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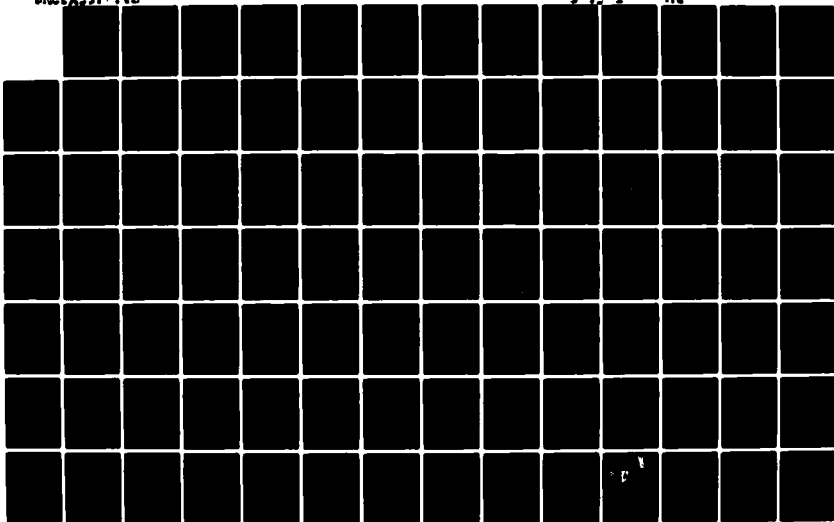
FLOOD CONTROL MINNESOTA RIVER MINNESOTA MINNESOTA
MANKATO-NORTH MANKATO-L... (U) CORPS OF ENGINEERS ST PAUL
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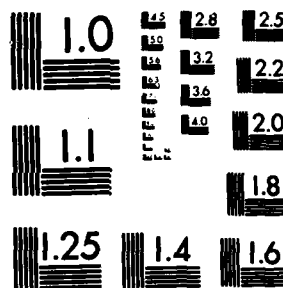
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WATER RESOURCES

79. No significant impact on ground water or surface water quality is anticipated. Impacts on the aquatic environment would be minimal. Appropriate construction precautions would be taken to minimize disruption of bottom sediments and increased turbidity. Sediments excavated from the river bottom must be disposed of at approved sites. See the Section 404(b)(1) Evaluation on Pages EIS-35 to EIS-44 and Technical Report No. 6, "Natural Resources," for details. Provisions for stormwater drainage from the bridge to permit containment of toxic or hazardous material spills will be developed during the detailed design stage. Such plans will be developed in cooperation with the Minnesota Pollution Control Agency to meet requirements for bridge replacement certification under Section 401 of the Clean Water Act of 1977.

TRAFFIC SERVICE AND SAFETY

80. Alternatives 2A and 4 would retain the present substandard underpass (9'-5" vertical clearance) at the entrance to Sibley Park at the corner of Woodland Avenue and Park Lane. This underpass now provides direct access to Sibley Park, but not to the adjacent neighborhood except via the park. Alternative 3B would provide a standard 15-foot vertical clearance bridge between Woodland Avenue and Carney Avenue which would connect the street systems south and north of the tracks via Park Lane and West Third Street. Access to the park would be relocated to the west end of West Third Street at a point one block north of the present entrance.

81. The advantages of a new underpass with standard vertical clearances are significant. All types of vehicles, including fire trucks, would have access to the area at all times without potential delay due to blockage by train operations. The proposed Woodland Avenue underpass under Alternative 3B would avoid the circuitous route through the park to reach the northern portion of the Sibley Park neighborhood and would divert some neighborhood traffic from the more hazardous grade crossings. It would also provide a safe uninterrupted crossing for more pedestrians than other alternatives, particularly when coupled with a pedestrian underpass at Sibley Street. The principal disadvantage is that park traffic would be diverted from Park Lane, the traditional route, to West Third Street for one-half block. Slight modifications to the park road would be required to close the existing entrance and open the new one.

82. All alternatives would require closing Carney Avenue at the railroad tracks. Alternatives 3B and 4 would also close Sibley Street to all vehicles at the railroad, but Alternative 3B would provide a pedestrian underpass at that point, primarily to provide a safe crossing for school children. The extension of West Second Street to Hubbell Avenue under Alternatives 3B and 4 will also help limit additional travel to or from locations north of the tracks to only one or two additional blocks.

83. Some interruption of street traffic would be experienced during the erection of the new main track bridge over the East Sibley Park entrance at Woodland Avenue. For Alternatives 2A and 4, such disruption will be for brief, intermittent periods during critical construction operations. For Alternative 3B, it may be necessary to close the existing entrance for a construction season while the tracks are raised as part of the construction of the new bridge east of Woodland Avenue. Access to the northern portion of the Sibley Park neighborhood would be confined to grade crossings at Sibley Street, Hubbell Avenue, and Owatonna Street and to the Mound Avenue underpass during this period. Access to East Sibley Park would be primarily via Mound Avenue. Feasibility of an alternative temporary bridge at the existing entrance to avoid closure will be explored during the detailed design phase of the project.

84. Currently a significant number of hikers and walkers trespass on railroad property and cross the river on the main track bridge (M-1605). The higher embankment, if adequately fenced, and the pedestrian bridge over the river, which is proposed for all alternatives, should effectively eliminate this imposition and attendant hazard.

RAIL OPERATIONS AND SERVICE

85. Railroad operations would be affected by the horizontal distances traveled, the increased grade and elevation to be overcome, and the grade on storage tracks. East of the river, all alternatives would have essentially level storage tracks which is the desirable condition. Storage tracks west of the river under Alternatives 2A would more or less parallel the main track on a grade of 0.6 percent.

86. Under Alternative 2A, freight car storage track for the Honeymead operations would be reduced from the present 3300 feet to 2400 feet. While this is less than the calculated reasonable peak requirement of 3200 feet, it is sufficient for normal operations. Switching operations to the 1500 feet of track west of the river would be interrupted during the passage of through trains since the main track would be used for access to tracks west of the river. Alternative 3B would provide 3200 feet of freight car storage track for the Honeymead operations, essentially equal to the present 3300 feet; while storage under Alternative 4 would be reduced to 2700 feet.

87. To compare the operating efficiencies of the alternatives, operating costs and fuel consumption were calculated for simulated operations within the area affected by the proposed alterations. The comparison of these costs, based on 1980 price levels, is shown in Table C.

TABLE C
ESTIMATED INCREASES IN RAILROAD OPERATING
COSTS AND FUEL CONSUMPTION

<u>Item</u>	<u>Annual Increases over Present Operations</u>		
	<u>Alternative</u>		
	<u>2A, 2B</u>	<u>3A, 3B</u>	<u>4</u>
Through train operating costs	\$8,300	\$ 8,300	\$8,300
Honeyamead switching operations	<u>49,000</u>	<u>21,900</u>	<u>12,300</u>
Total Cost	\$57,300	\$30,200	\$20,600
Through train fuel consumption	7,800 gal.	7,800 gal.	7,800 gal.
Fuel consumption for Honeyamead switching operations	<u>8,010 gal.</u>	<u>6,430 gal.</u>	<u>970 gal.</u>
Total Fuel Consumption	15,820 gal.	14,230 gal.	8,770 gal.

(1) Annual cost, present operations, \$58,900.

88. Annual operating costs and energy consumption are lowest under Alternative 4, with Alternative 3B somewhat better than 2A. Differences among the alternatives in energy required for construction are too small to estimate by methods currently available.

89. Under all alternatives, minor adjustments in train operations, slow orders, changes in switching procedures, etc., would be required for track alterations and embankment construction. Alternative 3B would also likely require a runaround ("Shoofly") track to expedite construction of the new underpass construction.

LIST OF PREPARERS

The following people were primarily responsible for preparing this environmental impact statement.

<u>Name</u>	<u>Expertise</u>	<u>Experience</u>	<u>Role in Preparation of EIS</u>
Mr. Robert Anfang	Forest Ecology	2 years, Research Assistant, University of Minnesota; 1½ years Forestry Technician and Biological Laboratory Technician; U.S. Forest Service; 6 years, Forester, St. Paul District, Corps of Engineers.	Biological evaluation, review documents prepared by contractor; prepared Section 404(b)(1) Evaluation.
Mr. Merlin H. Berg	Engineering, Hydraulics	45 years, Hydraulics and Planning; 32 years Corps of Engineers, 13 years private practice.	Subconsultant, Technical Writing.
Mr. George G. Brophy	Planner	2 years, Planner, HUD; 3 years Planning Consultant; 3 years Director Physical Planning, Minnesota Region 9 Development Commission; 4 years Director of Planning, Rieke Carroll Muller, Inc.	Subconsultant Project Manager, Planning, Zoning, Community Development.
Mr. James J. Craig, Jr.	Engineer	2 years soils engineering, Geotechnical Eng. Corp.; 5 years soils and foundations engineering, Braun Engineering Testing Co.	Subconsultant, Soils and Geology.
Mr. Roger A. Davis	Planner	2 years, City of North Mankato; 2 years, Professor Political Science, Mankato State University, 8 years, Professor of Urban Studies, MSU; 2 years, Senior Planner, Rieke Carroll Muller, Inc.	Subconsultant, Planning, Zoning, Community Development.
Mr. William G. Hohle, Jr.	Engineer	6 years highway engineer; 4 years hydraulics engineer, Edwards and Kelcey, Inc.	Consultant Staff, Civil Engineering.
Ms. Ann Leviton	Planner	7 years, Planner for local governments (specialty in historic preservation 3 years); 1 year Senior Planner, Rieke Carroll Muller, Inc.	Subconsultant, Planning, Zoning, Community Development, Historic Preservation.

LIST OF PREPARERS (Continued)

<u>Name</u>	<u>Expertise</u>	<u>Experience</u>	<u>Role in Preparation of EIS</u>
Mr. David Miller	Sociologist	2 years Research Assistant, Rural Sociology Department, University of Minnesota - 3 years Sociologist, St. Paul District, Corps of Engineers.	EIS Coordinator, reviewed contractors' documents, social/economic impacts, alternative evaluations.
Mr. Robert Penniman	Civil Engineer	10 years, Project Manager/Water Resources Projects, St. Paul District, Corps of Engineers.	Study Manager, contract administrator, reviewed technical and alternative evaluations.
Ms. Terry J. Pfutzenreuter	Archaeology	5 years, Archaeologist, Minnesota Historical Society; 6 months, Archaeologist, Corps of Engineers.	Reviewed and coordinated cultural resources technical report.
Dr. Henry Quade	Limnologist, Ecologist	10 years, Professor of Biology, Mankato State University, EIS studies; consultant to Minnesota Pollution Control Agency and County Boards.	Subconsultant, Natural Resources.
Mr. Amardo J. Romano	Engineer	28 years, Civil and Structural Engineering, Project Management and EIS Studies; Vice President, Edwards and Kelcey, Inc.	Consultant Principal-in-Charge, Civil Engineering.
Mr. Robert P. Sands	Planner, Engineer	14 years, Land Use Planner, Transportation Engineering and EIS Studies, Edwards and Kelcey, Inc.	Consultant Staff, Alternative Evaluations, Transportation Engineering.
Mr. Dale Shaw	Engineer	20 years, Civil Engineering, Project Engr., District 7 Survey Engr. Minn. Dept. of Transportation.	Mn/DOT Coordinator, Civil Engineering.
Ms. Audrey Thomas	Archaeology	3 years Archaeologist, St. Paul District, Corps of Engineers.	Reviewed cultural resources technical report.
Mr. Thomas E. Wetmore	Civil Engineer	28 years, Transportation Engineering, Project Management and EIS Studies, Edwards and Kelcey, Inc.	Consultant Project Engineer, Civil Engineering.

PUBLIC INVOLVEMENT

PUBLIC INVOLVEMENT PROGRAM

90. The study has been conducted by the St. Paul District, Corps of Engineers, with the Minnesota Department of Transportation functioning as a cooperating agency for the TH 169/60 and Main Street bridges. As required by guidelines of the Council on Environmental Quality, a scoping process was conducted as a part of the ongoing coordination and public involvement activities. A regular working cooperative arrangement has been maintained with the Cities of Mankato and North Mankato. The Chicago and North Western Transportation Company and the Chicago, Milwaukee, St. Paul and Pacific Railroad were contacted with reference to possible effects on railroad facilities and operations. Coordination with the other involved local, State, and Federal agencies was maintained by correspondence, briefings and the project newsletter. Direct working relationships were also maintained with private utility companies having facilities in the project area.

91. The views of the public were actively solicited throughout the course of the study. Individuals, groups and civic organizations, and governmental bodies were brought into the study process through a broadly-based public information program with regular communications on project matters.

92. Elements of the public information program included:

- a. A local public information office
- b. Periodic newsletters
- c. News media coverage
- d. Public information meetings
- e. Interviews with citizens directly affected by potential property acquisitions
- f. City Council and staff workshops
- g. Presentations to interested civic organizations

93. The overall public information program covered the entire project, i.e., all three bridge crossings to be altered. Specific public information releases were prepared to deal with the three separate bridge locations as appropriate.

REQUIRED COORDINATION

94. Following completion of this draft supplement to the FEIS, the only coordination remaining will be: the securing of necessary permits from the Minnesota Department of Natural Resources, the Minnesota Pollution Control Agency and the Corps of Engineers for the construction of the bridges; and review and comment on responses to the draft supplement, including views expressed during the public hearing. In compliance with Section 404 of the Clean Water Act, a Section 404 Public Notice covering the Blue Earth River bridge relocations will be issued in conjunction with the EIS Public Notice for the CNW railroad bridges supplement. A Section 404 Public Notice covering the Minnesota River bridge relocations will be issued in conjunction with the EIS Public Notice for the TH 60/Main Street bridge supplement.

95. During construction, all of the agencies having direct concern with the work will have to be kept informed. A regularly scheduled series of progress meetings to which all concerned would be invited may prove to be most effective for this purpose.

STATEMENT RECIPIENTS

96. This Draft Supplement EIS is being sent to the following for review and comment:

Distribution List Federal, State and Local Agencies and Officials

United States Senators

Honorable David Durenberger - Minnesota
Honorable Rudy Boschwitz - Minnesota

United States House of Representatives

Honorable Thomas Hagedorn - Minnesota
Honorable Bill Frenzel - Minnesota

Honorable Albert H. Quie - Governor of Minnesota

Federal Agencies

United States Department of Interior

United States Fish and Wildlife Service, Field Office
United States Fish and Wildlife Service, Regional Office
Assistant Secretary for Program Policy
Acting Assistant Director, United States Geological Survey
United States Geological Survey, Conservation Division,
Area Water Power
Bureau of Indian Affairs
Heritage Conservation and Recreation Service
Office of Archaeology and Historic Preservation
Interagency Archaeological Services

United States Department of Transportation

Federal Highway Administration, St. Paul, Minnesota
Second Coast Guard District, St. Louis, Missouri
Federal Highway Administration, Homewood, Illinois

United States Department of Agriculture

Eastern Region Forest Service
United States Forest Service
Soil Conservation Service, River Basin Planning Branch
Soil Conservation Service, Minnesota State Conservationist

United States Department of Commerce
Deputy Assistant Secretary for Environmental Affairs
Economic Development Representative, Duluth, Minnesota
National Oceanic & Atmospheric Administration -
National Marine Fisheries Service

United States Department of Health and Welfare
Director of Environmental Affairs
Region V Environmental Office

United States Department of Housing and Urban Development
Region V Environmental Clearance Officer

United States Department of Energy
Federal Energy Regulatory Commission
Division of NEPA Affairs
Advisor on Environmental Quality

United States Environmental Protection Agency
Region V Administrator

Advisory Council on Historic Preservation
Executive Director

Minnesota State Agencies

Department of Natural Resources
Office of Economic Opportunity
Department of Agriculture
Energy Agency
Minnesota Historical Society
Minnesota State Historic Preservation Office
State Archaeologist
Environmental Quality Board
Environmental Quality Board, Citizen's Advisory Committee
Minnesota Pollution Control Agency
Minnesota State Planning Agency
Minnesota State Planning Agency, Intergovernmental Planning
Minnesota Department of Transportation
Minnesota Senate
Minnesota State House of Representatives
Minnesota Environmental Education Board
Minnesota Department of Economical Development
Minnesota Department of Health, Division of
Environmental Health Association
Water Resources Board, Administrative Secretary,
Minnesota
Minnesota-Wisconsin Boundary Area Commission

Regional, County, Local Agencies

City of Mankato, Mayor
City of Mankato, Planning Director
City of Mankato, Director of Public Works
City of North Mankato, Mayor
City Engineer, North Mankato
Blue Earth County Engineer
Blue Earth County Board
Nicollet County Engineer
Nicollet County Board
Southern Minnesota Rivers Basin Commission
Region Nine Regional Development Commission

Libraries

Minneapolis Public Library
State Capitol Legislative Library
Environmental Conservation Library of Minnesota
St. Paul Public Library
Hill Reference Library
Metropolitan Council Library
University of Minnesota Library
University of Minnesota Agricultural Library
Mankato State College Library
Minnesota Valley Regional Library, Mankato
Minnesota Valley Regional Library, North Mankato

Newspapers, Media

The Waterways Journal, St. Louis, Missouri
The St. Peter Herald
Mankato Free Press
Mankato State College, Mankato Reporter
Gustavus Adolphus College, Gustavian Weekly

Interest Groups

Friends of the Earth, Minnesota Branch
Izaak Walton League of America
Izaak Walton League, Minneapolis Chapter
Ducks Unlimited
Minnesota Environmental Control Citizens Association
Minnesota Public Interest Research Group
Sierra Club, North Star Chapter
Minnesota League of Women Voters
Soil Conservation Society of America
Environmental Defense Fund, Inc.

National Audubon Society, North Midwest Region
National Audubon Society, North Midwest Representative
National Wildlife Federation
Minnesota Futurists Chapter of World Future
Environmental Resources
Water Resources Development Commission, River Bend
Association

Individuals and Companies

Chicago and North Western Transportation Co.
Honeymead Products Company
H. Paul Friesma, Butler University
James Jack, Mankato State University
John Turtle, Route 1, Mankato
Mankato Citizens Telephone Co.
Midwestern Gas Transmission
Northern States Power Co.

PUBLIC VIEWS AND RESPONSES

Local interests and various governmental agencies provided through public meetings, by reports, and through correspondence, their views on the desired objectives of the project. Summarized below are the expressed public views and the project responses.

<u>Views</u>	<u>Responses</u>
a. Provide flood protection.	Bridge alterations proposed herein will complete the flood control project thus providing protection against the Standard Project Flood.
b. Restrict property taking to a minimum.	The negative effects of possible residential and business displacements were accorded thorough investigation.
c. Maintain or improve access between north and south Sibley Park neighborhoods.	Underpass possibilities were examined carefully for each considered alternative.
d. Provide safety for school children.	Any contemplated changes in existing crossings were scrutinized carefully and efforts were made to make all necessary crossings more safe.

- e. Improve access to Sibley Park from Park Lane to reduce traffic on Mound Avenue.
- f. Maintain rail service to Honeymead plant.
- g. Minimize adverse aesthetic effects due to grade raise.

No material change in traffic patterns or volume on Mound Avenue is foreseen under any of the alternatives.

Consideration of all alternatives recognized the significant economic importance of the Honeymead plant and the need for efficient rail service thereto.

In all alternatives considered, grade raises in residential areas were kept at a level consistent with acceptable engineering criteria.

SECTION 404(b)(1) EVALUATION
FLOOD CONTROL, MINNESOTA RIVER, MINNESOTA
MANKATO-NORTH MANKATO-LE HILLIER
BRIDGE MODIFICATIONS

The following is an evaluation of the proposed construction and fill activity in accordance with the requirements of Section 404 of the Clean Water Act of 1977 (33 U.S.C. 1344).

1. PROJECT DESCRIPTION

This evaluation describes the proposed bridge relocations for the flood control project at Mankato-North Mankato-Le Hillier, Minnesota, with emphasis on construction and fill activities that affect navigable waters in the project area.

Fill activities are associated with the following project features:

Construction of replacement bridges for the Highway 169 and the Chicago and Northwestern Railroad Bridges over the Blue Earth River, and for the Trunk Highway 60 (Main Street) Bridge over the Minnesota River.

a. Description of the proposed discharge of dredged or fill materials.

(1) General characteristics of material - Materials to be used as fill in the various stages of construction activities are classified as concrete, pervious fill, impervious fill, filter layer, and riprap. The pervious fill, consisting of sands and gravels available from local pits, would be used for fill placed under water. The impervious fill would be used for shaping the riverbank above water. The impervious fill would be clayey material obtained from borrow areas in the higher ground along the river valley. No organic material will be permitted in either the pervious or impervious fill. The filter layer and riprap would be coarse granular and quarried rock materials placed on the finished slopes for erosion protection. Bridge reconstruction requires placement of concrete bridge piers in the river. Cofferdams constructed out of steel sheeting would be utilized to place the new bridge piers. A description of the construction activities associated with each of the bridge relocations is presented below.

The following fill activities would occur at the new Trunk Highway 60 (Belgrade/Mulberry) Bridge over the Minnesota River:

Construction of temporary cofferdams for pier footings.

Install piling, concrete footings, and concrete shafts for piers 1 and 2.

Backfill with washed sand and gravel over pier footings (source of fill from Minnesota Department of Transportation (MN/DOT) approved borrow sites).

Riprap over washed sand and gravel at pier locations to approximate elevation 748, or temporary cofferdams left in place to elevation 748.

The following fill activities would occur at the Chicago and Northwestern Transportation Company Bridges and pedestrian walk over the Blue Earth River:

Placement of abutment piling, footings, walls, and wing walls.

Placement of riprap on slopes.

Construct temporary cofferdams for pier footings.

Install piling, concrete footings, and concrete shafts for all piers.

Backfill with washed sand and gravel behind abutment walls and over pier footings (source of fill from MN/DOT approved borrow sites).

Riprap over washed sand and gravel at pier location to approximate elevation 755, or temporary cofferdams left in place to elevation 755.

The following fill activities would occur at the TH 169 and 60 Bridge over the Blue Earth River:

Furnish and install abutment piling.

Remove and replace riprap on slopes.

Construct temporary cofferdams for pier footings.

Install piling, concrete footings, and concrete shafts for piers 1 and 2.

Backfill with washed sand and gravel behind abutment walls and over pier footings (source of fill from MN/DOT approved borrow sites).

Riprap over washed sand and gravel at pier locations to approximate elevation 755, or temporary cofferdams left in place to elevation 755.

(2) Quantity of material proposed for discharge - The approximate quantities of materials involved in river construction (although not all would be placed below normal high water mark) are as follows for each bridge relocation:

The Belgrade/Mulberry Bridge requires the following fill materials and quantities:

Steel Sheet piling - Cofferdams	250 tons
Selected Backfill - Piers	800 cubic yards
Steel H-Piling - Piers	4,800 linear feet
Concrete - Piers	2,200 cubic yards
Riprap Slope Protection - Piers	200 cubic yards

The railroad bridge modification requires the following fill materials and quantities:

Steel Sheet piling - Cofferdams	180 tons
Selected Backfill	2,000 cubic yards
Steel H-Piling	11,200 linear feet
Concrete - Piers	2,000 cubic yards
Concrete - Abutments	400 cubic yards
Riprap Slope Protection	4,300 cubic yards

The TH 169 and 60 Bridge over the Blue Earth River requires the following fill materials and quantities:

Steel Sheet piling - Cofferdams	140 tons
Selected Backfill	1,500 cubic yards
Steel H-Piling	12,000 linear feet
Concrete - Piers	1,400 cubic yards
Concrete - Abutments	700 cubic yards
Riprap Slope Protection	3,200 cubic yards

(3) Source of material - Backfill for around bridge piers would be obtained from Minnesota Department of Transportation approved borrow sites. Sand, gravel, and quarried rock used in the riprap and filter layer would be obtained from local pits. Concrete would be purchased from local commercial sources.

b. Description of the proposed disposal sites for fill material

(1) Location - Fill activities are associated with proposed project works located between miles 109 and 104 on the Minnesota River and on the lower 1-mile reach of the Blue Earth River.

(2) Type of disposal sites - The river valley in the project area is composed mostly of sand. Fill areas would be along the shore and, for the bridge piers, in the river.

(3) Method of discharge - Fill will be placed with normal construction equipment such as bulldozers and cranes equipped with buckets.

(4) When will disposal occur? - The bridge alterations are scheduled to begin by spring 1983 and should be completed by fall 1984.

(5) Projected life of fill sites - The life of the project is 100 years.

(6) Bathymetry - The river has been channelized and consists mostly of a shifting sand bottom. About 10 feet deep at normal water level, the river increases to about 30 feet for the design flood.

2. PHYSICAL EFFECTS (40 CFR 230.4-1(a))

a. Potential destruction of wetlands - effects on (40 CFR 230.4-1(a)(1)(i-vi))

(1) Foodchain production - Because of the existing poor water quality, the shifting sand bottom, and previous channelization work that has already degraded the aquatic environment, the proposed work should not have an appreciable effect on foodchain production.

In general, the production of algae and aquatic invertebrates is inhibited in the project area by excessive silt, which reduces light penetration and destroys the utility of rocky substrate as invertebrate habitat.

(2) General habitat - Because the channelized river provides little habitat value, there would be little effect on aquatic or terrestrial species. Temporary effects of increased siltation during the short term of project construction would be harmful to aquatic biota, especially the algae and invertebrates which form the fishery forage base. There should be very little long-term impact upon river biota because the base flow characteristics will not be modified.

(3) Nesting, spawning, rearing, and resting sites for aquatic or land species - Essentially no nesting or spawning sites are available in the project area. Some aquatic species such as mollusks and benthic invertebrates would be affected by silting and direct placement of fill material. Long-term effects on aquatic and land species would be minimal, however.

(4) Those areas set aside for aquatic environment study or sanctuaries or refuges - Not applicable. No such areas are located within the area of project influence.

(5) Natural drainage characteristics - The project would not alter the natural drainage characteristics of the area.

(6) Sedimentation patterns - Sedimentation patterns are not expected to be changed because the large ambient sediment load and the base flow characteristics of the river channel will not be changed.

(7) Salinity distribution - No salinity parameters are applicable to the project.

(8) Flushing characteristics - Base or flood flow characteristics of the river channel will not be changed by the proposed fill activities.

(9) Current patterns - Base or flood flow characteristics of the river channel will not be changed.

(10) Wave action, erosion, or storm damage protection - Fill and riprap activities associated with the project would protect the riverbank from erosion by normal water flow and from high energy storm flows.

(11) Storage areas for storm waters and floodwaters - Fill activities will not affect storage areas for storm waters and floodwaters.

(12) Prime natural recharge areas - Groundwater and prime natural recharge areas are not expected to be affected by fill activities.

b. Impact on water column (40 CFR 230.4-1(a)(2))

(1) Reduction in light transmission - Increased turbidity during and immediately after construction would temporarily reduce light transmission.

(2) Aesthetic values - Fill activities would have little effect on the aesthetics of the water column because of the high ambient sediment load in the river.

(3) Direct destructive effects on nektonic and planktonic populations - Direct destruction of these populations would be minor due to the existing poor water quality and poor spawning habitat in the construction area. In general, the production of algae is inhibited in the project area by excessive silt, which reduces light penetration and destroys the utility of river habitat.

c. Covering of benthic communities (40 CFR 230.4-1(a)(3))

(1) Actual covering of benthic communities - In general, excessive silt, which destroys the utility of the substrate as invertebrate habitat, inhibits the production of aquatic invertebrates in the project area. Some aquatic invertebrate populations are apparent in the project area. Those animals dwelling directly in the path of the fill and riprap activities would be covered and thus eliminated by project construction.

(2) Changes in community structure or function - Fill and riprap activities would cover and eliminate some benthic communities. This would be a short-term adverse impact until "seed" organisms from similar habitats in the river could colonize the new substrate. Riprap activity would alter the substrate from mostly sand and silt to the riprap rock, allowing organisms which are adapted to a rock substrate to colonize the riprap area. This new habitat would increase the diversity of the number of species because of the increased surface area. Total community function is limited by the overall poor quality of the aquatic ecosystem.

d. Other effects (40 CFR 230.4-1(a))

(1) Changes in bottom geometry and substrate composition - Riprap would cover the existing uneven, sandy surface of the riverbank with a flat surface of rocks with slopes of 1 vertical to 2-1/2 or 3-1/2 horizontal. Bridge piers would cover and replace the existing surface with a concrete pier stretching from the river bottom to above the waterline.

(2) Water circulation - Base or flood flow characteristics of the river channel will not be changed by the project.

(3) Salinity gradients - Not applicable.

(4) Exchange of constituents between sediments and overlying water with alterations of biological communities - Fill activities would cover the existing fine-grained sandy sediments. The new condition with the fill would not be a probable habitat for organisms which have the ability for chemical exchange between constituents in the sediments and overlying water.

3. CHEMICAL - BIOLOGICAL INTERACTIVE EFFECTS (40 CFR 230.4-1(b))

a. Does the material meet the exclusion criteria?

The exclusion criteria state that dredged or fill material may be excluded from this evaluation if it is composed predominantly of sand, gravel, or any other naturally occurring sedimentary material with particle sizes larger than silt, characteristic of and generally found in areas of high current or wave energy such as streams with high bedloads or coastal areas with shifting bars and channels, or when the material proposed for discharge is taken from a site sufficiently removed from sources of pollution to provide reasonable assurance that such material has not been contaminated by such pollution. The fill material to be used for this project would meet these standards. Fill material would consist of sand, quarried rock, fieldstone, or any other naturally occurring sedimentary or glacial material with particle sizes larger than silt, generally found in areas having high current or wave energy. The fieldstone would be of glacial origin. The fill material would be obtained from MN/DOT approved borrow sites. Concrete would be obtained from commercial sources.

4. DESCRIPTION OF SITE COMPARISON (40 CFR 230.4-1(c))

a. Total sediment analysis (40 CFR 230.4-1(c)(1))

Sediment analysis performed in the study area shows that, except for high lead counts downstream of the Main Street Bridge, the values for heavy metals are similar to those found in the Minnesota River and do not represent a problem. The high lead content is due to storm sewer runoff in that area. One sample site near the Main Street Bridge also revealed the presence of PCB's (6 ug/kg). Any polluted sediments which are excavated will be placed in approved disposal sites and not returned to the river. Clean sand, gravel, and other material would be used as fill; and use of this material would present no major environmental impact in regard to concentration differences of critical constituents between the fill site and the fill material.

b. Biological community structure analysis (40 CFR 230.4-1(c)(2))

The composition of the biological community was sampled in the study area. The insect association is generally representative of a warm water lotic environment but is limited due to periodic siltation. The clam and fish populations in the area are also limited. The existing water quality is rather poor, while a shifting sand bottom and previous channelization work have degraded the aquatic environment. The non-aquatic nature of the fill material is unlikely to be a factor in the biological community structure at the fill sites.

5. REVIEW APPLICABLE WATER QUALITY STANDARDS

a. Compare constituent concentrations

The water quality of the Minnesota River study area is rather poor, with high turbidity and bedload movement at certain times of the year. The Minnesota River study area (including parts of tributaries) is classified as 2B fisheries and recreation and 3B industrial consumption. The constituent concentrations of the fill material are related to the source of the fill material. All fill material would be clean gravel, sand, rock, or concrete.

b. Consider mixing zone

The seepage water from the cofferdam would be pumped back into the river. Because the seepage water would be essentially the same as the existing river water, minor impacts are anticipated and consideration of the mixing zone is not applicable.

c. Will fill operation be in conformance with applicable standards?

According to the criteria outlined in Minnesota State Regulations, Minnesota Pollution Control Agency WPC 14, the project would not affect the river's ambient quality.

6. SELECTION OF DISPOSAL SITES (40 CFR 230.5) FOR FILL MATERIAL

a. Need for the proposed activity

The bridges have to be modified to pass the design standard project flood.

b. Alternatives considered

Alternatives other than the placement of fill are rather limited. Bridge removal with no replacement is neither acceptable nor practical; therefore, pier construction and backfilling is needed, which requires the placement of a cofferdam. The steel sheetpile cofferdam, concrete bridge piers, riprap, and clamshell placement of fill material are alternatives that would minimize turbidity and help reduce future water quality impacts.

c. Objectives to be considered in discharge determination (40 CFR 230.5(a))

(1) Impacts on chemical, physical, and biological integrity of aquatic ecosystem (40 CFR 230.5(a)(1)) - Due to their clean nature, fill activities would not have a significant impact on the chemical, physical, or biological properties of the aquatic ecosystem. Fill activities would not alter the temperature, flow rate, or other physical parameters of the river. Fill activities would not have a significant impact on the biological integrity of the aquatic ecosystem. The runoff from the decks of the constructed bridges, resulting from precipitation events or spills, would not drain directly into the river but would be routed to points on land to the storm sewer system where it would be possible to contain the runoff if necessary. (A more detailed description of this impact is presented in the Environmental Impact Statement.)

(2) Impact on foodchain - Because of the existing poor water quality, the shifting sand bottom, and previous channelization work that has already degraded the aquatic environment, the proposed work should have no effect on foodchain production. In general, excessive silt currently inhibits the production of algae and aquatic invertebrates in the project area.

(3) Impact on diversity of plant and animal species - Biological diversity is fairly low in the fill area of the project. As a result, fill activities are not expected to have a significant impact on plant and animal diversity.

(4) Impact on movement into and out of feeding, spawning, breeding, and nursery areas - Habitat in the fill area is not conducive for such activities. Fill activities are not expected to have a significant impact on this movement.

(5) Impact on wetland areas having significant functions of water quality maintenance - No wetland areas with this function are near the fill activities of the project area.

(6) Impact on areas that serve to retain natural high waters or floodwaters - No natural floodwater retaining areas of significant size are in the project area.

(7) Methods to minimize turbidity - Construction below the normal high water level would be accomplished during low flow periods to minimize turbidity. Using steel sheet piles and making the cofferdams as small as possible yet still able to provide sufficient construction work area would also reduce turbidity. The use of clean fill material would minimize impacts on aquatic organisms and reduce effects on water quality parameters.

(8) Methods to minimize degradation of aesthetic, recreational, and economic values - The cofferdam would be a temporary fill activity with short-term minor aesthetic and recreational impacts. The altered bridge piers would have aesthetic, recreational, and economic impacts similar to the existing conditions, and these would be considered minor.

(9) Threatened and endangered species - No Federal or State threatened or endangered species would be affected by the proposed fill activities.

(10) Other measures that avoid degradation of aesthetic, recreational, and economic values of navigable waters - The fill portions of the project would have no significant impacts on aesthetic, recreational, or economic values of the navigable waters.

d. Impacts on water used at proposed fill sites (40 CFR 230.5(b)(1-10))

(1) Municipal water supply intakes - The fill sites are not near any public water supply intakes.

(2) Shellfish - The fill sites are not in an area of shellfish production.

(3) Fisheries - No significant fish habitat would be affected by the fill activities.

(4) Wildlife - During construction, equipment associated with the placement of fill would temporarily disturb some wildlife.

(5) Recreation activities - Water-related recreation activities are not important in the project area.

(6) Threatened and endangered species - No Federal or State threatened or endangered species are located in the project area.

(7) Benthic life - In general, benthic life is inhibited in the project area by excessive silt, which destroys the utility of the substrate as benthic habitat. However, fill activities would cover any benthic life existing at the fill sites. This would be a short-term adverse impact because recolonization would occur.

(8) Wetlands - Wetlands would not be affected by fill activities.

(9) Submersed vegetation - The fill sites do not contain a significant population of submersed vegetation.

(10) Size of disposal site - The size of the disposal site would have minor environmental impacts in the project area. In addition, the disposal sites are the smallest possible that still provide required construction space.

(11) Coastal Zone Management programs (40 CFR 230.3(e)) - Not applicable.

e. Considerations to minimize harmful effects (40 CFR 230.5(c)(1-7))

(1) Water quality criteria - According to the criteria outlined in Minnesota State Regulations, Minnesota Pollution Control Agency WPC 14, the project would not affect the river's ambient quality.

(2) Alternatives to open water fill - There are no practical alternatives to the fill required to accomplish the bridge modifications.

(3) Physical characteristics of alternative fill sites - The flood control project, as designed, requires modifications to the bridges. Alternatives are not compatible with the project.

(4) Ocean dumping - Not applicable.

(5) Covering contaminated fill material with cleaner material - All fill material would be clean.

(6) Methods to minimize effects of runoff from confined areas on the aquatic environment - All fill material is clean, and no confined areas other than the cofferdams would be utilized.

(7) Coordinate potential monitoring activities at the fill site with EPA - Because of the clean nature of the fill material, no monitoring activities are planned.

7. STATEMENT AS TO CONTAMINATION OF FILL MATERIAL IF FROM A LAND SOURCE (40 CFR 230.5(d))

The fill material would be commercially purchased and would consist of clean rock, gravel, sand, and concrete. Minnesota Department of Transportation approved borrow sites would be used.

8. DETERMINE MIXING ZONE

Determination of a mixing zone is not applicable. Because the discharged seepage water would be of the same quality as the receiving water, no significant impacts are expected. The seepage water discharge may cause some increased turbidity, but this impact would be minor.

Date

WILLIAM W. BADGER
Colonel, Corps of Engineers
District Engineer

INDEX REFERENCES AND APPENDIXES
(Alternative 3B, CNW over Blue Earth River)

<u>Subjects</u>	<u>Environmental Impact Statement</u>	<u>Main Report (References Incorporated)</u>	<u>Report Appendixes and Technical Reports (References Incorporated)</u>
Affected Environment	pp. EIS-15,17	Frontispiece pp. 8-23	Tech. Reports 1-6
Air Quality	p. EIS-5	pp. 19,45,50,57	--
Alternatives	pp. EIS-9-15	pp. 24-26, 28-36	Appendix A
Areas of Controversy	p. EIS-3	--	--
Comparative Impacts of Alternatives	pp. EIS-15,16	pp. 36-42, 60-62	--
Costs	pp. EIS-3,16, 26	pp. 38,41-42,46,47, 52-53,58,59,61, 62	Appendix B
Displacements	pp. EIS-16,17, 21-22	pp. 39,40,44,49,55, 61,62	Tech. Report 4
Energy	pp. EIS-25-26	pp. 38,45,51,57	--
Environmental Effects	pp. EIS-20-26	pp. 36-41,43-62	Tech. Reports 1-6
Historic Properties	pp. EIS-4,18, 22-23	pp. 22-23,45,50,56	Tech. Report 5
Implementation Responsibilities	p. EIS-13	pp. 46-47,52-53, 58-59	Tech. Reports 1-6
List of Preparers	pp. EIS-27-28	--	--
Major Conclusions and Findings	p. EIS-3	pp. 60-63	--
Mitigation Requirements	pp. EIS-13-14	pp. 46,52,58	--
Need for and Objectives of Action	pp. EIS-8-9	pp. 1,6-7,26	--

INDEX REFERENCES AND APPENDIXES
(Continued)

<u>Subjects</u>	<u>Environmental Impact Statement</u>	<u>Main Report (References Incorporated)</u>	<u>Report Appendixes and Technical Reports (References Incorporated)</u>
Neighborhoods	pp. EIS-17, 20-21	pp. 9-10,37-38 43-44,49-50, 55-56,60-62	Tech. Report 4
Noise	pp. EIS-18-19, 23	pp. 18-19,45, 50,56	Tech. Report 3
Parks and Recreation	pp. EIS-18,22	pp. 22,37,45, 50,56	Tech. Report 4
Planning Objectives	p. EIS-9	pp. 7,26	--
Plans Considered in Detail	pp. EIS-11-14	pp. 42-62	Appendix A
Plans Eliminated from Further Study	pp. EIS-9-11	pp. 24-26,29-31	--
Plan, Profile and Section Drawings	--	p. 32	Appendices A,E
Public Concerns	p. EIS-8	p. 7	Appendix C
Public Involvement, Views and Responses	pp. EIS-29-34	pp. 2,7,47-48, 53-54,59	Appendix C
Rail Operations and Service	pp. EIS-20, 25-26	pp. 10,17,27,37-38, 44,49,55-56,61-62	--
Recipients of EIS	pp. EIS-30-33	--	--
Relationship to Environmental Requirements	pp. EIS-4-5	--	--
Required Coordination	p. EIS-29	--	--
Significant Concerns	pp. EIS-17-20	pp. 5,60	Tech. Reports 2-6
Study Authority	p. EIS-8	pp. 1-2	--
Summary	pp. EIS-3-4	--	--

INDEX REFERENCES AND APPENDIXES
(Continued)

<u>Subjects</u>	<u>Environmental Impact Statement</u>	<u>Main Report (References Incorporated)</u>	<u>Report Appendixes and Technical Reports (References Incorporated)</u>
Tentatively Selected Plan	p. EIS-14	p. 63	--
Tiering	p. EIS-4	--	--
Traffic Service and Safety	pp. EIS-19-20, 24-25	pp. 17,27,37-39, 44-46,50-51,56-57 60-62	Tech. Report 1
Unresolved Issues	pp. EIS-3-4	--	Appendix B
Utilities	pp. EIS-12,22	pp. 23,35-56, 40-41,45,51,57	--
Vegetation and Wildlife	p. EIS-17	pp. 21-22,43	Tech. Report 6
Water Resources	pp. EIS-14,19, 24,35-44	pp. 21-22,43,48,54	Tech Reports 2,6
Without Conditions	p. EIS-11	pp. 24-26	--

FLOOD CONTROL
MINNESOTA RIVER, MINNESOTA
MANKATO-NORTH MANKATO-LE HILLIER

DESIGN MEMORANDUM NO. 8 - PART I (Location Study)

AND

DRAFT SUPPLEMENT II TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT

FOR

BRIDGE RELOCATIONS

CHICAGO AND NORTH WESTERN
TRANSPORTATION COMPANY BRIDGES

OVER THE BLUE EARTH RIVER BETWEEN

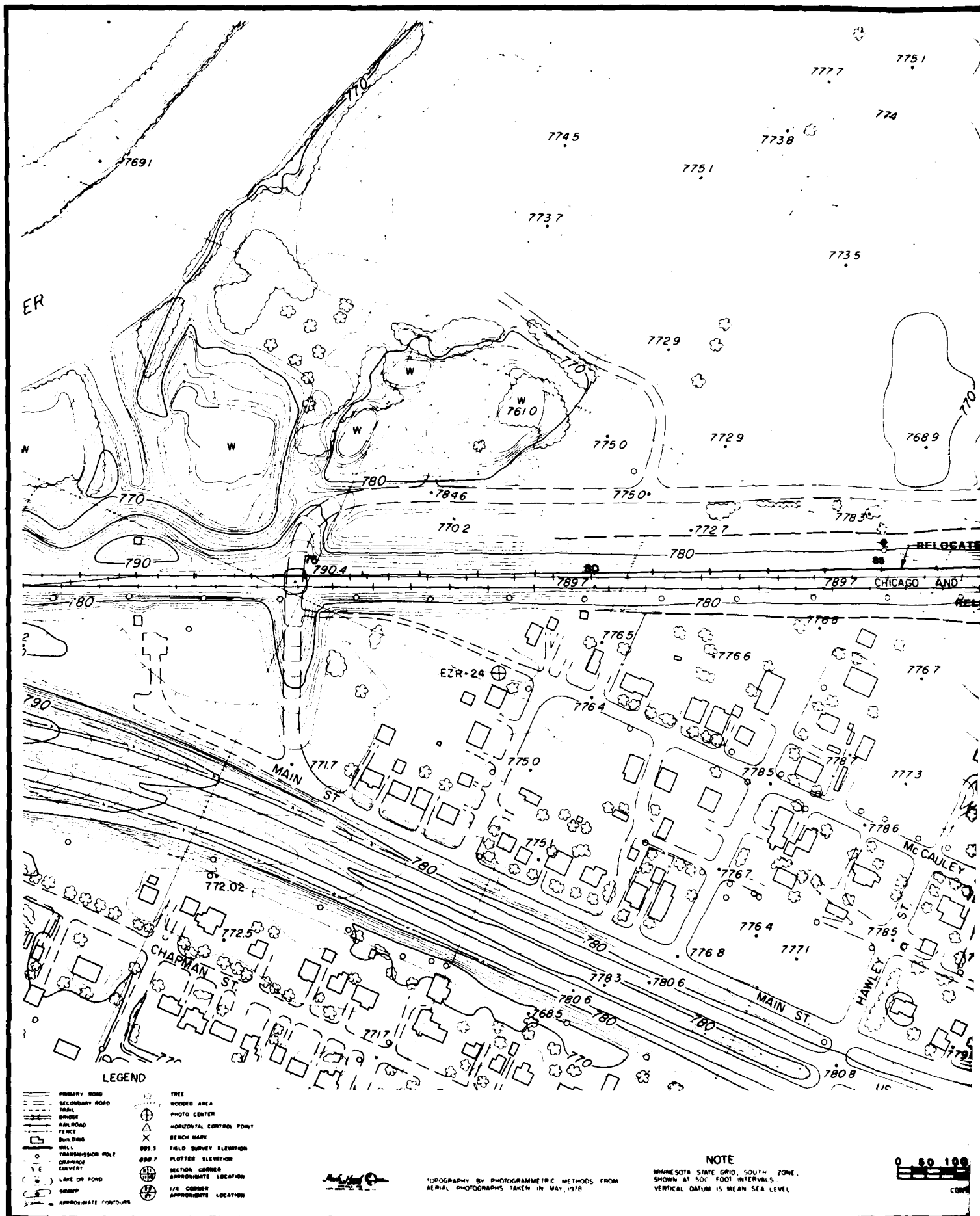
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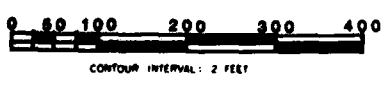
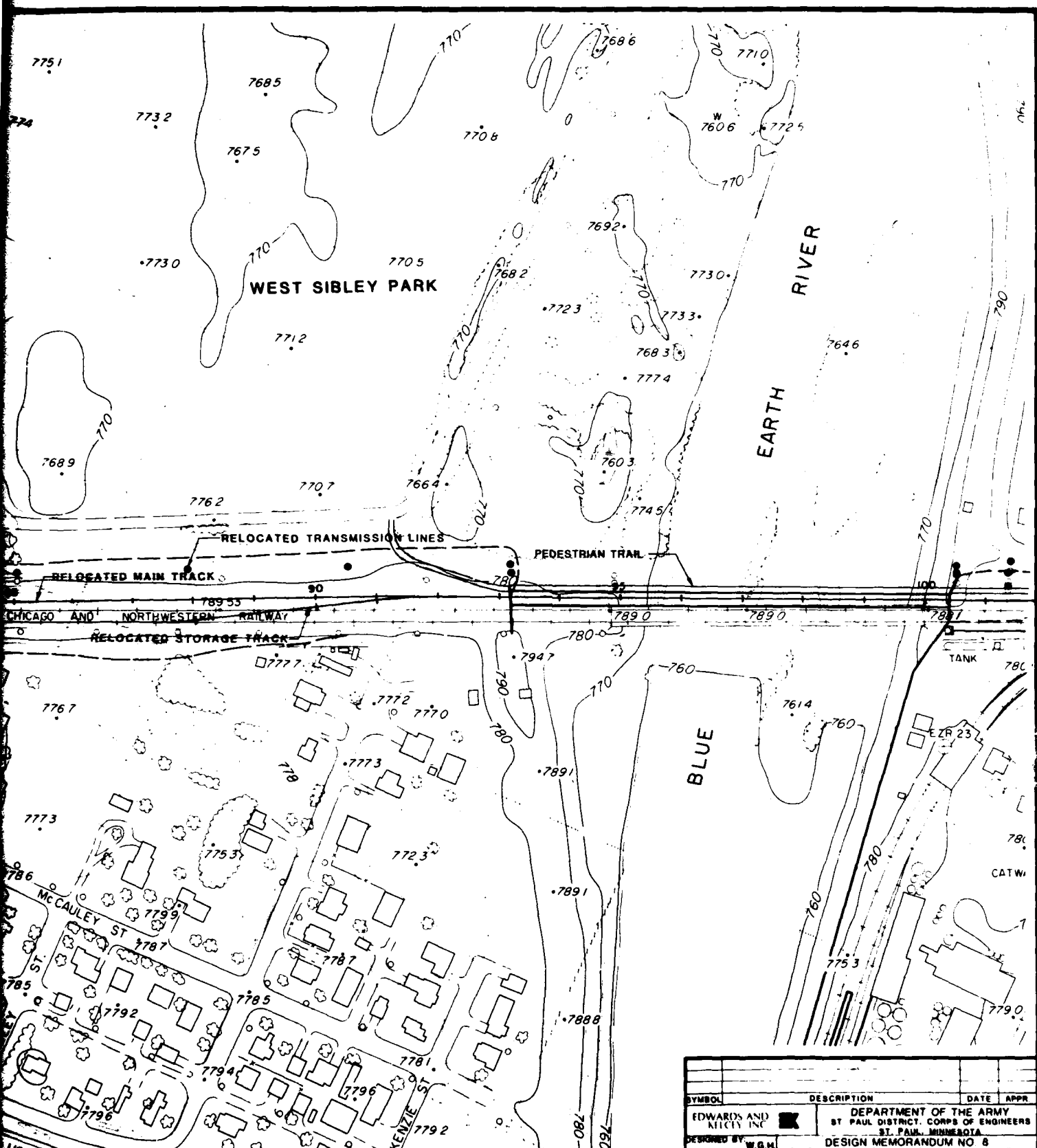
APPENDIX A

PLANS, PROFILES, AND TYPICAL CROSS SECTIONS

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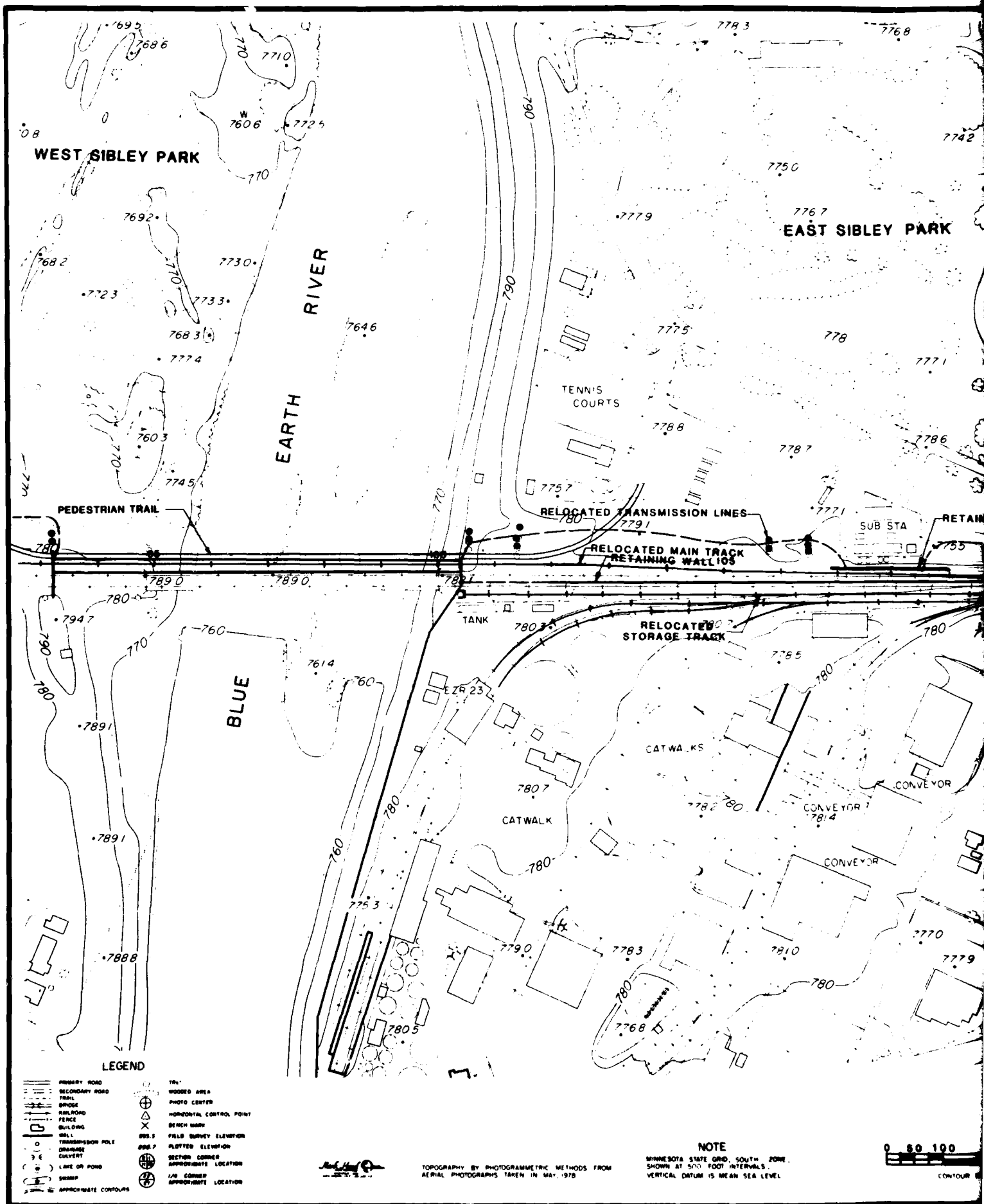


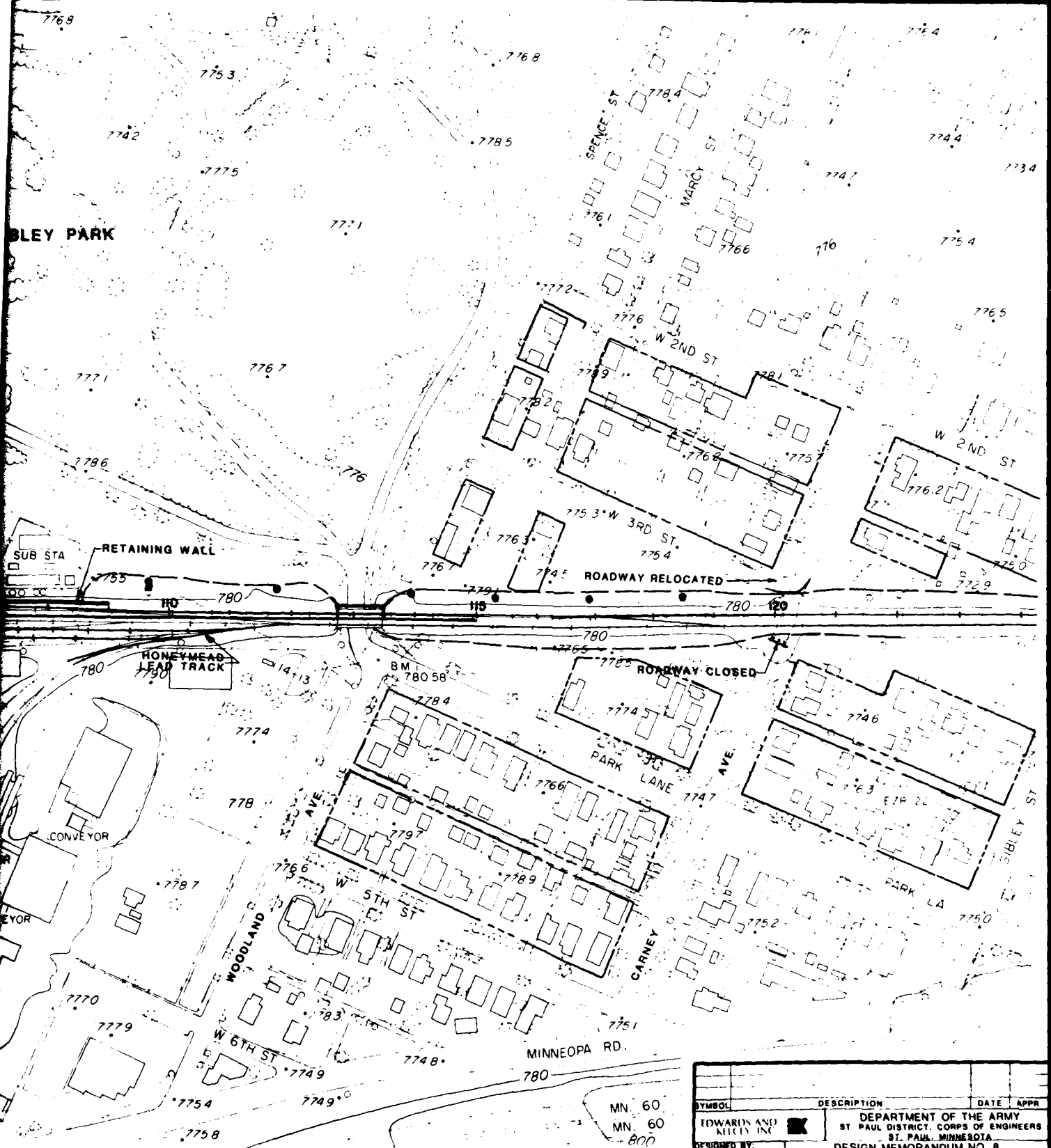
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SIGNATURE *Marco J. Romano*

Date *December 11, 1980* Reg. No. *7433*

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CHECKED BY	W.G.H.	MINNESOTA RIVER AND BLUE EARTH RIVER		
APPROVED BY	<i>[Signature]</i>	MANKATO-NORTH MANKATO LE HILLIER		
CITY ENGINEER		C & N.W. T. CO. OVER THE BLUE EARTH RIVER		
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		DATE		
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PLATE A-1				





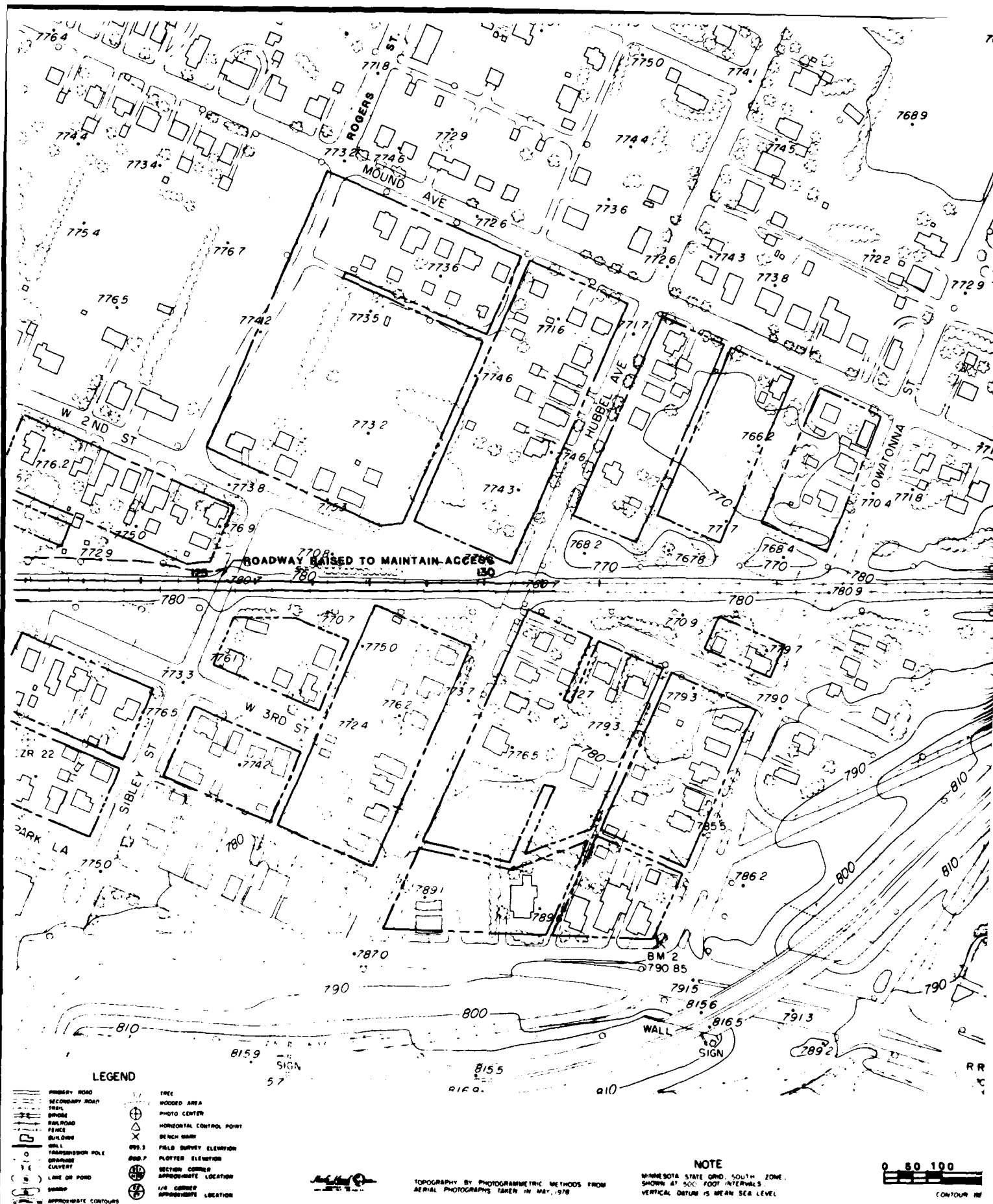
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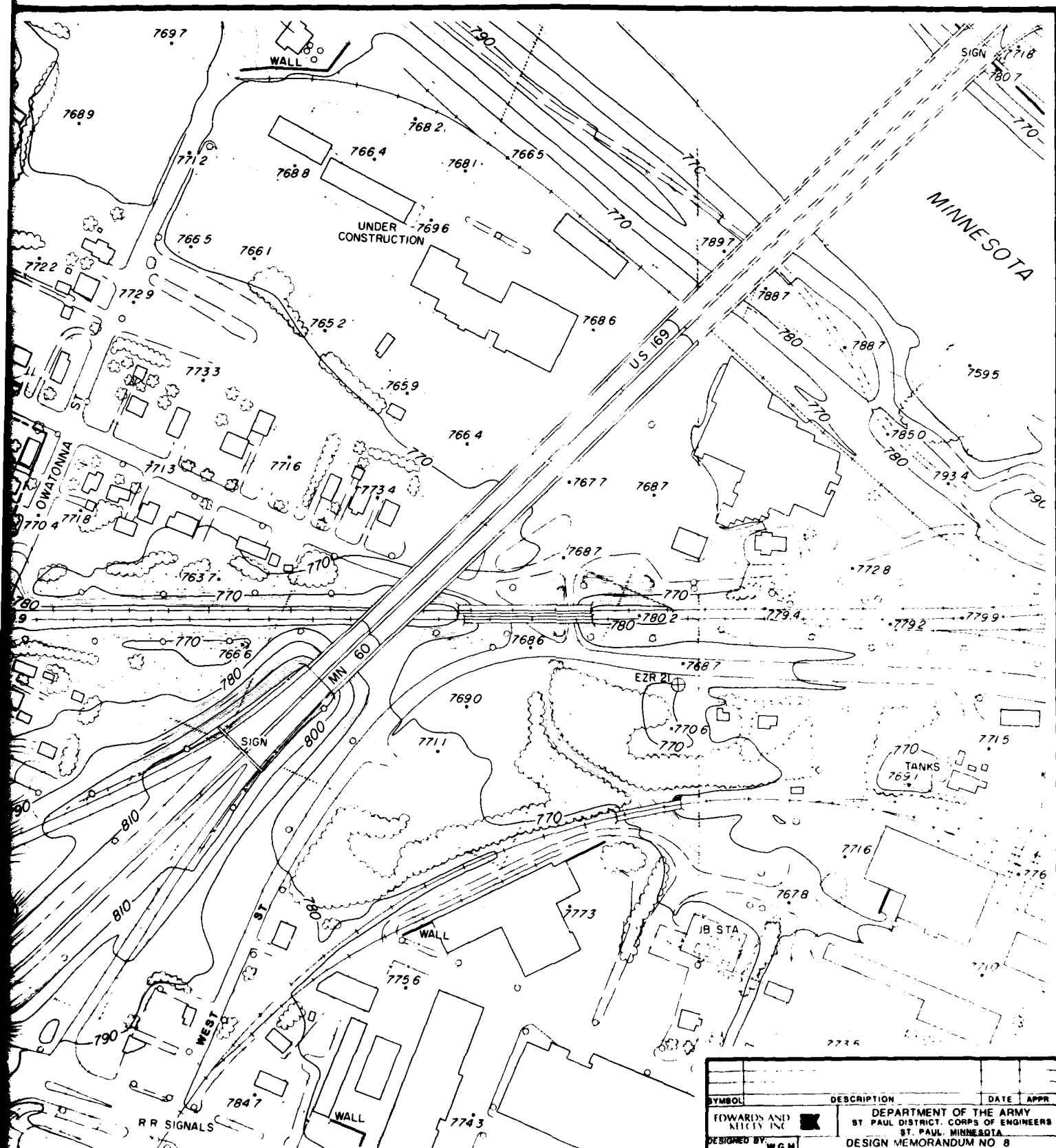
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PLATE A-2





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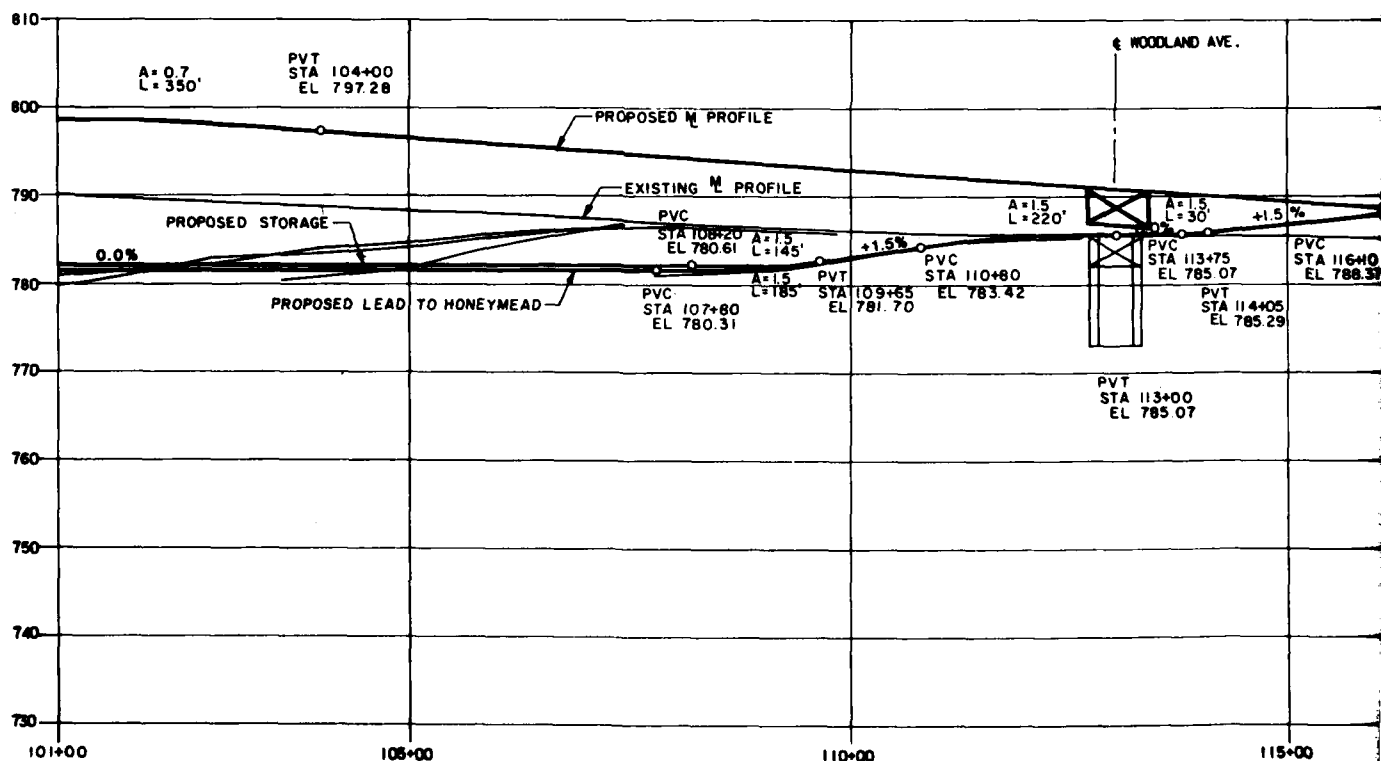
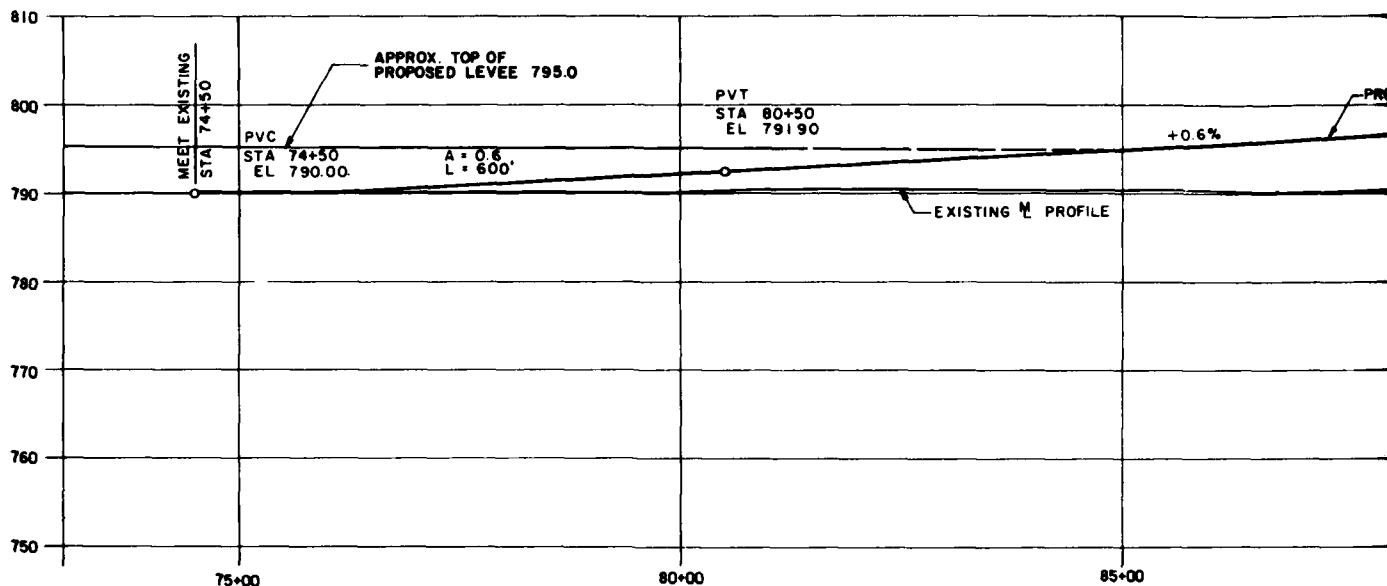
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DATE: NOVEMBER 1980	C & N.W. T. CO. OVER THE BLUE EARTH RIVER		
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PLATE A-3



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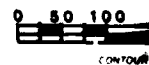
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| | BRIDGE | | HORIZONTAL CONTROL POINT |
| | RAILROAD | | BENCH MARK |
| | FENCE | | FIELD SURVEY ELEVATION |
| | BUILDING | | PLOTTER ELEVATION |
| | WALL | | SECTION CORNER |
| | TRANSMISSION POLE | | APPROXIMATE LOCATION |
| | GRASS | | 1/4 CORNER |
| | CULVERT | | APPROXIMATE LOCATION |
| | LINE OR POND | | |
| | SWAMP | | |
| | APPROXIMATE CONTOURS | | |

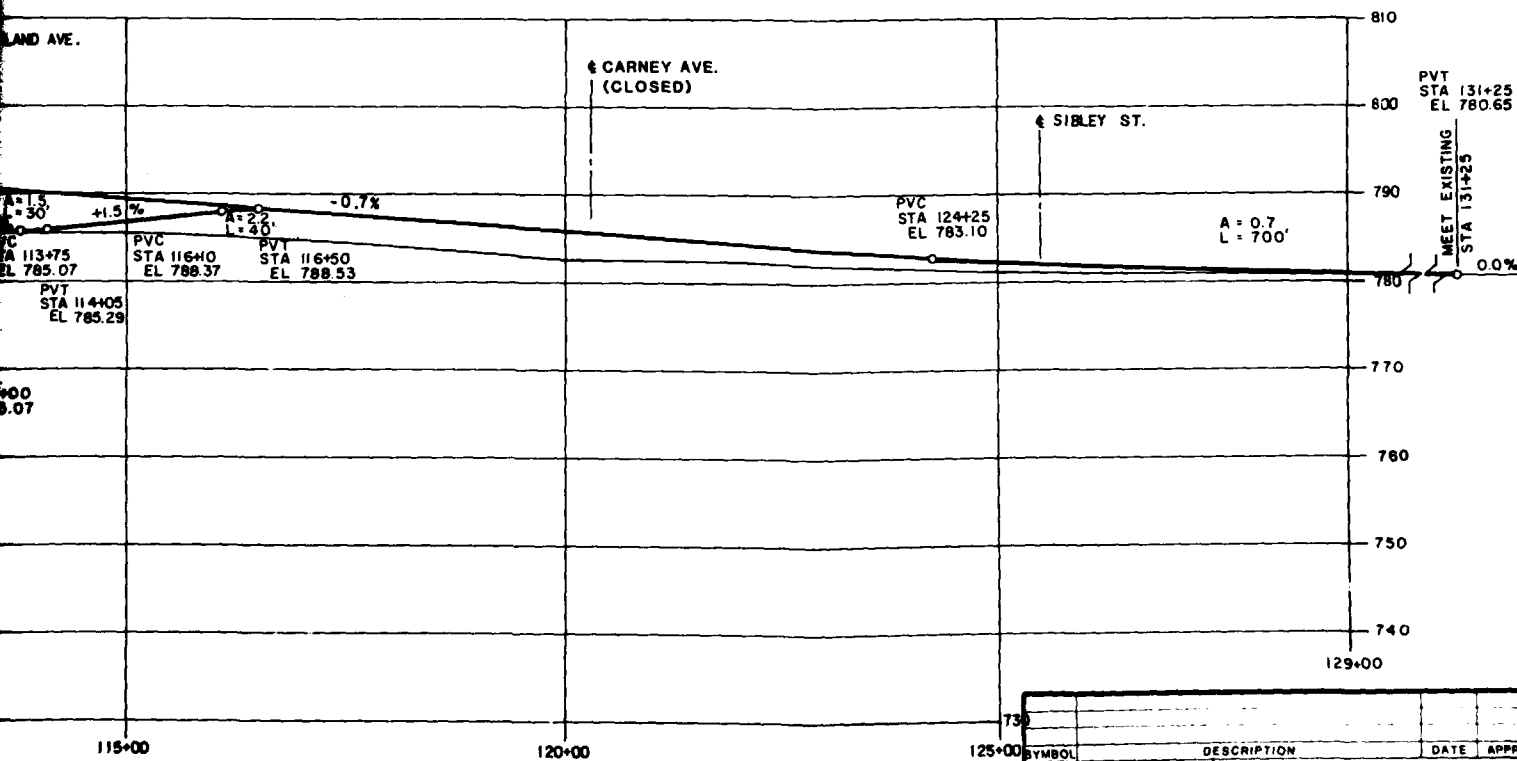
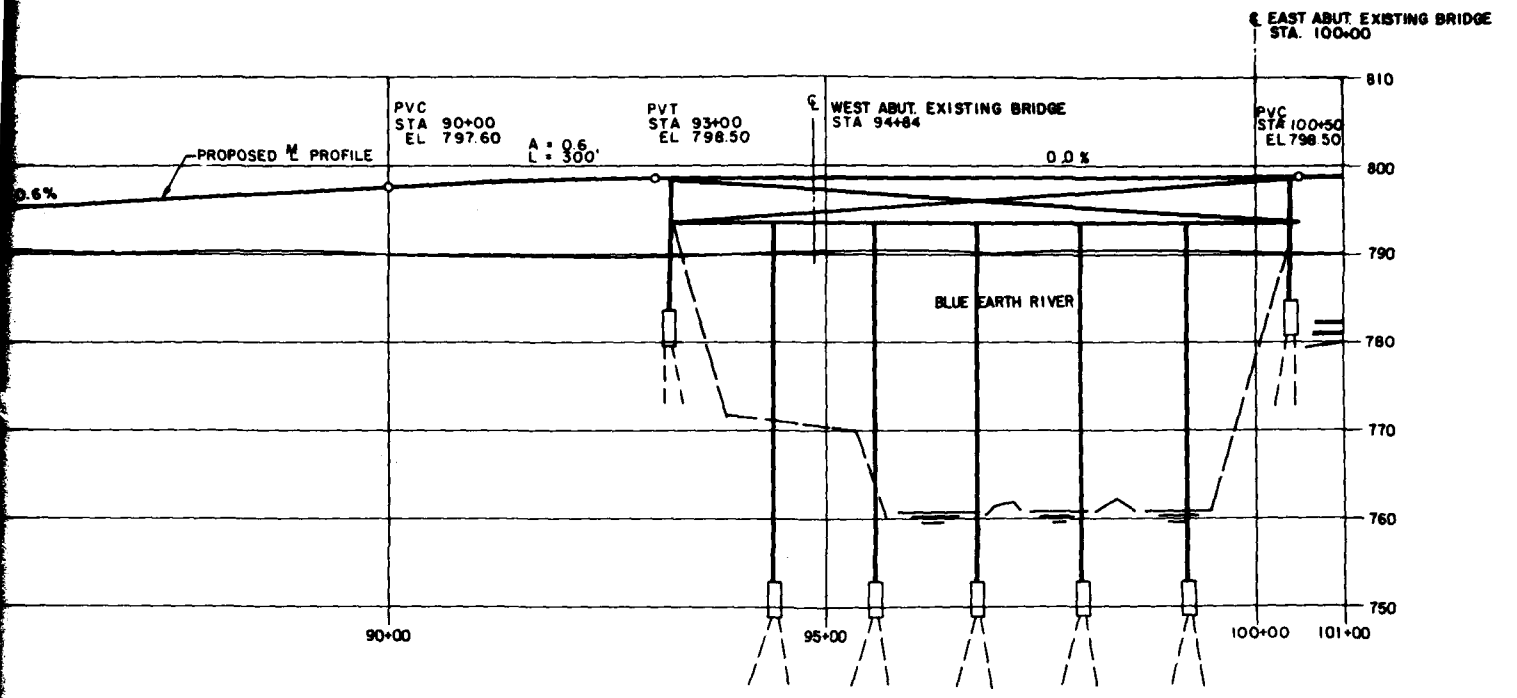


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NOTE

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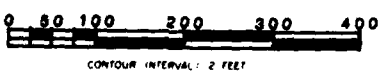




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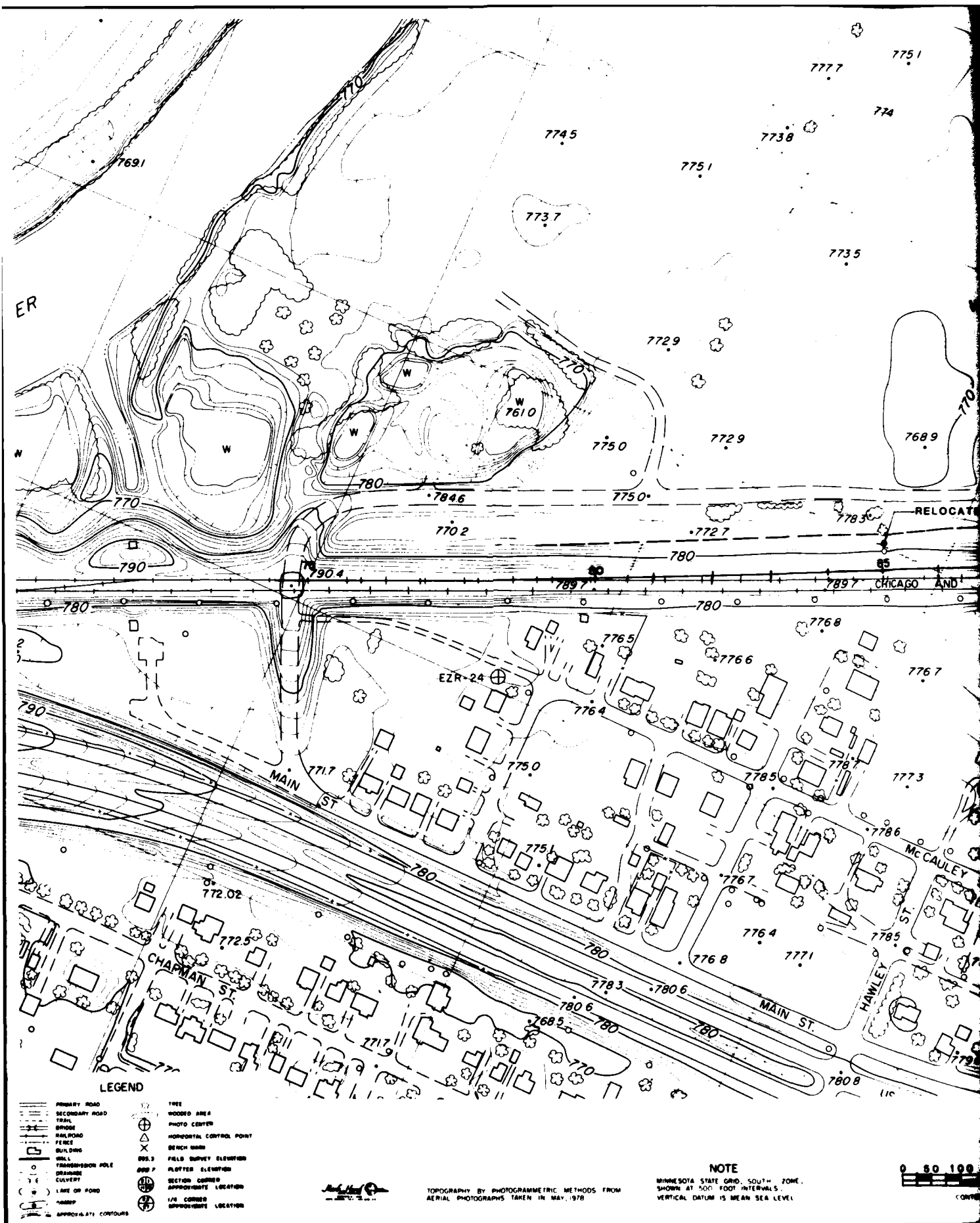
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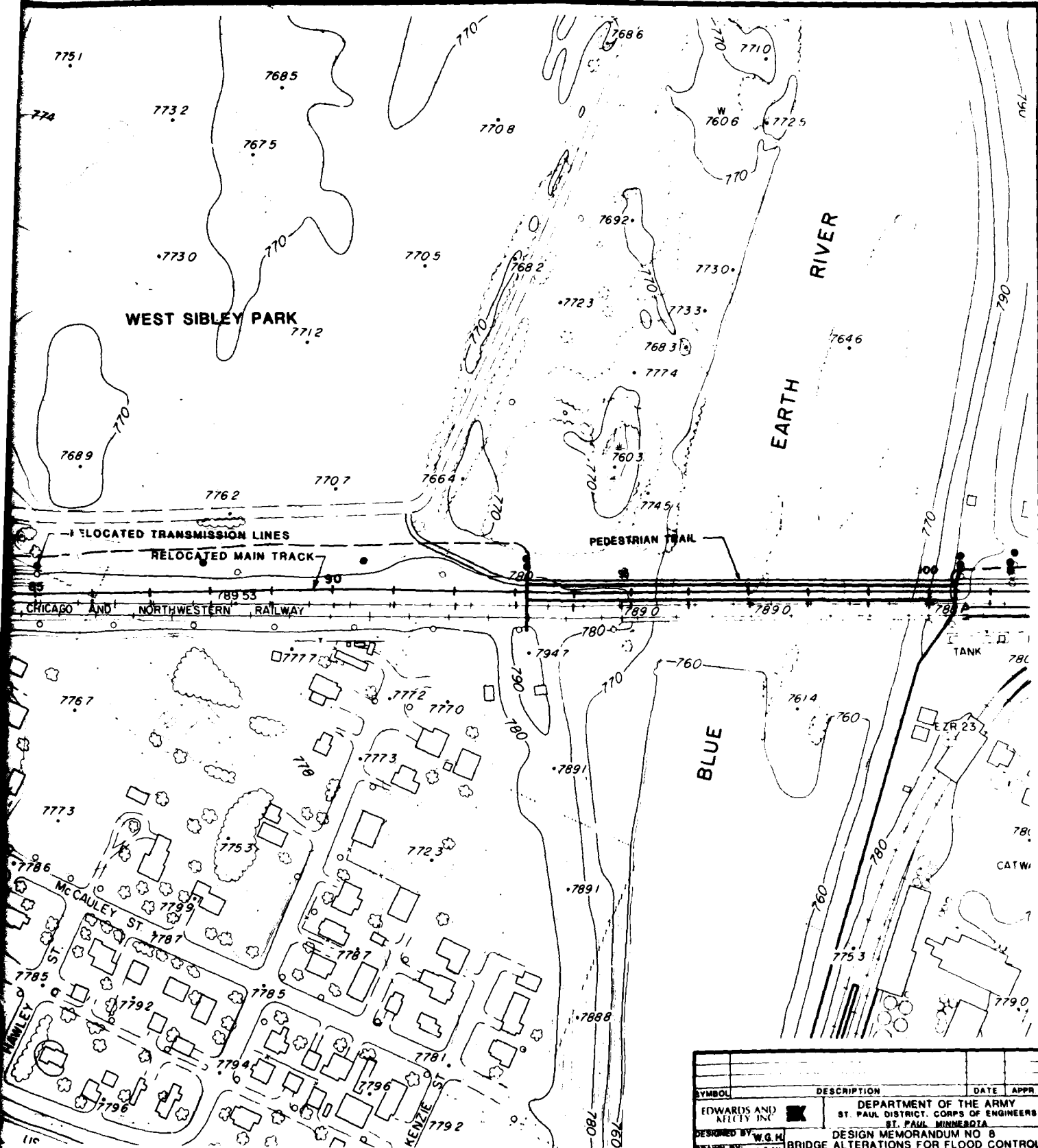
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PLATE A-4





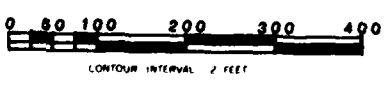
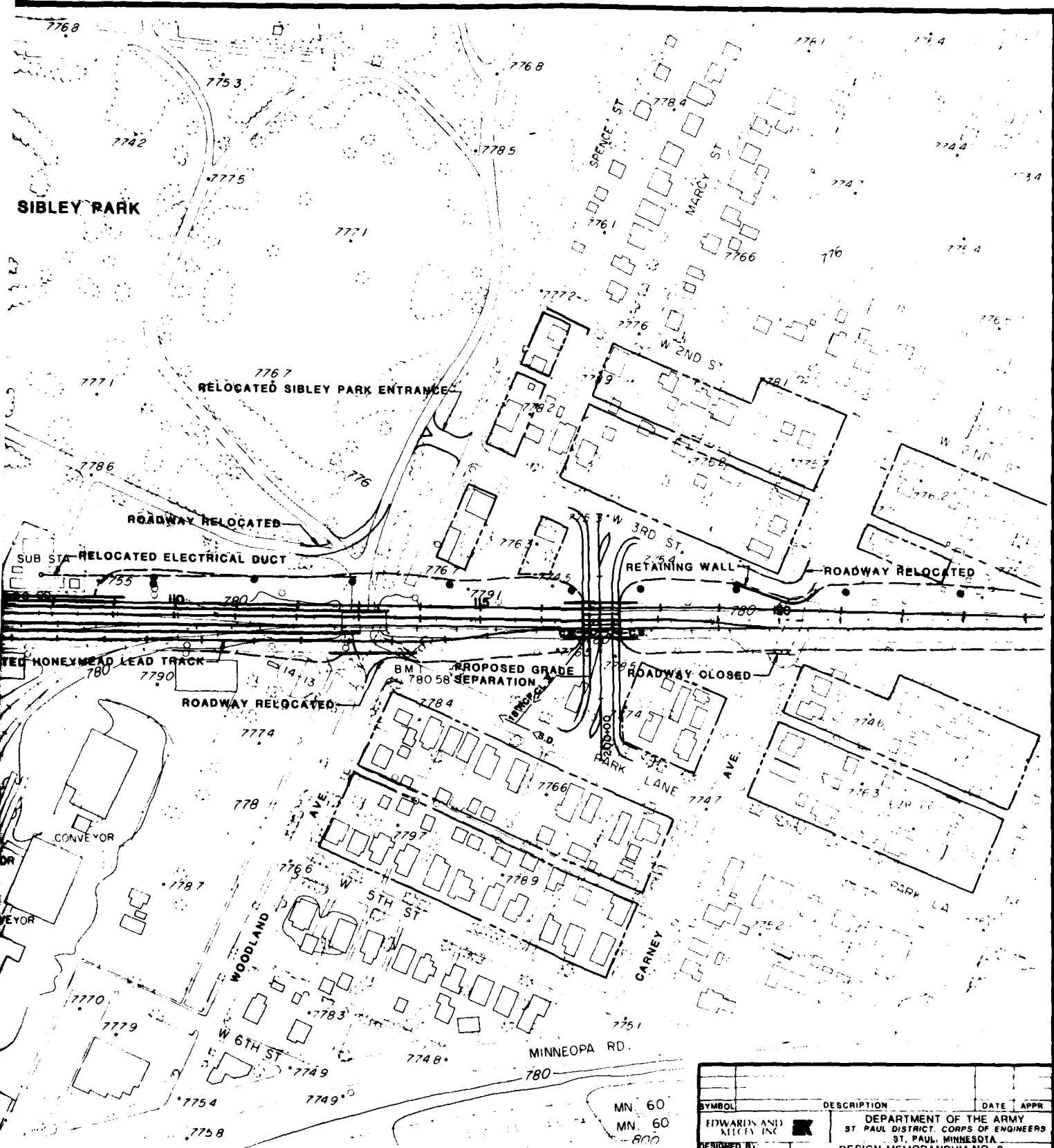
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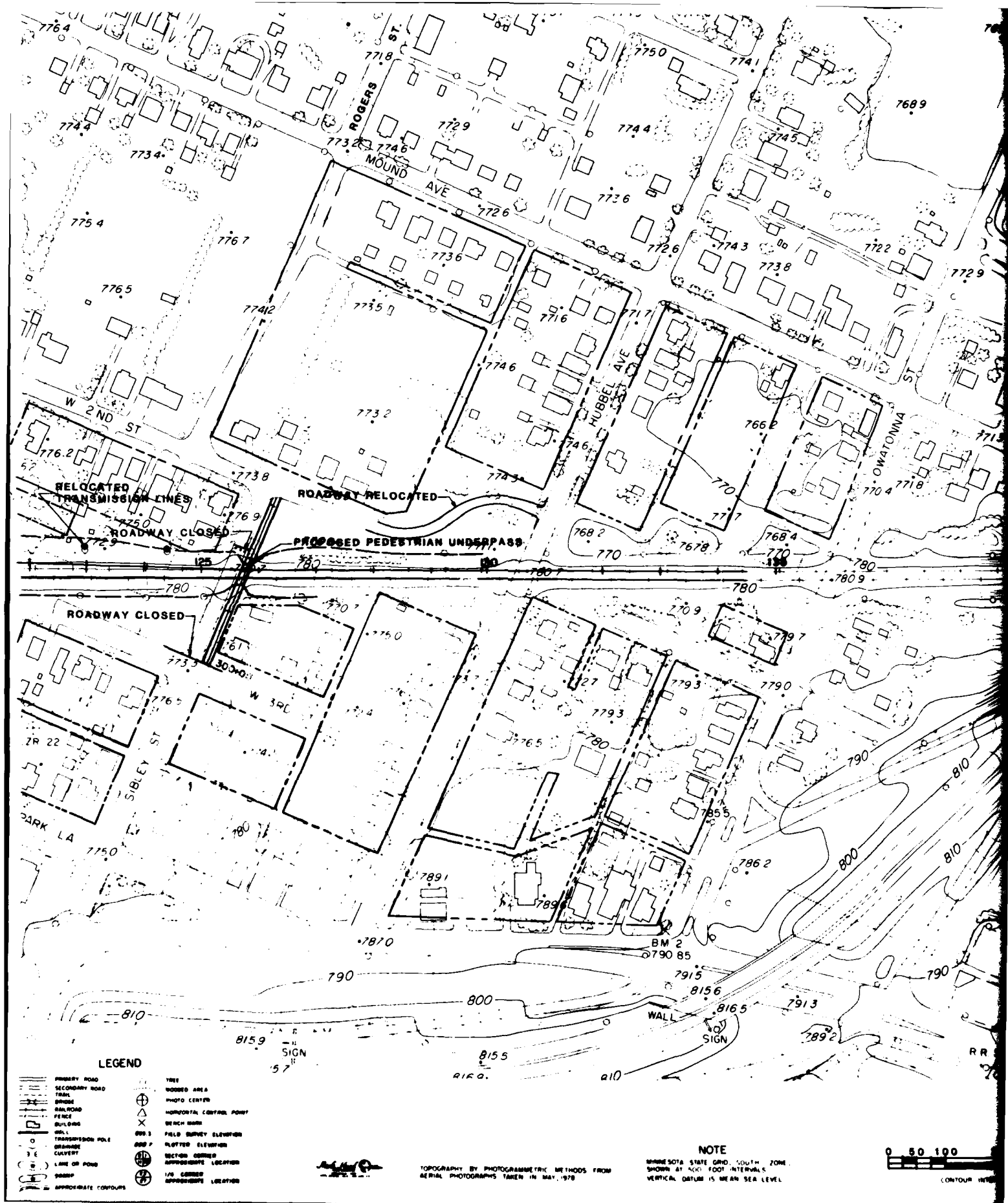
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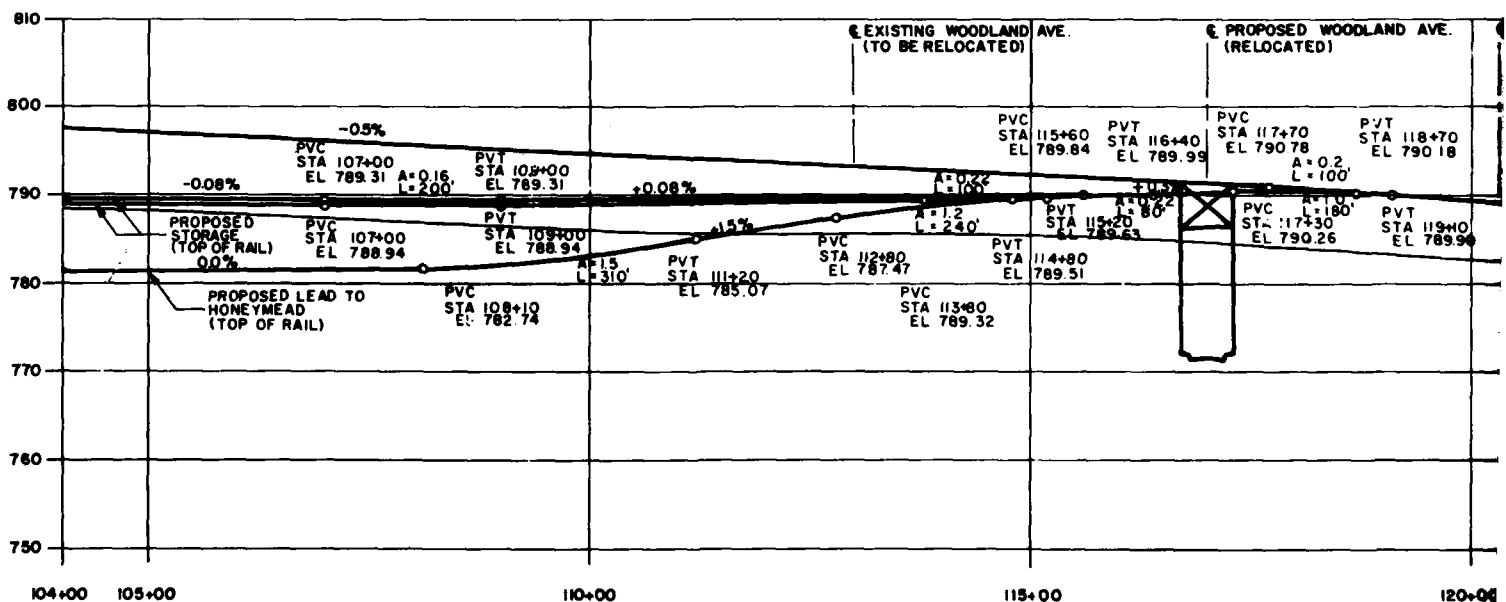
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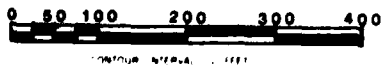
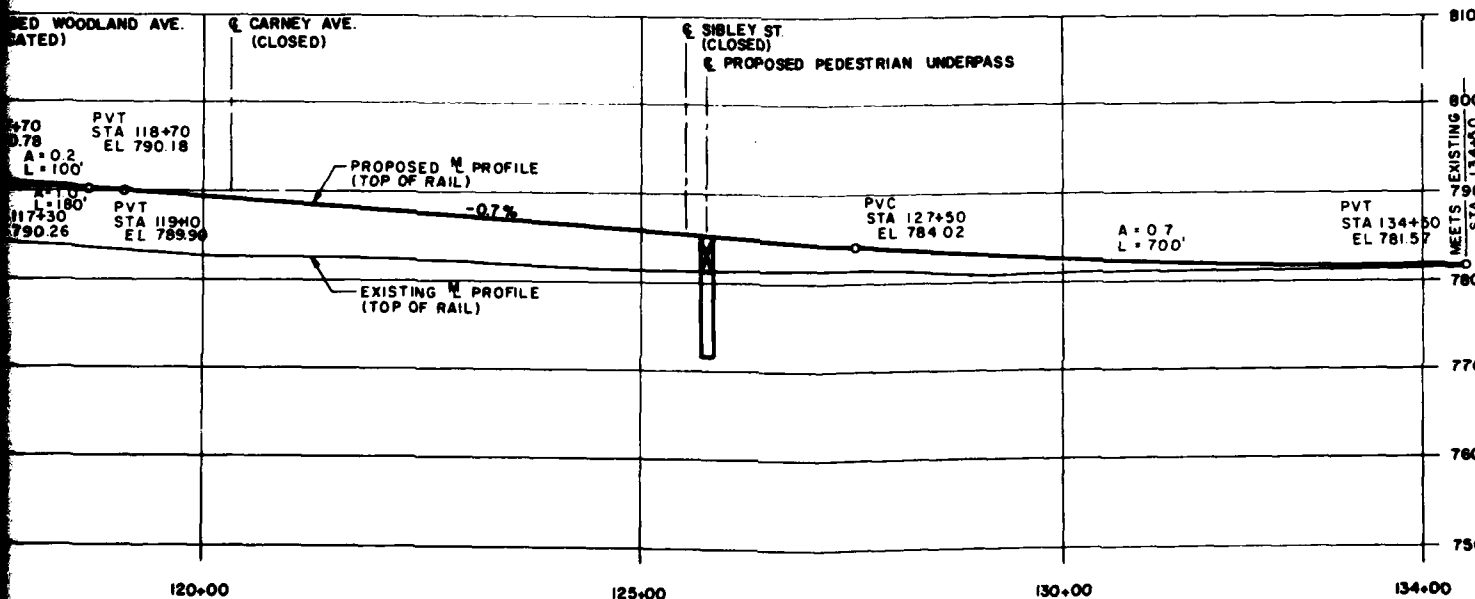
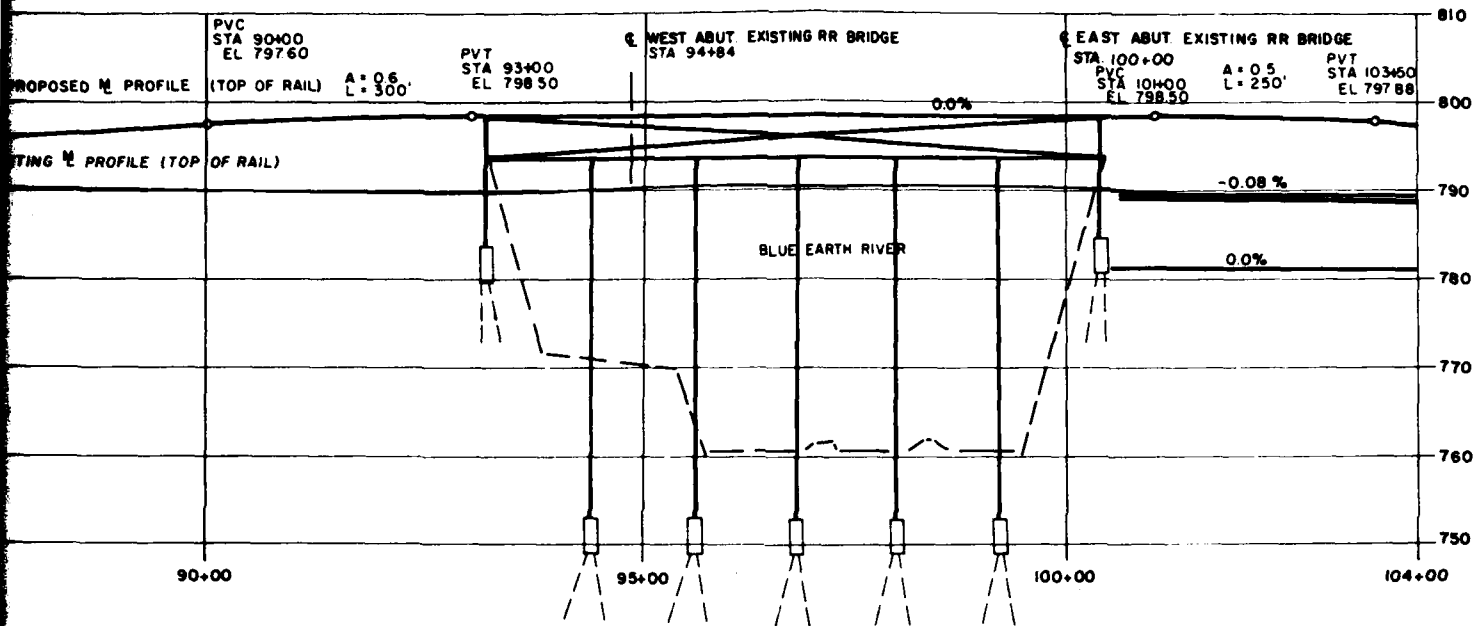
PLATE A-6





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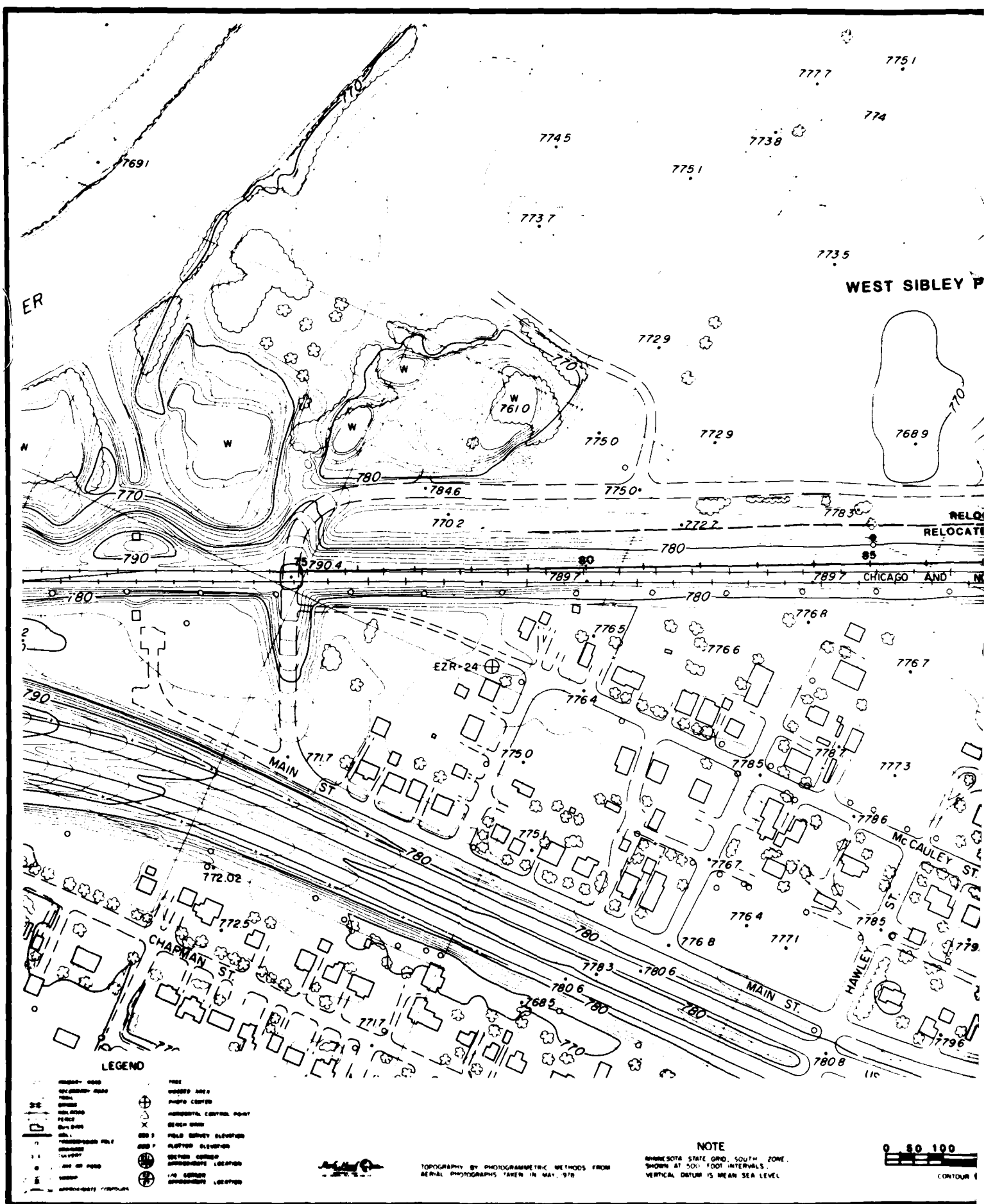
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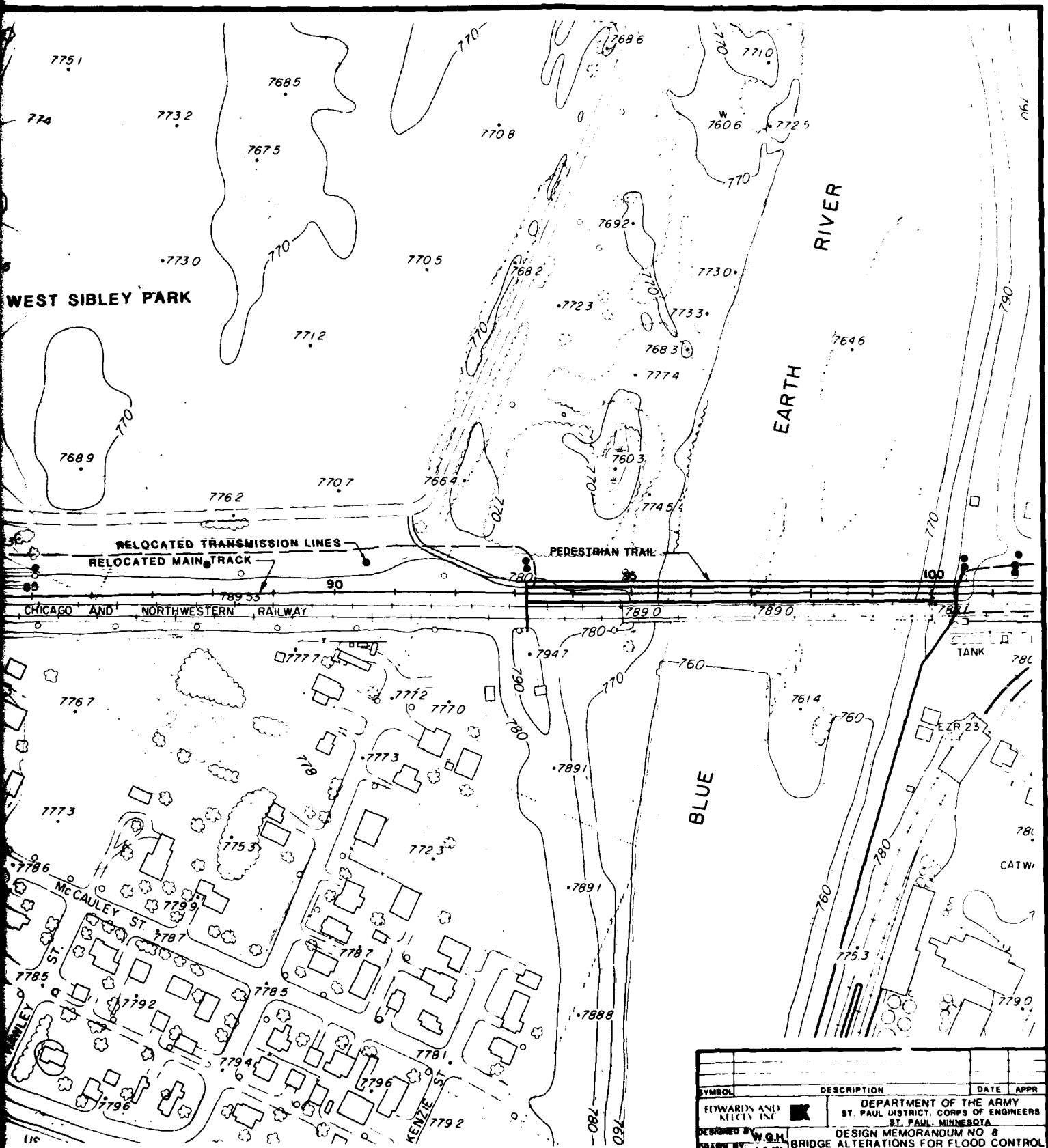
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SUBMITTED BY: <i>W.G.H.</i>	MANKATO NORTH MANKATO LE MILLIER		
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PLATE A-8

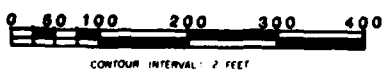




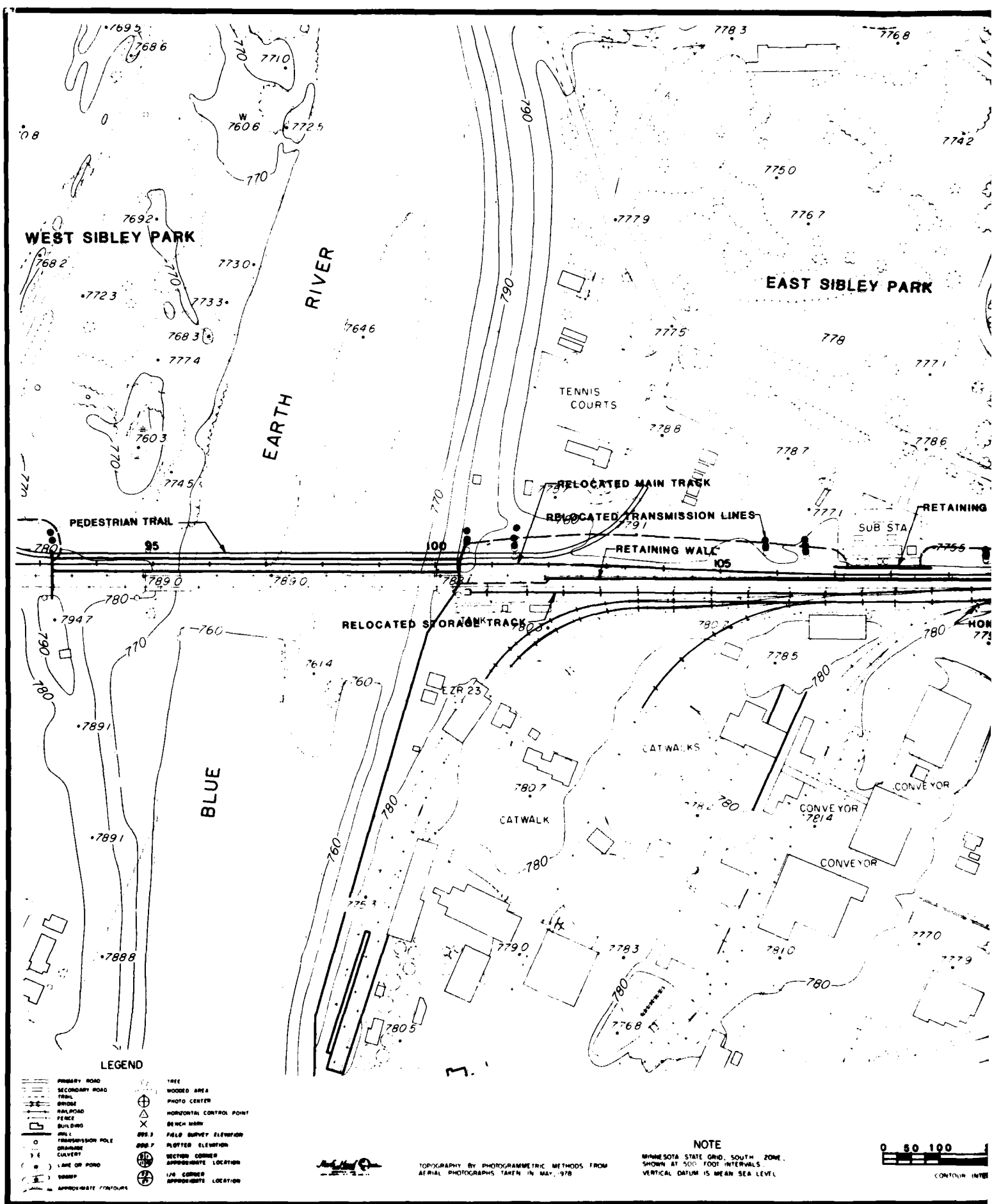
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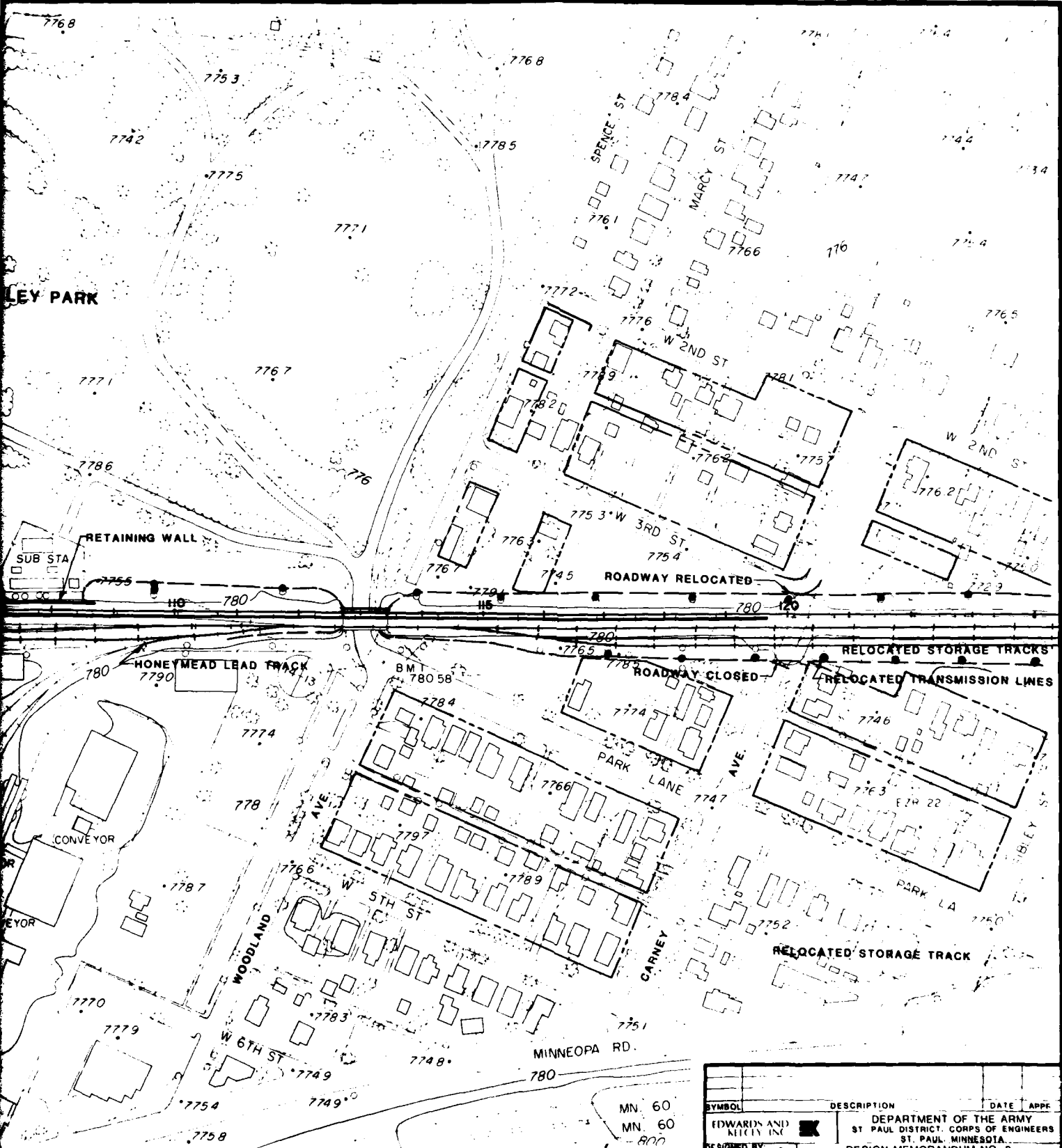
SIGNATURE *Donald J. Korman*

Date *December 11, 1980* Reg. No. *7493*



SYMBOL	DESCRIPTION	DATE	APPR
EDWARDS AND KELCEY INC. DESIGNED BY: <i>W.G.H.</i> DRAWN BY: <i>J.A.W.</i> CHECKED BY: <i>W.G.H.</i> SUBMITTED BY: <i>W.G.H.</i> APPROVED BY: <i>Donald J. Korman</i> DATE: <i>NOVEMBER 1980</i>		DEPARTMENT OF THE ARMY ST. PAUL DISTRICT, CORPS OF ENGINEERS ST. PAUL, MINNESOTA DESIGN MEMORANDUM NO. 8 BRIDGE ALTERATIONS FOR FLOOD CONTROL MINNESOTA RIVER AND BLUE EARTH RIVER MANKATO NORTH MANKATO LE HILLIER C & N.W. T. CO. OVER THE BLUE EARTH RIVER ALT. 4 DATE: <i>NOVEMBER 1980</i>	
PLATE A-9		SCALE	SPEC NO.
		AS SHOWN	DRAWING NUMBER
		SHEET	OF





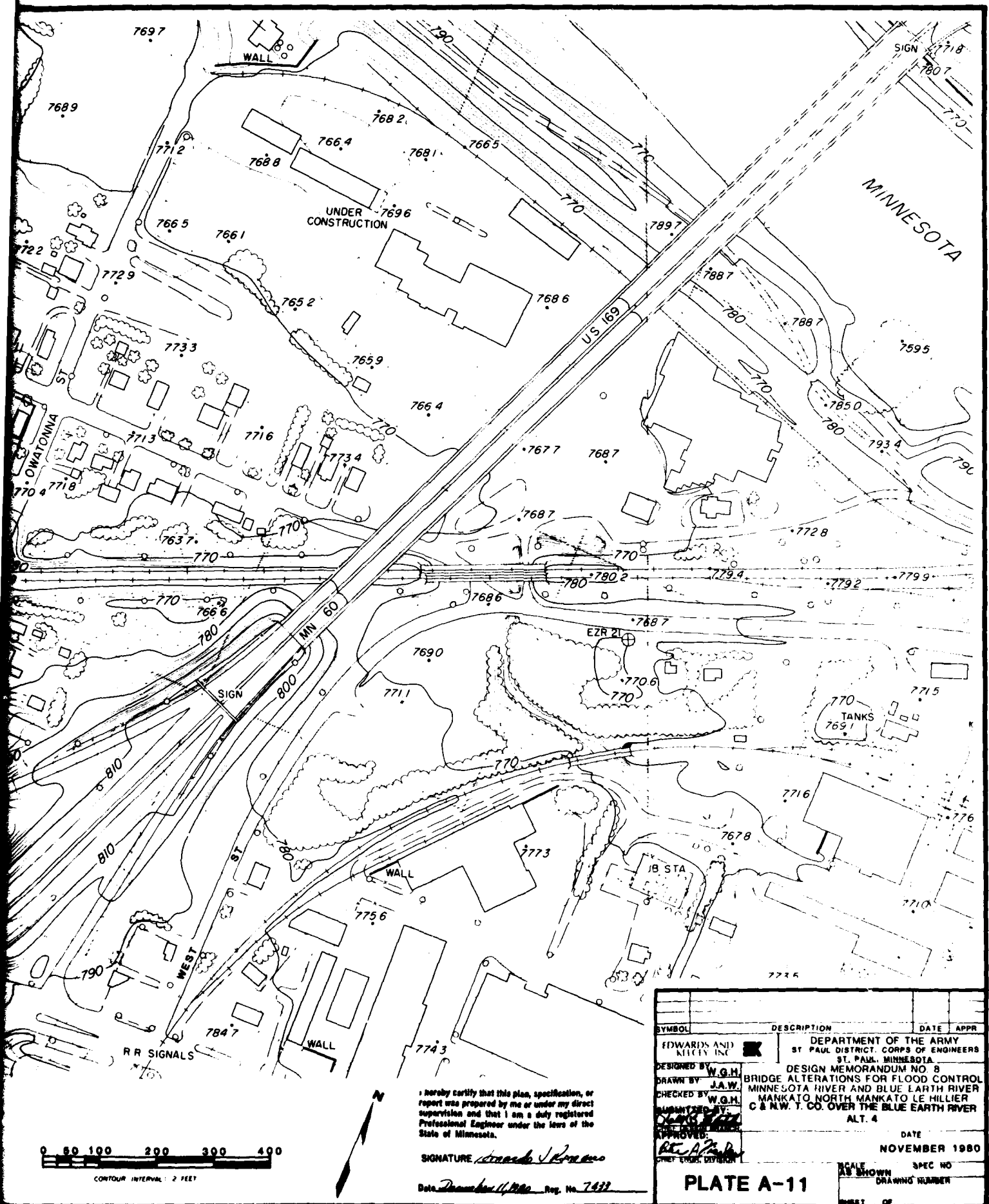
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly registered Professional Engineer under the laws of the State of Minnesota.

SIGNATURE *Edward J. Harnase*

Date *December 11, 1980* Reg. No. *7433*

SYMBOL	DESCRIPTION	DATE	APPR
EDWARDS AND KELLY INC.	DEPARTMENT OF THE ARMY ST. PAUL DISTRICT, CORPS OF ENGINEERS ST. PAUL, MINNESOTA		
DESIGNED BY: W.G.H.	DESIGN MEMORANDUM NO. 8		
DRAWN BY: J.A.W.	BRIDGE ALTERATIONS FOR FLOOD CONTROL		
CHECKED BY: W.G.H.	MINNESOTA RIVER AND BLUE EARTH RIVER		
SUBMITTED BY: <i>[Signature]</i>	MANKATO NORTH MANKATO LE HILLIER		
APPROVED: <i>[Signature]</i>	C & N.W. T. CO. OVER THE BLUE EARTH RIVER		
	ALT. 4		
	DATE		
	NOVEMBER 1980		
	SCALE		
	AS SHOWN		
	DRAWING NUMBER		
	SHEET OF		

PLATE A-10



I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly registered Professional Engineer under the laws of the State of Minnesota.

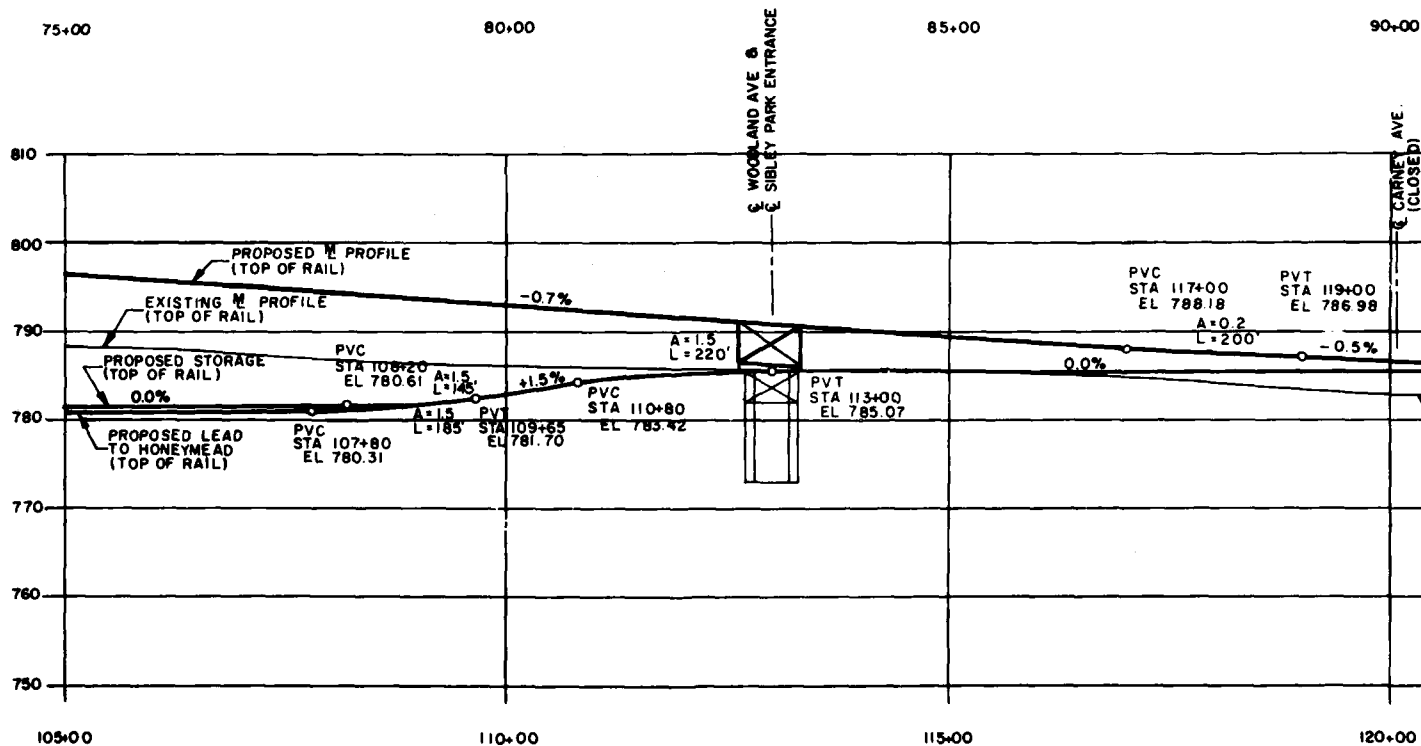
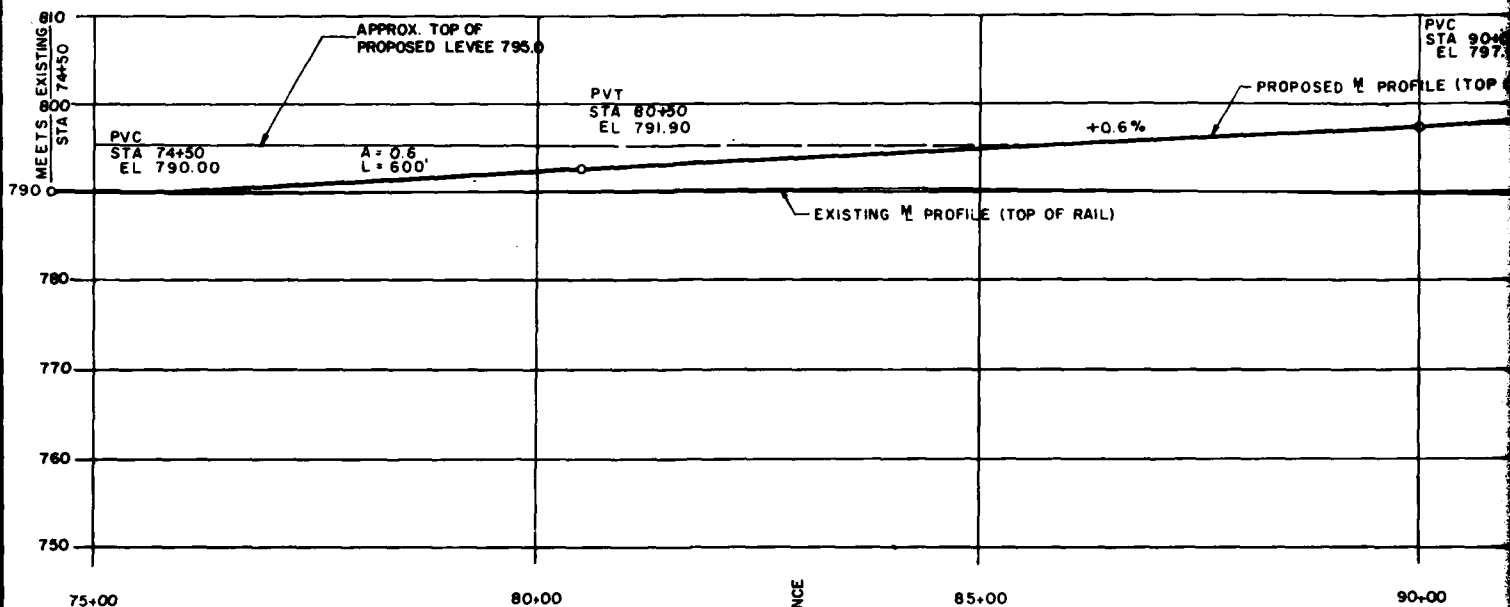
SIGNATURE *Charles J. Brown*

Date *December 11, 1980* Reg. No. *7432*

SYMBOL	DESCRIPTION	DATE	APPR
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DESIGNED BY W.G.H.	DESIGN MEMORANDUM NO. 8		
DRAWN BY J.A.W.	BRIDGE ALTERATIONS FOR FLOOD CONTROL		
CHECKED BY W.G.H.	MINNESOTA RIVER AND BLUE EARTH RIVER		
QUANTIFIED BY <i>DEAN J. BROWN</i>	MANKATO NORTH MANKATO LE MILIER		
APPROVED: <i>RE A. BROWN</i>	C & N.W. T. CO. OVER THE BLUE EARTH RIVER		
	ALT. 4		
	DATE		
	NOVEMBER 1980		
	SCALE		
	AS SHOWN		
	SPEC NO		
	DRAWING NUMBER		
	SHEET OF		

PLATE A-11

12



LEGEND

- | | |
|---|---|
| PRIMARY ROAD
SECONDARY ROAD
TRAIL
BRIDGE
RAILROAD
FENCE
DITCH
DE
POWER LINE POLE
GRAVE
TOWER
SPIRE
SPIRE
SPIRE | TREE
WOODS AREA
PHOTO CENTER
HORIZONTAL CONTROL POINT
BENCH MARK
FIELD SURVEY ELEVATION
PLOTTER ELEVATION
SECTION CORNER
APPROXIMATE LOCATION
1/4 CORNER
APPROXIMATE LOCATION |
|---|---|

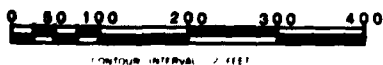
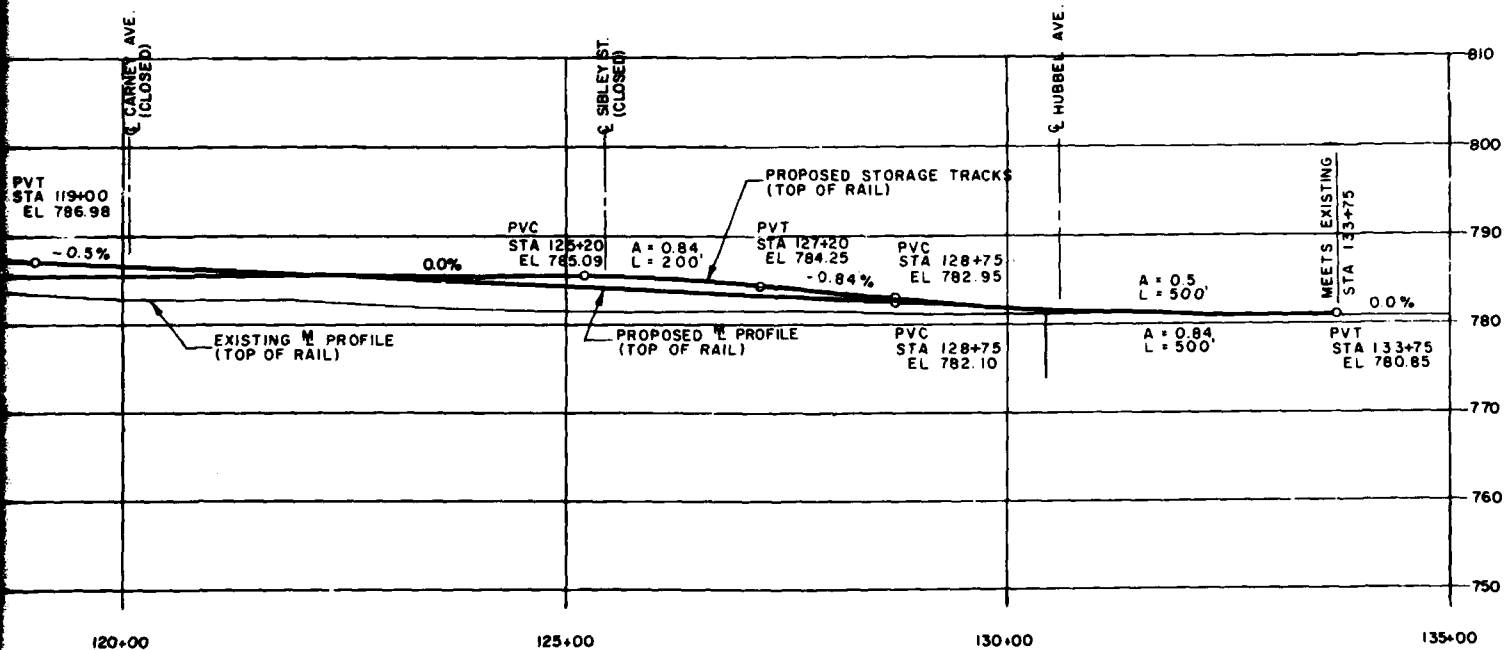
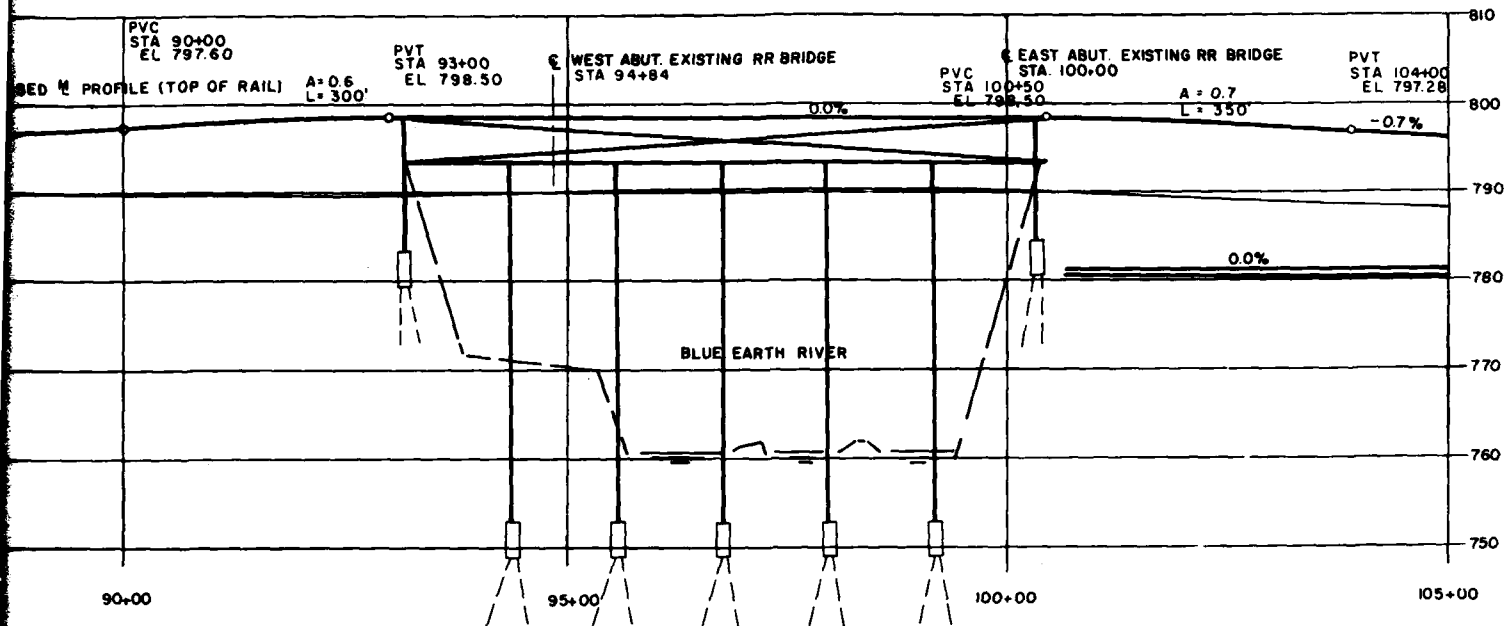


TOPOGRAPHY BY PHOTOGRAMMETRIC METHODS FROM
AERIAL PHOTOGRAPHS TAKEN IN MAY 1978

NOTE

MINNESOTA STATE GRID, SOUTH ZONE
SHOWN AT 500 FOOT INTERVALS
VERTICAL DATUM IS MEAN SEA LEVEL

0 50 100



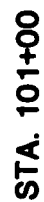
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly registered Professional Engineer under the laws of the State of Minnesota.

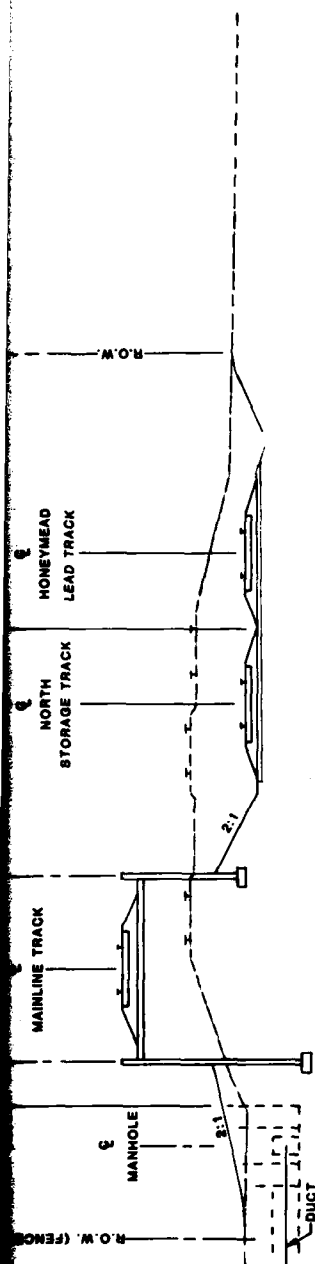
SIGNATURE *Edward J. Edwards*

Dated December 14, 1980 Reg. No. 7411

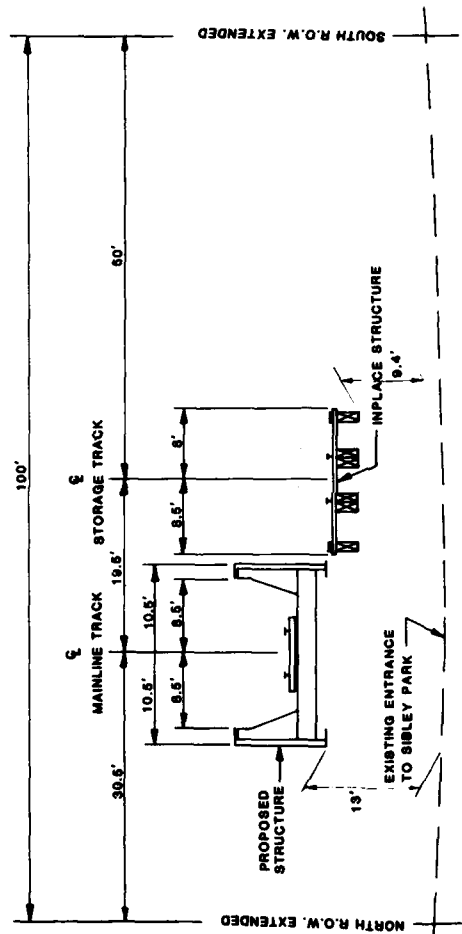
SYMBOL	DESCRIPTION	DATE	APPR
EDWARDS AND KILGUS INC.	DEPARTMENT OF THE ARMY ST. PAUL DISTRICT CORPS OF ENGINEERS ST. PAUL, MINNESOTA		
DESIGNED BY W.G.H.	DESIGN MEMORANDUM NO. 8		
DRAWN BY J.A.W.	BRIDGE ALTERATIONS FOR FLOOD CONTROL		
CHECKED BY W.G.H.	MINNESOTA RIVER AND BLUE EARTH RIVER		
	MANKATO NORTH MANKATO LE HILLIER		
	C. & N.W. T. CO. OVER THE BLUE EARTH RIVER		
	ALTERNATIVE 4		
APPROVED	PROFILES	DATE	
		NOVEMBER 1980	
		SPEC NO	
		SCALE AS SHOWN	
		DRAWING NUMBER	

PLATE A-12

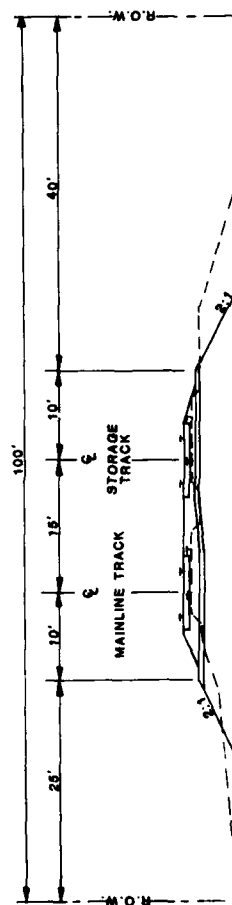




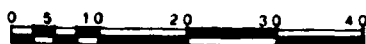
STA. 108+00



STA. 113+00



STA. 125+00

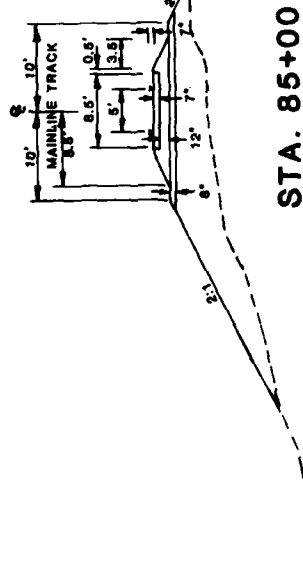


I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly registered Professional Engineer under the laws of the State of Minnesota.

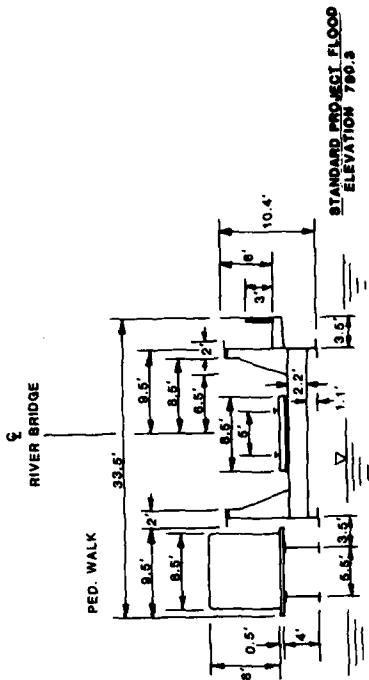
SIGNATURE *Charles J. Romano*

Date *December 11, 1980* Reg. No. *7612*

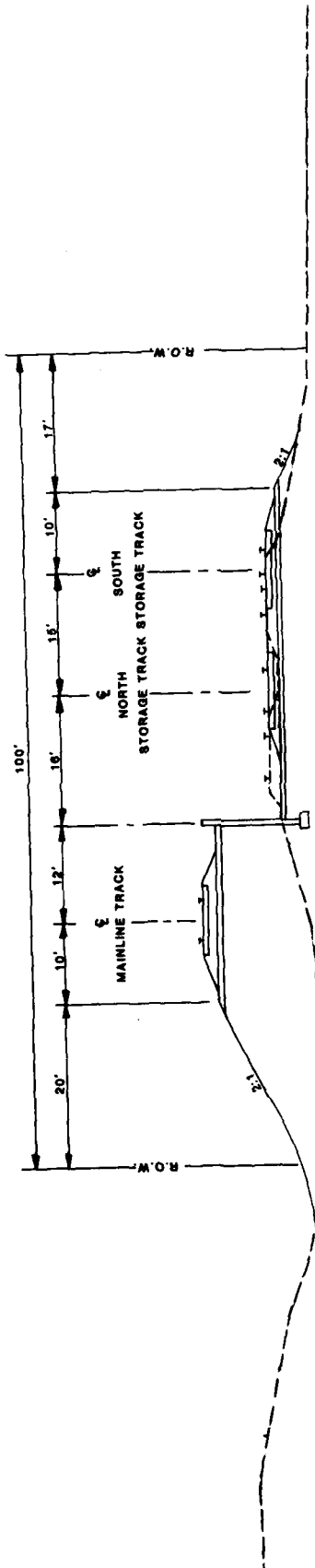
SYMBOL	DESCRIPTION	DATE	APPR
FORWARD	DEPARTMENT OF THE ARMY ST. PAUL DISTRICT CORPS OF ENGINEERS ST. PAUL, MINNESOTA		
DESIGNED BY	W.G.H.		
DRAWN BY	J.A.W.		
CHECKED BY	W.G.H.		
APPROVED	<i>[Signature]</i>		
BRIDGE ALTERATION FOR FLOOD CONTROL MINNEAPOLIS RIVER AND BLUE EARTH RIVER MANHATO NORTH MANHATO RIVER C. & N.W. T. CO. OVER BLUE EARTH RIVER		ALT. 2A	DATE
TYPICAL SECTIONS		NOVEMBER 1980	
SCALE		SPEC NO.	
AS SHOWN		DRAWING NUMBER	
PLATE A-13			



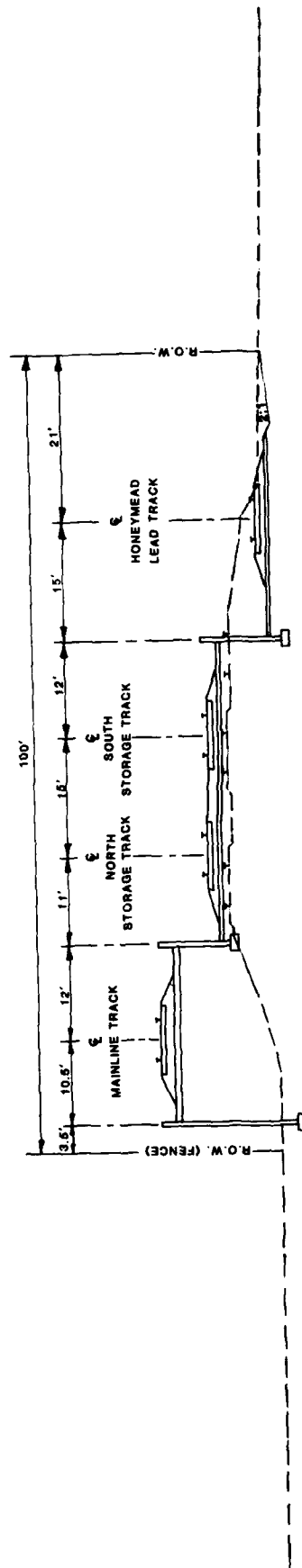
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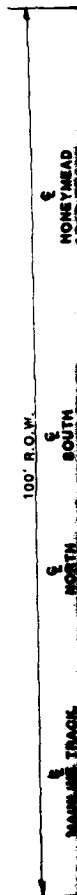
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STA. 101+00

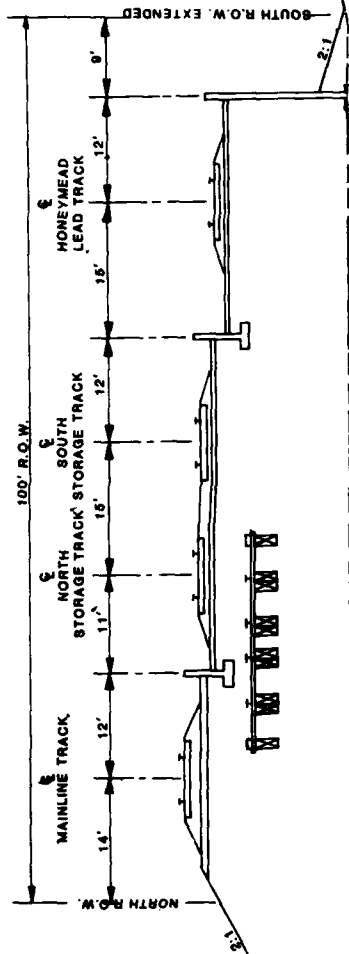


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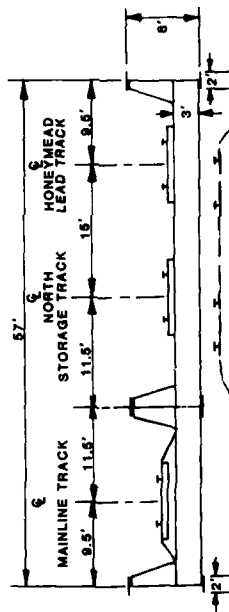


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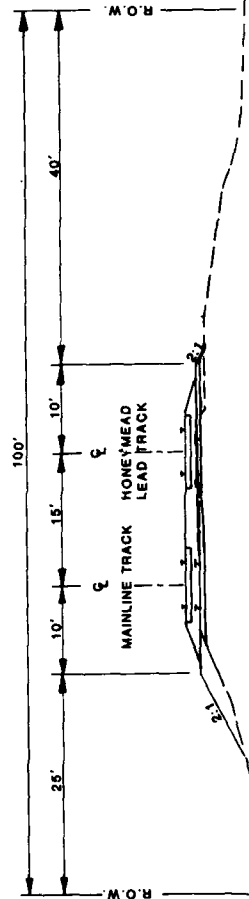
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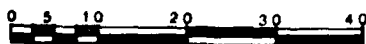
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STA. 117+00



STA. 130+00



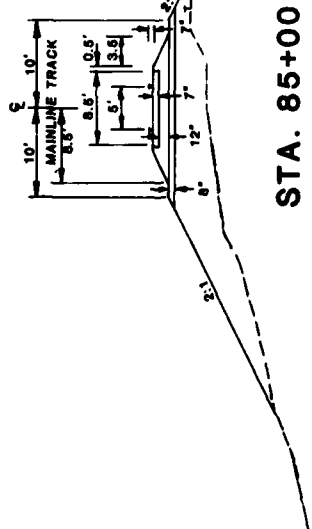
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly registered Professional Engineer under the laws of the State of Minnesota.

SIGNATURE *Charles J. Romano*

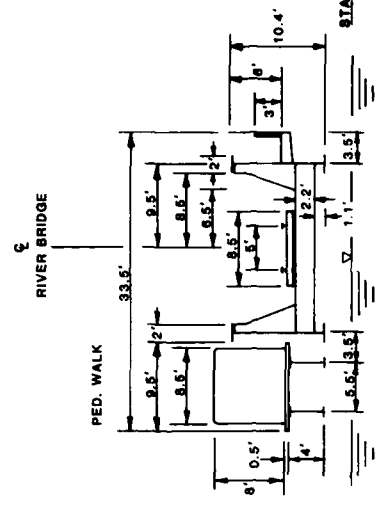
Date *December 14, 1980* Reg. No. *7683*

SYMBOL	DESCRIPTION	DATE	APPROV.
EDWARDS AND KIL	DEPARTMENT OF THE ARMY ST. PAUL DISTRICT CORPS OF ENGINEERS ST. PAUL, MINNESOTA		
DESIGNED BY	W.G.H.		
DRAWN BY	J.A.W.		
CHECKED BY	W.G.H.		
SUBMITTED BY	W.G.H.		
APPROVED	<i>[Signature]</i>		
BRIDGE ALTERNATION FOR FLOOD CONTROL MINNEAPOLIS RIVER AND BLUE EARTH RIVER C. & N.W. T. CO. OVER BLUE EARTH RIVER		ALT. 3B	DATE
TYPICAL SECTIONS		NOVEMBER 1980	
SCALE		SHEET NO.	
AS SHOWN		DRAWING NUMBER	
SHEET OF			

PLATE A-14

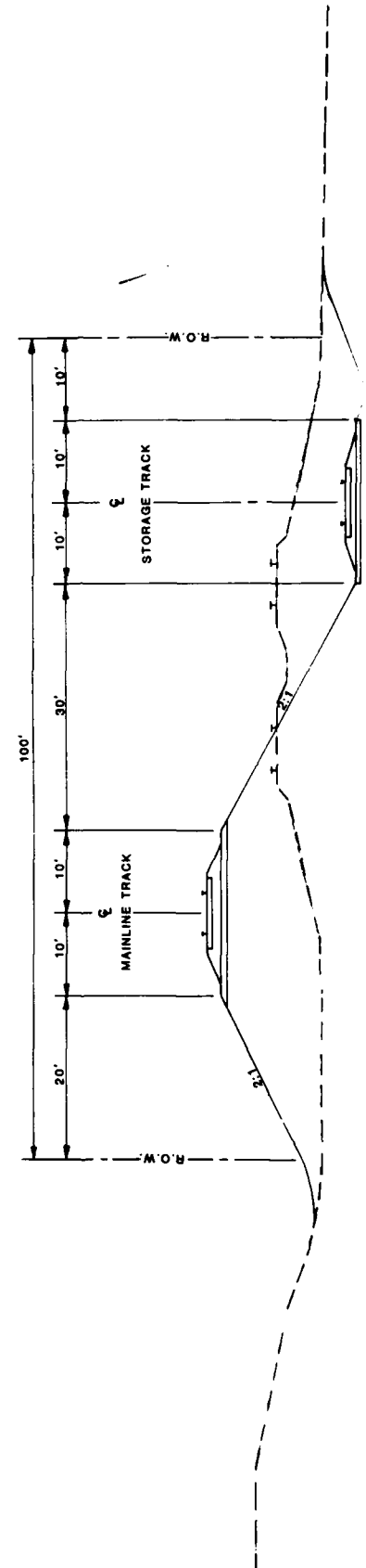


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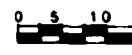
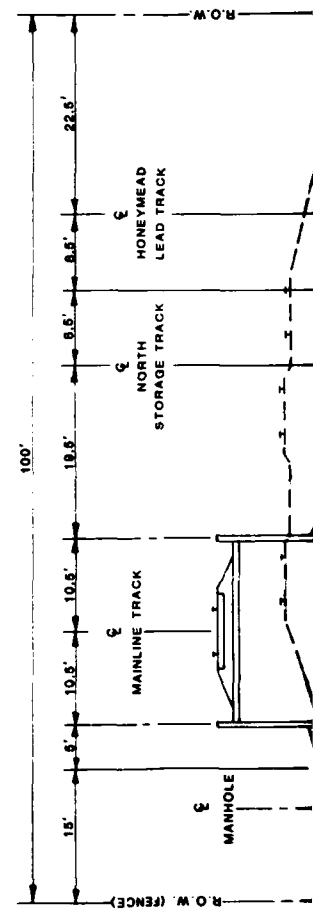


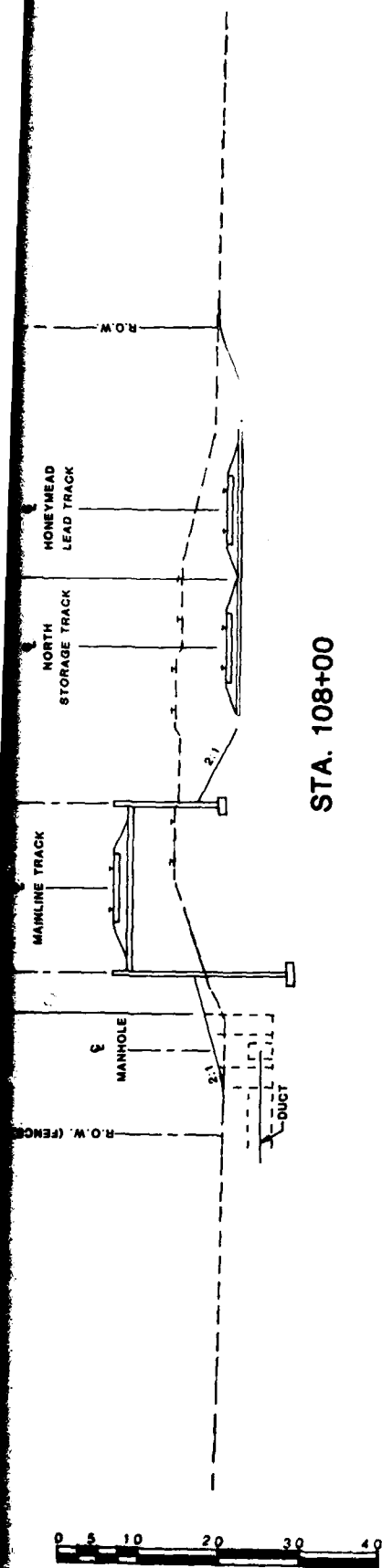
STA. 97+00

STANDARD PROJECT FLOOD
ELEVATION 790.5

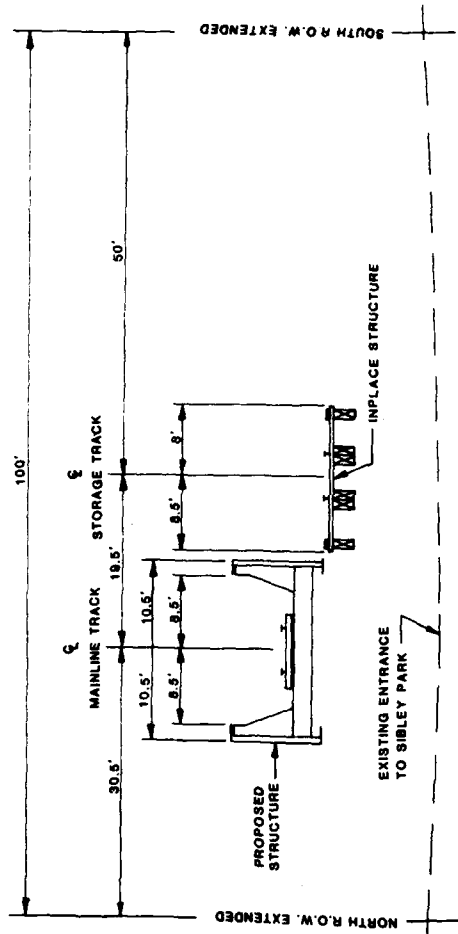


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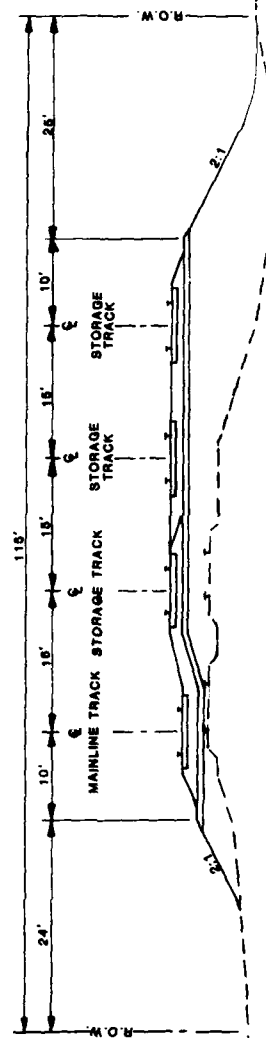




STA. 108+00



STA. 113+00



STA. 125+00

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly registered Professional Engineer under the laws of the State of Minnesota.

SIGNATURE *Amos J. P. ...*

Date *December 14, 1980* Reg. No. *7433*

SYMBOL	DESCRIPTION	DATE	APPR
EDWARDS AND KELCY	DEPARTMENT OF THE ARMY ST. PAUL DISTRICT CORPS OF ENGINEERS ST. PAUL, MINNESOTA		
DESIGNED BY W.G.M.	DESIGN MEMORANDUM NO. 4		
CHECKED BY J.A.W.	BRIDGE ALTERATIONS FOR FLOOD CONTROL MINNEAPOLIS RIVER AND BLUE EARTH RIVER MANKATO NORTH MANKATO MILLER C. & N.W. T. CO. OVER BLUE EARTH RIVER		
APPROVED BY W.G.M.	ALT. 4		
APPROVED BY <i>[Signature]</i>	TYPICAL SECTIONS	NOVEMBER 1980	
CHIEF ENGINEER	SCALE AS SHOWN	SPEC NO.	
	PLATE A-15	DRAWING NUMBER	

FLOOD CONTROL
MINNESOTA RIVER, MINNESOTA
MANKATO-NORTH MANKATO-LE HILLIER

DESIGN MEMORANDUM NO. 8 - PART I (Location Study)

AND

DRAFT SUPPLEMENT II TO THE
FINAL ENVIRONMENTAL IMPACT STATEMENT

FOR
BRIDGE RELOCATIONS

CHICAGO AND NORTH WESTERN
TRANSPORTATION COMPANY BRIDGES
OVER THE BLUE EARTH RIVER BETWEEN
MANKATO AND LE HILLIER

APPENDIX B
DETAILED COST ESTIMATES

TABLE OF CONTENTS

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B-2	Detailed Cost Estimate, Alternative 3B	B-6
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APPENDIX B
DETAILED COST ESTIMATES

Detailed estimates of project construction costs, land and right-of-way costs based, on October 1980 levels, are given in Tables B-1, B-2, B-3, and B-4.

Table B-1. DETAILED COST ESTIMATE. Alternative 2A

Item	Unit	Quantity	Unit Cost	Total Estimated Cost
<u>Federal First Cost</u>				
<u>Roadway and Grading Items</u>				
<u>Site Preparation</u>				
Clearing	TREE	5	\$ 100.00	\$ 500.00
Bituminous Pavement Removal	SY	350	2.50	<u>900.00</u>
TOTAL SITE PREPARATION				\$ 1,400.00
<u>Excavation</u>	CY	9,287	1.70	\$15,800.00
<u>Borrow</u>	CY	41,000	3.75	\$153,800.00
<u>Drainage</u>				
Catch Basin	EACH	1	800.00	\$ 800.00
18" RCP CL V Pipe	LF	198	28.90	<u>5,700.00</u>
TOTAL DRAINAGE FACILITIES				\$ 6,500.00
<u>Retaining Walls</u>				
Sheet Piling (Temp. During Construction)	SF	15,375	10.40	\$159,900.00
Reinforced Earth	SF	14,300	25.00	<u>357,500.00</u>
TOTAL RETAINING WALLS				\$517,400.00
<u>Miscellaneous Roadway Items (7%)</u>				<u>\$ 49,000.00</u>
TOTAL ROADWAY AND GRADING ITEMS				\$744,000.00
<u>Bridges</u>				
Roadway Grade Separations	JOB	SUM		\$325,000.00

TABLE B-1. DETAILED COST ESTIMATE. Alternative 2A (Cont.)

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Federal First Costs (Continued)</u>				
<u>River Bridges</u>				
Bridge Demolition				
Substructure	JOB	SUM		\$140,000.00
Superstructure*	JOB	SUM		0.00*
Railroad Structure (New)	S.F.	13,490	196.00	2,644,000.00
*Salvage Value of Steel = Cost of Removal				
TOTAL RIVER BRIDGES				<u>\$2,784,000.00</u>
C&NW T. Co. Betterment (E-55 to E-80)	JOB	SUM		<u>(30,000.00)</u>
TOTAL FEDERAL FIRST COST RIVER BRIDGES				\$2,754,000.00
TOTAL BRIDGES				\$3,109,000.00
<u>Contingencies</u>				<u>\$ 578,000.00</u>
TOTAL ROADWAY GRADING & BRIDGES				\$4,431,000.00
<u>Recreational Facilities</u>				
Pedestrian Walkway Over Blue Earth River (Connecting Sibley Park & Minnesota Valley Trail System).	S.F.	5,750	60.00	\$ 345,000.00
<u>Contingencies</u>				\$ 51,000.00
<u>Engineering and Design</u>				\$ 36,000.00
<u>Supervision and Administration</u>				<u>\$ 28,000.00</u>
TOTAL DIRECT & INDIRECT COSTS (Recreational Facilities)				\$ 460,000.00
SPECIAL CASH CONTRIBUTION FOR RECREATIONAL FACILITIES BY CITY OF MANKATO (50% x 441,000)				<u>(230,000.00)</u>
TOTAL FEDERAL FIRST COST (Recreational Facilities)				\$ 230,000.00

TABLE B-1. DETAILED COST ESTIMATE. Alternative 2A (Continued)

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Federal First Costs (Cont.)</u>				
<u>Force Accounts - C&NW T. Co.</u>				
Railroad Communication Line	JOB	SUM	\$	12,500.00
Rail Removal (Includes Rail on Structure)	LF	12,333	\$3.90	48,000.00
Rail Replacement (Assume 115 # Rail)	LF	11,500	65.00	747,500.00
Railroad Protection (During Construction)	JOB	SUM		104,000.00
			\$	912,000.00
Railroad Rail Betterment (90# to 115#)				(60,000.00)
TOTAL FORCE ACCOUNT (C&NW T. Co.)			\$	852,000.00
TOTAL CONSTRUCTION COST				\$5,803,000.00
TOTAL FEDERAL FIRST CONSTRUCTION COST				\$5,483,000.00
<u>Engineering & Design</u>				\$ 494,000.00
<u>Supervision of Construction</u>				\$ 384,000.00
TOTAL FEDERAL FIRST COSTS:				\$6,361,000.00
<u>FEDERAL CAPITALIZED COSTS (PRESENT WORTH)*</u>				
<u>Increased Operating Costs Over Existing Facility</u>				\$ 489,000.00
TOTAL FEDERAL CAPITALIZED COSTS				\$ 489,000.00
TOTAL FEDERAL COSTS				\$6,850,000.00

*20 years @ 10%

Table B-1. DETAILED COST ESTIMATE. Alternative 2A (Cont.)

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Non-Federal First Costs</u>				
<u>City of Mankato</u>				
<u>Roadways</u>				
Bituminous Pavement	SY	280	\$9.30	\$ 2,700.00
Curb and Gutter	LF	178	7.30	1,300.00
Water Main - 16" Ductile Iron Pipe	LF	200	40.00	8,000.00
TOTAL ROADWAYS				\$ 12,000.00
<u>Miscellaneous Roadway Items</u>				\$ 1,000.00
TOTAL ROADWAY AND GRADING				\$ 13,000.00
<u>Recreational Facilities</u>				
Pedestrian Walkway over Blue Earth River (Connecting Sibley Park & Minnesota Valley Trail System).	JOB	SUM		\$230,000.00
<u>Force Accounts - Utility Relocation</u>				
Northern States Power	JOB	SUM		\$227,500.00
Minnesota Gas Co.	JOB	SUM		1,500.00
TOTAL FORCE ACCOUNTS (UTILITIES)				\$229,000.00
<u>Contingencies</u>				\$ 2,000.00
TOTAL CONSTRUCTION COSTS				\$474,000.00
<u>Engineering & Design</u>				\$ 1,000.00
<u>Supervision & Administration</u>				\$ 1,000.00

TABLE B-1. DETAILED COST ESTIMATE. Alternative 2A (Cont.)

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Non-Federal First Costs (Continued)</u>				
<u>City of Mankato (Cont.)</u>				
<u>Lands & Rights-of-Way</u>				
Easement & Fee Title Lands	LS		0.00	\$ 0.00
Relocation Costs	LS		0.00	0.00
Acquisition & Administration	EACH		0.00	0.00
Contingencies				<u>0.00</u>
TOTAL LANDS & RIGHTS-OF-WAY				\$ 0.00
TOTAL CITY OF MANKATO FIRST COSTS				\$476,000.00
<u>C&NW T. Co. Betterments</u>				
River Bridge (E-55 to E-80)	JOB	SUM		\$ 30,000.00
Rail (115# CWR)	LF	11,500	5.20	60,000.00
Contingencies				<u>14,000.00</u>
TOTAL C&NW T. CO.				<u>\$104,000.00</u>
TOTAL NON-FEDERAL COSTS				<u>\$580,000.00</u>
TOTAL FEDERAL AND NON-FEDERAL COSTS				<u>\$7,430,000.00</u>

Table B-2. DETAILED COST ESTIMATE. Alternative 3B

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Federal First Cost</u>				
<u>Roadway and Grading Items</u>				
<u>Building Removal</u>	LS	1	\$1600.00	\$ 1,600.00
<u>Excavation</u>	CY	15,715	1.70	\$ 26,700.00
<u>Borrow</u>	CY	50,665	3.75	\$190,000.00
<u>Drainage</u>				
Catch Basin	EACH	1	800.00	800.00
18" RCP CL V Pipe	LF	198	28.90	5,700.00
TOTAL DRAINAGE FACILITIES				\$ 6,500.00
<u>Retaining Walls</u> (Reinforced Earth)	SF	17,150	25.00	\$429,000.00
<u>Miscellaneous Roadway Items (7%)</u>				\$ 46,000.00
TOTAL ROADWAY AND GRADING ITEMS				\$700,000.00
<u>Bridges</u>				
Roadway Bridges				
Roadway Grade Separation	JOB	SUM		\$525,000.00
TOTAL ROADWAY BRIDGES				\$525,000.00
<u>River Bridges</u>				
Bridge Demolition				
Substructure	JOB	SUM		\$ 140,000.00
Superstructure*	JOB	SUM		0.00*
Railroad Structure (New)	S.F.	13,490	196.00	2,644,000.00
*Salvage Value of Steel = Cost of Removal				
TOTAL RIVER BRIDGES				\$2,784,000.00

Table B-2. DETAILED COST ESTIMATE. Alternative 3B (Cont.)

<u>Item</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Total Estimated Costs</u>
<u>Federal First Costs (Continued)</u>				
C&NW T. Co. Betterment (E-55 to E-80)	JOB	SUM		<u>(30,000.00)</u>
TOTAL FEDERAL FIRST COST RIVER BRIDGES				\$2,754,000.00
TOTAL BRIDGES				\$3,309,000.00
<u>Contingencies</u>				<u>\$ 600,000.00</u>
TOTAL ROADWAY GRADING & BRIDGES				\$4,609,000.00
<u>Recreational Facilities</u>				
Pedestrian Walkway over Blue Earth River (Connecting Sibley Park & Minnesota Valley Trail System).	S.F.	5,750	60.00	\$ 345,000.00
<u>Contingencies</u>				<u>\$ 51,000.00</u>
<u>Engineering and Design</u>				<u>\$ 36,000.00</u>
<u>Supervision and Administration</u>				<u>\$ 28,000.00</u>
TOTAL DIRECT & INDIRECT COSTS (Recreational Facilities)				\$ 460,000.00
SPECIAL CASH CONTRIBUTION FOR RECREATIONAL FACILITIES BY CITY OF MANKATO (50% x 441,000)				<u>(230,000.00)</u>
TOTAL FEDERAL FIRST COST (Recreational Facilities)				\$ 230,000.00

Table B-2. DETAILED COST ESTIMATE. Alternative 3B (Continued)

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Federal First Costs (Cont.)</u>				
<u>Force Accounts - C&NW T. Co.</u>				
Railroad Communication Line	JOB	SUM		\$ 12,500.00
Rail Removal				
(Includes Rail On Structure)	LF	13,665	\$3.90	53,500.00
Rail Replacement				
(Assume 115 # Rail)	LF	13,240	65.00	861,000.00
Railroad Protection				
(During Construction)	JOB	SUM		104,000.00
				<u>\$1,031,000.00</u>
Railroad Rail Betterment (90# to 115#)				<u>(69,000.00)</u>
TOTAL FORCE ACCOUNT (C&NW T. CO.)				\$ 962,000.00
TOTAL CONSTRUCTION COST				\$6,100,000.00
TOTAL FEDERAL FIRST CONSTRUCTION COST				\$5,771,000.00
<u>Engineering & Design</u>				\$ 549,000.00
<u>Supervision of Construction</u>				\$ 427,000.00
TOTAL FEDERAL FIRST COSTS:				\$6,747,000.00
<u>FEDERAL CAPITALIZED COSTS (PRESENT WORTH)</u>				
<u>Increased Operating Costs Over Existing Facility</u>				
Operation and Maintenance of Introduced Elements, Pedestrian Underpass				\$ 6,000.00
Increased Operating Costs Over Existing Facility*				<u>256,000.00</u>
TOTAL FEDERAL CAPITALIZED COSTS				\$ 262,000.00
TOTAL FEDERAL COSTS				<u>\$7,009,000.00</u>
*20 years @ 10%				

Table B-2. DETAILED COST ESTIMATE. Alternative 3B (Cont.)

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Non-Federal First Costs</u>				
<u>City of Mankato</u>				
<u>Site Preparation</u>				
Curb and Gutter Removal	LF	120	\$2.25	\$ 270.00
Sidewalk Removal	SY	25	3.50	90.00
Bituminous Pavement Removal	SY	375	2.50	940.00
TOTAL SITE PREPARATION				\$ 1,300.00
<u>Excavation</u>	CY	2,140	1.70	\$ 3,700.00
<u>Drainage</u>				
Catch Basin	EACH	1	800.00	\$ 800.00
18" RCP CL V Pipe	LF	198	28.90	5,700.00
TOTAL DRAINAGE				\$ 6,500.00
<u>Roadways</u>				
Pavement and Base	SY	2,113	9.25	\$ 19,600.00
Sidewalk	SY	866	23.40	20,300.00
Curb and Gutter	LF	857	7.30	6,300.00
Median (Island)	SY	73	29.00	2,100.00
Lane Marking	RD-STA	71	17.50	1,200.00
Construction Bypass	JOB	SUM		3,000.00
TOTAL ROADWAYS				\$ 52,500.00
<u>Miscellaneous Roadway Items</u>				\$ 4,000.00
TOTAL ROADWAY AND GRADING				\$ 68,000.00
<u>Bridges</u>				
Sibley St. Pedestrian Underpass	JOB	SUM		\$ 59,000.00
TOTAL ROADWAY BRIDGES				\$ 59,000.00
<u>Recreational Facilities</u>				
Pedestrian Walkway over Blue Earth River (Connecting Sibley Park & Minnesota Valley Trail System).	JOB	SUM		\$230,000.00

Table B-2. DETAILED COST ESTIMATE. Alternative 3B (Cont.)

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Non-Federal First Costs (Continued)</u>				
<u>City of Mankato (Cont.)</u>				
<u>Force Accounts - Utility Relocation</u>				
Northern State Power	JOB	SUM		\$ 254,000.00
Minnesota Gas Co.	JOB	SUM		1,500.00
Mankato Citizens Telephone	JOB	SUM		1,500.00
TOTAL FORCE ACCOUNTS (UTILITIES)				\$ 257,000.00
<u>Contingencies</u>				\$ 20,000.00
TOTAL CONSTRUCTION COSTS				\$ 654,000.00
<u>Engineering & Design</u>				\$ 5,500.00
<u>Supervision & Administration</u>				\$ 9,000.00
<u>Lands & Rights-of-Way</u>				
Easement & Fee Title Lands	LS		\$21,000.	\$ 21,000.00
Relocation Costs (Fixed)	LS		15,500.	15,500.00
Acquisition & Administration (4-Tracts)	LS		24,000.	24,000.00
Contingencies				4,000.00
TOTAL LANDS & RIGHTS-OF-WAY				\$ 64,500.00
TOTAL CITY OF MANKATO FIRST COSTS				\$ 713,000.00
<u>C&NW T. Co. Betterments</u>				
River Bridge (E-55 to E-80)	JOB	SUM		\$ 30,000.00
Rail (115# CWR)	LF	13,240	5.20	69,000.00
Contingencies				15,000.00
TOTAL C&NW T. CO.				\$ 114,000.00
TOTAL NON-FEDERAL COSTS				\$ 827,000.00
TOTAL FEDERAL AND NON-FEDERAL COSTS				\$7,836,000.00

Table B-3. DETAILED COST ESTIMATE. Alternative 4

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Federal First Cost</u>				
<u>Roadway and Grading Items</u>				
<u>Site Preparation</u>				
Bituminous Pavement Removal	SY	500	\$2.50	\$ 1,300.00
TOTAL SITE PREPARATION				\$ 1,300.00
<u>Excavation</u>	CY	9,287	1.70	\$ 15,800.00
<u>Borrow</u>	CY	51,000	3.75	\$ 191,300.00
<u>Drainage</u>				
Catch Basin	EACH	1	800.00	\$ 800.00
18" RCP CL V Pipe	LF	198	28.90	5,700.00
TOTAL DRAINAGE FACILITIES				\$ 6,500.00
<u>Retaining Walls</u>				
Sheet Piling (Temp. During Construction)	SF	15,375	10.40	\$ 159,900.00
Reinforced Earth	SF	14,300	25.00	357,500.00
TOTAL RETAINING WALLS				\$ 517,400.00
<u>Miscellaneous Roadway Items (7%)</u>				\$ 51,300.00
TOTAL ROADWAY AND GRADING ITEMS				\$ 784,000.00
<u>Bridges</u>				
Roadway Grade Separations	JOB	SUM		\$ 325,000.00
<u>River Bridges</u>				
Bridge Demolition				
Substructure	JOB	SUM		\$ 140,000.00
Superstructure*	JOB	SUM		0.00*
Railroad Structure (New)	S.F.	13,490	196.00	2,644,000.00
*Salvage Value of Steel = Cost of Removal				
TOTAL RIVER BRIDGES				\$2,784,000.00

Table B-3. DETAILED COST ESTIMATE. Alternative 4 (Cont.)

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Federal First Costs (Continued)</u>				
C&NW T. Co. Betterment (E-55 to E-80)	JOB	SUM		\$ (30,000.00)
TOTAL FEDERAL FIRST COST RIVER BRIDGES				\$2,754,000.00
TOTAL BRIDGES				\$3,109,000.00
<u>Contingencies</u>				\$ 584,000.00
TOTAL ROADWAY GRADING & BRIDGES				\$4,477,000.00
<u>Recreational Facilities</u>				
Pedestrian Walkway Over Blue Earth River (Connecting Sibley Park & Minnesota Valley Trail System).	S.F.	5,750	60.00	\$ 345,000.00
<u>Contingencies</u>				\$ 51,000.00
<u>Engineering and Design</u>				\$ 36,000.00
<u>Supervision and Administration</u>				\$ 28,000.00
TOTAL DIRECT & INDIRECT COSTS (Recreational Facilities)				\$ 460,000.00
SPECIAL CASH CONTRIBUTION FOR RECREATIONAL FACILITIES BY CITY OF MANKATO (50% x 441,000)				(230,000.00)
TOTAL FEDERAL FIRST COST (Recreational Facilities)				\$ 230,000.00

Table B-3. DETAILED COST ESTIMATE. Alternative 4 (Continued)

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Federal First Costs (Cont.)</u>				
<u>Force Accounts - C&NW T. Co.</u>				
Railroad Communication Line	JOB	SUM		\$ 12,500.00
Rail Removal (Includes Rail on Structure)	LF	13,665	\$ 3.90	53,300.00
Rail Replacement (Assume 115 # Rail)	LF	12,000	65.00	780,000.00
Railroad Protection (During Construction)	JOB	SUM		104,000.00
				<u>\$ 950,000.00</u>
Railroad Rail Betterment (90# to 115#)				<u>(62,000.00)</u>
TOTAL FORCE ACCOUNTS (C&NW T. CO.)				\$ 888,000.00
TOTAL CONSTRUCTION COST				\$5,887,000.00
TOTAL FEDERAL FIRST CONSTRUCTION COST				\$5,565,000.00
<u>Engineering & Design</u>				\$ 530,000.00
<u>Supervision of Construction</u>				\$ 412,000.00
TOTAL FEDERAL FIRST COSTS:				\$6,507,000.00
<u>FEDERAL CAPITALIZED COSTS (PRESENT WORTH)*</u>				
<u>Increased Operating Costs Over Existing Facility</u>				<u>\$ 176,000.00</u>
TOTAL FEDERAL CAPITALIZED COSTS				\$ 176,000.00
TOTAL FEDERAL COSTS				<u>\$6,683,000.00</u>

*20 years @ 10%

Table B-3. DETAILED COST ESTIMATE. Alternative 4 (Cont.)

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Non-Federal First Costs</u>				
<u>City of Mankato</u>				
<u>Site Preparation</u>				
Bituminous Pavement Removal	SY	325	\$2.50	\$ 810.00
Clearing	TREE	2	100.00	200.00
Grubbing	TREE	2	80.00	160.00
Curb and Gutter Removal	LF	67	2.25	150.00
TOTAL SITE PREPARATION				\$ 1,300.00
<u>Roadways</u>				
Bituminous Pavement	SY	282	9.25	\$ 2,610.00
Sidewalk	SY	44	23.40	1,030.00
Curb and Gutter	LF	36	7.30	260.00
Water Main - 16" Ductile Iron Pipe	LF	200	40.00	8,000.00
TOTAL ROADWAYS				\$ 13,000.00
<u>Miscellaneous Roadway Items</u>				\$ 1,000.00
TOTAL ROADWAY AND GRADING				\$ 14,000.00
<u>Recreational Facilities</u>				
Pedestrian Walkway over Blue Earth River (Connecting Sibley Park & Minnesota Valley Trail System).	JOB	SUM		\$ 230,000.00
<u>Force Accounts - Utility Relocation</u>				
Northern States Power	JOB	SUM		\$ 227,500.00
Minnesota Gas Co.	JOB	SUM		4,000.00
Mankato Citizens Telephone	JOB	SUM		1,500.00
TOTAL FORCE ACCOUNTS (UTILITIES)				\$ 233,000.00

Table B-3. DETAILED COST ESTIMATE. Alternative 4 (Cont.)

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Non-Federal First Costs (Cont.)</u>				
<u>City of Mankato (Cont.)</u>				
<u>Contingencies</u>				\$ 2,000.00
TOTAL CONSTRUCTION COSTS				\$ 479,000.00
<u>Engineering & Design</u>				\$ 1,000.00
<u>Supervision & Administration</u>				\$ 1,000.00
<u>Lands & Rights-of-Way</u>				
Easement & Fee Title Lands	LS		\$10,000.	\$ 10,000.00
Relocation Costs (Fixed)	LS		0.	0.00
Acquisition & Administration	LS		30,000.	30,000.00
(5 Tracts)				
Contingencies				2,000.00
TOTAL LANDS & RIGHTS-OF-WAY				\$ 42,000.00
TOTAL CITY OF MANKATO FIRST COSTS				\$ 523,000.00
<u>C&NW T. Co. Betterments</u>				
River Bridge (E-55 to E-80)	JOB	SUM		\$ 30,000.00
Rail (115# CWR)	LF	12,000	\$5.20	62,000.00
Contingencies				14,000.00
TOTAL C&NW T. CO.				\$ 106,000.00
TOTAL NON-FEDERAL COSTS				\$ 629,000.00
TOTAL FEDERAL AND NON-FEDERAL COSTS				\$7,312,000.00

Table B-4. DETAILED COST ESTIMATE. Alternative 3A

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Federal First Cost</u>				
<u>Roadway and Grading Items</u>				
<u>Building Removal</u>	LS	1	\$1600.00	\$ 1,600.00
<u>Excavation</u>	CY	15,715	1.70	26,700.00
<u>Borrow</u>	CY	50,665	3.75	190,000.00
<u>Drainage</u>				
Catch Basin	EACH	1	800.00	800.00
18" RCP CL V Pipe	LF	198	28.90	5,700.00
TOTAL DRAINAGE FACILITIES				\$ 6,500.00
<u>Retaining Walls</u> (Reinforced Earth)	SF	17,150	25.00	\$ 429,000.00
<u>Miscellaneous Roadway Items (7%)</u>				\$ 46,000.00
TOTAL ROADWAY AND GRADING ITEMS				\$ 700,000.00
<u>Bridges</u>				
Roadway Grade Separations	JOB	SUM		\$ 325,000.00
<u>River Bridges</u>				
Bridge Demolition				
Substructure	JOB	SUM		\$ 140,000.00
Superstructure*	JOB	SUM		0.00*
Railroad Structure (New)	S.F.	13,490	196.00	2,644,000.00
*Salvage Value of Steel = Cost of Removal				
TOTAL RIVER BRIDGES				\$2,784,000.00

Table B-4. DETAILED COST ESTIMATE. Alternative 3A (Cont.)

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Federal First Costs (Continued)</u>				
C&NW T. Co. Betterment (E-55 to E-80)	JOB	SUM		<u>(30,000.00)</u>
TOTAL FEDERAL FIRST COST RIVER BRIDGES				\$2,754,000.00
TOTAL BRIDGES				\$3,109,000.00
<u>Contingencies</u>				<u>\$ 571,000.00</u>
TOTAL ROADWAY GRADING & BRIDGES				\$4,380,000.00
<u>Recreational Facilities</u>				
Pedestrian Walkway over Blue Earth River (Connecting Sibley Park & Minnesota Valley Trail System).	S.F.	5,750	60.00	\$ 345,000.00
<u>Contingencies</u>				<u>\$ 51,000.00</u>
<u>Engineering and Design</u>				<u>\$ 36,000.00</u>
<u>Supervision and Administration</u>				<u>\$ 28,000.00</u>
TOTAL DIRECT & INDIRECT COSTS (Recreational Facilities)				\$ 460,000.00
SPECIAL CASH CONTRIBUTION FOR RECREATIONAL FACILITIES BY CITY OF MANKATO (50% x 441,000)				<u>(230,000.00)</u>
TOTAL FEDERAL FIRST COST (Recreational Facilities)				\$ 230,000.00
<u>Force Accounts - C&NW T. CO.</u>				
Railroad Communication Line	JOB	SUM		\$ 12,500.00
Rail Removal (Includes Rail On Structure)	LF	13,665	\$3.90	53,500.00
Rail Replacement (Assume 115 # Rail)	LF	13,240	65.00	861,000.00
Railroad Protection (During Construction)	JOB	SUM		<u>104,000.00</u>
				<u>\$1,031,000.00</u>

Table B-4. DETAILED COST ESTIMATE. Alternative 3A (Continued)

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Federal First Costs (Cont.)</u>				
<u>Force Accounts - C&NW T. Co. (Continued)</u>				
Railroad Rail Betterment (90# to 115#)				(69,000.00)
TOTAL FORCE ACCOUNT (C&NW T. CO.)				\$ 962,000.00
TOTAL CONSTRUCTION COST				\$5,871,000.00
TOTAL FEDERAL FIRST CONSTRUCTION COST				\$5,542,000.00
<u>Engineering & Design</u>				\$ 528,000.00
<u>Supervision of Construction</u>				\$ 411,000.00
TOTAL FEDERAL FIRST COSTS:				\$6,481,000.00
<u>FEDERAL CAPITALIZED COSTS (PRESENT WORTH)</u>				
<u>Increased Operating Costs Over Existing Facility</u>				
Increased Operating Costs over Existing Facility*				\$ 256,000.00
TOTAL FEDERAL CAPITALIZED COSTS				\$ 256,000.00
TOTAL FEDERAL COSTS				\$6,737,000.00
*20 years @ 10%				

Table B-4. DETAILED COST ESTIMATE. Alternative 3A (Cont.)

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Non-Federal First Costs</u>				
<u>City of Mankato</u>				
<u>Roadways</u>				
Bituminous Pavement	SY	280	\$9.30	\$ 2,700.00
Curb and Gutter	LF	178	7.30	1,300.00
Water Main - 16" Ductile Iron Pipe	LF	200	40.00	8,000.00
TOTAL ROADWAYS				\$ 12,000.00
<u>Miscellaneous Roadway Items</u>				\$ 1,000.00
TOTAL ROADWAY AND GRADING				\$ 13,000.00
<u>Recreational Facilities</u>				
Pedestrian Walkway over Blue Earth River (Connecting Sibley Park & Minnesota Valley Trail System).	JOB	SUM		\$ 230,000.00
<u>Force Accounts - Utility Relocation</u>				
Northern State Power	JOB	SUM		\$ 254,000.00
Minnesota Gas Co.	JOB	SUM		1,500.00
Mankato Citizens Telephone	JOB	SUM		1,500.00
TOTAL FORCE ACCOUNTS (UTILITIES)				\$ 257,000.00
<u>Contingencies</u>				\$ 2,000.00
TOTAL CONSTRUCTION COSTS				\$ 502,000.00
<u>Engineering & Design</u>				\$ 1,000.00
<u>Supervision & Administration</u>				\$ 1,000.00

Table B-4. DETAILED COST ESTIMATE. Alternative 3A (Cont.)

Item	Unit	Quantity	Unit Cost	Total Estimated Costs
<u>Non-Federal First Costs (Continued)</u>				
<u>City of Mankato (Cont.)</u>				
<u>Lands & Rights-of-Way</u>				
Easement & Fee Title Lands	LS		0.00	\$ 0.00
Relocation Costs	LS		0.00	0.00
Acquisition & Administration EACH			0.00	0.00
Contingencies				<u>0.00</u>
TOTAL LANDS & RIGHTS-OF-WAY				\$ 0.00
TOTAL CITY OF MANKATO FIRST COSTS				\$ 504,000.00
<u>C&NW T. Co. Betterments</u>				
River Bridge (E-55 to E-80)	JOB	SUM		\$ 30,000.00
Rail (115# CWR)	LF	13,240	5.20	69,000.00
Contingencies				<u>15,000.00</u>
TOTAL C&NW T. CO.				\$ <u>114,000.00</u>
TOTAL NON-FEDERAL COSTS				\$ <u>618,000.00</u>
TOTAL FEDERAL AND NON-FEDERAL COSTS				\$7,355,000.00

FLOOD CONTROL
MINNESOTA RIVER, MINNESOTA
MANKATO-NORTH MANKATO-LE HILLIER

DESIGN MEMORANDUM NO. 8 - PART I (Location Study)

AND

DRAFT SUPPLEMENT II TO THE FINAL
ENVIRONMENTAL IMPACT STATEMENT

FOR

BRIDGE RELOCATIONS

CHICAGO AND NORTH WESTERN TRANSPORTATION COMPANY
OVER BLUE EARTH RIVER BETWEEN
MANKATO AND LE HILLIER

APPENDIX C
PUBLIC VIEWS AND RESPONSES

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APPENDIX C
PUBLIC VIEWS AND RESPONSES

INTRODUCTION

C.1 The views of the public were actively solicited throughout the study. Individuals, groups, civic organizations, and governmental agencies were brought into the study process through a broadly based public information program.

C.2 Specific elements of the program included:

- a. Information office
- b. Period newsletters
- c. News media coverage
- d. Public information meetings
- e. Interviews with citizens directly affected by potential property acquisitions
- f. Presentations to interested civic organizations
- g. Workshops for City Councils and other city government, Minnesota Department of Transportation (Mn/DOT), and Corps of Engineers (COE) staff.

C.3 The overall public information program covered the entire project. i.e., the three separate bridge locations. This appendix covers in detail the Chicago and North Western Transportation Company (CNW) bridges over the Blue Earth River between Mankato and Le Hillier, and a general description of the overall public participation process of the entire study.

C.4 Interagency coordination was accomplished through written correspondence and briefings. This procedure established a cooperative working relationship between the several public and private agencies having direct responsibilities in the study area. Copies of correspondence exchanged are included in the Communications section below.

PUBLIC INFORMATION PROGRAM

Information Office

C.5 A public information office was maintained at 209 South Second Street, Room 208, Northwestern Office Building, Mankato for a period of 44 weeks, from September 1978 through July 1979. It will be open again during the month in which the public hearing is held.

C.6 This office was staffed with a full time secretary and a part-time information officer. The information officer, in addition to answering questions directed to the office, attended civic meetings and made presentations to various boards and committees; was interviewed by newspapers, radio and TV; provided news releases; and participated in the public information meetings. The log of his meetings and news media contacts is given on Table C-1.

C.7 Current and up-to-date plans were available at the office for public use. The office also distributed the newsletters and maintained a mailing list. It also logged in all project related phone calls and visits, which included 87 telephone calls and 158 office visits. The most frequent inquiries were made by individuals who were directly affected. The log of these inquiries is on file at the Corps of Engineers, St. Paul District Office.

TABLE C-1
LOG OF MEETING AND NEWS MEDIA CONTACTS
BRIDGE RELOCATION INFORMATION CENTER

<u>October 1978</u>		<u>Time</u>
10	Blue Earth County Board Meeting	9:00 a.m.
	Mankato City Council Meeting	7:00 p.m.
	South Bend Township Board Meeting	8:00 p.m.
13	Coffee Break Program KEYC-TV	9:15 a.m.
16	North Mankato City Council Meeting	7:00 p.m.
	Taped conversation with KEEZ-FM radio next day broadcast (17th)	
19	Discussion with reporter of Mankato Free Press	--
	Calls from Free Press on traffic study	
23	Nicollet County Board Meeting	9:00 a.m.
<u>November</u>		
1	City of Mankato Personnel Meeting	9:00 a.m.
6	South Bend Township Board Meeting	8:00 p.m.
13	Tape recording by KEEZ-FM radio	--
14	Tape recording by KYSM-AM radio	--

November (Cont.)Time

15	Public Information Meeting (Regional Library)	--
16	Reporter from Mankato Free Press	--
30	Reporter from KEYC-TV - taped	--

December

6	Meeting with Mn/DOT (Mankato)	--
18	Meeting with Mn/DOT (St. Paul)	--

January 1979

2	Interview with KEYC-TV	--
3	Informational Meeting (Roosevelt School)	--
4	Reporter for KYSM-AM radio - taped	--
15	Free Press reporter	--
19	Mankato Chamber of Commerce Transportation Committee Meeting	--
22	Reporter for KEEZ-FM radio - taped	--
24	Informational meeting (North Mankato Jr. High)	--
29	Consultant Wetmore explaining Main Street alternatives to dinner meeting of combined city councils of Mankato and North Mankato	--

February

13	Meeting at Corps Office in St. Paul	--
14	Meeting at Mn/DOT (Mankato)	--
16	Chamber of Commerce Transportation Committee Meeting	--
28	Presentation to Exchange Club (Century Club, North Mankato)	12:00 noon

MarchTime

16 Chamber of Commerce Transportation
Committee Meeting

--

April

4 Consultant presentation at Regional Law
Enforcement Center (Mankato) attended by
staff personnel from Corps, Mn/DOT
Central and District Offices, Cities of
Mankato and North Mankato, Federal Highway
Administration (FHWA), CNW, and Honeymead
Company.

--

18 Reporter from KEEZ-FM radio - taped

--

20 Chamber of Commerce Transportation Committee
Meeting

--

May

6 Radio stations calling about Saturday's
meeting with the City Councilors

--

24 KEYC-TV program - On Air Live

9:30 a.m.

25 Chamber of Commerce Transportation
Committee Meeting

10-12 a.m.

30 Informational Meeting (Roosevelt School)

--

31 Informational Meeting (West High)

--

June

15 Chamber of Commerce Transportation
Committee Meeting

10-12 a.m.

18 Kiwanis Club noon meeting

July

20 Chamber of Commerce Transportation
Committee Meeting

10-12 a.m.

Newsletters

C.8 Four project newsletters were mailed to approximately 2,100 individuals, organizations and agencies. Approximately 100 additional copies were distributed and made available at the information office, public libraries, and city halls. The first newsletter was mailed in November 1978, the second in December 1978 and the third in May 1979. The fourth was sent in November 1979. All were mailed or distributed at least one week in advance of the public information meeting dates. Copies of each newsletter are included in the Communication section of this appendix.

Media Coverage

C.9 In addition to the 10 radio and TV events in which the information officer participated, extensive coverage was given the project by the Mankato Free Press. The majority of this coverage, however, centered on issues, concerning the Main Street bridge. Copies of these articles are included under the Communications section. A list of area-wide news media is given in Table C-2.

Public Information Meetings

C.10 Three public information meetings were held. Approximately 85 persons attended the first meeting, which was held on 15 November 1978, at the Minnesota Valley Regional Library, Mankato. At this meeting the project goals and objectives were presented along with background information leading up to the project study. The scope of work to be performed was provided regarding the flood protection project requiring major alterations of existing conditions at the bridge sites. The initial concerns and attitudes of those attending were heard and recorded for later use. The dominant concern of this meeting had to do with the location and site of the Main Street Bridge replacement, and the corridor width to be studied at the TH 169/60 site over the Blue Earth River.

TABLE C-2. NEWS MEDIA

Blue Earth County

MANKATO FREE PRESS
418 South Second Street
Mankato, MN 56001
(625-4458)

KEEZ-FM RADIO
227 East Main
Mankato, MN 56001
(345-4646)

Nicollet County

KYSM AM-FM RADIO
1807 Lee Blvd.
North Mankato, MN 56001
(345-4673)

KEYC-TV
1570 Lookout Drive
North Mankato, MN 56001
(387-7905)

TABLE C-2 (Cont'd.)

Blue Earth County

KTOE RADIO
Highway #14 East
P. O. Box 1420
Mankato, MN 56001
(345-4537)

MSU REPORTER
Box 38 - Student Union
Mankato State University
Mankato, MN 56001
(389-1776)

Nicollet County

ST. PETER HERALD
311 South Minnesota Avenue
St. Peter, MN 56082
(931-4520)

KRBI RADIO
1031 Grace Street
St. Peter, MN 56082
(931-3220)

C.11 The second meeting pertaining to the CNW over the Blue Earth River was held on 3 January 1979 at Roosevelt Elementary School. About 80 people attended this meeting. During this meeting all the alternatives that had been developed to date were presented and comments on each of the alternatives were recorded. Concern was voiced regarding changes in street patterns, the effects of the proposed alterations on noise, property acquisition and relocation costs, traffic problems, school children's crossings, property acquisitions, and the responsibility for final decisions.

C.12 The third meeting, attended by about 80 people, was held at Roosevelt School on 30 May 1979. At the time of this meeting the proposed alternatives had been narrowed to three (2A, 3B and 4). These were presented in detail along with summaries of the impacts of each. At this meeting concerns were voiced about noise coming from the proposed elevated and alterations of TH 169/60. Other issues voiced were about right-of-way acquisition and relocation procedures. Concern was also expressed about the street closings and changes under the various railroad alternatives. Copies of the transcripts of these meetings are on file in the Corps of Engineers, St. Paul District Office and copies of the information handouts for the 15 November 1978 and 24 January 1979 meetings are given under Communications section. Additional copies of the third newsletter were available for information at the 30 May meeting.

Interviews with Citizens Directly Affected by Potential Property Acquisitions

C.13 In conjunction with the evaluation of social impacts, relocations, and right-of-way costs, the owner or renter of every property affected by a potential property acquisition was contacted either in person or by telephone. This process afforded the opportunity to inform these people about the project and to hear their

their concerns directly and individually. A few, particularly owners of commercial property, were interviewed several times during the course of the study.

Presentations to Interested Civic Organizations

C.14 The information officer made presentations to the Mankato Chamber of Commerce Transportation Committee, the Exchange Club, and the Kiwanis Club as indicated in the log of his contacts.

INTERAGENCY COORDINATION

C.15 The Minnesota Department of Transportation, the City of Mankato, the Minnesota Historical Society, and the Chicago and North Western Transportation Company were contributors and participants to this study. Coordination with other agencies are described below.

State and Federal Agencies

C.16 All state and federal agencies having an interest in the project were contacted early in the study by letter with a request to designate a liaison person. Those designated and copies of replies received are included under Communications section.

C.17 On 13 February 1979, the consultants' study team and the Corps staff presented two briefings to State and Federal agencies on the project progress, project setting, environmental concerns, and the Stage 2 alternatives being considered for study. During these briefings no State or Federal representative expressed any concern beyond those presented. Agencies represented at these briefings are listed in Table C-3. In addition to these direct contacts, all agencies were kept informed by the periodic newsletters.

TABLE C-3
ATTENDANCE AT STATE AND FEDERAL AGENCY BRIEFINGS
13 February 1979

Minnesota

Department of Transportation, Highways
Department of Transportation, Railroad Operations
Pollution Control Agency
Department of Agriculture
Water Resources Board
Department of Economic Development
Department of Health

TABLE C-3 (Cont'd)

United States

Environmental Protection Agency
Department of Interior, Geological Survey
Department of Interior, Fish and Wildlife Service
Department of Agriculture, Soil Conservation Service
Department of Commerce, Economic Development Administration
Department of Housing and Urban Development

Counties and South Bend Township

C.18 The boards of Blue Earth and Nicollet Counties and South Bend Township (Le Hillier) were kept informed of the study through the periodic newsletter and through presentations to the boards by the project information officer.

Others

C.19 All of the private utility companies in the area were informed of the project and also participated in providing information on their plant and in estimating the costs of adjustments.

The companies contacted were:

Northwestern Bell Telephone Co.
215 E. Hickory
Mankato, MN 56001

Minnegasco
2400 N. Front St.
Mankato, MN 56001

Northern States Power Co.
2nd and Lime Streets
Mankato, MN 56001

Interstate Power Co.
Amboy, MN 56010

Mid-Communications, Inc.
221 E. Hickory
Mankato, MN 56001

Mankato Citizens
Telephone Co.
221 E. Hickory
Mankato, MN 56001

Minnesota C.A.T.V., Inc.
228 S. Front Street
Mankato, MN 56001

COMMENTS AND RESPONSES

C.20 Copies of comments received and responses thereto are given under Communications section below.

COMMUNICATIONS

C.21 Copies of newsletters, correspondence exchanges, news clippings, and a list of state and federal agency contacts follows.

NEWSLETTERS

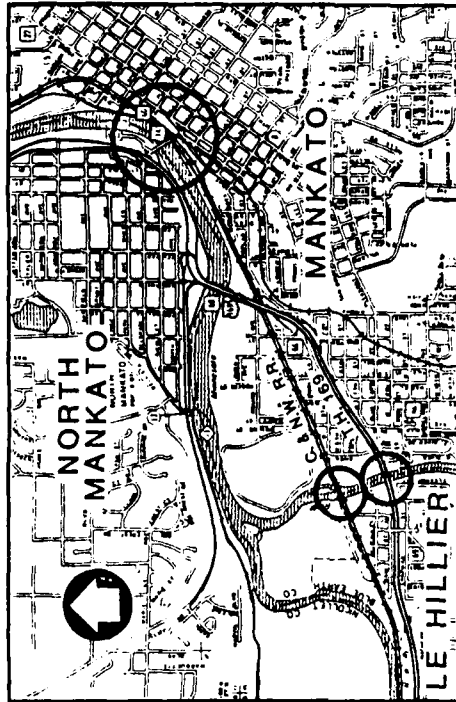


Bridge Relocation

November, 1978

Newsletter

Number 1, Mankato - N. Mankato - LeHillier



LOCATION: The circled sections show the three study areas under consideration for the bridge relocation and alteration study.

Bridge Relocation Study Begins

The St. Paul District Corps of Engineers has announced the start of a comprehensive study to determine the best location for a new Main Street Bridge over the Minnesota River; the replacement or raising of the two Trunk Highway 169 Bridges over the

Blue Earth River; and the two Chicago and North Western Transportation Co. Bridges over the Blue Earth River. All bridges must be raised or replaced to provide adequate channel capacity for flood control.

Bridge Relocation Newsletter

REMINDER

To encourage early and continuing community participation, a public meeting has been scheduled for:

- November 15, 1978, 7:30 P.M.
- Minnesota Valley Regional Library.
- Front & Main Streets, Mankato.

Please join us so that your ideas and concerns can be included in the initial planning stages of this project.

BULK RATE
U.S. POSTAGE
PERMIT NO. 470
MANKATO, MN 56001

The editorial content of the Community Newsletter is the responsibility of the staff of Edwards and Kelley, Inc. Consultants. The newsletter is prepared and distributed by the Bridge Relocation Information Office and published under the auspices of the St. Paul District, Corps of Engineers.

Information Office Address:

Bridge Relocation - Information Office
Room 208, Northwestern Office Bldg.
209 South Second Street
Mankato, Minnesota 56001
Or call 507-387-7860

SCOPE

Edwards and Kelcey, Inc. of Minneapolis, assisted by Riche Carroll Muller Associates, Inc. of Mankato, and Braun Engineering Testing Co., Minneapolis, will examine the engineering, social, economic, and environmental aspects of raising or replacing the structures.

The present Main Street Bridge, built in 1916, is inadequate for two reasons. The present structure cannot handle present peak traffic volumes without considerable congestion. Secondly, the roadway on the bridge is well below the projected Corps' design flood levels. A new bridge will be required.

The T.H. 169 Bridges and the two railroad bridges over the Blue Earth River are also below projected flood levels. This study will determine if it is best to modify or replace these structures.

POTENTIAL IMPACTS

With the proposed bridge alterations the potential exists for impacts of varying degrees to air quality, noise levels, water resources, regional and local development, displacement of people and businesses, wildlife and waterfowl habitat, park and recreational facilities, and traffic patterns. These impacts will be investigated and the extent of the impact will be addressed in an Environmental Impact Statement.

COMMUNITY INVOLVEMENT

The principal aims of the studies are to develop river and railroad crossings that adequately meet the needs of the people they are designed to serve. The Corps of Engineers is planning a comprehensive Community Involvement Program, to go hand-in-hand with its engineering studies.

Bridge Relocation Study Procedure

CONSULTANT STUDY ELEMENTS

- Data Collection
- Identification of alternatives
- Assessment of alternatives in terms of:
 - Planning considerations
 - Traffic service needs
 - Engineering considerations
 - Environmental factors
- Presentation of findings (Preliminary report)
- Draft Environmental Impact Statement
- Review and evaluation of agency and public comments
- Final recommendations (Final Report)
- Final Environmental Impact Statement

COMMUNITY PARTICIPATION

- Continuous public involvement is provided for through:
 - The Information Office
 - A periodic Newsletter
 - Periodic public meetings
 - Group discussions with responsible community groups as requested
- Public Hearing

Highlights of the program will be a series of community meetings, press releases, informational newsletters, and an information office within the project area.

INFORMATION OFFICE

As of October 2, 1978, the St. Paul District, Corps of Engineers, has opened the project Information Office in Room 208, Northwestern Office Building, 209 South Second Street, Mankato.

The office will be open from 8:00 a.m. to 4:00 p.m., five days each week.

The public is cordially invited to visit the office or phone 367-7860 during business hours. The Corps hopes that interested persons will take advantage of the Information Office, to call, write, or stop by, to keep up-to-date on latest project developments.

COMMUNITY NEWSLETTER

This is the first issue of a newsletter to report the progress of the Bridge Relocation Studies. These newsletters will be mailed periodically to residents and businesses in the study areas.

While the mailing list is meant to be as complete as possible, some names may have been missed. If you didn't receive a copy, or know of someone whose name should be added, please call or write the Information Office.

The purpose of the office and news-

letter is to obtain as much community reaction and opinion as possible. If you would like to express your ideas concerning the project, or have any questions you want answered, please contact the office.

TRAFFIC STUDIES

Origin-Destination Surveys were conducted at each of the four existing river crossings in the Mankato, North Mankato, and Le Hillier areas, supplemented by traffic counts at intersections in the vicinity of each river crossing. This information will be used to assess the probable impacts on traffic circulation patterns during and after construction. Emphasis will be placed on maintaining safe and convenient access to existing and planned developments while minimizing circulation of traffic through sensitive areas.

The project staff and survey crews wish to express their gratitude for the willing cooperation of the motorist public who responded to the questionnaires that we passed out during these surveys.

OTHER STUDIES

The study objectives are to consider two specific requirements:

- Meet year 2000 traffic needs, and
- Compatibility with Corps of Engineers on-going flood control works.

In conjunction with these requirements, other studies such as roadway surveys, bridge inspections and environmental investigation of the rivers are now in progress.

BRIDGE RELOCATION
PUBLIC INFORMATION MEETING

November 15, 1978

Regional Library, Mankato

STUDY AREA

This comprehensive study when completed will determine the best location for a new Main Street Bridge over the Minnesota River; the replacement or raising of the two T.H. 169 Bridges over the Blue Earth River, and the replacement or raising of two Chicago and North Western Transportation Co. Bridges over the Blue Earth River. All bridges at these three sites must be raised or replaced to provide adequate channel capacity for flood control.

INFORMATION OFFICE

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The office will be open from 8:00 a.m. to 4:00 p.m., five days each week.

You are cordially invited to visit the office or phone 387-7860 during business hours. The Corps hopes that interested persons will take advantage of the information Office, to call, write, or stop by, to keep up-to-date on latest project developments.

NEWSLETTER

A newsletter will be published and mailed periodically to residents and interested persons. A mailing list has been prepared. While this list is meant to be as complete as possible, some names may have been missed. If you didn't receive a copy, or know of someone who should be on the list, please let us know. Call or write the Information Office.

Written and oral comments are welcomed and we urge you to contact us.

It is the intent and desire of the St. Paul District, Corps of Engineers, to provide the means through which all interested parties may have an opportunity to participate in the process of determining what should be done at the three sites, noted on the map.

The Corps of Engineers has initiated this meeting tonight, as one of the means to present information pertaining to planned transportation needs in and for your community.

Usually, this function is carried on and conducted by the Department of Transportation, but because of the uniqueness of this project, Congress has placed this project under the control of the Corps of Engineers. However, the project will follow guidelines and procedures formulated by the Minnesota Department of Transportation.

We seek your views, and urge you to ask questions on any subject pertaining to this project.

PLANNING AND DEVELOPMENT PROCEDURES

Briefly, any highway planning and development process involves three major phases:

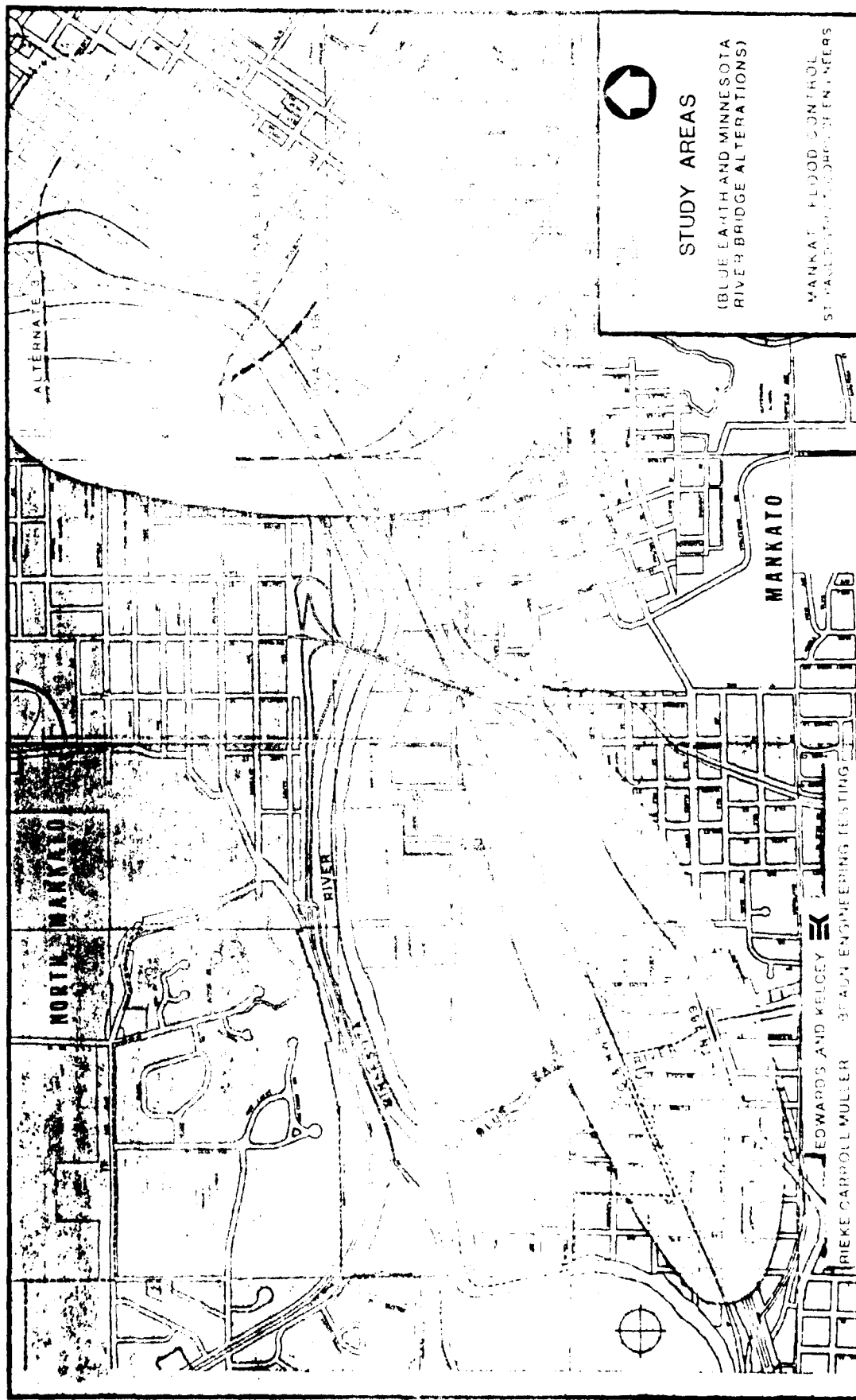
Phase I - Systems Planning
Phase II - Location Planning
Phase III - Project Development

Phase I establishes and analyzes the need for a facility on a regional basis and within a designated area or corridor; Phase II includes the location study, draft environmental impact statements, corridor public hearings and final EIS; Phase III involves preliminary and final design, design public hearings, right-of-way acquisitions and construction. Therefore, tonight's subject falls under the Location Planning Phase.

STUDY OBJECTIVES

The primary purpose of this study will be to provide flood protection. Another objective is to select alternatives that will best meet the transportation needs of the local communities for the year 2000, while considering such items as socio-economic and community impacts, engineering requirements, traffic service and safety, project and road-user costs, the environment, and aesthetics. The proposed solution to be compatible with the Corps of Engineers' on-going flood control works.

EDWARDS AND KELCEY, INC.



Bridge Relocation

Mankato - N. Mankato - LeHillier

Number 2

December, 1978

Bridge Relocation Study

bridges to provide the standard project flood protection but without the dam. Plan 2 was ultimately adopted after it was determined by the Corps that the dam was uneconomical to construct.

The firm of Edwards and Kelcey, Mpls., has been retained by the Corps to study the alternatives and prepare the necessary reports and documents for locating and designing the new high bridges.

A meeting was held in November to inform and receive citizen comments on the progress and development of these studies. Additional meetings are planned. Please see the back page for location and time.



The flood of 1951 prompted local citizens to travel to Washington to ask for help with flood control.

WHAT IT'S ALL ABOUT

After the flood of 1951 a delegation of Mankato and N. Mankato citizens went to Washington to ask for help to protect the Cities from further flooding by the Minn. and Blue Earth Rivers. The Dept. of the Army was directed to study the problem and plan for flood protection.

Two plans were proposed. Plan 1 was a combination of flood walls and levees for an 80 year flood occurrence (comparable to the 1965 flood) and the Blue Earth River dam. These would have provided the standard project flood protection for Mankato, N. Mankato and Le Hillier. Plan 2 involved the construction of flood barriers (retaining walls and levees) and the raising of



During high water, railroad trestles caught behind the Main Street Bridge run up the Minnesota River, and cause further flooding.

Bridge Relocation Newsletter

REMINDER

To encourage the continuing community participation, two public meetings have been scheduled for:

January 3, 1979 at 7:30 p.m.
Roosevelt School
W. 6th and Owatonna, Mankato

...

January 24, 1979 at 7:30 p.m.
North Mankato Junior High School
Corner of Range & Garfield, N. Mankato

Information Office Address:

Bridge Relocation - Information Office
Room 208, Northwestern Office Bldg.
209 South Second Street
Mankato, Minnesota 56001
Monday thru Friday from 8:00 a.m. to 5:00 p.m., or call (507) 395-7400.

The editorial content of the Community Newsletter is the responsibility of the staff of Edwards and Kelcey, Inc., Consultants. The newsletter is prepared and distributed by the Bridge Relocation Information Office and published under the auspices of the St. Paul District, Corps of Engineers.

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● C. & D.M. RAILROAD BRIDGES OVER BLUE EARTH RIVER

The following alternatives have been selected for study with regard to raising or relocating the bridges and tracks over the Blue Earth River. Alternatives include the Woodland Avenue bridge at the entrance to Sibley Park.

1. Raise both bridges on present alignment.

● I.R. 169 OVER THE BLUE EARTH RIVER

The following alternatives have been selected for study with regard to raising or relocating the bridges and roadway over the Blue Earth River.

- 1.A. Existing Roadway Alignment, with provisions for on and off ramps to Minnesota Road to and from the south.
- 1.B. New Road Alignment slightly south of existing bridges, with provisions for on and off ramps to Minnesota Road to and from the south.
- 2.A. Existing Roadway Alignment, with northbound off-ramp to Sibley St. and a southbound on-ramp from Minnesota Road.
- 2.B. New Roadway Alignment, slightly south of existing bridges, with northbound off-ramp to Sibley St. and a southbound on-ramp from Minnesota Road.
- 3.A. River bridges on existing alignments with modifications to the Park Lane Interchange.
- 3.B. River bridges on new alignments with modifications to the Park Lane Interchange.

These alternatives will be presented for discussion at the next public information meeting on January 3, 1979.

● MAIN STREET BRIDGE ALTERNATIVES

Four alternatives to replace and relocate the present Main Street Bridge will be presented at the January 24th meeting. The alternative locations are:

- 1.A. Belgrade to Mulberry
- 1.B. Belgrade to Main
2. Range to Cherry-Warren
3. Monroe to Madison

1ST PUBLIC MEETING

The first public information meeting of the Mankato Bridge Relocation Project was held Wednesday, November 15, 1978, at the Minnesota Valley Regional Library, Mankato, MN. Approximately 85 persons were in attendance.

Bob Penniman, of the St. Paul District Corps of Engineers, presented the opening remarks and stated the purpose of the meeting and Corps' involvement in the project.

Marty Romano, of Edwards and Kelcey, Inc., introduced members of the project staff to the audience and narrated a slide presentation giving an overall view of the project area and the scope of the project.

Tom Wetmore, of Edwards and Kelcey, Inc., reported to the audience on the proposed four alternative bridge locations for the new Main Street Bridge and the necessity to raise the twin Highway #169 bridges over the Blue Earth River and the nearby railroad bridges.

Opportunity was given to the audience to ask questions and voice opinions. Some citizens gave their opinions on certain alternatives and discussion followed regarding the fact that all alternatives will be given equal consideration when studies along with the environmental and traffic study data.

HOMEOWNERS & BUSINESSMEN SURVEY

Homeowners and businessmen who would be affected by bridge relocation and construction are being interviewed. It is necessary to gather data to determine which option for a proposed new bridge to link Mankato and North Mankato will have the most beneficial effect on its surrounding area.

Some of the questions will pertain to business hours, parking facilities, condition and value of buildings, ship or rental agreements, type of business, number of employees and payroll earnings. All information will be held confidential.

The survey will continue until all the zones involved have been covered. It should be noted however that being interviewed does not mean that any specific location has been selected.

ENVIRONMENTAL STUDIES

A team of natural environmentalists led by Dr. Henry Quade of the Environmental Studies Institute at Mankato State Univ. has been actively gathering information about potential impacts to the water quality and plant life related to any proposed bridge construction. Water chemistry and analysis has been supplemented with information from the Minn. Pollution Control Agency and the U.S. Geological Survey. The team is analyzing samples to determine the level of existing pollutants that might be disturbed during construction. Also, the team is responsible for determining whether there are any "rare or endangered species" of wildlife, or plantlife. Planners and engineers for the project will then use the findings to lessen impact to the river during construction phases.

C. & N. M. RAILROAD BRIDGES
DIVER BLUE EARTH RIVER

The following alternatives have been selected for tonight's discussion with regard to raising or relocating the C & N. M. Railroad Bridges and tracks over the Blue Earth River. Alternatives also include the Woodland Avenue bridge at the entrance to Sibley Park.

1. Raise both bridges on present alignment.
- 2.A. Raise Mainline north track. Stub end south track for storage, and retain present Woodland Avenue entrance to Sibley Park.
- 2.B. Raise Mainline north track. Stub end south track for storage, and replace Woodland Avenue bridge between Woodland and Carney Avenues.
- 3.A. Raise Mainline north track on new alignment slightly north of existing tracks. Stub end both existing tracks for storage, retain and modify existing Woodland Avenue bridge entrance to Sibley Park.
- 3.B. Raise Mainline north track on new alignment slightly north of existing tracks. Stub end both existing tracks for storage, and replace Woodland Avenue bridge between Woodland and Carney Avenues.

COMMUNITY INVOLVEMENT

Extensive material has been and will continue to be collected and assembled regarding such items as property ownership, community

services, existing and proposed land use, recreational and aesthetic points of interest, ecology, population and economic data, soils information, and existing and projected traffic volumes.

Governmental agencies, civic organizations and people living within and near the study areas will be contacted and encouraged to express their view as to which option is best for the community.

INFORMATION OFFICE

As of October 2, 1978, the St. Paul District, Corps of Engineers, has opened the Project Information Office in Room 208, Northwestern Office Building, 209 South Second Street, Mankato.

The office will be open from 8:00 a.m. to 4:00 p.m., five days each week.

You are cordially invited to visit the office or phone 387-7860 during business hours. The Corps hopes that interested persons will take advantage of the Information Office, to call, write, or stop by, to keep up-to-date on latest project developments.

NEWSLETTER

A newsletter is published and mailed periodically to residents and interested persons. A mailing list has been prepared. While this list is meant to be as complete as possible, some names may have been missed. If you didn't receive a copy, or know of someone who should be on the list, please let us know. Call or write the Information Office.

Written and oral comments are welcomed and we urge you to contact us.

EDWARDS AND KELCEY, INC.

MANKATO, NORTH MANKATO, LE HILLIER
BRIDGE RELOCATION

PUBLIC INFORMATION MEETING

January 3, 1979

Roosevelt School, Mankato

The Corps of Engineers, in conjunction with the Minnesota Department of Transportation, has initiated the informational meetings to provide you the opportunity to participate in the process of determining the location of the proposed new Main Street Bridge, the T.H. 169 Bridges and the C & N.M. Bridges over the Blue Earth River.

Tonight's meeting is the second of a series of information meetings scheduled during the development of this study. The first meeting was used primarily to introduce and to inform you of the proposed study.

At this meeting, the study corridors were defined and the goals and objectives explained: to provide flood protection and to select alternatives that will best meet the transportation needs of the local communities for the year 2000, while considering such items as socio-economic and community impacts, engineering requirements, traffic service and safety, project and road-user costs, the environment, and aesthetics. The proposed solution to be compatible with the Corps of Engineers' on-going flood control works.

ALTERNATIVES

Tonight we will present and discuss alternatives for two sites: T.H. 169 over the Blue Earth River and C. & N.M. Railroad Bridges over the Blue Earth River. The alternatives to replace and relocate the present Main

Street Bridge will be presented at the January 24th meeting at North Mankato Jr. High School.

T.H. 169 OVER THE BLUE EARTH RIVER

The following alternatives have been selected for tonight's discussion with regard to raising or relocating the T.H. 169 Bridges and roadway over the Blue Earth River.

1.A. Existing Roadway Alignment, with provisions for on and off ramps to Minnesota Road to and from the south.

1.B. New Road Alignment slightly south of existing bridges, with provisions for on and off ramps to Minnesota Road to and from the south.

2.A. Existing Roadway Alignment, with northbound off-ramp to Sibley Street and a southbound on-ramp from Minnesota Road.

2.B. New Roadway Alignment, slightly south of existing bridges, with northbound off-ramp to Sibley St. and a southbound on-ramp from Minnesota Road.

3.A. River bridges on existing alignments with modifications to the Park Lane Interchange.

3.B. River bridges on new alignments with modifications to the Park Lane Interchange.

MANITO, NORTH MANITO, LE HILLIER

BRIDGE RELOCATION

PUBLIC INFORMATION MEETING

No. Nankato Jr. High School

January 24, 1979

MAIN STREET BRIDGE OVER MINNESOTA RIVER

Six alternatives to replace and relocate the present Main Street Bridge will be presented at tonight's meeting. The alternative locations are:

- 1.A. Belgrade Ave. to Mulberry St. with T.H. 169 passing over Belgrade Ave.
- 1.B. Belgrade Ave. to Main St.
- 1.C. Belgrade Ave. to Mulberry St. with Belgrade Ave. passing over T.H. 169.
2. Range St. to Cherry and Warren St. one-way pair.
- 3.A. Monroe Ave. to Madison Ave.
- 3.B. T.H. 169 at Monroe Ave. to Madison Ave. (No connection to Monroe Ave.).

We invite your comments and suggestions to modify these alternatives or identify additional ones for consideration.

INFORMATION OFFICE

To keep up-to-date on the latest project developments, you are cordially invited to visit the information office in Room 208, Northwestern Office Building, 209 South Second Street, Nankato. Office hours are 8:00 a.m. to 5:00 p.m. Monday through Friday, or Telephone 387-7860.

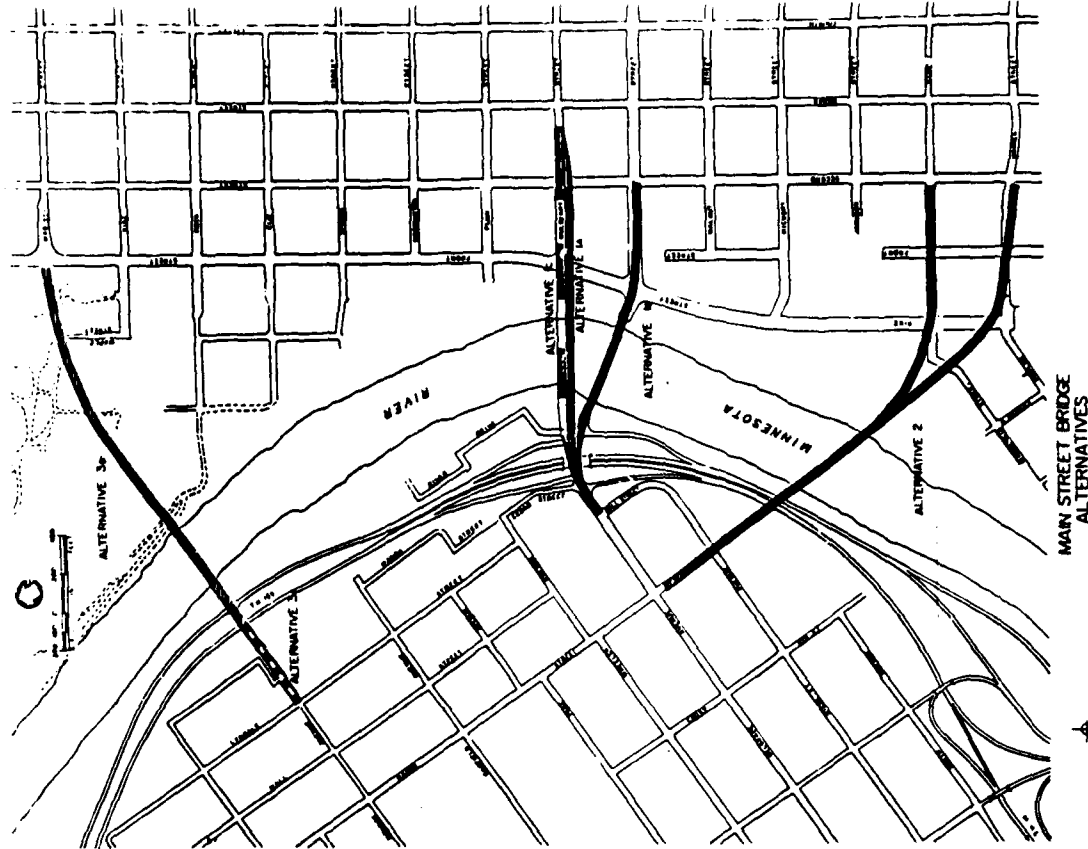
EDWARDS AND KELCEY, INC.

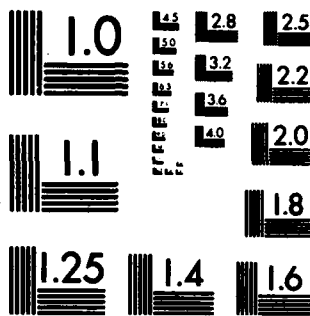
The Corps of Engineers, in conjunction with the Minnesota Department of Transportation, has initiated the informational meetings to provide you the opportunity to participate in the process of determining the location of the proposed new Main Street Bridge, the T.H. 169 Bridges and the C & N.W. Bridges over the Blue Earth River.

Tonight's meeting is the third of a series of information meetings scheduled during the development of this study. The first meeting was used primarily to introduce and to inform you of the proposed study. At this meeting, the study corridors were defined and the goals and objectives explained: to provide flood protection and to select alternatives that will best meet the transportation needs of the local communities for the year 2000, while considering such items as socio-economic and community impacts, engineering requirements, traffic service and safety, project and road-user costs, the environment, and aesthetics. The proposed solution must be compatible with the Corps of Engineers' on-going flood control works.

ALTERNATIVES

Tonight we will present and discuss alternatives for the Main Street Bridge over the Minnesota River. The alternatives to raise or relocate the T.H. 169 over the Blue Earth River and the C & N.W. Railroad Bridges over the Blue Earth River were presented at the second information meeting on Jan. 3rd at Roosevelt School, Nankato.





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Bridge Relocation

Mankato - N. Mankato - LeHiller

Newsletter

Number 8 May, 1979

Information Meetings Scheduled

REMINDER

To encourage the continuing community participation, two public meetings have been scheduled.

On Wednesday, May 30, 1979 at 7:30 p.m. at Roosevelt School Gymnasium, W. 6th and Osatoma, Mankato, the C&NW Railroad and T.H. 169 bridges over the Blue Earth River will be discussed.

...

On Thursday, May 31, 1979 at 7:30 p.m. at Mankato West High School Cafeteria, the Main Street bridge relocation will be discussed.

Doors will be opened at 4:00 p.m. prior to each meeting to afford an opportunity to view the plans.

The editorial content of the Community Newsletter is the responsibility of the staff of Edwards and Kelcey, Inc. Consultants. The newsletter is prepared and distributed by the Bridge Relocation Information Office and published under the auspices of the St. Paul District, Corps of Engineers.

Information Office Address:
Bridge Relocation - Information Office
Room 208, Northwestern Office Bldg.
209 South Second Street
Mankato, Minnesota 56001
Monday thru Friday from 8:00 a.m. to 5:00 p.m., or call (608) 734-7400

Public Information meetings will be held on May 30 and 31 to present descriptive data and hear comments on the alternative bridge relocations which have been developed to meet the requirements of the ongoing flood control project. On Wednesday, May 30, at 7:30 p.m. at the Roosevelt School in West Mankato the T.H. 169 and C&NW R.R. bridges over the Blue Earth River will be discussed. On Thursday, May 31, at 7:30 p.m. in the Mankato West High School cafeteria, the discussion will deal with the Main St. bridge relocation. To afford more opportunity for studying the plans and asking questions, the doors will be opened at 4:00 p.m. prior to each meeting.

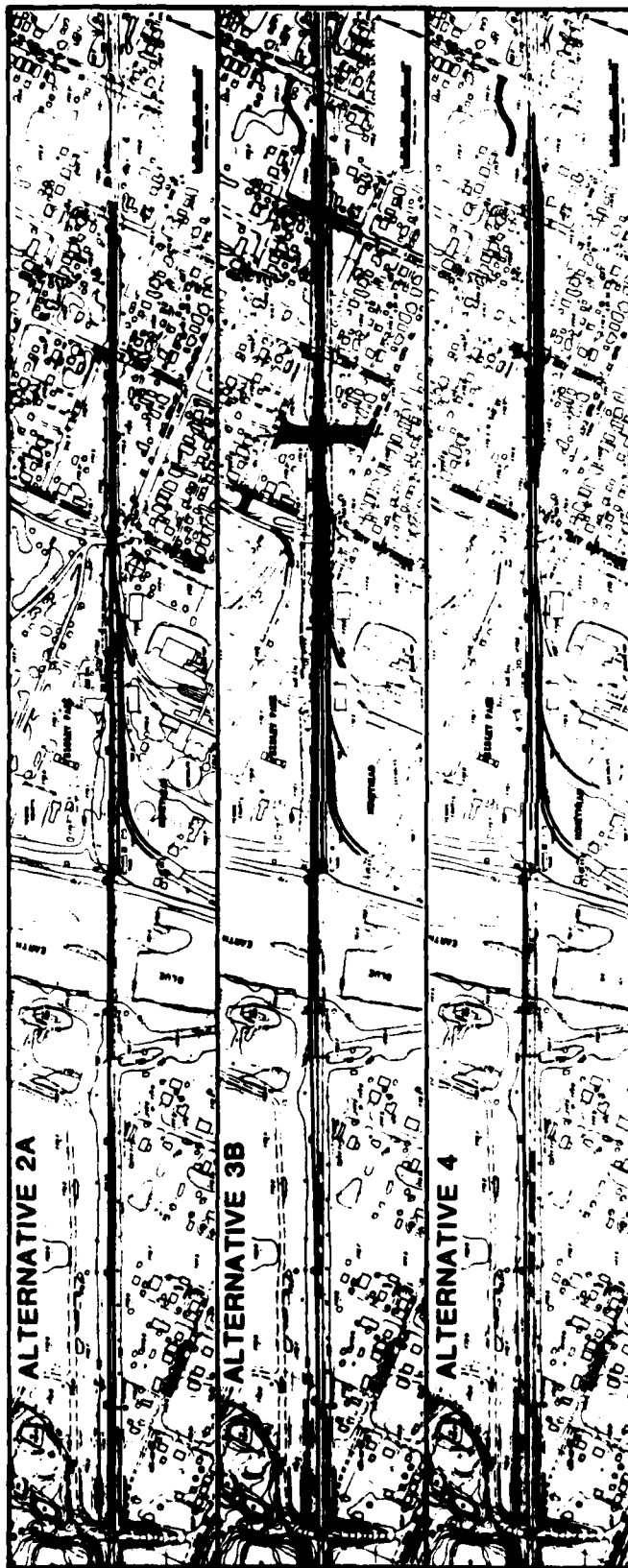
Since presenting the preliminary alternatives in January, data collection has been completed, alternative designs have been refined and impacts have been analyzed. Extensive data has been compiled and analyzed describing costs and social, economic and environmental impacts of each of the alternatives. These data are summarized in the following pages. Additional data of interest to the public will be discussed at the public meetings. To aid in the decision process the public is encouraged to offer its comments on the relative impacts and desirability of the various alternatives, as well as to supply additional factual information it considers important to the selection of the best alternatives.

PROJECT SCHEDULE

Following the information meetings all of the impacts and public comments will be evaluated. The preferred alternatives will be identified and presented for formal public and official comment in the Draft Environmental Impact Statement which is planned to be circulated early this autumn. During the period of this review, about mid autumn, a formal public hearing on the project will be held. Following the public hearing the Final Environmental Impact Statement containing the recommended alternatives will be filed. Upon approval of the Final Environmental Impact Statement, design studies and hearings will be conducted for the selected alternatives. After approval of the design studies, right of way acquisition and preparation of construction plans will begin. Construction is presently expected to begin in 1983. In brief, the schedule is as follows:

Public Information Mtgs.	May 30 & 31, 1979
File Draft Environmental Impact Statement	September 1979
Public Hearing	November 1979
File Final Environmental Impact Statement (FEIS)	January 1980
FEIS Approval	Spring 1980
Design Studies & Hearings	
Right of Way Acquisition	
and Construction Plans	1981-1982
Start Construction	1983

C & N.W. RAILROAD BRIDGES OVER THE BLUE EARTH RIVER



CHARACTERISTICS		OF		RAILROAD		ALTERNATIVES	
		ALTERNATIVE 2A		ALTERNATIVE 3B		ALTERNATIVE 4	
CONSTRUCTION COST	\$5,549,000			\$5,939,000		\$5,624,000	
RIGHT OF WAY COST	\$ 10,000			\$ 47,000		\$ 20,000	
TOTAL COST	\$5,559,000			\$5,986,000		\$5,644,000	
RAILROAD ANNUAL OPERATING COST	\$ 74,400			\$ 55,700		\$ 49,100	
FAMILIES DISPLACED	0			1		0	
OTHER CHARACTERISTICS		Main track would be raised approximately: 8 ft. at the river 5 ft. at Woodland Avenue 1 ft. at Sibley Street		Main track would be raised approximately: 8 ft. at the river 7 1/2 ft. at Woodland Avenue 1/2 ft. at Hubbell Avenue		Main track would be raised approximately: 8 ft. at the river 5 ft. at Woodland Avenue 0 ft. at Hubbell Avenue	
RAILROAD STORAGE TRACKS		would be located west of Woodland Avenue and west of the river.		would be located between the river and Carney Avenue.		would be located between Woodland Avenue and Hubbell Ave.	
OTHER ALTERNATIVES STUDIED		Alternative 1, raising both tracks in their existing location, and other alternatives studied were felt to be less desirable than the three presented herein.		Provides new 15' clearance bridge between Woodland and Carney Avenues. Cuts off Woodland and Carney Avenues and Sibley St. A pedestrian underpass is proposed at Sibley Street.		Retains existing Sibley Park bridge. Cuts off Carney Avenue and Sibley Street.	

Bridge Relocation

Mankato-N. Mankato-LeMillier
Newsletter
Number 4
November, 1979

Public Hearing Rescheduled

The Federal Council on Environmental Quality recently changed its regulations for the preparation of Environmental Impact Statements. Because of these changes, it became necessary to revise the Environmental Impact Statement being prepared for the bridge relocations for the Mankato-N. Mankato-LeMillier Flood Control Project. These changes will require extra time for the preparation of the necessary reports. As a result, the project schedule has been changed and the filing of the Draft Environmental Impact Statement and the Public Hearing have been rescheduled to next Spring.

PROJECT SCHEDULE

The impacts of the alternatives and the public comments are being evaluated. Three alternatives are being considered at the Chicago and Northwestern Railroad crossing over the Blue Earth River, two at the T.H. 169/60 crossing over the Blue Earth River and two for the replacement of the Main Street Bridge over the Minnesota River. These were described in the May newsletter and were presented and discussed at the public information meetings May 30 and 31, 1979.

The preferred alternatives will be identified and presented for formal public and official comment in the Draft Environmental Impact Statement, which is planned to be circulated in the early Spring. During the period of this review, about mid Spring 1980, a public hearing on the project will be held. Following the public hearing, the Final Environmental Impact Statement containing the recommended alternatives will be filed. Upon approval of the Final Environmental Impact Statement and filing of the Record of Decision, design studies and hearings will be conducted for the selected alternatives. After approval of the design studies, right-of-way acquisition and preparation of construction plans will begin. Construction is presently expected to begin in 1983. In brief, the schedule is as follows:

File Draft Environmental Impact Statement	March 1980
Public Hearing	April 1980
File Final Environmental Impact Statement (FEIS)	June 1980
FEIS Approval & Record of Decision	Fall 1980
Design Studies & Hearings	1980-1981
Right-of-Way Acquisition and Construction Plans	1981-1982
Start Construction	1983

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Bridge  Relocation
Newsletter

INFORMATION OFFICE

Because of the delay that has occurred, the project information office has been temporarily closed. However, it will be reopened after the Draft Environmental Impact Statement is filed and will be open during the period surrounding the Public Hearing. An announcement will be made at the time of this reopening. In the interim, questions and comments may be addressed to Rieke Carroll Muller in Mankato; P. O. Box 60, Mankato, MN 56001 or telephone (507)625-4428

The editorial content of the Community Newsletter is the responsibility of the staff of Edwards and Kelcey, Inc., Consultants. The newsletter is prepared and distributed by the Bridge Relocation Information Office and published under the auspices of the St. Paul District, Corps of Engineers.

C

CORRESPONDENCE

CHICAGO AND



TRANSPORTATION COMPANY

January 16, 1979

ASSISTANT DIVISION MANAGER
ENGINEERING

Mankato - Flood Control

Mr. Thomas E. Wetmore
Project Manager
Edwards and Kelcey, Inc.
4930 West 77th Street
Minneapolis, Minn. 55435

Dear Mr. Wetmore:

Please refer to your January 5, 1979 letter regarding the construction of a pedestrian bridge across the Blue Earth River at Mankato in connection with the Mankato Flood Control project.

The occupation or crossing of our right-of-way by facilities owned by outside parties is not unusual and generally covered by our standard form of license. Your proposal to attach a pedestrian bridge to the superstructure of our bridge presents a somewhat different situation which if carried to conclusion requires an agreement, drafted for this particular situation, between the Transportation Company and the City of Mankato. Such an agreement would cover the agreed upon ownership, maintenance responsibilities, distribution of maintenance costs, and liability, as well as the construction cost responsibility. I am reluctant at this point to state which party--whether the Transportation Company or the City--should draft such an agreement, preferring to defer this decision until such time as actually necessary.

Design work would have to be performed by and at the expense of a party other than this Company, the final plans being subject to our approval. Our Bridge Department in Chicago would, however, provide input upon request. I'm certain any pedestrian bridge structure to be attached to our superstructure will have to be designed and constructed in such a manner as to prevent and discourage the public from trespassing onto the railroad bridge proper whether at the bridge ends or from any intermediate point on the structure.

Very truly yours,

A. E. RUEHL
Manager Maintenance Planning

cc: Mr. Robert Penniman
U. S. Corps of Engineers
180 E. Kellogg Blvd., St. Paul, Mn. 55101
Mr. R. M. McDonald (att.)
Mr. J. B. Ragsdale (att.)
Mr. H. D. Hahn (Att.)
Mr. J. W. Heidkamp (Att.)

275 EAST FOURTH STREET / ST PAUL, MINNESOTA 55101 612/221-9317

CHICAGO AND



TRANSPORTATION COMPANY

January 23, 1979

ASSISTANT DIVISION MANAGER
ENGINEERING

Mankato - Flood Control

Mr. Thomas E. Wetmore
Project Manager
Edwards and Kelcey, Inc.
4930 West 77th Street
Minneapolis, Minnesota 55435

Dear Mr. Wetmore:

In response to the second paragraph of your January 5, 1979 letter regarding the current study now underway for the relocation of our tracks and Blue Earth River bridges at Mankato, we have developed a preliminary plan in which storage tracks sufficient in capacity to serve our needs could be constructed easterly of the Blue Earth River.

I am attaching a print, dated January 15, 1979, of such a layout in which I have shown in red color new or relocated tracks and in yellow tracks to be removed or relocated. This plan would be applicable to your Alternative 2A only since retention of an underpass at Woodland Avenue is required. A reconstructed structure at this location would consist of two separate superstructures--one to carry the main track and one to carry the storage track and Honeyhead lead track. The reason for this is the considerable difference in elevation which would pertain between the main track and adjacent tracks. This physical feature also requires a retaining wall of considerable length extending from the river to Sibley Street.

This plan has features which are advantageous to this company, namely, an ideal gradient east of Woodland Avenue, ample storage capacity in close proximity to Honeyhead, and a track arrangement which permits flexibility in switching.

The feasibility of this plan is dependent upon the change in street grades which can be made at the Woodland Avenue underpass since the elevation of the two tracks serving the industry will remain at or very close to the present track elevation.

I am reserving comment at this time on the remaining items discussed in your January 5 letter and hopefully will be in a position to reply in the very near future.

Very truly yours,

A. E. RUEHL
Manager Maintenance Planning

275 EAST FOURTH STREET / ST PAUL, MINNESOTA 55101 612/221-9317

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cc. ASR / File
Sails

CHICAGO AND NORTHWESTERN TRANSPORTATION COMPANY



ASSISTANT VICE PRESIDENT
AND
DIVISION MANAGER
DIRECT RAIL NUMBER
012/221-9311

February 20, 1979

February 20, 1979

RECEIVED

FEB 21 1979

EDWARDS & KELCY

Mr. Thomas E. Wetmore
Project Manager
Edwards and Kelcey, Inc.
4930 West 77th Street
Minneapolis, Minnesota 55435

Dear Mr. Wetmore:

I have been apprised of your firm's participation in the Preliminary Location Study Report for the proposed relocation of our Blue Earth bridges at Mankato, Minnesota and have reviewed the five alternatives submitted in your January 3, 1979 letter. I have also reviewed the sixth alternative submitted by our Engineering Department which was forwarded to you on January 23, 1979.

The first preference of the Chicago and North Western Transportation Company is a seventh alternative as shown on the attached print dated February 16, 1979. The track gradient which would apply for this layout are nearly ideal and would permit us to serve Mankato safely and efficiently, whereas, the grades which would pertain in the initial five alternatives would result in a negative operational impact in generating and scheduling cars for the industry.

The seventh alternative also permits a new bridge to be constructed over the Blue Earth River without interference to our train operations.

Yours truly,

R. E. McDowald

R. E. McDOWALD
Assistant Vice President & Division Manager

175 EAST FOURTH STREET / ST. PAUL, MINNESOTA 55101

CHICAGO AND NORTHWESTERN TRANSPORTATION COMPANY



ASSISTANT DIVISION MANAGER
ENGINEERING

March 15, 1979

APR 8 1979

RECEIVED

MAR 16 1979

EDWARDS & KELCY

Mr. Thomas E. Wetmore
Project Manager
Edwards and Kelcey, Inc.
4930 West 77th Street
Minneapolis, Minnesota 55435

Dear Mr. Wetmore:

We have reviewed the proposed profile for Alternative 4 which was transmitted with your March 13, 1979 letter and have the following comments.

1. The vertical curves at each end of the Blue Earth River bridge should conform with the ASEA specification, copy attached. You may use for our main track the rate of change in gradient applicable to secondary main tracks which with a 0.6% grade east of the river requires a vertical curve at least 300' in length versus the 130' long curve shown on the current profile.
2. Remaining portion of the profile indicating a 0.6% downgrade towards Hubbell Avenue is satisfactory, however, the vertical curve at this location should also conform to the ASEA requirement outlined in the preceding paragraph.
3. The 0.6% grade shown for the proposed storage tracks is satisfactory, however, with the reduced requirement for vertical curve lengths on yard tracks it is possible to continue this gradient easterly, then increase the downgrade through the turnouts, and thus obtain additional level storage tracks without disrupting the 0.6% main track grade or the length of retaining wall required between main track and yard track. This is a possibility which can be considered in the development of plans beyond the preliminary stage.
4. In response to the final paragraph of your March 13 letter, our Bridge Engineer in Chicago advises he is familiar with the reinforced earth construction method and has no objection to the introduction of this type of construction into the plans. Final approval, however, is reserved pending examination of detailed plans.

Very truly yours,

R. E. Clark

R. E. CLARK
Ass't. Division Manager-Engineering

Acc.

275 EAST FOURTH STREET / ST. PAUL, MINNESOTA 55101 - 012/221-9311

Honeyhead PRODUCTS COMPANY

SOYBEAN PROCESSORS AND REFINERS SERVING AGRICULTURE AND INDUSTRY
1110 W. WISCONSIN AVENUE, CHICAGO, ILL. 60604-1010
TELEPHONE 312-467-1000

DATE: JANUARY 8, 1979

TO : JAMES M. AHLIE

FROM: ELMER K. IKIER

RE : PRIVATE SIDING AND OUTSIDE SWITCHING SURVEY, H. L. STUART

ON THE FIRST PAGE REFERENCE IS MADE TO 300 CARS IN OUR FLEET, HERE OUR INBOUND CRUDE MOVES ABOUT 70% IN SHIPPERS CARS (NOT OUR LEASED FLEET). ON THE OUTBOUND CARS, A RECAP OF THE SAME PERIOD, SHOWS WE USED 339 RAILROAD CARS. THIS WILL ALTER THE TRIPS PER CAR YEAR TO APPROXIMATELY 11.87.

ON PAGE 2 CALCULATIONS ARE MADE TO ARRIVE AT AN AVERAGE FIGURE. HERE IT SHOULD BE POINTED OUT THAT A CALCULATION OF THIS TYPE RESULTS IN A FIGURE THAT DOES NOT TAKE INTO CONSIDERATION THE SATURDAY AND SUNDAY SURGE IN RAILROAD CAR LOADINGS OF COVERED HOPPERS WITH SOYBEAN MEAL AND THE DROP IN OIL LOADINGS IN TANKCARS ON SUNDAYS.

THE LAST PARAGRAPH ON PAGE TWO REFERS TO PLANT OPERATION OF SEVEN DAYS PER WEEK BUT CARS ARE RILLED FIVE DAYS A WEEK AND SUGGESTING INCOMPLETE BILLING OF CARS TO ENCOURAGE MOVEMENT OF CARS FROM PANKATO. WHILE THIS WOULD SEEM A GOOD SUGGESTION, CONSIDERATION DOES NOT SEEM TO BE GIVEN WITH REGARD TO OLD QUALITY CONTROL FACTORS AS USED BY OUR PEOPLE.

IT WOULD APPEAR THAT THE C&NW RAILWAY DRAWINGS PROPOSED BY EDWARDS AND KELCEY, INC., 978 OF 87, SHOULD ADEQUATELY SERVE OUR NEEDS FOR THE IMMEDIATE PRESENT. CONSIDERATION MUST BE GIVEN TO AN INCREASE IN OUR OIL REFINING CAPACITY WHICH WILL PROBABLY BE MOSTLY RAIL APPLICABLE TO SIX MORE TANKCARS INBOUND AND SIX MORE TANKCARS OUTBOUND PER DAY. CONSIDERATION SHOULD BE GIVEN TO RETAINING THE TRACKAGE ON THE WEST SIDE OF THE BLUE EARTH RIVER FOR STORAGE PURPOSES. WITH THE PROBLEMS REFERRED WITH AVAILABILITY OF CRUDE OIL, EQUIPMENT AND RAILROAD SERVICE CONSIDERATION MUST BE GIVEN TO THE SURGES OR ACCUMULATIONS OF CARS THAT RESULT. THESE OFTEN COULD BE A NEED FOR SMALL OUTPUMPING ALTERNATIVES.

SINCEPLY,

ELMER K. IKIER

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Honeyhead PRODUCTS COMPANY

SOYBEAN PROCESSORS AND REFINERS SERVING AGRICULTURE AND INDUSTRY
1110 W. WISCONSIN AVENUE, CHICAGO, ILL. 60604-1010
TELEPHONE 312-467-1000

JANUARY 11, 1979

H. L. STUART
SENIOR RAILROAD CONSULTANT
WYER, DICK & COMPANY
8 PARK PLACE
NEWARK, NJ 07102

DEAR MR. STUART:

AFTER CLOSE CONSIDERATION OF YOUR LETTER OF DECEMBER 7, 1978, AND THE ATTACHED SWITCHING REQUIREMENTS DOCUMENT, OUR TRAFFIC MANAGER, MR. IKIER, RELAYED TO ME SEVERAL OBSERVATIONS WHICH HE SUGGESTED MAY BE HELPFUL TO YOU IN YOUR ANALYSIS. THEREFORE, I AM INCLUDING A COPY OF MR. IKIER'S LETTER TO ME FOR YOUR CONSIDERATION.

HONEYHEAD APPRECIATES THE OPPORTUNITY TO BE INVOLVED IN THESE EARLY STAGES OF THE PLANNING. IF WE CAN BE OF FURTHER HELP IN ANY WAY PLEASE LET US KNOW.

SINCERELY,

HONEYHEAD PRODUCTS COMPANY

JAMES M. AHLIE
SENIOR VICE PRESIDENT MANUFACTURING

JMA:PM

ENCLOSURE

CC: F. IKIER

RECEIVED

JAN 17 1979

WYER DICK & CO



WYER, DICK & CO.
TRANSPORTATION CONSULTANTS

January 19, 1979

Mr. James H. Anlie
Senior Vice President
Honeywell Products Company
720 Minnesota Road
Mankato, Minnesota 56001

Dear Mr. Anlie:

Thanks for your letter of January 11 enclosing Mr. Ikier's observations on my analysis of private siding and switching requirements.

I will run Mr. Ikier's figures and observations through my analysis to determine their net effect quantitatively. We can discuss it when I am next in Mankato.

Very truly yours,

H. L. Stuart
H. L. Stuart
Vice President

HLS/ft

cc: Mr. T. Wetmore

70 SOUTH ORANGE AVENUE, LIVINGSTON, NEW JERSEY 07039 (EO) 984-3484

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NEWS CLIPPINGS

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*Roman / Spills / Warehouse / Kil
ca 6/17/1970*

6-Minneapolis, Sept. 26, 1970 THE FREE PRESS, MINNEAPOLIS

Office to explain bridge changes

Edwards and Kelsey, Inc., a Minneapolis consulting firm, will establish a Manhattan office to publicly discuss changes concerning bridges over the Minnesota and Blue Earth rivers in connection with the Minnesota-North Dakota-Lehigh flood control project.

The office will explain the operation of flood control and levee systems to the public, according to a statement released today by the U.S. Army Corps of Engineers, which is in charge of the flood-control project.

Objectives are to determine the best location for the Main Street bridge over the Minnesota River, the replacement or raising of the two Highway 168 bridges over the Blue Earth River and two Chicago Northwestern railroad bridges over the Blue Earth River.

The consulting firm will examine the bridges and make recommendations. It will also prepare an environmental impact statement, expected to be completed in about a year.

Anyone wishing to receive a newsletter and announcements from the firm concerning the bridges should write Amanda J. Hansen, P.E., project director, Edwards and Kelsey, Inc., 400 W. 7th St., Minneapolis, 55408.

12-Thurs., October 12, 1970 THE FREE PRESS, MINNEAPOLIS

Bridge traffic to be surveyed

Motorists crossing the Main Street, Highway 168 and Highway 169 bridges over the Minnesota River, and the Highway 168 bridge over the Blue Earth River, will be surveyed beginning next week to determine traffic requirements in connection with the U.S. Army Corps of Engineers flood control project.

Engineers will be distributing questionnaires to be distributed on the Main Street Bridge beginning Tuesday, Oct. 17.

Drivers will be stopped briefly and handed a questionnaire and asked to determine where they are coming from and going to and the purpose of their trip across the bridge. The postage-paid surveys are to be filled out and returned later, to avoid traffic disruptions.

The project information office of the Corps is located in Room 205 of the Northwestern Office Building, 300 S. Second St. The public is invited to visit the office or phone 337-7000 during business hours.

Years of study, planning ahead before new bridge becomes reality

By NEAL W. APPERTY

Press Staff Writer

It's time to be a bit simpler when Old Bridge was designed. The city's reputation as a transportation center in 1971, said his crew would determine what was needed in the full design it in the winter and build it when the cold broke.

But bridge building has gotten more and more complex. State and federal laws require months and months of impact studies and planning. And in the case of a new Main Street Bridge between North Main and Main, it's going to be years.

"If everything goes on schedule, maybe the earliest we could expect construction to begin is 1982," said Bergin, who is now project information officer for one of the engineering consultants in the city's bridge studies.

Determining the location and design of a new bridge will take at least two years.

That has mystified some observers who recall that Main Street Bridge was built in 1931. But that study (performed by one of the firms which is back for this round) has been shelved in favor of a \$1-million effort that will survey several area bridges to be altered or rebuilt in connection with the U.S. Army Corps of Engineers Flood Control Project.

The research underway is supposed to cover everything from what structures are in the way of what is to be altered or rebuilt, to the travel habits of local commuters. The studies are being underwritten by the Corps.

There are four possible sites for a structure to replace the current Main Street Bridge, which was built in 1931.

● Belgrade to Mulberry The 1973 preference is favored by many because it would divert heavy traffic away from possible bottlenecks at the Regional Library and the new Holiday Inn and give drivers a block longer to slow before merging with downtown traffic. It's the best possibility we see right now," Bergin said. But we don't want to give the impression that anything's been decided yet.

● Rebuilding the bridge at its current site, which would mean the existing bridge would have to be demolished, severing the main link between the two downtown areas.

See NEW BRIDGE
(Please turn to Page 8)

New bridge

(Continued from Page 3)

towns during construction.

● Connecting Range Street with Cherry Warren Avenue in North Main, south of the current bridge.

● Connecting Monroe Avenue in North Main with Madison Avenue on the east side of the river, which would move the bridge several blocks north of its current location.

The Main Street Bridge is not the only structure scheduled for replacement. The twin Highway 169 bridges will have to be raised to surmount the flood control project's existing and proposed levees and floodwalls along the Blue Earth River in La Hill, Minn.

In addition, the Chicago and Northrup's bridges over the Blue Earth River will have to be altered to clear the existing and proposed flood barriers.

In the Corp's estimation, the existing bridges added to the high waters upstream in the

valley. Some drivers on the Main Street Bridge were angry they were going to be misled by the college students who delivered them. Others discarded or ignored the pre-stamped cards. Others "have been filling them out on the spot," Bergin said. "People are so anxious for a new bridge they'll do anything to compete." Bergin is hoping for a 60 percent response.

The two in the water were Dr. Henry Olson, a Minnesota State University biology professor, and the student Kevin King. They were gathering materials that will be used in a study of how aquatic life will be affected by bridge construction. Quade heads a research team of 16 that is investigating the impact of various bridge proposals on the environment. The results will be presented in an Environmental Impact Statement to be considered by the Minnesota Environmental Quality Council before any construction plans are okayed.

More than 20 government agencies from the Minnesota Historical Society to the U.S. Fish and Wildlife Service will be involved in the project before it is completed.

The public too will get in on it. Information meetings and hearings scheduled to begin in mid-November. A public information office has been opened at 200 South Front St. (327-7880) by Riche-Carroll-Mulher Associates, Inc., Mankato, which is the firm responsible for the traffic survey and other data collection. Edwards & Keiley, Inc., Minneapolis, which performed the 1973 study, is responsible for the entire project, including the location analysis and final bridge design.

The flood control project began in 1971 after devastating floods in 1933 and 1936. About \$4 million has been spent so far in completing about 40 percent of the work. The federal government is scheduled to pay 80 percent of the cost, which will include 7.2 miles of dikes in addition to the bridges.

Choosing of site for new Main Street Bridge 1½ years away

About 80 people turned out Wednesday night to hear from engineering firm representatives and the U.S. Army Corps of Engineers that it will be it will be at least 1½ years before a final site is chosen for a new Main Street Bridge linking Mankato and North Mankato. Officials dispelled a notion held by several people that the site for a new bridge has already been chosen. A 1973 study recommended a causeway that

would have connected Belgrade Avenue in North Mankato with the intersection of Broad and Mulberry streets in Mankato, angling north about one block from the span of the current Blue Earth River south of Mankato.

"This is the first of several informational meetings we'll be holding," said Odin Berge, bridge project information officer, who was flanked by project supervisor Bob Penman and the Corps and Marty Roman, chief of fiscal with Edwards & Kelcey, Inc., the Minneapolis firm that performed the 1973 study and now is overseeing the new effort.

Several people spoke for and against proposed locations for a new Main Street Bridge.

"They brought out points that we will consider very thoroughly," Berge said.

Other factors in the site consideration are traffic patterns, environmental impacts and land cost and availability.

A survey of drivers crossing the river was recently completed and is being analyzed to determine traffic flow and usage.

An environmental survey is underway to study how aquatic life will be affected by construction.

Property owners in the paths of the four alternatives will be contacted within a few months to determine land values.

It will be at least two years before final design of a new bridge is complete and probably four to five years before a bridge is actually built, according to the project timetable.

Another informational meeting will be scheduled in early December, Berge said.

Corps of Engineers plans to discuss bridge options

A public meeting will be held Jan. 3, 7:30 p.m. at Riverwood Elementary School, Sixth and Owatonna streets, to discuss the relocation and reconstruction of the twin-highway 160 bridges over the Blue Earth River near Honeycreek, Inc., the U.S. Army Corps of Engineers said Friday.

The Corps and representatives from two private engineering firms will also discuss the side of the nearby Chicago and Northwestern Transportation Company Bridges over the Blue Earth River.

Other bridge relocation alternatives and other questions about other bridge relocation in connection with the reconstruction of the flood control project.

Further, the results of a recent traffic study of patronage of existing bridges across the Minnesota and Blue Earth rivers will be released and interpreted.

It will be at least 1½ years before a final site is chosen for a new Main Street Bridge linking

Mankato and North Mankato. It was learned last month. Several locations are being considered as part of the study examining traffic patterns, environmental concerns and relocation costs.

Studies of how aquatic life would be affected by construction are underway and property owners in the paths of the four alternative sites will be contacted in coming months.

The proposed sites under consideration are Belgrade Avenue in North Mankato to Mulberry and Broad streets in Mankato, Range Street in North Mankato to the Cherry Warren one-way streets in Mankato, Monroe Avenue in North Mankato to Madison Avenue in Mankato, and building anew at the current Main Street Bridge location.

For more information call the bridge relocation information office at 387-7860.

Thursday Jan 4 1938-9

Bridge, dike options threaten homes

Some houses in southwest Mankato would probably have to be demolished under bridge and street proposals explained Wednesday night by Mankato area flood control officials. The proposals would alter the High Bridge over the Blue River and renovate the Park Lane interchange to the south.

The town highway bridge near Henrywood Products Co. will have to be raised 16 feet to clear the flood wall planned for that stretch of the river. As part of the reconstruction, a Mississippi River floodway (for the three proposals with varying levees) which would channel the

...We will refine the alternatives and answer your points with changes in design. We'll more added. We will draw them up and develop all of the impacts... for the public to re-

Thomas Wetmore, manager of the highway project and an engineer with Edwards and Kelcey, Inc., said, however, that no estimate of cost or the amount of property taking has been prepared yet under the Wetmore proposals.



In addition, a proposal to raise the Chicago and North-
western railroad bridge adja-
cent to the highway bridge, and
improvements near the soybean
transporting plant, likely will re-
sult in some alterations near

view in April, along with further consideration of a new Main Street Bridge site.

The following alternatives were proposed to raise and relocate the twin highway 169 bridge near Huxymead Products Co.

- Maintain existing roadway alignment, with an on-and off ramp to Minneopa Road to and from the south. (Northbound traffic would exit over the free way, merging into Minneopa

way, emptying into miniature pools on the other side. A similar proposal would move the bridge, and road alignment slightly south of the existing bridge.

- **Keep the existing roadway alignment**, with a northbound off ramp to Sibley Street and a southbound on ramp from Minneopa Road. A similar proposal would use the same on and off

ramp locations but would shift the road and bridge way slightly from its present course.

● A third proposal would leave the existing alignment alone or shift it slightly, but would make major modifications at the Park Lane intersection.

change—substantially expanding the size of the entrance and exit ramps. This proposal would require that the YMCA, an oil station and a drive-in restaurant be removed.

The options on raising the railroad bridge include one which would close the Woodland Avenue entrance to Sibley Park and place a new entrance about one

Maps showing all of the alternatives are on view at the bridge information office from 9 a.m. to 4 p.m. weekdays, 209 S. Second St., 387 7860.

By KEN BRADY
Press Staff Writer

should be in for at least one

Rural Menkato should be in for at least moderate flooding this spring and some highways will be under water according to the Army Corps of Engineers and the National Weather Service in Minneapolis.

If no more precipitation were to fall between now and the spring thaw, the Minnesota River in Mankato would crest at 22.5 feet, according to the weather service. Flood stage for the river is listed at 19 feet.

The record stage came in 1965 when the river reached 29.1 feet; it reached 27.1 feet in 1969 and 26.2 in 1981, according to Larry LaPoint, field engineer for the Corps in Mankato.

A 26-foot peak would not cause substantial problems in the cities of Manakato and North Manakato, LaPorte said. The new flood protection should be adequate to about 30 feet. However, a 26-foot crest would require fulltime use of the flood control pumps in town, he said. The problems would be more severe in rural areas.

"There will be lots of highways under water," he said, as well as farmland and some farm houses.

The Corps has met with city officials to discuss measures to be taken in case of flooding. The Corps will meet Wednesday with the highway department to discuss possible highway flooding. It has also met with officials in the other cities located along

the Minnesota River, LaPoint said about cities along the river are expected to surpass flood stage (the additional problem in Mankato could be caused because of the confluence of the Minnesota and Blue Earth rivers. LaPoint said if they both peak at the same time it could mean trouble.

An updated flood forecast from the weather service is expected by Friday. The weather service uses five variables in trying to forecast floods: soil moisture, frost penetration, moisture in the snow, speed of the snow melt and precipitation. Soil moisture is about normal or even a little below normal in the Mankato area this year, LaPoint said. Rochester, which said floodwaters could be a problem there, said the area is unusually high soil moisture.

Frost penetration is light throughout the state. This is because snow fell early in November and acted as a ground insulator before the cold temperatures hit.

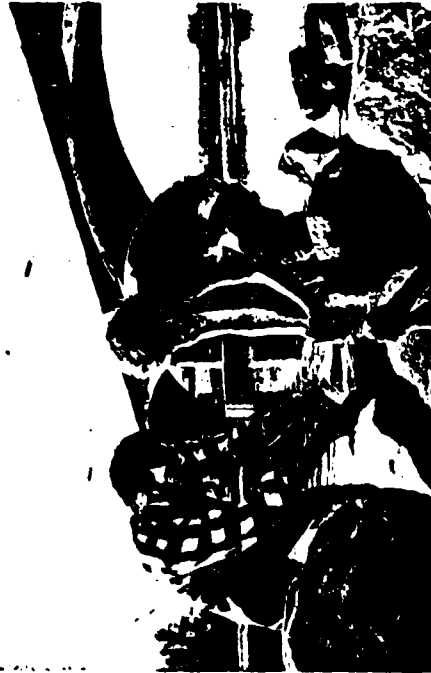
Snow moisture levels, or snow pack, are on the high side. In LaPoint and Snow pack levels are approaching 1989 levels, he said.

If the snow melts quickly it could create serious problems. LaPoint said fire Jan. 1 caused by thick ice cover or a rapid breakup could be bad for a second time, according to the weather service. Twenty inches or more of rain on the ground today in Manitoba. Precipitation is expected to be at least normal for March, according to the weather service.

...If we get no rain, that would be nice." LaPoint said, no doubt holding his breath and crossing his fingers.



4/18/79 The Free Press, Menkato



Testing

Dr. Henry Quade, left, an MSU biologist, and graduate student Kevin King, study a sample of water which has been in the Minnesota River for 42 days. It will indicate insect life that exists there. Quade is also studying the composition of

the water and river bottom to help determine what effect construction of a new bridge will have on the aquatic environment. He heads a team of 18 researchers who are compiling data on the impact bridge construction would have on plant, animal and marine life.

John Cross photo

18-Friday, May 25, 1979 THE FREE PRESS, MANKATO

Bridge hearings next week

Public hearings on relocation of Mankato area bridges in connection with the flood control project on the Minnesota and Blue Earth rivers have been scheduled for the nights of May 30 and 31, the U.S. Army Corps of Engineers has announced.

The public may comment on proposed sites for the C&NW Railroad Bridge and Highway 169 twin bridge over the Blue Earth River at 7:30 p.m. Wednesday, May 30, at the Gymnasium, Roosevelt High School, 1000 W. Sixth and Iowa streets, Mankato.

On Thursday at 7:30 p.m. at the Mankato West High School Gymnasium, 51 East Lane, the Main Street Bridge relocation will be discussed.

Information gathered from the hearings will be included in an environmental impact statement on which the Corps will base its decision on bridge locations.

More information is available from the bridge information office, Room 206, Northwestern Office Building, 208 S. Second St., 387-7860.

STATE AND FEDERAL AGENCY CONTACTS

Letter and project map sent to the following:

United States

Department of the Army, Corps of Engineers
Department of the Interior, Fish and Wildlife Service
Department of the Interior, Bureau of Sport Fisheries and Wildlife
Department of the Interior, National Park Service
Department of the Interior, Heritage Conservation and Recreation Service
Department of the Interior, Geological Survey, Water Resources
Department of Commerce, Economic Development Administration
Department of Agriculture, Soil Conservation Service
Department of Transportation, Federal Highway Administration
Department of Transportation, Federal Railroad Administration
Department of Housing and Urban Development
Environmental Protection Agency
Water Resources Council, Upper Mississippi River Basin Commission
Advisory Council on Historic Preservation
Department of Transportation, Urban Mass Transit Administration
Department of Transportation, Coast Guard

Minnesota

Department of Transportation
Department of Natural Resources
Department of Agriculture
Department of Economic Development
Department of Public Safety
Department of Public Service
Department of Health
Historical Society
Pollution Control Agency
Water Resources Board
State Planning Board
State Planning Agency
Environmental Quality Board
Energy Agency

To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Name of Person to Contact DONALD L. SCHMIDT
Position or Title DISTRICT CONSERVATIONIST
Address 432 BELLE MAR MALL, P.O. Box 327
City-State MANOKAT, MN Zip Code 56001
Telephone Number 507-347-4651
-4652
-4653
-4654

To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency U.S. DEPT. OF HOUSING AND URBAN DEVELOPMENT
Name of Person to Contact WILLIAM M. MULLER
Position or Title ENVIRONMENTAL CLEANLINESS OFFICER
Address 10400 FRANCE AVE., SO.
City-State MINN. Zip Code 55435
Telephone Number 725-4724

Manuscript 10/3
2

Donald L. Schmidt
Signed

William P. Muller
Signed

Manuscript 10/3
4



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

ADDRESS TO
Commanding Officer
U. S. Coast Guard
Marine Safety Office
P. O. Box 3428
St. Paul, MN 55165

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EDWARDS & KELCOY

16590
16 September 1978

Mr. Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcoy, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Dear Mr. Wetmore:

This is to acknowledge your letter of 12 September 1978 concerning a contract with the St. Paul District Corps of Engineers for the preparation of Design Memorandum No. 8, Bridge Alterations for Flood Control.

I am the Commanding Officer of the U.S. Coast Guard Marine Safety Office and can act as liaison between your firm and my district office's Bridge Branch. Mr. Stanley Thoroughman, Chief of the Bridge Branch, and his staff can provide you with a list of the required reports, etc. His staff will also be reviewing any actions concerning alterations, deletions or additions to river crossing structures. A copy of your letter and enclosure has been forwarded to the Bridge Branch.

Enclosed find the completed enclosure to your letter for Mr. Thoroughman and myself. If I may be of any further assistance, feel free to contact me.

Sincerely,

L. E. Katcharian
L. E. KATCHARIAN
Commander, U.S. Coast Guard
Commanding Officer
Minneapolis/St. Paul, MN

Encl: (1) Address Sheets

Copy to: CCCC2(ohr) (less encl)

Min. letter 9/3/78

To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcoy, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency U.S. COAST GUARD
Name of Person to Contact Leon Z. KATCHARIAN
Position or Title CDR, USCG, COMMANDING OFFICER
Address P.O. BOX 3428
City-State ST. PAUL, MN. Zip Code 55165
Telephone Number 612-795-7452

L. E. Katcharian
L. E. KATCHARIAN
Signed



DEPARTMENT OF THE ARMY
ST PAUL DISTRICT CORPS OF ENGINEERS
1100 U S POST OFFICE & CUSTOM HOUSE
ST PAUL MINNESOTA 55101

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MAIL 16
ATTENTION M:
NCSGO-CEN

21 September 1978

Amaro J. Romano
Project Director
Edwards and Kelcey Inc.
4930 W. 77th St.
Minneapolis, MN 55435

Dear Mr. Romano,

I would like to place our office on your mailing list for receipt of newsletters and announcements concerning the bridge relocation project in Mankato. Being a construction office, we sometimes lose touch with the planning and design aspects of the project, and have recently received numerous inquiries about the bridges. Looking forward to your local office opening and our association with your Representative here.

Sincerely yours,

[Signature]

Robert D. Campbell
Captain, Corps of Engineers
Mankato Office Engineer
503 Range Street
Mankato, Minnesota 56001

317-2543

To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency U.S. Environmental Protection Agency - Western District Office

Name of Person to Contact Clarence C. Oster

Position or Title Director

Address 7401 Lyndale Avenue South

City-State Richfield, MN Zip Code 55423

Telephone Number 861-4467

Signed

Rev. 6/66. 1/3

To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

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Name of Organization/Agency Economic Development Administration

Name of Person to Contact Stanley J. Richaver

Position or Title Economic Development Representative

Address Room 104, Federal Building, 316 N. Robert Street

City-State St. Paul, Minnesota Zip Code 55101

Telephone Number (612) 725-7124

Note: Currently neither Blue Earth County nor Nicollet County are designated redevelopment areas under the Public Works and Economic Development Act of 1965, As Amended. Therefore, public works projects in these areas are not eligible for financial assistance through the Economic Development Administration.

To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

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Name of Organization/Agency Urban Mass Transportation Administration

Name of Person to Contact Thomas A. Podreza

Position or Title General Engineer

Address 300 South Wacker Drive

City-State Chicago, Illinois Zip Code 60606

Telephone Number 312/353-2883

Stanley J. Richaver
Signed
Sept. 25, 1978.

Thomas A. Podreza
Signed

Newletter Dist
7/5
dy

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To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency Minnesota Pollution Control Agency
Name of Person to Contact Clifford Anderson
Position or Title Water Quality Coordinator
Address 1931 West County Road B2
City-State Bassett, Minn. Zip Code 55113
Telephone Number 612-296-7215

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To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency Minnesota Water Resources Board
Name of Person to Contact Erling N. Weiberg
Position or Title Executive Secretary
Address 555 Wabasha Street Room 206
City-State St. Paul, Minnesota 55102
Telephone Number 296-2840

Handled then
4/5

Erling N. Weiberg
Signed

Clifford Anderson
Signed

Handled then
4/5

To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

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United States Department of the Interior

NATIONAL PARK SERVICE
HIDWEST REGION
1709 JACOBSON STREET
OMAHA, NEBRASKA 68102

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IN REPLY REFER TO
L7421 MVR DEL

SEP 21 1978

Name of Organization/Agency U.S. Forest Service
Name of Person to Contact Thomas E. Wetmore
Position or Title Forest Supervisor
Address See Thomas E. Wetmore & U.S. Forest Service
City-State St. Paul, MN Zip Code 55101
Telephone Number 612/725-7131

Mr. Thomas E. Wetmore
Edwards and Kelcey, Inc.
4930 West Seventy-Seventh Street
Minneapolis, Minnesota 55435

Dear Mr. Wetmore:

The National Park Service has no concern or responsibility related to the bridge work in the Menketo, Minnesota, flood control project.

Sincerely yours,

James L. Ryan
James L. Ryan
Acting Regional Director

Thomas E. Wetmore
Signed, for R.F. Dany

Handwritten note

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To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency State Planning Agency
Name of Person to Contact Jim Rasmussen
Position or Title LAND USE PLANNER
Room 100 Building 504
Address 550 Cedar St.
City-State St. Paul Zip Code 55101
Telephone Number 296-2559

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To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency Department of Agriculture/Division Planning
Name of Person to Contact Shirley Rutherford
Position or Title Management Analyst
Address 560 State Office Building
City-State St. Paul, MN Zip Code 55155
Telephone Number 612-296-1484

Joseph E. Eise
Signed

Shirley Rutherford
Signed



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

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1630 Olive Street
St. Louis, MO 63103
16590/MINNH/106.4
2 OCT 1978

Mr. Thomas E. Wetmore, P.E.
Project Manager
Edwards & Kelcey, Inc.
4930 West Seventy Seventh St.
Minneapolis, MN 55435

Re: Proposed replacement and alteration of Highway 169 Bridge across Minnesota and Blue Earth Rivers; Replacement of Chicago & Northwestern Transportation Bridge across Blue Earth River

Dear Mr. Wetmore:

Please refer to your letter of 11 September 1978 concerning preparation of design memorandum number 8 for referenced project.

Blue Earth River in Blue Earth County Minnesota is not considered to be a navigable waterway of the United States for bridge administration purposes.

Minnesota River is considered to be a navigable waterway of the United States from its mouth to Big Stone Lake (Mile 329.5), but has been placed in the "advance approval" category from Mile 29.6 to Big Stone Lake (Mile 329.5). Upstream extension of and tributaries to waterways in the advance approval category are considered to be in the same category.

The advance approval category, as set forth in Title 33, Code of Federal Regulations, Section 115.70, gives the Commandant advance approval to the location and plans of bridges to be constructed across navigable waterways or waterways navigable in low but not actually navigated other than by logs, log rafts, rafts, canoes and small motorboats. In such cases, the clearance provided for high water stages will be considered adequate to meet the reasonable needs of navigation.

The term "high water" means the maximum high water of record or the highest known stage where precise records are not available and include both freshwater and brackish flooding.

A Coast Guard Bridge Permit will not be required for the proposed work.

We trust that you will include in your plans measures to prevent oil spills during construction.

Section 404 of the Federal Water Pollution Control Act Amendments of 1972 authorizes the Secretary of the Army, acting under the Chief of Engineers, to issue permits for the discharge of dredged or fill material into the navigable waterways of the United States. It is suggested that you contact the District Engineer, U.S. Army Engineer District, St. Paul, for a determination as to whether such permit is needed for the bridges that you propose.

Sincerely,

[Signature]
S. G. THOROUGHMAN
Chief, Bridge Branch
By direction of the District Commander

Copy to:
CofE St. Paul

To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency Commander, Second Coast Guard District (obr)
Name of Person to Contact Mr. Stanley THOROUGHMAN
Position or Title Chief Bridge Branch
Address 1430 Olive Street
City-State ST. LOUIS, MO. Zip Code 63103
Telephone Number 314-425-4607

7/23/1978 / E.C. 75109, F.M.A.
JMK

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To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency Federal Highway Administration

Name of Person to Contact Dennis Luhrs

Position or Title Area Engineer

Address Suite 490, Metro Square Building, 7th & Robert St.

City-State St. Paul, MN Zip Code 55101

Telephone Number 725-5956

To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency Upper Mississippi River Basin Commission

Name of Person to Contact Jeffrey P. Featherstone

Position or Title Associate Program Manager

Address Room 510 Federal Bldg. Fort Snelling Twin Cities, MN 55111

City-State _____ Zip Code _____

Telephone Number 725-4690

Signed Frederick A. Kehrens
Frederick A. Kehrens
District "A" Engineer
Federal Highway Administration

10/1/78
10/1/78

Signed Jeffrey P. Featherstone

10/1/78
10/1/78

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To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency Minnesota Department of Transportation
Name of Person to Contact Dale M. Shaw
Position or Title Project Manager
Address 501 South Victory Drive
City-State Mankato, Minnesota Zip Code 56001
Telephone Number (507) 399-6351

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To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency Department of Natural Resources
Name of Person to Contact Hedia Riecke
Position or Title Federal Program Coordinator / Senior Hydrologist
Address Division of Water, 2004 Lafayette Road, St. Paul, Minnesota
City-State St. Paul, Minn. Zip Code 55107
Telephone Number 296, 4803

C-45

Floyd W. Nelson
Signed

Number of
10/4
by

Signed

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OCT 12 1978

To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency Minnesota Department of Health
Name of Person to Contact Paul B. Johnson
Position or Title Senior Engineer
Address 717 Delaware Street S.E.
City-State Minneapolis, Minnesota Zip Code 55440
Telephone Number 296-5331

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To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency Minnesota Department of Health
Name of Person to Contact Paul B. Johnson
Position or Title Senior Engineer
Address 717 Delaware Street S.E.
City-State Minneapolis, Minnesota Zip Code 55440
Telephone Number 296-5331

Paul B. Johnson
Signed

Thomas E. Wetmore
Signed

10/12/78
10/12/78



United States Department of the Interior **RECEIVED**

HERITAGE CONSERVATION AND RECREATION SERVICE
LAKE CENTRAL REGION
ANN ARBOR, MICHIGAN 48107

OCT 18 1978

EDWARDS & KELCEY

cc: Kagan Davis

October 16, 1978

Mr. Thomas E. Wetmore, P. E.
Edwards and Kelcey, Inc.
4930 West Seventy-seventh Street
Minneapolis, Minnesota 55435

Dear Mr. Wetmore:

This is in response to your request for early coordination and comment concerning the proposed project to raise a railroad bridge over the Blue Earth River and highway bridge over the Blue Earth and Minnesota Rivers in the Mankato area.

Based on the information provided and our general knowledge of the area, it appears that the project would not have significant adverse impacts on environmental resources within our area of jurisdiction and expertise. We suggest that the potential impact the project may have on cultural resources be determined by contacting the State Historic Preservation Officer (see attached list).

This comment is provided as technical assistance and does not satisfy our obligation under the National Environmental Policy Act with respect to any negative declaration or environmental impact statement which may be prepared.

Sincerely yours

David H. Shontk
David H. Shontk
Assistant Regional Director

To: Thomas E. Wetmore, P. E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organization/Agency U.S. Geological Survey
Name of Person to Contact George H. Carlson
Position or Title Supervising Hydrologist
Address Rm. 702 Post Office Bldg.
City-State St Paul, Minn. Zip Code 55101
Telephone Number 725-7841

Signed

Mr. Shontk 10/13

Advisory Council on
Historic Preservation
1522 K Street, NW
Washington, D. C. 20005

October 16, 1978

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OCT 20 1978

EDWARDS & KELCEY

Mr. Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, Minnesota 55435

Dear Mr. Wetmore:

Thank you for your letter of September 13, 1978, concerning bridge alterations for flood control along the Blue Earth River, which may affect properties included in, or that may be eligible for inclusion in, the National Register of Historic Places. The information you requested is attached.

We appreciate your cooperation in furnishing us with this material. We will contact the Corps of Engineers regarding its responsibility to consider the impacts this project may have on historic properties, pursuant to Section 106 of the National Historic Preservation Act of 1966.

Sincerely yours,

Myra T. Harrison

Myra T. Harrison
Assistant Director
Office of Review
and Compliance

Enclosure

The Council is an independent unit of the Executive Branch of the Federal Government charged by the Act of October 15, 1966 to advise the President and Congress in the field of Historic Preservation.

To: Thomas E. Wetmore, P.E.
Project Manager
Edwards and Kelcey, Inc.
4930 W. 77th Street
Minneapolis, MN 55435

Name of Organisation/Agency Advisory Council on Historic Preservation
Name of Person to Contact Joseph P. Hough
Position or Title urban planner
Address 1522 K Street, NW
City-State Washington, D. C. 20005 Zip Code 20005
Telephone Number 202-254-3967

Joseph P. Hough
Signed

APPENDIX D

GLOSSARY OF TERMS

1. Standard Project Flood (SPF): The highest water surface resulting from the most severe possible flood that can reasonably occur under the most severe hydrological and climatic conditions.
2. Design Memorandum No. 8 - Part I (Location Study) and three Draft Supplements II-III-IV to the Final Environmental Impact Statement consists of three volumes: One volume for the TH 169/60 over the Blue Earth River, one for the Chicago and North Western Transportation Company (CNW) bridge over the Blue Earth River, and one for the TH 60 (Main Street) bridge over the Minnesota River.
3. Freeboard: The difference in elevation between the highest water surface and top of flood barrier; or in the case of a bridge -- the lowest member of the bridge should clear the design flood stage (usually by three feet) or the highest water surface, for the passage of ice and debris.
4. dba: A unit for measuring the volume of a sound. Sound is measured in units of decibels (dB) or more commonly in units of dBA. The "A" weighted scale, found to compare well with human reaction to sound and noise annoyances. An L_{10} represents the noise measurement that is exceeded 10% of the time; L_{50} -- 50% of the time.
5. Standard Metropolitan Statistical Area (SMSA): A U.S. Census statistical area comprised of a county containing a city of 50,000 or more, plus any contiguous socially and economically related counties. The concept of an SMSA is to present census-related statistical data.
6. Pasquall-Gifford Stability Classification (SC): A measure of the hydrostatic equilibrium of the atmosphere. Stability can be classified into groups denoted by letters of the alphabet. Class D refers to neutral conditions, A-C to unstable, and E-F to stable. Pollutant dispersion is increasingly greater as the stability decreases (i.e., from F toward A).

FLOOD CONTROL
MINNESOTA RIVER, MINNESOTA
MANKATO-NORTH MANKATO-LE HILLIER

DESIGN MEMORANDUM NO. 8 - PART I (Location Study)
AND
DRAFT SUPPLEMENT II TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT
FOR
BRIDGE RELOCATIONS

CHICAGO AND NORTH WESTERN
TRANSPORTATION COMPANY BRIDGES
OVER THE BLUE EARTH RIVER BETWEEN
MANKATO AND LE HILLIER

APPENDIX E
BRIDGE LAYOUT PLANS, RATINGS AND PHOTOS

APPENDIX E

BRIDGE LAYOUT PLANS, RATINGS AND PHOTOS

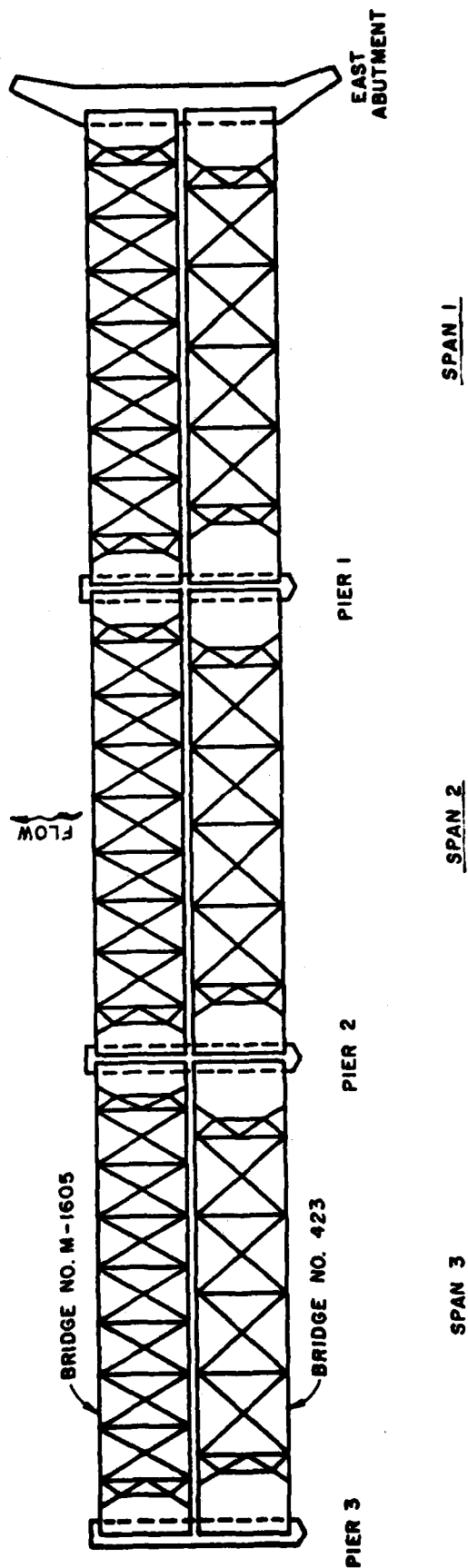
BRIDGE LAYOUT PLANS AND RATINGS

E.1 A detailed inspection of both existing bridges, Bridge No. 423 and M-1605, was conducted in October 1978. Based on the analysis and evaluation of findings, i.e. rustings, and damaged components, each structure was rated as to their operating capacities. Figures E-1 to E-3 illustrate the plan and elevation layouts for both structures, and Tables E-1 and E-2 summarize the rating of each bridge component. Ratings for each bridge were based on components having the lowest value.

PHOTOS

E.2 Photos for the bridge site and surroundings follow.

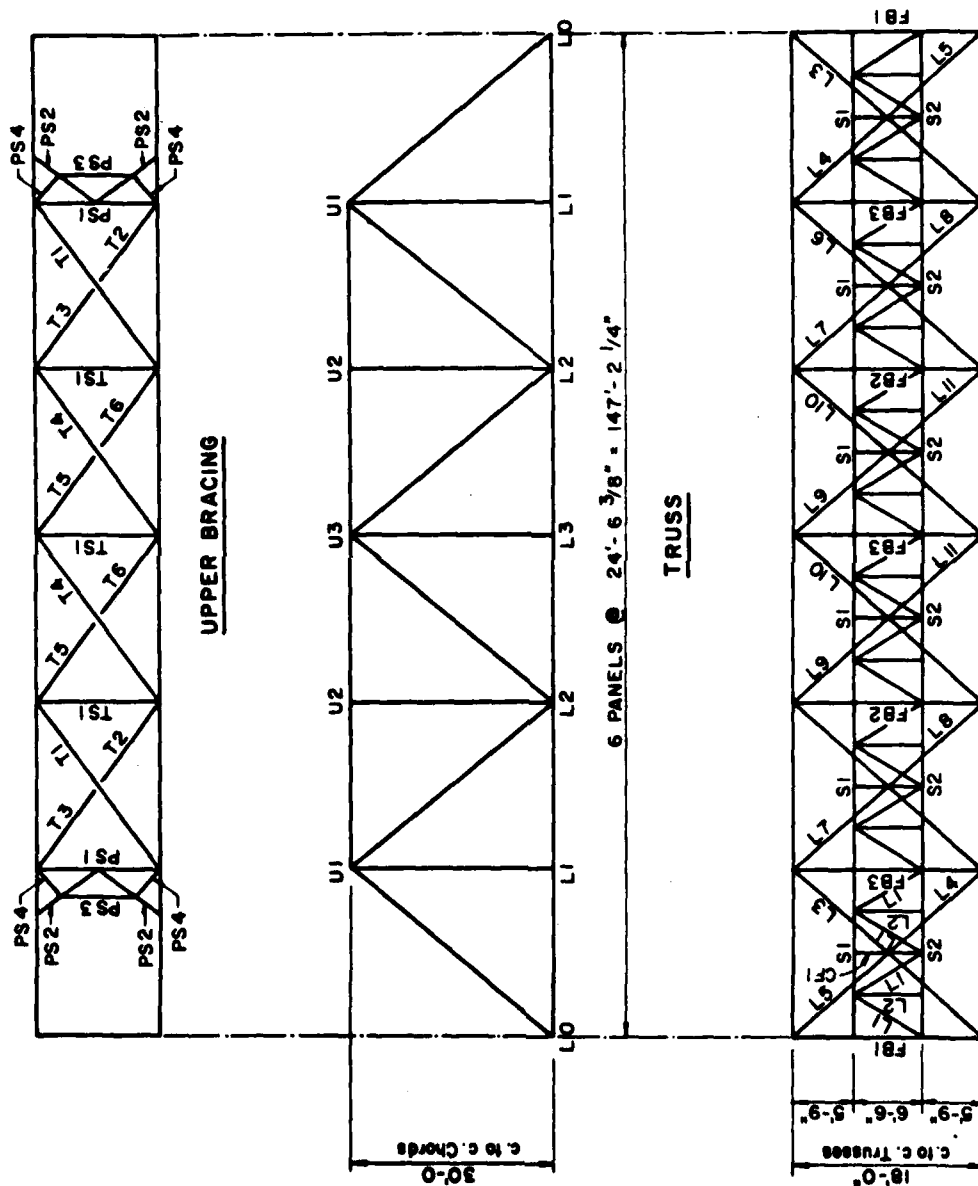
FIGURE E-1



CHICAGO and NORTHWESTERN TRANSPORTATION COMPANY BRIDGES

EDWARDS AND KELCEY

FIGURE E-2



BRIDGE NO. 423 - WARREN TRUSS

FLOOR FRAMING

EDWARDS AND KELCEY

RATINGSBRIDGE NO. 423 - WARREN TRUSSTABLE NO. E-1

<u>COMPONENT</u>	<u>INVENTORY RATING</u> ⁽¹⁾	<u>OPERATING RATING</u> ⁽¹⁾
• Truss Members (all Spans) ⁽²⁾		
<u>Upper Chord</u>		
U1-U2, U2-U3	E-81	E-126
<u>Lower Chord</u>		
L0-L1, L1-L2	E-92	E-142
L2-L3	E-86	E-121
<u>Verticals</u>		
L1-U1, L3-U3	E-68	E-94
L2-U2	*	*
<u>Diagonals</u>		
L0-U1	E-83	E-129
U1-L2	E-76	E-118
L2-U3	E-110	E-161
• Floorbeams (all Spans)		
FB1	E-87	E-128
FB2, FB3	E-83	E-124
• Stringers (all Spans)		
All Stringers	•• E-59	E-87
	E-85	E-125**
BRIDGE RATING	•• E-68	E-94

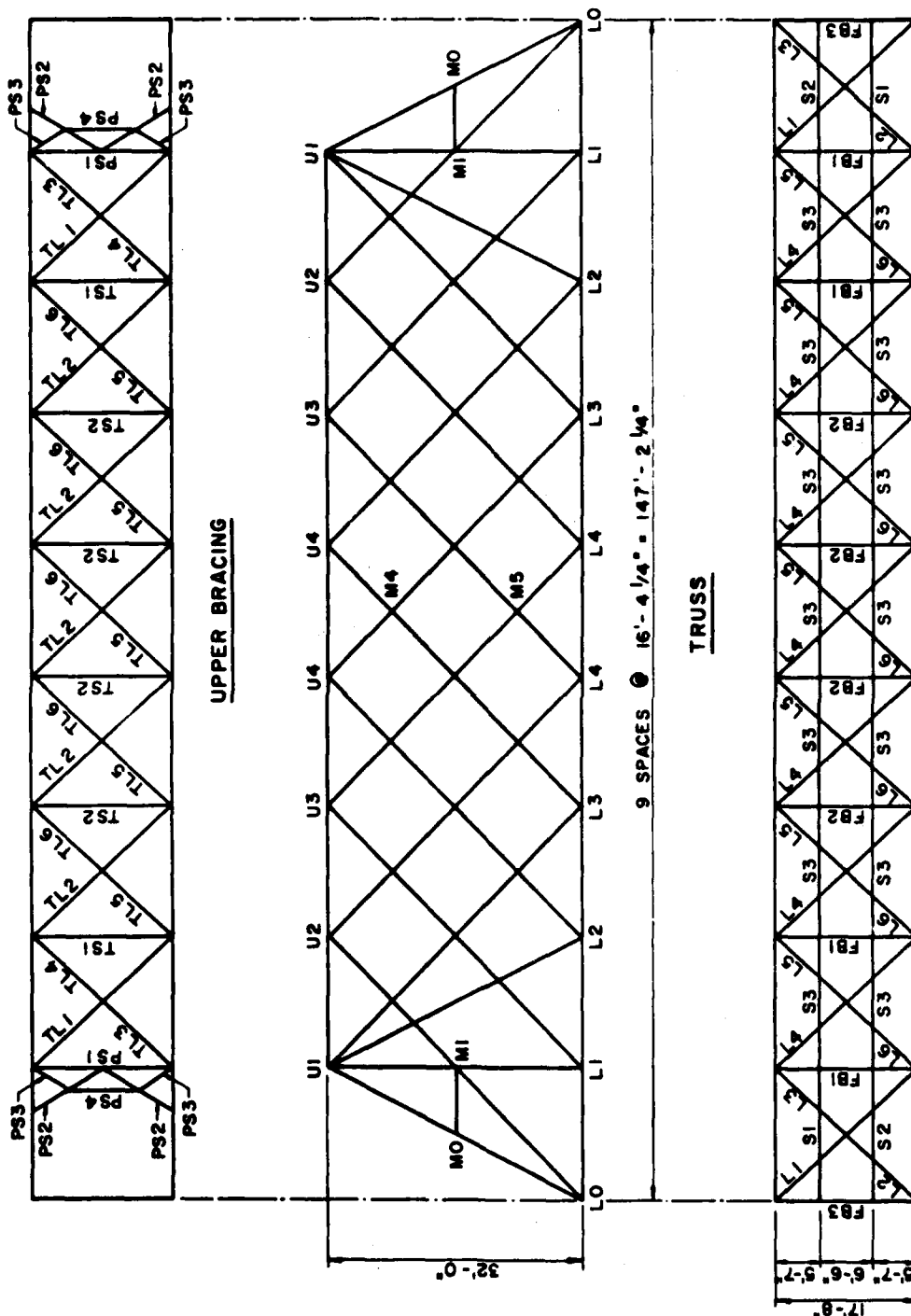
(1) Ratings are based on a Coopers E live load with full impact positioned for maximum stress in each member.

(2) Truss member ratings are controlled by member capacity unless otherwise noted.

* Not rated since member does not act under live load.

** After repairs, stringers will increase to E-85, and E-125.

FIGURE E-3



BRIDGE NO. M-1605 - LATTICE TRUSS

EDWARDS AND KELCEY

LATTICE TRUSS - BRIDGE NO. M-1605

TABLE NO. E-2

COMPONENT	INVENTORY RATING ⁽¹⁾	OPERATING RATING ⁽¹⁾
• Truss Members (all Spans) ⁽²⁾		
<u>Upper Chord</u>		
U1-U2	E-131	E-198
U2-U3	E-92	E-142
U3-U4	E-85	E-132
U4-U4	E-83	E-129
<u>Lower Chord</u>		
L0-L1	E-106	E-162
L1-L2	E-92	E-143
L2-L3	E-91	E-142
L3-L4	E-98	E-151
L4-L4	E-88	E-138
<u>Lower Chord (with loss of section)</u>		
L0-L1	E-100	E-154
L1-L2	E-87	E-136
L2-L3	E-84	E-131
L3-L4	E-91	E-141
L4-L4	E-82	E-129
<u>Vertical</u>		
U1-L1	E-57	E-87
<u>Undamaged Diagonals</u>		
U1-L0	E-135	E-204
U1-L2	E-76	E-102
U1-L3	E-75	E-100
U2-L4	E-73	E-97
U3-L4	E-82	E-120
U3-L1	E-145*	E-200*
U1-L0	E-133	E-202
U1-U2	E-123	E-187
U4-L2	E-167	E-244
U4-L3	E-171	E-246
<u>Damaged Diagonals</u>		
U4-L2	E-133	E-194
U4-L3	E-135	E-193
U3-L4 (span 3, south truss)	E-40 (E-82)**	E-59 (E-120)**
U3-L4 (span 3, north truss)	E-81	E-119
• Floorbeams (all spans)		
FB1, FB2	E-70	E-103
FB3	E-95	E-140
• Stringers (all spans)		
All Stringers	E-80	E-117
BRIDGE RATING	E-40**	E-59**

(1) Ratings are based on a Coopers E live load with full impact positioned for maximum stress in each member.

(2) Truss member ratings are controlled by member capacity unless otherwise noted.

* Rating controlled by Joint Capacity.

** After repairs or replacement, ratings increase to E-82 and E-120.



AERIAL VIEW

CNW RR BRIDGES OVER BLUE EARTH RIVER

FIGURE E-4



AERIAL VIEW

CNW RR THROUGH SIBLEY PARK NEIGHBORHOOD

FIGURE E-6



AERIAL VIEW
CNW RR AT HONEYMEAD

FIGURE E-8

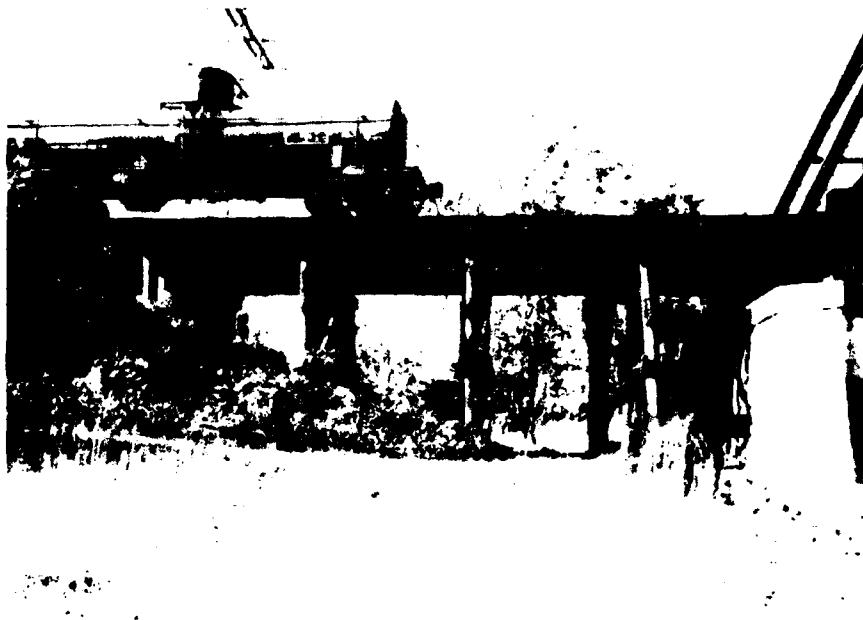


VIEW SOUTHWEST FROM
VICINITY OF WOODLAND AVENUE UNDERPASS



VIEW NORTHEAST FROM
VICINITY OF WOODLAND AVENUE UNDERPASS

FIGURE E-7



TIMBER BENTS AT WEST END LOOKING NORTH



WARREN TRUSS (BR. 423) LOOKING NORTHEAST

FIGURE E-8



CNW BRIDGES LOOKING SOUTHWEST



CNW BRIDGES LOOKING SOUTH

FIGURE E-9