

PLAN SYMBOLS

| | |
|------------------------------------|-------|
| COUNTY LINE | ===== |
| TOWNSHIP OR RANGE LINE | ----- |
| SECTION LINE | ----- |
| QUARTER LINE | ----- |
| SIXTEENTH LINE | ----- |
| EXISTING R/W | ===== |
| NEW R/W | ===== |
| TEMP EASE | ===== |
| RAILROAD R/W | ===== |
| UNREFRAGED RD. OR SHLD. | ===== |
| EDGE OF LAKE | ===== |
| SWAMP BOUNDARY | ===== |
| MISCELLANEOUS BOUNDARY | ===== |
| CORPORATE OR CITY LIMITS | ===== |
| ALIGNMENT STATIONS | ----- |
| ALIGNMENT POINTS | ----- |
| PROPERTY LINES | ----- |
| VACATED PLATTED PROPERTY | ----- |
| RIVER OR CREEK | ----- |
| DRAINAGE DITCH | ----- |
| BRIDGE | ----- |
| RECREATIONAL TRAIL | ----- |
| RAILROAD (SINGLE TRACK) | ----- |
| RR CROSSING PAVEMENT MARKING | ----- |
| RR CROSSING SIGNAL AND GATE | ----- |
| RR CROSSBUCK SIGN | ----- |
| RR CROSSBUCK SIGN W/LIGHTS | ----- |
| RR SWITCH | ----- |
| BARBED WIRE FENCE | ----- |
| CHAIN LINK FENCE | ----- |
| WOVEN WIRE, OR WOVEN AND BARB | ----- |
| WOOD FENCE | ----- |
| BILLBOARD | ----- |
| GUARD POST | ----- |
| RETAINING WALL | ----- |
| GUARDBARR (CABLE) | ----- |
| GUARDBARR (PLATE BEAM) | ----- |
| GRAVEL TIE | ----- |
| PLUME | ----- |
| CULVERT APRON | ----- |
| CULVERT | ----- |
| WOODS OR BRUSH, NURSERY | ----- |
| DECIDUOUS TREES | ----- |
| CONIFER (EVERGREEN) TREES | ----- |
| HEEDGE | ----- |
| BUSH OR SHRUB | ----- |
| STUMP | ----- |
| SWAMP OR MARSH | ----- |
| CONCRETE OR STONE MONUMENT | ----- |
| IRON PIPE | ----- |
| CAST IRON OR CAPPED PIPE MONUMENT | ----- |
| HUB | ----- |
| NAIL OR SPIKE OR PK NAIL | ----- |
| IRON PIN OR REBAR | ----- |
| IRON PIN WITH BRASS DISK | ----- |
| VERTICAL CONTROL | ----- |
| HORIZONTAL CONTROL | ----- |
| POWER POLE | ----- |
| LIGHT POLE | ----- |
| LIGHT AND TELEPHONE POLE | ----- |
| LIGHT, TELEPHONE AND POWER POLE | ----- |
| GUY POLE | ----- |
| POLE ANCHOR | ----- |
| TELEPHONE POLE | ----- |
| TELEPHONE AND POWER POLE | ----- |
| UNDERGROUND CABLE PEDESTAL | ----- |
| TELEPHONE OR POWER MANHOLE (VAULT) | ----- |
| ELECTRIC CABLE IN CONDUIT | ----- |
| TELEPHONE CABLE IN CONDUIT | ----- |
| BURIED ELECTRIC CABLE | ----- |
| BURIED TELEPHONE CABLE | ----- |
| GAS LINE | ----- |
| GAS METER | ----- |
| WATER LINE | ----- |
| WATER VALVE | ----- |
| FIRE HYDRANT | ----- |
| WATER MANHOLE | ----- |
| WELL | ----- |
| LAWN SPRINKLER HEAD | ----- |
| STORM SEWER MANHOLE | ----- |
| SEPTIC TANK | ----- |
| SANITARY SEWER MANHOLE | ----- |
| CATCH BASIN | ----- |
| FORCE MAIN LIFT STA. | ----- |
| SEWER LINE | ----- |
| BARRICADE | ----- |
| SIGN | ----- |
| TRAFFIC SIGNAL W/MAST ARM | ----- |
| PED. PUSH BUTTON STA. | ----- |
| HAND HOLE | ----- |
| YARD LIGHT | ----- |
| ENTRANCE | ----- |
| BUILDING | ----- |
| MAIL BOX | ----- |
| STEEL TOWER | ----- |
| FLAG POLE | ----- |

MINNESOTA DEPARTMENT OF TRANSPORTATION SAINT LOUIS COUNTY

CONSTRUCTION PLAN FOR: MILL BITUMINOUS SURFACE, GRADING, STORM SEWER, BOX CULVERT, AGGREGATE BASE, CURB & GUTTER, SIDEWALKS, BITUMINOUS SIDEWALK, BITUMINOUS SURFACING

TRAFFIC CONTROL SIGNAL SYSTEMS, AGGREGATE SHOULDERING

STATE AID PROJ. NO. 069-604-078

LOCATED ON CSAH 4 (RICE LAKE ROAD) BETWEEN CSAH 32 (W. ARROWHEAD RD.) & 941' SOUTH EAST OF KRUGER ROAD

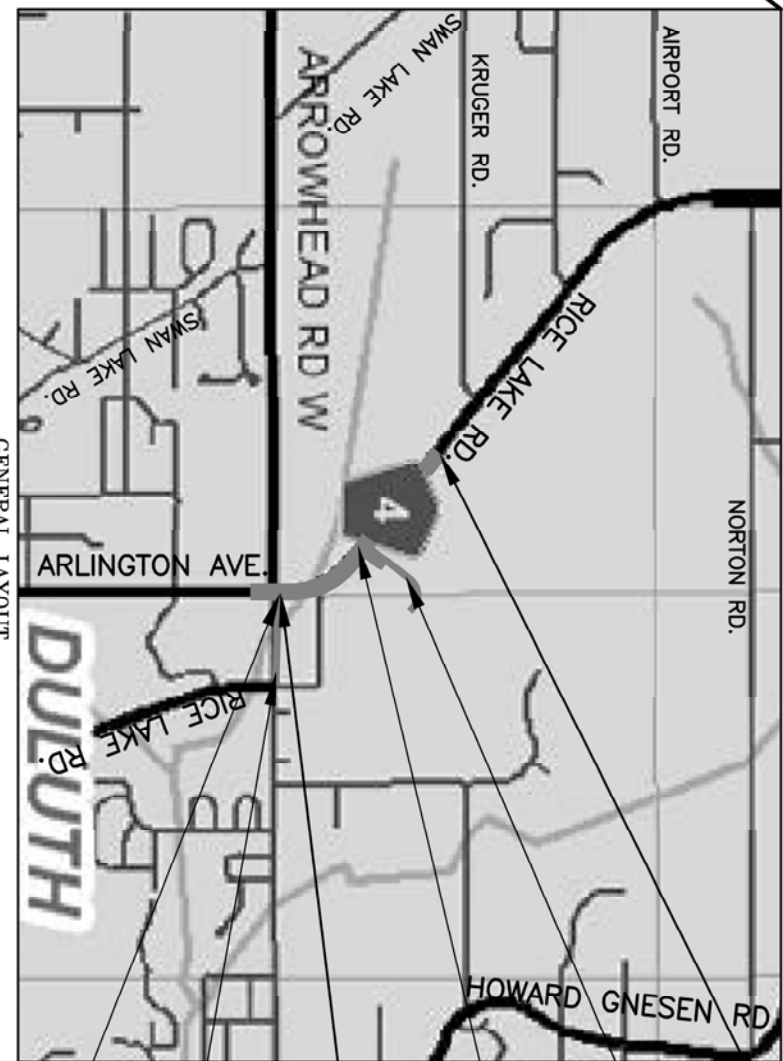
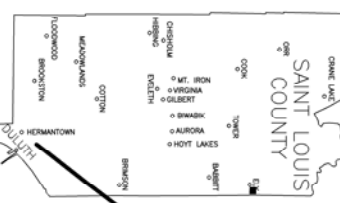
STATE AID PROJ. NO. 118-160-025

LOCATED ON TRAFFIC SIGNAL AT CSAH 4 (RICE LAKE ROAD), CSAH 32 (W. ARROWHEAD RD.) & MSAS 160 (ARROWHEAD ROAD)

CITY PROJECT NO. 1758

LOCATED ON MSAS 160 (ARROWHEAD ROAD) BETWEEN CSAH 4 (RICE LAKE ROAD) & CSAH 4 (S. RICE LAKE ROAD) & TECHNOLOGY DRIVE BETWEEN CSAH 4 (RICE LAKE ROAD) & A POINT 1,050' FROM INTERSECTION

| URBAN RECONSTRUCTION | | | | RURAL RECONSTRUCTION | | | | |
|----------------------|-------|-------|----------------|----------------------|-------|-------------------|-------|-------|
| GROSS LENGTH | FEET | MILES | BRIDGES-LENGTH | FEET | MILES | EXCEPTIONS-LENGTH | FEET | MILES |
| 1,748.70 | 0.331 | 0.249 | 0.00 | 0.000 | 0.000 | 1,315.00 | 0.249 | 0.249 |
| 0.00 | 0.000 | 0.000 | 0.00 | 0.000 | 0.000 | 0.00 | 0.000 | 0.000 |
| 1,748.70 | 0.331 | 0.249 | 0.00 | 0.000 | 0.000 | 1,315.00 | 0.249 | 0.249 |
| NET LENGTH | FEET | MILES | NET LENGTH | FEET | MILES | NET LENGTH | FEET | MILES |



END SAP 069-604-078 STA. 31+00.0
 CITY PROJ. NO. 1758 TECHNOLOGY DRIVE WIDENING & SIDEWALK STA. 101+00.0 TO STA. 110+46.2
 SAP 069-604-078 & CITY PROJ. NO. 1758 SIGNAL SYSTEM
 BEGIN SAP 069-604-078 STA. 0+36.3
 CITY PROJ. NO. 1758 ARROWHEAD ROAD SIDEWALK STA. 138+07.0 TO STA. 149+49.3
 SAP 069-604-078 & SAP 118-160-025 SIGNAL SYSTEM

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38.02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".



SCALES

GENERAL LAYOUT 0 1/2 MILE

INDEX MAP 0 60 MILES

PLAN VIEW 0 30 FT.

PROFILE VIEW 0 50 FT. 0 10 FT.

CROSS SECTION 0 20 FT.

PLAN REVISIONS

| DATE | SHEET NO. | APPROVED BY |
|------|-----------|-------------|
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PREVIOUS PLANS

| DATE | SHEET NO. | APPROVED BY |
|------|------------------------|-------------|
| 1967 | SAP 69-604-15 | |
| 1983 | SP 69-604-34 | |
| 1984 | SAP 69-604-49, 50 & 51 | |
| 2000 | SAP 69-604-058 | |
| 2000 | SAP 69-604-058 | |
| 2009 | SP 69-604-066 | |
| 2011 | SAP 69-604-065 | |

MINN. PROJ. NO.

GOVERNING SPECIFICATIONS
 THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.
 AVAILABLE AT: <http://www.dot.state.mn.us/pre-letting/spec/index.html>

INDEX OF SHEETS

| INDEX OF SHEETS | TITLE SHEET | ESTIMATED QUANTITIES | TYPICAL SECTIONS | UTILITY CHARTS | CONSTRUCTION DETAILS | STORM PROFILES | PLAN SHEETS | TRAFFIC CONTROL | SIGNAL SYSTEM | PAVEMENT MARKINGS | CROSS SECTIONS | SWPPP | LIGHTING PLAN |
|-----------------|-------------------------------|----------------------|------------------|----------------|----------------------|----------------|-------------|-----------------|---------------|-------------------|----------------|-------|---------------|
| 1 | THIS PLAN CONTAINS # SHEETS - | | | | | | | | | | | | |

DESIGN DESIGNATION - 8820.9920 (RURAL)
 RURAL RECONSTRUCTION STA. 15+50.0 TO STA. 31+00.0
 R VALUE 20 = EN1829 = 1,864,421
 ADT (CURRENT YEAR) 2020 = 11,400
 ADT (FUTURE YEAR) 2040 = 12,279
 D (DIRECTIONAL DISTR.) = 50/50%
 T (HEAVY COMMERCIAL 12.0%) = 1.505
 PROJ. SOIL FACTOR = 100 (R=20)
 DESIGN LOADING = 10 TON
 TRAFFIC LANES = 12.0'
 SHOULDER WIDTH = Var.
 CURB TO CURB WIDTH = Var.
 FUNCTIONAL CLASS = Minor Arterial
 DESIGN SPEED = 45 mph
 DESIGN SPEED AT STOP CONDITION
 STOPPING SIGHT DISTANCE BASED ON 3.5' HEIGHT OF EYE AND 2' HEIGHT OF OBJECT

DESIGN SQUAD: SOUTH DESIGN

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

PRINT NAME: STEPHEN E. KRASAWAY

SIGNATURE: _____

DATE: _____ LIC. NO.: 45397

APPROVED: ST. LOUIS COUNTY HIGHWAY ENGINEER DATE: _____

DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE-AID RULES/POLICY DATE: _____

STATE AID ENGINEER: APPROVED FOR STATE AID FUNDING DATE: _____

SHEET NO. ----- OF ## SHEETS