

## Appendix A

### MITIGATION PLAN FOR THE TRRC PROPOSED EXTENSION FROM ASHLAND TO DECKER, MT

#### A.1 INTRODUCTION

The ICC approved the construction and operation of the Tongue River Railroad Company's (TRRC) 89-mile rail line from Miles City to Ashland in May 1986. Included in the ICC's decision was an extensive plan to mitigate potential environmental impacts associated with the construction and the operation of this 89-mile rail line. The mitigation plan was included as Appendix B of the final EIS and entitled "A Master Mitigation Policy And Plan For The Proposed Tongue River Railroad Project." The plan addressed specific mitigative measures that would be required of TRRC to alleviate various environmental impacts.

The purpose of this Mitigation Plan is to address those areas of environmental concern that are associated with the proposed 42-mile rail line extension south of Ashland to Decker, MT. Mitigation of potential impacts unique to the original 89-mile rail line from Miles City to Ashland are not repeated in the present document. However, for ease of reference, those measures that would apply to both the Miles City to Ashland line and the proposed extension from Ashland to Decker are included here.

#### A.2 LAND USE IMPACT MITIGATION

There are three general types of potential land use impacts from the TRRC Extension: (1) impacts to agricultural operations; (2) impacts to the Tongue River Reservoir Recreation Area; and (3) impacts to the Cormorant Estates recreational subdivision. Many of the procedures and measures implemented to mitigate impacts to these land uses will be useful in other areas such as safety, transportation, and terrestrial ecology. Consequently, Land Use is considered to be of primary importance in terms of both impact and mitigation.

##### I. Agricultural/Ranching Operations

The major goal of all mitigation measures directed at individual agricultural operations would be to minimize the effect of the railroad on day to day operations of the existing ranches. TRRC's negotiations and planning process would focus on the following objectives:

- (a) Maintaining the integrity of each operation as an independent agricultural enterprise.
- (b) Maintaining the economic vitality and productivity of each operation at levels generally approximating the current situation.
- (c) Developing and implementing measures which will preclude the necessity for significant time/labor increases associated with ranch operations due to the existence of the railroad.
- (d) Identifying parcels which will no longer be viable for present uses, and developing alternative uses or appropriate compensation.
- (e) Implementing measures to limit or preclude nuisance impacts of the railroad.

With these goals in mind, TRRC would undertake negotiations with individual landowners during acquisition of the right-of-way (ROW). By law, TRRC will be required to negotiate in good faith with the individual landowners. Firm commitments as to the specific measures to be taken to attain the above stated goals will be made and documented by TRRC and the affected landowners parties. Areas of concern that need to be addressed include, but are not limited to, the following:

**(1) Direct and Indirect Land Loss.** Each agricultural operation that is crossed by TRRC will experience some loss of agricultural land due to inclusion in the ROW. The mitigation for such loss is direct compensation. TRRC would negotiate this compensation on an individual basis with each landowner.

Indirect land loss, due to severance of parcels, will also occur in certain situations. The standards to be used in assessing that indirect loss will differ by landowner. TRRC would give each landowners the opportunity to identify severed parcels in negotiations. It may be possible to use some severed parcels for alternate agricultural purposes, thus mitigating to some extent a total loss. TRRC would assist landowners in identifying and developing such uses where appropriate. TRRC would apply a combination of alternative land use assistance and compensation as necessary and agreed upon during ROW negotiations.

**(2) Displacement of Capital Improvements.** Where capital improvements such as fences, wells, corrals, and irrigation systems are displaced, TRRC would relocate or replace these improvements where appropriate. Generally,

these capital improvements can be replaced. (In some instances, it may be necessary to provide compensation for such displacements.) For example, TRRC would reconstruct fences according to the design specifications previously existing on the ranch or to specifications requested by the landowner and agreed to during negotiations. Where parcels have been redesigned, TRRC would erect new fences to conform to the redesigned pasture parcel. Similarly, TRRC would relocate corrals, haysheds, etc., within the redesigned land parcels.

Where wells and waterlines are displaced, TRRC would replace the existing improvements to the current standard. For instance, every effort would be made by TRRC to assure the continued use of natural springs. Often, this can be accomplished by the installation of culverts of proper design and location. In instances where a well is displaced, TRRC would construct a new well. The TRRC Extension would only disrupt gravity irrigation systems. Accordingly, TRRC would reconstruct ditches and install culverts to ensure continued irrigation of affected lands.

(3) **ROW Fencing.** TRRC would construct ROW fencing along the entire line according to specifications most suitable to the landowners and consistent with industry standards. If special fencing needs or specifications are requested on individual ranches, TRRC would negotiate this matter with the affected landowner.

(4) **Access Restrictions.** TRRC would install cattle passes along the ROW to ensure passage of cattle under the rail line. These cattle passes would consist of an oval, corrugated metal structure, approximately 11 ft. high and 12 ft. wide at the base. TRRC would work with landowners during final engineering and ROW negotiations to identify the locations of cattle passes. In addition, locations for private grade crossings for equipment will be determined through negotiations and application of engineering practicality.

(5) **Impacts During Construction.** During final engineering, TRRC would work with individual landowners to avoid unnecessary conflict between construction related activities and ranching operations. However, it must be recognized that inconvenience to the ranchers cannot totally be avoided if a construction schedule is to be maintained. Temporary inconvenience to ranchers from construction related activities will be considered during ROW negotiations.

TRRC would confine all construction related activities to the purchased or leased ROW and to the construction camps located along the rail line.

The specific location of construction camps will be a matter of negotiation between individual landowners and TRRC.

TRRC would require its contractors to police construction camps during operation, to control the personnel in camps and limit personnel to those workers directly involved in the project. Upon completion of construction, TRRC would return the camps to their previously existing use.

TRRC would appoint a railroad representative to work with the prime contractors and subcontractors as well as the landowners to resolve any problems that develop during construction. This railroad representative would have direct access to the management of TRRC.

## II. Tongue River Reservoir State Recreation Area

TRRC's preferred route parallels an access road to the Tongue River Reservoir State Recreation Area, an area comprising approximately 642 acres. This alignment would utilize approximately 23 acres of the recreation area for the ROW. In addition, this alignment would cross an access road to the area. With this alignment, TRRC would need to realign the access road and, where necessary, install public grade crossings in order to maintain access to the area.

The Four Mile Creek Alternative would avoid impacts to the Tongue River Reservoir Recreation Area.

## III. Cormorant Estates

TRRC's preferred route would adversely impact one existing cabin within the Cormorant Estates recreational subdivision. TRRC would need to assist the owner in relocating this cabin to another site within the subdivision. However, the precise details of a relocation or acquisition would be the subject of specific ROW negotiations between TRRC and the owner.

### **A.3 SOCIAL AND ECONOMIC IMPACT MITIGATION**

The 1985 environmental impact statement for the Interstate Commerce Commission approved 89-mile rail line from Miles City to Ashland, MT (1985 TRRC EIS) and the environmental documentation in the draft EIS for the proposed Extension provide detailed information on those social and economic changes that are associated with the development of the overall project. The environmental analysis for both documents demonstrates in most cases how the increase in tax revenues accruing to local governments will more than offset increases in costs of providing services and of expanding facilities.

As was the case with the earlier analysis in the 1985 TRRC EIS, the greatest impact from the construction and operation of the rail line will be from any associated new coal mine development. In the short term, some local governments may not be capable of providing all of the services that will be necessitated by any such development. This may be true of the Northern Cheyenne tribal government. Similar to the mitigation measures specified in the ICC's decision authorizing the TRRC's Miles City to Ashland line, TRRC would make available to local governments and to the Northern Cheyenne Tribe all public data and studies that it is aware of concerning the facilities and services that may be required as a result of mine development.<sup>1</sup>

TRRC would also appoint a liaison between TRRC management and the Northern Cheyenne Tribe to assist in ensuring that tribal members receive an equal opportunity to secure temporary construction and full-time operational jobs with the TRRC.

### **A.4 TRANSPORTATION IMPACT MITIGATION**

#### **A.4.1 General**

Impacts to local transportation systems and facilities that could occur as a result of the development of the proposed Extension can be divided into two general categories. The first category is impacts that will occur during construction of the rail line. The second category is impacts that will result from actual rail operations. Much of the mitigation that will occur for the anticipated impacts will result from ROW negotiations between the

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<sup>1</sup> It should be noted that since the authorization of TRRC's 89-mile rail line, the Department of Interior, Bureau of Land Management has conducted an extensive study of affected Native Americans, including the Northern Cheyenne, potentially impacted by new coal mining development. The study is entitled Draft Economic, Social and Cultural Supplement Powder River I Regional EIS, (June 1989). This information, and that provided by TRRC, would be available to the Northern Cheyenne Tribe in any request to the Montana Coal Board for impact-related grants.

TRRC and private landowners or governmental agencies. Most significant are those impacts that will directly affect public roadways and other existing transportation systems.

#### **A.4.2 Construction Impacts**

Construction related impacts will generally involve either increases in vehicular traffic on local public roadways, with the likelihood of greater inconvenience and increased accidents. Also, normal traffic patterns may be disrupted due to construction activities across a road or highway.

To mitigate the problem of increased vehicular traffic on local public roads and highways, TRRC would implement the following measures during construction activities:

(1) During construction, TRRC would encourage contractors to provide laborers with transportation to the work site from some central location on a daily basis. This central location may be one of the work camps, a point near the northern terminus at Miles City, or some predesignated position elsewhere along the line which has been selected to prevent unnecessary traffic on public roads in the area. Details would be worked out with contractors based on final design criteria, specific tasks or phase of construction, numbers of personnel and equipment, and location of work site.

(2) To the extent possible, TRRC would confine all construction related traffic, including worker transportation as well as equipment movement to the construction access road (temporary road) that will be developed within the ROW. In instances where it is not practical to confine all traffic to this access road, would ensure that the individual contractors would make necessary arrangements with the appropriate landowners or/or affected agencies to gain access from private or public roadways which will minimize traffic impacts to the extent possible. The access road would be used only during construction of the railroad grade. After construction, but prior to track placement, workers would confine continuing construction activities to the ROW.

(3) TRRC would establish procedures for all its vehicles and equipment, as well as vehicles and equipment owned and operated by contractors working on the project, to adhere to speed limits and other applicable laws and regulations when operating such vehicles and equipment on public roadways.

(4) In cases where traffic along a public roadway may be disrupted during construction of the proposed Extension, TRRC would comply with all requirements of the Montana Department of Highways or other appropriate

agencies. In the absence of such requirements, TRRC would endeavor to maintain at least one open lane of traffic at all times. Specific plans would be developed by TRRC, and adhered to by contractors, to assure the quick passage of emergency vehicles. TRRC would coordinate these plans through coordination with appropriate state and local agencies. TRRC would submit all construction plans affecting public roadways to the Montana Department of Highways for review and approval.

(5) TRRC would comply with the *Manual of Uniform Traffic Control Devices* with respect to all signing and work zone safety.

(6) TRRC would equip all grade crossings of the new rail line by public roadways with warning signs and devices as appropriate. To determine the appropriate warning devices for each new crossing, TRRC would apply and implement the policy for Railroad Crossing Protection of the Montana Department of Highways.

(7) TRRC would adhere to all state and Federal regulations regarding train operations. Such regulations provide for maximum durations of crossing blockage, speed limits within and outside of incorporated areas, candlepower for train lighting, etc.

It should be noted that the State of Montana through its ROW easement process affords the opportunity for affected parties to seek specific stipulations and requirements from the TRRC which would further safeguard the public interest as regards traffic safety.

## **A.5 AIR QUALITY IMPACT MITIGATION**

### **A.5.1 General**

Impacts to air quality resulting from construction and operation of a new rail line will fall into three general categories. These categories include: (1) the introduction of air pollutants in the form of the products of combustion, generated by construction equipment and railroad engines; (2) the generation of increased quantities of fugitive dust into the air as a result of devegetation, earth moving, general equipment operation, wind; and (3) increased vehicular traffic on unpaved roadways. Simple techniques are available to mitigate these impacts. TRRC would implement the following mitigation measures, either as company operational policy or as stipulations for contractors during construction:

(1) TRRC would subject all heavy equipment and vehicles used in the construction, operation, and maintenance of the railroad to regular inspection

and maintenance to ensure that operation is in compliance with manufacturer's specifications and that equipment is running as cleanly and efficiently as possible.

(2) TRRC would establish and adhere to strict speed limits on all access roads within the ROW, to assure that fugitive dust emissions will be minimized.

(3) TRRC would recommend to the individual contractors that they provide group transportation (as discussed under transportation impacts) to minimize vehicular traffic on unpaved roads in the area.

(4) When vegetation is removed from the ROW during the early stages of construction, TRRC would keep cleared areas to the minimum necessary. This will aide in the mitigation of the problems caused by wind erosion and vehicle borne fugitive dust.

(5) In areas where devegetation has taken place, TRRC would commence revegetation at the earliest possible opportunity. In those areas where immediate revegetation is not possible, TRRC would implement alternative stabilization measures such as matting and mulching.

(6) TRRC would implement dust suppression at all work areas within the ROW and at work camps, staging areas, etc., by the use of water trucks. TRRC would make arrangements for needed water for these activities with either local landowners, governmental agencies or associations. TRRC would conduct dust suppression activities regularly and frequently during the driest periods.

(7) TRRC would conduct, in strict accordance with local or other applicable regulations, any open burning required for the purpose of slash disposal or for any other reason during construction or operation of the rail line. TRRC would obtain all necessary permits and observe all necessary safety precautions.

## **A.6 NOISE IMPACT MITIGATION**

### **A.6.1 General**

Noise impacts that are likely to occur as a result of construction and operation of a

proposed Extension fall into two distinct categories. The first category is noise associated with construction activities, heavy equipment operation, a variety of vehicular traffic, etc. The second category is the noise that will result from trains operating along the new rail line. To reduce these adverse noise impacts, TRRC would undertake the following measures:

- (1) To the extent practicable, TRRC would schedule all major noise producing activities during construction to occur during the weekday and daylight hours.
- (2) TRRC would ensure that all equipment used for construction would comply with all applicable Federal, state, and local noise regulations which reflect the current equipment noise reduction standards.

## **A.7 SAFETY IMPACT MITIGATION**

### **A.7.1 General**

Safety issues encompass several broad areas of potential impacts. A primary concern is the prevention of construction related accidents. Another major concern regarding public safety is the potential for derailments, fuel spills, and other toxic material spills. Prevention and suppression of railroad caused wildfire is also a potential safety issue. In addition, safety impacts include the potential for and response to train/vehicle and train/pedestrian crossing accidents.

### **A.7.2 Construction Safety**

- (1) TRRC would adhere to standard construction safety practices to minimize the potential for construction related accidents. TRRC would require its contractors to conduct safety meetings for their workers and to ensure that each person is fully aware of and understands the safety measures and procedures necessary in each work situation.
- (2) TRRC would encourage its contractors to provide group transportation to the job site, as discussed under the transportation section.
- (3) TRRC would enforce speed limits for all construction vehicles and equipment, both on and out of the ROW.

### **A.7.3 Emergency Situations**

A variety of events here classified as "emergency situations" could occur along the ROW, during either construction or operation of the railroad. These include derailments, oil spills, and toxic substance spills. TRRC would implement a number of general measures that can be used to respond to emergency situations.

**(1) Emergency Response Plan.** TRRC would develop an internal emergency response plan, which is consistent with Montana State plans authorized under Title 10, *Montana Code Annotated (MCA)*. TRRC's plan would include:

- a. Emergency notification plan that contains a priority list of those agencies and individuals to be notified in a specific emergency. The plan would include specific names and phone numbers of designated contacts (government and private) that are to be notified in case of such events as an herbicide spill, fuel spill, range fire, and medical emergency.
- b. Procedures to be followed by railroad operation and maintenance personnel in case of such events, including specific responsibilities of each individual.
- c. Directions for most timely response and fastest emergency vehicular access to any particular section of the rail line.
- d. Locations and inventories of all emergency equipment, and any standard operational equipment which may be useful in dealing with emergencies.

**(2) Cooperative Planning/Contacts.** TRRC would establish cooperative relationships with all Federal (such as the U.S. Environmental Protection Agency and U.S. Department of Transportation, Federal Railroad Administration), local, and state agencies that have responsibilities for disaster/emergency planning and response. TRRC would provide operation plans and copies of the emergency response plan identified in item (1) above to such agencies for review and suggestions. Comments from these organizations would be incorporated by TRRC as necessary. These state and local agencies are to include, but are not limited to:

- a. Disaster and Emergency Services Division of the Department of Military Affairs, Helena. This is likely the most important contact in case of an emergency in terms of developing a coordinated response.

- b. Rural fire departments along the route.
  - c. Local ambulance and emergency medical services as well as air evacuation services in Billings and Sheridan.
  - d. The Montana Department of Health and Environmental Sciences (especially the Water Quality Board).
  - e. The Montana Department of Fish, Wildlife, and Parks.
  - f. The Montana Department of State Lands, and Administration Bureau.
  - g. The Montana Department of Natural Resources and Conservation, Water Resources Bureau.
  - h. Northern Cheyenne Tribe.
  - i. U.S. Bureau of Land Management or U.S. Forest Service (recent reorganization proposals may transfer local segments of the Custer National Forest to the BLM for management).
  - j. Other local agencies or groups which are identified as key to disaster.
- (3) **Fire Prevention and Suppression.** TRRC would develop a wildfire suppression and control plan for fires occurring on the ROW as a result of rail construction/operations or undetermined causes. TRRC would include the following measures in this plan.
- a. The plan would be developed by TRRC after final engineering and overall operation plans are complete. This will afford planners the benefit of special information regarding exact location of centerline, access points, and equipment and personnel that might be of use in case such an event occurs.
  - b. State-of-the-art techniques for fire prevention and suppression would be evaluated and included in the plan as applicable. TRRC would adhere to existing industry-wide standards.
  - c. During final engineering, TRRC would provide the greatest possible access to all portions of the ROW, by providing grade crossings and gates, in an effort to minimize response time.

d. TRRC would observe all applicable operational regulations promulgated by the Federal Railroad Administration. This will also serve to minimize the potential for railroad caused fires.

**(4) Oil Spill Prevention and Control Plan.** TRRC would develop, in cooperation with appropriate Federal, state and local agencies, plans to prevent spills of oil or other petroleum products, both during construction and operation and maintenance. The plans developed by TRRC would include those stipulations that would be imposed on those companies and contractors involved in construction of the proposed Extension. The plan would include the emergency notification procedures, discussed in item (1) above. Also, the following items would be included:

- a. Procedures for reporting spills.
- b. Definition of what constitutes a spill.
- c. Methods of containing, recovering, and cleaning up spilled oil.
- d. A list of needed equipment and their locations.
- e. A list of all governmental agencies and management personnel to be contacted, as in item (2) above.
- f. Assurances that techniques and procedures to be employed in cleanup are representative of the best practicable technology currently available.

In addition to the items listed here, the procedures to be followed during construction would be developed in the form of guidelines that are based on the tasks to be accomplished by the individual contractors. The guidelines should include the following:

- a. Care during refueling to guard against overflows.
- b. Storage of fuel only in metal storage tanks surrounded by impervious dikes capable of containing greater than the capacity of the tank.
- c. Removal of waste oil to appropriate sites.
- d. Maintaining equipment in good running order and conducting routine maintenance activities.

TRRC would discuss and refine these plans with the appropriate agencies, and implement these plans at the start of construction.

(5) **Toxic Materials Spills.** TRRC has indicated that it does not expect to be involved with the transport of toxic materials. Nevertheless, it is possible that herbicides may be accidentally introduced to other than the designated portions of the ROW. (See vegetation discussion of noxious weed control.) If an herbicide spill occurs, TRRC would respond using the same general approach discussed under items (3) and (4) above. TRRC would immediately contain the spill, notify the appropriate agencies, and implement procedures which comply with the law, regulatory guidelines, and the best practicable technology currently available. Application of herbicides is a licensed activity and must be done under strict supervision. TRRC would respond to any spill immediately.

## **A.8 HYDROLOGY AND WATER QUALITY IMPACT MITIGATION**

### **A.8.1 General**

A wide variety of state and Federal regulations and permit processes are in place to assure that overall water quantity and quality is not altered or diminished by activities such as the construction and operation of the proposed TRRC Extension. Detailed permit applications are required to be submitted to various agencies for the purpose of assuring that construction and operational activities on or near any waterways are conducted in such a manner as to provide minimal impact to those areas. TRRC would secure the following types of permits as required:

- (1) U.S. Army Corps of Engineers "404" Permit process for all bridges and other structures occurring on designated streams (perennial). This process is required for each major bridge crossing of the Tongue River, as well as each area where rip-rap is to be installed. This process requires detailed environmental data as well as construction data. Permits are issued with accompanying stipulations to limit environmental impact to the greatest degree possible.
- (2) The "310" Permit process, jointly administered by local Conservation Districts and the Water Quality Bureau of the Montana Department of Health and Environmental Sciences. This process is very similar to the "404" process previously discussed. Similar procedures for attaching stipulations to a permit also are followed.
- (3) Temporary Discharge or "Turbidity Exemption" permits from the Water Quality Bureau of the Montana Department of Health and Environmental Sciences. These permits are required wherever construction activities may cross any stream bed or bank. As a result, each crossing of a stream bed, dry or not, requires such a permit.
- (4) Since the State of Montana holds title to the stream bed of the Tongue River, the bridge crossings will require additional authorization under the Montana easement application process. The regulatory authority of the state, administered by the Montana Department of State Lands will further safeguard the public interest and the affected resource.

In addition to these very detailed permit processes, TRRC would build into the final design of the rail line a number of other safeguards. These safeguards include, but are not limited to the following:

(1) All culverts and other drainage structures installed at ephemeral and perennial stream crossings will be designed to pass the projected 25-year flood.

(2) Where possible, the proposed route would be designed to avoid the flood plain. Where the railroad grade does infringe upon the flood plain, TRRC would install drainage structures to assure that the grade does not restrict or reroute the 25-year flood.

(3) To prevent unnecessary degradation of water quality due to erosion, revegetation efforts would begin as soon as possible after construction is completed in a given area.

(4) Construction of all stream crossings, including bridges and culverts as well as activities requiring stream bank encroachments (rip-rap, for example), where appropriate, would be timed to occur during periods of low or no flow in the streams affected. Since the vast majority of stream beds traversed by the railroad are dry most of the year, this scheduling can be readily accomplished.

## **A.9 AQUATIC AND TERRESTRIAL ECOLOGY IMPACT MITIGATION**

### **A.9.1 General**

The following mitigation measures are intended to reduce or eliminate potential adverse environmental impacts to the terrestrial and aquatic ecology from the construction and operation of the proposed rail line Extension.

As part of the mitigation plan, TRRC would participate as a member of an informal Multi-agency/Railroad Task Force. The purpose of the Task Force will be to advise, assist and coordinate with TRRC in accomplishing the mitigation measures set forth below addressing terrestrial and aquatic impacts. Task Force members shall participate in the Task Force at their own discretion and expense and to the extent that their resources permit. Further, the Task Force members may use additional resources available to them to accomplish the mitigation projects. Other interested parties may be invited to participate as appropriate. Through this informal multi-agency approach, with the participation and cooperation of TRRC, aquatic and terrestrial mitigation can be more effectively implemented.

Those agencies invited to participate on the Task Force are the following:

Interstate Commerce Commission  
Montana Department of Fish Wildlife and Parks  
Montana Department of State Lands  
U.S. Fish and Wildlife Service  
U.S. Bureau of Land Management  
Tongue River Railroad Company

The ICC will act as the lead agency to coordinate the Task Force. Each participating agency, as well as TRRC, shall designate representative(s) to work with the Task Force.

### **A.9.2 Aquatic**

Impacts to aquatic resources from TRRC's proposed Extension are likely to occur only in those areas where the railroad grade directly infringes upon the stream bank or stream bed. Such places include river crossings requiring bridge construction and areas where rip-rap is required for stream bank stabilization. In coordination with state agencies, primarily the Department of Fish, Wildlife, and Parks (MFWP), TRRC would proceed with detailed, site specific inventory work of potential impact sites, upon the completion of final engineering. Based upon the results of TRRC's inventory, specific mitigative measures would then be determined by the appropriate Federal, state and local agencies in consultation with TRRC. Inventory measures would include the following:

(1) **Aquatic Resource Sampling.** For those locations where the proposed Tongue River Railroad would cross the Tongue River, or where extensive rip-rapping would occur, TRRC would conduct a three part study plan to identify aquatic resources. The results of this study would be utilized in the development of mitigation plans. This study would include: (a) a stream habitat survey to identify existing habitat features and values; (b) benthic macroinvertebrate sampling to identify community composition and numbers; and (c) fish habitat spawning survey to determine the importance of the area to spawning of game fish. TRRC would undertake the three part study methods outlined below:

a. **Stream Habitat Survey.** The stream habitat survey would utilize methods described in "Methods for Evaluating Stream, Riparian, and Biotic Conditions."<sup>2</sup> Stream transects would be established in appropriate locations to evaluate existing conditions and to monitor changes during construction. Along each transect, the following variables would be measured:

1. stream width
2. stream shore depth
3. stream average depth
4. pool (ft.)
  - (a) quality
  - (b) forming feature
5. riffle (ft.)
6. run (ft.)
7. substrate
8. stream bank soil alteration rating
9. stream vegetative stability rating
10. stream bank undercut and angle
11. vegetation overhang
12. embeddedness

b. **Benthic Macroinvertebrates.** Quantitative samples of benthic macroinvertebrates would be collected immediately upstream and downstream of each proposed location of disturbance. The collected specimens would then be counted and identified at least to genus and to species where possible. The composition of the community would be described.

c. **Fish Spawning Survey.** A game fish habitat evaluation and, if necessary, spawning habitat potential survey would be conducted at each proposed bridge location as well as areas of proposed extensive rip-rapping. Sampling periods for the spawning survey would be early spring after ice breakup, after peak runoff, and in the fall. Collection methods would include electro-shock, seining, trap netting, and fry sampling.

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<sup>2</sup> William S. Platts, Walter F. Meoahan, and G. Wayne Minshall, "Methods for Evaluating Stream, Riparian, and Biotic Conditions," *General Technical Report Int-138*, Intermountain Forest Range and Research Experiment Station, Ogden, Utah.

(2) **Mitigation Techniques.** Once TRRC has completed sampling and has obtained detailed data on the aquatic resource to be affected, appropriate mitigation measures can be developed. These mitigation measures may include the following:

- a. Preparation of a construction schedule which, if possible and practical, provides for instream work at those times that are (1) least critical to the specific fishery or aquatic resource occurring at a site, and (2) least conducive to sediment transport. These periods would differ by stream and species affected.
- b. Development of special procedures for the handling of displaced materials and petroleum products in order to prevent introduction of such materials into the aquatic system. These procedures would be dictated by site specific geographic and construction criteria.
- c. Filtering silty water, which will result from dewatering for footing construction, through settling pond systems.
- d. Assuring that rip-rap is washed and essentially silt free.
- e. Double-shifting of work crews at river crossing sites to minimize the duration of construction activities in or near stream banks.

### **A.9.3 Terrestrial**

Two areas of concern are addressed under the overall heading of terrestrial ecology: (1) wildlife, and (2) vegetation. The thrust of the terrestrial mitigation plan, in addition to developing specific ameliorative measures, will be to provide additional information and options for avoiding unnecessary impacts to vegetation and wildlife.

As a participant in the aforementioned Multi-agency/Railroad Task Force, the TRRC would discuss implementation of a number of mitigation measures that have been developed by MDFWP and as discussed above. However, it should be noted that, as with the TRRC original 89-mile rail line, a number of these provisions could conflict with the wishes of the adjacent landowners. Implementation of any of these measures, therefore, would have to be reasonable, practicable, and take into account the concerns of all parties. TRRC would implement the following types of mitigation measures:

- (1) The participation by TRRC in the development of a "compensation" program for lost wildlife habitat along the rail line. For example, this compensation could include the purchase by the TRRC of "cutoff" land parcels containing good wildlife habitat, and the donation of these lands to the MDFWP for beneficial wildlife management.
- (2) The construction of ponds adjacent to, or using the railroad grade as a dam where practicable. This activity could include "dugout" type ponds and "bypass" ponds designed to be filled during high flows.
- (3) The providing of public access, in appropriate locations, along the rail line ROW, after assuring implementation of all safety measures.
- (4) The granting of conservation easements by TRRC along the rail line.
- (5) Fencing that would not restrict the movement of big game animals seeking to cross the railroad ROW. In consultation with the Multi-agency/Railroad Task Force, the TRRC would consider innovative means to ensure wildlife movement across the ROW.

#### **A.9.3.1 Wildlife**

The types and amount of wildlife habitats that will be lost during construction of the proposed Extension have been identified in the impacts section of this draft EIS. Avoidance by wildlife of normal use areas adjoining the construction site is considered to be a short term impact that will be mitigated by the completion of construction. Wildlife will reoccupy those areas where their normal use patterns have been disrupted. Mitigation of other impacts, however, requires identification of those sites where impacts may occur. Once sites are identified, numerous mitigation techniques can be developed and implemented by TRRC to deal with specific cases. The following methods can be used by TRRC to identify affected sites:

- (1) **Aerial Survey** - TRRC would conduct an updated aerial survey during the winter before construction begins. An aerial survey may identify new winter ranges as well as locate any new prairie dog colonies along the route.
- (2) **Ground Reconnaissance** - A thorough ground reconnaissance would be conducted by TRRC between April 15th and May 15th. During this period, grouse leks will be active, raptors will be nesting, and winter ranges may still be identifiable. The entire ROW would be surveyed, preferably by walking.

- o The purpose of reconnaissance will be to locate (a) big game winter

range based on evidence, such as animal remains, hair, pellet groups, etc.; (b) any prairie dog colonies that were not recorded during the aerial survey; (c) sage grouse and sharp-tailed grouse leks; and (d) raptor nests, particularly golden eagles and prairie falcons. Evidence of threatened or endangered species, such as black-footed ferrets and peregrine falcons, would also be identified during the reconnaissance.

- o Any specific use sites that are identified during the reconnaissance would be mapped, described in field notes, photographed and evaluated for significance. Nesting raptors of concern would not be disturbed. Nests would be described as active or inactive.
- o Sage and sharp-tailed grouse leks would be located by listening for displaying males at dawn. Lek locations would be mapped.
- o Prairie dog colonies that are intersected by the ROW would be mapped to their approximate size on 1:24,000 USGS topographic maps. Following the field reconnaissance, the size of these colonies would be planimetered and a rough estimate of the existing population should then be made by comparison with results reported in the literature.
- o Prairie dog colonies also would be searched for evidence of black-footed ferrets, following the methods outlined in "Handbook of Methods for Locating Blackfooted Ferrets."<sup>3</sup> Ferret presence is most easily detected in late summer and during winter (December 1 - April 15). The search along the Tongue River Railroad ROW would occur during this period, when evidence is most easily discerned.
- o Colonies affected by the right-of-way would be searched at least once and preferably three times. All colonies would be surveyed on foot, by walking transects spaced approximately 50m apart back and forth across the colony. Any evidence of ferrets, such as digging, tracks, scats, skulls, etc., would be photographed and, where appropriate, collected. Scats and skulls would be identified following the keys in the "Handbook." If ferret evidence is found, the proper authorities would be notified consistent with the procedures of the Endangered Species Act.

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<sup>3</sup> T.W. Clark, T.M. Campbell III, M.H. Schroeder, and L. Richardson, "Handbook of Methods for Locating Blackfooted Ferrets," U.S. Bureau of Land Management, *Wildlife Technical Bulletin* No. 1 (1983), Cheyenne, Wyoming.

- o Similarly, although it is not likely that nesting peregrine falcons will be found along the ROW, any occurrence of nesting activity would be properly recorded and reported.

#### **A.9.3.1.1 Mitigative Measures**

TRRC would implement all reasonable and practical measures that result from the completion of the Biological Assessment which TRRC would conduct in coordination with U.S. Fish and Wildlife Service and any other studies conducted during final engineering. The following are the types of mitigation measures that may be required:

(1) **Construction Timing.** A principal mitigation measure to protect wildlife involves the coordination and timing of construction activities. For example, all reasonable attempts would be made to minimize construction at big game wintering sites from December through March.

(2) **Blackfooted Ferrets.** If blackfooted ferrets or their evidence are found in any affected prairie dog colonies, appropriate regulatory authorities would be consulted. It may be necessary to examine these sites on several occasions to determine whether or not ferrets are currently present in the colony. If a ferret population is present, the proper authorities would be consulted to determine the probable long term impact to ferrets if construction proceeds through the colony.

(3) **Raptors.** TRRC construction activities along TRRC preferred alignment may affect one known bald eagle nest site, located approximately 8 miles north of the Tongue River Dam. To mitigate impacts to this site, and any other active sites that may be located during future surveys, TRRC would avoid construction activities in the immediate area between April 1 - June 30, the critical incubation and rearing times.

#### **A.9.3.2 Vegetation**

Vegetation concerns related to the construction and operation of the proposed Extension are primarily divided into two categories (1) reclamation, and (2) noxious weed control. Reclamation of devegetated areas is important for a variety of reasons, including the prevention of erosion, limitation of air pollution by fugitive dust, contribution to the stability of the railroad grade, and the importance of providing wildlife habitat. Noxious weed control is an area of great concern to local agricultural operations and will be a priority of TRRC operation and maintenance personnel.

(1) **Reclamation.** TRRC would implement reclamation and revegetation of the ROW at the earliest possible time after clearing has been completed.

In most cases, such revegetation cannot begin until construction is complete. However, wherever possible, construction and attendant revegetation would be expedited. The following are general practices that would be employed in the reclamation process:

a. **Preconstruction Planning.** Successful reclamation begins with thorough preconstruction planning. TRRC would include the following elements in its reclamation preconstruction planning:

1. Designation of sensitive areas.
2. Proposed time schedule of construction activities.
3. ROW clearing and site preparation plans.
4. Erosion and sediment control plans.
5. Waste disposal plan.
6. Restoration, reclamation, and revegetation plan.

b. **Restoration/Reclamation Plan.** TRRC would include the following elements in its restoration and reclamation plan:

1. Commencing reclamation as soon as practicable after construction ends, with the goal of rapidly reestablishing ground cover on disturbed soils, with all cut and fill slopes mulched and seeded as they are completed.
2. Avoiding reclamation when soil moisture is high or ground frozen.
3. Analyzing site soil requirements and seasonal precipitation patterns to identify planting dates for optimal revegetation success.
4. Use of rapidly establishing plant species for thorough and rapid ground surface protection.
5. Retaining a reclamation specialist to determine specific procedures for reclamation on steep slopes or locations near waterways.

c. **Revegetation Success Assurances.** To ensure revegetation success, TRRC would implement the following measures:

1. Determination of type and quantity of seed, kind of fertiliz-

er, and other soil amendments would be made based on soil chemical and physical properties, with emphasis on native species where possible.

2. Topsoil would be segregated from subsoil and stockpiled for later application on the reclaimed ROW.
3. Only seed of registered quality and germination success would be utilized.
4. Appropriate seeding techniques would be used, such as drill seeding on level terrain and broadcast or hydroseeding on slopes to ensure distribution of seed mixture on individual micro-environments.
5. TRRC would use mulch material, such as straw and wood-chips, as a temporary erosion measure and to minimize soil temperature fluctuations and soil moisture loss. Mulch would be applied more heavily on slopes than on level terrain and nitrogen levels adjusted to reflect the increased demand during mulch decomposition.
6. The seeded area would be covered and compacted following seeding.
7. A minimum of 20 lbs./acre of pure live seed would be used throughout the route.
8. For slopes and construction areas near waterways, a variety of methods including sediment raps, berms, slope drains, toe-slope ditches, diversion channels, sodding, and mulching would be used.
9. Reclamation would be monitored, and regrading would be undertaken for eroded surfaces and revegetating areas not successfully reclaimed.

**d. Provisions for Areas of Special Concern**

1. **Stream Crossings.** TRRC would stabilize banks with naturally occurring trees, shrubs, and grass. Rip-rap or gabions would be used only as a supplementer where such

methods would improve fish habitat, or in cases where engineering requirements so dictate.

2. **Construction Sites.** TRRC would remove all litter, debris, and soils associated with petroleum spills prior to reclamation. A State-approved landfill would be used.
3. **Slopes Greater Than 3:1.** On cut and fill slopes steeper than 3:1 but less than 2:1, TRRC would construct serrations parallel to the slope to avoid erosion and to stabilize seed beds. Mulching and seeding would be conducted using hydro-seeding/mulching equipment. Every attempt would be made to minimize foot traffic on the reclaimed slopes until vegetation is well established.

(2) **Noxious Weed Control.** The first step in the control of noxious weeds is reclamation of disturbed land along the railroad construction corridor before use by the railroad. This will limit bare soil required for optimal weed colonization. Following establishment of revegetation species and coincident with the beginning of rail transport, TRRC would implement a noxious weed control program. This program is intended to control all Montana designated noxious weeds. It is not intended to control other invader grass and weed species.

The noxious weed control program would most likely include a combination of mechanical and herbicide spray methods. TRRC would generally use mechanical removal of weeds near water courses, depending upon time of year. A spraying program would generally employ 2-4D at one pound per acre beginning June 1st and at monthly intervals until late September. This formulation would be used on all areas of the ROW, except near waterways. If a spray is needed near watercourses, Weedar64 (a nontoxic form of 2-4D amine) would be used. The spray sequence has been chosen to ensure that weed plants do not reach maturity.

TRRC would use all precautions normally required around herbicides. TRRC would use 2-4D amine, rather than 2-4D ester, because of its lower volatility. TRRC would keep and reference records of application dates to ensure that the noxious weed control program goals are fulfilled.

TRRC would conduct all noxious weed control activities according to all applicable regulations and guidelines, and would coordinate with local weed control districts. In all cases, only trained, licensed, personnel would be

involved in noxious weed control applications. TRRC would coordinate with local ranchers in the overall development of this plan.

#### **A.10 CULTURAL RESOURCES IMPACT MITIGATION**

Construction and operation of the proposed 41-mile TRRC Extension has the potential to affect cultural resources (prehistoric archeological, historic, architectural, and Native American) that may be listed or eligible for listing on the National Register of Historic Places (National Register).

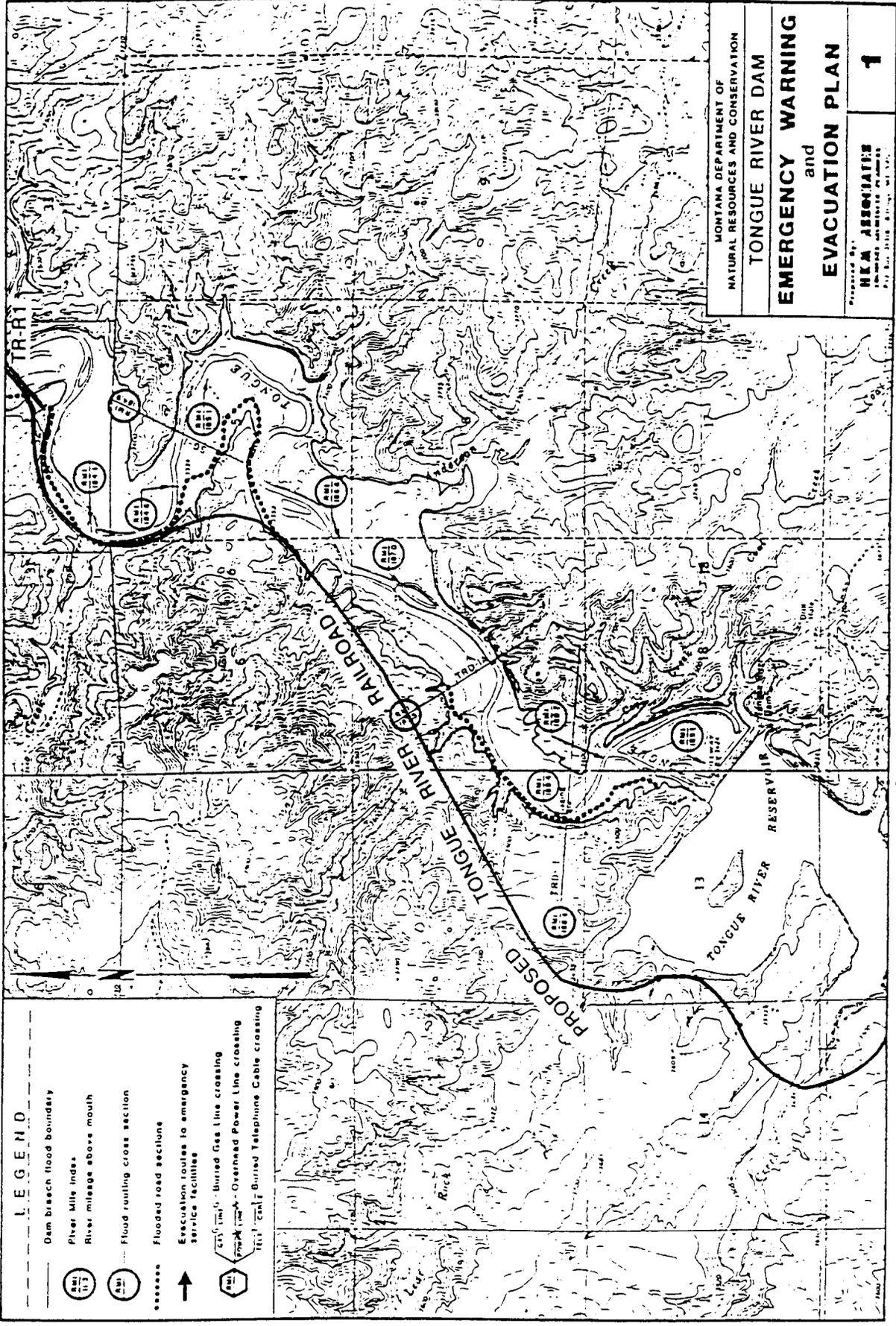
In 1985, the ICC, TRRC, the Advisory Council on Historic Preservation and the Montana State Historic Preservation Officer signed a Memorandum of Agreement (MOA) to mitigate potential impacts to cultural properties from construction and operation of the 89-mile rail line from Miles City to Ashland. This MOA is still applicable for the rail line from Miles City to Ashland.

A Programmatic Agreement (PA) similar to the Miles City to Ashland MOA is being negotiated to address the effects of the proposed Extension on cultural resources that are either listed or eligible for listing on the National Register. Parties to the PA include the ICC, the Montana State Historic Preservation Officer, the Advisory Council on Historic Preservation, and TRRC. Representatives from the Northern Cheyenne Tribe will be asked to concur and participate. Other Tribes will be invited to participate where appropriate. Additionally, the U.S. Department of Interior, Bureau of Land Management and the Bureau of Indian Affairs will also be asked to concur.

When executed, the PA will stipulate that TRRC prepare an inventory of the area of potential effect in order to identify cultural resources which are listed or eligible for listing on the National Register. The parties to the PA would then consult in the preparation of a "Treatment Plan" to determine appropriate measures to mitigate or negate potential effects to any eligible resources. Also, an executed PA would require that TRRC treat any human remains according to the provisions of the Montana Human Skeletal Remains and Burial Site Protection Act, the policies of affected Tribes, and applicable Federal, state and local laws.

In addition to the requirements of the PA, TRRC, in the preparation of the cultural resource inventory described in the PA, would invite representatives from the Northern Cheyenne Tribe to identify and compile a list of traditionally-important plants that occur in the area of potential effect as well as the gathering sites and access points for these plants. TRRC would use the information provided by the Tribal representatives regarding plant species and locations in considering the need to protect and assure continuing access to these plants.

# APPENDIX B



**LEGEND**

	Dam breach flood boundary
	River Mile index
	River mileage above mouth
	Flood routing cross section
	Flooded road sections
	Evacuation routes to emergency service facilities
	Overhead Power Line crossing
	Buried Telephone Cable crossing

MONTANA DEPARTMENT OF  
NATURAL RESOURCES AND CONSERVATION

**TONGUE RIVER DAM**

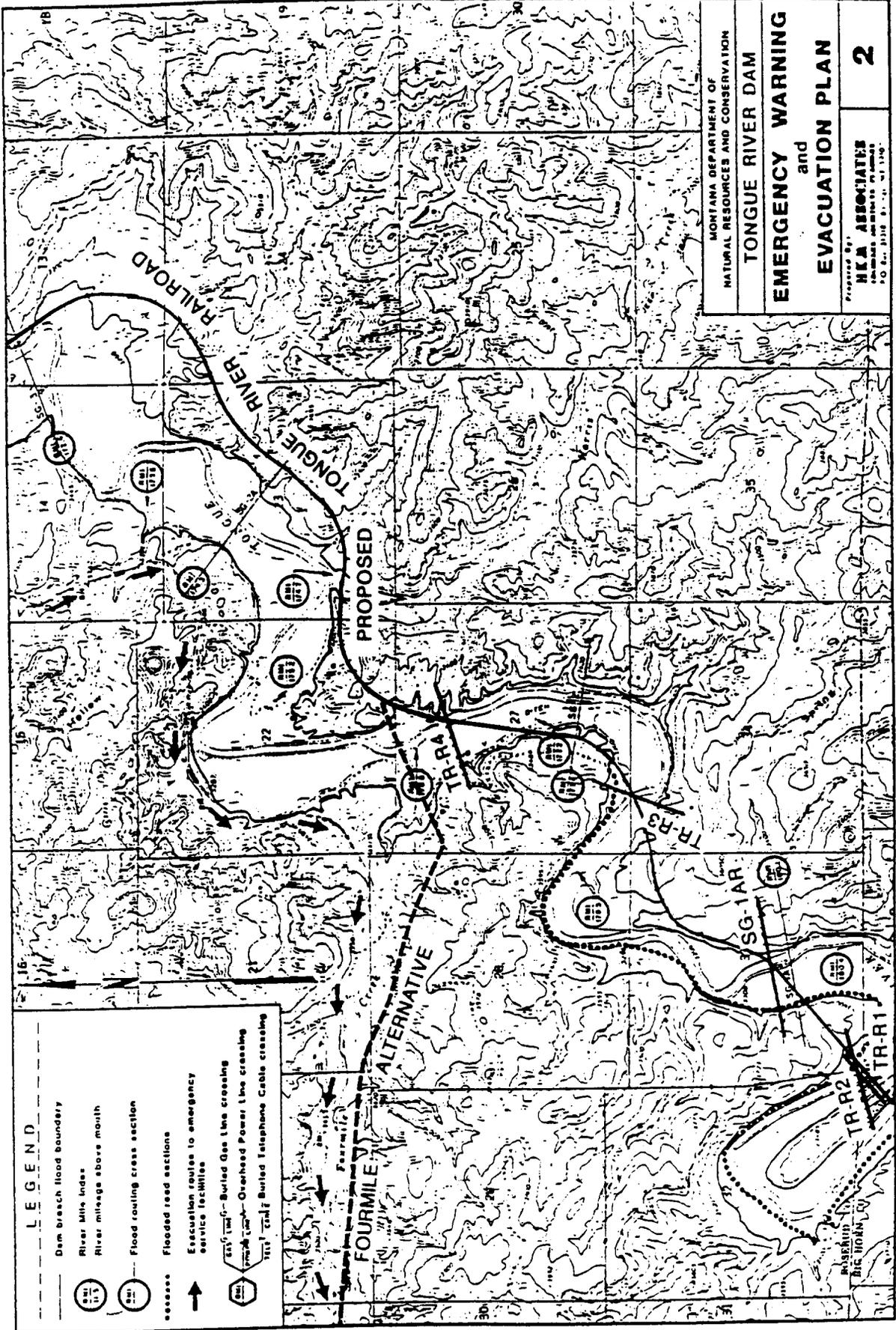
**EMERGENCY WARNING**  
and  
**EVACUATION PLAN**

Prepared by:  
**H. M. ASSOCIATES**  
1000 WEST 10TH AVENUE  
SPOKANE, IDAHO 83402

**1**

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**LEGEND**

- Dem breach flood boundary
- River Mile Index
- River mileage above mouth
- Flood routing cross section
- ..... Flooded road sections
- ↑ Evacuation routes to emergency service facilities
- Overhead Power Line crossing
- Buried Telephone Cable crossing

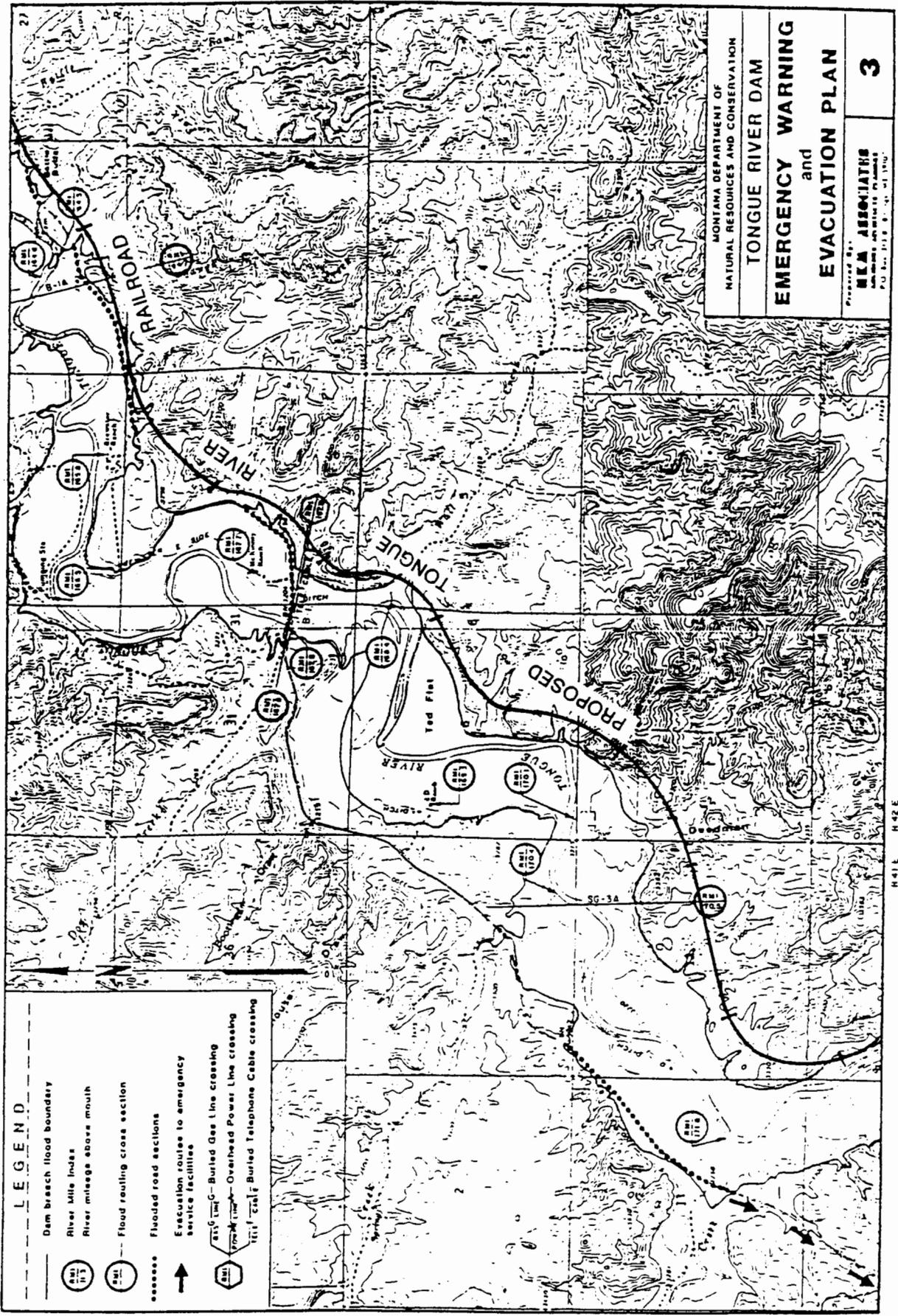
MONTANA DEPARTMENT OF  
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**TONGUE RIVER DAM**

**EMERGENCY WARNING**  
and  
**EVACUATION PLAN**

Prepared by:  
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INCORPORATED  
P.O. BOX 3118 B. C. WY. 82110

**2**



**LEGEND**

- Dam breach flood boundary
- River Mile Index
- River mileage above mouth
- Flood routing cross section
- ..... Flooded road sections
- ↑ Evacuation routes to emergency service facilities
- G --- Buried Gas Line crossing
- P --- Overhead Power Line crossing
- T --- Buried Telephone Cable crossing

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NATURAL RESOURCES AND CONSERVATION

**TONGUE RIVER DAM**

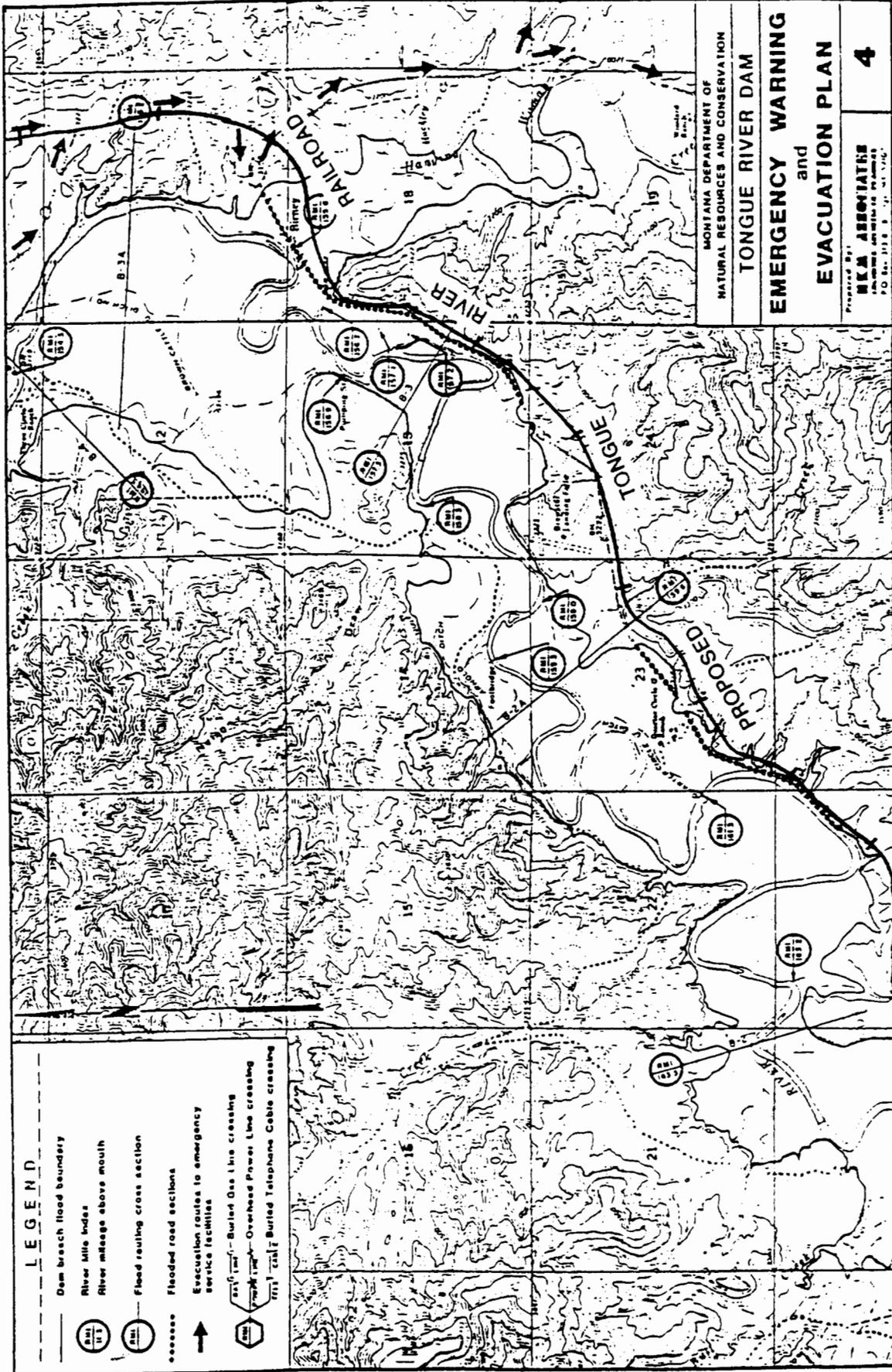
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and  
**EVACUATION PLAN**

Prepared by:  
**EKA ASSOCIATES**  
100 East 11th Street, Billings, Montana 59102

**3**

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**LEGEND**

- Dam breach flood boundary
- River Mile Index
- River mileage above mouth
- Flood routing cross section
- ..... Flooded road sections
- ↑ Evacuation routes to emergency service facilities
- Buried Gas Line crossing
- Overhead Power Line crossing
- Buried Telephone Cable crossing

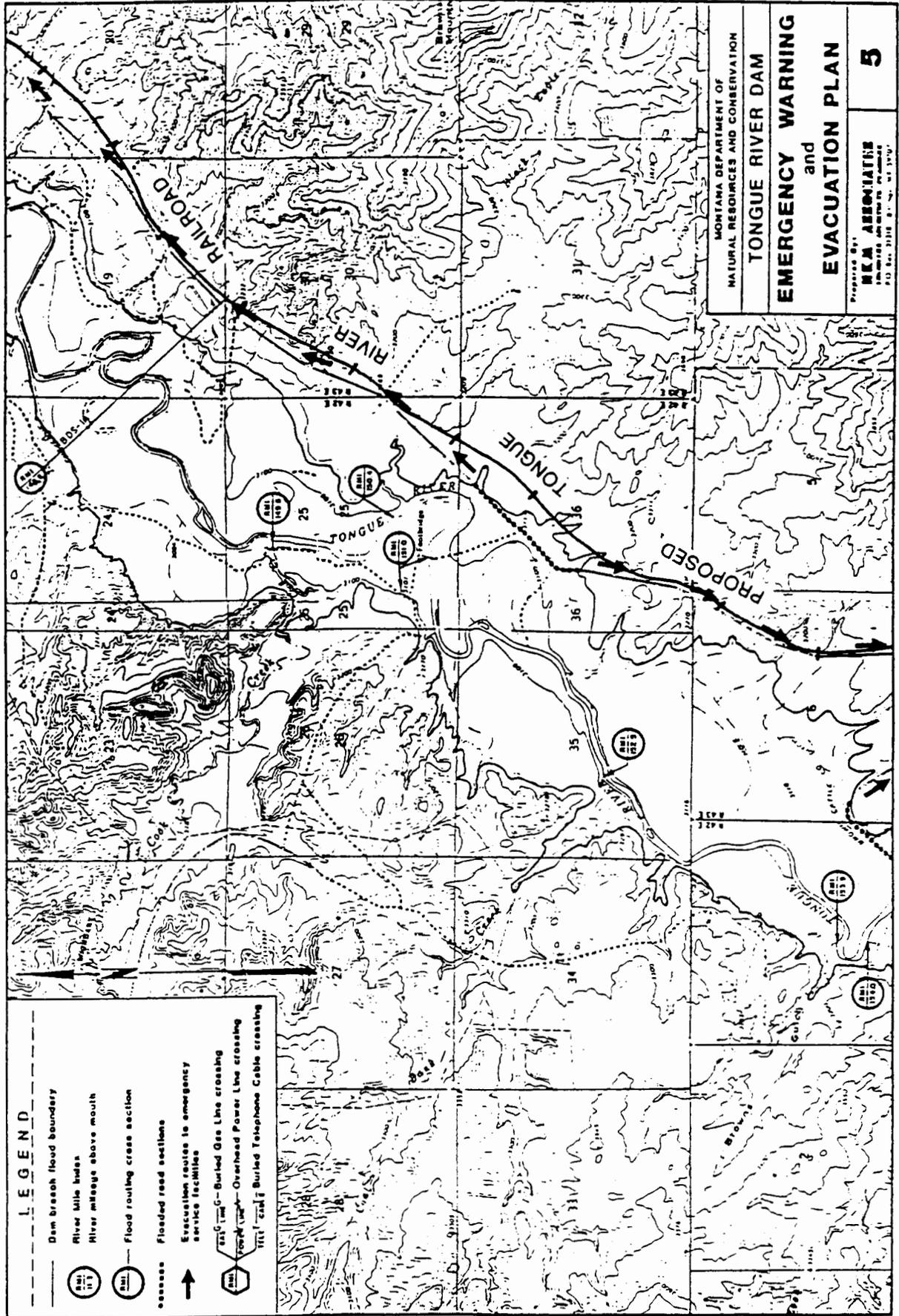
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**TONGUE RIVER DAM**

**EMERGENCY WARNING**  
and  
**EVACUATION PLAN**

Prepared By:  
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**4**



**LEGEND**

- Dam breach flood boundary
- River Mile Index
- River mileage above mouth
- Flood routing cross section
- ..... Flooded road sections
- ↑ Evacuation routes to emergency service facilities
- G- Buried Gas Line crossing
- P- Overhead Power Line crossing
- T- Buried Telephone Cable crossing

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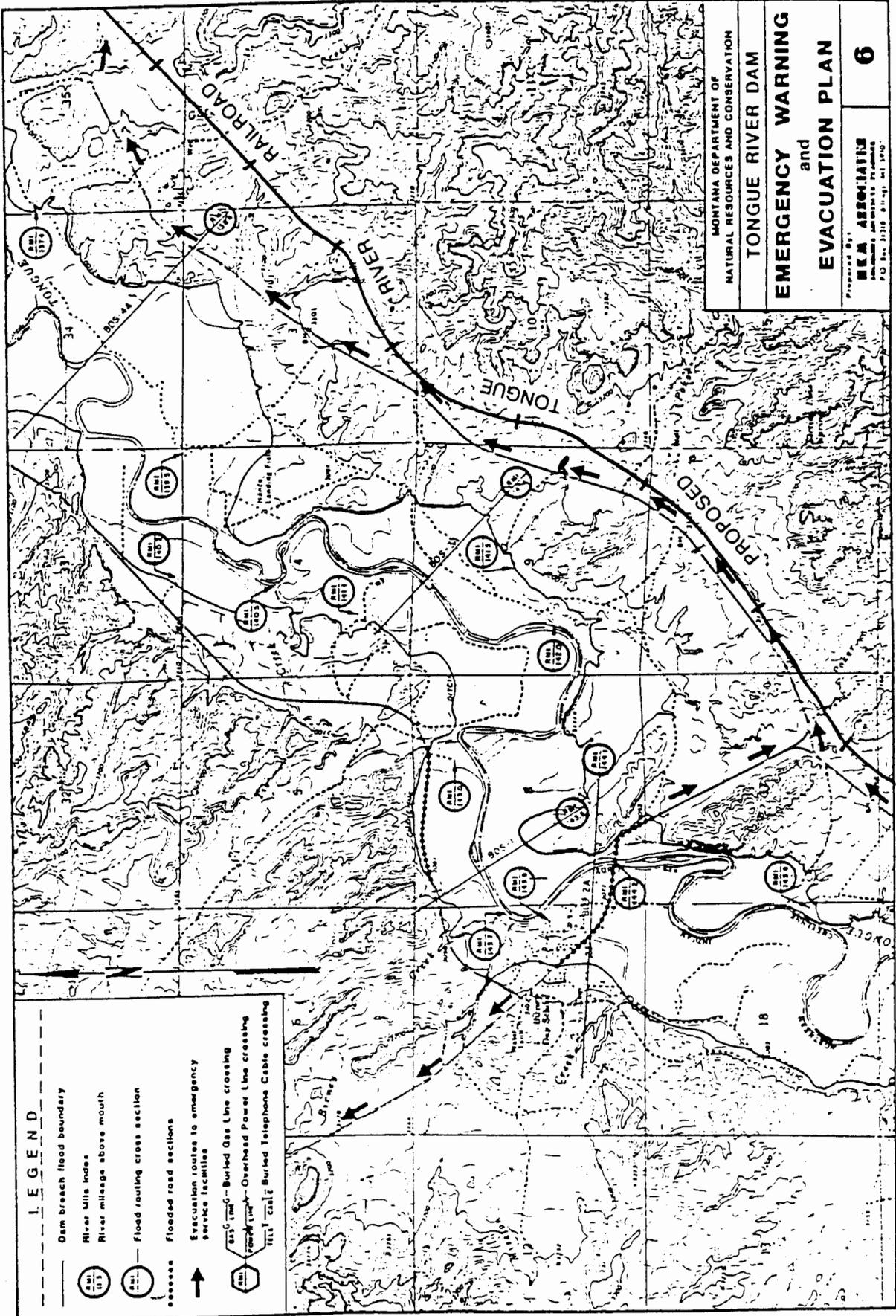
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and  
**EVACUATION PLAN**

Prepared by:  
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1000 10th Avenue SW  
PO Box 3118 St. Paul, MN 55109

**5**

T 45  
T 55



**LEGEND**

- Dam breach flood boundary
- River mile index
- River mileage above mouth
- Flood routing cross section
- Flooded road sections
- ↑ Evacuation routes to emergency service facilities
- Buried Gas Line crossing
- Overhead Power Line crossing
- Buried Telephone Cable crossing

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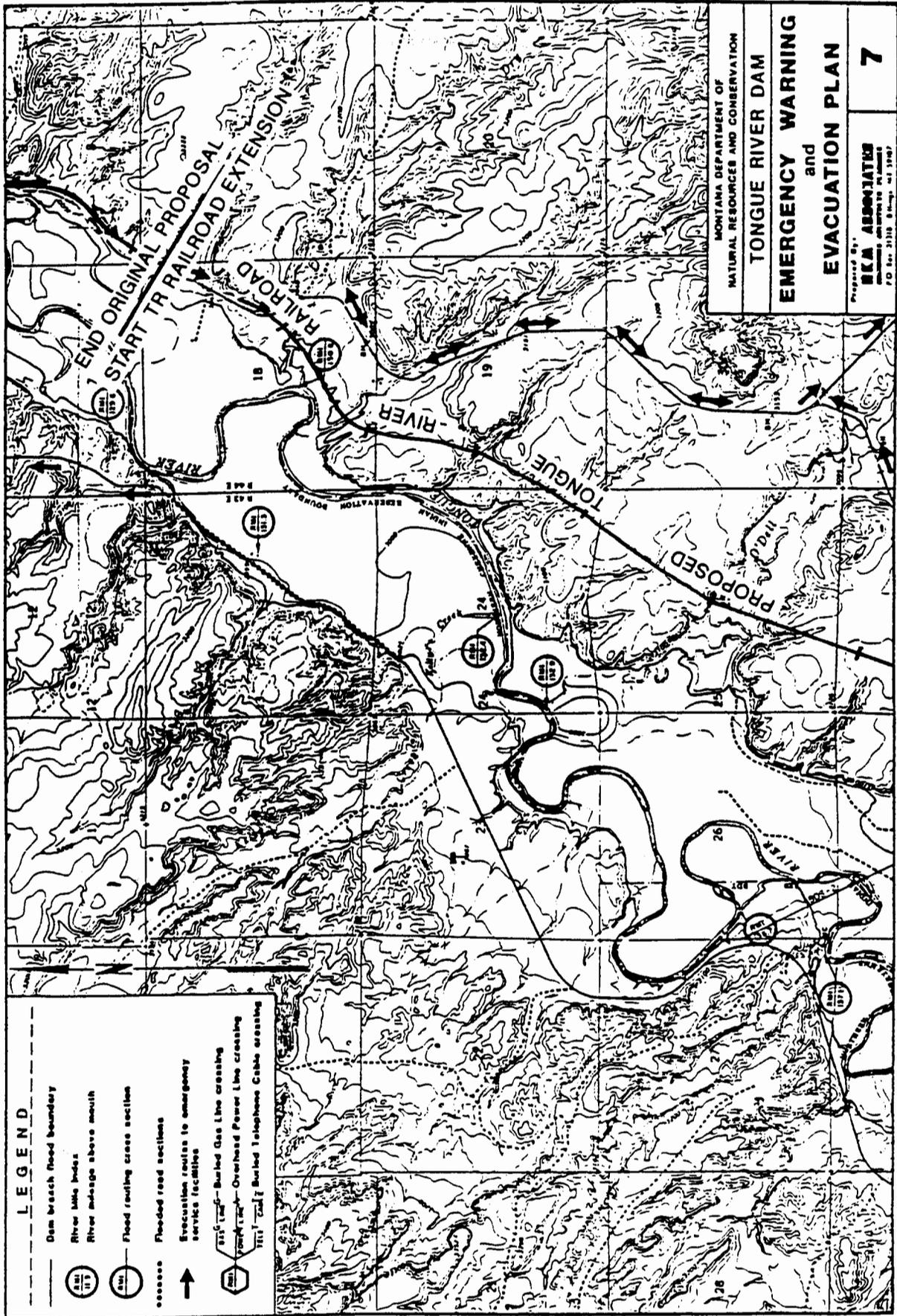
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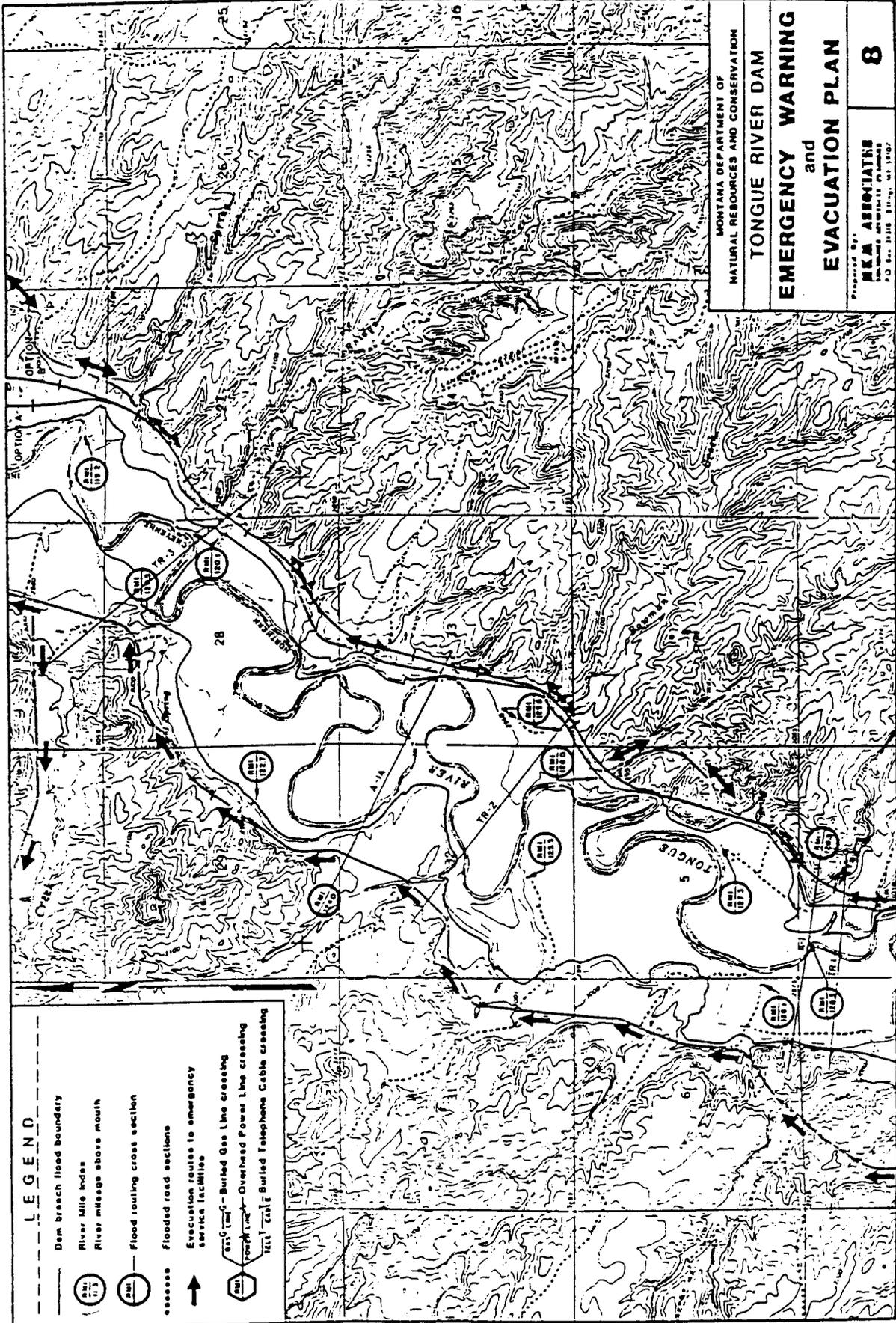
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and  
**EVACUATION PLAN**

PREPARED BY  
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INCORPORATED, MISSOULA, MONTANA  
P.O. Box 13138 Missoula, Mt. 59710

**6**

R 42E H 43E





**LEGEND**

- Dam breach flood boundary
- River Mile Index
- River message above mouth
- Flood routing cross section
- Flooded road sections
- ↑ Evacuation routes to emergency service facilities
- Buried Gas Line crossing
- Overhead Power Line crossing
- Buried Telephone Cable crossing

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NATURAL RESOURCES AND CONSERVATION

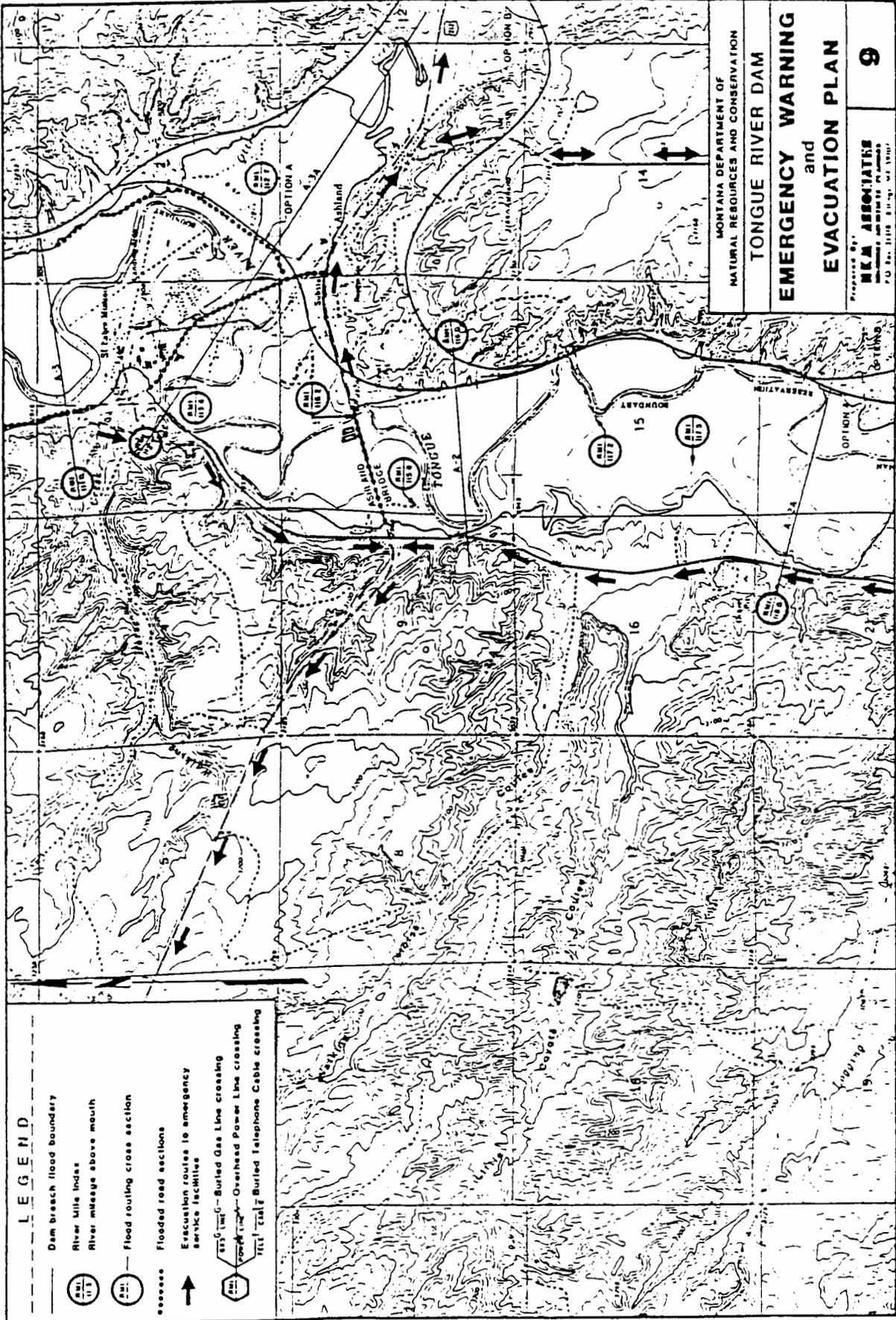
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**EMERGENCY WARNING**  
and  
**EVACUATION PLAN**

Prepared by:  
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P.O. Box 10118, Billings, MT 59107

**8**

R43E R44E



**LEGEND**

- Dam breach flood boundary
- River mile index
- River mileage above mouth
- Flood routing cross section
- Flooded road sections
- ↑ Evacuation routes to emergency service facilities
- Buried Gas Line crossing
- Overhead Power Line crossing
- Buried Telephone Cable crossing

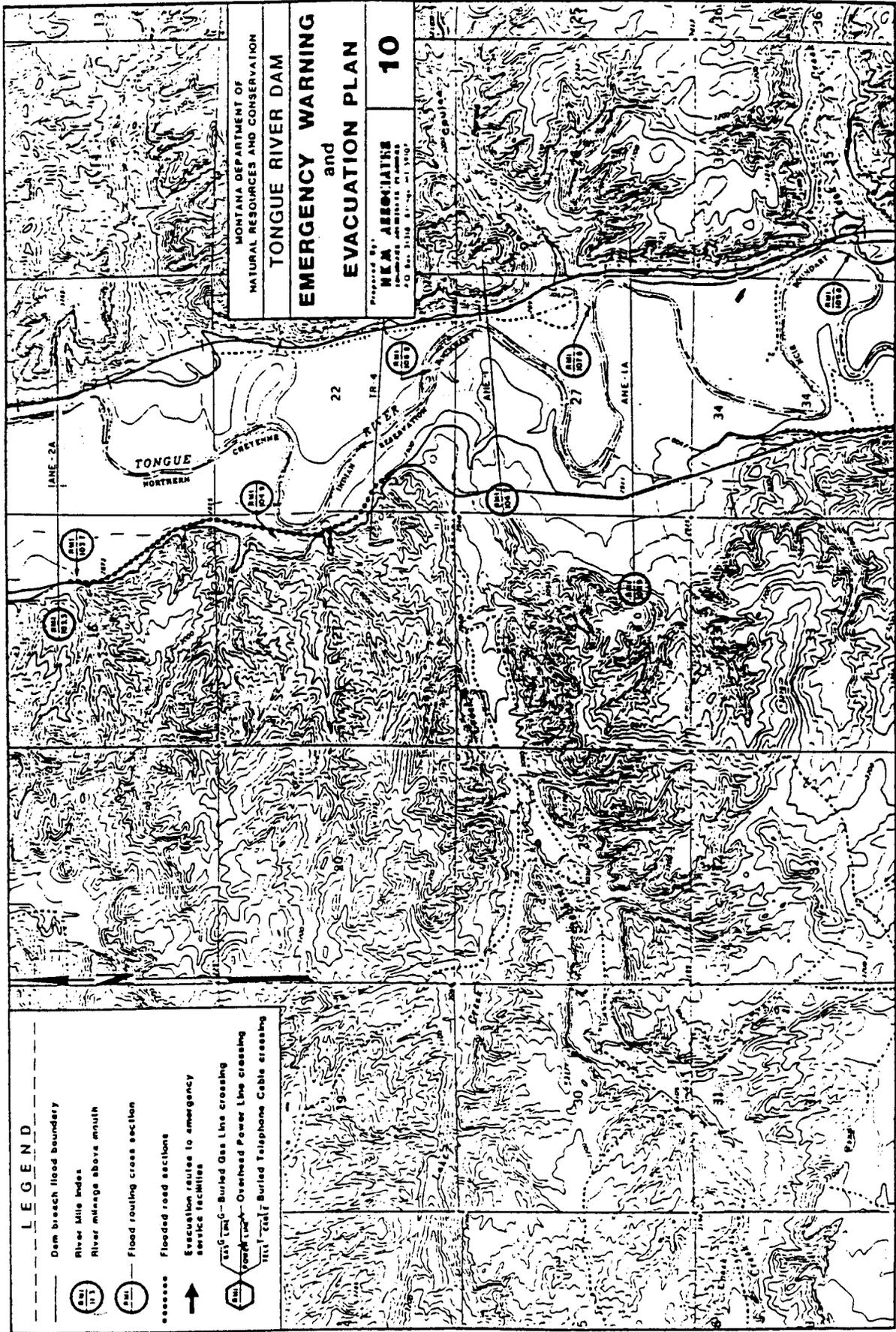
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NATURAL RESOURCES AND CONSERVATION

**TONGUE RIVER DAM**

**EMERGENCY WARNING**  
and  
**EVACUATION PLAN**

Prepared by  
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**9**



**LEGEND**

- Dam breach flood boundary
- River Mile Index
- River mileage above mouth
- Flood routing cross section
- Flooded road sections
- ↑ Evacuation routes to emergency service facilities
- Buried Gas Line crossing
- Overhead Power Line crossing
- Buried Telephone Cable crossing

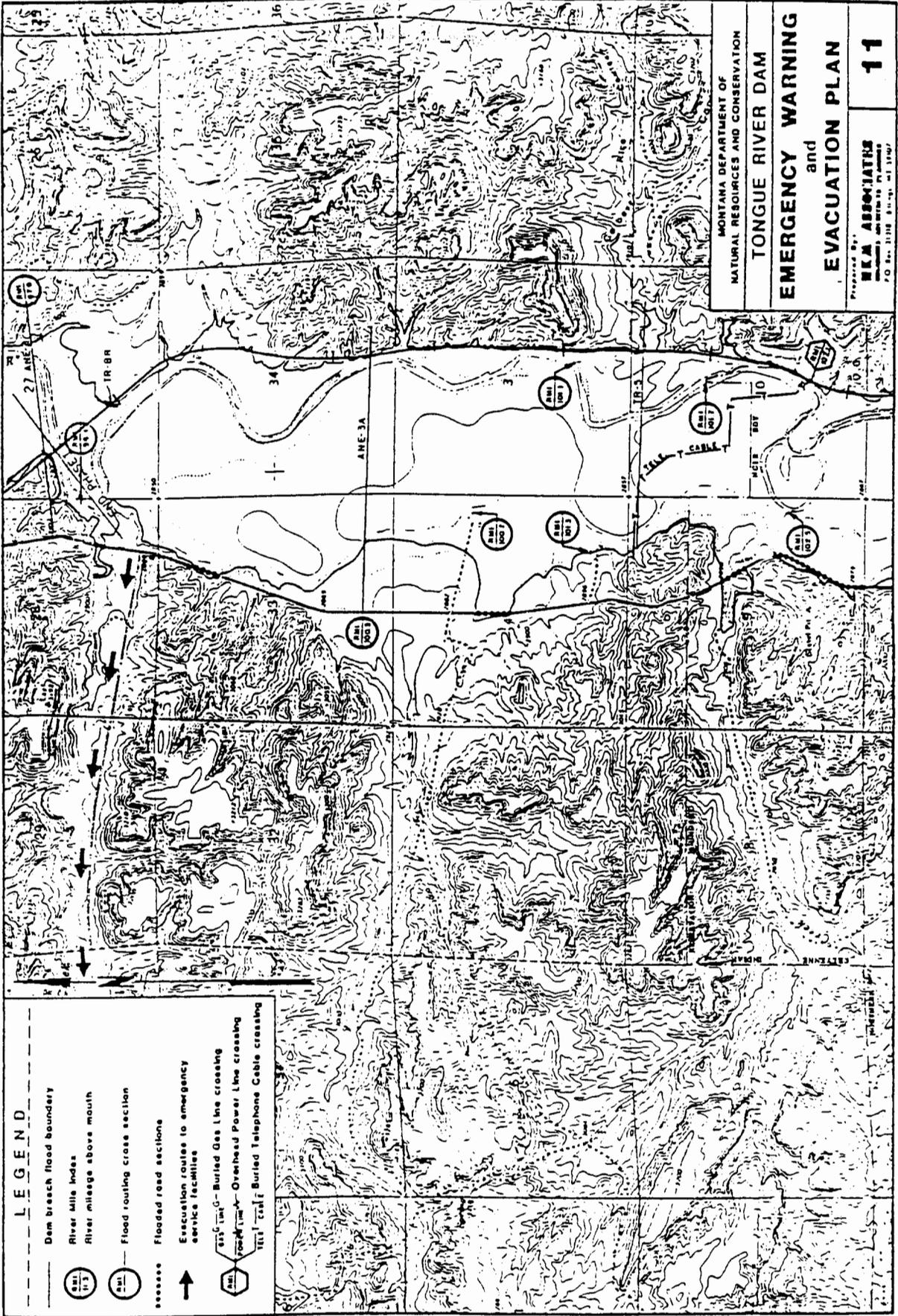
MONTANA DEPARTMENT OF  
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**TONGUE RIVER DAM**

**EMERGENCY WARNING**  
and  
**EVACUATION PLAN**

PROJECT BY  
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2000 N. 10TH ST., SUITE 100  
BOZEMAN, MONTANA 59717

**10**



**LEGEND**

- Dam breach flood boundary
- River Mile Index
- River mileage above mouth
- Flood routing cross section
- Flooded road sections
- ↑ Evacuation routes to emergency service facilities
- Buried Gas Line crossing
- Overhead Power Line crossing
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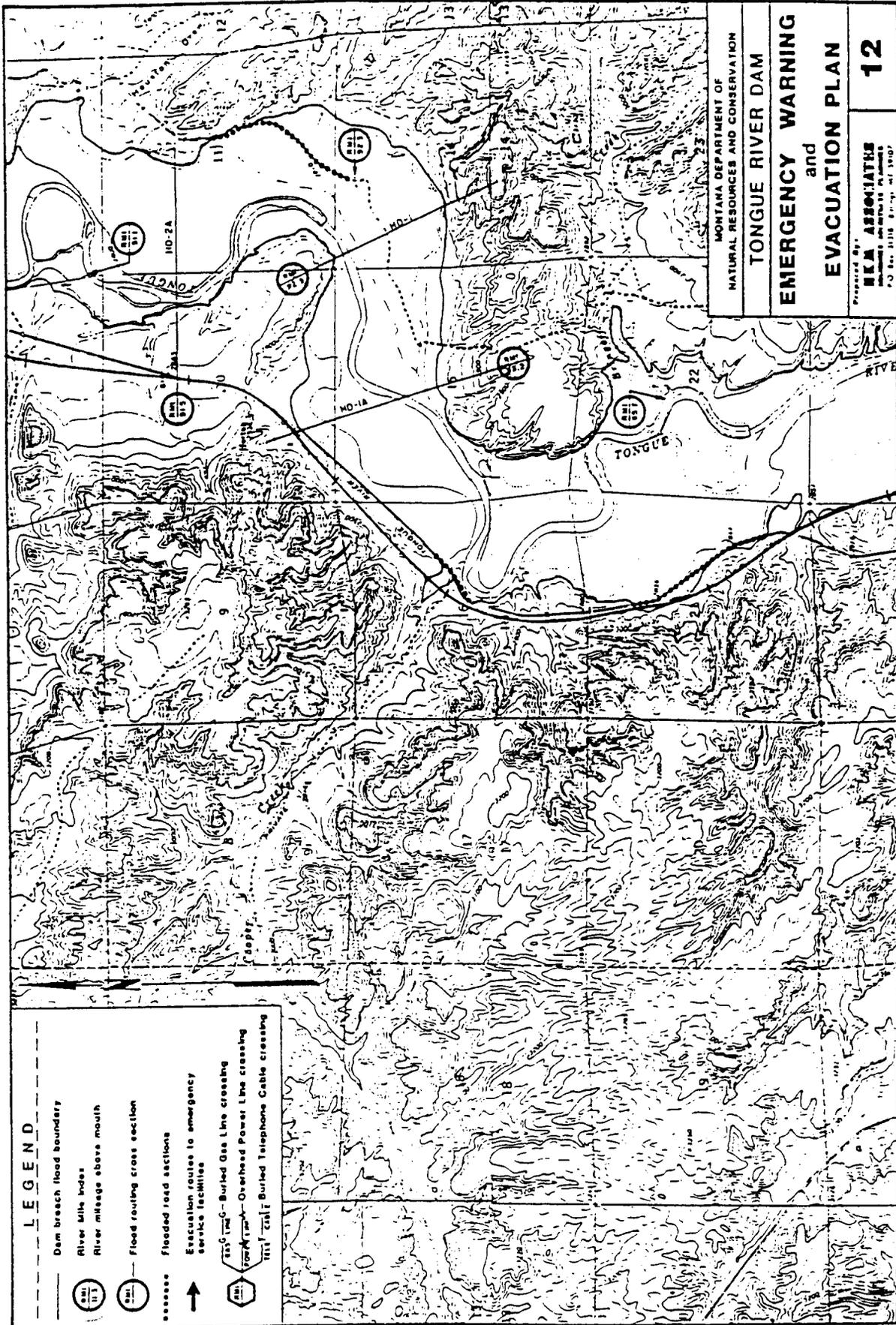
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**TONGUE RIVER DAM**

**EMERGENCY WARNING**  
and  
**EVACUATION PLAN**

Prepared by:  
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1000 N. 10th Street  
PO Box 31188 Butte, MT 59707

**11**



**LEGEND**

- Dam breach flood boundary
- River Mile Index
- River mileage above mouth
- Flood routing cross section
- ..... Flooded road sections
- ↑ Evacuation routes to emergency service facilities
- Buried Gas Line crossing
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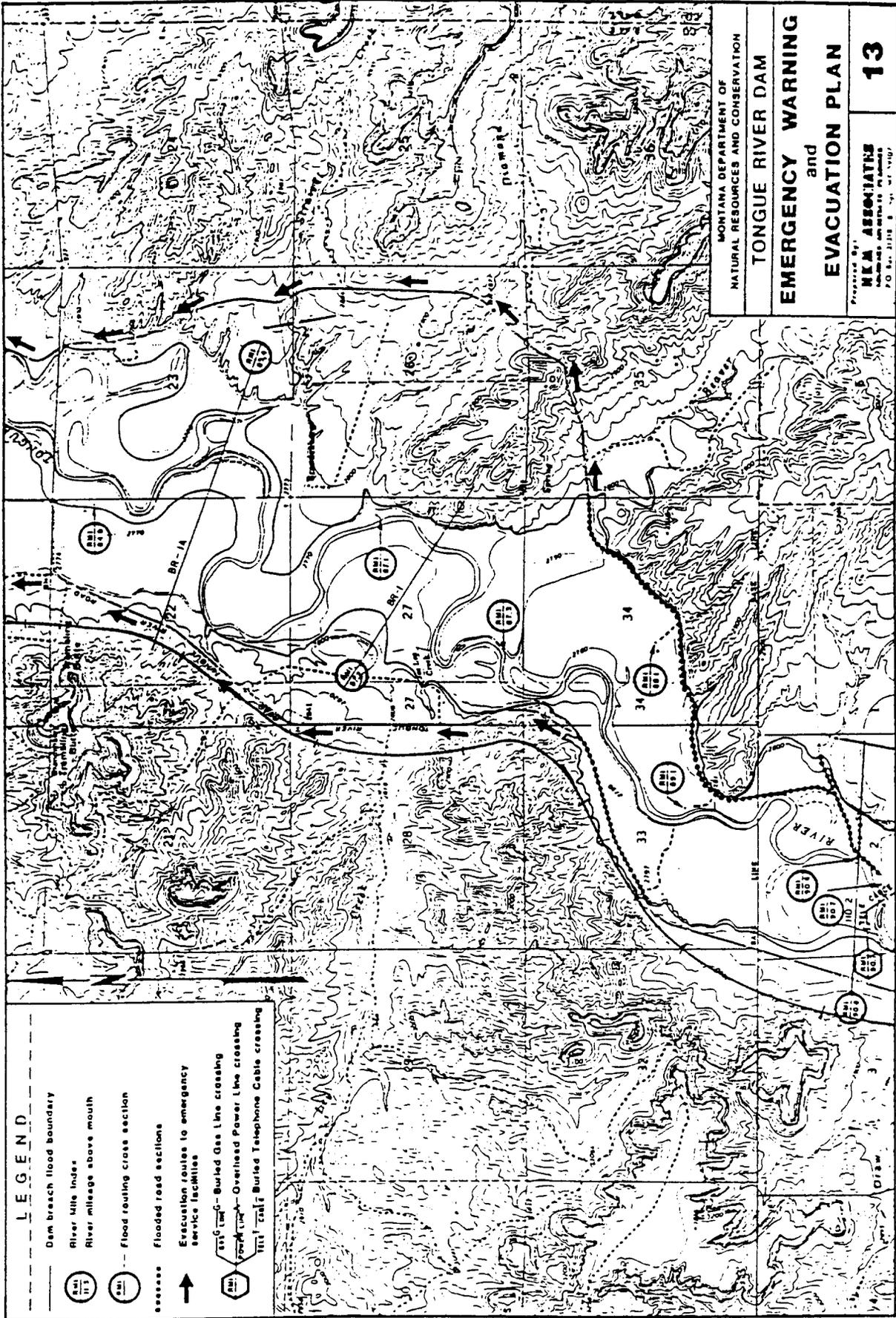
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and  
**EVACUATION PLAN**

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**H & M ASSOCIATES**  
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BOZEMAN, MONTANA 59717

**12**



**LEGEND**

- Dam breach flood boundary
- River mile index
- River mileage above mouth
- Flood routing cross section
- ..... flooded road sections
- ↑ Evacuation routes to emergency service facilities
- Buried Gas Line crossing
- Overhead Power Line crossing
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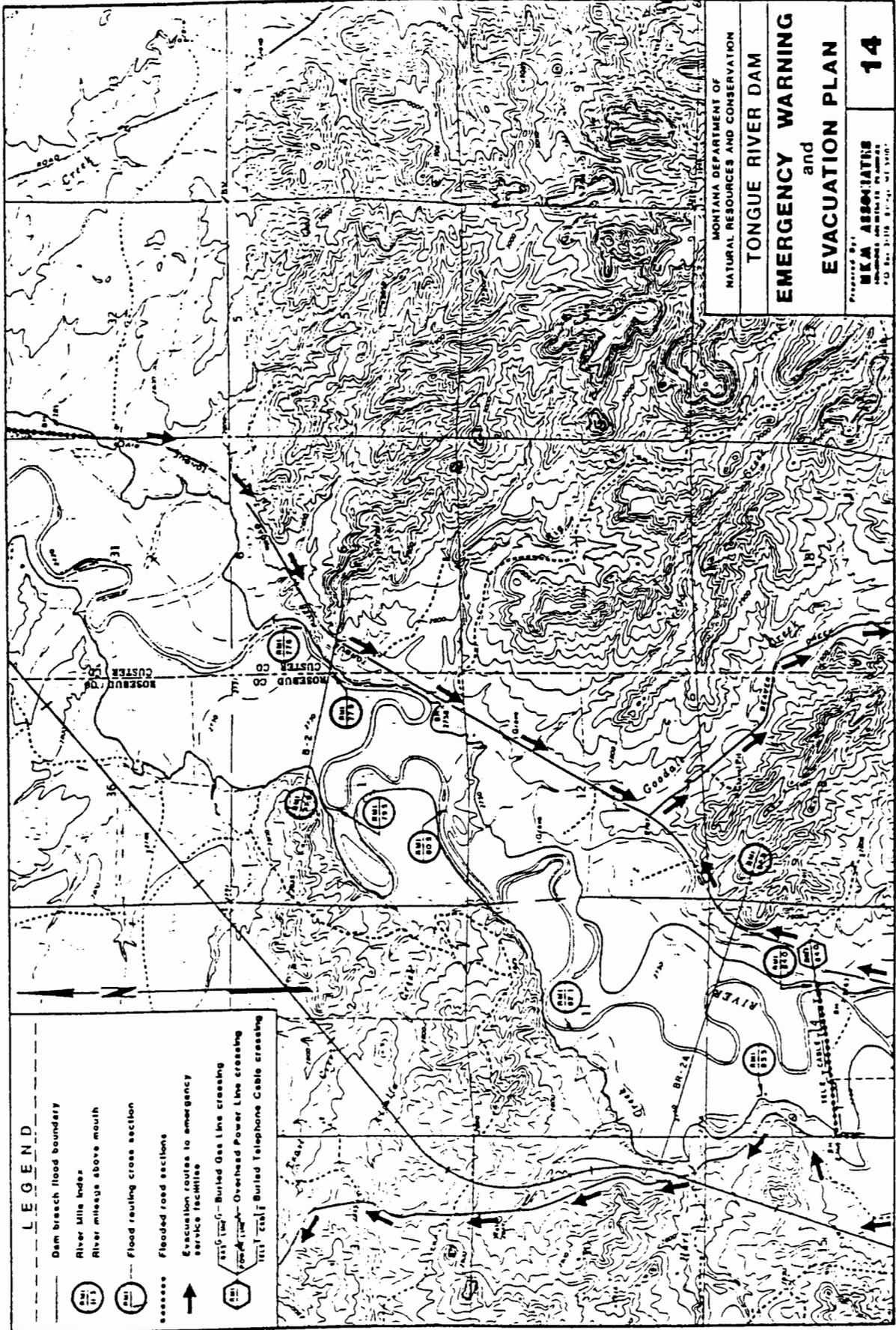
**TONGUE RIVER DAM**

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and

**EVACUATION PLAN**

**13**

Prepared by:  
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**LEGEND**

- Dam breach flood boundary
- River Mile Index
- River mileage above mouth
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- ↑ Evacuation routes to emergency service facilities
- Buried Gas Line crossing
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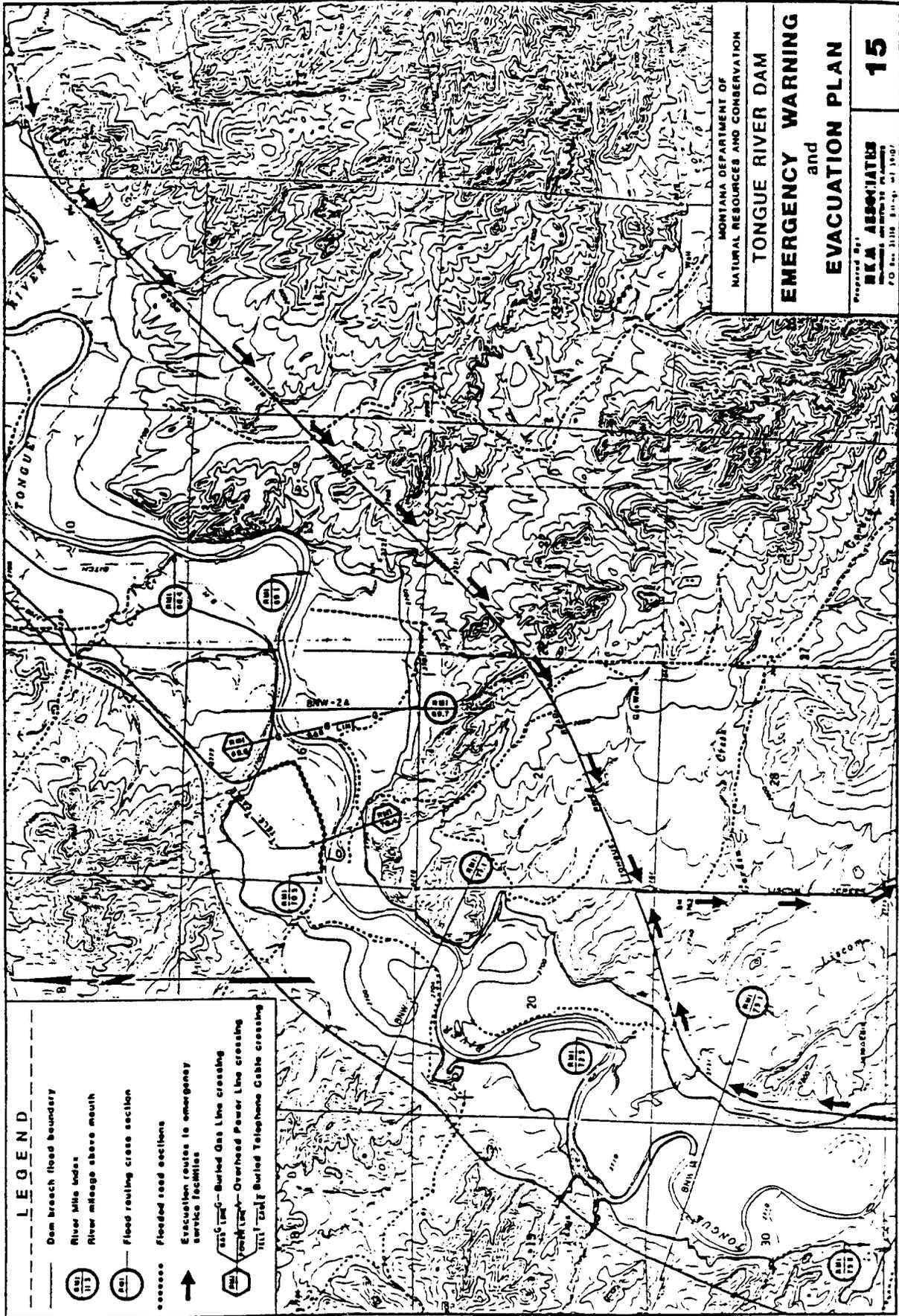
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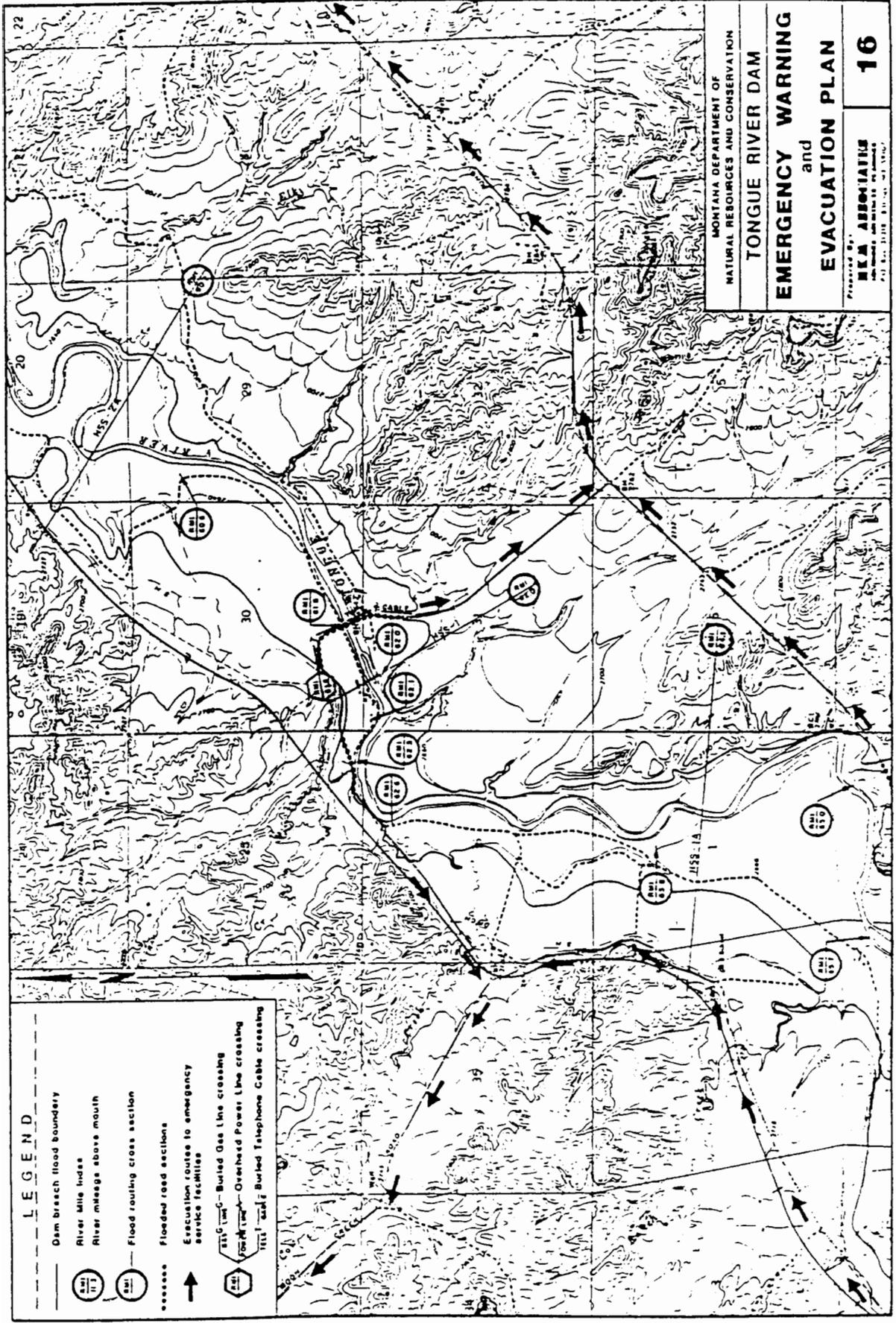
**EMERGENCY WARNING**  
and  
**EVACUATION PLAN**

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**M&A ASSOCIATES**  
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P.O. Box 3-118 Billings, MT 59101

**14**

R45E R45E





22

**LEGEND**

- Dam breach flood boundary
- River Mile Index
- River message above mouth
- Flood routing cross section
- ..... Flooded road sections
- ↑ Evacuation routes to emergency service facilities
- ⬆ Buried Gas Line crossing
- ⬆ Overhead Power Line crossing
- ⬆ Buried Telephone Cable crossing

MONTANA DEPARTMENT OF  
NATURAL RESOURCES AND CONSERVATION

**TONGUE RIVER DAM**

**EMERGENCY WARNING**  
and  
**EVACUATION PLAN**

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DENVER, COLORADO 80202

**16**

13N  
12W

# APPENDIX C

**REFERENCES CITED IN TONGUE RIVER RAILROAD COMPANY'S  
APPLICATION, EXHIBIT H, ENVIRONMENTAL REPORT, FILED AT THE ICC  
JUNE 28, 1991**

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## **APPENDIX D**

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Environmental Work and Review

Environmental Work and Review

## **APPENDIX E**

## Agencies Receiving Copies of the Draft EIS for Comment:

### Federal Agencies

Army Corps of Engineers  
Council on Environmental Quality  
Department of Agriculture:  
    Forest Service  
    Soil Conservation Service  
Department of Commerce  
Department of Energy  
Department of the Interior:  
    Bureau of Land Management  
    Fish and Wildlife Service  
    Office of Surface Mining  
    Bureau of Indian Affairs  
Department of Transportation  
Environmental Protection Agency

### Montana State Agencies

Governor's Office  
Department of Natural Resources and Conservation  
Department of Agriculture  
Department of Health and Environmental Sciences  
Department of Highways  
Department of Commerce  
Department of Fish, Wildlife and Parks  
Department of State Lands  
Montana Historical Society

### Wyoming State Agencies

Governor's Office  
Department of Environmental Quality  
Department of Commerce

**Local Agencies**

Big Horn County  
Rosebud County  
Custer County  
Powder River County

**Private Interests**

Native American Representatives  
Northern Cheyenne  
Crow  
Sioux  
Arapahoe  
All parties to the proceeding  
All persons requesting a copy

