(CHECK ONE) PRELIMINARY SURVEY X AS-BUILT SURVEY

(CHECK ONE) STORM MH X CATCH BASIN SANITARY MH

STRUCTURE NO: 034 POINT NO: 7653

TOP OF CASTING (TOC) ELEV: 125.13 (Q COVER FOR MH, Q GRATE @ GUTTERLINE FOR CB)

CASTING/Cover TYPE: A. WATERTIGHT B. W/HOLES C. GRATE D. OTHER

STRUCTURE TYPE: A. BRICK B. BLOCK C. PRECAST D. OTHER

(IF BRICK OR BLOCK, ESTIMATE % MORTAR MOSS: __________%)

STEP MATERIAL: A. NONE B. CAST IRON C. ALUMINUM D. EPOXY COATED E. OTHER

MH/ CB GEOMETRY:

CASTING CENTERED OR OFFSET

VAULT STYLE STRUCTURE

WIDTH:

STRUCTURE DEPTH

DRAW ARROW ON PIPE TO INDICATE FLOW DIRECTION

\[ a = c \sin A \]

\[ \text{ROD} \times \sin \theta = \text{HEIGHT} \]

(90' IS ALWAYS UP)

(sin=?)

CONCENTRIC

ECCENTRIC

RCP 15.95 MAT'L SIZE INV. 1249.18

FL FROM/TO 033

MAT'L SIZE INV.

FL FROM/TO MAT'L SIZE INV.

FL FROM/TO MAT'L SIZE INV.

FL FROM/TO MAT'L SIZE INV.

FL FROM/TO

MANHOLE & CATCH BASIN DATA SHEET

PROJECT #: 1468 LOCATION: Warren Ave

DATE: 11/9/15

BY: AML
(CHECK ONE)  PRELIMINARY SURVEY___ AS-BUILT SURVEY___
(CHECK ONE)  STORM MH______ CATCH BASIN___ SANITARY MH______
STRUCTURE NO.: 033    POINT NO.: 6909

TOP OF CASTING (TOC) ELEV.: 1250.67 (C COVER FOR MH, D GRADE @ GUTTERLINE FOR CB)
CASTING/COVER TYPE:  A. WATERTIGHT  B. W/ HOLES  C. GRADE  D. OTHER________
STRUCTURE TYPE:  A. BRICK  B. BLOCK  C. PRECAST  D. OTHER________

(IF BRICK OR BLOCK, ESTIMATE % MORTAR MOSS:______%)
STEP MATERIAL:  A. NONE  B. CAST IRON  C. ALUMINUM  D. EPOXY COATED  E. OTHER_______

MH/ CB GEOMETRY:

DRAW ARROW ON PIPE TO INDICATE FLOW DIRECTION

\[ a = c \sin A \]
\[ (90' IS ALWAYS UP) \]
\[ (\sin = ?) \]

MANHOLE & CATCH BASIN DATA SHEET

PROJECT #: 1468
LOCATION: Arrowhead Rd

DATE: 11/9/05  BY: NML
(CHECK ONE) PRELIMINARY SURVEY  X  AS-BUILT SURVEY
(CHECK ONE) STORM MH_____ CATCH BASIN  X  SANITARY MH_____

STRUCTURE NO: 019  POINT NO: 6352
TOP OF CASTING (TOC) ELEV: 1250.05  (C COVER FOR MH, C GRATE @ GUTTERLINE FOR CB)
CASTING/COVER TYPE:  A. WATERTIGHT  B. W/ HOLES  C. GRATE  D. OTHER___________
STRUCTURE TYPE:  A. BRICK  B. BLOCK  C. PRECAST  D. OTHER___________

(IF BRICK OR BLOCK, ESTIMATE % MORTAR MOSS:_____%)
STEP MATERIAL:  A. NONE  B. CAST IRON  C. ALUMINUM  D. EPOXY COATED  E. OTHER_______

MH/ CB GEOMETRY:

CASTING CENTERED OR OFFSET

CASTING

VAULT STYLE STRUCTURE

WIDTH

STRUCTURE DEPTH

CONCENTRIC ECCENTRIC

CASTING

DRAW ARROW ON PIPE TO INDICATE FLOW DIRECTION

o = c sin A
(ROD X sin d' = HEIGHT)
(90' IS ALWAYS UP)
(sin = 2)

MANHOLE & CATCH BASIN DATA SHEET

PROJECT #: 1468
LOCATION: Ayd Head Rd

DATE: 11/9/15  BY: MML
(CHECK ONE) PRELIMINARY SURVEY X AS-BUILT SURVEY_
(CHECK ONE) STORM MH X CATCH BASIN SANITARY MH_
STRUCTURE NO: 030 POINT NO: 6159_
TOP OF CASTING (TOC) ELEV: 1251.77 (C. COVER FOR MH, C. GRADE @ GUTTERLINE FOR CB)
CASTING/COVER TYPE: A. WATERTIGHT B. W/HOLES C. GRADE D. OTHER_
STRUCTURE TYPE: A. BRICK B. BLOCK C. PRECAST D. OTHER_
(IF BRICK OR BLOCK, ESTIMATE % MORTAR MOSS: 30 %)
STEP MATERIAL: A. NONE B. CAST IRON C. ALUMINUM D. EPOXY COATED E. OTHER_

MH/ CB GEOMETRY:

DRAW ARROW ON PIPE TO INDICATE FLOW DIRECTION

MANHOLE & CATCH BASIN DATA SHEET

PROJECT #: 1465
LOCATION: Arrowhead Rd
DATE: 11/7/15
BY: DML
(CHECK ONE) PRELIMINARY SURVEY  X  AS-BUILT SURVEY

(CHECK ONE) STORM MH.     CATCH BASIN.      SANITARY MH.  X

STRUCTURE NO: 081  POINT NO: 5113

TOP OF CASTING (TOC) ELEV: 1253.81 (Q COVER FOR MH. Q GRATE @ GUTTERLINE FOR CB)

CASTING/COVER TYPE: A. WATERTIGHT  B. W/ HOLES  C. GRATE  D. OTHER

STRUCTURE TYPE: A. BRICK  B. BLOCK  C. PRECAST  D. OTHER

(IF BRICK OR BLOCK, ESTIMATE % MORTAR MOSS: 20 %)

STEP MATERIAL: A. NONE  B. CAST IRON  C. ALUMINUM  D. EPOXY COATED  E. OTHER

MH/ CB GEOMETRY:

Walls are shifting all directions.
Water infiltration from east.

DRAW ARROW ON PIPE TO INDICATE FLOW DIRECTION

\[ a = c \sin A \]
\[ (90^\circ \text{ IS ALWAYS UP}) \]
\[ (\sin 90^\circ = 1) \]
Cleveland St. Sanitary Sewer

Scale: Horizontal 1" = 30'
Vertical 1" = 10'

9 Ave. - Greamer and Strother Bros
CITY OF DULUTH

WATER, GAS & SEWAGE TREAT. DEPT.
EXTENSION OF 6" WATER & 4" GAS MAINS IN
CLEVELAND ST. FROM 364' W. OF KENWOOD
AVE. TO 190' WEST OF HUMES AVE.
JOB NO. 802  PET. NO. 57-19 REV.
B.M. SPIKE IN POWER POLE #2, OPPOSITE
STA. 2+43  ELEV. 651.07
CITY OF DULUTH
WATER, GAS & SEW. DISPL. DEPARTMENT
PLAN & PROFILE
EXTENSION OF WATER & GAS MAINS IN CLEVELAND ST. FROM MAINS IN KENWOOD AVE. TO 225 FT. EAST OF HUMES AVE.

JOB NO. 700
Scale 1" = 200 FT. VERT. 1" = 100 FT. HORIZ.

B.M. ELEV. 65425
X on SW. Cor. STORE N.E. COR.
ARROWHEAD RD. & KENWOOD AVE.

WATER LINE 8" X 8.50 BR. IN MASON (AS SHOWN) 97.7% 10% 8.4% 6.6% 0" CIP 1949 23 0000 81 00 61 10 66 0 5 4 3 2 1 0

225' ±

RUSSELL & MAYNARD
July 11, 1949 - Reg. No. 5899