

Flood Plain Management Planning Assistance For The Town of West Seneca New York

BUFFALO CREEK



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BUFFALO DISTRICT
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AUTHORITY

This planning assistance report was prepared by the Buffalo District, U.S. Army Corps of Engineers, under the authority of Section 206 of the 1960 Flood Control Act as amended.

OBJECTIVES

The purpose of this report is to provide planning assistance to the town of West Seneca by identifying and evaluating flood damage reduction measures which will meet the town's goals. The report provides information which can be used in both the present situation and in developing sound flood plain management goals for the future. A further objective is to determine if there is a Federal interest in implementing any of the recommended alternatives.

PRIOR REPORTS

The Corps provided a Flood Plain Information Study in 1966; a survey report indicating unfavorable economic feasibility for a reservoir on Buffalo Creek in 1974; a Flood Insurance Study for the town of West Seneca in 1974; and a feasibility study for construction of emergency temporary dikes in the Lexington Green area in 1977.

BACKGROUND

Buffalo Creek in the town of West Seneca, NY (see Exhibit 1), more particularly in the "Lexington Green" area (see Exhibit 2), has been the target of or has been included in a number of flood-associated efforts by the Buffalo District Corps of Engineers.

The Lexington Green area was substantially developed in the early to mid-1960's. The subdivision contains 90 homes and four vacant lots and is considered fully developed. Almost the entire subdivision is located in the Buffalo Creek flood plain. Significant ice jam flooding occurred in the spring of 1971 and 1979, with minor flooding occurring in the interim period. These flood problems established the high priority in the Lexington Green area for this study effort.

Flooding also occurs west of Union Road along the left bank of Buffalo Creek in the vicinity of School Street. Homes and garages in this area are older than in the Lexington Green area and are built immediately adjacent to the streambank. Flooding in this area is usually the result of high discharges overtopping Union Road west of the Union Road bridge. Homes and other buildings are flooded by water seeking its way back to the stream channel.

Subsequent to the March 1979 flood, a public meeting was held on 28 March 1979 in the town of West Seneca at the request of Congressman Jack Kemp and local officials. The purpose of the meeting was to allow affected residents along Buffalo Creek to express their perception of flood problems and ask appropriate questions of various agencies present at the meeting.

A need for a more in-depth look at the flood problem and potential solutions surfaced at this meeting. The Buffalo District Engineer specified that we would undertake a study that would address solutions of varying degrees.

FLOOD SITUATION

Significant overbank flooding generally occurs in the Lexington Green area in late winter as the result of ice jams during thaw conditions. Rainfall augmentation is not necessary to cause flooding, runoff from snowmelt is usually sufficient. Hydraulic analysis of the creek indicates that the channel can adequately pass approximately a 50-year discharge under ice free or "free flow" conditions. However flooding will occur in the subdivision with approximately a 50-year discharge under free flow conditions unless the flap gate at the end of Gregory Drive is closed and the internal storm water pumped into the creek. The normal storm drainage for the area is provided by two 1.5-foot diameter pipes under Lexington Green and Gregory Drive. The two pipes join at the intersection of Lexington Green and Gregory Drive and connect with a 2-foot diameter pipe which discharges through a flap gate into the creek. The flap gate functions properly in the summer or ice-free months but during the winter it has a tendency to stick in either an open or shut position due to ice and/or debris. If the gate is open during high flows the water from the creek backs up into the storm sewer system and floods streets. If the gate sticks in the closed position, little or no water from the subdivision can flow into the creek, causing the internal storm water to flood the streets. To preclude this deficiency, the town of West Seneca inflates a rubber bladder in the 2-foot diameter pipe, when winter conditions are appropriate, sealing off the storm sewer system from the creek and then pumps the storm water from a manhole into the creek. This is effective in keeping the area dry until overbank flooding and/or groundwater inflow exceeds the capacity of the pumps or if the pumps fail. Efficiency of the pumping is

also restricted by the capacity of the manhole chamber which is collecting the storm waters.

Too large a pump will draw water off more rapidly than the pipes can refill it, making the pumping operation highly inefficient. In March 1979, mechanical problems with the town pumps restricted pumping capacity allowing the floodwaters to overwhelm the system.

In addition to overbank flooding, the area has a groundwater flooding problem. Prior to 1950 Buffalo Creek meandered through the Lexington Green area. The U.S. Soil Conservation Service constructed a sediment control project in the area in the mid-50's which consisted of channelizing the creek, cutting off oxbows and installing grade and erosion control structures. The purpose of the project was to reduce sedimentation in the navigable portions of the Buffalo River and Buffalo Harbor. The "old" channel was filled with gravel and excavated material from the new channels. These old channels, on which the subdivision is built, are susceptible to heavy groundwater flows when the creek is high. Exhibit 3 shows the approximate alignment of the old channels.

Roads on the subdivision are generally 1 to 2 feet lower than the grade at the houses and form ponding areas when the capacity of the storm sewers is exceeded. Since the sanitary sewer system manholes are located within these ponding areas, the ponded water enters the sanitary sewer system, surcharging it.

Groundwater enters basements through drain tiles under the foundations. The residents generally are able to keep up with the groundwater flow entering their basements by pumping. In March 1979, after one of the town pumps failed, the groundwater and overbank flows exceeded the capacity of the remaining pumps overwhelming both the town's pumps and the individual home owners' pumps. Water rose high enough to break basement windows and enter basements through garage entrances. The water rose throughout the subdivision until it reached an overflow area and returned to the creek channel.

The outer perimeter of homes along Lexington Green are generally higher than homes along Brian Lane and Gregory Drive, forming a levee of sorts around the subdivision. There is one low-lying area between the houses at No. 77 and No. 89 Lexington Green. Overbank flows come through this low area and enter the streets further aggravating the internal drainage problems. Town work crews installed a sand bag levee across the low area but this was also overtopped. Once the low areas of the subdivision are filled with water, the flood situation prevails until the creek flow subsides and the pumping capacity overtakes the volume of water entering the area from both overbank and groundwater flows.

Town of West Seneca officials feel that if their pumping capability had not been impaired during the March 1979 flood situation, they might have been able to keep up with the inflow and prevented much of the flood damages.

Since March 1979, town officials have been working to develop a plan which will prevent a recurrence of the same type of problems.

Overbank flooding in the School Street area occurs generally under the same conditions which cause flooding at the Lexington Green area. Although the high water profiles in Exhibit 8, indicate that high water nearly fills the bridge opening at Union Road, the bridge does not unduly raise the upstream water surface. The bridge has a relatively low approach on the south end, which is overtopped during higher flood flows so that the bridge does not act as the control. Since the March 1979 flood the Union Road Bridge has been replaced, eliminating the center pier and increasing the capacity of the bridge opening and the south approach was raised. As of this date the construction is not complete and no field surveys of the new bridge or its south approach are available. However, discussion with NYSDOT revealed that the overflow area taken away when the bridge approach was raised was more than compensated for by increasing the area under it.

Local residents attributed flooding in the School Street area to an ice jam at the N.Y.C.R.R. Bridge downstream. Field investigations indicate that this is not the case since the flood waters would overtop the railroad embankment before the backwater became high enough to cause flooding at School Street. The flooding in the School Street area was caused by ice jams in the vicinity of the Union Road bridge which allowed flood waters to overtop the road.

FLOOD LOSSES

Field Investigation

In June and July 1979, Buffalo District field personnel interviewed residents of the Lexington Green area to determine the extent, causes, and sources of flooding. Of the 90 homes in the subdivision, 72 were interviewed. The

remainder were unavailable or unaffected. It was found that 59 homes were affected by flooding in March 1979. Of the 59 affected units, five experienced first-floor flooding. The unaffected units were those along and near Mineral Spring Road, on Leo Court, and a small number on Lexington Green. It was learned that the area also had experienced flooding in 1970, 1971, and 1972. Damage estimates for 1970 and 1972 are unavailable. The estimated flood damage for 1971 and 1979 at 1979 price levels are \$70,000 and \$375,000, respectively.

Modifications made to the Union Road bridge and its southern approach as previously discussed, will reduce the flood potential in the School Street area. By increasing the bridge opening and raising the south approach, the State Department of Transportation made a concerted effort to correct the flood problem. Further field investigations would be required to determine the degree of improvement provided by the new bridge. Structural alternatives at School Street are limited by the relatively few homes that are affected and the limited space available for construction of structural measures. Basically, there are not sufficient average annual damages in the School Street area to justify the type of structural measures necessary to relieve the problem.

Floodproofing may be viable on a limited basis but many of the buildings have structural deficiencies which would limit the effectiveness of floodproofing measures.

Average Annual Damages

Average annual damages were determined by combining the stage damage curve (see Exhibit 4) derived from the field survey data with the ice rating curve

(see Exhibit 5) and the discharge frequency curve (Exhibit 6). The ice rating curve was derived by running backwater computations assuming the channel was plugged with ice. The average annual damages are estimated to be approximately \$119,000.

ALTERNATIVE FLOOD DAMAGE REDUCTION MEASURES

General

Flood damage prevention may be accomplished by modifying the flood to prevent flooding of development (flood control) or by modifying the development to prevent damages when flooding occurs (floodproofing). Both of these approaches were considered independently and jointly for meeting the town's objectives of minimizing flood damages to existing development on Buffalo Creek.

The economic evaluations in this report are based on Corps of Engineers experience for similar considerations. Average annual flood damages are based on statistical analyses of potential flood damages. Average annual benefits are the difference in average annual flood damages with and without the plan of improvement plus other identifiable monetary benefits that accrue as a direct result of the plan of improvement. Construction costs include estimates for rights-of-way and utility modifications.

Flood Control Measures

Since flood control would have the potential for meeting all local objectives, these possibilities were investigated early in the study. It was determined that upstream flood storage, limited channel improvement, and

Levees would be applicable flood control measures on the creek. However, further studies showed that flood storage reservoirs for reducing downstream discharges were not economically feasible. Therefore, further evaluation was focused on limited channel improvement and levee schemes.

Channel Improvements

The existing channel has capacity to adequately pass the 50-year flow without flooding if uncomplicated by ice and if the flap gate at the end of Gregory Drive is shut and the storm sewer is pumped. However, most or all of the flooding occurs when ice conditions are present. Simulation of an ice condition was accomplished in the hydraulic computations. It was determined that to help alleviate the ice-associated problems, the bends in the channel, especially downstream of the Lexington Green area, should be cleared of snags and shoals. The town of West Seneca has authorized the expenditure of funds to clear the stream of shoals in that area. The effect of further channel improvement would be minimal. To resolve the flood problems by channel improvement alone, a very extensive and costly project would be required and is probably well outside of the town's financial capability. Such a project would probably incur environmental problems and be economically unjustified.

Levees

An alternative for confining flood flows to the channel and right overbank by leveeing was developed. The alternative consists of:

- a. A compacted earthen levee about six feet high with a 10-foot top width and 2.5H on 1V sideslopes. An impermeable key would be placed under the levee to minimize groundwater flow (See Exhibit 7A).

b. Replacement of the flap gate on the 24-inch storm sewer outfall with a 24-inch gatewell with flap and sluice gates.

c. Installation of a high capacity lift station at the intersection of Gregory Drive and Lexington Green to control internal drainage.

The alignment of the levee is shown in Exhibit 7. The creek side of the levee would be riprapped to protect it from erosive velocities. This levee would provide protection to about the 12-year level with 3 feet of freeboard. A greater degree of protection can be provided by increasing the levee height. A 1-foot increase in height would provide 25-year protection with 3 feet of freeboard. A 2-foot increase in height would provide 75-year protection and a 3-foot increase in height would provide 200-year protection, both with 3 feet of freeboard. Current Federal policy requires 3 feet of freeboard on all flood control levees as a safety factor.

Cross sections showing the 12-year protection levee and its relationship to the houses are enclosed in Appendix A. Each foot of increased height would move the toe of the levee 2-1/2 feet closer to the houses. Construction of any of the levee plans would require removal of one inground swimming pool, relocation of several aboveground pools and storage buildings as well as relocation of the electrical power line.

The alignment of the levee is about the same for each plan and is such that it minimizes flow restrictions. This would also result in taking a considerable amount of backyard area from the resident at the downstream end of Lexington Green who has encroached on the channel by backfilling.

While these levee alternatives provide a good degree of protection, overtopping or failure of a levee during a flood event could have catastrophic results. Since most floods in the Lexington Green area are caused by ice jams, it is reasonable to assume that sudden rises in the water surface elevation could occur without ample warning. Since the area behind the levee is relatively small, overflow into the area could fill the area very rapidly, leaving little time for evacuation. The cost estimate for each of the four levee alternatives are shown in Tables 1, 2, 3, and 4.

Table 1 - Cost Estimate - Levee Alt. 1
 12-Year Protection
 Top Elevation 601.0 Feet

Item	Quantity	Unit	Unit Price	Amount
Federal Costs:				
Trenching & Placement of Impervious Key	30,800	SF	4.00	123,200
Clearing & Grubbing	4	Acres	1,500	6,000
Riprap (in place)	2,500	L.F.	140	350,000
Grading	6,200	CY	2.15	13,330
Select Fill - Placed and Shaped	17,200	CY	5.55	95,460
Seeding	4	Acres	855	3,420
24-Inch Gatewell of Flap and Sluice Gates	1	LS	10,000	10,000
Storm Sewer Lift Station	1	LS	26,500	<u>26,500</u>
Contractor's Earnings				627,910
Contingencies (25% +)				<u>157,090</u>
Contractor's Earnings & Contingencies				785,000
Engineering & Design (15% +)				118,000
Supervision & Administration (10% +)				<u>78,000</u>
Total Federal Cost				981,000
Non-Federal Costs:				
Lands, Easements & Rights-of-Way	LS	LS	70,000	70,000
Relocation of Utility Lines	LS	LS	50,000	<u>50,000</u>
Total Non-Federal Cost				120,000
Total Federal & Non-Federal Cost				<u>1,101,000</u>

Table 2 - Cost Estimate - Levee Alt. 2
25-Year Protection
Top Elevation 602.0 Feet

Item	Quantity	Unit	Unit Price	Amount
			\$	\$
Federal Costs:				
Trenching & Placement of Impervious Key	30,800	SF	4.00	123,200
Clearing & Grubbing	4.2	Acres	1,500	6,300
Riprap (in place)	2,500	L.F.	140	350,000
Grading	6,800	CY	2.15	14,620
Select Fill - Placed and Shaped	22,000	CY	5.55	122,100
Seeding	4.2	Acres	855	3,591
24-Inch Gatewell of Flap and Sluice Gates	1	LS	10,000	10,000
Storm Sewer Lift Station	1	LS	26,500	<u>26,500</u>
Contractor's Earnings Contingencies (25% ±)				656,311
				<u>164,689</u>
Contractor's Earnings & Contingencies				821,000
Engineering & Design (15% ±)				123,000
Supervision & Administration (10% ±)				<u>82,000</u>
Total Federal Cost				1,026,000
Non-Federal Costs:				
Lands, Easements & Rights-of-Way	LS	LS	70,000	70,000
Relocation of Utility Lines	LS	LS	50,000	<u>50,000</u>
Total Non-Federal Cost				120,000
Total Federal & Non-Federal Cost				1,146,000

Table 3 - Cost Estimate - Levee Alt. 3
75-Year Protection
Top Elevation 603.0 Feet

Item	Quantity	Unit	Unit Price	Amount
			\$	\$
Federal Costs:				
Trenching & Placement of Impervious Key	30,800	SF	4.00	123,200
Clearing & Grubbing	4.5	Acres	1,500	6,750
Riprap (in place)	2,500	L.F.	140	350,000
Grading	7,350	CY	2.15	15,803
Select Fill - Placed and Shaped	27,000	CY	5.55	149,850
Seeding	4.5	Acres	855	3,848
24-Inch Gatewell of Flap and Sluice Gates	1	LS	10,000	10,000
Storm Sewer Lift Station	1	LS	26,500	<u>26,500</u>
Contractor's Earnings				685,951
Contingencies (25% +)				<u>172,049</u>
Contractor's Earnings & Contingencies				858,000
Engineering & Design (15% +)				129,000
Supervision & Administration (10% +)				<u>86,000</u>
Total Federal Cost				:1,073,000
Non-Federal Costs:				
Lands, Easements & Rights-of-Way	LS	LS	70,000	70,000
Relocation of Utility Lines	LS	LS	50,000	<u>50,000</u>
Total Non-Federal Cost				120,000
Total Federal & Non-Federal Cost				:1,193,000

Table 4 - Cost Estimate - Levee Alt. 4
 200-Year Protection
 Top Elevation 604.0 Feet

Item	Quantity	Unit	Unit Price	Amount
			\$	\$
Federal Costs:				
Trenching & Placement of Impervious Key	30,800	SF	4.00	123,200
Clearing & Grubbing	4.9	Acres	1,500	7,350
Riprap (in place)	2,500	L.F.	140	350,000
Grading	7,900	CY	2.15	16,985
Select Fill - Placed and Shaped	32,000	CY	5.55	177,600
Seeding	5.2	Acres	855	4,446
24-Inch Gatewell of Flap and Sluice Gates	1	LS	10,000	10,000
Storm Sewer Lift Station	1	LS	26,500	<u>26,500</u>
Contractor's Earnings				716,081
Contingencies (25% +)				<u>178,919</u>
Contractor's Earnings & Contingencies				895,000
Engineering & Design (15% +)				134,000
Supervision & Administration (10% +)				<u>91,000</u>
Total Federal Cost				1,120,000
Non-Federal Costs:				
Lands, Easements & Rights-of-Way	LS	LS	70,000	70,000
Relocation of Utility Lines	LS	LS	50,000	<u>50,000</u>
Total Non-Federal Cost				120,000
Total Federal & Non-Federal Cost				<u>1,240,000</u>

Pumping

One of the least costly alternatives investigated consists of filling the low area between the houses at No. 77 and 89 Lexington Green, floodproofing the sanitary manholes and installing a high capacity storm sewer lift station with a large collection chamber. A 24-inch gatewell with flap and sluice gates would be installed in place of the present flap gate at the storm sewer outfall (see Exhibit 8).

This alternative would provide about 50-year protection under free flow conditions and about 10-year protection with ice conditions. It would provide a relatively inexpensive form of protection with a minimum of effort from town forces. The sluice gate would have to be manually closed during flood events but this could be accomplished by local residents. Present town pumping equipment could be used as back-up for the lift station equipment. The costs for this alternative are summarized in Table 5.

Table 5 - Cost Estimate - Pumping Alternative 5
10-Year Protection

Item	Quantity	Unit	Price	Amount
Select Fill-Placed and Shaped	100	C.Y.	5.55	555
Storm Sewer Lift Station	L.S.	L.S.	26,500	26,500
Manhole Covers & Frames Installed	40	ea.	1,000	40,000
24-Inch Gatewell of Flap and Sluice Gates	1	ea	10,000	<u>10,000</u>
Contractor's Earnings				77,055
Contingencies (25% <u>+</u>)				<u>18,945</u>
Contractor's Earnings & Contingencies:				96,000
Engineering & Design (15% <u>+</u>)				14,400
Supervision & Administration				<u>9,600</u>
Total First Cost				120,000

Floodproofing

The field investigation indicated that much damage could have been prevented if floodproofing of individual structures, and the sanitary sewer system, had been implemented. The residences all essentially have hung plumbing which lends well to floodproofing efforts. The town would also have to maintain pumping of the storm sewer system.

A large number of residents "lost" the flood fight when the water rose high enough to break through the basement windows and/or spill into basement stairwells, overwhelming their pumping capability. Replacing the windows with glass block and constructing masonry walls or other protection around entrances to stairwells would have been very effective for a flood of this magnitude. Access to and from residences would have been a severe handicap, but damage to individual structures and contents would have been minimized.

The floodproofing alternative consists of:

- a. Installation of glass block in basement windows of approximately 60 homes.
- b. Installation of high discharge submersible sump pumps in approximately 60 homes.
- c. Installation of watertight bulkheads on basement entrances of approximately 60 homes.
- d. Installation of watertight covers on approximately 40 sanitary manholes.

e. Installation of a 1,000 GPM storm sewer lift station at the intersection of Lexington Green and Gregory Drive.

f. Installation of a 24-inch gatewell with flap and sluice gates in place of the present flap gate on the storm sewer outfall.

The costs for this alternative are summarized in Table 6.

Table 6 - Cost Estimate - Floodproofing Alternative 6
10 Year Protection

Item	Quantity	Unit	Unit Price	Amount
			\$	\$
Glass Block	300	Windows	40	12,000
Sump Pumps	60	Ea	275	16,500
Basement Bulkheads	60	Ea	300	18,000
Manhole Covers & Frames	40	Ea	1,000	40,000
24-Inch Gatewell of Flap and Sluice Gates	1	Ea	10,000	10,000
Lift Station	1	Ea	26,500	<u>26,500</u>
Contractor's Earnings				123,000
Contingencies (25% +)				<u>30,000</u>
Contractor's Earnings & Contingencies				153,000
Engineering & Design (15% +)				23,000
Supervision & Administration				<u>15,000</u>
Total First Cost				191,000

On an individual basis, each homeowner could implement his/her own floodproofing efforts. A preliminary cost estimate is given in Table 7.

Table 7 - Individual Residence Floodproofing

Item	Quantity	Unit	Unit Price	Amount
			\$	\$
Glass Block	5	Windows	40	200
Sump Pump	1	Ea	275	275
Basement Bulkheads <u>1/</u>	1	Ea	300	<u>300</u>
Total				775

1/ As Required

Flood Fighting

Flood fighting is a companion effort of any flood damage reduction measure. In the case of the Lexington Green area, several hours spent to elevate goods could have reduced damage somewhat. Because of the abrupt nature of ice jam flooding, it is necessary to take action far in advance of anticipated problem periods. How far in advance depends on how much has to be done. Attention should be focused on elevating, in order of value, the goods located in the basement. In many cases, it may be necessary to bring items to the first floor. This is an individual effort and prioritizing efforts should be written down by each homeowner in the affected area with specific duties for each member of the household.

In addition, the town should annually advise residents of steps they should take relative to flood fighting and evacuation. The Corps will, upon request, assist in this effort.

The average annual costs for each alternative based on a 50-year project life at 6-7/8 percent interest are summarized in Table 8. All prices are at the July 1979 price levels.

Benefits

Damage records were assembled from previous studies and interviews with local residents and town officials. Average annual damages were derived by combining stage-discharge, stage-damage, and discharge-frequency curves. The levee alternatives are estimated to provide protection from 12-year, 25-year, 75-year, and 200-year level. The pumping and floodproofing alternatives will provide protection to about the 10-year level. Average annual flood inundation reduction benefits are the value of average annual damages prevented up to the protection level of each alternative. All damages are residential, no commercial damages were reported, and public damages were minor. Detour costs are not applicable since none of the streets are through streets. The average annual damages and benefits for each alternative are summarized in Table 9.

Area redevelopment benefits presented in Table 9 are based upon utilization of unemployed or underemployed labor resources in the construction and installation of a Federal construction project. As explained in the Principles and Standards (Federal Guidelines for Water Resources Projects), this component is an adjustment to the cost of a project, and reflects the fact that there is no economic cost associated with the use of an otherwise underemployed resource. Area redevelopment benefits are limited to earnings by unemployed or underemployed labor resources directly employed as a result of the construction or implementation of a plan or the portion of a plan in officially designated areas. 1/

Computation of area redevelopment benefits are included in Appendix C.

The affluence factor benefits presented in Table 9 are based on the effects of increasing per capita income on the value of the stock of real property and contents. In effect, the higher the per capita income, the more money an individual will invest in improving his home and its furnishings. It is assumed that 40 percent of the damages caused by flooding are to the contents of the home. The estimated affluence factor for the Buffalo Metropolitan area, based on previous District experience, is estimated at 50 percent. Affluence factor benefits are summarized in Table 9.

1/ Department of the Army, Planning and Evaluation of NED Employment Benefits, ER 1105-2-354, 17 April 1978.

Table 8 - Annual Charges

Item	Levees				Pumping	Floodproofing
	12-Yr. Prot.	25-Yr. Prot.	75-Yr. Prot.	200-Yr. Prot.	10-Yr. Prot.	10-Yr. Prot.
	\$	\$	\$	\$	\$	\$
First Cost	1,101,000	1,146,000	1,193,000	1,240,000	120,000	191,000
Annual Charges:						
Capitol Recovery Factor (0.07132)	78,523	81,733	85,085	88,437	8,558	13,622
Maintenance ^{1/}	<u>15,477</u>	<u>16,267</u>	<u>16,915</u>	<u>17,563</u>	<u>1,842</u>	<u>3,078</u>
Total Annual Charges	94,000	98,000	102,000	106,000	10,400	16,700

^{1/} 2%+ of construction costs.

Table 9 - Average Annual Benefits

Item	Levees				Pumping	Floodproofing
	12-Yr. Prot.	25-Yr. Prot.	75-Yr. Prot.	200-Yr. Prot.	10-Yr. Prot.	10-Yr. Prot.
	\$	\$	\$	\$	\$	\$
Average Annual Damages						
Existing Conditions	119,000	119,000	119,000	119,000	119,000	119,000
Improved Conditions	<u>93,000</u>	<u>90,000</u>	<u>65,000</u>	<u>30,000</u>	<u>105,000</u>	<u>105,000</u>
Average Annual Flood Inundation Reduction Benefits	26,000	29,000	54,000	89,000	14,000	14,000
Affluence Factor ^{1/}	5,200	5,800	10,800	17,800	2,800	2,800
Area Redevelopment ^{2/}	<u>8,622</u>	<u>9,017</u>	<u>9,424</u>	<u>9,830</u>	<u>1,054</u>	<u>1,680</u>
Total Average Annual Benefits	39,822	43,817	74,224	116,630	17,854	18,480

^{1/} Assuming 40 percent of residential damages prevented are to contents of homes and the estimated affluence factor of 50 percent based on District experience with other projects in the Buffalo-Erie County area (\$26,000 X 40% X 50% = \$5,200).

^{2/} Area Redevelopment Benefits computations are shown in Appendix C - Economic Data.

The average annual costs and average annual benefits for each alternative are summarized in Table 10.

Table 10 - Cost Analysis

Alternative	First Cost	Average Annual Benefits	Average Annual Charges	Net Benefits	Benefit Cost Ratio
Levee 1	\$ 1,101,000	\$ 39,822	\$ 94,000	\$ -54,178	0.42
Levee 2	1,146,000	43,817	98,000	-54,183	0.45
Levee 3	1,193,000	74,224	102,000	-27,776	0.73
Levee 4	1,240,000	116,630	106,000	10,630	1.10
Pumping	120,000	17,854	10,400	7,454	1.72
Floodproofing	191,000	18,480	16,700	1,780	1.11

Flood insurance is available to the residents of West Seneca under the National Flood Insurance Program. Damage survey interviews indicate that approximately 35 percent of the residents in the Lexington Green area were insured. Based on these interviews, the claims were settled promptly and only a small number of residents expressed dissatisfaction with the claim adjustor's evaluation of damages.

While flood insurance cannot prevent flood damage, it can ease the economic impacts on the residents in floodprone areas. It is recommended that residents in the Lexington Green and School Street areas reconsider the need for purchasing flood insurance.

CONCLUSIONS

Based on these investigations, the following conclusions have been reached regarding the flood situation on Buffalo Creek in the town of West Seneca:

School Street Area

1. Modifications to the Union Road bridge and its southern approach may provide some limited relief from flood problems. The exact extent of such relief is not known at this time.
2. Due to the physical nature of the area other structural flood control measures are not engineeringly or economically feasible.
3. Floodproofing may provide some relief but it would require a case by case evaluation. Generally, structural deficiencies in the buildings do not lend themselves to effective floodproofing.
4. The only permanent solution appears to be permanent evacuation. However, based on the preliminary economic analysis, there is no basis for Federal participation in this alternative. Local support for this alternative is also doubtful.

Lexington Green Area

1. Several viable alternatives for local flood protection have been identified for Lexington Green. Three of the alternatives namely, 200-year levee protection, pumping and floodproofing are cost effective and readily implementable by the town. Under present Federal policies, the Corps could

be involved in construction of Alternative 4, but the pumping and flood-proofing plans do not provide a sufficient degree of protection to warrant Federal involvement.

2. Alternative 5, Pumping, is basically the same as the flood fighting plan currently in use by town officials. It upgrades some of the existing features of the plan making these features more permanent in nature and reducing the need for mobilization of work crews on an emergency basis. The plan lends itself well to a gradual implementation as funds are available. If this plan were implemented on a gradual basis the highest priority should be given to installing the 24-inch gatewell and filling the low area between 77 and 89 Lexington Green. Second priority should be given to installing the sewer lift station and the last stage should be floodproofing the manholes.

At the same time individual home owners should be encouraged to floodproof their homes.

Alternative 6 is essentially the same as Alternative 5 plus floodproofing of individual homes.

There is no basis for Federal participation in implementing either Alternative 5 or 6 because of the relatively low degree of protection provided. But either alternative would reduce average annual damages within the subdivision.

3. Alternative 4 - The 200-year protection levee plan is the only alternative in which there may be basis for Federal participation. Based on this

preliminary investigation it appears that a local flood protection project under the authority of Section 205 of the 1948 Flood Control Act, as amended, may be feasible. Further detailed studies would be required and can be initiated by a request from town officials. The most optimistic time schedule for commencing construction of a project at Lexington Green under Section 205 is 1984 provided the detailed study still supports a project.

Since Alternative 4 incorporates many of the features of Alternative 5, the town could proceed with installation of the common features which would serve as intermediate protection measures which could then be incorporated into the Federal project later. Installation of the common features would be a Federal cost under Section 205. However, since a Section 205 project would take considerable time to implement, the town might not wish to wait for a Federal project to implement these features.

4. If the town of West Seneca elects to seek Federal assistance under Section 205, a letter of intent to provide the following local assurances prior to initiation of the detailed study would be required from New York State Department of Environmental Conservation:

a. Provide, without cost to the United States, all lands, easements, and rights-of-way necessary for the construction, borrow, and spoil areas and subsequent maintenance of the project, as required.

b. Hold and save the United States free from damages due to construction of the project except for damages due to the fault or negligence of the United States or its Contractors.

c. Maintain and operate the project, or integral parts, after completion in accordance with regulations prescribed by the Secretary of the Army.

d. Provide, without cost to the United States, all alterations and relocations of existing improvements including bridges, highways, buildings, utilities, sewers, and other facilities, except as otherwise provided.

e. Prescribe and enforce regulations to prevent obstruction or encroachment that would interfere with proper functioning or maintenance and operation of the project.

f. Assume full responsibility above the Federal cost limit of the project. The Federal cost limitation is \$2,000,000.

The Buffalo District staff is available to provide planning and technical assistance to town officials in implementing any of the proposed alternatives discussed in this report or any combination of these alternatives. Requests for assistance should be directed to Colonel George P. Johnson, District Engineer, 1776 Niagara Street, Buffalo, NY 14207.

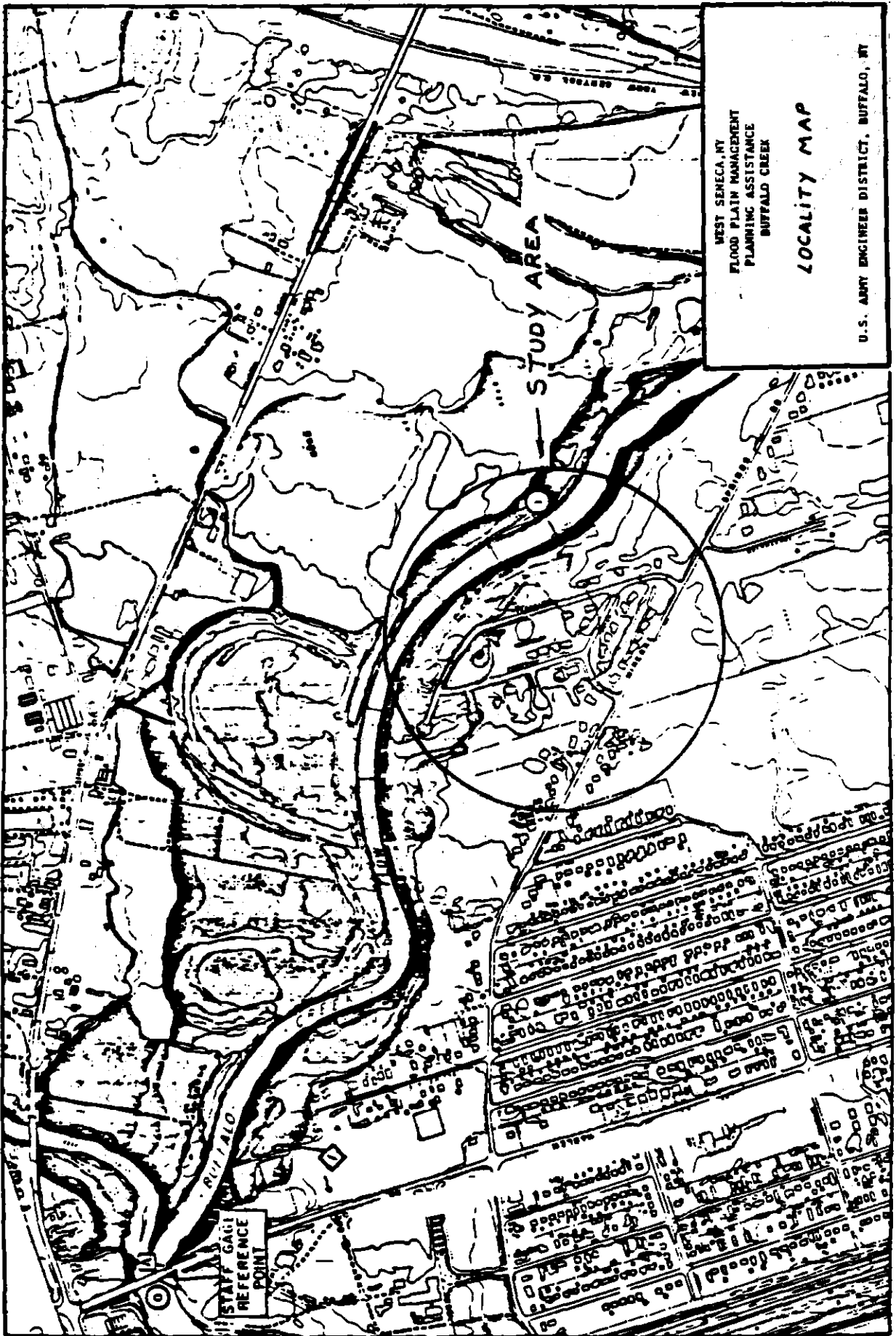
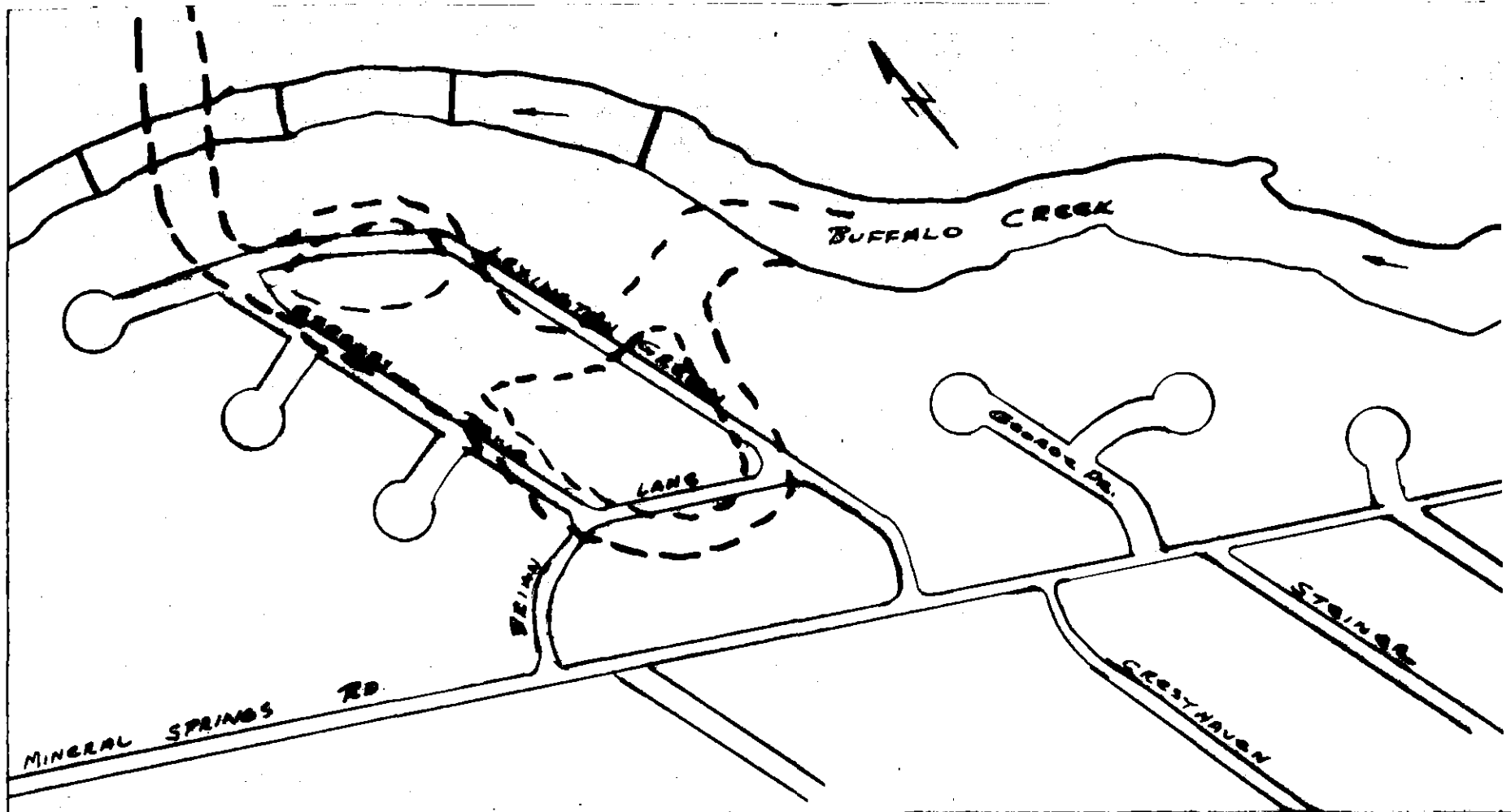


EXHIBIT 2

EXHIBIT 3



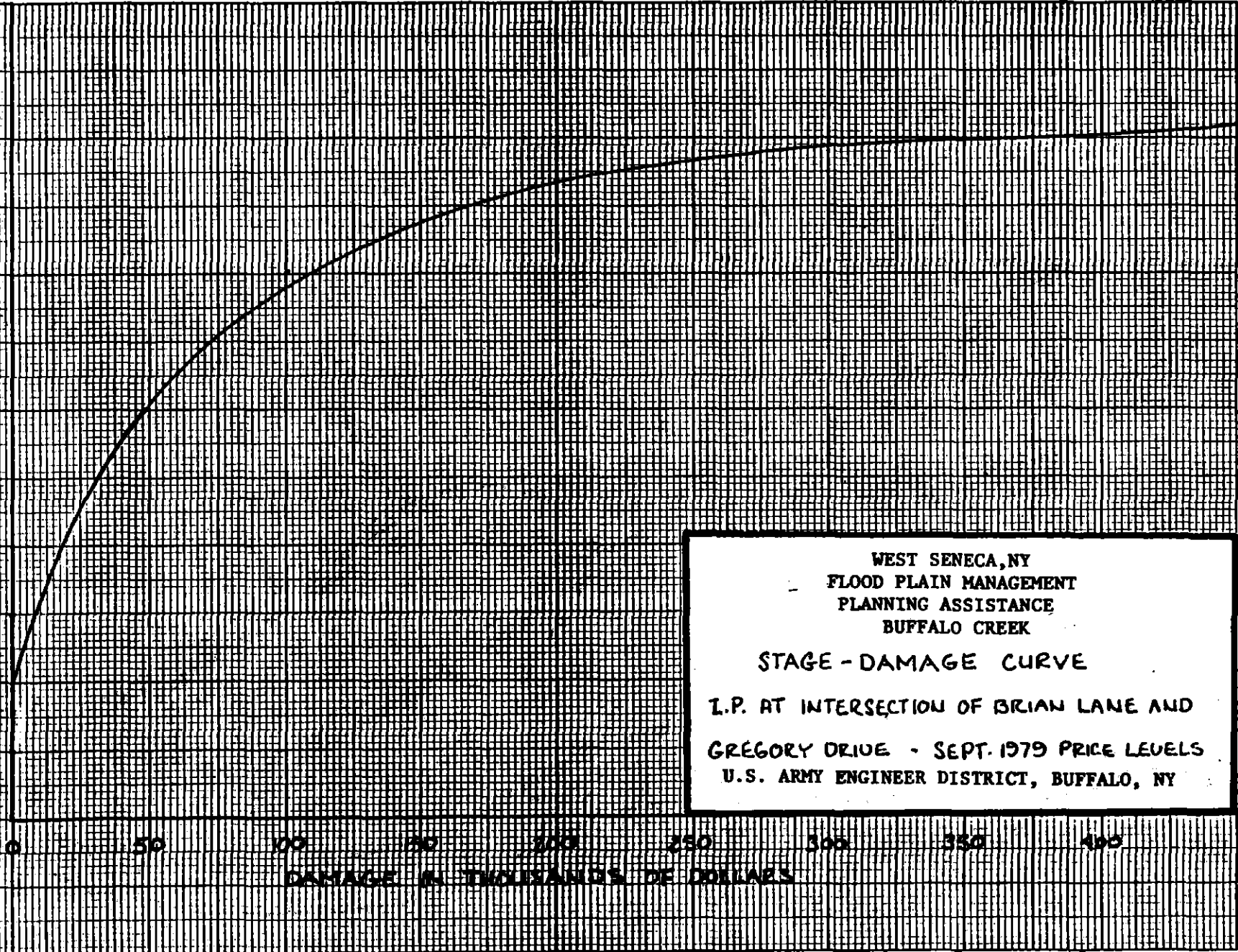
WEST SENECA, NY
FLOOD PLAIN MANAGEMENT
PLANNING ASSISTANCE
BUFFALO CREEK

OLD CREEK BED
PRE - 1950

U.S. ARMY ENGINEER DISTRICT, BUFFALO, NY

ELEVATION IN FEET U.S.C. & G.S. DATUM

598
597
596
595
594
593

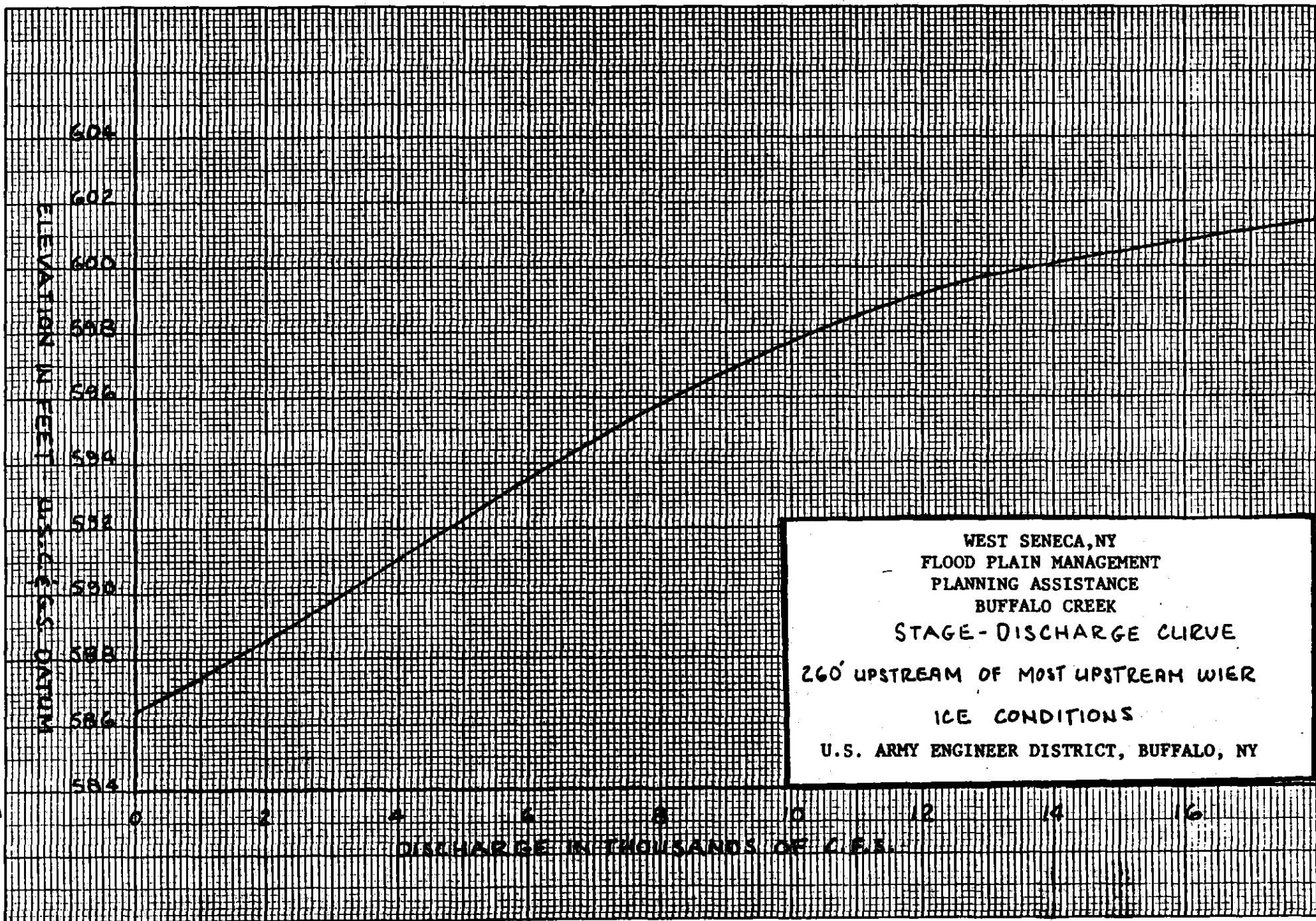


WEST SENECA, NY
 FLOOD PLAIN MANAGEMENT
 PLANNING ASSISTANCE
 BUFFALO CREEK

STAGE - DAMAGE CURVE

I.P. AT INTERSECTION OF BRIAN LANE AND
 GREGORY DRIVE - SEPT. 1979 PRICE LEVELS
 U.S. ARMY ENGINEER DISTRICT, BUFFALO, NY

EXHIBIT 4



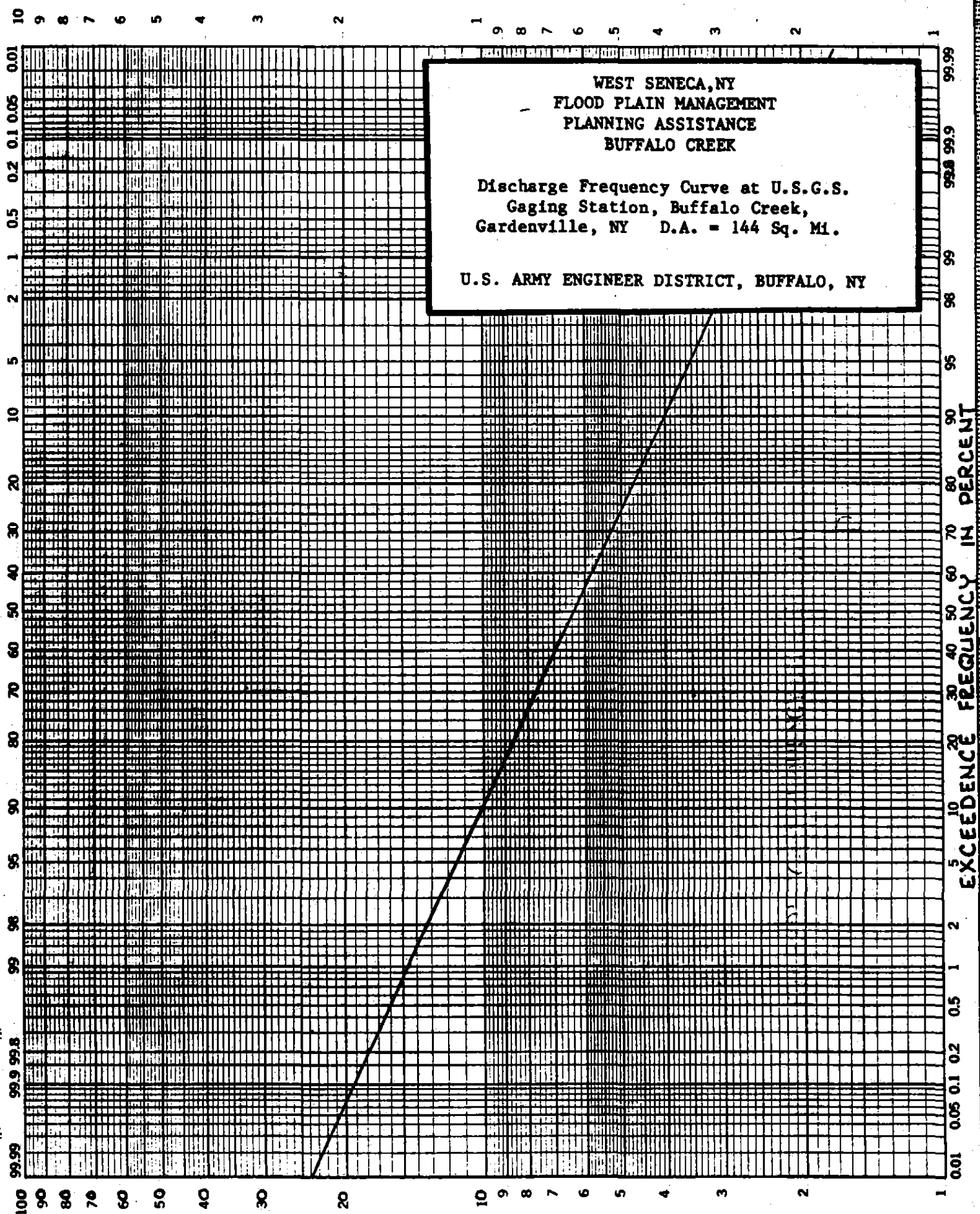
WEST SENECA, NY
FLOOD PLAIN MANAGEMENT
PLANNING ASSISTANCE
BUFFALO CREEK
STAGE-DISCHARGE CURVE
260' UPSTREAM OF MOST UPSTREAM WIER
ICE CONDITIONS
U.S. ARMY ENGINEER DISTRICT, BUFFALO, NY

EXHIBIT 5

WEST SENECA, NY
FLOOD PLAIN MANAGEMENT
PLANNING ASSISTANCE
BUFFALO CREEK

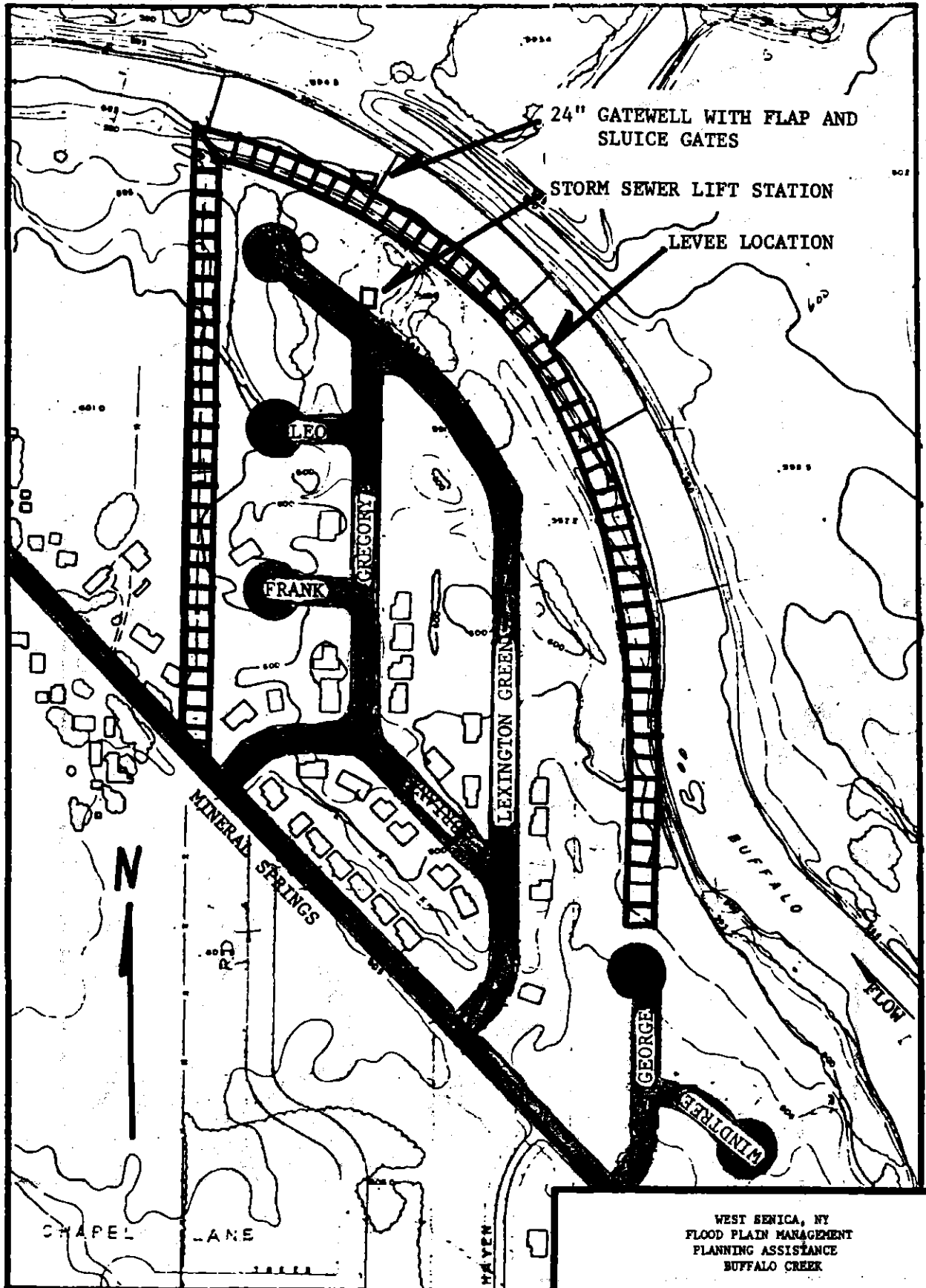
Discharge Frequency Curve at U.S.G.S.
 Gaging Station, Buffalo Creek,
 Gardenville, NY D.A. = 144 Sq. Mi.

U.S. ARMY ENGINEER DISTRICT, BUFFALO, NY



DISCHARGE IN THOUSANDS OF C.F.S.

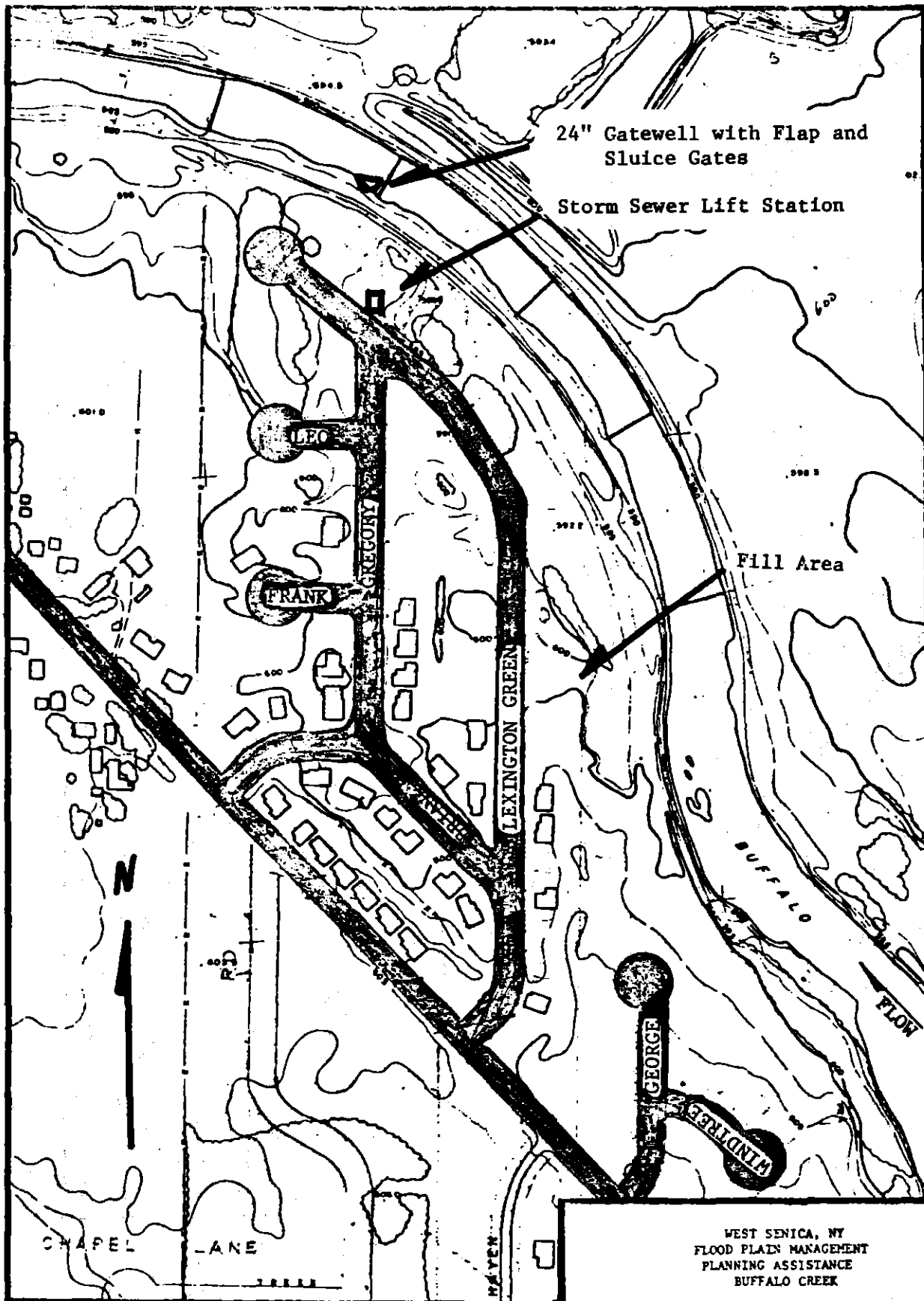
EXHIBIT 6



WEST SENICA, NY
FLOOD PLAIN MANAGEMENT
PLANNING ASSISTANCE
BUFFALO CREEK

ALTERNATIVE #4 (LEVEE)

U. S. ARMY ENGINEER DISTRICT, BUFFALO, NY



24" Gatewell with Flap and Sluice Gates

Storm Sewer Lift Station

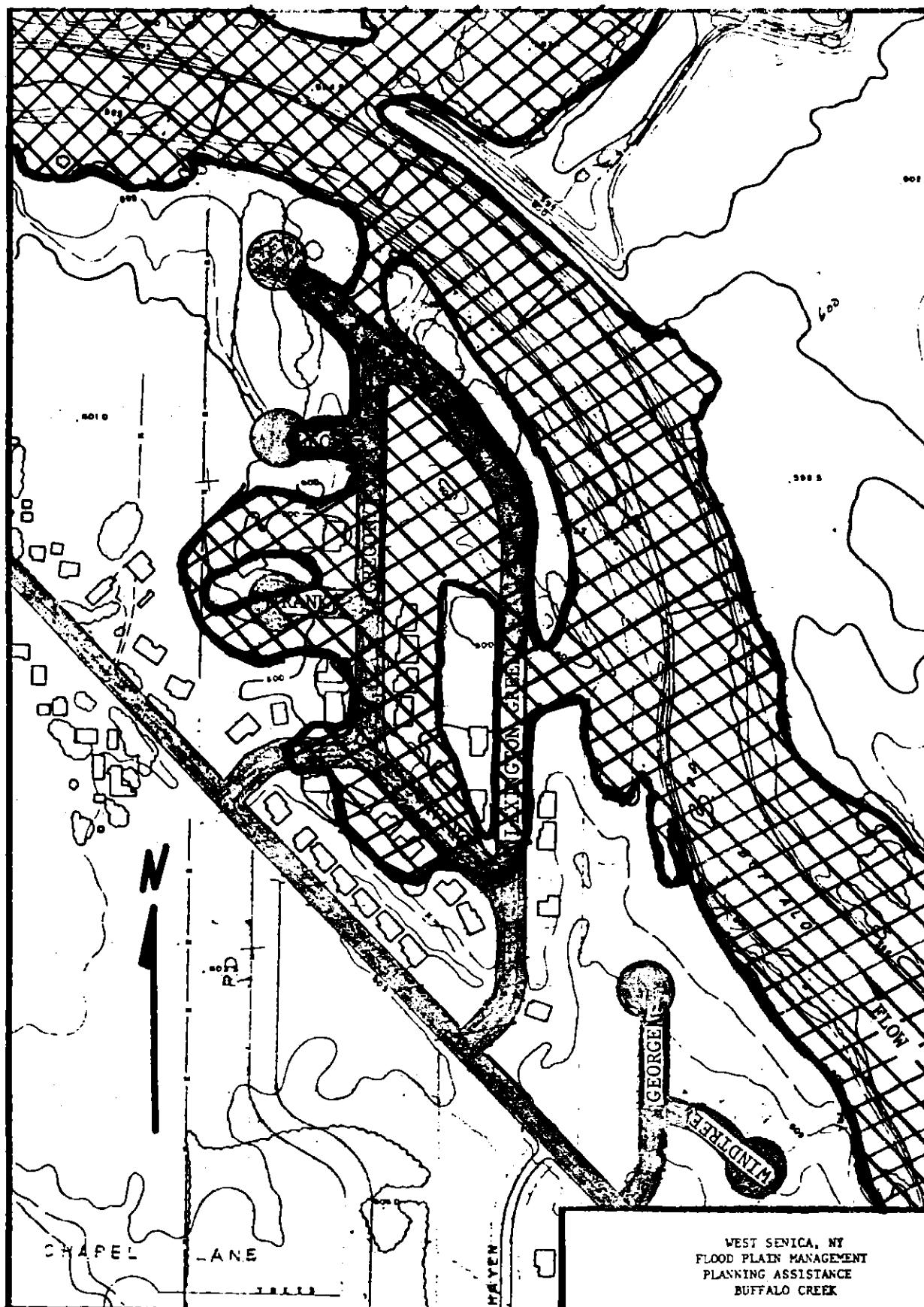
Fill Area

CHAPEL LANE

MAYEN

WEST SENICA, NY
 FLOOD PLAIN MANAGEMENT
 PLANNING ASSISTANCE
 BUFFALO CREEK

ALTERNATIVES #5 & #6 (PUMPING)
 U. S. ARMY ENGINEER DISTRICT, BUFFALO, NY



WEST SENICA, NY
 FLOOD PLAIN MANAGEMENT
 PLANNING ASSISTANCE
 BUFFALO CREEK
 MARCH 4-6, 1979 FLOODED OUTLINE
 U. S. ARMY ENGINEER DISTRICT, BUFFALO, NY

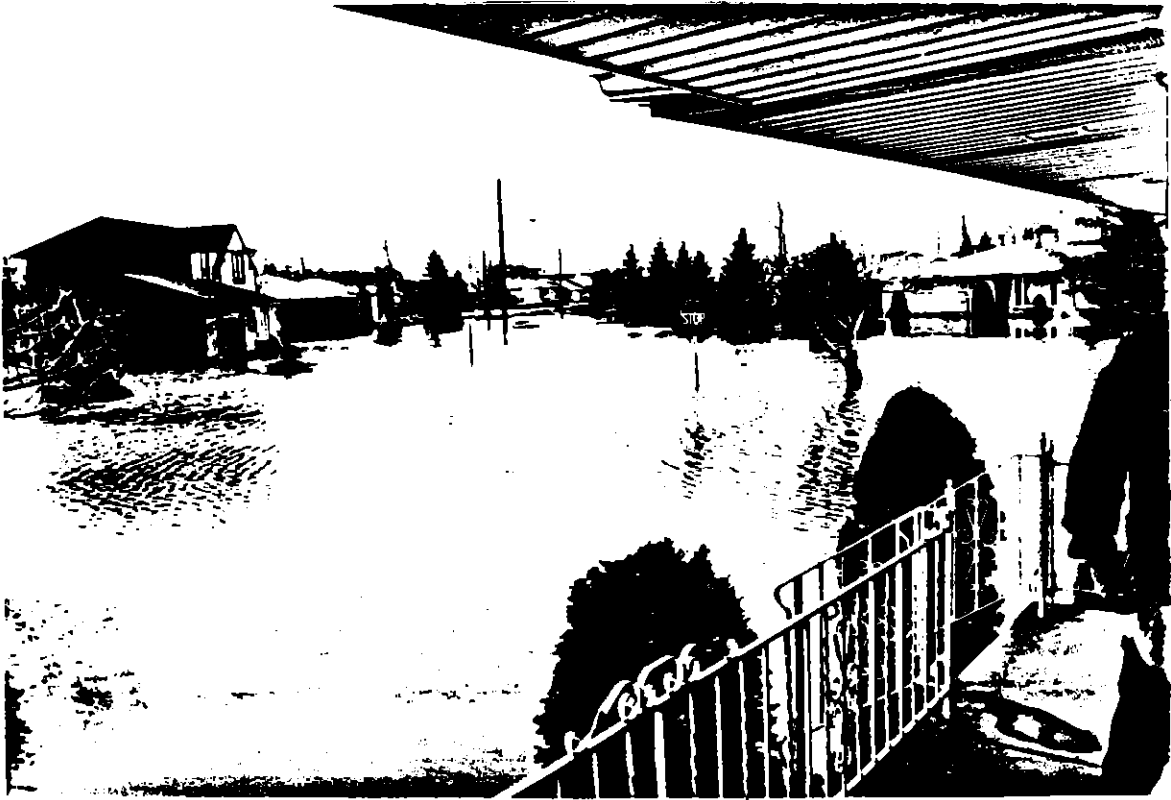
Planning Assistance Report
Town of West Seneca, NY
Buffalo Creek



Intersection of Brian Lane and Gregory Drive
Photo taken 5 March 1979. Water was
approximately 1.5' higher at its maximum height.

September 1979

Planning Assistance Report
Town of West Seneca, NY
Buffalo Creek



Intersection of Brian Lane and Gregory Drive
Photo taken 5 March 1979. Water was
approximately 1.5' higher at its maximum height.

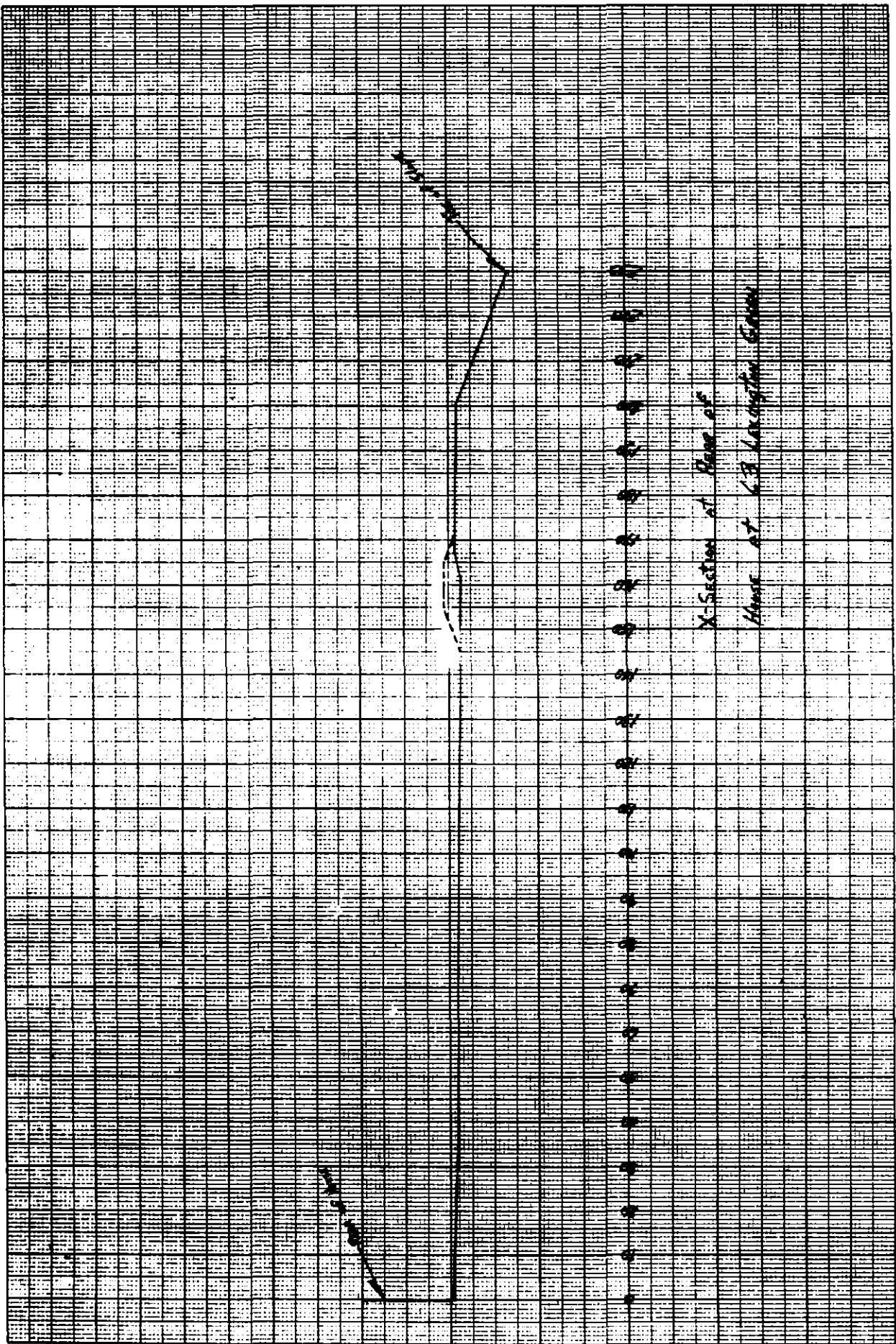
September 1979

Planning Assistance Report
Town of West Seneca, NY
Buffalo Creek

APPENDIX A

Sections Showing
Dike Location

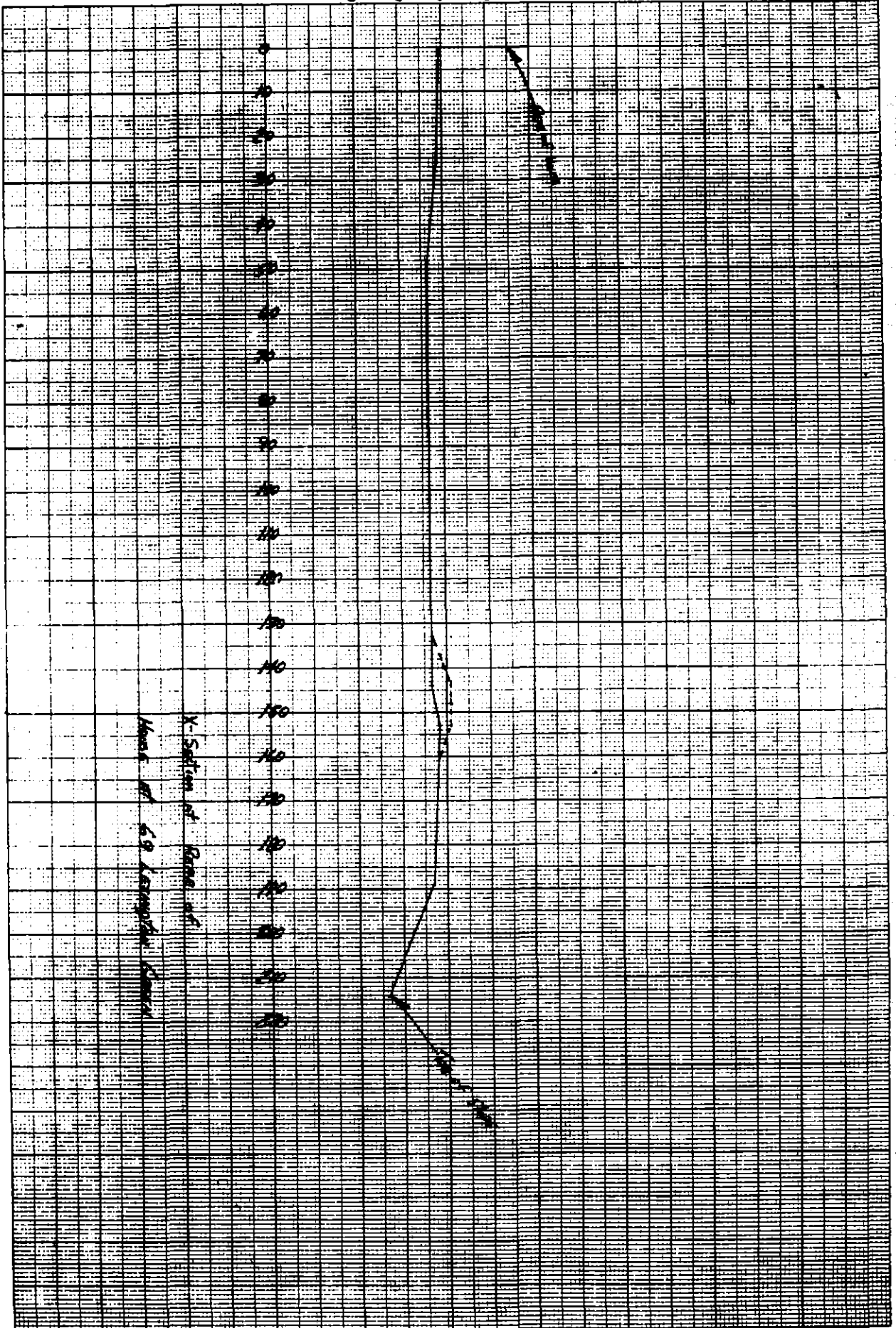
September 1979



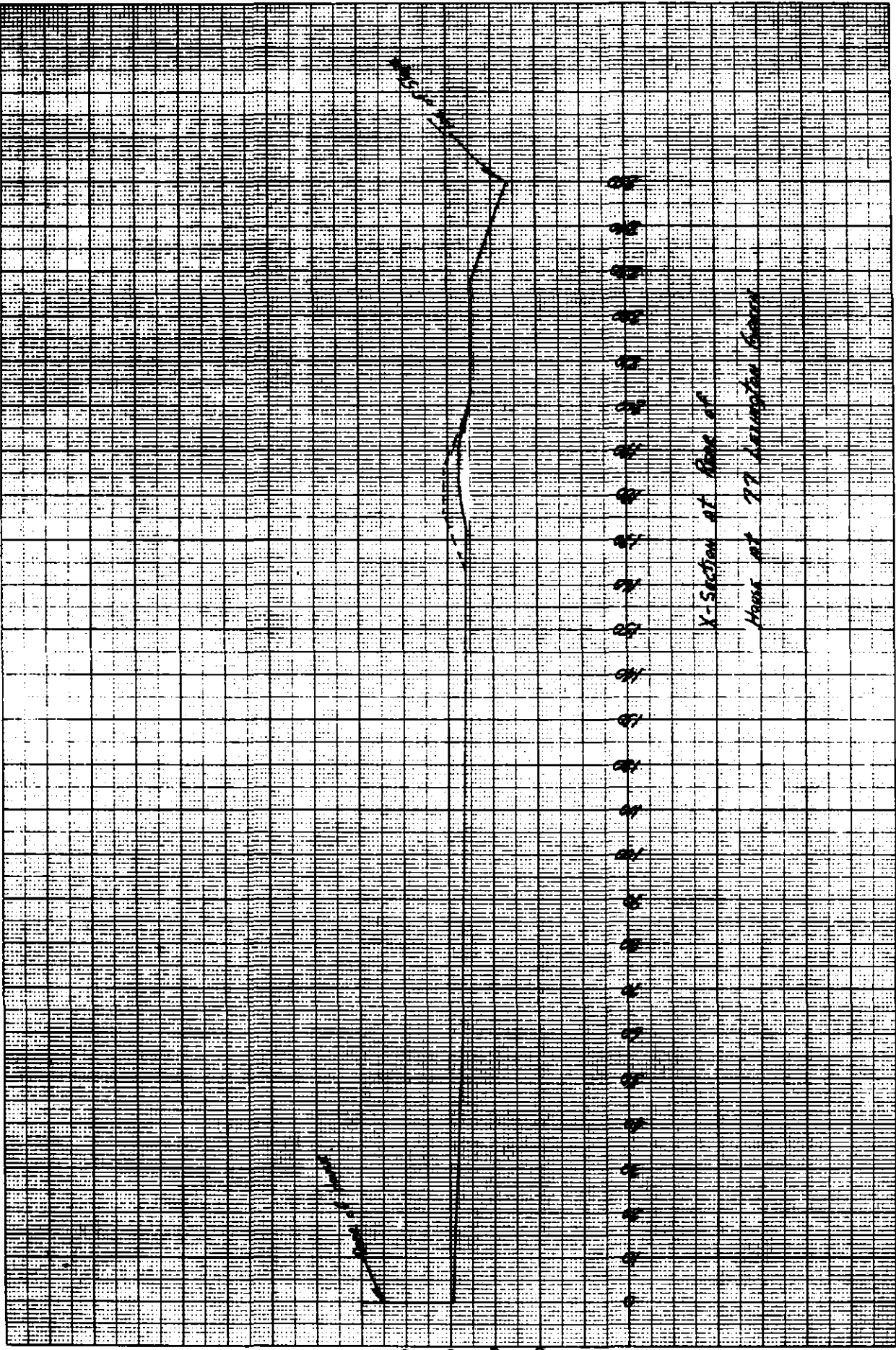
X-Section at Base of
Hill at 63 Lexington Road

4
5
009
3

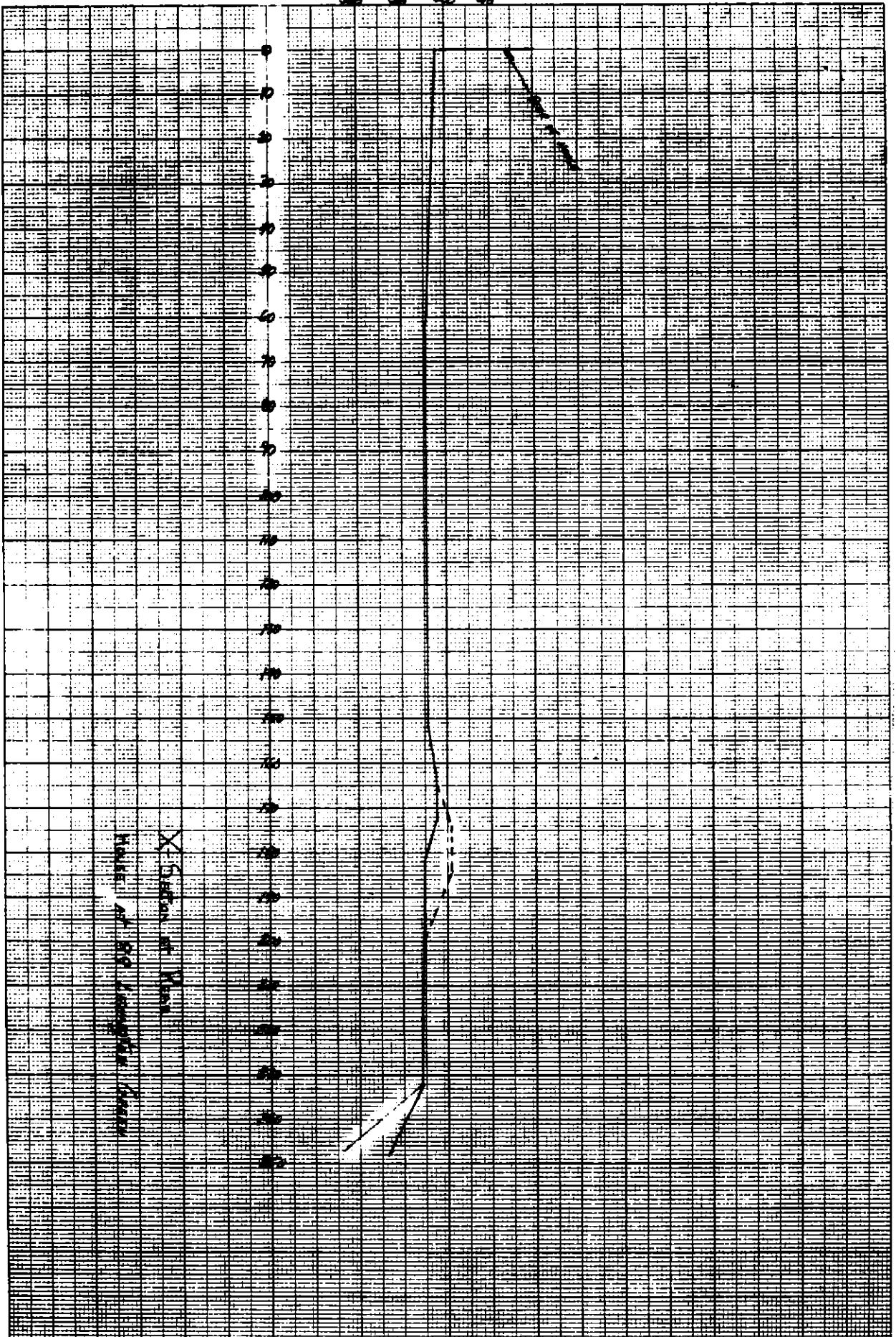
005
006
007
009



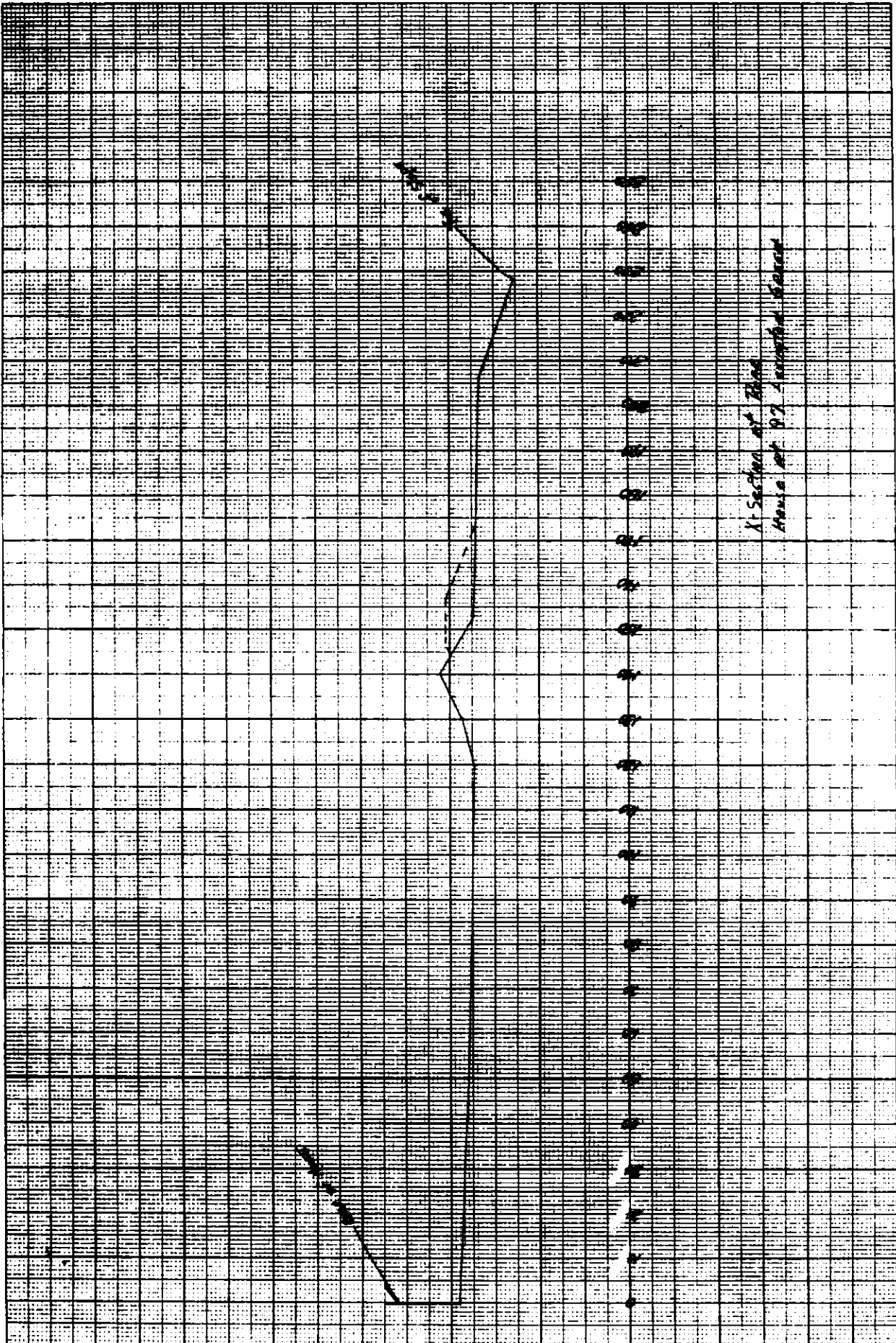
X-Section of Dam at
Mans. at 6.9 km from Mans.



X-Section at base of
 Mass at 77 Longitude Base

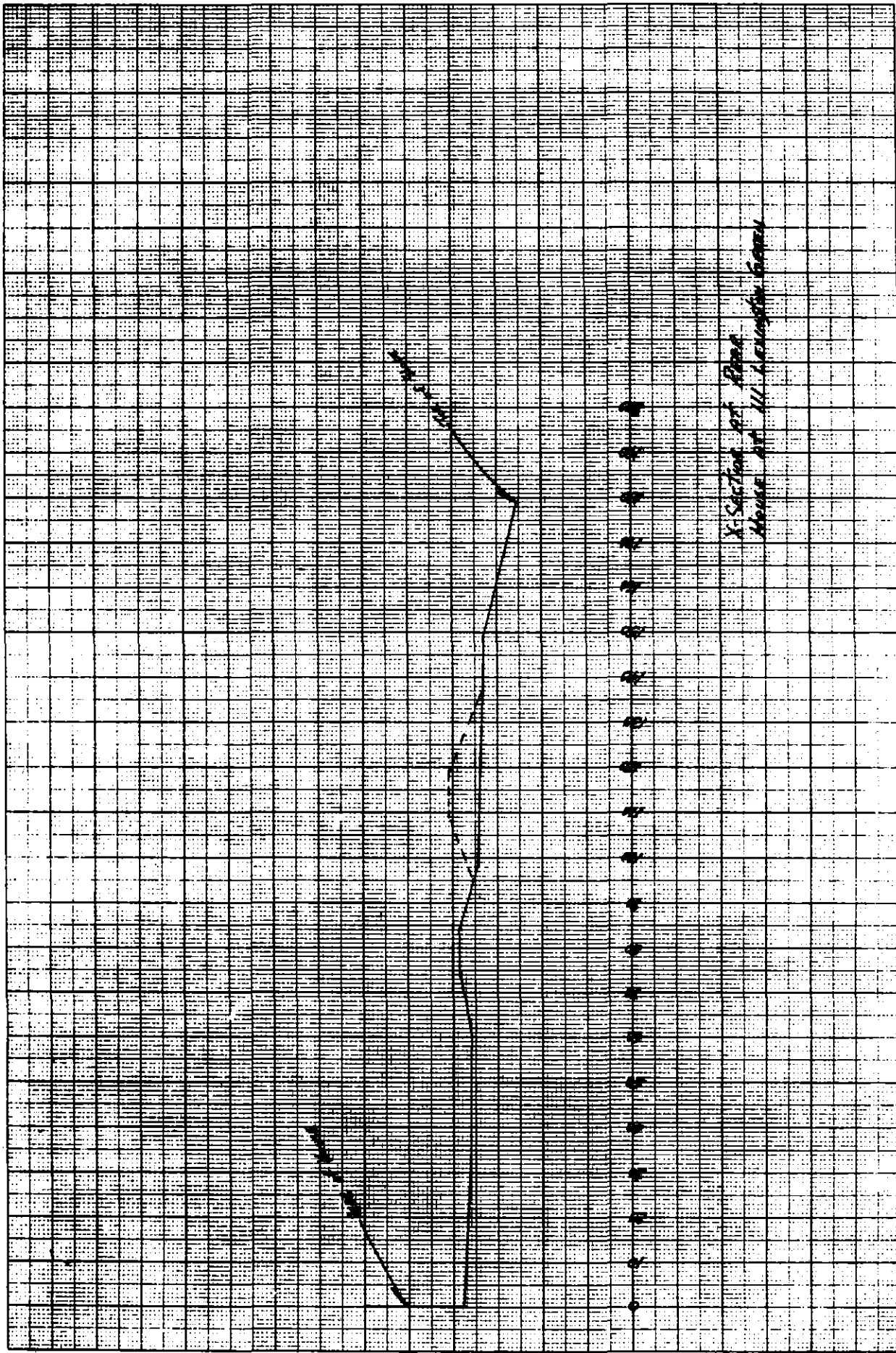


X Section of Wall
Profile of 88' Diameter Tower



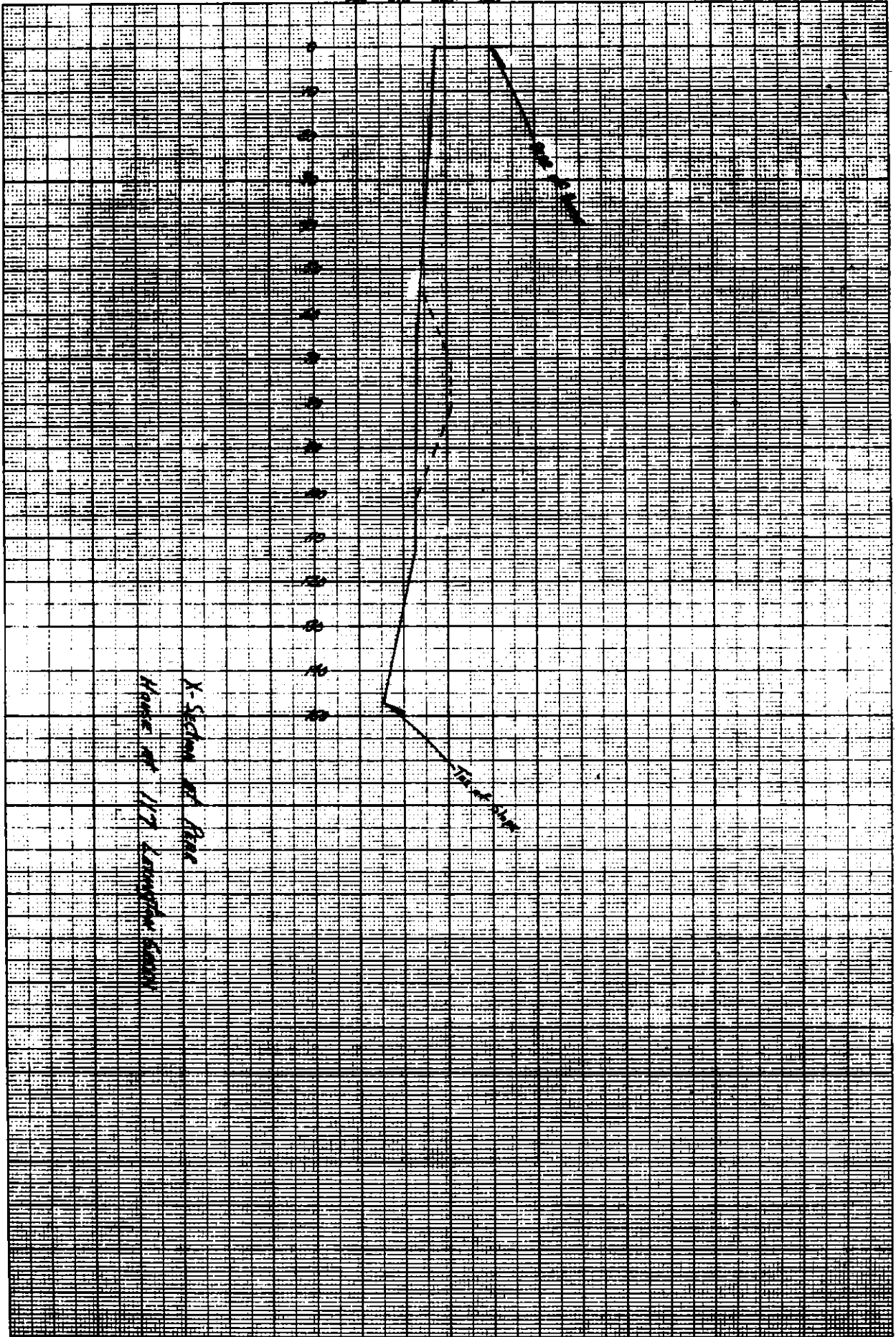
X-Section of Tank
House No. 97 - mounted on ground

100 50 25 12.5



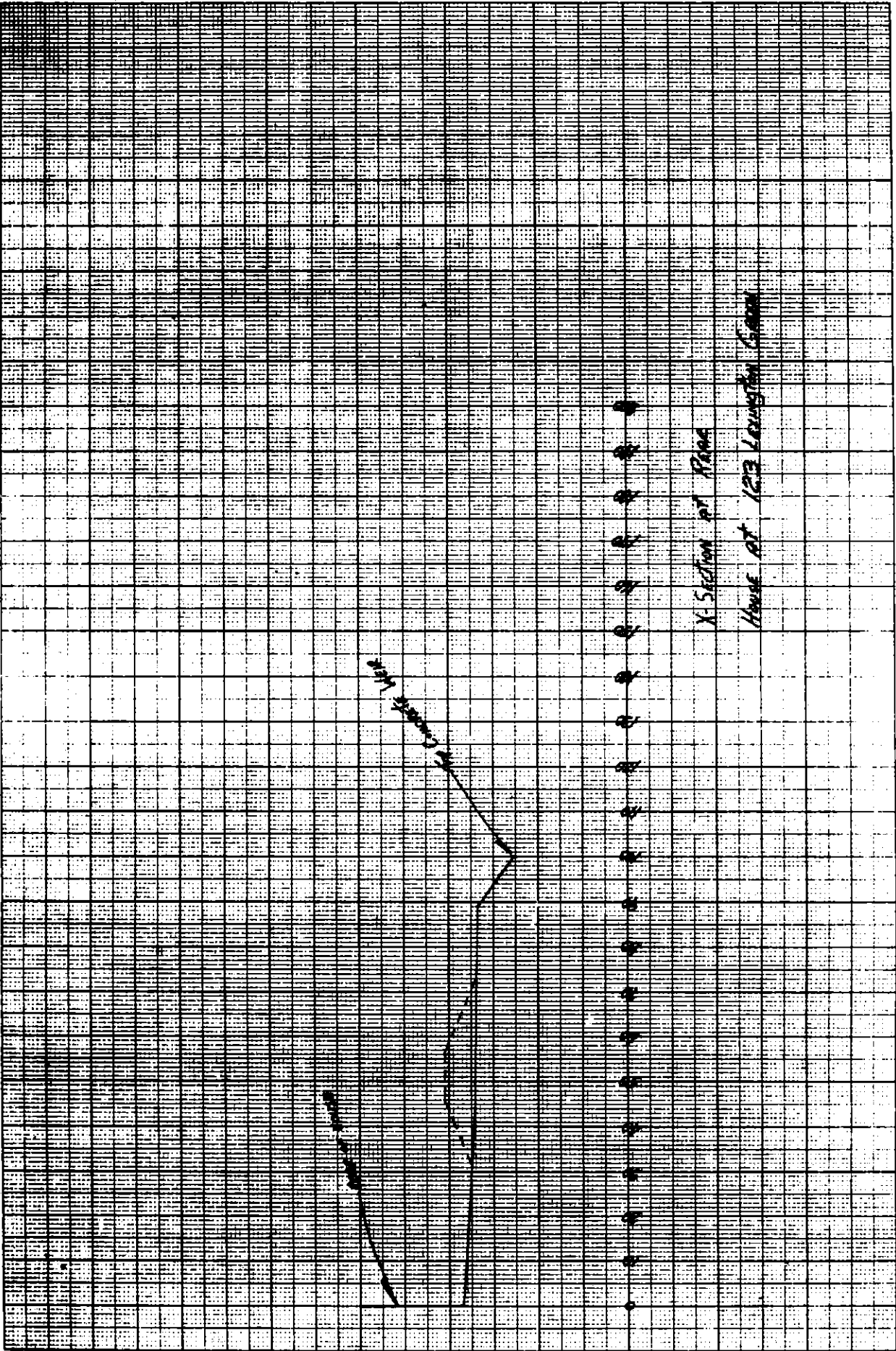
X-Section of Mouse
 Mouse of W. Livingston Brown

50 50 100 100

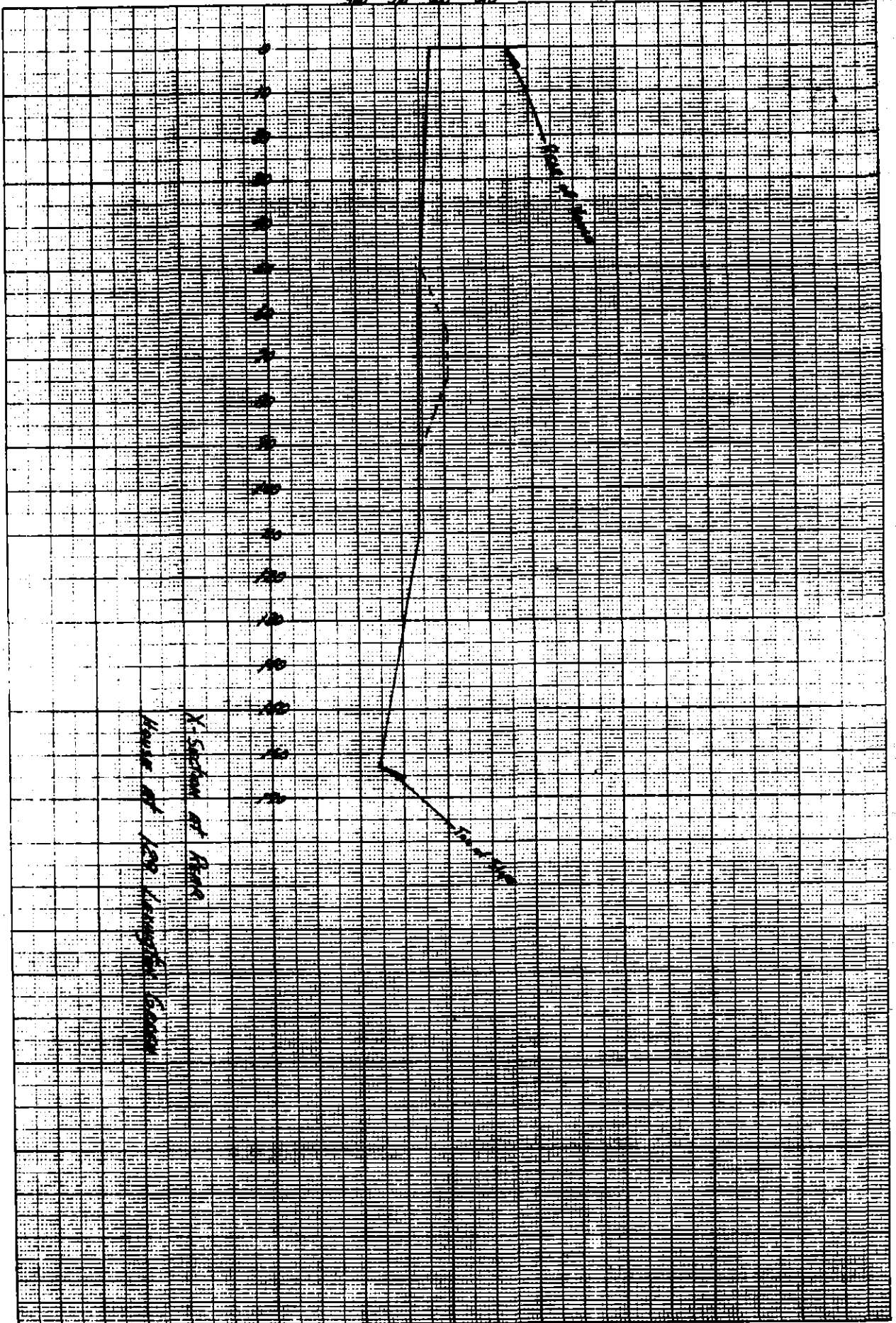


X-SECTION OF PIPE
 HOLE AT 1/2 LENGTH FROM

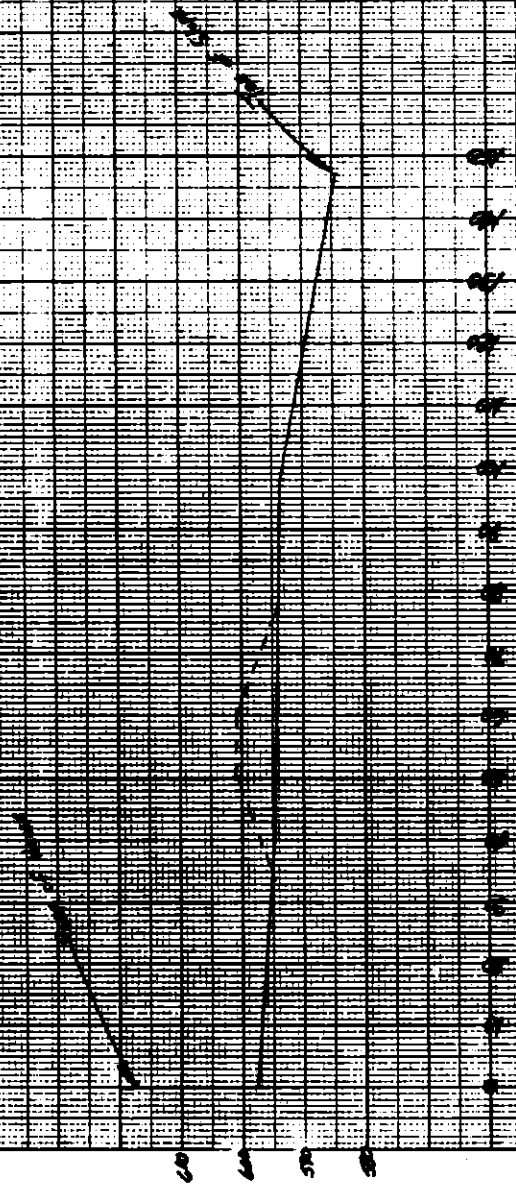
THICK LINE



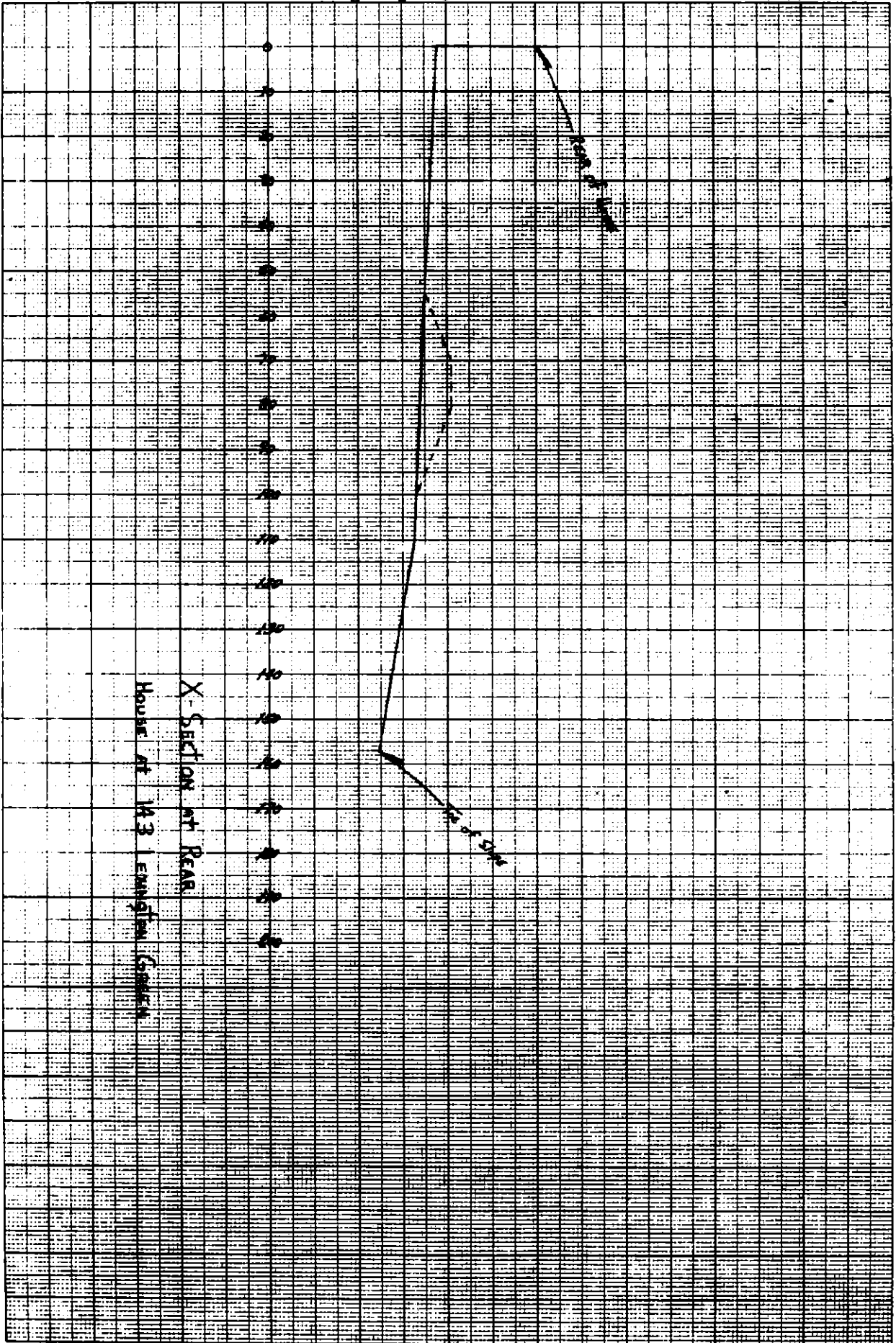
50 50 60 60



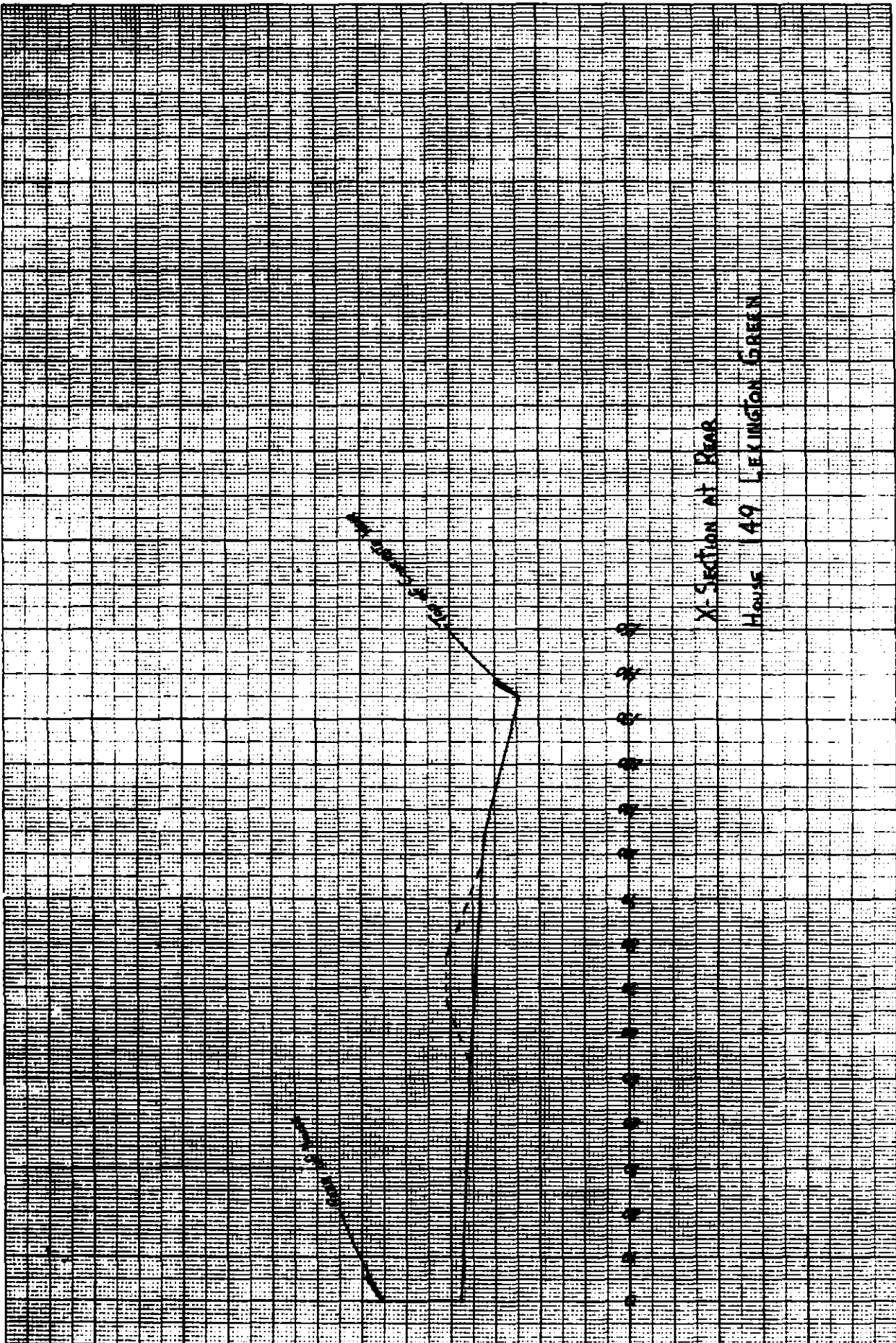
X-SECTION RISE OF
HAWK AT 135 LAMINGTON GARDENS

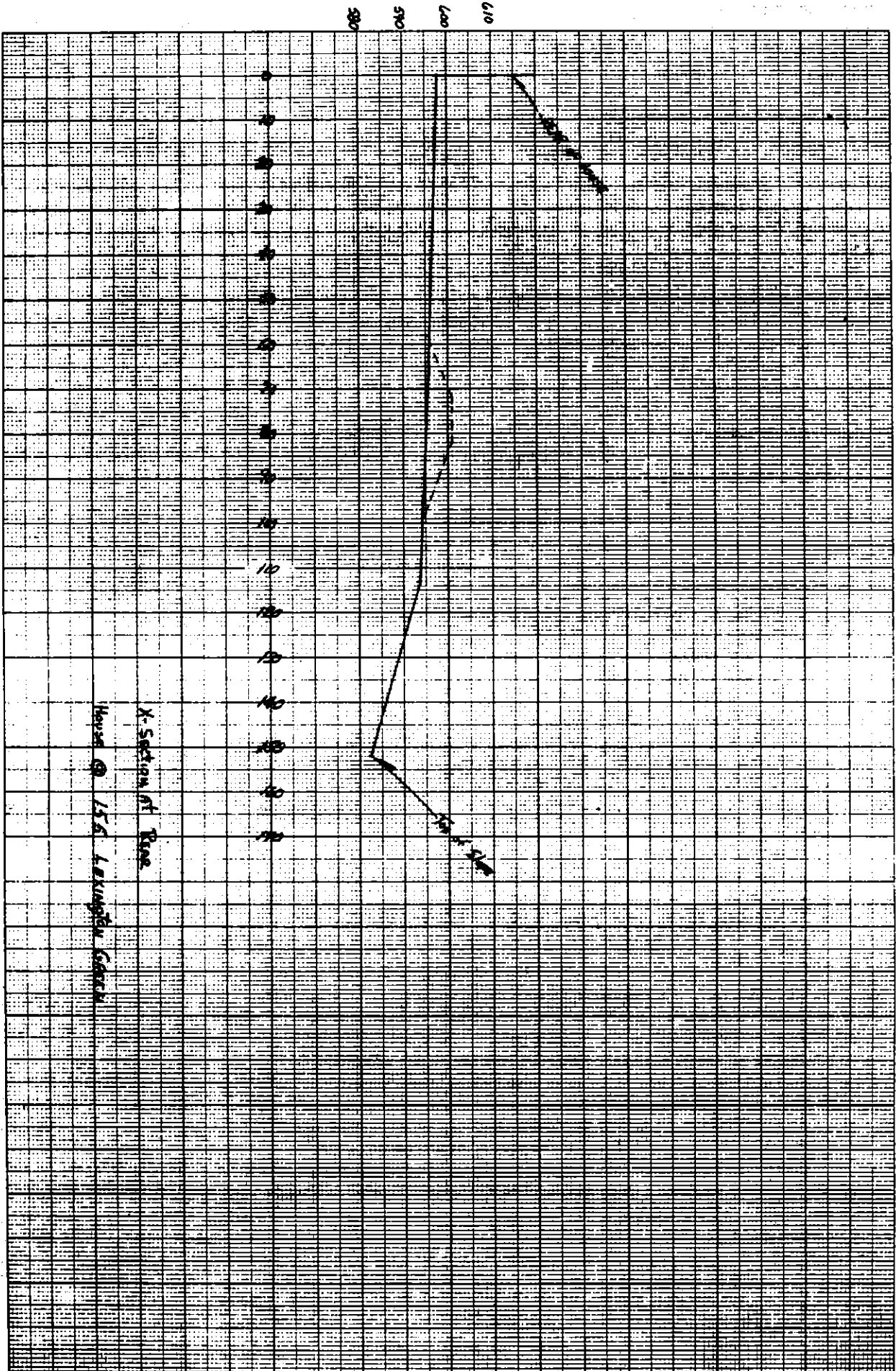


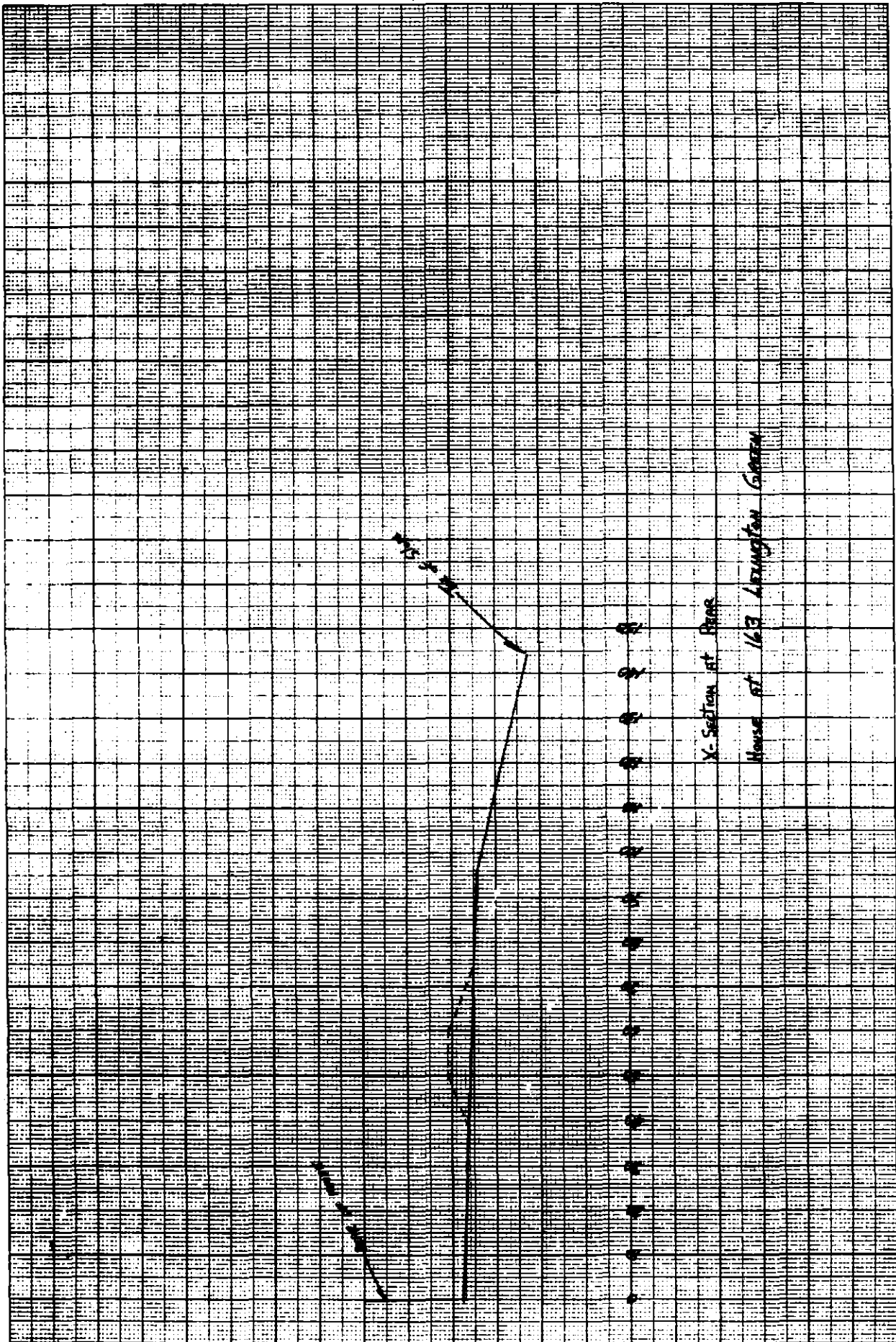
505
506
507
508



019
009
065
085

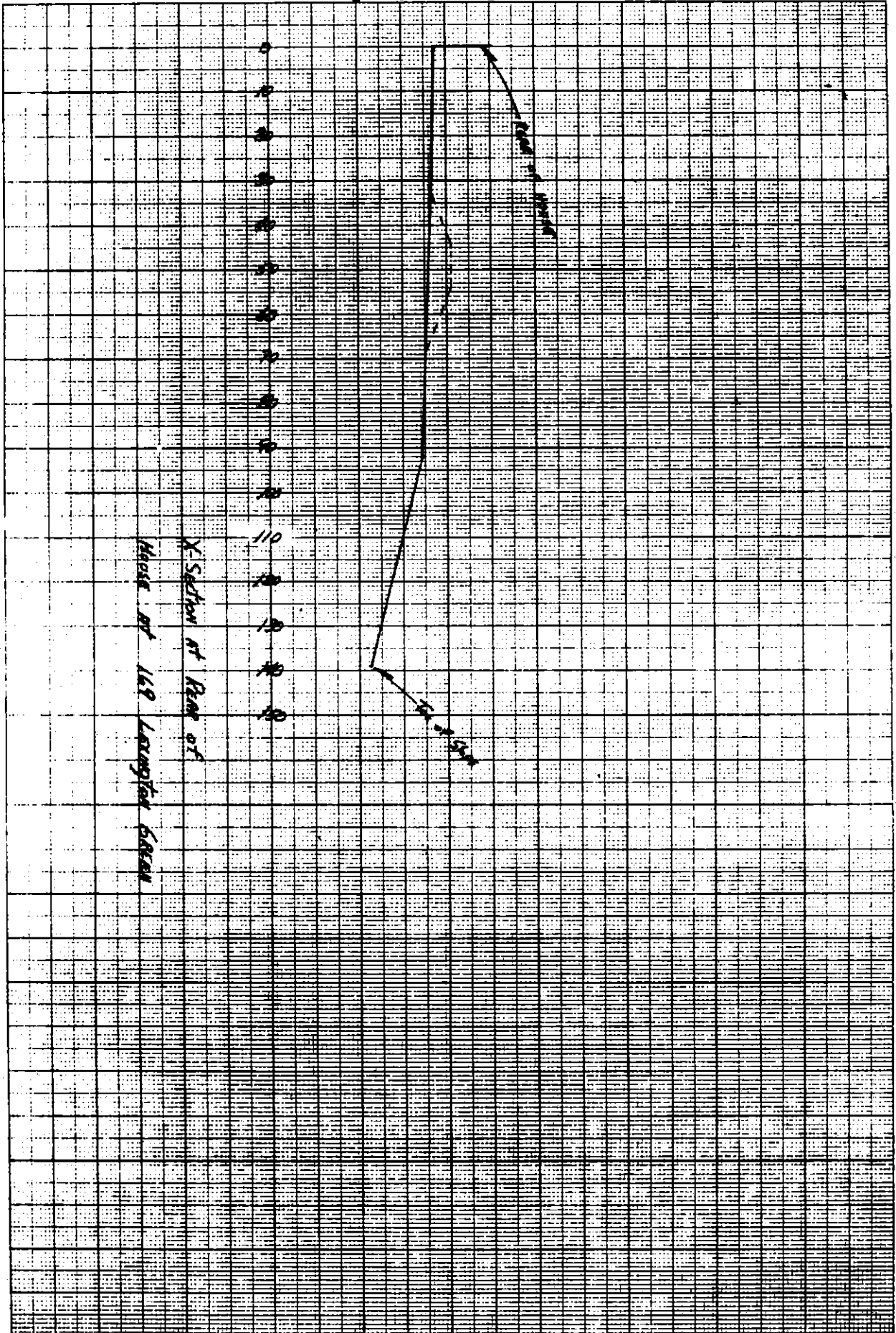






019
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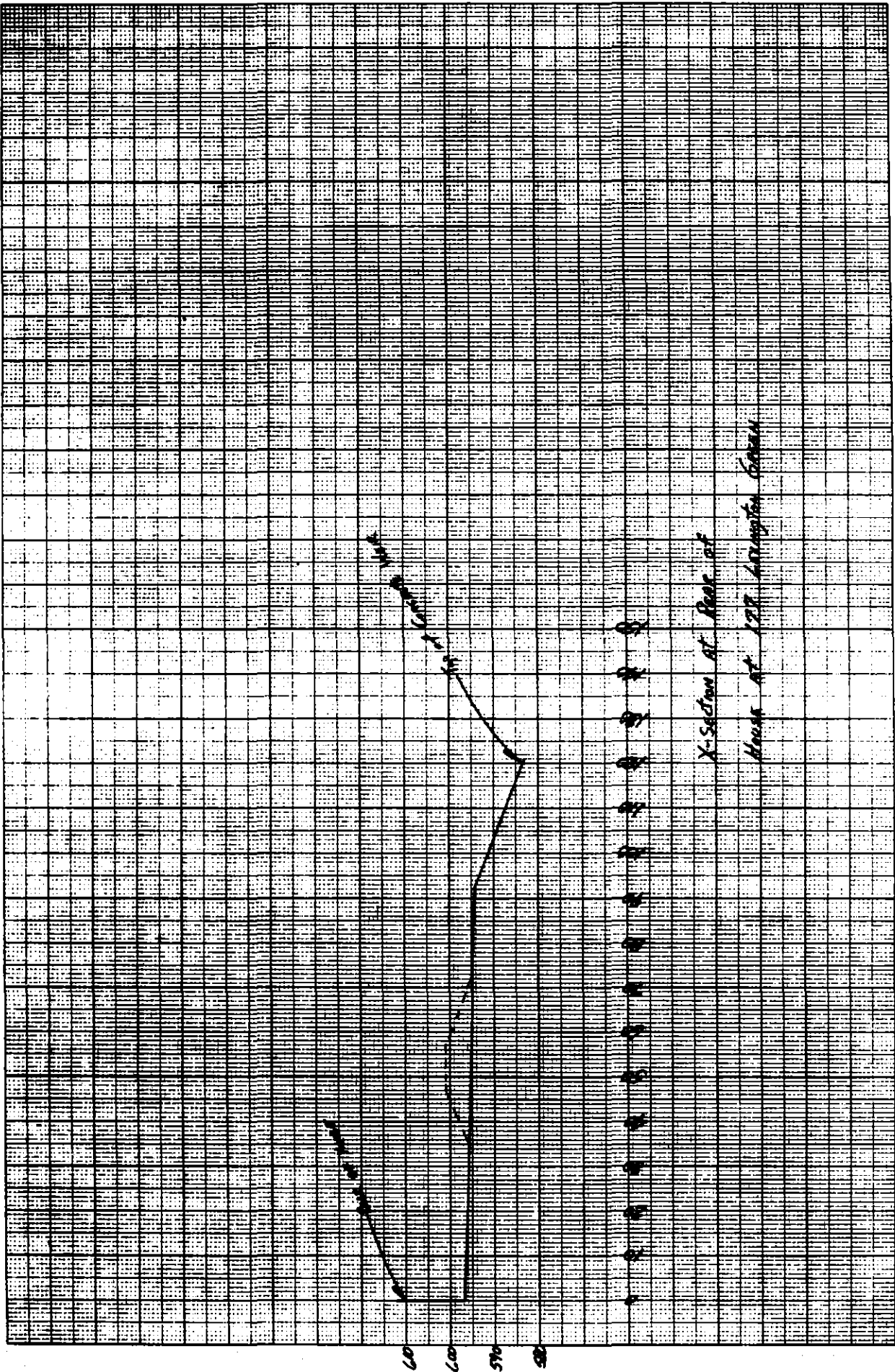
585
590
600
610



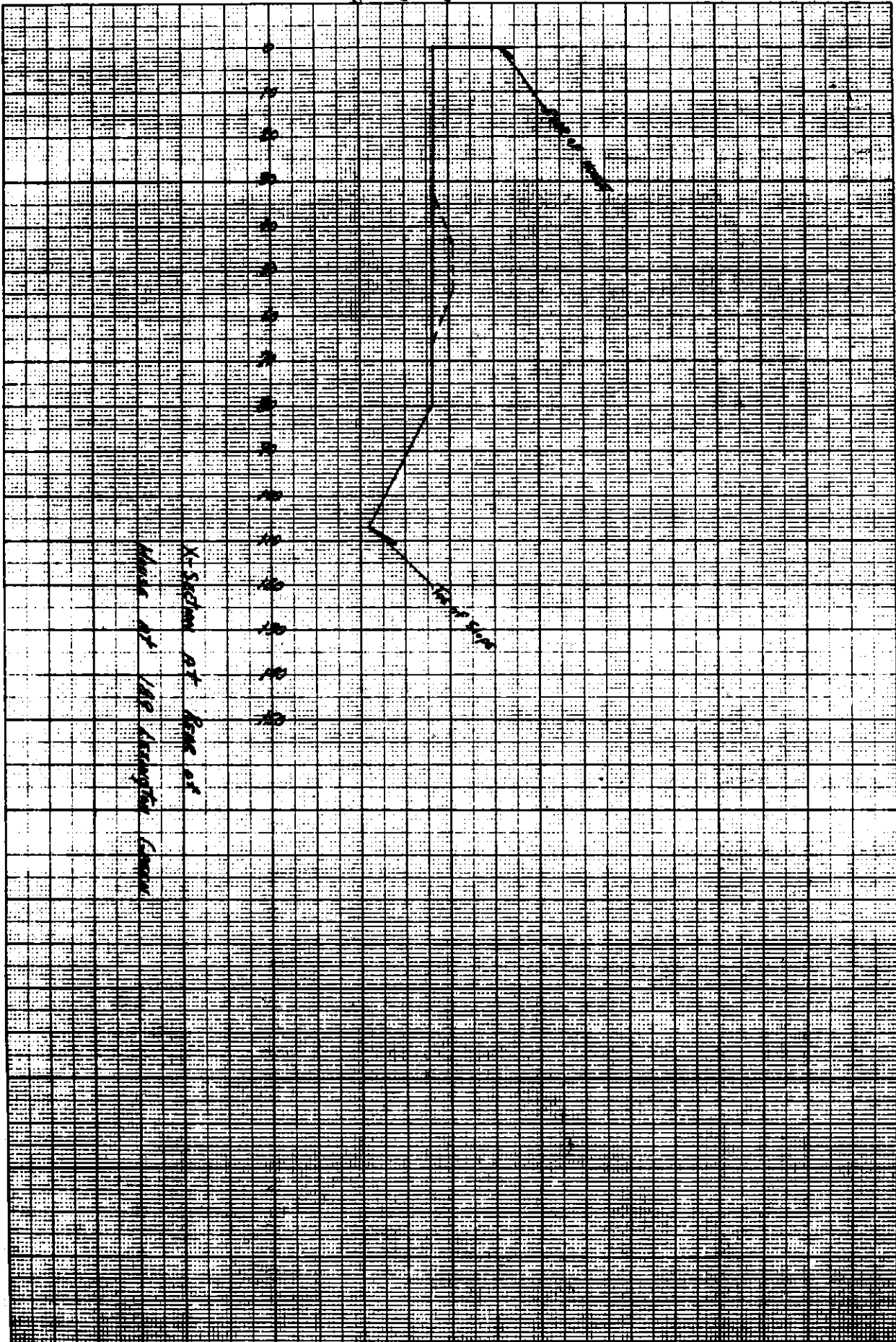
X-SECTION AT REAR OF
HOUSE AT 169 LONGFORD GREEN

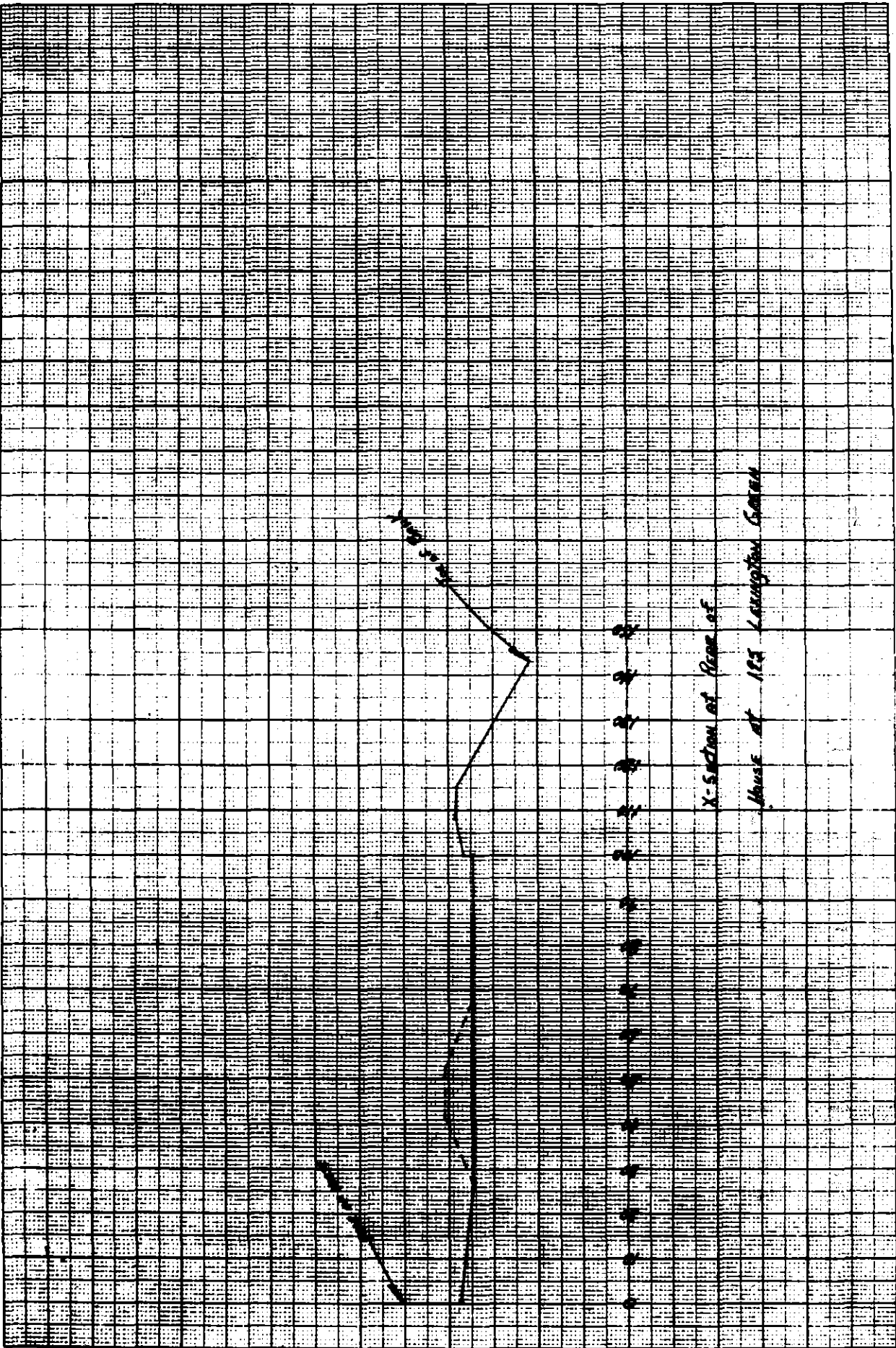
ROAD IN FRONT

ROAD IN REAR



205
505
600
017





**Planning Assistance Report
Town of West Seneca, NY
Buffalo Creek**

**APPENDIX B
Correspondence**

September 1979



**TOWN OF WEST SENECA
NEW YORK**

JAMES A. ROOF
SUPERVISOR

TOWN OFFICES
1250 UNION ROAD
WEST SENECA, N. Y. 14224
674-5600

March 22, 1979

Corps of Engineers
1776 Niagara Street
Buffalo, New York 14207

Dear Resident:

The recent ice jamming and resultant flooding on the Buffalo Creek created severe property damage within the Town of West Seneca. As a result, many residents have questioned political representatives and appointed officials as to what can be done to prevent future flooding, and at the same time, what process is available to recoup damage losses.


To have as many people as possible obtain accurate information first hand, the Town Board of West Seneca through Congressman Jack Kemp and his staff have set up a community information meeting. This assembly will be held on Wednesday evening, March 28, 1979 at 7:00 PM at the West Seneca Town Hall Council Chambers.

Congressman Kemp's office has arranged to have representatives from the Corps of Engineers, Internal Revenue Service, and Small Business Administration present statements and findings at this meeting. Town officials will address local concerns and programs.

For the sake of expediency, it would be best for each area or street to have one or two spokespersons who will express area problems and ask appropriate questions.

While this meeting may not produce solutions, it is intended for the dissemination of information without the necessity of individuals calling various agencies or obtaining differing data. Your presence will assist in the complete participation of parties concerned in this matter.

Very truly yours,


James A. Roof
Supervisor

JAR/ir

REPRESENTING ALL THE RESIDENTS

JACK KEMP
38TH DISTRICT NEW YORK

COMMITTEE
APPROPRIATIONS

PANDAL TEAGUE
ADMINISTRATIVE ASSISTANT

LOU ROTTERMAN
EXECUTIVE ASSISTANT

Congress of the United States
House of Representatives
Washington, D.C. 20515

WASHINGTON OFFICE
2244 RAYBURN HOUSE OFFICE BUILDING
AREA CODE 202: 225-8265

DISTRICT OFFICE
1101 FEDERAL BUILDING
111 WEST MURPHY STREET
BUFFALO, NEW YORK 14202
AREA CODE 716: 846-4123

ED RUTKOWSKI
DISTRICT REPRESENTATIVE

March 29, 1979

Hon. Hugh L. Carey
Governor of the State of New York
Executive Chamber
State Capitol
Albany, New York 12224

Dear Governor Carey:

As you know, the Small Business Administration, at your request, conducted a survey of the flood damage in the Town of West Seneca to determine whether the residents might be eligible for Federal Disaster Relief.

The initial findings of SBA indicated that there was not sufficient damage during the March flooding to justify authorized government assistance.

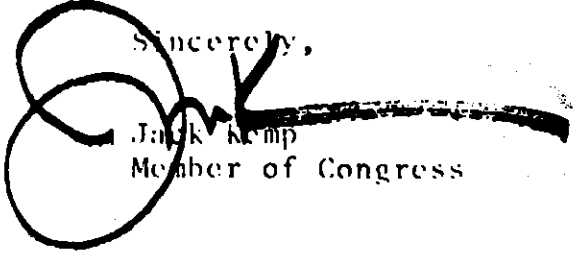
However, a meeting with Town residents which was held yesterday, revealed that the SBA assessment of damage was conducted before the flood waters had actually receded -- making it impossible to determine the full extent of the structural damage sustained by West Seneca residents and businesses.

Therefore, I request that you authorize SBA to return to the West Seneca area, particularly the Lexington Green and School Street neighborhoods located by the Buffalo Creek and Cazenovia Creek, to reevaluate the damage caused by the March flooding. Such an action on your part would help ensure a more accurate tabulation of the damage sustained. I am sure you'll agree that such a reappraisal is in the best interests of the beleaguered residents of West Seneca.

This matter is of the utmost importance and deserves your prompt attention.

Thank you for your cooperation.

Sincerely,


Jack Kemp
Member of Congress

JK:ms

March Control on

MP
New York

WASHINGTON OFFICE
2235 RAYBURN HOUSE OFFICE BUILDING
AREA CODE 202: 225-5283

COMMITTEE
APPROPRIATIONS

Congress of the United States

DISTRICT OFFICE
1101 FEDERAL BUILDING
111 WEST HUNON STREET
BUFFALO, NEW YORK 14202
AREA CODE 716: 846-4125

SUBCOMMITTEES
DEFENSE
FOREIGN OPERATIONS

House of Representatives

Washington, D.C. 20515

March 29, 1979

Col. Daniel D. Ludwig
Buffalo Area District Engineer
Corps of Engineers
1776 Niagara Street
Buffalo, New York 14207

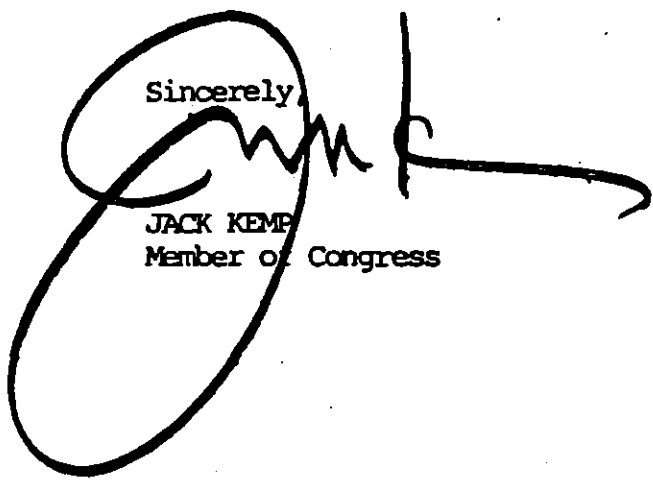
Dear Col. Ludwig:

At the request of Erie County Executive Edward J. Rutkowski, I am contacting you to ask that the Corps of Engineers conduct an updated study of flood control requirements for the Buffalo Creek flood plain.

Damage from flooding along Buffalo Creek was extensive this year, as you know, and some form of relief is needed. Please advise me as soon as possible of the Corps' conclusions regarding this area.

With best regards, I am

Sincerely,



JACK KEMP
Member of Congress

JK:ck

DISPOSITION FORM

For use of this form, see AR 340-13; the proponent agency is The Adjutant General's Office.

REFERENCE OR OFFICE SYMBOL

SUBJECT

NCBDE

Lexington Green Flood Control Study

TO NCBED

FROM NCBDE

DATE 30 Mar 79

CMT 1

COL Ludwig/jf/2200

1. At the West Seneca Town Hall public meeting on 28 Mar 79, I specified that Buffalo District would begin immediately an investigation to determine how to best proceed in addressing the ice jam flooding problem which periodically occurs on the Buffalo River in West Seneca. I indicated that it would take 2-3 months of technical evaluation to make a definite determination at which time the District Engineer could make a decision regarding Federal interest in this matter.

2. Request that you begin under Planning Assistance Authority to accumulate facts and other information pertinent to this problem. A number of residents present indicated their willingness to discuss their knowledge of this situation with us. These people should also provide you with information on which to base a realistic estimate of damages not only from the 1979 flood but from previous floods as well.

3. The problem of possible cross connections between sanitary and storm sewers should be investigated as well as the possibility of creek water getting directly into the storm sewer system at higher elevations.

4. Upon completion of this review, we should advise the town of the District Engineer's decision. It is possible that we could proceed under a Continuing Authority or under an existing resolution depending upon the estimated project cost. Alternatively, we could, as in previous investigations, determine that the problem does not justify Federal interest. However, with the currently estimated damages for 1979, it appears that a project may be justified.

Daniel D. Ludwig
DANIEL D. LUDWIG
Colonel, Corps of Engineers
District Engineer

JACK KEMP
11th DISTRICT, NEW YORK

COMMITTEE:
APPROPRIATIONS

RANDAL TEAGUE
LEGISLATIVE ASSISTANT

LOU POTTERMAN
LEGISLATIVE ASSISTANT

Congress of the United States
House of Representatives
Washington, D.C. 20515

April 2, 1979

WASHINGTON OFFICE:
2244 RAYBURN HOUSE OFFICE BUILDING
AREA CODE 202: 225-3285

DISTRICT OFFICE:
1101 FEDERAL BUILDING
111 WEST HUDSON STREET
BUFFALO, NEW YORK 14202
AREA CODE 716: 848-4123

ED RUTKOWSKI
DISTRICT REPRESENTATIVE

Thanks very much for your participation at the March 28 meeting at the West Seneca Town Hall regarding the recent flooding of Buffalo Creek. I regret that commitments in Washington prevented me from attending. My Administrative Assistant, Russ Gugino, has kept me fully apprised of the discussions and proposals made by area residents and business people.

As an outcome of this meeting, I have written to Governor Carey requesting that he authorize the Small Business Administration to reassess the structural damage in West Seneca caused by the recent flooding. A copy of this letter is enclosed.

In addition, I have requested the Buffalo District office of the Army Corps of Engineers to immediately undertake an updated study to determine how best to alleviate the conditions which caused the flooding of Buffalo Creek.

I am also making inquiries to address your concern for revision of Flood Disaster Relief criteria.

Please be assured that I will continue my efforts on your behalf to ensure that the West Seneca residents are spared the needless suffering which accompanies Buffalo Creek flooding.

My kindest regards,

Sincerely,

Jack Kemp
Member of Congress

JK:ms
Enclosure



**Town of West Seneca
Erie County**

1250 UNION ROAD
WEST SENECA, N. Y. 14224
674-8600

April 4, 1979

TOWN COUNCIL

SUPERVISOR
JAMES A. ROOF

JOHN E. RILEY
JOAN F. LILLIS
WILLIAM A. NICHOLAS
JAMES M. VAN REMMEN

TOWN CLERK
M. RUTH HARRIS

U. S. ARMY CORPS OF ENGINEERS

TOWN BOARD PROCEEDINGS
Minutes #6
April 2, 1979

"Moved by Councilwoman Lillis, unanimous second, that the Town Board of the Town of West Seneca herewith requests the U.S. Army Corps of Engineers to undertake the preparation of a reconnaissance report for Buffalo Creek within the Town of West Seneca under the authority granted to the District Commander covering small flood control projects." Motion carried.

STATE OF NEW YORK
County
Office of the Clerk of the
Town of West Seneca

SS:

This is to certify that I, M. RUTH HARRIS, Clerk of the *Town of West Seneca, in the said County of Erie*, have compared the foregoing copy of resolution with the original resolution now on file at this office, and which was passed by the Town Board of the *Town of West Seneca* in said County of Erie, on the 2nd day of April 19 79 and that the same is a correct and true transcript of such original resolution and the whole thereof.

In Witness Whereof, I have hereunto set my hand and affixed that seal of said Town this 4th day of April 19 79

M. Ruth Harris
CLERK OF THE TOWN BOARD, TOWN OF WEST SENECA, N. Y.

(SEAL)



STATE OF NEW YORK
EXECUTIVE CHAMBER
ALBANY 12224

HUGH L. CAREY
Governor

April 9, 1979

Dear Jack:

In response to your letter of March 20, 1979, I am asking the Small Business Administration to reevaluate the situation in Erie County, for which I requested SBA disaster loan assistance on March 7, 1979. A copy of my letter to the SBA Regional Director is enclosed.

It would have been helpful if additional data on uninsured losses could have been provided to forward to SBA at this time. A telephone check with the Erie County Office of Disaster Preparedness on April 4, 1979 did not result in any information beyond that which had resulted in my March 7, 1979 request and SBA's subsequent evaluation. However, in order not to delay action by SBA, I have gone ahead on the basis of your letter.

Sincerely,

Honorable Jack A. Leap
United States Representative
Post Office Building
Washington, D. C. 20515

Enclosure

STATE OF NEW YORK
EXECUTIVE DEPARTMENT
EXECUTIVE CHAMBER
STATE CAPITOL
ALBANY 12224

COPY

April 2, 1979

Dear Mr. Irizarry:

Please refer to my request of March 7, 1979 for Small Business Administration disaster loan assistance for homeowners and businesses in several counties affected by flooding which began March 3, 1979. As you know, Erie County, one of the counties included in that request, was not among the counties designated as eligible for this assistance by the Administrator's subsequent action.

I have received letters dated March 29, 1979 from Honorable Jack Kemp, Member of Congress, and Erie County Executive Edward J. Rutkowski, copies of which I enclose, asking for a reevaluation by SBA, specifically in the West Seneca area of Erie County. Based on these requests, I would appreciate a reappraisal of the situation by SBA to determine whether designation of Erie County is indicated.

Sincerely,

/s/ Hugh L. Carey

Mr. Ivan E. Irizarry
Regional Director
Small Business Administration
20 Federal Plaza
New York, New York 10007

Enclosures

cc: ~~✓~~ Honorable Jack F. Kemp

9 April 1979

Mrs. Marie Shattuck
 Office of Honorable Jack Kemp
 Federal Building, Room 1101
 111 West Huron Street
 Buffalo, NY 14202

Dear Mrs. Shattuck:

Thank you for the information provided along with your note of 21 March 1979 relative to flooding in the town of West Seneca, NY. The Oroville Levee Improvement project by Seattle District is a result of an investigation, project authorization, funding, and detailed design to protect an area from flooding. This procedure can take many years before a project is constructed.

While the residents of West Seneca may believe that a levee of the type authorized for construction at Oroville will solve their flooding problems due to ice jams, we must evaluate all of the facts bearing on the problem. Based on information available to date, it appears that underground flows and discharges through storm sewers may be a part of the problem. We must investigate all of these aspects in order to determine if a project which will guarantee relief can be designed. Possibly a levee will be the answer. However, we must follow specific guidelines in the analysis and development of these projects. Ice jam flooding is unique but unpredictable, hence solutions are not straight forward.

As I indicated at the public meeting on 28 March, we have begun our analysis to determine alternatives that can be implemented to minimize flood losses in the Lexington Green area. I expect this effort to be completed by June 1979. At that time, I expect to know if a Federal interest exists and, if so, how to proceed in developing that interest. If you have any specific questions, Mr. Thomas J. Pieczynski, Chief of Flood Plain Management Services will be pleased to discuss them with you.

Sincerely yours,

DANIEL D. LUDWIG
 Colonel, Corps of Engineers
 District Engineer

CF:
 HQDA (DAEM-CWA-D) w/inc corres
 NCBED
 Exec. Ofc.
 PAO
 ✓ NCBED-PF

NCBED-PF

10 April 1979

Honorable Jack Kemp
House of Representatives
Washington, DC 20515

Dear Mr. Kemp:

This is in reply to your letter of 29 March 1979 requesting that the Corps of Engineers update studies for flood control on Buffalo Creek in the town of West Seneca.

Members of my staff and I met with town officials, various Federal representatives and residents affected by flooding along Buffalo Creek on 28 March 1979. We determined that the flood situation is indeed serious and that further study should be undertaken. Accordingly, my staff is currently obtaining pertinent data on which to base further action. Our plan for this preliminary investigation is to see if engineering solutions are possible and then to see which, if any, are cost effective. Finally, if any are cost effective, we will determine whether the Federal government can participate in the construction of any of these alternatives. The authority that can be used to implement any alternative will depend on the outcome of our preliminary investigation. The results of our findings will be available by summer of this year, and I will inform you at that time of my intentions for proceeding toward a solution to the problem.

If you have any questions relative to direction or progress of this effort feel free to contact me or Thomas J. Pieczynski, Chief, Flood Plain Management Services (716) 876-5454, ext. 2143 or FTS 473-2143.

Sincerely yours,

DANIEL D. LUDWIG
Colonel, Corps of Engineers
District Engineer

CF:

HQDA (DAEN-CWA-D)w/inc corres.

NCDED

Exec. Ofc.

PAO

✓NCBED-PF

Honorable Jack Kemp
Representative in Congress
1101 Federal Building
111 West Furon Street
Buffalo, NY 14202

ERIE COUNTY LEGISLATURE

ROBERT H. MEIER, Legislator - 20th District
128 CRANWOOD DRIVE, WEST SENECA, N. Y. 14224
PHONE: 674-3157



District Offices
4105 SENECA STREET
WEST SENECA, N. Y. 14224
674-7664
4227 N. BUFFALO ROAD
ORCHARD PARK, N. Y. 14127
662-0909

REC'D, FROM JACK KEMP M.C.,
on 7/25/79 w/o COV. LTR.

July 16, 1979

RECEIVED

JUL 18 '79

JACK KEMP M.C.
BUFFALO, NY

Hon. Jack Kemp
United States Congress
111 W. Huron Street
Buffalo, New York 14202

Dear Jack,

I'm writing this letter on behalf of several residents and businessmen in the West Seneca area, who have inquired as to the status of West Seneca being declared a disaster area due to the flooding of Buffalo Creek on March 4, 1979. Also they have asked about the possibility of securing funding to prevent any such occurrence in the future.

You may recall that a public hearing was held on March 26, 1979 in the West Seneca Town Hall wherein various representatives from the federal, state and county levels spoke in regard to the flood situation. At that time nothing was formally resolved but several ideas and possible avenues of pursuit were discussed, one of which included participation by the United States Army Corps of Engineers.

I would appreciate your reviewing this matter and advising me of your findings at your earliest convenience.

Very Truly Yours,

Robert H. Meier

Robert H. Meier
Legislator, 20th District

cc. Col. George P. Johnson
U. S. Army Corps of Eng

Mr. Ed Antoski
County Executive

Mr. John W. Fieldon
Gardenville Lumber

RM/Sc

JACK KEMP
20th DISTRICT, NEW YORK

WASHINGTON OFFICE
2244 RAYBURN HOUSE OFFICE BUILDING
AREA CODE 202: 225-3263

COMMITTEE
APPROPRIATIONS

Congress of the United States
House of Representatives
Washington, D.C. 20515

DISTRICT OFFICE
1101 FEDERAL BUILDING
111 WEST HURON STREET
BUFFALO, NEW YORK 14202
AREA CODE 716: 846-4123

RANDAL TEAGUE
ADMINISTRATIVE ASSISTANT

LOU ROTTENMAN
EXECUTIVE ASSISTANT

ED RUTKOWSKI
DISTRICT REPRESENTATIVE

July 18, 1979

Mr. Robert H. Meier
Legislator, 20th District
4105 Seneca Street
West Seneca, New York 14224

Dear Bob:

Thanks very much for your recent letter regarding the March 4 flooding in West Seneca.

You should know that my Buffalo office was and is very much involved in this matter. My District Administrative Assistant, Russ Gugino and my staff assistant, Marie Shattuck, organized the March 28 meeting of which you're already aware. On that occasion, town residents requested an additional assessment of the personal and business property damage caused by the flood.

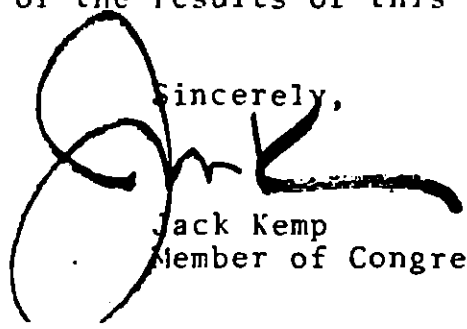
In a April 9 letter to me, a copy of which I have enclosed herewith, Gov. Carey agreed to request another review by the SBA. However, the results indicated that the area did not qualify for low interest disaster loans.

A summary of the action I took was conveyed to West Seneca residents and town officials in a letter dated April 2, (a copy is also attached).

Currently, we are waiting for the conclusion of the Army Corps study on Buffalo Creek to determine if it is feasible to construct dykes or levees along the Creek within the near future.

As soon as we learn of the results of this review, we will let you know.

Sincerely,



Jack Kemp
Member of Congress

JK:rg:ms
Enclosures

COMMITTEE
APPROPRIATIONS

RANDAL TEAGUE
ADMINISTRATIVE ASSISTANT

LOU NOTTERMAN
EXECUTIVE ASSISTANT

DISTRICT OFFICE:
1101 FEDERAL BUILDING
111 WEST HUNON STREET
BUFFALO, NEW YORK 14202
AREA CODE 716: 846-4123

ED RUTKOWSKI
DISTRICT REPRESENTATIVE

Congress of the United States
House of Representatives
Washington, D.C. 20515

July 24, 1979

Colonel George Johnson
U. S. Army Engineer District,
Buffalo
1776 Niagara Street
Buffalo, New York 14207

Dear Colonel Johnson:

As I indicated to members of your staff, I would appreciate a complete briefing on the Army Corps' study of Buffalo Creek scheduled for completion in several weeks.

At a March 28th meeting of West Seneca residents, I made a commitment on behalf of Congressman Kemp to again review the status of Buffalo Creek on September 5th at the Town Hall.

I think it prudent to explore this matter fully among ourselves before any meeting is held with the people of West Seneca.

Accordingly, let me know when we can arrange such a briefing to discuss this important subject.

Sincerely,



Russ Gugno
Administrative Assistant

RG/pb

MCDED-PF

30 July 1979

Russ Cugino, Administrative Assistant
Office of Honorable Jack Kemp
Buffalo District Office
111 West Huron Street
Buffalo, NY 14202

Dear Mr. Cugino:

This is in regard to your letter dated 24 July 1979 requesting a briefing on the study presently underway on Buffalo Creek in the town of West Seneca, NY.

I would like to schedule a briefing for you on 27 August 1979. This will insure that the most recent information will be available to present to the people of West Seneca at the meeting scheduled for 5 September 1979.

Incidentally, we will also give you a status report on the Hoover Beach Study at this briefing.

Please contact Mr. Thomas Pieczynski, Chief, Flood Plain Management Services at (716) 876-5454 extension 2143 so arrangements can be made.

Sincerely,

GEORGE P. JOHNSON
Colonel, Corps of Engineers
District Engineer

CF:

HQDA (DAEN-CWA-D) w/inc corres

MCDED " "

Exec. Ofc. " "

PAO " "

✓ MCDED-PF " "

Honorable Jack Kemp
House of Representatives
Washington, DC 20515



Town of West Seneca
Erie County

1250 UNION ROAD
WEST SENECA, N. Y. 14224
874-8600

ENGINEERING DEPARTMENT
WALLACE J. OCHTERSKI, P.E.
TOWN ENGINEER

TOWN COUNCIL

SUPERVISOR
JAMES A. ROOF

JOHN E. RILEY
JOAN F. LILLIS
WILLIAM A. NICHOLAS
JAMES M. VAN REMMEN

August 7, 1979

United States Army
Corps of Engineers
1776 Niagara Street
Buffalo, New York 14207

Att: Mr. Ray Pylon

Re: Buffalo Creek Flooding
March 1979

Dear Sir:

An estimate of the cost to the Town of West Seneca in regard to the flooding of Buffalo Creek is as follows:

Highway Dept. clean up & pumping	\$12,000
All departments preparation, prevention and after effects	<u>3,000</u>
Total Expenditures	\$15,000

If you require further information, please contact this office.

Very truly yours,

Wallace J. Ochterski, P.E.
Town Engineer

WJO/meb

cc: A. Sager, Highway Superintendent
G. O'Reilly, Town Attorney
file, Buffalo Creek Flooding

NCBED-PF

10 August 1979

Russ Cugno, Administrative Assistant
Office of Honorable Jack Kemp
Buffalo District Office
111 West Huron Street
Buffalo, NY 14202

Dear Mr. Cugno:

The purpose of this letter is to confirm the meeting of 27 August 1979 at 10 a.m. in your office.

Although I will be unable to attend due to out of town commitments, District representatives will be prepared to provide you and Mr. Reince with all available information on the Buffalo Creek flood problem in West Seneca, New York.

I am sorry that I will be unable to meet with you, however, I strongly recommend that the meeting be held as scheduled.

Sincerely,

GEORGE P. JOHNSON
Colonel, Corps of Engineers
District Engineer

CF:
NCBED
NCBED-PF

**Planning Assistance Report
Town of West Seneca, NY
Buffalo Creek**

**APPENDIX C
Economic Data**

September 1979

Area Redevelopment Benefits (Included Before Other Benefits)

Area redevelopment benefits presented in Table 5 are based upon utilization of unemployed or underemployed labor resources in the construction and installation of a Federal construction project. As explained in the Principles and Standards, this component is an adjustment to the cost of a project, and reflects the fact that there is no economic cost associated with the use of an otherwise underemployed resource. Area redevelopment benefits are limited to earnings by unemployed or underemployed labor resources directly employed as a result of the construction or implementation of a plan or the portion of a plan in officially designated areas.^{1/}

^{1/}Department of the Army, Planning and Evaluation of NED Employment Benefits, ER 1105-2-354, 17 April 1978.

Table -- Area Redevelopment Benefits Levee Alternative 1.

1. Estimated Onsite Labor Costs

Construction Cost ^{1/}	\$785,000
Percent of Cost Allocated to Labor	40 percent
Total Labor Cost	\$314,000

2. Allocation of Onsite Labor Cost by Unemployment Class

<u>Classification of Labor</u>	<u>Onsite Labor Cost</u>	<u>Percent Allocation</u>	<u>Amount of Wages</u>
Skilled	314,000	30	\$ 94,200
Semiskilled & Unskilled	314,000	50	157,000
Administrative and Supervisory	314,000	20	62,800
Total			<u>314,000</u>

3. Allocation of Wages to Locally Unemployed or Underemployed Labor

<u>Classification of Labor</u>	<u>Amount of Wages</u>	<u>Percent of Labor Hired Locally that was Previously Unemployed or Underemployed^{2/}</u>	<u>Wages Paid to Locally Hired Previously Unemployed or Underemployed</u>
Skilled	\$ 94,200	30	\$ 28,260
Semiskilled & Unskilled	157,000	45	70,650
Administrative and Supervisory	62,800	35	21,980
Total	<u>314,000</u>		<u>120,890</u>

4. Benefits

Average Annual Value of Local Labor Component
 (120,890 X .07132) ^{3/} \$8,622

^{1/}Includes total construction cost, less cost for engineering and design.

^{2/}It is assumed that of the total labor cost, 30 percent will be allocated to skilled labor, 50 percent to unskilled, and administrative and supervisory, respectively. Under or unemployed labor is assumed to be as follows: 30 percent skilled, 45 percent semiskilled or unskilled, and 35 percent administrative and supervisory.

^{3/}The wages paid to locally hired previously unemployed or underemployed are annualized by application of capital recovery factor, for the 50-year economic life at 6-7/8 percent.

Table - Area Redevelopment Benefits Levee Alternative 2

1. Estimated Onsite Labor Costs

Construction Cost ^{1/}	\$821,000
Percent of Cost Allocated to Labor	40 percent
Total Labor Cost	<u>\$328,400</u>

2. Allocation of Onsite Labor Cost by Unemployment Class

<u>Classification of Labor</u>	<u>Onsite Labor Cost</u>	<u>Percent Allocation</u>	<u>Amount of Wages</u>
			\$
Skilled	328,400	30	98,520
Semiskilled & Unskilled	328,400	50	164,200
Administrative and Supervisory	328,400	20	65,680
Total			<u>328,400</u>

3. Allocation of Wages to Locally Unemployed or Underemployed Labor

<u>Classification of Labor</u>	<u>Amount of Wages</u>	<u>Percent of Labor Hired Locally that was Previously Unemployed or Underemployed^{2/}</u>	<u>Wages Paid to Locally Hired Previously Unemployed or Underemployed</u>
	\$		\$
Skilled	98,520	30	29,556
Semiskilled & Unskilled	164,200	45	73,890
Administrative and Supervisory	65,680	35	22,988
Total	<u>328,400</u>		<u>126,434</u>

4. Benefits

Average Annual Value of Local Labor Component
 (126,434 X .07132) ^{3/} \$9,017

^{1/}Includes total construction cost, less cost for engineering and design.

^{2/}It is assumed that of the total labor cost, 30 percent will be allocated to skilled labor, 50 percent and 20 percent to unskilled, and administrative and supervisory, respectively. Under or unemployed labor is assumed to be as follows: 30 percent skilled, 45 percent semiskilled or unskilled, and 35 percent administrative and supervisory.

^{3/}The wages paid to locally hired previously unemployed or underemployed are annualized by application of capital recovery factor for the 50-year economic life at 6-7/8 percent.

Table - Area Redevelopment Benefits Levee Alternative 3

1. Estimated Onsite Labor Costs

Construction Cost ^{1/}	\$858,000
Percent of Cost Allocated to Labor	40 percent
Total Labor Cost	<u>\$343,200</u>

2. Allocation of Onsite Labor Cost by Unemployment Class

<u>Classification of Labor</u>	<u>Onsite Labor Cost</u>	<u>Percent Allocation</u>	<u>Amount of Wages</u>
	\$		\$
Skilled	343,200	30	102,960
Semiskilled & Unskilled	343,200	50	171,600
Administrative and Supervisory	343,200	20	68,640
Total			<u>343,200</u>

3. Allocation of Wages to Locally Unemployed or Underemployed Labor

<u>Classification of Labor</u>	<u>Amount of Wages</u>	<u>Percent of Labor Hired Locally that was Previously Unemployed or Underemployed^{2/}</u>	<u>Wages Paid to Locally Hired Previously Unemployed or Underemployed</u>
	\$		\$
Skilled	102,960	30	30,888
Semiskilled & Unskilled	171,600	45	77,220
Administrative and Supervisory	68,640	35	24,024
Total	<u>343,200</u>		<u>132,132</u>

4. Benefits

Average Annual Value of Local Labor Component
 (132,132 X .07132) ^{3/} \$9,424

^{1/}Includes total construction cost, less cost for engineering and design.

^{2/}It is assumed that of the total labor cost, 30 percent will be allocated to skilled labor, 50 percent and 20 percent to unskilled, and administrative and supervisory, respectively. Under or unemployed labor is assumed to be as follows: 30 percent skilled, 45 percent semiskilled or unskilled, and 35 percent administrative and supervisory.

^{3/}The wages paid to locally hired previously unemployed or underemployed are annualized by application of capital recovery factor for the 50-year economic life at 6-7/8 percent.

Table - Area Redevelopment Benefits Levee Alternative 4

1. Estimated Onsite Labor Costs

Construction Cost ^{1/}	\$895,000
Percent of Cost Allocated to Labor	40 percent
Total Labor Cost	<u>\$358,000</u>

2. Allocation of Onsite Labor Cost by Unemployment Class

<u>Classification of Labor</u>	<u>Onsite Labor Cost</u>	<u>Percent Allocation</u>	<u>Amount of Wages</u>
	\$		\$
Skilled	358,000	30	107,400
Semiskilled & Unskilled	358,000	50	179,000
Administrative and Supervisory	358,000	20	71,600
Total			<u>358,000</u>

3. Allocation of Wages to Locally Unemployed or Underemployed Labor

<u>Classification of Labor</u>	<u>Amount of Wages</u>	<u>Percent of Labor Hired Locally that was Previously Unemployed or Underemployed^{2/}</u>	<u>Wages Paid to Locally Hired Previously Unemployed or Underemployed</u>
	\$		\$
Skilled	107,400	30	32,220
Semiskilled & Unskilled	179,000	45	80,550
Administrative and Supervisory	71,600	35	25,060
Total	<u>358,000</u>		<u>137,830</u>

4. Benefits

Average Annual Value of Local Labor Component (137,830 X .07132) ^{3/}	\$9,830
---	---------

^{1/}Includes total construction cost, less cost for engineering and design.

^{2/}It is assumed that of the total labor cost, 30 percent will be allocated to skilled labor, 50 percent and 20 percent to unskilled, and administrative and supervisory, respectively. Under or unemployed labor is assumed to be as follows: 30 percent skilled, 45 percent semiskilled or unskilled, and 35 percent administrative and supervisory.

^{3/}The wages paid to locally hired previously unemployed or underemployed are annualized by application of capital recovery factor for the 50-year economic life at 6-7/8 percent.

Table - Area Redevelopment Benefits Pumping Alternative

1. Estimated Onsite Labor Costs

Construction Cost ^{1/}	\$ 96,000
Percent of Cost Allocated to Labor	40 percent
Total Labor Cost	\$ 38,400

2. Allocation of Onsite Labor Cost by Unemployment Class

<u>Classification of Labor</u>	<u>Onsite Labor Cost</u>	<u>Percent Allocation</u>	<u>Amount of Wages</u>
	\$		\$
Skilled	38,400	30	11,520
Semiskilled & Unskilled	38,400	50	19,200
Administrative and Supervisory	38,400	20	7,680
Total			<u>38,400</u>

3. Allocation of Wages to Locally Unemployed or Underemployed Labor

<u>Classification of Labor</u>	<u>Amount of Wages</u>	<u>Percent of Labor Hired Locally that was Previously Unemployed or Underemployed^{2/}</u>	<u>Wages Paid to Locally Hired Previously Unemployed or Underemployed</u>
	\$		\$
Skilled	11,520	30	3,456
Semiskilled & Unskilled	18,480	45	8,316
Administrative and Supervisory	7,392	35	2,688
Total	<u>38,400</u>		<u>14,460</u>

4. Benefits

Average Annual Value of Local Labor Component
 (14,784 X .07132) ^{3/} \$1,054

^{1/}Includes total construction cost, less cost for engineering and design.

^{2/}It is assumed that of the total labor cost, 30 percent will be allocated to skilled labor, 50 percent and 20 percent to unskilled, and administrative and supervisory, respectively. Under or unemployed labor is assumed to be as follows: 30 percent skilled, 45 percent semiskilled or unskilled, and 35 percent administrative and supervisory.

^{3/}The wages paid to locally hired previously unemployed or underemployed are annualized by application of capital recovery factor for the 50-year economic life at 6-7/8 percent.

Table - Area Redevelopment Benefits Floodproofing Alternative

1. Estimated Onsite Labor Costs

Construction Cost ^{1/}	\$153,000
Percent of Cost Allocated to Labor	40 percent
Total Labor Cost	\$ 61,200

2. Allocation of Onsite Labor Cost by Unemployment Class

<u>Classification of Labor</u>	<u>Onsite Labor Cost</u>	<u>Percent Allocation</u>	<u>Amount of Wages</u>
	\$		\$
Skilled	61,200	30	18,360
Semiskilled & Unskilled	61,200	50	30,600
Administrative and Supervisory	61,200	20	12,240
Total			<u>61,200</u>

3. Allocation of Wages to Locally Unemployed or Underemployed Labor

<u>Classification of Labor</u>	<u>Amount of Wages</u>	<u>Percent of Labor Hired Locally that was Previously Unemployed or Underemployed^{2/}</u>	<u>Wages Paid to Locally Hired Previously Unemployed or Underemployed</u>
	\$		\$
Skilled	18,360	30	5,508
Semiskilled & Unskilled	30,600	45	13,770
Administrative and Supervisory	12,240	35	4,284
Total	<u>61,200</u>		<u>23,562</u>

4. Benefits

Average Annual Value of Local Labor Component (23,562 X .07132) ^{3/}	\$1,680
--	---------

^{1/}Includes total construction cost, less cost for engineering and design.

^{2/}It is assumed that of the total labor cost, 30 percent will be allocated to skilled labor, 50 percent and 20 percent to unskilled, and administrative and supervisory, respectively. Under or unemployed labor is assumed to be as follows: 30 percent skilled, 45 percent semiskilled or unskilled, and 35 percent administrative and supervisory.

^{3/}The wages paid to locally hired previously unemployed or underemployed are annualized by application of capital recovery factor for the 50-year economic life at 6-7/8 percent.