Appendix 4
Information Sheets
(Lincoln Way Culvert and Sippo Pressure Conduit)

STARK COUNTY ENGINEER
DEPT. OF BRIDGES

CONCRETE AND STONE MASONRY BRIDGES BRIDGE Hº PE-8-49.

TYPE OF BRIDGE: Concrete & Stone Arch.
APPROX. SAFE LOAD CAPACITY:
NO. OF SPANS:
DATE BUILT:

CLEAR SPAN	LENGTH OUT TO OUT OF FLOOR	WIDTH BETWEEN CURBS	WIDTH OUT TO OUT	WIDTH OF SIDEWALKS	HEIGHT OF FLOOR ABOVE BRIDGE SEAT	ROADWAY CLEARANCE MAX. HEIGHT / WIDTH / MIN. HEIGHT	PROVISIONS FOR EXPANSION
14'-0"	16'-0"	50'-9"	121'-10	& lawn space 9'-4 each side		open.	

TYPE OF FILLING: None
TYPE AND THICKNESS OF WEARING SURFACE: Brick Pavement
TYPE AND SIZE OF CURB: Stone 4" high x 6" Wide.
DESCRIPTION OF FLOOR DRAINAGE: Slope
ALIGNMENT AND VIEW OF STRUCTURE: R/A to ℄ of Road.
APPROACH SLABS: -
LIGHTING SYSTEM: —

STREAM: Sippo Creek.
CHANNEL CHARACTERISTICS — APPROX. WIDTH BETWEEN BANKS: 15'
HEIGHT FROM GRADE TO STREAM BED: 29'-9"
CONDITION OF BANKS: Good
CHANNEL DEPTH: 1'-6"
NATURE OF BOTTOM: Stone
ALIGNMENT OF STREAM VIEW OF STRUCTURE ABOVE AND BELOW STRUCTURE: Winding.
SKEW OF NORMAL FLOW: N. to S.
SKEW OF FLOOD FLOW: N. to S.

CONCRETE SLAB

THICKNESS OF SLAB:
STD. DRAWING NO.: Br.B 10- P96-7- P-100-1 P-128-31

CONCRETE BEAM

STD. DRAWING NO.

NO. OF BEAMS	SPACING OF BEAMS	WIDTH OF BEAMS	HEIGHT OF BEAM INCLUDING SLAB	THICKNESS OF SLAB

CONCRETE GIRDER

STD. DRAWING NO.

WIDTH OF GIRDER	DEPTH OF GIRDER AT CENTER	DEPTH OF GIRDER AT ENDS	FLOOR BEAMS SIZE	FLOOR BEAMS SPACING	THICKNESS OF FLOOR

ARCHES

STD. DRAWING NO.:
FILE:
MATERIAL: Old part brick - New part Conc.
TYPE: Conc-Reinf.
SHAPE: circular.
TYPE OF RAIL OR PARAPET:

CLEAR SPAN	RISE	CROWN THICKNESS	SPRING THICKNESS	FILING MATERIAL	DEPTH OF FILL AT CROWN	HEIGHT OF PARAPET ABOVE GRADE
14'-0"	10'-0"	1'-6"	3'-0"	Earth	18'-3"	9'-9" below.

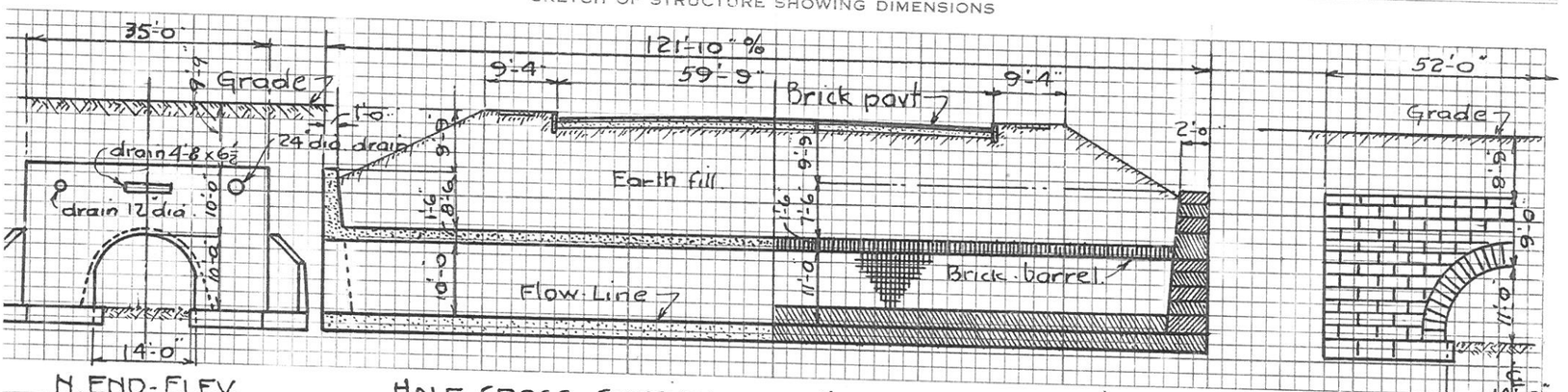
SUB-STRUCTURE

ABUTMENTS AND PIERS	MATERIAL	TYPE	HEIGHT FOOTER TO BRIDGE SEAT	WIDTH OF BRIDGE SEAT	LENGTH OF ~~BRIDGE SEAT~~ Footers	FOUNDATIONS (PILING)	WINGS (LENGTHS, ANGLES, ETC.)
REAR	Foundation - Old part	stone			121'-10"		N.W. 24'x1' Concrete
FORWARD	" - New "	Concrete.					N.E. 24'x1' "
PIER							
PIER							

BRIDGE NO.	TOWNSHIP	ROAD NO.	SECTION	STRENGTH — H12 / H15 / H20	ROADWAY 15–18 / 19–22 / 23+	CLEARANCE 12— / 12–14 / 14+ / OPEN	TYPE A / F / G / S / T
49	PE.	U.S. 30 Massillon	8		50'-9"	✓	Conc & Stone Arch.

BRIDGE NO.	TOWNSHIP	ROAD NO.	SECTION	STRENGTH	ROADWAY	CLEARANCE	TYPE
49.	PE.	U.S. 30 Massillon	8.	H10 — H12 — H15 — H20	59'-9"	12 — 12–14 — 14+ — OPEN	✓ Stone & Concrete Arch. A — B — C — S — T

SKETCH OF STRUCTURE SHOWING DIMENSIONS



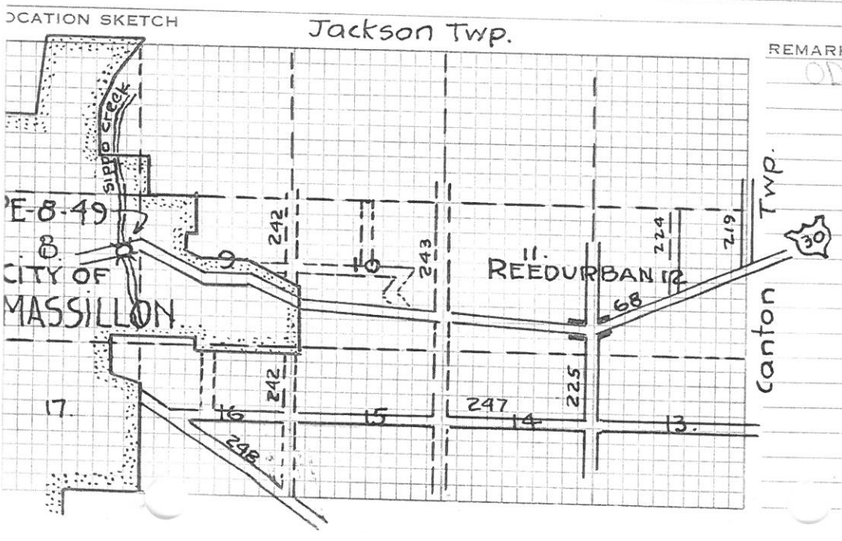
N. END-ELEV.

HALF CROSS-SECTION.
(Showing Typical design of new Concrete part at N. end)

HALF-CROSS-SECTION.
(Showing Typical design of Original Structure.)

HALF-S. END-ELEV.

LOCATION SKETCH



REMARKS

ODOT Inspected

SIPPO PRESSURE CONDUIT
TUSCARAWAS RIVER 3200 FT EAST

BUILT 1940-41 CONNECTION MASSILLON CONSERVANCY DIST'
IMP'MT BY U.S. ARMY ENGR'S UNITED CONST CO CONTRACTOR- W McCROBA RESIDENT ENG'R C.E. RICE CITY ENG'R
PLOTTED 2-20-41 BY C.E. RICE DATA BY U.S. ARMY ENGR'S
SCALES H 1"=50' V 1"=5'

10 x 13.25 REEINFORCED CONCRETE BOX TYPE CULVERT

D = 10°
Δ = 14°12'13"
R = 573.69
T = 71.46
L = 142.0
PI = 4+69.51

66'
20'
66'
S.W.
80'
ST
2ND ST
ALLEY
1ST
ERIE
CANAL LEASE
SEE 3-3
Abandoned
24°38'
48"-30" Inverted Syphon
60"
10' TONCAN
Invert 926.39
10+19
10+26
10+68
0.825%
4%
24%
314
318
319
317
1111
1110
1117
390
392
320
1095
1097
1098
1099
1100
1101
1102
1107
1108
1109
940
945
935
930
925
920
5
6
7
8
9
10
11
12

317
50
S.W. 66'
33
CANAL LEASE
SEE 3-3
1112
50
1111
20
1110
60
60"
Abandoned
24°38'
48"+30" Inverted Syphon
10+19
10+26
S 80'
1117
60
390
14
392
42.5
393
394
65
397
10.68
1118
35.5
46
20
26
1121
66'
13+83
14
14+00
13+78
40
14+39
14+45
14+62
28
34
1101
1102
60"
10' TONGAN
CANAL LEASE
53.17
50.33
36.17
1107
1108
1109
ST
50
943
27
940
1ST
158
935
945
INVERT 926.39
930
940
925
935
ST
132
320
ERIE
14+28
ALLEY 16'
35
326
10
327
87
328
14+23
1ST ST
334
S.E.
945
940
4%
158
935
INVERT 929.18
920
930
8
9
10
11
12
13
14
15
166

1122 | 1151 | 1152 | 1153 | 1149 | 1147 | 1145 | 1144 | 1143 | 1141

89 | 56 | 25 | 25 | 68 | 60 | 54 | 40 | 40 | 97

50 | 31 | 50 | 30

FACTORY ST.

℄ 16+41.53

1½" BLIND STUBS 16+73

TREMONT ST S.E. 80'

6" 17+94

6" 18+93

19+16 S.E

19+47

19+67

6" 19+87

6" 20+93

6" 21+30

6" 21+67

3RD ST S.E. 66'

℄ 22+15

SEE 12.46

℄ 12+ LINE CONNECTE TO DROP MH 19+23

14

198

334

ALLEY 20'

1110 | 120

1002 | 1003

15" STUB 19+06

2ND ST

60

111

5844

ALLEY 11'

30 | 35 | 35

1008 | 1009 | 1010

NOTE ALL 6" ROOF DRAIN STUBS 4.37' SOUTH OF ℄ CONDUIT

950 | 955

945 | 950

940 | 945

935 | 940

930 | 935

15 | 16 | 17 | 18 | 19 | 20 | 21 | 22

4 % | 4 %

6" 16+62 LATERAL

6" 19+06 LATERAL

15"

18"

24"

10

13.25

TYPICAL SECTION
WALLS + SLABS VARIABLE
SCALE 1"=10'

1152 1153 1149 1147 1145 1144 1143 1141

2188 2179 2180 2182

MONT ST S.E. 80'

2ND ST S.E.

3RD ST S.E. 66'

6" 17+94 6" 18+73 6" 19+16 6" 19+47 6" 19+87 6" 20+95 6" 21+30 6" 21+67

18" SAN SEWER REBUILT OVER TOP OF CULVERT

SAN M.H. 24+73

1003 5844 ALLEY 11' 1008 1009 1010 1015

15" STUB 17+06

12" LINE CONNECTS TO DROP MH 23+23

12" LINE 22+15

D = 29°
Δ = 33°49'
R = 199.70
T = 60.74
L = 117.87
P.I 24+12.43

NOTE ALL 6" ROOF DRAIN STUBS 4.37' SOUTH OF ℄ CONDUIT

9185

13.25

TYPICAL SECTION
WALLS & SLABS VARIABLE
SCALE 1"=10'

945 950 940 935 930 925 920 915 910 905 900

20 21 22 23 24 25

2183 2184 2185 2186 2187

O.L. 62

D = 40°20'
Δ = 15°38'
R = 145.70
T = 20.00
L = 39.74
P.I. 29+97.96

5357

122

SEE 4.18

PEARL AVE. S.E. 50'

SAN OFF SET M.H. 26+66

0

50 50 42 33

27+77

26+40

30+00

SR. 2-50

9493

145.5

122

5358

58.3

9185 9186 9187 9192 9193 9194 9195 9196 9197 9198

46 66 50 40 60 50

W.I. PIPE RAILING

CONCRETE WALL

141.55

160

M.H. 0+00

155

150

145

140

TREMONT AVE. S.E. 60'

1.58

4" R

30+27.38

Invert 93538

10' R

30+67.88

20' R

1.66

26 27 4% 28 29 30

Appendix 5
Federal Emergency Management Agency – Flood Insurance Study Information

Bulletin No. 45, involve the use of regression equations to calculate peak flood discharges for the 10-, 50- and 100-year frequency events. The regression equations for this area are based on a regional analysis using multiple regression techniques and at least 10 years of data obtained from 14 gaging stations located within the Tuscarawas River Basin upstream from Stillwater Creek. They incorporate the parameters of drainage area and channel slope, which had been found to be significant. The 500-year peak flood discharges were estimated using a log-probability distribution based on the 2-, 10-, 50- and 100-year peak flood discharges.

Peak discharges for the 10-, 50-, 100-, and 500-year floods of each flooding source studied in detail in the community are shown in Table 1.

TABLE 1 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (SQ MILES)	PEAK DISCHARGE (CFS) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
EAST SIPPO CREEK					
Upstream from Culvert Inlet	17.8	1,100	1,700	1,980	2,650

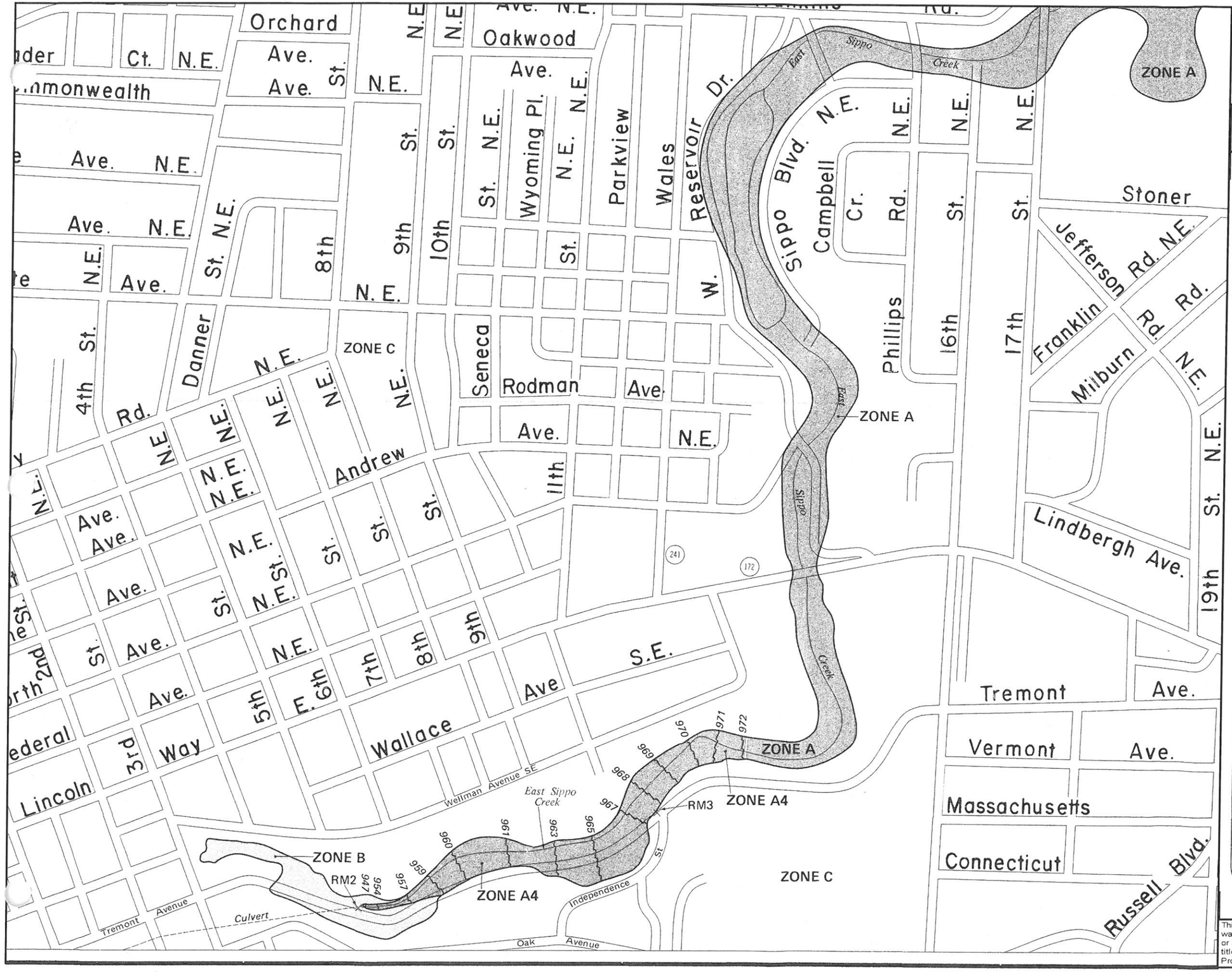
3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of the streams in the community were carried out to provide estimates of the elevations of the floods of the selected recurrence intervals along each flooding source studied in detail.

Cross sections for the backwater analyses of East Sippo Creek were obtained from topographic maps having a scale of 1:2400 with two-foot contour intervals (Reference 12). The channel bottom profile was obtained by field measurement. All bridges, dams and culverts were field surveyed to obtain elevation data and structural geometry.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles. For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the Flood Boundary and Floodway Map.

Channel roughness factors (Manning's "n") used in the hydraulic computations were chosen by engineering judgment and based on field observations of the streams and flood plain areas. Roughness factors for the main channel of East Sippo Creek range from 0.011 to 0.050 with flood plain roughness values ranging from 0.060 to 0.100 for all floods.



APPROXIMATE SCALE

500 0 500 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

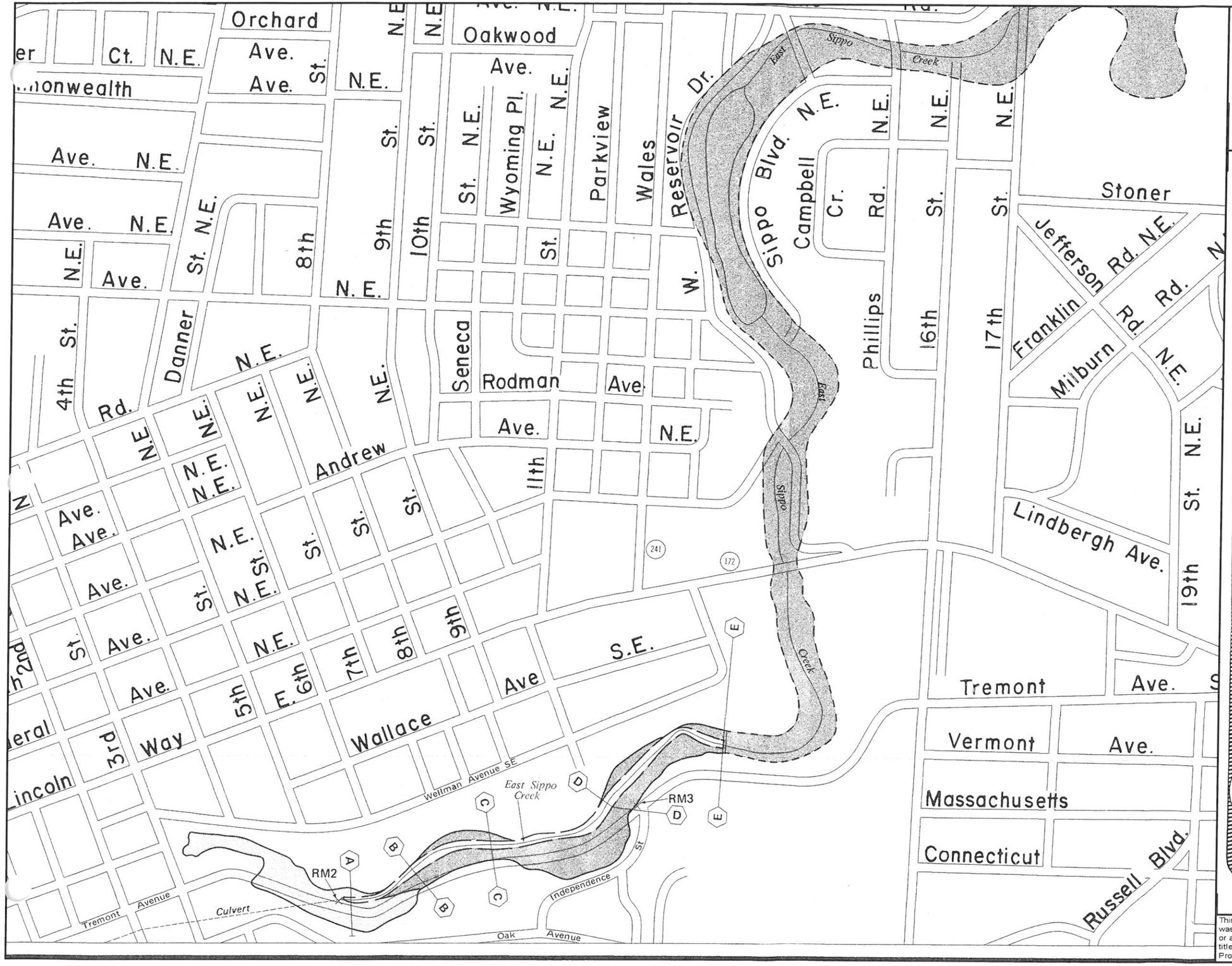
CITY OF
MASSILLON,
OHIO
STARK COUNTY

PANEL 2 OF 5

COMMUNITY-PANEL NUMBER
390517 0002 C

EFFECTIVE DATE:
JULY 5, 1982

Federal Emergency Management Agency



NATIONAL FLOOD INSURANCE PROGRAM

FLOODWAY

FLOOD BOUNDARY AND FLOODWAY MAP

CITY OF
MASSILLON,
OHIO
STARK COUNTY

PANEL 2 OF 5
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
390517 0002

EFFECTIVE DATE:
JULY 5, 1982

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

01P	FEDERAL EMERGENCY MANAGEMENT AGENCY CITY OF MASSILLON, OH (STARK CO.)	FLOOD PROFILES EAST SIPPO CREEK