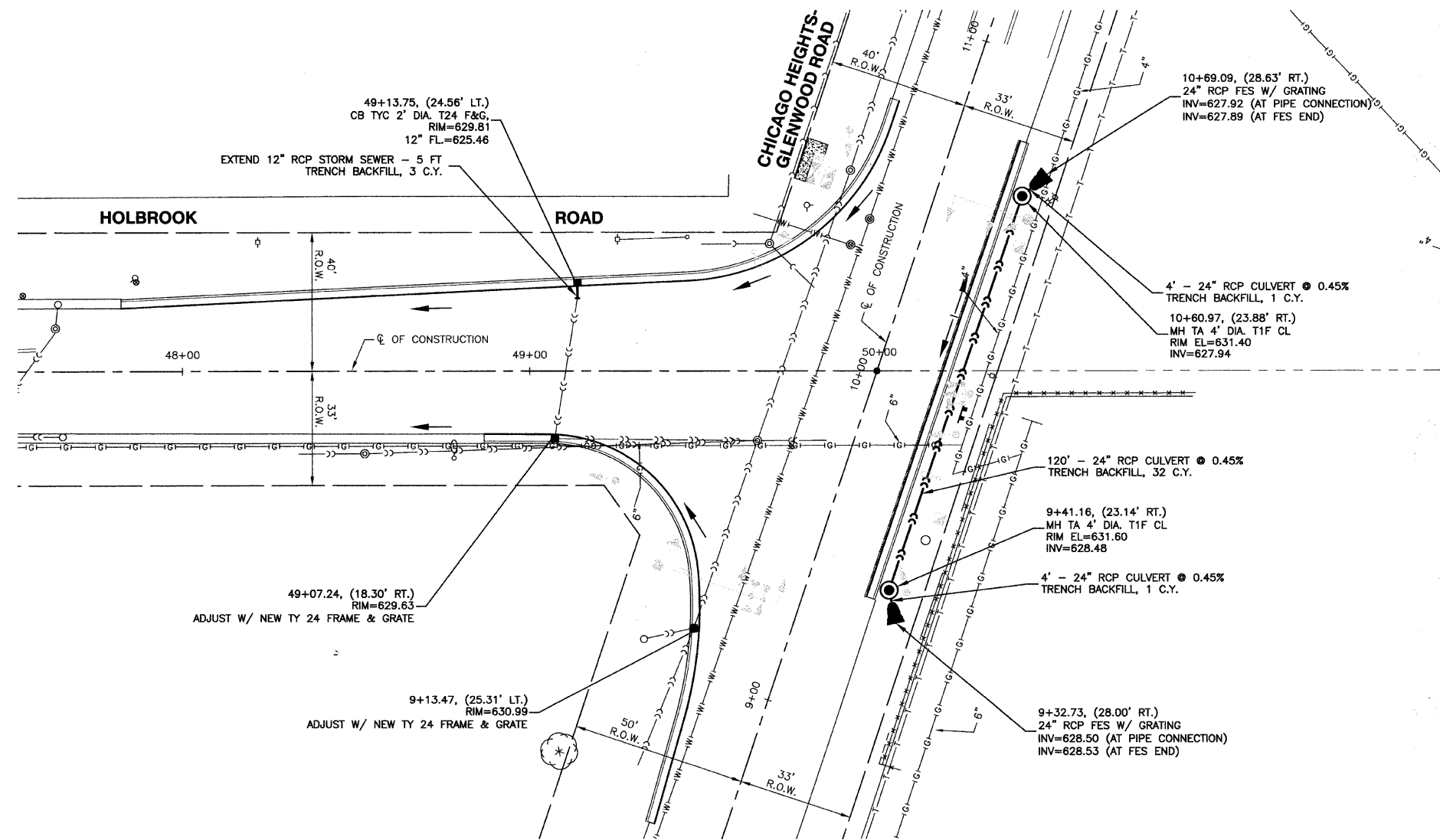
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| | | CHECKED -- PKB | REVISED -- |
| | PLOT SCALE = | DRAWN -- JJB | REVISED -- |
| | PLOT DATE = 10-29-09 | CHECKED -- JRA | REVISED -- |

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD
 INTERSECTION IMPROVEMENTS
 EXISTING DRAINAGE & UTILITIES AND REMOVAL PLAN
 SCALE: 1"=20'

| | | | | |
|---|---------------|--------|--------------|-----------|
| F.A.U. RT. # | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 36 B | 09-0050-00-TL | COOK | 31 | 8 |
| CONTRACT NO. 63320 | | | | |
| FEE ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT ARA-9003 (332) | | | | |

SECTION 9, TOWNSHIP 35, RANGE 4



- NOTES:**
- TRENCH SHALL BE IN ACCORDANCE WITH OSHA SAFETY STANDARDS.
 - BEDDING SHALL BE REQUIRED TO BE A MINIMUM THICKNESS EQUAL TO 1/4 OF THE OUTSIDE DIAMETER OF THE PIPE BUT SHALL NOT BE MORE THAN 6\" AND LESS THAN 4\". AS A MINIMUM, BEDDING AND HAUNCHING MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF THE \"STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.\" THE GRADATIONS SHALL EITHER BE FA-1 OR FA-2.
 - WHEN STORM SEWER CONSTRUCTION OCCURS IN COMBINED SEWER AREAS, BEDDING AND HAUNCHING MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF THE \"METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO.\" THE GRADATIONS SHALL EITHER BE CA-11 OR CA-13.

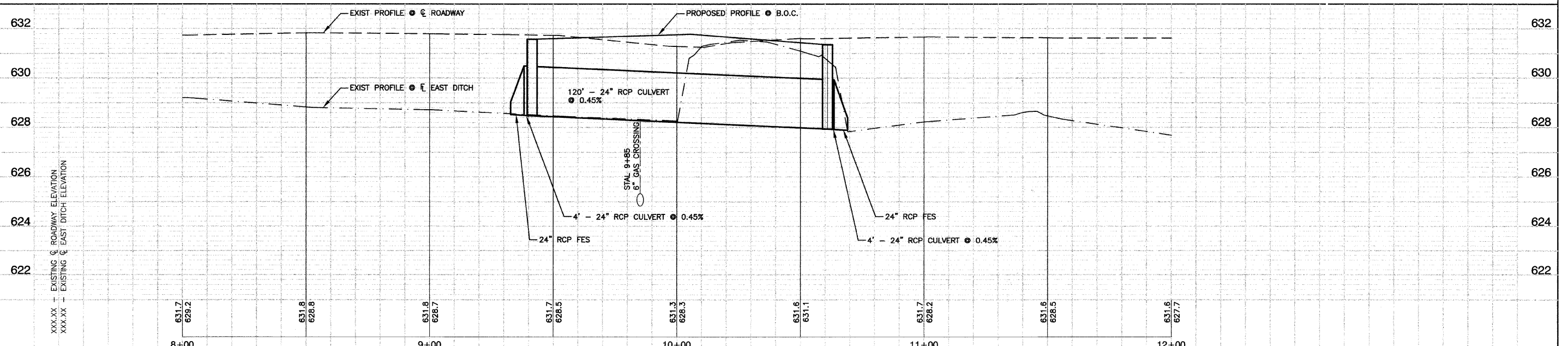
TRENCH BACKFILL DETAIL FOR STORM SEWER

NOTES

- ALL RIM ELEVATIONS OF STRUCTURES IN THE CURB LINE ARE GIVEN TO THE EDGE OF PAVEMENT. ALL OTHER RIM ELEVATIONS ARE GIVEN TO THE CENTER OF STRUCTURES.

BENCH MARK:

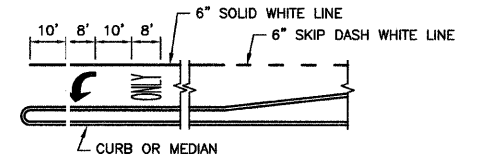
DESCRIPTION: SQUARE CUT ON SW CORNER OF CONC. BASE FOR FLAGPOLE AT THE NE CORNER OF CHICAGO HEIGHTS-GLENWOOD RD & HOLBROOK RD., ON N. SIDE OF BIT DRIVE TO NICOR GAS.
 NGVD 2\" ELEVATION = 630.227



| | | | | | | | | | | | | |
|----------------------------------|----------------------|--------------------|-----------|---|--|--|---------------------------|----------------|--------------------|----------------|--|--|
| FILE NAME = 05567-STRM-01 - PROP | USER NAME = | DESIGNED = BDB/JRA | REVISED = | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD INTERSECTION IMPROVEMENTS PROPOSED DRAINAGE & UTILITIES PLAN AND PROFILE | F.A./RTE 3603 | SECTION 09-00050-00-TL | COUNTY COOK | TOTAL SHEETS 31 | SHEET NO. 9 | | |
| | PLOT SCALE = | CHECKED = PKB | REVISED = | | | SCALE: H:1\"=20' V:1\"=2' | SHEET NO. 9 OF 31 SHEETS | STA. TO STA. | CONTRACT NO. 63320 | | | |
| | PLOT DATE = 10-29-09 | DRAWN = JJB | REVISED = | | | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT ARA-9003 (332) | | | | | | |
| | | CHECKED = JRA | REVISED = | | | | | | | | | |

PAVEMENT MARKING LEGEND

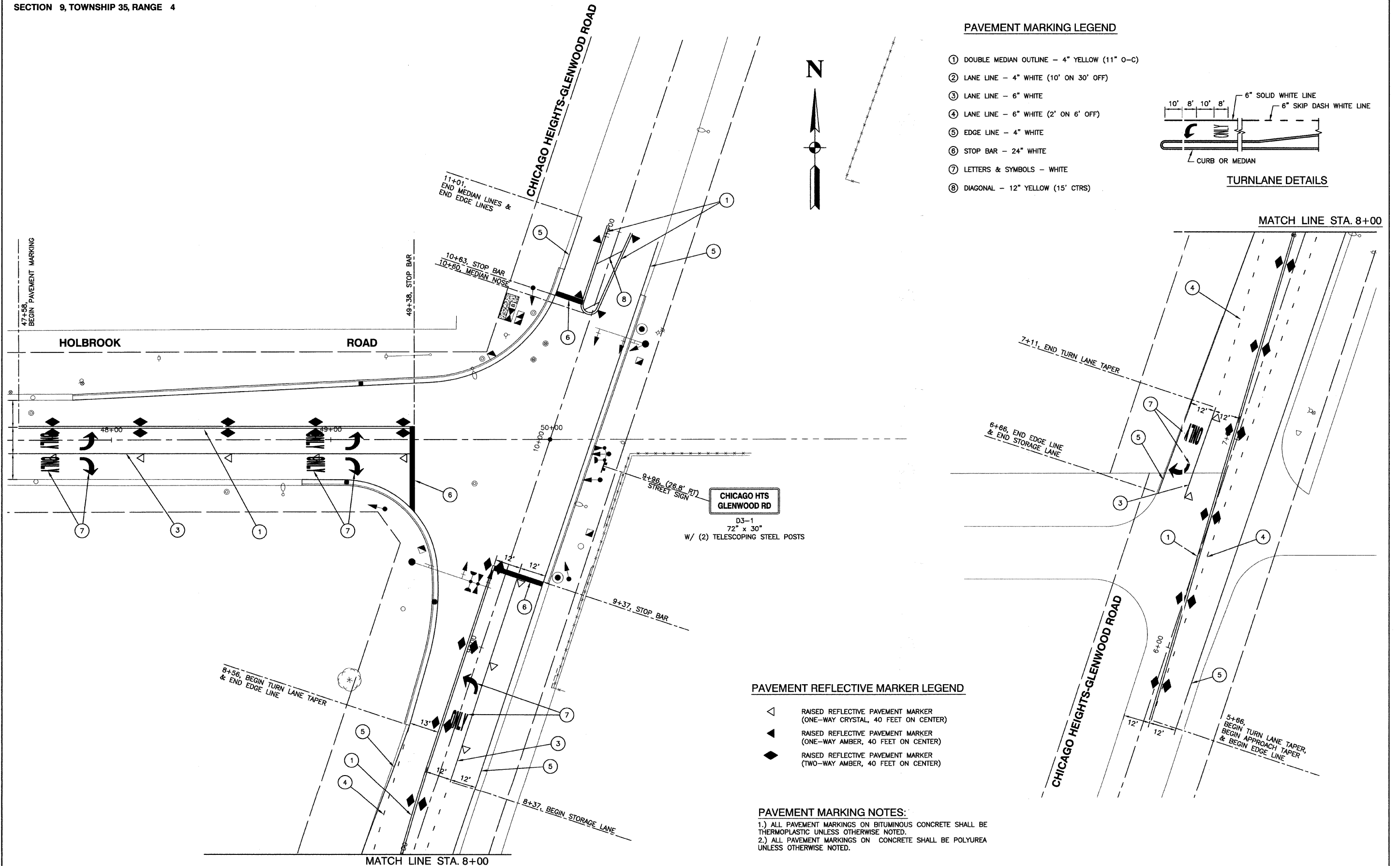
- ① DOUBLE MEDIAN OUTLINE - 4" YELLOW (11" O-C)
- ② LANE LINE - 4" WHITE (10' ON 30' OFF)
- ③ LANE LINE - 6" WHITE
- ④ LANE LINE - 6" WHITE (2' ON 6' OFF)
- ⑤ EDGE LINE - 4" WHITE
- ⑥ STOP BAR - 24" WHITE
- ⑦ LETTERS & SYMBOLS - WHITE
- ⑧ DIAGONAL - 12" YELLOW (15' CTRS)



TURNLANE DETAILS



MATCH LINE STA. 8+00



PAVEMENT REFLECTIVE MARKER LEGEND

- ◁ RAISED REFLECTIVE PAVEMENT MARKER (ONE-WAY CRYSTAL, 40 FEET ON CENTER)
- ▲ RAISED REFLECTIVE PAVEMENT MARKER (ONE-WAY AMBER, 40 FEET ON CENTER)
- ◆ RAISED REFLECTIVE PAVEMENT MARKER (TWO-WAY AMBER, 40 FEET ON CENTER)

PAVEMENT MARKING NOTES:

- 1.) ALL PAVEMENT MARKINGS ON BITUMINOUS CONCRETE SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED.
- 2.) ALL PAVEMENT MARKINGS ON CONCRETE SHALL BE POLYUREA UNLESS OTHERWISE NOTED.

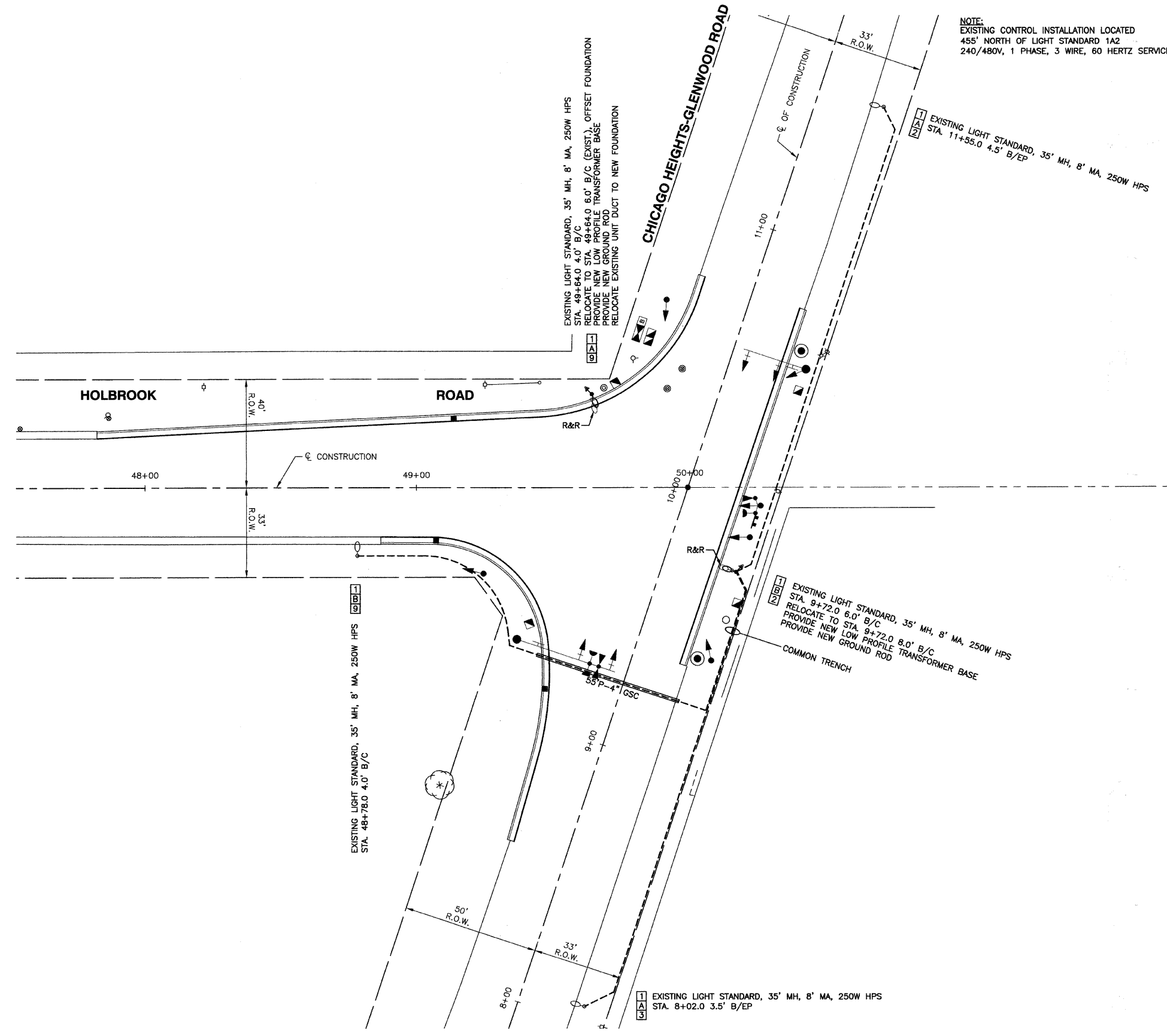
| | | | |
|---------------------------------|----------------------|--------------------|-----------|
| FILE NAME = 05567-PMKG-01 - PM1 | USER NAME = | DESIGNED - BDB/JRA | REVISED - |
| | | CHECKED - PKB | REVISED - |
| | PLOT SCALE = | DRAWN - JJB | REVISED - |
| | PLOT DATE = 10-29-09 | CHECKED - JRA | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD
INTERSECTION IMPROVEMENTS
PAVEMENT MARKING & SIGNING PLAN

SCALE: 1"=20' SHEET NO. 10 OF 31 SHEETS STA. TO STA.

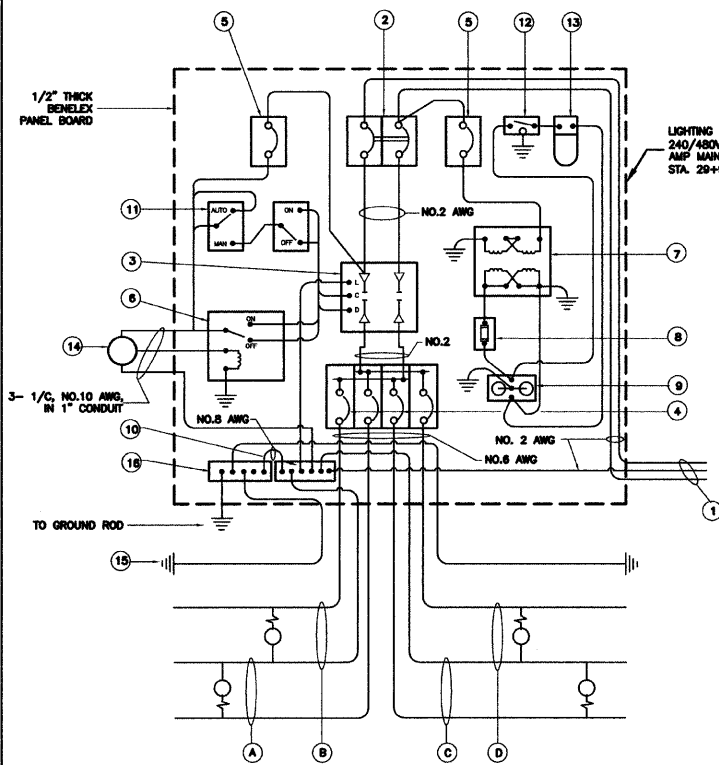
| | | | | |
|--|-------------------------|--------------|------------------|---------------|
| F.A. J. RTE: 36C3 | SECTION: 09-00050-00-TL | COUNTY: COOK | TOTAL SHEETS: 31 | SHEET NO.: 10 |
| CONTRACT NO. 63320 | | | | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT ARA-9003 (332) | | | | |



NOTE:
 EXISTING CONTROL INSTALLATION LOCATED
 455' NORTH OF LIGHT STANDARD 1A2
 240/480V, 1 PHASE, 3 WIRE, 60 HERTZ SERVICE.

- LEGEND**
- EXISTING STREET LIGHT-250W HPS
 - RELOCATED STREET LIGHT-250W HPS
 - P — CONDUIT, PUSHED, GALVANIZED STEEL
 - T — CONDUIT, TRENCHED, GALVANIZED STEEL
 - UNIT DUCT, 3-1/4", NO.6 AWG AND NO.8 GROUND, 600V IN 1-1/4" DUCT
 - GR GROUND ROD, 5/8" DIA. x 10'
 - (R) REMOVAL OF EXISTING STREET LIGHT
 - LT LEFT
 - RT RIGHT
 - MH MOUNTING HEIGHT
 - MA MAST ARM
 - B/C BACK OF CURB
 - B/EP BACK OF EDGE OF PAVEMENT
 - BDTB BREAKAWAY DEVICE, TRANSFORMER BASE, 1 1/2" BOLT CIRCLE
 - R&R REMOVE AND RELOCATE EXISTING STREET LIGHT
- POLE IDENTIFICATION**
- 1 CABINET NUMBER
 - A CIRCUIT
 - 2 POLE POSITION

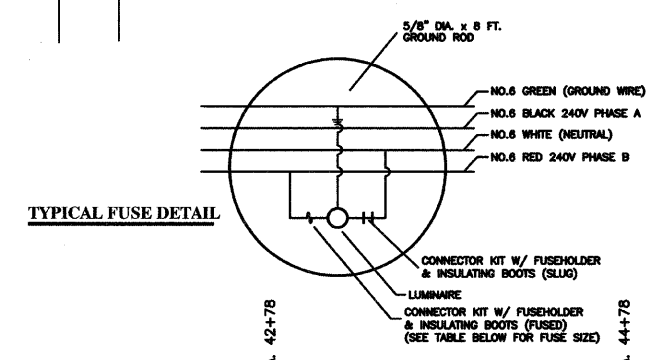
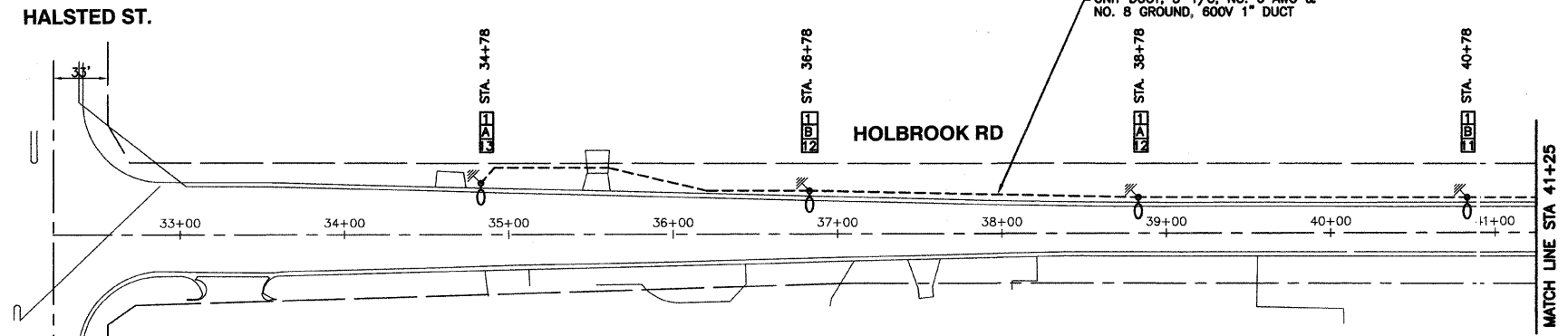
| | | | | | | | | | | |
|----------------------------------|---------------------|----------------|-----------|---|---|--|---------------------------|----------------|--------------------|-----------------|
| FILE NAME = 05587.LGHT-01 - LGHT | USER NAME = | DESIGNED — PAP | REVISED — | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD INTERSECTION IMPROVEMENTS STREET LIGHTING PLAN | F.A. J. RTE 3803 | SECTION 09-00050-00-TL | COUNTY COOK | TOTAL SHEETS 31 | SHEET NO. 12 |
| | PLOT SCALE = 1"=20' | DRAWN — JRA | REVISED — | | | SCALE: 1"=20' | SHEET NO. 12 OF 31 SHEETS | STA. TO STA. | CONTRACT NO. 63320 | |
| PLOT DATE = 10-29-09 | CHECKED — PAP | REVISED — | | | | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT ARA-9003 (332) | | | | |



**CONTROL INSTALLATION NO. 1
EXISTING CONTROLLER WIRING DIAGRAM
STA. 16+10.00, 30.00' RT. (ON CHICAGO HEIGHTS-GLENWOOD ROAD)**

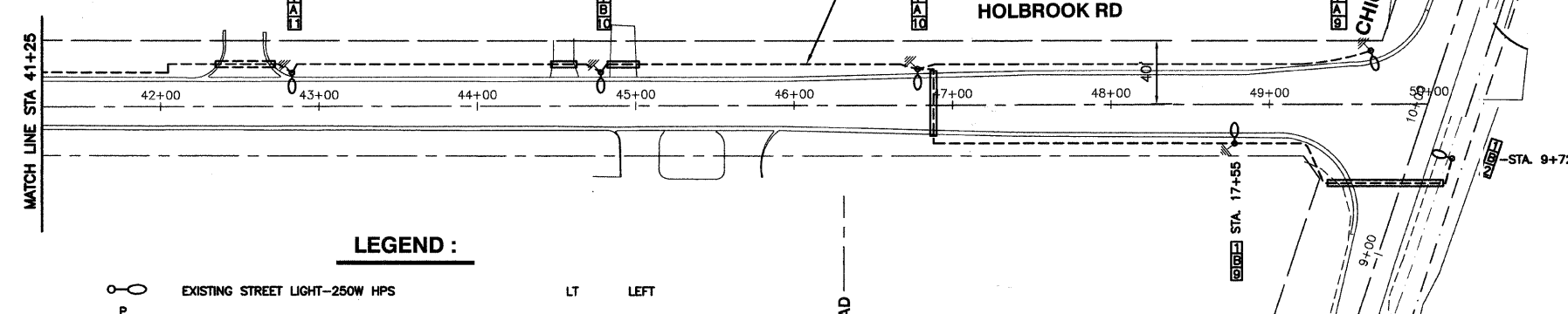
CONTROLLER WIRING DIAGRAM LEGEND

- ① 3-1/C, NO.2, 600V SERVICE WIRE IN 2" DIA. GALVANIZED STEEL CONDUIT FOR 240/480 VOLT, 1Φ, 3 WIRE, 60HZ. SERVICE.
- ② (1) 60 AMP MAIN CIRCUIT BREAKER, 2 POLE, 600 VOLT, 100 AMP BASE, NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA - 14000 AMP AT 480 V.
- ③ (1) 60 AMP REMOTE CONTROL CONTACTOR SWITCH, ELECTRICALLY OPERATED, MECHANICALLY HELD, 2 POLE, SINGLE THROW, MINIMUM 60 AMP, 600 VOLT, 240 V ASCO 920.
- ④ (4) 30 AMP CIRCUIT BREAKER, 1 POLE, 480 VOLT, 100 AMP BASE, NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA - 14000 AMP AT 277 VOLTS.
- ⑤ (2) 20 AMP CONTROL CIRCUIT-CIRCUIT BREAKER, 1 POLE, 240 VOLT, 100 AMP BASE, NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA 14000 AMP AT 240 V.
- ⑥ (1) 20 AMP, 1 POLE DOUBLE THROW, 120 VOLT RELAY
- ⑦ (1) 1.0 KVA, SINGLE PHASE, ENCAPSULATED TRANSFORMER 240x480/120x240 VOLT, 60 HZ.
- ⑧ (1) 20 AMP, 120 VOLT FUSE.
- ⑨ (1) 20 AMP, 120 VOLT DUPLEX RECEPTACLE.
- ⑩ (1) NEUTRAL BUS BAR, 1/4"x1"x12" LONG MOUNTED ON PANEL WITH TAPS.
- ⑪ (2) TOGGLE SWITCHES MOUNTED IN 4"x4" BOX.
- ⑫ (1) SWITCH FOR LIGHTING FIXTURE MOUNTED IN BOX.
- ⑬ (1) WEATHER-PROOF INCANDESCENT LIGHTING FIXTURE WITH 60 WATT, 120 V LAMP.
- ⑭ (1) PHOTOCELL MOUNTED TO TOP OF NEAREST LIGHT POLE, 240 V.
- ⑮ NO.6 AWG INSULATED GROUND WIRE
- ⑯ (1) GROUND BUS BAR 1/4"x1"x12" LONG MOUNTED ON PANEL WITH TAPS.
- Ⓐ CIRCUIT



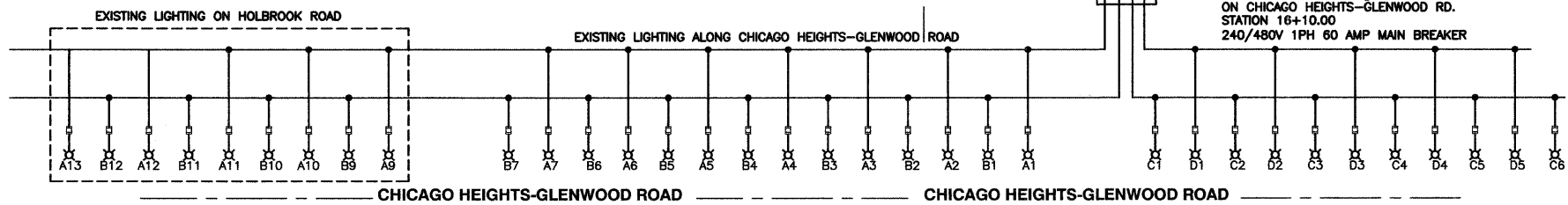
| NOMINAL WATTAGE | FUSE SIZE |
|-----------------|-----------|
| 250 | 2.5 AMP |
| 150 | 2.5 AMP |

LUMINAIRE FUSE SIZE TABLE
NOTE: FUSES TO BE TIME DELAY TYPES



LEGEND :

- EXISTING STREET LIGHT-250W HPS
- P — CONDUIT, PUSHED, GALVANIZED STEEL
- UNIT DUCT, 3-1/C, NO.6 AWG AND NO.8 GROUND, 600V 1" DUCT
- ⊕ GR GROUND ROD, 5/8" DIA. x 10'
- BD BREAKAWAY DEVICE COUPLING, WITH ALUMINUM SKIRT
- LT LEFT
- RT RIGHT
- MH MOUNTING HEIGHT
- MA MAST ARM
- B/C BACK OF CURB

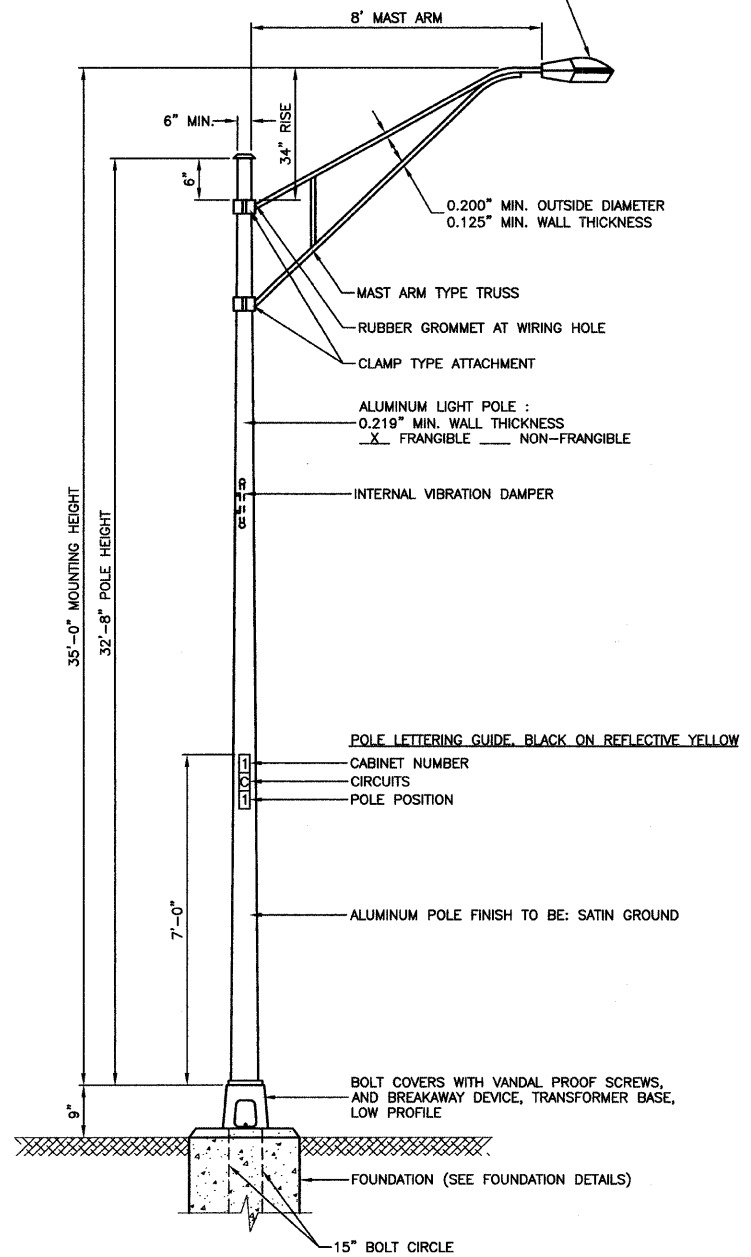


| LOAD TABULATION | |
|-------------------|-------------|
| CIRCUIT | LOAD |
| A | 16.1 |
| B | 14.8 |
| C | 7.8 |
| D | 6.5 |
| TOTAL LOAD | 45.2 |

- LUMINAIRE, 250 WHPS
- LUMINAIRE, 150 WHPS
- FUSE, 2.5A
- ⎓ CIRCUIT BREAKER
- CONNECTION

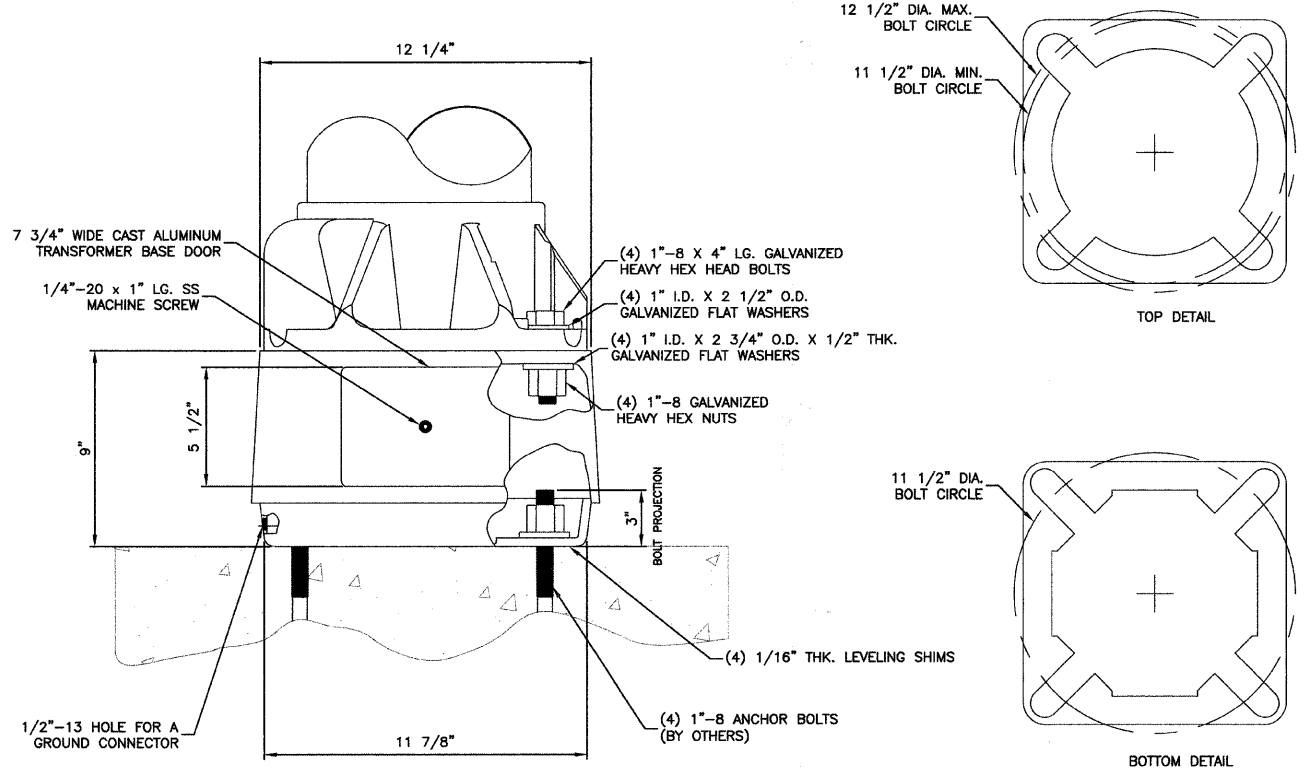
LUMINAIRE:
 250 WATT HIGH PRESSURE SODIUM LAMP
 240 VOLT BALLAST
 I.E.S. TYPE: MC III LIGHT DISTRIBUTION,
 FULL CUTOFF
 LENS TYPE: FLAT
 INITIAL LAMP LUMENS: 28,000
 LAMP LIFE: 24,000 HOURS

IMPORTANT NOTE:
 TRANSFORMER BASE AND LIGHTPOLE
 TO BE LEVELED AS ONE UNIT. USING
 LEVELING SHIMS IF REQUIRED.

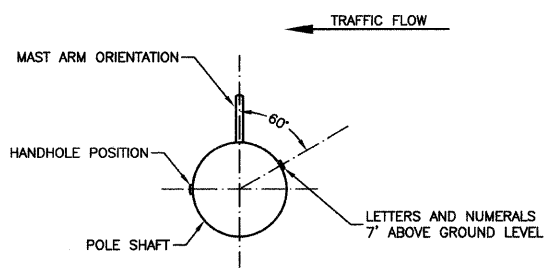


- NOTES:**
1. THE LIGHTING UNITS SHALL MEET AASHTO DESIGN CRITERIA. DESIGN FOR 90 M.P.H. WIND WITH 30% GUST AND 75 POUND LUMINAIRE HAVING AN E.P.A. OF 1.6 SQ. FT. AND PROPER ICE LOADING.
 2. ALUMINUM ALLOY 6063-T6 SHALL BE USED.
 3. LIGHT POLE AND ASSOCIATED EQUIPMENT TO BE U.L. LISTED

TYPICAL POLE TO BE RELOCATED

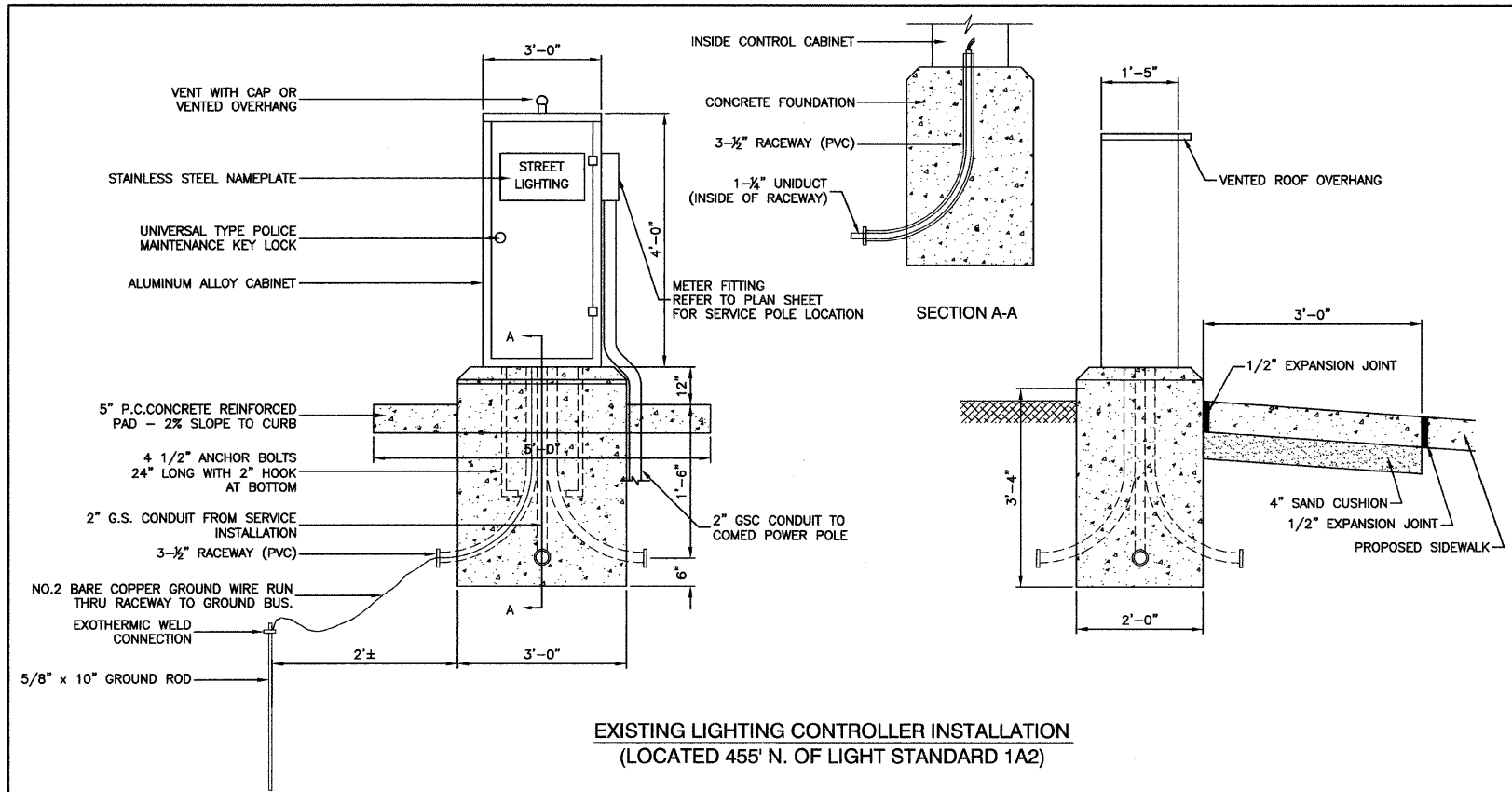


BREAKAWAY TRANSFORMER BASE DETAIL

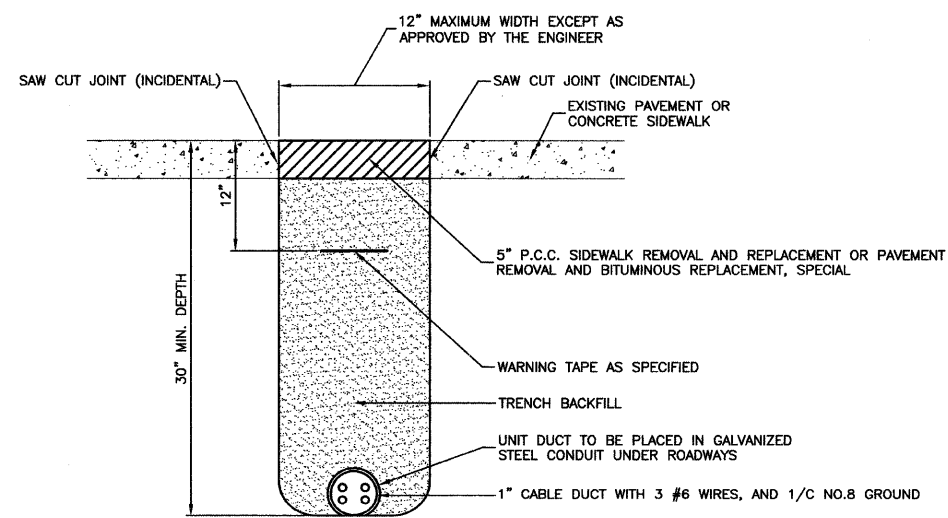


EXISTING POSITION OF HANDHOLE AND NUMERALS ON POLE

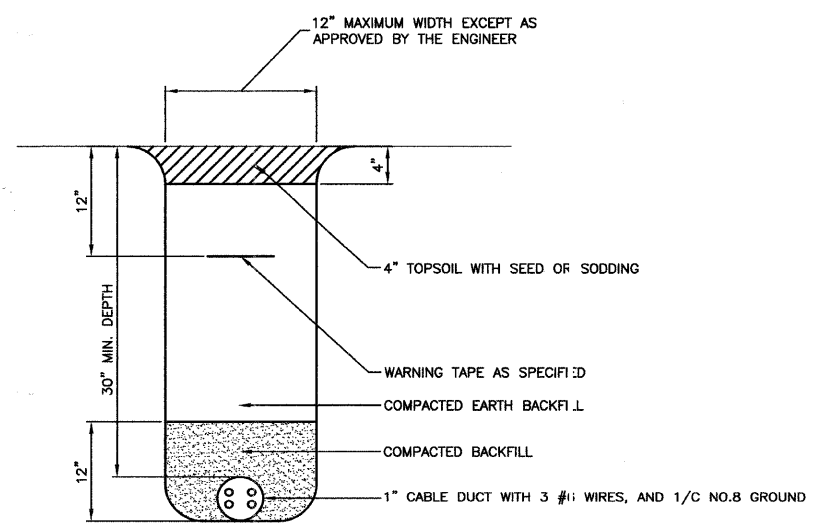
| | | | | | | | | | | | | |
|---------------------------------|----------------------|----------------|-----------|---|---|---------------------------|--------------|-----------------------|------------------------|---------------------------------|--------------------|--------------|
| FILE NAME = 05587-LGHT-02 - P01 | USER NAME = | DESIGNED — PAP | REVISED — | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD INTERSECTION IMPROVEMENTS LIGHTING DETAILS | | | F.A. J. RTE. 36C3 | SECTION 09-00050-00-TL | COUNTY COOK | TOTAL SHEETS 31 | SHEET NO. 14 |
| | PLOT SCALE = | CHECKED — PKB | REVISED — | | SCALE: N/A | SHEET NO. 14 OF 31 SHEETS | STA. TO STA. | FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT ARA-9003 (332) | CONTRACT NO. 63320 | |
| | PLOT DATE = 10-29-09 | DRAWN — BDB | REVISED — | | | | | | | | | |
| | | CHECKED — JRA | REVISED — | | | | | | | | | |



EXISTING LIGHTING CONTROLLER INSTALLATION
(LOCATED 455' N. OF LIGHT STANDARD 1A2)



HOT-MIX ASPHALT PAVEMENT OR CONCRETE SIDEWALK
REMOVAL AND REPLACEMENT



TRENCH DETAIL

FILE NAME = 05587-LGHT-02 - P02
 USER NAME =
 PLOT SCALE =
 PLOT DATE = 10-29-09

| | |
|-----------------|------------|
| DESIGNED -- PAP | REVISED -- |
| CHECKED -- PKB | REVISED -- |
| DRAWN -- BDB | REVISED -- |
| CHECKED -- JRA | REVISED -- |

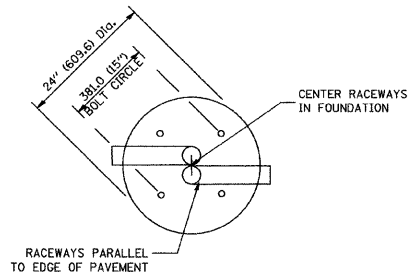
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD
INTERSECTION IMPROVEMENTS
LIGHTING DETAILS
SCALE: N/A SHEET NO. 15 OF 31 SHEETS STA. TO STA.

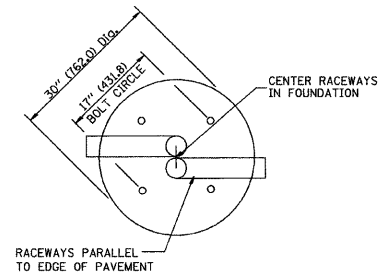
| | | | | |
|--|------------------------|-------------|-----------------|--------------|
| F.A. J. RTE 3603 | SECTION 09-00050-00-TL | COUNTY COOK | TOTAL SHEETS 31 | SHEET NO. 15 |
| CONTRACT NO. 63320 | | | | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT ARA-9003 (332) | | | | |

LIGHT POLE FOUNDATION DEPTH TABLE
40 FT. (12.192 m) TO 47.5 FT. (14.478 m) MOUNTING HEIGHT

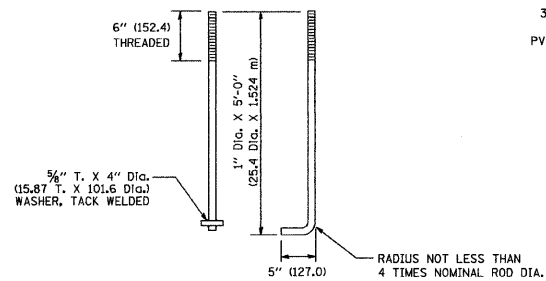
| SOIL CONDITIONS | DESIGN DEPTH "D" OF FOUNDATION | |
|--------------------------------------|--------------------------------|--------------------|
| | SINGLE ARM POLE | TWIN ARM POLE |
| SOFT CLAY Qu = 0.375 TON/SQ. FT. | 13'-0" (3.96 m) | 15'-0" (4.57 m) |
| MEDIUM CLAY Qu = 0.75 TON/SQ. FT. | 9'-6" (2.93 m) | 10'-9" (3.23 m) |
| STIFF CLAY Qu = 1.50 TON/SQ. FT. | 7'-0" (2.13 m) | 8'-0" (2.44 m) |
| LOOSE SAND φ = 34° | 9'-0" (2.74 m) | 10'-0" (3.05 m) |
| MEDIUM SAND φ = 37.5° | 8'-3" (2.52 m) | 9'-0" (2.74 m) |
| DENSE SAND φ = 40° | 7'-9" (2.36 m) | 9'-0" (2.74 m) |



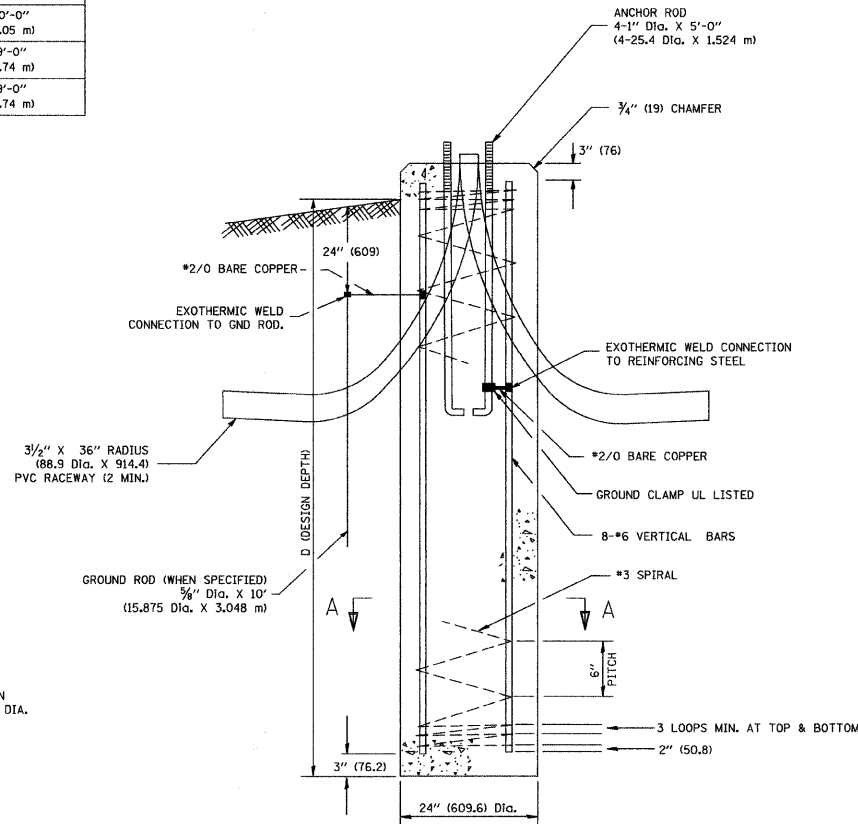
TOP VIEW



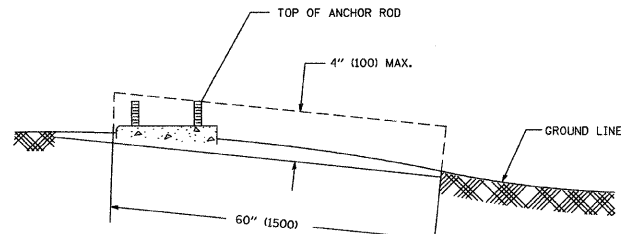
TOP VIEW



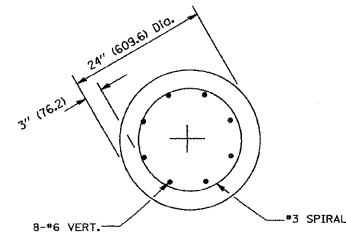
ANCHOR ROD DETAIL



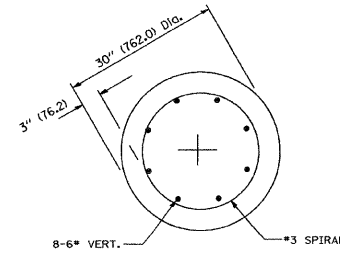
FOUNDATION DETAIL



FOUNDATION EXTENSION DETAIL



SECTION A-A



SECTION A-A

NOTES

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED.
- THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED, IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
- THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
- THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMFERED 3/4-IN. (20 mm).
- THE CONCRETE SHALL BE CLASS SL. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
- THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 75 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
- ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UMG MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
- THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
- ANCHOR RODS SHALL PROJECT 2 3/4" (69.9 mm) ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
- THE CONTRACTOR SHALL USE A #3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE #3 T E S AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
- THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
- THE RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.

FILE NAME = 05587-LIGHT-02 - P03

| | | |
|----------------------|----------------|-----------|
| USER NAME = | DESIGNED — PAP | REVISED — |
| | CHECKED — PKB | REVISED — |
| PLOT SCALE = | DRAWN — BDB | REVISED — |
| PLOT DATE = 10-29-09 | CHECKED — JRA | REVISED — |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD
INTERSECTION IMPROVEMENTS
LIGHTING DETAILS

SCALE: N/A SHEET NO. 16 OF 31 SHEETS STA. TO STA.

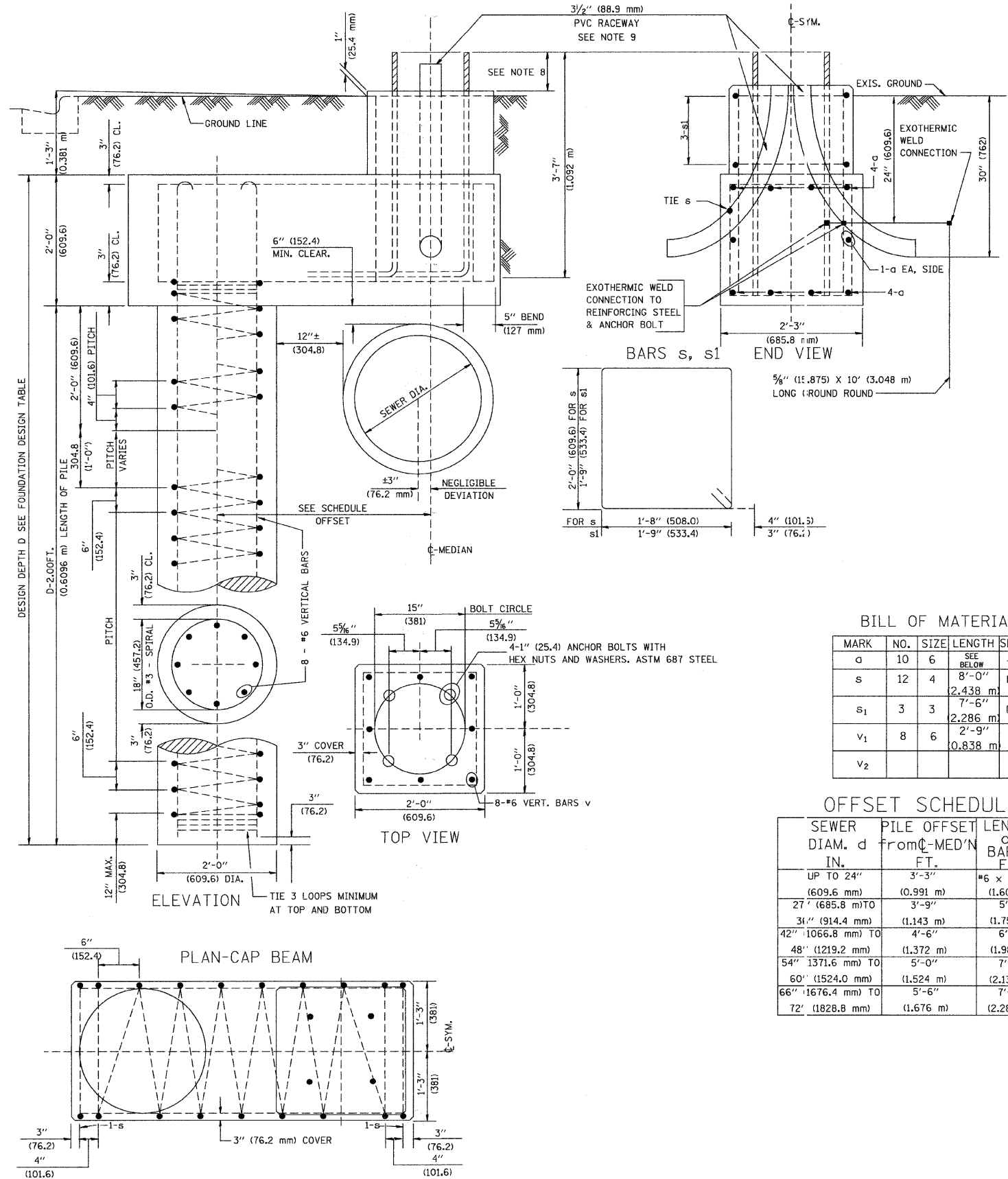
| | | | | |
|--|----------------|--------|--------------|-----------|
| F.A.U. RTI: | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 3613 | 09-00050-00-TL | COOK | 31 | 16 |
| CONTRACT NO. 63320 | | | | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT ARA-9003 (332) | | | | |

FOUNDATION DESIGN TABLE

| TYPE OF SOIL | DESIGN DEPTH OF FOUNDATION | | REINFORCEMENT IN FOUNDATION | | | |
|-------------------------|----------------------------|---------------------|-----------------------------|-----------------------|--------------------------|-----------------------|
| | SINGLE ARM D | TWIN ARM D | SINGLE ARM | | TWIN ARM | |
| | | | VERT BARS | SPIRAL | VERT BARS | SPIRAL |
| SOFT CLAY | 13'-0" (3.962 m) | 15'-0" (4.572 m) | 8-#6X12'-6" (3.810 m) | #3X122' (37.186 m) | 8-#6X14'-3" (4.343 m) | #3X141' (42.977 m) |
| MEDIUM CLAY | 9'-6" (2.896 m) | 10'-9" (3.277 m) | 8-#6X9'-0" (2.743 m) | #3X90' (27.432 m) | 8-#6X10'-0" (3.048 m) | #3X100' (30.480 m) |
| STIFF CLAY | 7'-0" (2.134 m) | 8'-0" (2.438 m) | 8-#6X6'-6" (1.981 m) | #3X66' (20.112 m) | 8-#6X7'-6" (2.286 m) | #3X76' (23.165 m) |
| LOOSE SAND | 9'-0" (2.743 m) | 10'-0" (3.048 m) | 8-#6X8'-6" (2.591 m) | #3X85' (25.908 m) | 8-#6X9'-6" (2.896 m) | #3X94' (28.651 m) |
| MEDIUM SAND | 8'-3" (2.515 m) | 9'-0" (2.743 m) | 8-#6X8'-0" (2.438 m) | #3X78' (23.774 m) | 8-#6X8'-6" (2.591 m) | #3X85' (25.908 m) |
| DENSE SAND | 7'-9" (2.362 m) | 9'-0" (2.743 m) | 8-#6X7'-6" (2.286 m) | #3X73' (22.250 m) | 8-#6X8'-6" (2.591 m) | #3X85' (25.908 m) |
| ROCK OR SOLIDIFIED SLAG | 5'-0" (1.524 m) | 5'-0" (1.524 m) | NONE | NONE | NONE | NONE |

NOTES

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ENGINEER SHALL DETERMINE THE CLASS OF SOIL DURING EXCAVATION AND SELECT THE DESIGN DEPTH OF FOUNDATION FROM THE DESIGN TABLE.
- EXCAVATION OF THE POLE FOUNDATION SHALL BE MADE WITH AN AUGER, 24" (609.6 mm) OR 30" (762.0 mm) IN DIAMETER.
- THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- THE ANCHOR BOLTS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED IN THE FORM.
- THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
- THE CONTRACTOR SHALL COORDINATE EXTENSION OF ANCHOR BOLTS ABOVE TOP OF FOUNDATION WITH THE BREAKAWAY DEVICE MANUFACTURER'S REQUIREMENTS. IF LIGHT POLE IS MOUNTED WITHOUT BREAKAWAY DEVICE, ANCHOR BOLTS SHALL PROJECT 2 3/4" (69.9 mm) ABOVE TOP OF THE FOUNDATION. THE CONTRACTOR SHALL CONFIRM ANCHOR BOLT EXTENSION WITH ENGINEER.
- RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.
- THE CABLE TRENCH SHALL BE BACKFILLED AND FIRMLY COMPACTED BEFORE THE LIGHT IS ERECTED.



BILL OF MATERIAL

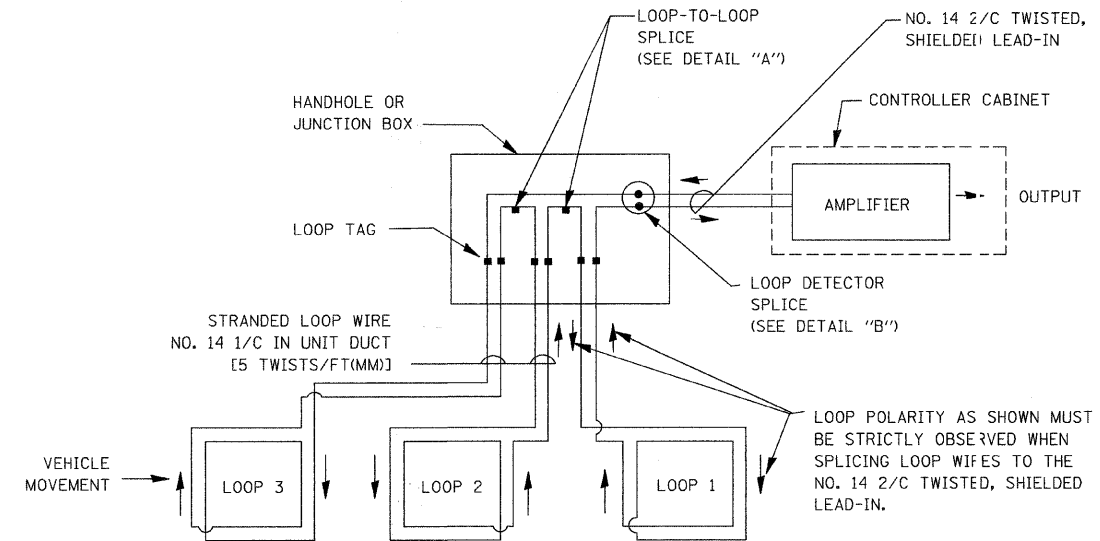
| MARK | NO. | SIZE | LENGTH | SHAPE |
|------|-----|------|------------------|-------|
| a | 10 | 6 | SEE BELOW | — |
| s | 12 | 4 | 8'-0" 2,438 m | □ |
| s1 | 3 | 3 | 7'-6" 2,286 m | □ |
| v1 | 8 | 6 | 2'-9" 0,838 m | — |
| v2 | | | | |

OFFSET SCHEDULE

| SEWER DIAM. d IN. | PILE OFFSET FROM C-MED'N FT. | LENGTH OF BAR a FT. |
|------------------------------------|------------------------------|----------------------|
| UP TO 24" (609.6 mm) | 3'-3" (0.991 m) | #6 x 5'-3" (1.600 m) |
| 27" (685.8 mm) TO 31" (914.4 mm) | 3'-9" (1.143 m) | 5'-9" (1.753 m) |
| 42" (1066.8 mm) TO 48" (1219.2 mm) | 4'-6" (1.372 m) | 6'-6" (1.981 m) |
| 54" (1371.6 mm) TO 60" (1524.0 mm) | 5'-0" (1.524 m) | 7'-0" (2.134 m) |
| 66" (1676.4 mm) TO 72" (1828.8 mm) | 5'-6" (1.676 m) | 7'-6" (2.286 m) |

LOOP DETECTOR NOTES

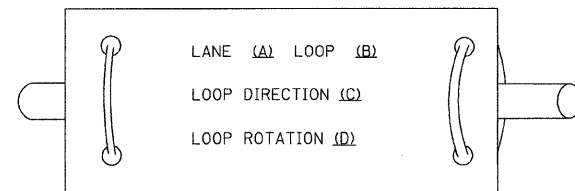
1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). UNIT DUCT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.
6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.



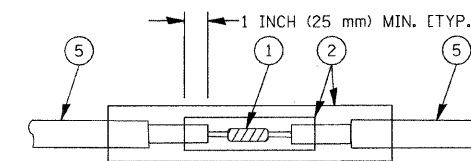
DETECTOR LOOP WIRING SCHEMATIC

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.

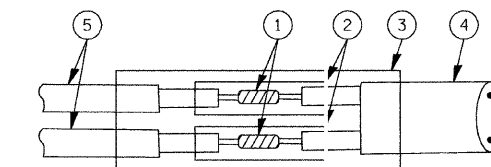
LOOP LEAD-IN CABLE TAG



- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.



**DETAIL "A"
LOOP-TO-LOOP SPLICE**



**DETAIL "B"
LOOP-TO-CONTROLLER SPLICE**

LOOP DETECTOR SPLICE

- 1 WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- 2 WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- 3 WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- 4 NO. 14 2/C TWISTED, SHIELDED CABLE.
- 5 LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

| | | | |
|---------------------------------------|-----------------------------|--------------------|---------------------------------|
| FILE NAME = 05587-DTL9-TS05a - TS-05A | USER NAME = goglianob | DESIGNED — D.A.D. | REVISED — 11-12-01 |
| | | CHECKED — | REVISED — BUR, TRAFFIC 01-01-02 |
| | PLOT SCALE = 50,0000' / IN. | DRAWN — | REVISED — |
| | PLOT DATE = 1/4/2008 | CHECKED — 05-30-00 | REVISED — |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

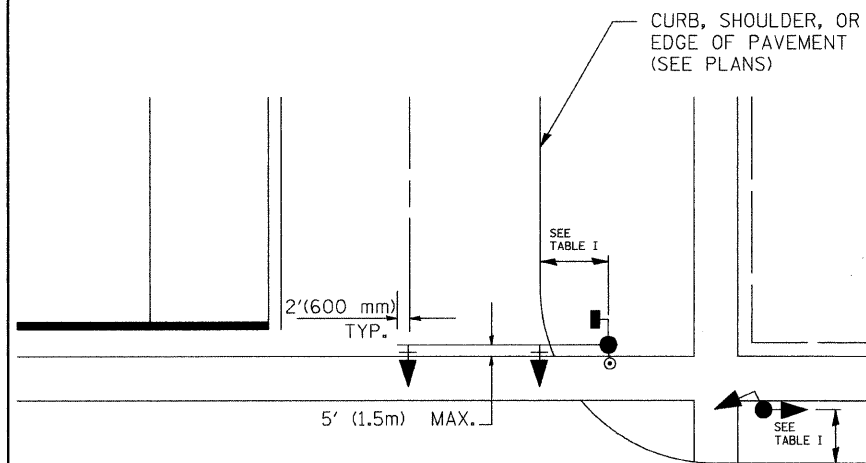
**DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: SHEET NO. 18 OF 31 SHEETS STA. TO STA.

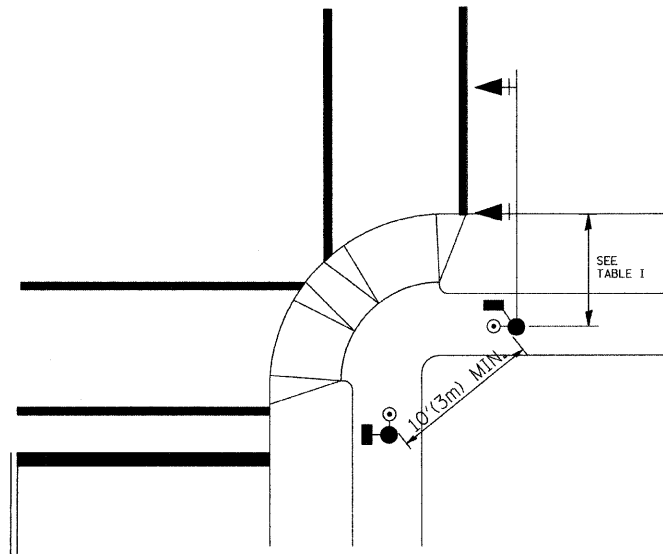
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|-----------------------|------------------------|---------------------------------|-----------------|--------------|
| F.A. J. RTE. 3803 | SECTION 09-00050-00-TL | COUNTY COOK | TOTAL SHEETS 31 | SHEET NO. 18 |
| TS-05 | | CONTRACT NO. 63320 | | |
| FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT ARA-9003 (332) | | |

TRAFFIC SIGNAL MAST ARM AND POST

MAST ARM MOUNTED SIGNAL IN PROPOSED & FUTURE SIDEWALK AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNAL AND PUSHBUTTON DETECTOR



PEDESTRIAN SIGNAL PUSHBUTTON



RECOMMENDED PUSHBUTTON LOCATIONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD (SEE NOTE 1). TO MEET MUTCD REQUIREMENTS, PEDESTRIAN SIGNAL PUSHBUTTONS MAY HAVE TO BE MOUNTED ON A SEPARATE POST.

NOTES:

- AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS WITH PEDESTRIAN ACTUATION, EACH PUSHBUTTON SHALL ACTIVATE BOTH THE WALK INTERVAL AND THE ACCESSIBLE PEDESTRIAN SIGNALS.

AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS, PUSHBUTTONS SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSHBUTTON. PUSHBUTTONS AND TACTILE ARROWS SHOULD HAVE HIGH VISUAL CONTRAST (SEE THE DEPARTMENT OF JUSTICE'S AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN, 1991). TACTILE ARROWS SHOULD POINT IN THE SAME DIRECTION AS THE ASSOCIATED CROSSWALK. AT CORNERS OF SIGNALIZED LOCATIONS WITH ACCESSIBLE PEDESTRIAN SIGNALS WHERE PEDESTRIAN PUSHBUTTONS ARE PROVIDED, THE PUSHBUTTONS SHOULD BE SEPARATED BY THE DISTANCE OF AT LEAST 10 FT (3m). THIS ENABLES PEDESTRIANS WHO HAVE VISUAL DISABILITIES TO DISTINGUISH AND LOCATE THE APPROPRIATE PUSHBUTTON.

PUSHBUTTONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHOULD BE LOCATED AS FOLLOWS:
 A: ADJACENT TO A LEVEL ALL-WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS AN ALL-WEATHER SURFACE, WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP.
 B: WITHIN 5 FT (1.5m) OF THE CROSSWALK EXTENDED.
 C: WITHIN 10 FT (3m) OF THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
 D: PARALLEL TO THE CROSSWALK TO BE USED (SEE MUTCD) FIGURE 4E-2).
 E: NORMAL PEDESTRIAN PUSHBUTTON MOUNTING HEIGHT SHOULD BE 3.5 FT (1.05m) ABOVE ADJACENT SIDEWALK
- PEDESTRIAN SIGNAL FACES SHALL BE MOUNTED WITH THE BOTTOM OF THE HOUSING NOT LESS THAN 8 FT (2.4m) NOR MORE THAN 10 FT (3.0m) ABOVE THE SIDEWALK LEVEL AND SO THERE IS A PEDESTRIAN INDICATION IN THE LINE OF PEDESTRIANS' VISION WHICH PERTAINS TO THE CROSSWALK BEING USED.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, NOT MOUNTED OVER A ROADWAY, SHALL BE AT LEAST 10 FT (3.0m) BUT NOT MORE THAN 15 FT (4.5m) ABOVE THE SIDEWALK OR, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALKS EXIST.
- THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, MOUNTED OVER A ROADWAY, SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001 AND 877006. (16 FT (5m) MIN., 18 FT (5.5m) MAX., FROM HIGHEST POINT OF PAVEMENT)

PEDESTRIAN SIGNAL POST

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION

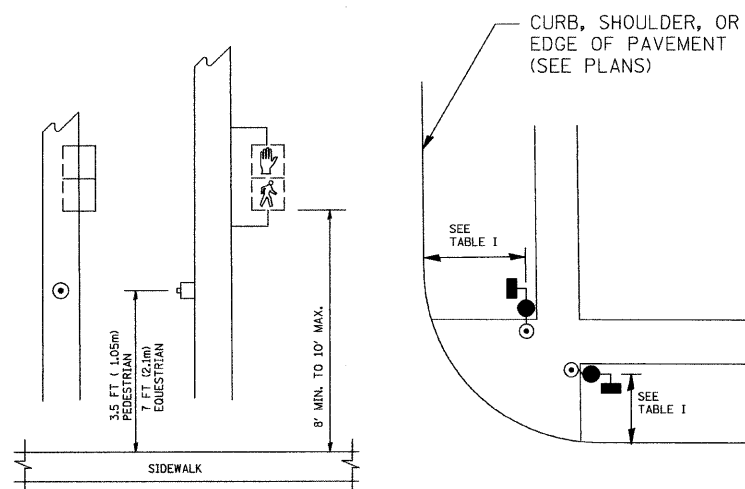


TABLE I

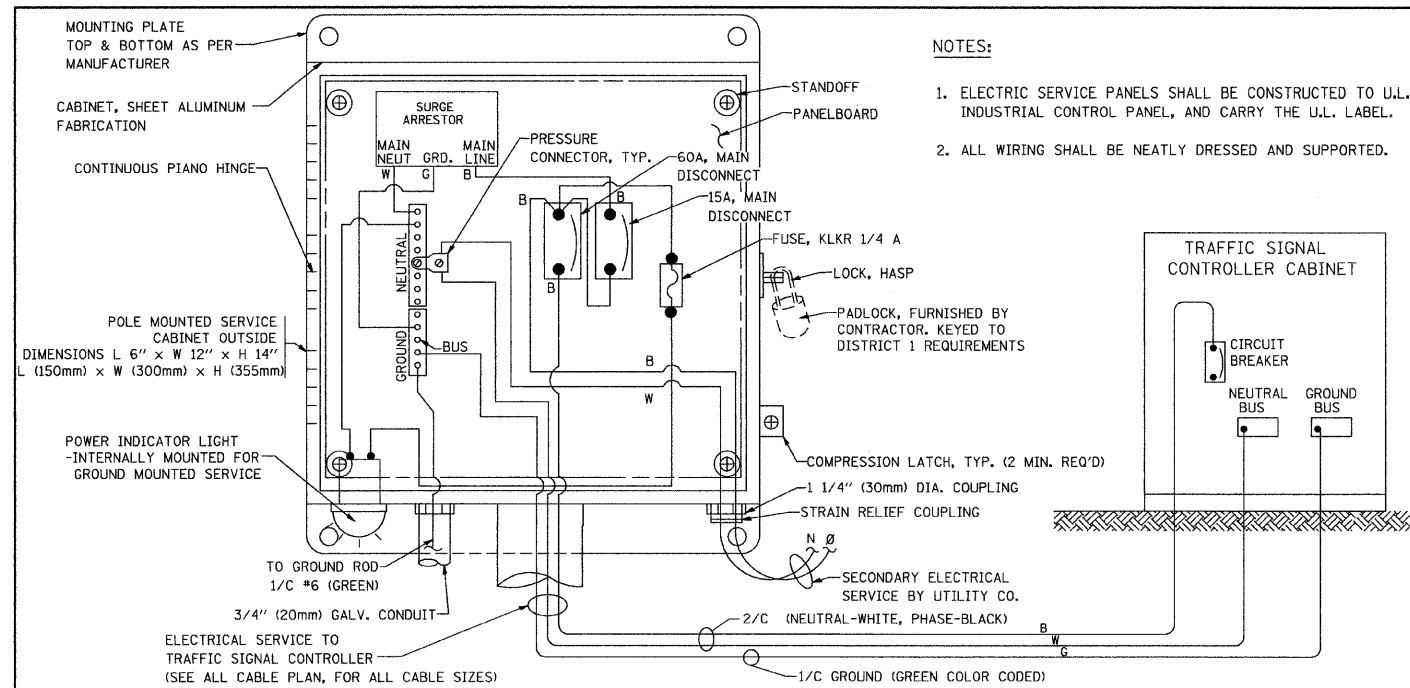
| TRAFFIC SIGNAL EQUIPMENT | COMBINATION CONCRETE CURB AND GUTTER (MIN. DIST. FROM BACK OF CURB) | SHOULDER/NON-CURBED AREA (MIN. DIST. FROM EDGE OF PAVEMENT) |
|------------------------------|---|---|
| TRAFFIC SIGNAL MAST ARM POLE | 6 FT (1.8m) | SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT (3.0m) |
| TRAFFIC SIGNAL POST | 4 FT (1.2m) | SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT (3.0m) |
| PEDESTRIAN SIGNAL POST | 4 FT (1.2m) | SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT (3.0m) |
| PEDESTRIAN PUSHBUTTON | SEE NOTE 1 | SEE NOTE 1 |

| | | | |
|---------------------------------------|-------------------------------|--------------------|----------------------------------|
| FILE NAME = 05587-0713-TS050 - TS-05B | USER NAME = geglennobt | DESIGNED -- D.A.D. | REVISED -- BUR. TRAFFIC 01-01-02 |
| | | CHECKED -- | REVISED -- |
| | PLOT SCALE = 50.0000' / 1 IN. | DRAWN -- | REVISED -- |
| | PLOT DATE = 1/4/2008 | CHECKED -- | REVISED -- |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

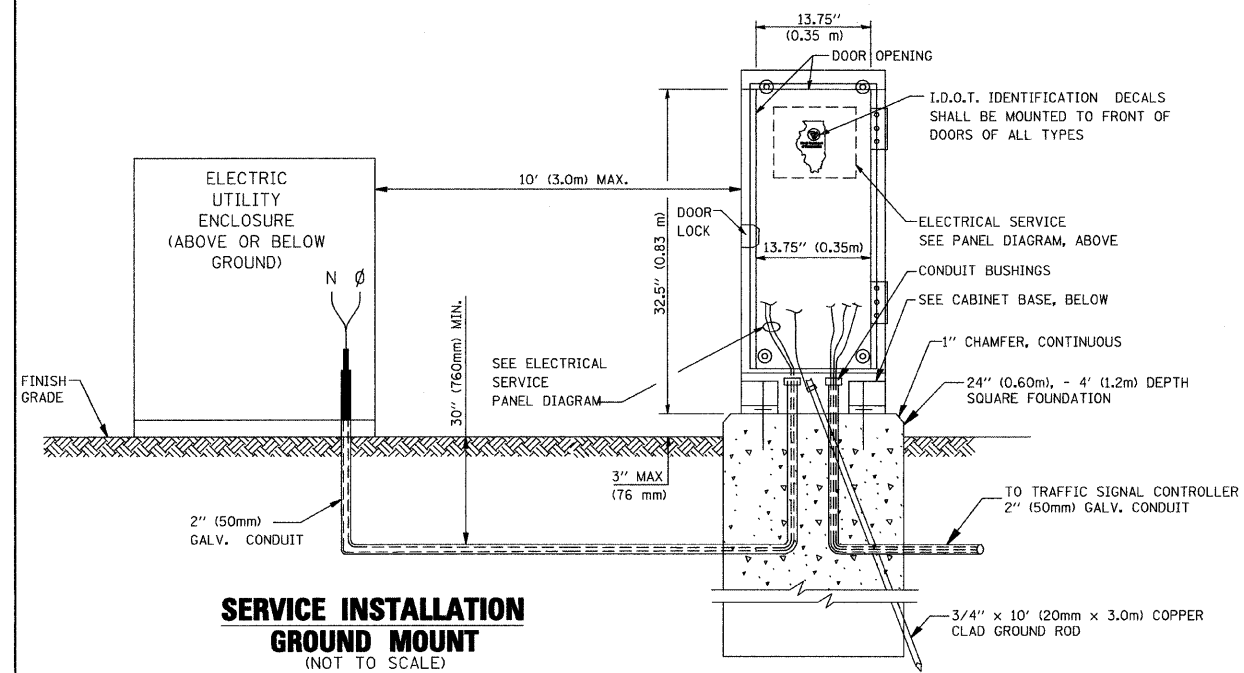
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| DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS | | | |
| SCALE: | SHEET NO. 19 OF 31 SHEETS | STA. | TO STA. |

| | | | | |
|--|------------------------|--------------------|-----------------|--------------|
| F.A. J. RTE. 3803 | SECTION 09-00050-00-TL | COUNTY COOK | TOTAL SHEETS 31 | SHEET NO. 19 |
| TS-05 | | CONTRACT NO. 63320 | | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT ARA-9003 (332) | | | | |

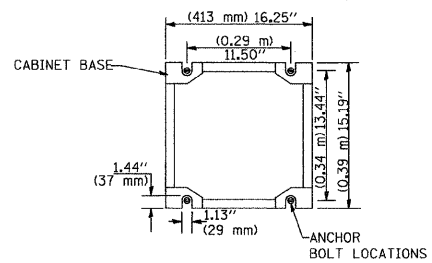


ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)

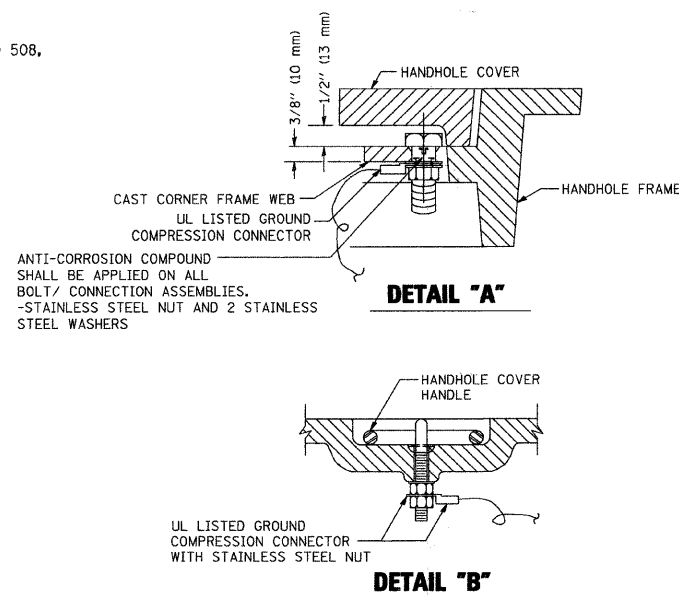
SERVICE INSTALLATION POLE MOUNT (SHOWN)
(NOT TO SCALE)



SERVICE INSTALLATION GROUND MOUNT
(NOT TO SCALE)



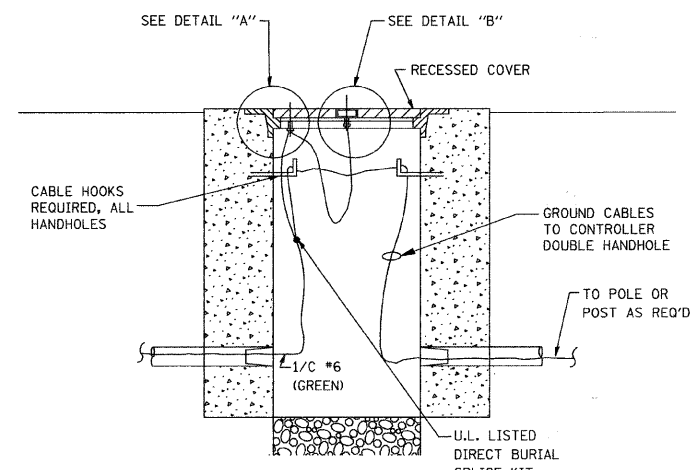
CABINET - BASE BOLT PATTERN
(NOT TO SCALE)



NOTES:

GROUNDING SYSTEM

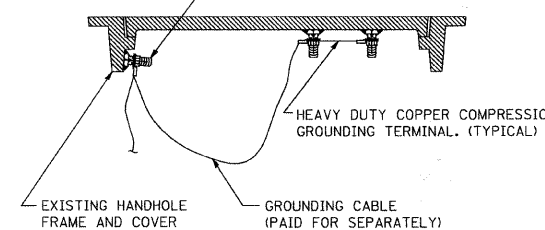
1. THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
2. THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



HANDHOLE COVER & FRAME - GROUNDING DETAIL

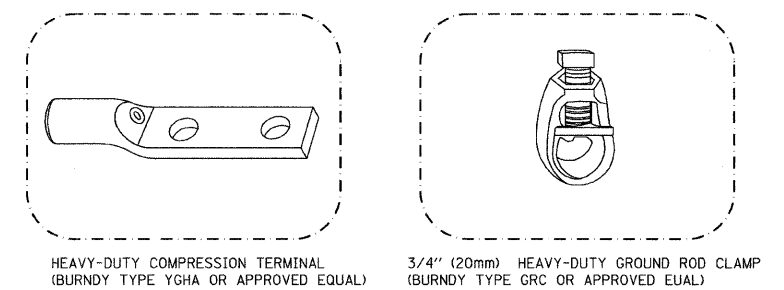
(NOT TO SCALE)

(2) 1/2" x 1 1/4" STAINLESS STEEL BOLT WITH SPLIT LOCK WASHER AND NYLON INSERT LOCKOUT WELDED TO FRAME AND TO COVER. (TYPICAL)



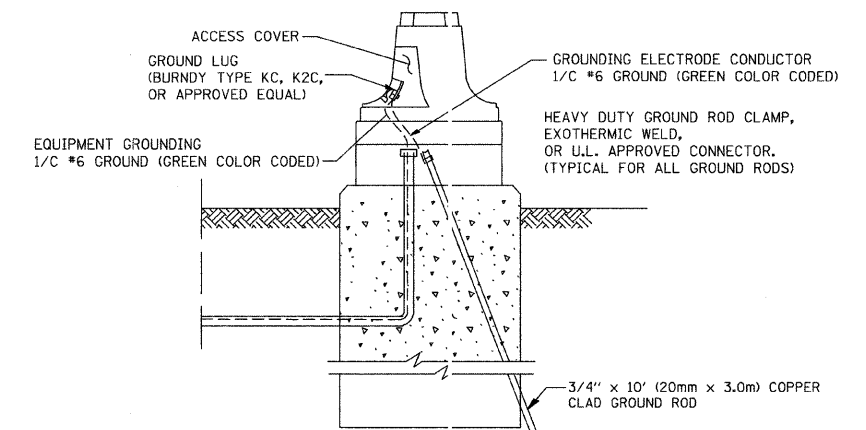
EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL

(NOT TO SCALE)



NOTES:

- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
- GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



MAST ARM POLE / POST - GROUNDING DETAIL

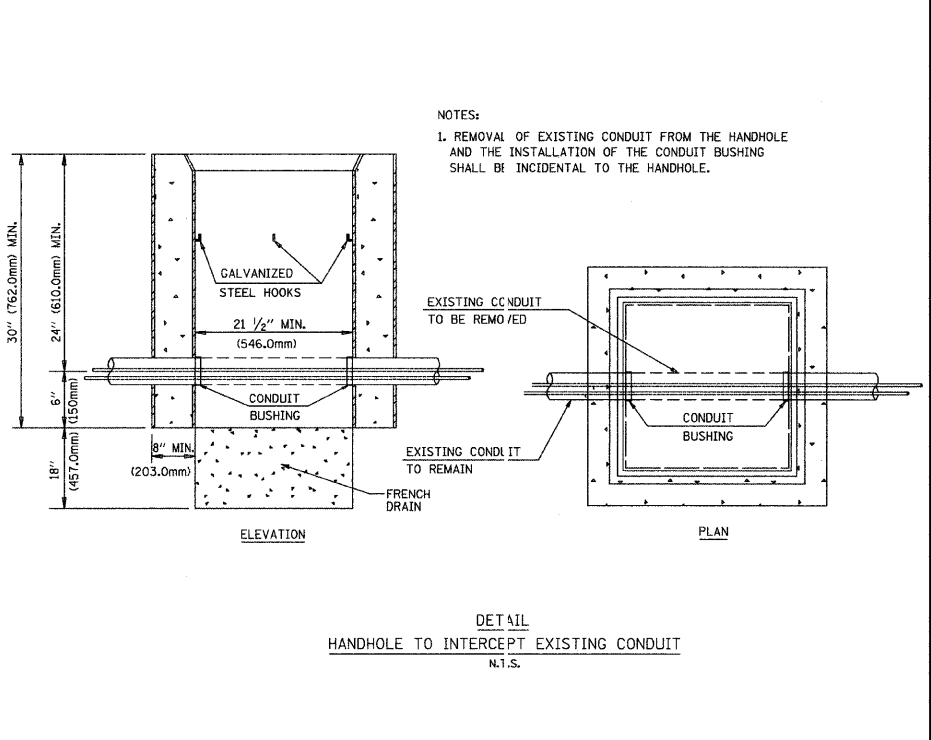
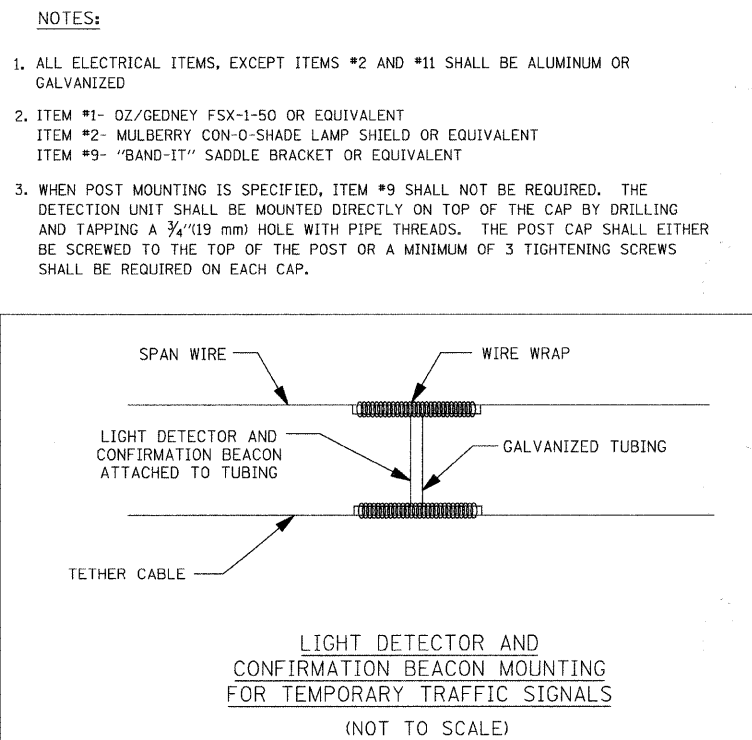
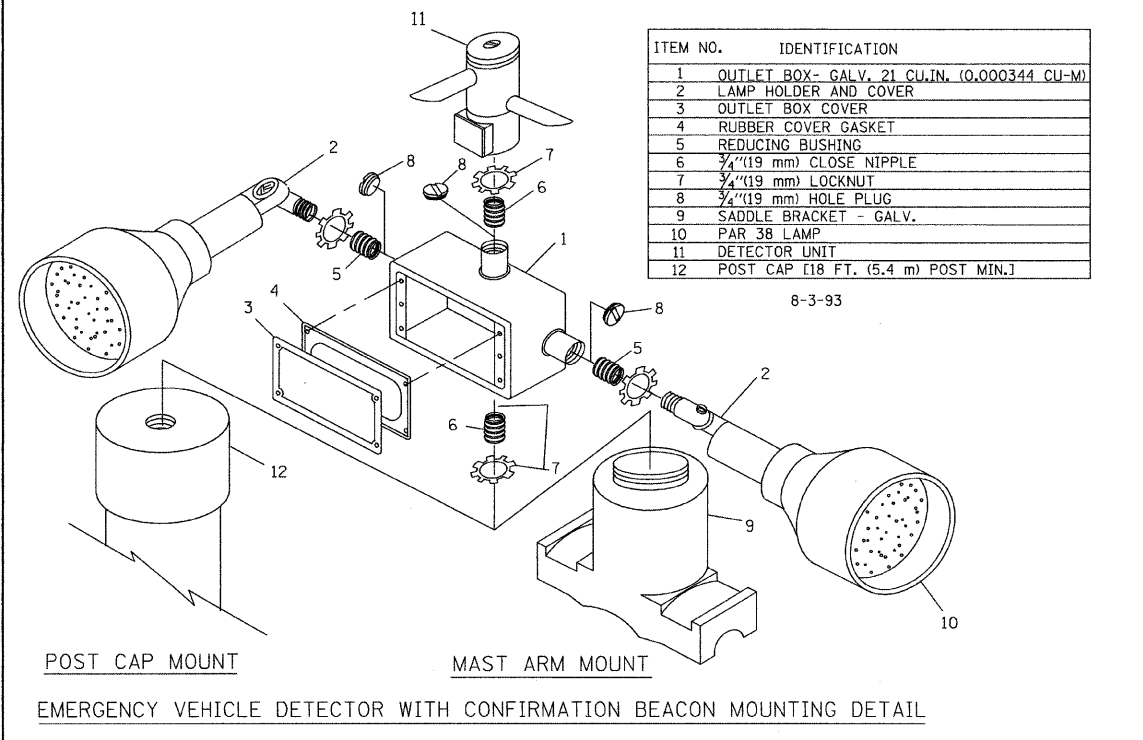
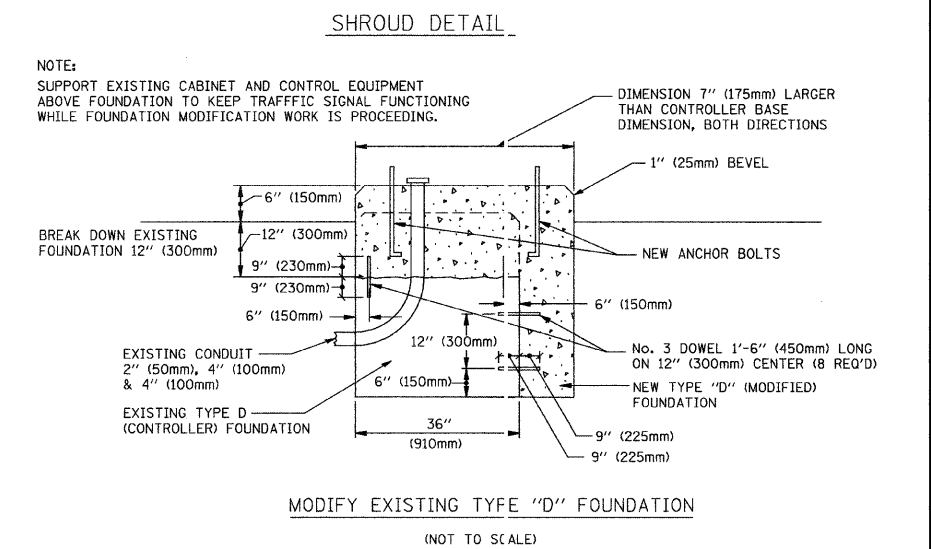
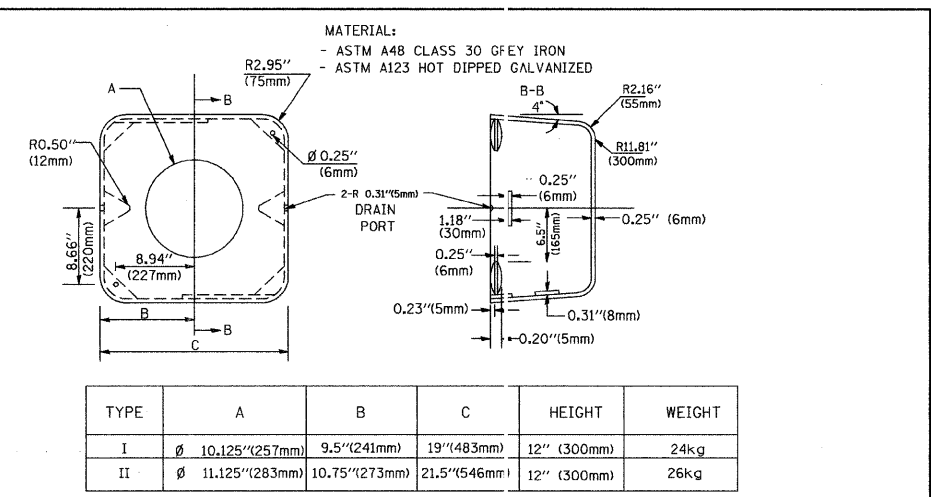
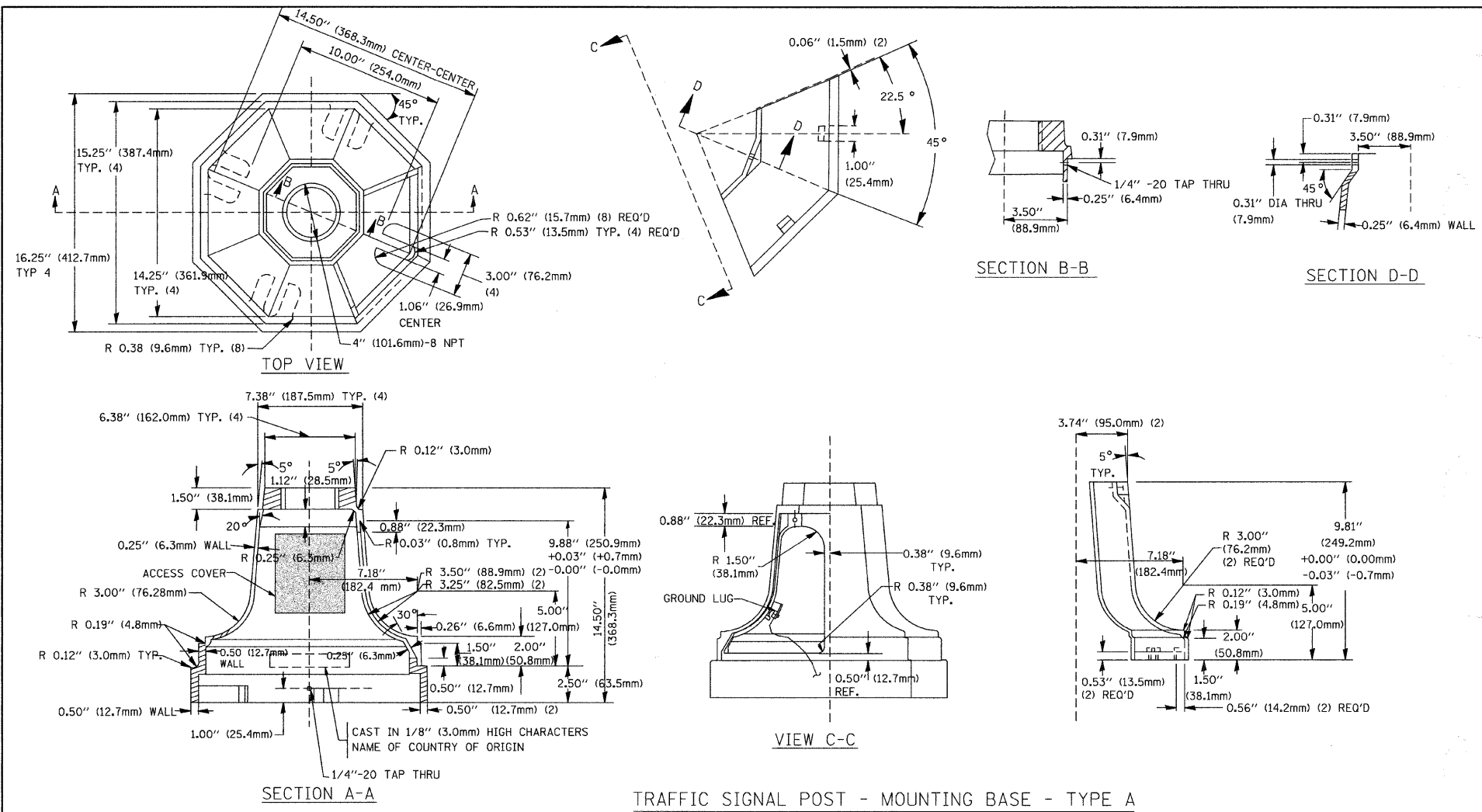
(NOT TO SCALE)

| | | | |
|--|------------------------|--------------------|---------------------------------|
| FILE NAME = 05587-DTLIS-TS05C - TS-05C | USER NAME = gegljanobt | DESIGNED = D.A.D. | REVISED = 03-15-01 |
| | | CHECKED = | REVISED = BUR. TRAFFIC 01-01-02 |
| PLOT SCALE = 50,00000' / IN. | DRAWN = | CHECKED = 05-30-00 | REVISED = |
| PLOT DATE = 1/4/2008 | | | |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | |
|---|--|
| DISTRICT ONE | |
| STANDARD TRAFFIC SIGNAL DESIGN DETAILS | |
| SCALE: | SHEET NO. 20 OF 31 SHEETS STA. TO STA. |

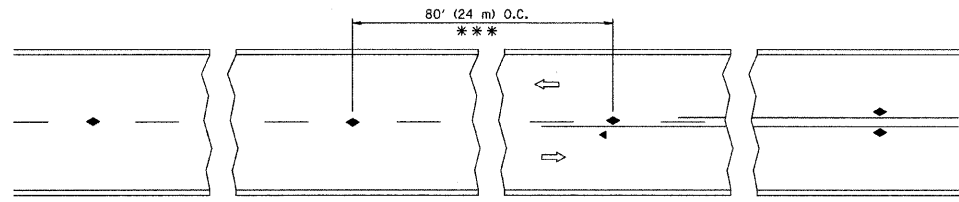
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|--|----------------|--------------------|--------------|-----------|
| F.A. J. RTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 3803 | 09-00050-00-TL | COOK | 31 | 20 |
| TS-05 | | CONTRACT NO. 63320 | | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT ARA-9003 (332) | | | | |



| | | | |
|---------------------------------------|------------------------|---------------------|---------------------------------|
| FILE NAME = 05587-DTLS-TS05d - TS-05D | USER NAME = gegl1enabt | DESIGNED -- D.A.D. | REVISED -- BUR.TRAFFIC 03-15-01 |
| | | CHECKED -- | REVISED -- BUR.TRAFFIC 11-12-01 |
| | | DRAWN -- | REVISED -- BUR.TRAFFIC 01-01-02 |
| | | CHECKED -- 05-30-00 | REVISED -- |

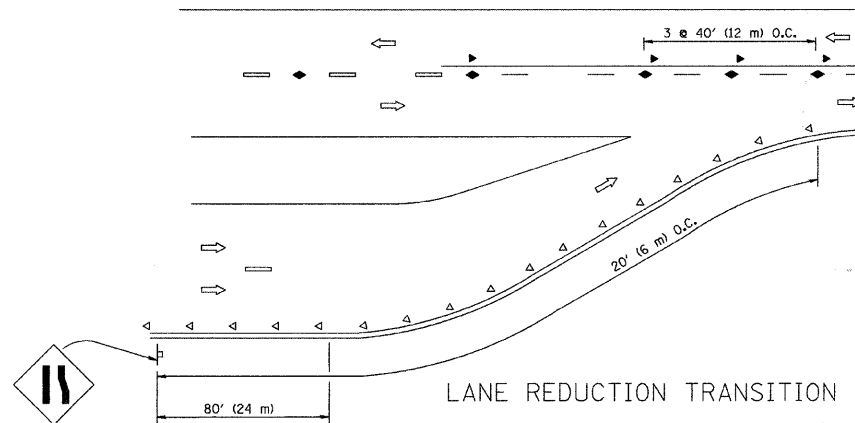
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | | | | | | |
|---|---------------------------|-------------------|------------------------|-----------------------|-----------------|---------------------------------|
| DISTRICT ONE | | F.A. J. RTE. 36C3 | SECTION 09-00050-00-TL | COUNTY COOK | TOTAL SHEETS 31 | SHEET NO. 21 |
| STANDARD TRAFFIC SIGNAL DESIGN DETAILS | | TS-05 | | CONTRACT NO. 63320 | | |
| SCALE: | SHEET NO. 21 OF 31 SHEETS | STA. | TO STA. | FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT ARA-9003 (332) |

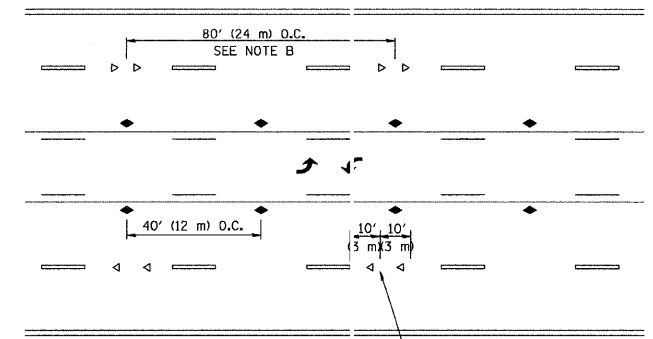


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

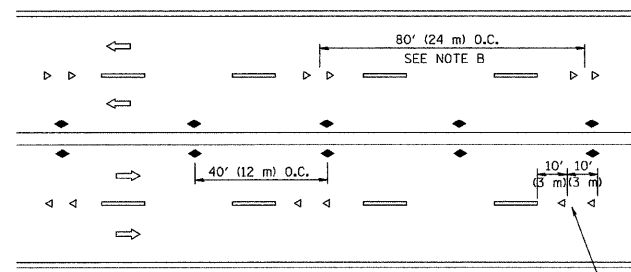
TWO-LANE/TWO-WAY



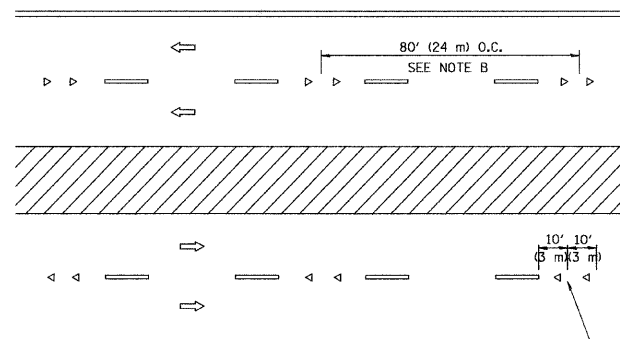
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

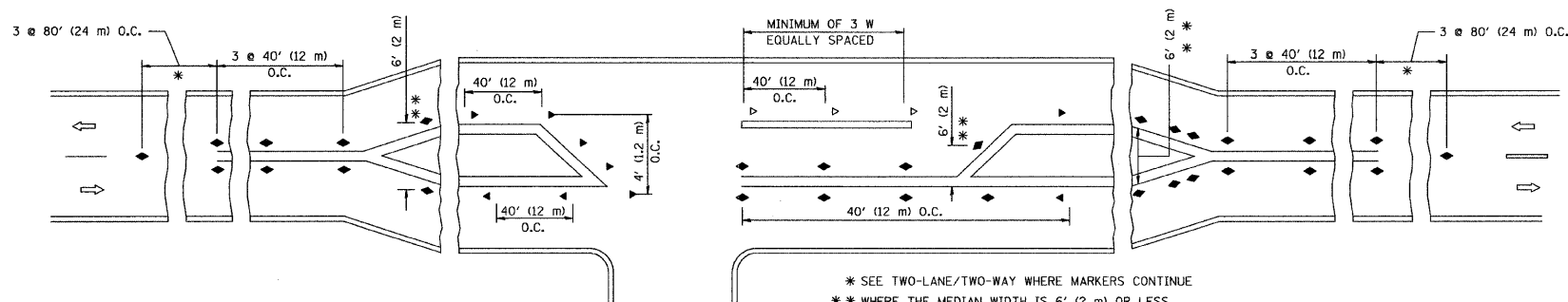
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H. (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



LEFT TURN

All dimensions are in inches (millimeters) unless otherwise shown.

| | | | |
|-----------------------------------|----------------------------|------------|---------------------------------|
| FILE NAME = 05587-DT1S-02 - TC-11 | USER NAME = drivakoegn | DESIGNED — | REVISED — T. RAMMACHER 09-19-94 |
| | | CHECKED — | REVISED — T. RAMMACHER 03-12-99 |
| | PLOT SCALE = 50.000' / IN. | DRAWN — | REVISED — T. RAMMACHER 01-06-00 |
| | PLOT DATE = 9/9/2009 | CHECKED — | REVISED — C. JUCIUS 09-09-09 |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)

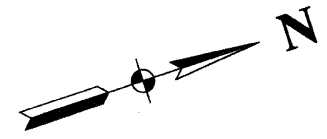
SCALE: SHEET NO. 22 OF 31 SHEETS STA. TO STA.

| | | | | |
|--|----------------|--------|--------------------|-----------|
| F.A. J. RTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 3803 | 09-00050-00-TL | COOK | 31 | 22 |
| TC-11 | | | CONTRACT NO. 63320 | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT ARA-9003 (332) | | | | |

EXISTING SYMBOL LEGEND

- FIRE HYDRANT
- VALVE
- VALVE BASIN
- SIGN
- INLET
- CATCH BASIN
- MANHOLE
- ALUMINUM LIGHT POLE
- POWER POLE
- HANDHOLE / SPLICE BOX
- TREE

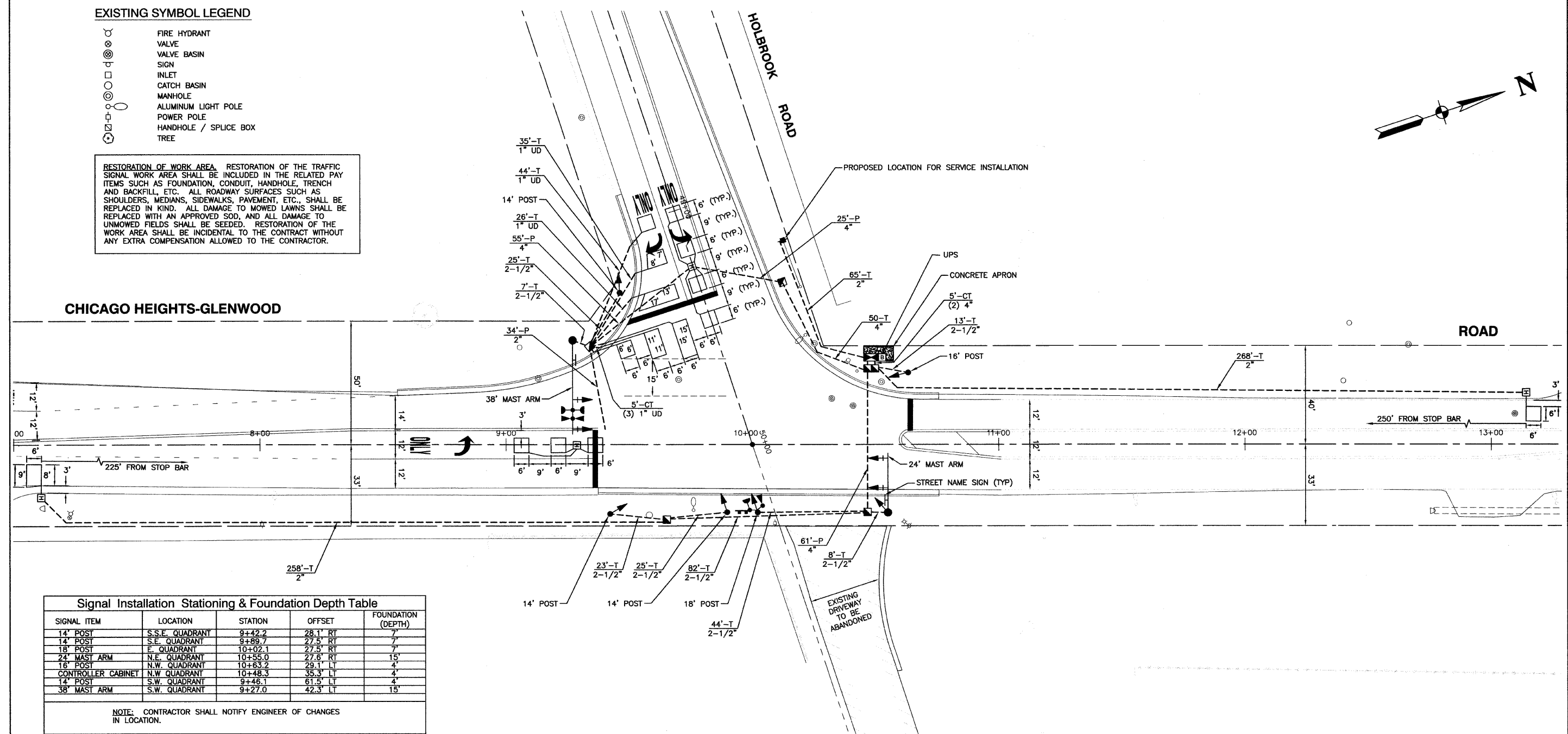
RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEMS SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC., SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEED. RESTORATION OF THE WORK AREA SHALL BE INCIDENTAL TO THE CONTRACT WITHOUT ANY EXTRA COMPENSATION ALLOWED TO THE CONTRACTOR.



CHICAGO HEIGHTS-GLENWOOD ROAD

ROAD

HOLBROOK ROAD



Signal Installation Stationing & Foundation Depth Table

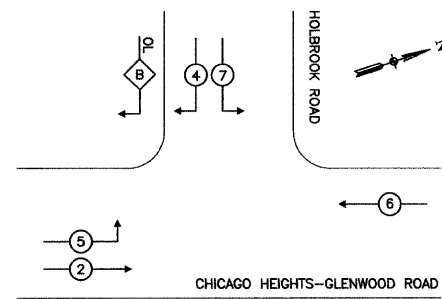
| SIGNAL ITEM | LOCATION | STATION | OFFSET | FOUNDATION (DEPTH) |
|--------------------|-----------------|---------|----------|--------------------|
| 14' POST | S.S.E. QUADRANT | 9+42.2 | 28.1' RT | 7' |
| 14' POST | S.E. QUADRANT | 9+89.7 | 27.5' RT | 7' |
| 18' POST | E. QUADRANT | 10+02.1 | 27.5' RT | 7' |
| 24' MAST ARM | N.E. QUADRANT | 10+55.0 | 27.8' RT | 15' |
| 16' POST | N.W. QUADRANT | 10+63.2 | 29.1' LT | 4' |
| CONTROLLER CABINET | N.W. QUADRANT | 10+48.3 | 35.3' LT | 4' |
| 14' POST | S.W. QUADRANT | 9+46.1 | 61.5' LT | 4' |
| 38' MAST ARM | S.W. QUADRANT | 9+27.0 | 42.3' LT | 15' |

NOTE: CONTRACTOR SHALL NOTIFY ENGINEER OF CHANGES IN LOCATION.

TRAFFIC SIGNAL LEGEND

- | | | | | | |
|---|---------------------------------|--|---------------------------------|--|---------------------------------|
| <p>CONTROLLER</p> <p>SERVICE INSTALLATION</p> <p>SIGNAL HEAD</p> <p>SIGNAL HEAD WITH BACKPLATE</p> <p>SIGNAL HEAD, PEDESTRIAN</p> <p>SIGNAL POST</p> <p>MAST ARM ASSEMBLY AND POLE, STEEL</p> <p>MAST ARM ASSEMBLY AND POLE, ALUMINUM</p> <p>COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL W/ LUMINAIRE</p> <p>UNIT DUCT</p> <p>COMMON TRENCH</p> | <p>PROPOSED</p> <p>EXISTING</p> | <p>HANDHOLE</p> <p>HEAVY DUTY HANDHOLE</p> <p>DOUBLE HANDHOLE</p> <p>G.S. CONDUIT IN GROUND</p> <p>PEDESTRIAN PUSHBUTTON DETECTOR</p> <p>DETECTOR LOOP</p> <p>CAST IRON JUNCTION BOX</p> <p>EMERGENCY VEHICLE SYSTEM DETECTOR</p> <p>CONFIRMATION BEACON</p> <p>SIGNAL HEAD OPTICALLY PROGRAMMED</p> | <p>PROPOSED</p> <p>EXISTING</p> | <p>CONDUIT SPLICE</p> <p>WOOD POLE</p> <p>RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II</p> <p>VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE</p> <p>RAILROAD CONTROL CABINET</p> <p>TELEPHONE CONNECTION</p> <p>ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"</p> <p>ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"</p> <p>UNINTERRUPTIBLE POWER SUPPLY</p> | <p>PROPOSED</p> <p>EXISTING</p> |
|---|---------------------------------|--|---------------------------------|--|---------------------------------|

PROPOSED CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM

| OVERLAP LETTER | PERMISSIVE PHASE | PROTECTIVE PHASE |
|----------------|------------------|------------------|
| B | = 4 | + 5 |

LEGEND

- ⊕ DUAL ENTRY PHASE
- ⊙ SINGLE ENTRY PHASE
- ⊕ OVERLAP
- ⊕ PEDESTRIAN PHASE
- * NUMBER REFERS TO ASSOCIATED PHASE

SCHEDULE OF QUANTITIES

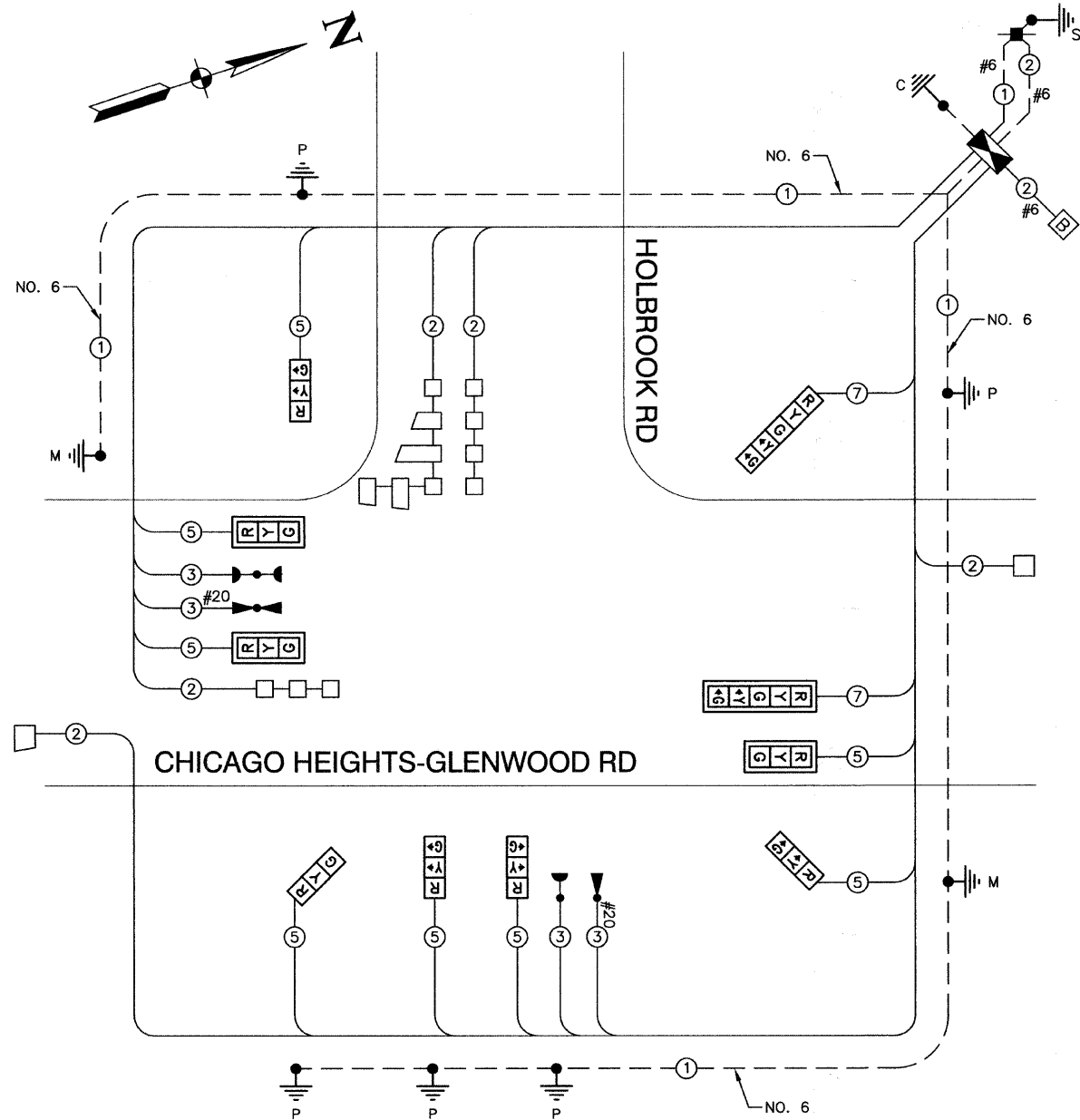
| ITEM | UNIT | QUAN |
|---|-------|------|
| SIGN PANEL, TYPE 1 | SQ FT | 18 |
| CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL | FOOT | 591 |
| CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL | FOOT | 227 |
| CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL | FOOT | 60 |
| CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL | FOOT | 34 |
| CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL | FOOT | 186 |
| HANDHOLE | EACH | 4 |
| HEAVY-DUTY HANDHOLE | EACH | 4 |
| DOUBLE HANDHOLE | EACH | 1 |
| TRENCH AND BACKFILL FOR ELECTRICAL WORK | FOOT | 842 |
| FULL-ACTUATED CONTROLLER AND TYPE IV CABINET | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C | FOOT | 386 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C | FOOT | 1488 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C | FOOT | 198 |
| ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR | FOOT | 1185 |
| ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C | FOOT | 100 |
| TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT. | EACH | 3 |
| TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT. | EACH | 1 |
| TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT. | EACH | 1 |
| STEEL MAST ARM ASSEMBLY AND POLE, 24 FT. | EACH | 1 |
| STEEL MAST ARM ASSEMBLY AND POLE, 38 FT. | EACH | 1 |
| CONCRETE FOUNDATION, TYPE A | FOOT | 29 |
| CONCRETE FOUNDATION, TYPE C | FOOT | 4 |
| CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER | FOOT | 15 |
| CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER | FOOT | 15 |
| SIGNAL HEAD, POLYCARBONATE, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED | EACH | 5 |
| SIGNAL HEAD, POLYCARBONATE, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED | EACH | 3 |
| SIGNAL HEAD, POLYCARBONATE, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED | EACH | 1 |
| SIGNAL HEAD, POLYCARBONATE, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED | EACH | 1 |
| TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM | EACH | 4 |
| INDUCTIVE LOOP DETECTOR | EACH | 5 |
| DETECTOR LOOP, TYPE 1 | FOOT | 700 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| UNINTERRUPTIBLE POWER SUPPLY AND TYPE III CABINET | EACH | 1 |
| SERVICE INSTALLATION, POLE MOUNT | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C | FOOT | 464 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 20 3C | FOOT | 386 |

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

| TYPE | NO. LAMPS | WATTAGE | OPERATION | TOTAL WATTAGE |
|--------------|-----------|---------|-----------|---------------|
| SIGNAL (RED) | 10 | 135 | 0.50 | 85 |
| (YELLOW) | 10 | 135 | 0.25 | 63 |
| (GREEN) | 10 | 135 | 0.25 | 38 |
| ARROW | 4 | 135 | 0.10 | 5 |
| PED. SIGNAL | 90 | 25 | 1.00 | 225 |
| CONTROLLER | 1 | 100 | 1.00 | 100 |
| ILLUM. SIGN | 84 | 0.05 | | 4.2 |
| LUMINAIRE | 250 | 0.25 | | 62.5 |

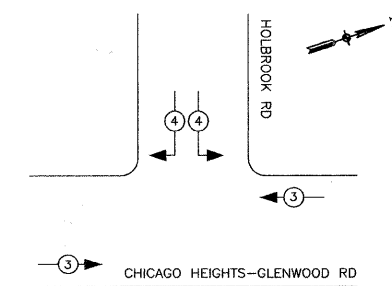
| FOUNDATION (DEPTH) | FT. (m) | CABLE SLACK | FT. (m) | VERTICLE | FT. (m) |
|--------------------|----------|------------------|-----------|-------------------|--------------|
| TYPE A - POST | 4 (1.2) | HANDHOLE | 6.5 (2.0) | ALL FOUNDATIONS | 3.5 (1.0) |
| C - CONTROLLER | 4 (1.2) | DOUBLE HANDHOLE | 13 (4.0) | MAST ARM (L) POLE | 20'+L-2= |
| E - M. ARM POLE | 2 (0.5) | SIGNAL POST | 2 (0.5) | | (6m+L-0.9m)= |
| 24" (600mm) | 10 (3.0) | CONTROLLER CAB. | 1 (0.5) | BRACKET MOUNTED | 13 (4.0) |
| 30" (750mm) | 15 (4.6) | FIBER OPTIC | 13 (4.0) | PED. PUSHBUTTON | 4 (1.2) |
| 36" (900mm) | 15 (4.6) | ELECTRIC SERVICE | 1 (0.5) | ELECTRIC SERVICE | 13.5 (4.1) |
| | | GROUND CABLE | 1 (0.5) | SERVICE TO GROUND | 13.5 (4.1) |
| | | | | POST MOUNTED | 6 (1.8) |

- NOTES:**
- ALL SIGNAL INDICATIONS SHALL BE LED.
 - STOP BARS ON CHICAGO HEIGHTS-GLENWOOD ROAD SHALL NOT BE INSTALLED UNTIL TRAFFIC SIGNAL IS OPERATIONAL.
 - ALL NEW GROUND RODS SHALL BE 3/4" X 10' LONG COPPER CLAD. THE COST SHALL BE INCIDENTAL TO THE COST OF INSTALLATION.
 - REFER TO TS-05 FOR IDOT DISTRICT ONE GROUNDING REQUIREMENTS.
 - IF THE CONTRACTOR REQUESTS AND OBTAINS PRIOR APPROVAL TO INSTALL "CONDUIT IN TRENCH", OF THE SIZE AND TYPE SPECIFIED, BY DIRECTIONAL BORING METHOD, NO ADDITIONAL COMPENSATION WILL BE ALLOWED AND THE WORK SHALL BE PAID FOR AS SHOWN ON THE CONTRACT PLANS.



PROPOSED CABLE PLAN

EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS

| EMERGENCY VEHICLE PREEMPTOR | MOVEMENT |
|-----------------------------|----------|
| 3 | 4 |
| | |
| | |

- CABLE PLAN LEGEND**
- | EXISTING | PROPOSED | DESCRIPTION |
|----------|----------|---|
| ⊕ | ⊕ | 8" TRAFFIC SIGNAL SECTION |
| ⊕ | ⊕ | 12" TRAFFIC SIGNAL SECTION |
| ⊕ | ⊕ | 12" PEDESTRIAN SIGNAL SECTION |
| ⊕ | ⊕ | 12" PEDESTRIAN SIGNAL SECTION |
| ⊕ | ⊕ | CONTROLLER CABINET |
| ⊕ | ⊕ | UNINTERRUPTIBLE POWER SUPPLY (BATTERY BACK-UP) |
| ⊕ | ⊕ | SERVICE INSTALLATION |
| ⊕ | ⊕ | TELEPHONE CONNECTION |
| ⊕ | ⊕ | MACHINE VISION PROCESSOR |
| ⊕ | ⊕ | EMERGENCY VEHICLE SYSTEM DETECTOR |
| ⊕ | ⊕ | CONFIRMATION BEACON |
| ⊕ | ⊕ | PUSHBUTTON DETECTOR |
| ⊕ | ⊕ | VEHICLE DETECTOR, INDUCTION LOOP |
| ⊕ | ⊕ | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| ⊕ | ⊕ | SIGNAL FACE WITH ALUMINUM LOUVERED FORMED BACKPLATE |
| ⊕ | ⊕ | "P" INDICATES PROGRAMMED HEAD |
| ⊕ | ⊕ | GROUND ROD AT CONTROLLER |
| ⊕ | ⊕ | GROUND ROD AT POST |
| ⊕ | ⊕ | GROUND ROD AT MAST ARM POLE |
| ⊕ | ⊕ | GROUND ROD AT ELECTRIC SERVICE INSTALLATION |
| ⊕ | ⊕ | GROUND CABLE SPLICE IN HANDHOLE |
| ⊕ | ⊕ | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN) |
| ⊕ | ⊕ | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 12F |
| ⊕ | ⊕ | STREET LIGHT |

ENERGY COSTS TO: VILLAGE OF GLENWOOD

ENERGY SUPPLY CONTACT: COM-ED BUSINESS DEPARTMENT
PHONE: 866-639-3532
COMPANY: COMMONWEALTH EDISON COMPANY

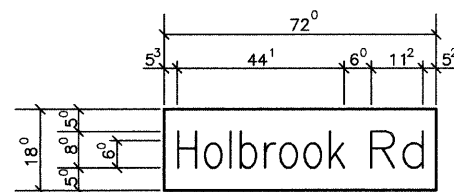
| DESIGNED | REVISIONS |
|---------------|-------------|
| — BDB/JRA | — |
| CHECKED — PKB | REVISIONS — |
| DRAWN — JRA | REVISIONS — |
| CHECKED — MRS | REVISIONS — |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD
INTERSECTION IMPROVEMENTS
TRAFFIC SIGNAL CABLE PLAN & SCHEDULE OF QUANTITIES

| F.A.J. RTI | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|------------|---------------|--------|--------------|-----------|
| 36/3 | 09-0050-00-TL | COOK | 31 | 24 |

CONTRACT NO. 63320



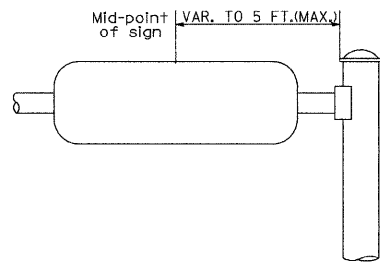
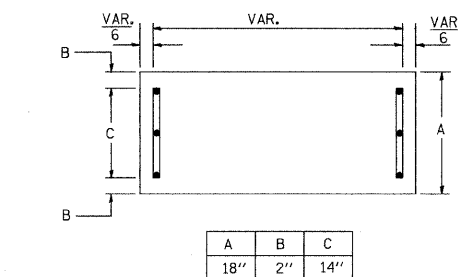
0.9 Sq. M. each
 9.0 Sq. Ft. each
 2 Required
 Design Series "D"

NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS

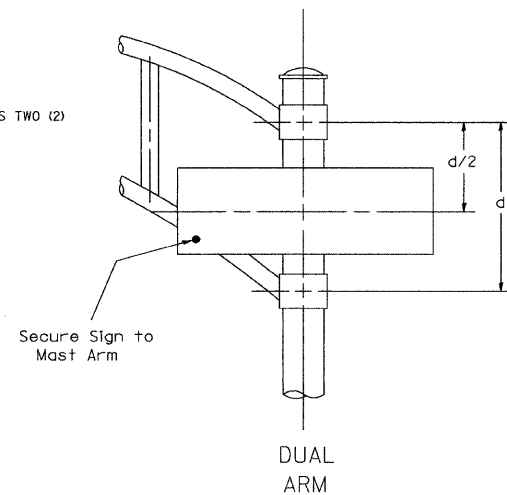
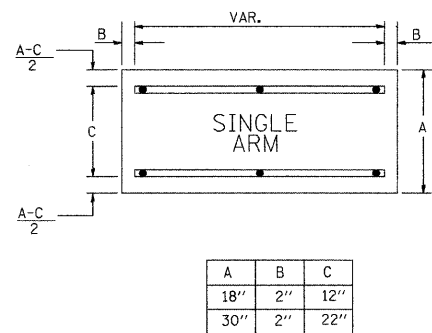
GENERAL NOTES

- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 834001, 834006 AND 834011, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 6'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
 - ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
 - THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 6'-0".
 - ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
 - SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:
 - * A.K.T. CORPORATION SCHAUMBURG, IL
 - * TUCKER COMPANY, INC. WAUWATOSA, WI
 - * AMERICAN FABRICATION CO. CHICAGO HEIGHTS, IL
 - * WESTERN TRAFFIC CONTROL INC. CICERO, IL
- PARTS LISTING**
 SIGN CHANNEL PART #HPN053 (MED. CHANNEL)
 SIGN SCREWS 1/4" x 14 x 1" H.W.H. #3
 SELF TAPPING WITH NEOPRENE WASHER
 BRACKETS PART #HPN034 (UNIVERSAL)
 CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING
 OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BACKET OF THE ABOVE PRODUCT.

SUPPORTING CHANNELS



SUPPORTING CHANNELS



SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM

Shall be used. See Note #5.

Upper Case to Lower Case
 Spacing Chart 8-6 Inch Series "C & D"

EXAMPLE, 2³ DENOTES 3/8

| SERIES | SECOND LETTER | | | | | | | | | | | | | | | |
|---------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | acde | | bhikl | | f w | | j | | s t | | v y | | x | | z | |
| | g | o | q | m | n | p | r | u | | | | | | | | |
| A W X | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 0 ⁶ | 1 ⁰ | 1 ¹ | 1 ⁴ | 0 ⁶ | 1 ⁰ | 1 ¹ | 1 ² | 1 ² | 1 ⁴ |
| B | 1 ⁴ | 1 ⁵ | 2 ⁰ | 2 ¹ | 1 ⁴ | 1 ⁵ | 1 ¹ | 1 ² | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ⁶ | 1 ⁷ |
| C E G | 1 ⁴ | 1 ⁵ | 2 ⁰ | 2 ¹ | 1 ² | 1 ⁴ | 0 ⁶ | 1 ⁰ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ |
| D O Q R | 1 ⁴ | 1 ⁵ | 2 ⁰ | 2 ¹ | 1 ⁴ | 1 ⁵ | 0 ⁶ | 1 ⁰ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ |
| F | 0 ⁵ | 0 ⁶ | 1 ⁴ | 1 ⁵ | 0 ⁶ | 1 ⁰ | 0 ⁵ | 0 ⁶ | 0 ⁶ | 1 ⁰ | 0 ⁶ | 1 ⁰ | 0 ⁶ | 1 ⁰ | 1 ¹ | 1 ² |
| H I M N | 2 ⁰ | 2 ¹ | 2 ² | 2 ⁴ | 2 ⁰ | 2 ¹ | 1 ⁴ | 1 ⁵ | 1 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ | 2 ⁰ | 2 ¹ | 2 ⁰ | 2 ¹ |
| J U | 2 ⁰ | 2 ¹ | 2 ⁰ | 2 ¹ | 1 ⁶ | 1 ⁷ | 1 ⁴ | 1 ⁵ | 1 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ | 2 ⁰ | 2 ¹ |
| K L | 1 ¹ | 1 ² | 1 ⁶ | 1 ⁷ | 1 ¹ | 1 ² | 0 ⁵ | 0 ⁶ | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ² | 1 ⁴ |
| P | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 0 ⁵ | 0 ⁶ | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ² | 1 ⁴ |
| S | 1 ² | 1 ⁴ | 1 ⁶ | 1 ⁷ | 1 ² | 1 ⁴ | 0 ⁶ | 1 ⁰ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ |
| T | 1 ¹ | 1 ² | 1 ⁶ | 1 ⁷ | 0 ⁶ | 1 ⁰ | 0 ⁶ | 1 ⁰ | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ² | 1 ⁴ |
| V | 0 ⁶ | 1 ⁰ | 1 ⁴ | 1 ⁵ | 1 ¹ | 1 ² | 0 ⁶ | 1 ⁰ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ |
| Y | 0 ⁵ | 0 ⁶ | 1 ⁴ | 1 ⁵ | 0 ⁶ | 1 ⁰ | 0 ⁵ | 0 ⁶ | 0 ⁵ | 0 ⁶ | 0 ⁵ | 0 ⁶ | 0 ⁶ | 1 ⁰ | 1 ¹ | 1 ² |
| Z | 1 ⁶ | 1 ⁷ | 2 ² | 2 ⁴ | 1 ⁶ | 1 ⁷ | 1 ² | 1 ⁴ | 1 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ | 2 ⁰ | 2 ¹ |

Lower Case to Lower Case
 Spacing Chart 6 Inch Series "C & D"

| SERIES | SECOND LETTER | | | | | | | | | | | | | | | |
|-------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | acde | | bhikl | | f w | | j | | s t | | v y | | x | | z | |
| | g | o | q | m | n | p | r | u | | | | | | | | |
| ad h g i j | 1 ⁶ | 1 ⁷ | 2 ² | 2 ⁴ | 1 ⁶ | 1 ⁷ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | 1 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ |
| l m n q u | | | | | | | | | | | | | | | | |
| b f k o p s | 1 ² | 1 ⁴ | 1 ⁶ | 1 ⁷ | 1 ¹ | 1 ² | 0 ⁵ | 0 ⁶ | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ |
| c e | 1 ² | 1 ⁴ | 1 ⁶ | 1 ⁷ | 1 ² | 1 ⁴ | 0 ⁶ | 1 ⁰ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ |
| r | 0 ⁶ | 1 ⁰ | 1 ² | 1 ⁴ | 0 ⁶ | 1 ⁰ | 0 ³ | 0 ³ | 0 ⁵ | 0 ⁶ | 0 ⁵ | 0 ⁶ | 0 ⁶ | 1 ⁰ | 0 ⁶ | 1 ⁰ |
| t z | 1 ² | 1 ⁴ | 1 ⁶ | 1 ⁷ | 1 ² | 1 ⁴ | 0 ⁶ | 1 ⁰ | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ² | 1 ⁴ |
| v y | 1 ¹ | 1 ² | 1 ⁴ | 1 ⁵ | 1 ¹ | 1 ² | 0 ⁵ | 0 ⁶ | 0 ⁶ | 1 ⁰ | 0 ⁶ | 1 ⁰ | 1 ¹ | 1 ² | 1 ¹ | 1 ² |
| w | 1 ¹ | 1 ² | 1 ⁴ | 1 ⁵ | 1 ¹ | 1 ² | 0 ⁵ | 0 ⁶ | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ² | 1 ⁴ |
| x | 1 ² | 1 ⁴ | 1 ⁶ | 1 ⁷ | 1 ¹ | 1 ² | 0 ⁵ | 0 ⁶ | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ² | 1 ⁴ |

Number to Number
 Spacing Chart 8 Inch Series "C & D"

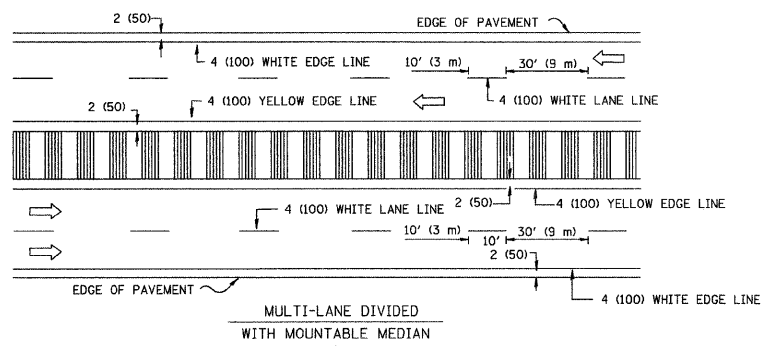
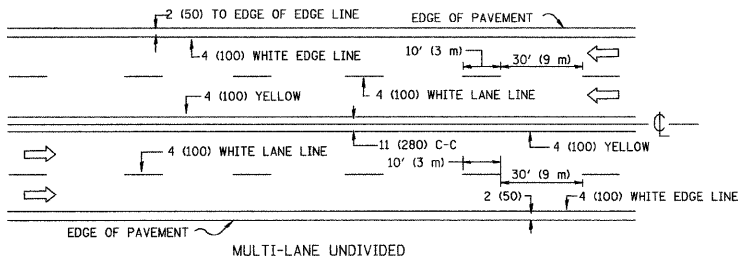
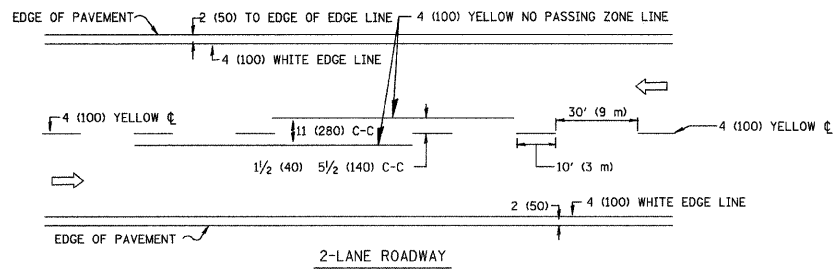
| SERIES | SECOND NUMBER | | | | | | | | | | | | | | | | | | | |
|--------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | 0 | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | |
| | C | D | C | D | C | D | C | D | C | D | C | D | C | D | C | D | C | D | C | D |
| 0 9 | 1 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ |
| 1 | 2 ⁰ | 2 ¹ | 2 ⁰ | 2 ¹ | 2 ⁰ | 2 ¹ | 1 ⁶ | 1 ⁷ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 2 ⁰ | 2 ¹ | 2 ⁰ | 2 ¹ | 2 ⁰ | 2 ¹ |
| 2 3 4 | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ |
| 5 | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ¹ | 1 ² |
| 6 | 1 ⁶ | 1 ⁷ | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ |
| 7 | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁵ | 0 ⁵ | 0 ⁶ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ |
| 8 | 1 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ |

UPPER AND LOWER CASE LETTER WIDTHS

| LETTERS | 6 INCH UPPER CASE LETTERS | | 8 INCH UPPER CASE LETTERS | | LETTERS | 6 INCH LOWER CASE LETTERS | |
|---------|---------------------------|----------------|---------------------------|----------------|---------|---------------------------|----------------|
| | SERIES | | SERIES | | | SERIES | |
| | C | D | C | D | | C | D |
| A | 3 ⁶ | 5 ⁰ | 5 ⁰ | 6 ⁵ | a | 3 ⁵ | 4 ² |
| B | 3 ² | 4 ⁰ | 4 ³ | 5 ³ | b | 3 ⁵ | 4 ² |
| C | 3 ² | 4 ⁰ | 4 ³ | 5 ³ | c | 3 ⁵ | 4 ¹ |
| D | 3 ² | 4 ⁰ | 4 ³ | 5 ³ | d | 3 ⁵ | 4 ² |
| E | 3 ⁰ | 3 ⁵ | 4 ⁰ | 4 ⁷ | e | 3 ⁵ | 4 ² |
| F | 3 ⁰ | 3 ⁵ | 4 ⁰ | 4 ⁷ | f | 2 ³ | 2 ⁶ |
| G | 3 ² | 4 ⁰ | 4 ³ | 5 ³ | g | 3 ⁵ | 4 ² |
| H | 3 ² | 4 ⁰ | 4 ³ | 5 ³ | h | 3 ⁵ | 4 ² |
| I | 0 ⁷ | 0 ⁷ | 1 ¹ | 1 ² | i | 1 ¹ | 1 ¹ |
| J | 3 ⁰ | 3 ⁶ | 4 ⁰ | 5 ⁰ | j | 2 ⁰ | 2 ² |
| K | 3 ² | 4 ¹ | 4 ³ | 5 ⁴ | k | 3 ⁵ | 4 ² |
| L | 3 ⁰ | 3 ⁵ | 4 ⁰ | 4 ⁷ | l | 1 ¹ | 1 ¹ |
| M | 3 ⁷ | 4 ⁵ | 5 ¹ | 6 ¹ | m | 6 ⁰ | 7 ⁰ |
| N | 3 ² | 4 ⁰ | 4 ³ | 5 ³ | n | 3 ⁵ | 4 ² |
| O | 3 ⁴ | 4 ² | 4 ⁵ | 5 ⁵ | o | 3 ⁶ | 4 ³ |
| P | 3 ² | 4 ⁰ | 4 ³ | 5 ³ | p | 3 ⁵ | 4 ² |
| Q | 3 ⁴ | 4 ² | 4 ⁵ | 5 ⁵ | q | 3 ⁵ | 4 ² |
| R | 3 ² | 4 ⁰ | 4 ³ | 5 ³ | r | 2 ⁶ | 3 ² |
| S | 3 ² | 4 ⁰ | 4 ³ | 5 ³ | s | 3 ⁶ | 4 ² |
| T | 3 ⁰ | 3 ⁵ | 4 ⁰ | 4 ⁷ | t | 2 ⁷ | 3 ² |
| U | 3 ² | 4 ⁰ | 4 ³ | 5 ³ | u | 3 ⁵ | 4 ² |
| V | 3 ⁵ | 4 ⁴ | 4 ⁷ | 6 ⁰ | v | 4 ² | 4 ⁷ |
| W | 4 ⁴ | 5 ² | 6 ⁰ | 7 ⁰ | w | 5 ⁵ | 6 ⁴ |
| X | 3 ⁴ | 4 ⁰ | 4 ⁵ | 5 ³ | x | 4 ⁴ | 5 ¹ |
| Y | 3 ⁶ | 5 ⁰ | 5 ⁰ | 6 ⁶ | y | 4 ⁶ | 5 ³ |
| Z | 3 ² | 4 ⁰ | 4 ³ | 5 ³ | z | 3 ⁶ | 4 ³ |

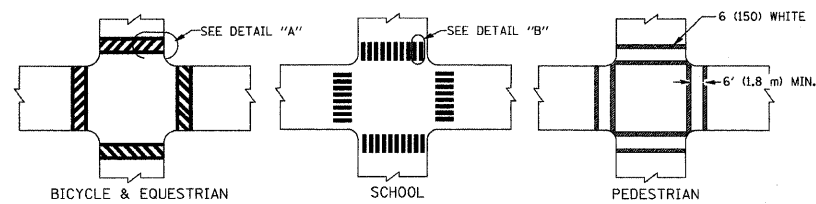
NUMBER

| NUMBER | 6 INCH SERIES | | 8 INCH SERIES | |
|--------|----------------|----------------|----------------|----------------|
| | C | D | C | D |
| 1 | 1 ² | 1 ⁴ | 1 ⁵ | 2 ⁰ |
| 2 | 3 ² | 4 ⁰ | 4 ³ | 5 ³ |
| 3 | 3 ² | 4 ⁰ | 4 ³ | 5 ³ |
| 4 | 3 ⁵ | 4 ³ | 4 ⁷ | 5 ⁷ |
| 5 | 3 ² | 4 ⁰ | 4 ³ | 5 ³ |
| 6 | 3 ² | 4 ⁰ | 4 ³ | 5 ³ |
| 7 | 3 ² | 4 ⁰ | 4 ³ | 5 ³ |
| 8 | 3 ² | 4 ⁰ | 4 ³ | 5 ³ |

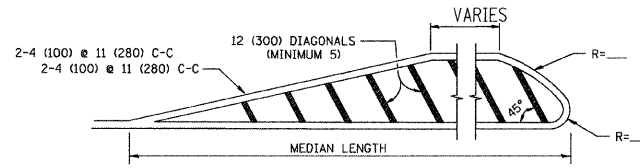
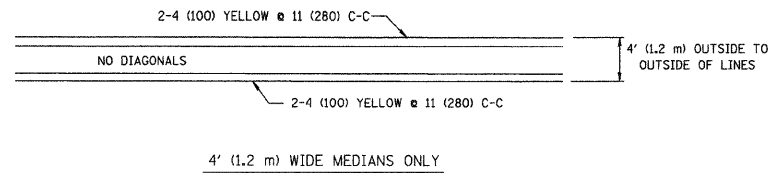


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

TYPICAL LANE AND EDGE LINE MARKING

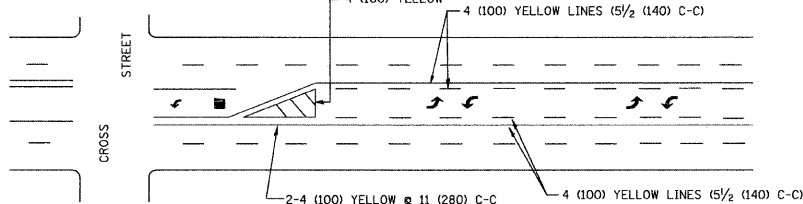


TYPICAL CROSSWALK MARKING

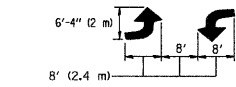


FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.
 DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
 75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)
 150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

MEDIANS OVER 4' (1.2 m) WIDE

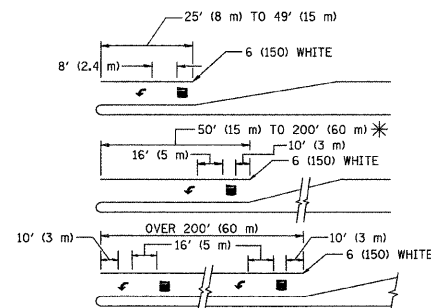


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

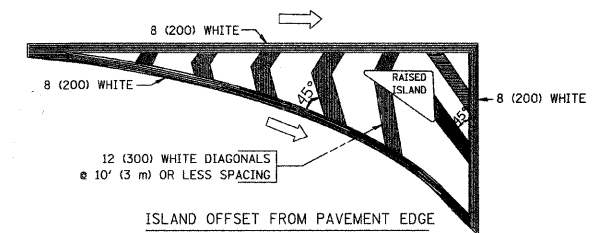
TYPICAL PAINTED MEDIAN MARKING



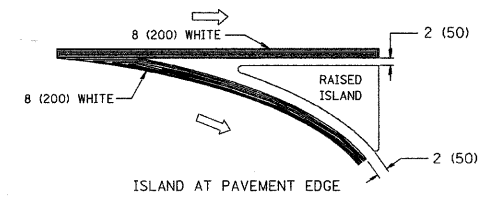
FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
 □ AREA = 15.6 SQ. FT. (1.5 m²) ■ AREA = 20.8 SQ. FT. (1.9 m²)
 * TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

| TYPE OF MARKING | WIDTH OF LINE | PATTERN | COLOR | SPACING / REMARKS |
|--|--|---------------------|---|--|
| CENTERLINE ON 2 LANE PAVEMENT | 4 (100) | SKIP-DASH | YELLOW | 10' (3 m) LINE WITH 30' (9 m) SPACE |
| CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT | 2 @ 4 (100) | SOLID | YELLOW | 11 (280) C-C |
| NO PASSING ZONE LINES: FOR ONE DIRECTION | 4 (100) | SOLID | YELLOW | 5/2 (140) C-C FROM SKIP-DASH CENTERLINE |
| FOR BOTH DIRECTIONS | 2 @ 4 (100) | SOLID | YELLOW | 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN |
| LANE LINES | 4 (100) | SKIP-DASH | WHITE | 10' (3 m) LINE WITH 30' (9 m) SPACE |
| (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS) | 5 (125) ON FREEWAYS | SKIP-DASH | WHITE | |
| DOTTED LINES | SAME AS LINE BEING EXTENDED | SKIP-DASH | SAME AS LINE BEING EXTENDED | 2' (600) LINE WITH 6' (1.8 m) SPACE |
| EDGE LINES | 4 (100) | SOLID | YELLOW-LEFT WHITE-RIGHT | OUTLINE MOUNTABLE MEDIANS IN YELLOW EDGE LINES ARE NOT USED NEXT TO BARRIER CURB |
| TURN LANE MARKINGS | 6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m)) | SOLID | WHITE | SEE TYPICAL TURN LANE MARKING DETAIL |
| TWO WAY LEFT TURN MARKING | 2 @ 4 (100) EACH DIRECTION | SKIP-DASH AND SOLID | YELLOW | 10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE |
| | 8' (2.4m) LEFT ARROW | IN PAIRS | WHITE | SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL |
| CROSSWALK LINES (PEDESTRIAN) | 2 @ 6 (150) | SOLID | WHITE | NOT LESS THAN 6' (1.8 m) APART |
| A. DIAGONALS (BIKE & EQUESTRIAN) | 12 (300) @ 45° | SOLID | WHITE | 2' (600) APART |
| B. LONGITUDINAL BARS (SCHOOL) | 12 (300) @ 90° | SOLID | WHITE | 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS. |
| STOP LINES | 24 (600) | SOLID | WHITE | PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE |
| PAINTED MEDIANS | 2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° | SOLID | YELLOW; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC | 11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING. |
| GORE MARKING AND CHANNELIZING LINES | 8 (200) WITH 12 (300) DIAGONALS @ 45° | SOLID | WHITE | DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 km/h)) |
| RAILROAD CROSSING | 24 (600) TRANSVERSE LINES; "RR" 15' (4.5 m) LETTERS; 16 (400) LINE FOR "X" | SOLID | WHITE | SEE STATE STANDARD 780001 AREA 0' "R"=3.6 SQ. FT. (0.33 m ²) EACH "X"=54.4 SQ. FT. (5.0 m ²) |
| SHOULDER DIAGONALS | 12 (300) @ 45° | SOLID | WHITE - RIGHT YELLOW - LEFT | 50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C 30 MPH (50 km/h) TO 45MPH (70 km/h) 150' (45 m) C-C (OVER 45MPH (70 km/h)) |

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.

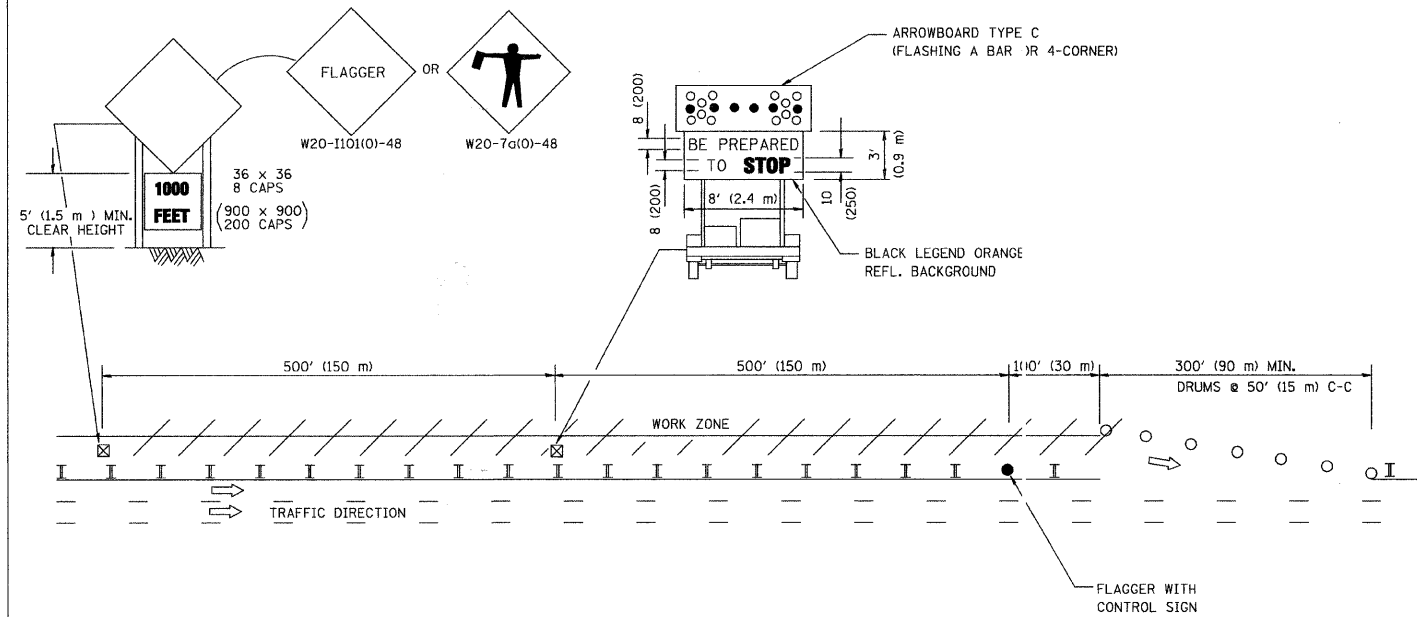
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| | | CHECKED = | REVISED = C. JUCIUS 09-09-09 |
| | PLOT SCALE = 50.000' / IN. | DRAWN = | REVISED = |
| | PLOT DATE = 9/9/2009 | CHECKED = 03-19-90 | REVISED = |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

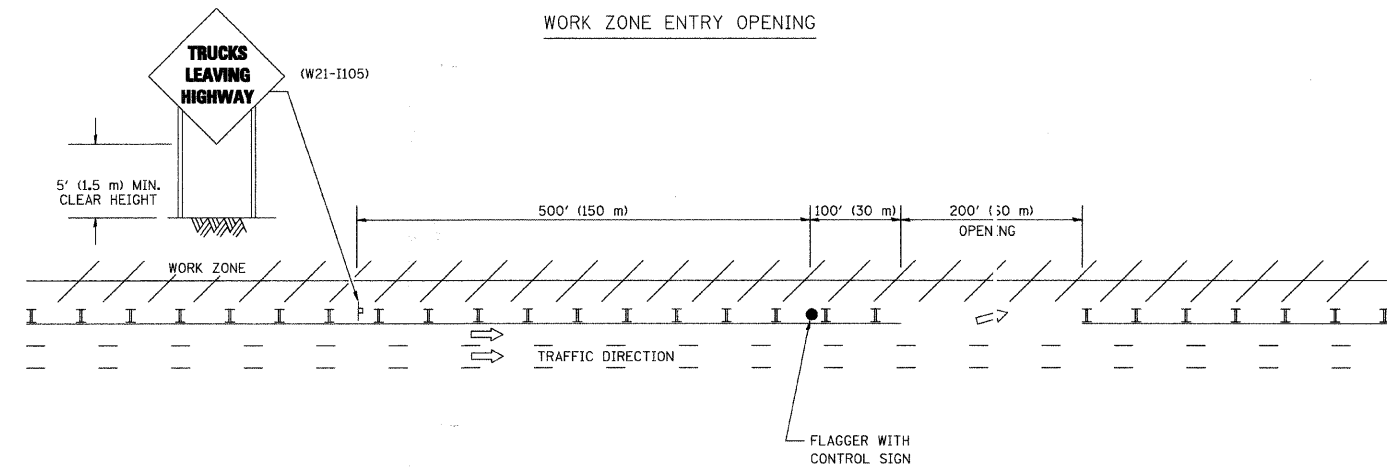
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|---------------------------|--|---------------------------|----------------|--|--------------|-----------|
| DISTRICT ONE | | F.A. J. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| TYPICAL PAVEMENT MARKINGS | | 3803 | 09-00050-00-TL | COOK | 31 | 26 |
| SCALE: | | SHEET NO. 26 OF 31 SHEETS | | STA. N/A | TO STA. N/A | |
| | | TC-13 | | CONTRACT NO. 63320 | | |
| | | FED. ROAD DIST. NO. 1 | | ILLINOIS FED. AID PROJECT ARA-9003 (332) | | |

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING



NOTES:

1. The Arrowboard, the Flagger Ahead trailer mounted sign, and the Trucks Leaving Highway sign shall be removed or turned away from traffic and the exit and entry openings shall be closed when the flagging operation ceases.
2. Work Zone Exit Openings should be a minimum of one half mile apart.
3. Exiting the work zone at any place other than at a Work Zone Exit Opening will be prohibited.
4. All vehicles shall enter the work zone at entry openings, using their turn signals to warn motorists

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

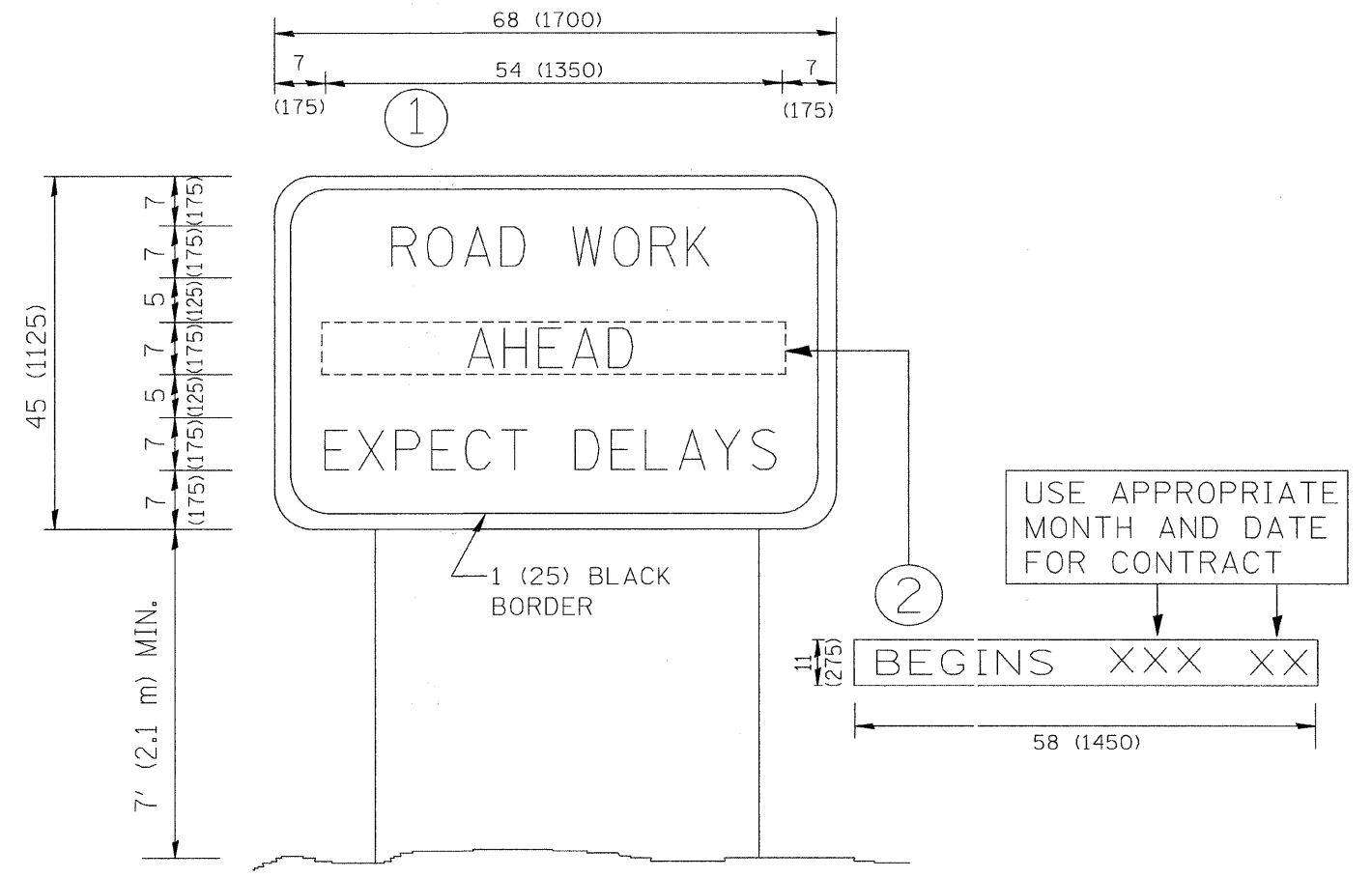
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| FILE NAME = 05587-DT19-04 - TC-18 | USER NAME = geghenobt | DESIGNED -- | REVISED -- D.W.S. 08-98 |
| | | CHECKED -- | REVISED -- J.A.F. 04-03 |
| | PLOT SCALE = 50,000 "/ IN. | DRAWN -- | REVISED -- J.A.F. 02-06 |
| | PLOT DATE = 1/4/2008 | CHECKED -- | REVISED -- S.P.B. 01-07 |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIGNING FOR FLAGGING OPERATIONS
AT WORK ZONE OPENINGS

SCALE: SHEET NO. 27 OF 31 SHEETS STA. N/A TO STA. N/A

| | | | | |
|-----------------------|------------------------|---------------------------------|-----------------|--------------|
| F.A. J. RTE. 36C3 | SECTION 09-00050-00-TL | COUNTY COOK | TOTAL SHEETS 31 | SHEET NO. 27 |
| TC-18 | | CONTRACT NO. 63320 | | |
| FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT ARA-9003 (332) | | |

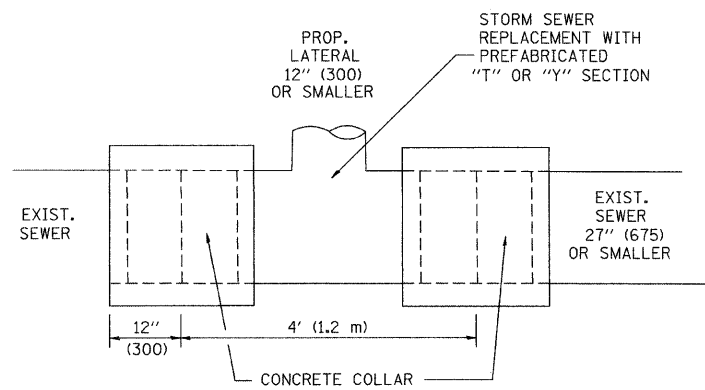


NOTES:

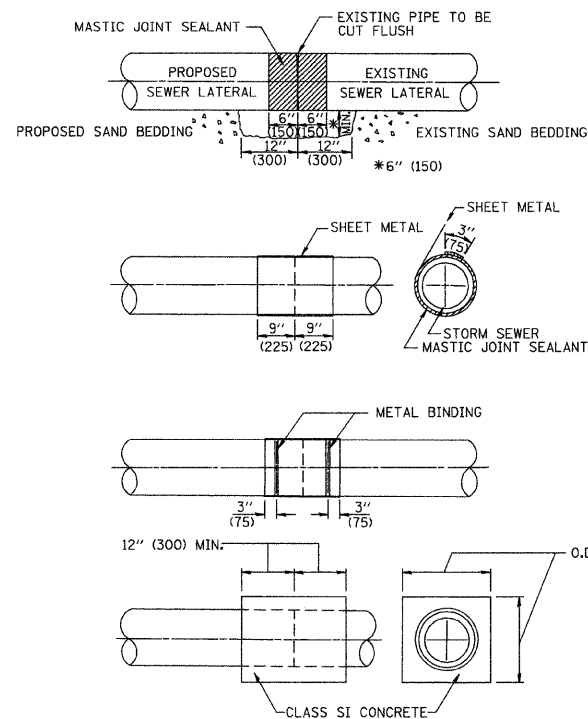
1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

| | | | | | | | | | | | | | |
|---------------------------------|----------------------------|------------|---------------------------------|---|---|--|---------------------------|-------------|-----------------|--------------------------|--|--|--|
| FILE NAME = 05587-DTLS-05-TC-22 | USER NAME = geglentobt | DESIGNED — | REVISED — R. MIRS 09-15-97 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | ARTERIAL ROAD INFORMATION SIGN | F.A. J. RTE: 3603 | SECTION 09-00050-00-TL | COUNTY COOK | TOTAL SHEETS 31 | SHEET NO. 28 | | | |
| | PLOT SCALE = 50.000' / IN. | CHECKED — | REVISED — R. MIRS 12-11-97 | | | SCALE: | SHEET NO. 28 OF 31 SHEETS | STA. | TO STA. | TC-22 CONTRACT NO. 63320 | | | |
| | PLOT DATE = 1/4/2008 | DRAWN — | REVISED — T. RAMMACHER 02-02-99 | | | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT ARA-0003 (332) | | | | | | | |
| | | CHECKED — | REVISED — C. JUCLUIS 01-31-07 | | | | | | | | | | |



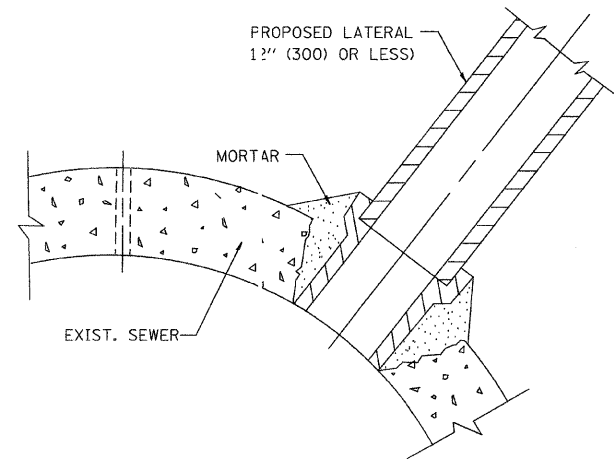
DETAIL "A"
LATERAL CONNECTION TO EXISTING SEWER
OF 27" (675) OR SMALLER



DETAIL "B"
CLASS SI CONCRETE COLLAR

CONSTRUCTION SEQUENCE

1. CUT THE EXISTING END OF THE PIPE SO AS TO PRESENT A FLUSH BUTT JOINT. BRUSH AND CLEAN ALL PIPES.
2. APPLY THE MASTIC JOINT SEALANT TO THE FIRST 6" (150) OF EACH PIPE.
3. BUTT THE PIPES TOGETHER LEAVING A MINIMUM OF 12' x 6' (300 x 150) DEEP EXCAVATION UNDER AND AROUND EACH PIPE END.
4. CUT A PIECE OF SHEET METAL GAGE NO. 19 1.1 (0.0418) 18" (450) WIDE BY THE OUTSIDE CIRCUMFERENCE OF THE PIPE PLUS 3" (75) LONG.
5. WRAP THE SHEET METAL AROUND THE PIPES, 9" (225) ON EACH SIDE OF THE JOINT, STARTING AT THE TOP OF THE PIPE.
6. LAP THE SHEET METAL AT LEAST 3" (75) AT THE TOP OF THE PIPE AND PLACE THE MASTIC JOINT SEALANT BETWEEN THE LAP.
7. PLACE TWO METAL BANDS AROUND THE SHEET METAL AND TIGHTEN.
8. WIPE OFF ANY EXCESS MASTIC JOINT SEALANT THAT OZES OUT FROM BETWEEN THE SHEET METAL AND THE PIPES.
9. PLACE CLASS SI CONCRETE AROUND THE JOINT.



DETAIL "C"
PROPOSED LATERAL
CONNECTION TO EXISTING SEWER
OF 30" (750) OR LARGER

NOTES

MATERIAL

MATERIAL USED FOR THE TEE OR WYE SECTION SHALL BE COMPATIBLE WITH THE EXISTING STORM SEWER OR THE PROPOSED STORM SEWER.

CONSTRUCTION METHODS

- I. THIS WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PORTIONS OF SECTION 550 OF THE STANDARD SPECIFICATIONS.
- II. CONNECTION TO AN EXISTING STORM SEWER SHALL BE BY EITHER OF THE FOLLOWING METHODS:
 - A) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER SEE DETAIL "A" AND "B".
 - B) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER SEE DETAIL "C".

IF THE EXISTING SEWER PIPE IS CRACKED, BROKEN OR OTHERWISE DAMAGED BY THE CONTRACTOR IN MAKING THE CIRCULAR OPENING, THE CONTRACTOR SHALL REPLACE THAT SECTION OF PIPE WITH PIPE EQUAL AND SIMILAR IN ALL RESPECTS TO THE PIPE IN THE EXISTING SEWER, IN A CAREFUL WORKMANLIKE MANNER, WITHOUT EXTRA COMPENSATION.

GENERAL

CARE MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE SEWER. ALL DEBRIS WHICH ENTERS THE SEWER MUST BE REMOVED. THE SEWER MUST BE LEFT CLEAN AND UNOBSTRUCTED UPON COMPLETION OF THE CONTRACT.

CARE MUST BE TAKEN TO PREVENT ANY PART OF THE NEW PIPE CONNECTION FROM PROJECTING INTO THE EXISTING SEWER.

BASIS OF PAYMENT

TEE OR WYE CONNECTIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STORM SEWER TEE OR WYE OF THE TYPE AND SIZE SPECIFIED IN THE PLANS, THIS PRICE SHALL INCLUDE ALL EXCAVATION OF THE TRENCH, REMOVAL OF THE EXISTING STORM SEWER, FURNISHING AND INSTALLING THE SPECIFIED TEE OR WYE SECTION, FURNISHING AND INSTALLING THE REQUIRED CONCRETE COLLAR, AND ALL OTHER MATERIAL NECESSARY TO COMPLETE THIS WORK AS SHOWN AND SPECIFIED.

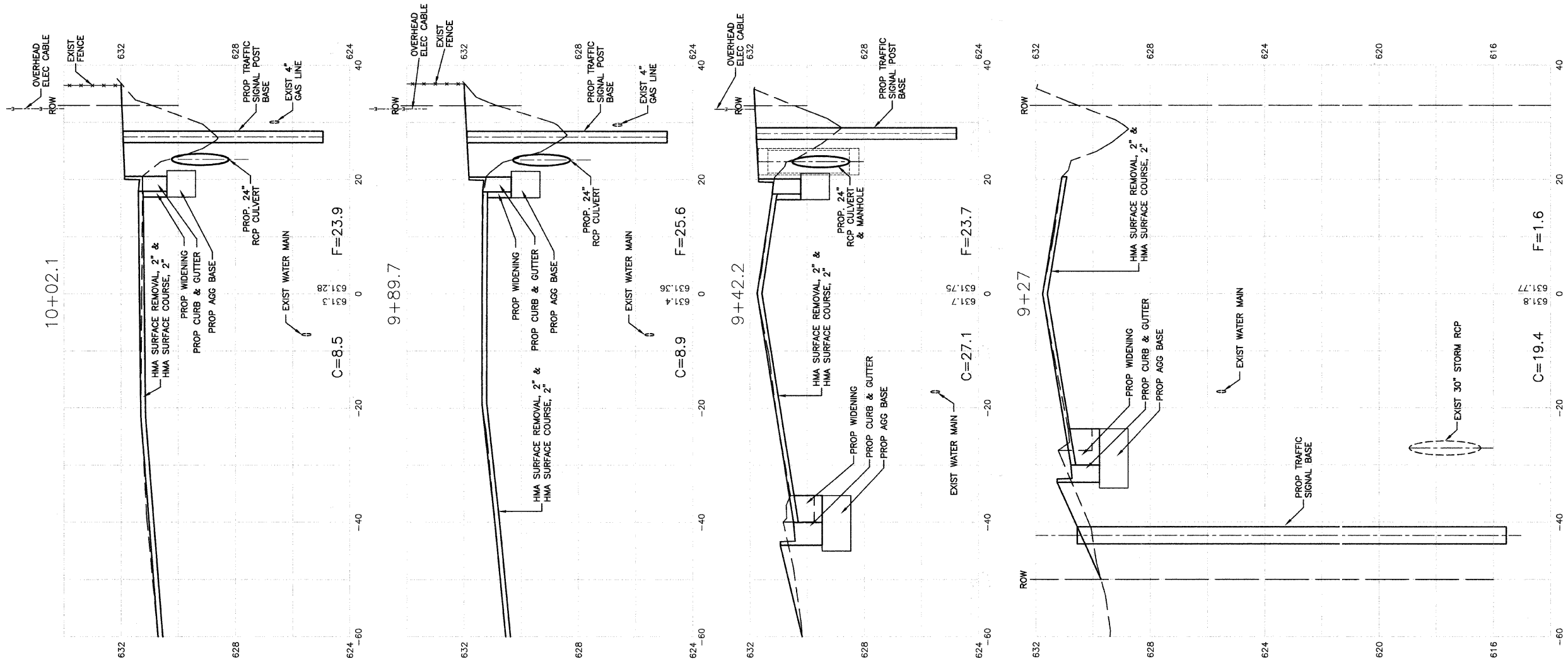
REMOVAL AND REINSTALLATION OF EXISTING STORM SEWER ADJACENT TO THE PROPOSED TEE OR WYE SECTION, FOR THE PURPOSE OF FACILITATING THE INSTALLATION OF THE TEE OR WYE SECTION, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WORK.

TRENCH BACKFILL, EXCAVATION IN ROCK AND REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL BELOW PLAN BEDDING GRADE WILL BE PAID FOR SEPARATELY.

CONCRETE COLLAR FOR CONNECTING A PROPOSED STORM SEWER TO AN EXISTING STORM SEWER WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROPOSED STORM SEWER.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

| | | | | | | | | | | | | |
|----------------------------------|-----------------------------|-----------------------|-------------------------------|---|---|----------------|------|--------------------------------|---------|---------------------------------|--------------|-----------|
| FILE NAME = 05587-DTLS-06 - BD-7 | USER NAME = geglano | DESIGNED — M. DE YONG | REVISED — M. DE YONG 05-08-92 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DETAIL OF STORM SEWER CONNECTION TO EXISTING SEWER | | | F.A. J. RTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | CHECKED — | REVISED — R. SHAH 09-09-94 | | 3803 | 09-00050-00-TL | COOK | 31 | 29 | | | |
| | PLOT SCALE = 50,000 ' / IN. | DRAWN — | REVISED — R. SHAH 10-25-94 | | SCALE: SHEET NO. 29 OF 31 SHEETS STA. TO STA. | | | BD500-01 (BD-7) | | CONTRACT NO. 63320 | | |
| | PLOT DATE = 1/4/2008 | CHECKED — 07-25-90 | REVISED — R. SHAH 06-12-96 | | | | | FED. ROAD DIST. NO. 1 ILLINOIS | | FED. AID PROJECT ARA-9003 (332) | | |



FILE NAME = 05587-XSCT-10 -X01

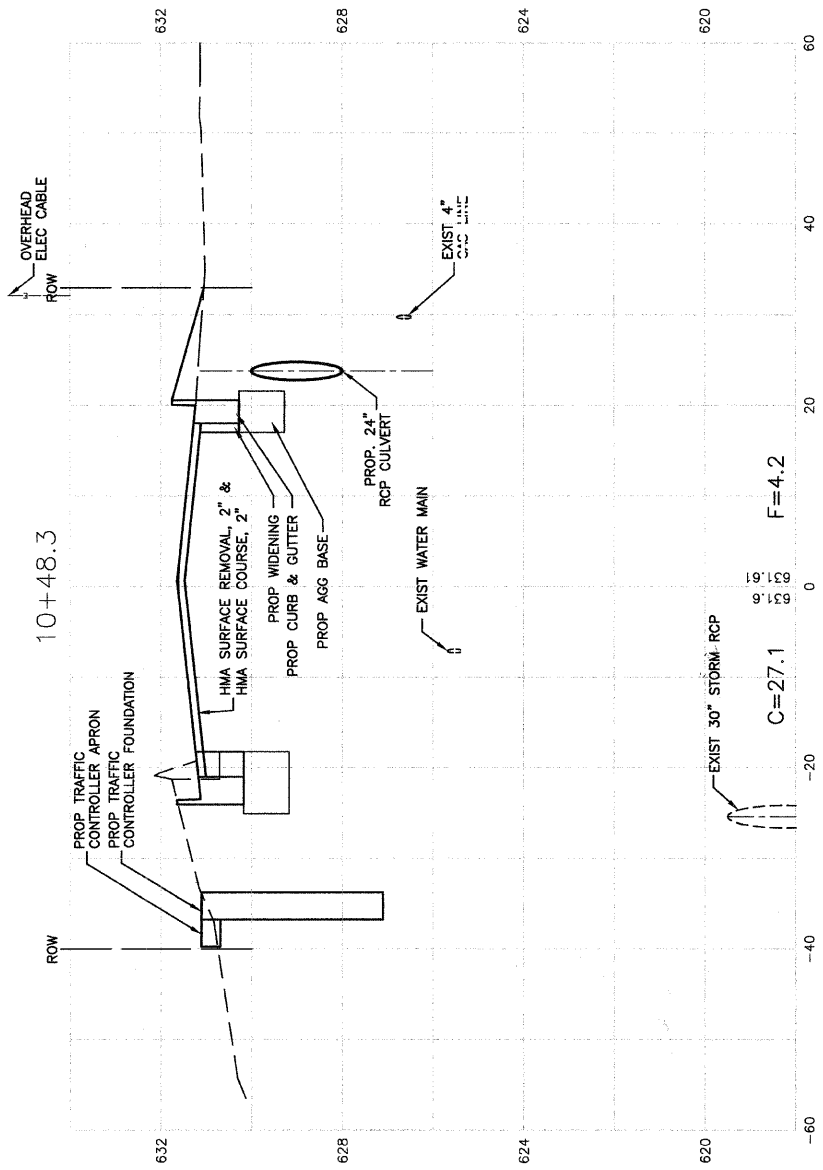
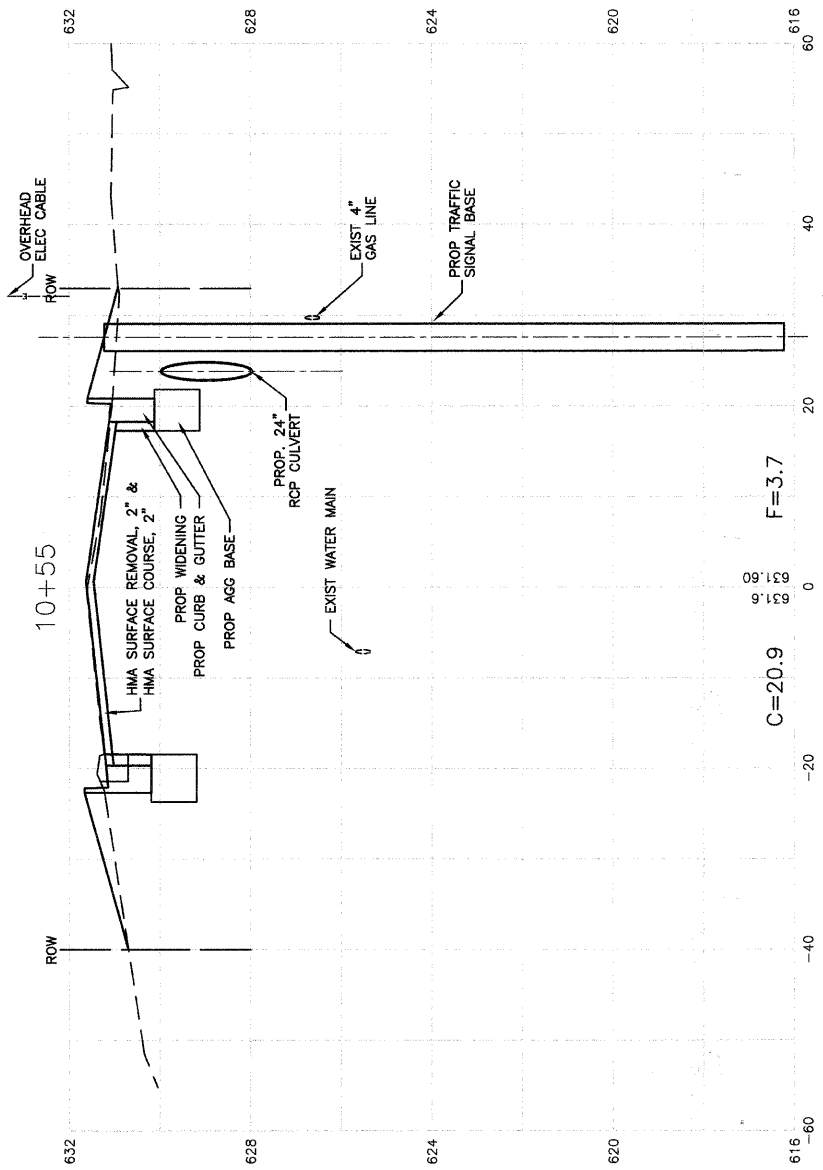
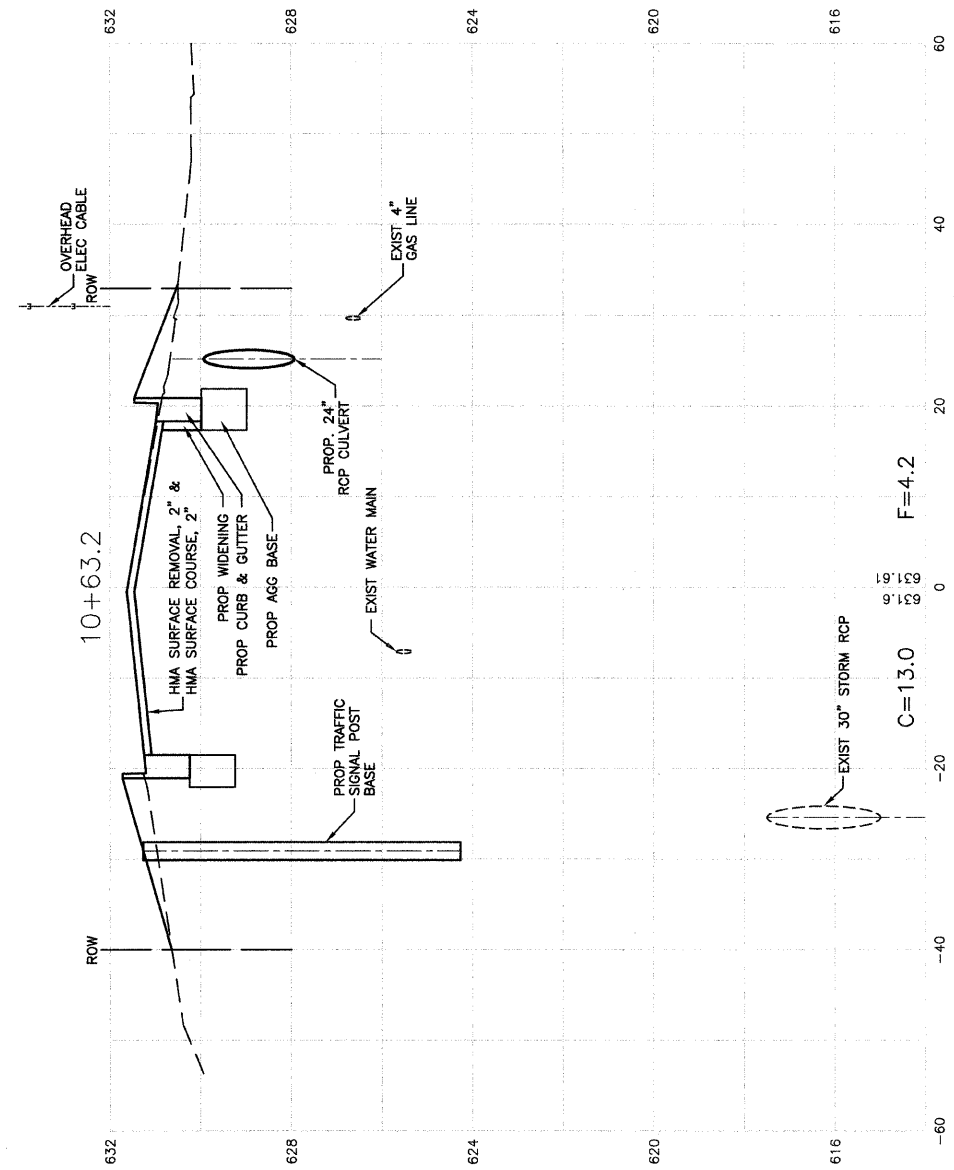
| | | |
|----------------------|---------------------|------------|
| USER NAME = | DESIGNED -- BDB/JRA | REVISED -- |
| | CHECKED -- PKB | REVISED -- |
| PLOT SCALE = | DRAWN -- JJB | REVISED -- |
| PLOT DATE = 10-29-09 | CHECKED -- JRA | REVISED -- |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD
INTERSECTION IMPROVEMENTS
CROSS SECTIONS**

SCALE: H:1"=10' V:1"=2' SHEET NO. 30 OF 31 SHEETS STA. TO STA.

| | | | | |
|-----------------------|---------------------------|---------------------------------|--------------------|-----------------|
| F.A. J. RTE 3803 | SECTION 09-00050-00-TL | COUNTY COOK | TOTAL SHEETS 31 | SHEET NO. 30 |
| CONTRACT NO. 63320 | | | | |
| FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT ARA-9003 (332) | | |



FILE NAME = 05587.XSCT-10 -X02

| | | |
|----------------------|---------------------|------------|
| USER NAME = | DESIGNED -- BDB/JRA | REVISED -- |
| | CHECKED -- PKB | REVISED -- |
| PLOT SCALE = | DRAWN -- JJB | REVISED -- |
| PLOT DATE = 10-29-09 | CHECKED -- JRA | REVISED -- |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CHICAGO HEIGHTS-GLENWOOD ROAD AND HOLBROOK ROAD
INTERSECTION IMPROVEMENTS
CROSS SECTIONS

SCALE: H:1"=10' V:1"=2' SHEET NO. 31 OF 31 SHEETS STA. TO STA.

| | | | | |
|--|---------------------------|----------------|--------------------|-----------------|
| F.A. J. RTE 38C3 | SECTION 09-00050-00-TL | COUNTY COOK | TOTAL SHEETS 31 | SHEET NO. 31 |
| CONTRACT NO. 63320 | | | | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT ARA-9003 (332) | | | | |