



NR 129

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Anthony S. Earl
Secretary

BOX 7921
MADISON, WISCONSIN 53707

IN REPLY REFER TO: _____

STATE OF WISCONSIN)
DEPARTMENT OF NATURAL RESOURCES) ss

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TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, Anthony S. Earl, Secretary of the Department of Natural Resources and custodian of the official records of said Department, do hereby certify that the annexed copy of Natural Resources Board Order No. WR-48-79 was duly approved and adopted by this Department on January 23, 1980. I further certify that said copy has been compared by me with the original on file in this Department and that the same is a true copy thereof, and of the whole of such original.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the official seal of the Department at General Executive Facility #2 in the City of Madison, this 25TH day of March, 1980.

Anthony S. Earl
Anthony S. Earl, Secretary

(SEAL)

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
CREATING RULES

.....
IN THE MATTER of Creating Chapter NR 129 of the .
Wisconsin Administrative Code pertaining to the .
Flood Plain and Shoreland Mapping Assistance .
Program .
.....

WR-48-79

Analysis Prepared By The Department of Natural Resources:

Section 87.31, Wis. Stats., created by Chapter 34, Laws of 1979, authorizes state grants for 50% of the cost of flood plain and shoreland topographical mapping.

This new flood plain and shoreland mapping assistance program is closely related to the existing flood plain and shoreland management programs administered by the Department of Natural Resources pursuant to sections 59.971, 87.30 and 144.26, Wis. Stats., and chapters NR 115 and NR 116, Wis. Adm. Code.

The purpose of the proposed Chapter NR 129 is to provide rules for the administration of the flood plain and shoreland mapping assistance program.

The proposed rules provide that only municipalities that have adopted approved flood plain and/or shoreland zoning ordinances, or have imposed a moratorium on the issuance of permits in flood plain and/or shoreland areas, are eligible for grants under section 87.31, Wis. Stats.

The proposed rules list what is required to be in a grant application, describe eligible costs, ineligible costs, and eligible project areas, and outline the procedures that the Department must follow in accepting and prioritizing grant applications and making grant awards.

The section of the proposed rules which sets forth the criteria for determining a project's priority ranking is intended to identify as high priority those projects with a high flood damage potential, with detailed flood studies completed or in progress, and with mapping that is inadequate.

The proposed rules provide that a grant offer under this program will be valid for one year only unless the Department extends the project period, and establish the following payment schedule for grant funds:

- 1) The grantee will be paid 75% of the grant amount after the mapping has been completed and approved by the grantee and the Department and after the Department has conducted a final audit.
- 2) The grantee will be paid the remaining 25% after the grantee has adopted by ordinance the map(s) developed as a result of the grant project and has also adopted approved flood plain and shoreland ordinances or amendments which the Department has determined to be necessary.

The proposed rules also provide that if the grantee fails to adopt the map(s) or necessary ordinance, the grantee is required to reimburse the Department for the grant funds that have already been received under the mapping assistance program.

Pursuant to authority vested in the State of Wisconsin Natural Resources Board by section 87.31, Wis. Stats., created by chapter 34, Laws of 1979, and section 227.014, Wis. Stats., the State of Wisconsin Natural Resources Board hereby creates rules interpreting section 87.31, Wisconsin Statutes, as follows:

Section 1 - Chapter NR 129 is created to read:

CHAPTER NR 129

FLOOD PLAIN AND SHORELAND MAPPING GRANT PROGRAM

NR 129.01 Purpose	NR 129.09 Grant application
NR 129.02 Applicability	NR 129.10 Limitations on awards
NR 129.03 Definitions	NR 129.11 State share
NR 129.04 Severability	NR 129.12 Grant payments
NR 129.05 Eligibility for a state grant	NR 129.13 Project period
NR 129.06 Eligible and ineligible costs	NR 129.14 Specifications
NR 129.07 Grant awards	NR 129.15 Map approval
NR 129.08 Criteria for priority ranking	NR 129.16 Failure to adopt map
	NR 129.17 Grantee accountability

NR 129.01 Purpose. The purpose of this chapter is to establish rules under s. 87.31, Stats., for administration of the state grant program to provide financial assistance to counties, cities, and villages for topographical mapping of flood plain and shoreland areas to assist in the establishment and the administration of flood plain and shoreland zoning ordinances.

NR 129.02 Applicability. This chapter shall apply to all applications submitted for state grants for flood plain and shoreland mapping under s. 87.31, Stats.

NR 129.03 Definitions. For the purposes of this chapter:

- (1) "APPROVAL" means the written approval of the department.
- (2) "AUTHORIZED REPRESENTATIVE" means the municipal official or employe designated by resolution of the governing body of a municipality to act on behalf of the municipality in obtaining a grant under this chapter.
- (3) "DETAILED ENGINEERING STUDY" means a hydrologic and hydraulic analysis resulting in water surface profile(s) of a watercourse, lake, or flowage.
- (4) "DEPARTMENT" means the department of natural resources.
- (5) "FLOOD" means a general and temporary condition of partial or complete inundation of normally dry land areas caused by the overflow or rise of rivers, streams, or lakes.
- (6) "FLOOD PLAIN" means the land which has been or may be hereafter covered by flood water during the regional flood. The flood plain includes the floodway and the flood fringe.
- (7) "FLOOD FRINGE" means that portion of the flood plain outside of the floodway, which is covered by flood waters during the regional flood; it is generally associated with standing water rather than rapidly flowing water.
- (8) "FLOOD PLAIN MANAGEMENT" means the full range of public policy and action for insuring wise use of flood plains. It includes everything from the collection and dissemination of flood control information to actual acquisition of flood plain lands and the enactment and administration of codes, ordinances, and statutes for land use in the flood plain.

(9) "FLOODWAY" means the channel of a river or stream and those portions of the flood plain adjoining the channel required to carry and discharge the flood water or flood flows associated with the regional flood.

(10) "MUNICIPALITY" means any county, city or village.

(11) "OFFICIAL FLOOD PLAIN ZONING MAP" means the map(s) adopted by a county, city or village, approved by the department, referenced in an official flood plain zoning ordinance and used for regulatory purposes.

(12) "OFFICIAL SHORELAND ZONING MAP" means the map(s) adopted by a county, approved by the department, referenced in the county's official shoreland zoning ordinance and used for regulatory purposes.

(13) "REGIONAL FLOOD" means the flood determined to be representative of large floods known to have generally occurred in Wisconsin and which may be expected to occur on a particular stream because of like physical characteristics. The regional flood is based upon a statistical analysis of streamflow records available for the watershed and/or an analysis of rainfall and runoff characteristics in the general watershed region. The flood frequency of the regional flood is once in every 100 years; this means that in any given year there is a 1% chance that the regional flood may occur. During a typical 30-year mortgage period, the regional flood has a 26% chance of occurring.

(14) "SHORELAND" means lands within the following distances from the ordinary highwater mark of navigable waters: 1000 feet from a lake, pond, or flowage; and 300 feet from a river or stream or to the landward side of the flood plain, whichever distance is greater.

(15) "STRUCTURE" means any public or private man-made object with form, shape and utility, either permanently or temporarily attached to or placed upon the ground, river bed, stream bed or lakebed.

(16) "TOPOGRAPHIC MAP" means a map representing a portion of the earth's surface showing the culture, relief, hydrography, and vegetation.

(17) "WATER SURFACE PROFILE" means a graphical representation of the stage of the water surface throughout a county, city or village based upon a certain flow passing through the river or stream. A water surface profile based upon flows occurring during a regional flood is used in regulating the flood plain areas.

NR 129.04 Severability. Should any section, paragraph, phrase, sentence or clause of this chapter be declared invalid or unconstitutional for any reason, the remainder of this chapter should not be affected thereby.

NR 129.05 Eligibility for a state grant. The following municipalities are eligible for a state grant for flood plain and shoreland mapping:

- (1) Counties that have adopted an approved flood plain ordinance and shoreland ordinance;
- (2) Cities or villages that have adopted an approved flood plain ordinance; and
- (3) Counties, cities or villages that have imposed a moratorium on the issuance of permits in all flood plain areas.

NR 129.06 Eligible and ineligible costs. (1) ELIGIBLE COSTS. (a) The following project costs are eligible if allocatable to the mapping of eligible project areas:

1. Control survey;
2. Aerial photography;
3. Topographic mapping;
4. Delineation of flood plain and floodway limits; and
5. Printing of maps.

(b) Eligible project areas are limited to the following:

1. All lands within the regional flood plain, plus an additional 250 feet horizontally on either side of the flood plain, or
2. All lands lying within the unincorporated shoreland area of counties.

(c) Eligible project costs may include:

1. Costs incurred under contracts or subcontracts.
2. Costs incurred in the form of salaries and benefits, and the cost of expendable materials to be utilized by the applicant, except costs ineligible under NR 129.06(2)(a)2 or 3.

(2) INELIGIBLE COSTS. (a) The following costs are ineligible:

1. Costs incurred prior to the state grant offer;
2. Ordinary operating expenses of the municipality;
3. Indirect costs incurred by the municipality;
4. Costs not incurred for the performance of eligible services for eligible project areas;
5. Costs for which there is no prior department approval of eligibility;
6. Costs for which payment has been or will be received under another federal or state financial assistance program; and
7. Costs attributable to the correction of errors or deficiencies in the mapping due to the consultant's failure to comply with contract specifications.

(b) Where 2 feet (or less) contour interval mapping is available the department may, in its discretion, declare that project area ineligible. In exercising this discretion, the department may take into account the changes in land development conditions that may render existing available mapping obsolete.

NR 129.07 Grant awards. (1) GENERAL. Grant funds available under this program shall be allocated to those projects placed on the project priority list, as determined by the criteria set forth in section NR 129.08, in accordance with the following procedure:

(a) The department shall establish a priority list for each fiscal year (July 1 through June 30) by July 1 for all complete applications received by June 1 of that year.

(b) Grants shall be awarded by September 1 to those applicants with more than 15 total points under the criteria set forth in section NR 129.08, in the order that they appear on the priority list, provided that funds have been appropriated for this grant program by August 15. If no funds are appropriated by August 15, grant awards to applicants with more than 15 points shall be made within 30 days of the effective date of such appropriation.

(c) The department shall revise the priority list by January 1 of each fiscal year to include all complete applications received between June 2 and December 1 as well as those applications received prior to June 2 with 15 points or less under the criteria set forth in section NR 129.08.

(d) The department shall award remaining grant funds to applicants in the order that they appear on the revised priority list by March 1.

(e) All completed applications submitted between December 1 and June 1 shall be included on the priority list for the next fiscal year.

(f) If there are insufficient funds to award grants to all applicants in the fiscal year for which the applications were submitted, the applicants not receiving a grant will be included on the priority list for the next fiscal year unless the department receives notification that those applicants wish to withdraw their applications. The department may require revised cost estimates for applications carried over to the next fiscal year.

(2) FOR FISCAL 1979/80 ONLY (July 1, 1979 to June 30, 1980). Applications must be submitted within 30 days of the date on which these rules take effect in order to be considered for funding in fiscal year 1979/80. A priority list shall be established, using the criteria set forth in section NR 129.08, within 30 days of the application deadline. Grants will be awarded to applicants in the order that they appear on the priority list.

NR 129.08 Criteria for priority ranking. (1) GENERAL. The intent of this section is to identify as high priority projects those projects with a high flood damage potential, with detailed flood studies completed or in progress, and with mapping that is inadequate to properly administer zoning ordinances.

(2) CRITERIA. (a) Type of study:

1. Detailed engineering study in progress, 10 points;
2. Detailed engineering study completed, 8 points;
3. Approximate study (eg. flood hazard boundary map, flood prone area map), 2 points.

(b) Flood damage potential (The estimate for flood damage potential shall be based on the total equalized assessed value of all structures in the flood plain):

1. \$5,000,000 or more, 8 points;
2. \$2,500,000 or more, but less than \$5,000,000, 6 points;
3. \$1,000,000 or more, but less than \$2,500,000, 4 points;
4. \$500,000 or more, but less than \$1,000,000, 2 points;
5. Less than \$500,000, 0 points.

(c) Potential for future development of flood plain and/or shoreland areas:

1. High - evidenced by submission of plat(s), or application for 10 or more building permits in the preceding year, or proposal for commercial development in project area, 8 points;
2. Moderate - evidenced by fewer than 10 applications for building permits in the preceding year in project area, 4 points;
3. Low - No application for building permits in the preceding year in project area, 0 points.

(d) Availability of mapping data from other sources: Where the cost of the project can be reduced by utilizing existing aerial photography or ground control surveys obtained for other purposes (eg. highway mapping, flood insurance study, wetland mapping, etc.) additional points shall be awarded as follows:

1. 50% or more reduction in total project cost, 5 points;
2. 40% to 50% reduction in total project cost, 4 points;
3. 30% to 40% reduction in total project cost, 3 points;
4. 20% to 30% reduction in total project cost, 2 points;
5. 10% to 20% reduction in total project cost, 1 point;
6. Less than 10% reduction in total project cost, 0 points.

(e) Adequacy of available maps:

1. 10 feet or greater contour interval, 4 points;
2. 3 feet through 9 feet contour interval, 2 points;
3. 2 feet or less contour interval, 0 points.

(f) Joint application by 2 or more municipalities: A single application submitted jointly by 2 or more municipalities which promotes the mapping of a continuous reach of a river or contiguous shoreland area, 2 points per municipality.

(3) If 2 or more applicants receive the same total points under the criteria set forth in sub. (2), those applicants shall be ranked on the priority list in the order in which their applications were submitted to the department.

NR 129.09 Grant application. (1) PROCEDURE. (a) Applicants are encouraged to submit applications to the department a minimum of 90 days prior to June 1 or December 1 to allow time for additional infor-

mation to be submitted in the event that the initial application is found to be incomplete.

(b) A grant application must be submitted to the department for each proposed flood plain or shoreland mapping project. Submissions required for subsequent related projects shall be provided in the form of separate grant applications. If any information required under sub. (2) has been furnished with an earlier application, the applicant need only incorporate by reference and, if necessary, revise such information utilizing the previous application.

(c) Where detailed engineering studies are not available for all or part of a given watercourse within the municipality, a separate application must be submitted for that portion of the municipality where no detailed engineering studies exist. Each application shall be reviewed and ranked separately.

(d) As soon as possible after receipt, the department will review each application and advise the applicant of any deficiencies, omissions, or errors in the application.

(2) CONTENTS OF APPLICATION. An application for a grant under this chapter shall be made on forms furnished by the department and shall include the following:

(a) Certified copies of the following resolutions of the governing body of the municipality which may be submitted in the form of separate resolutions or in combined resolutions:

1. A resolution designating an authorized representative, and authorizing such representative to apply for a grant under s. 87.31, Stats., and this chapter, on behalf of the municipality.

2. A resolution stating that the municipality assumes responsibility for the solicitation and selection of a mapping consultant, and the administration of any contracts or subcontracts with the mapping consultant, and any subcontractors.

3. A resolution stating that all eligible services will be performed under the direct supervision of a person who holds a certificate of registration as a registered land surveyor or professional engineer from the state of Wisconsin.

4. A resolution stating that the municipality will adopt the map(s) developed as a result of the grant project, and any necessary ordinance or ordinance amendments, within 6 months after approval of the map(s) by the department.

5. A resolution stating that the municipality agrees to pay, either from its own budget or from payments received under another financial assistance program, all project costs not covered by the state share.

6. A resolution stating that the municipality will insure that all map(s) developed as a result of the grant project will meet the specifications set forth in section NR 129.14.

(b) A map(s) showing those areas for which grant funds are requested;

(c) An identification of the municipalities or other entities that will be involved in the proposed mapping project;

(d) The schedule for completion of specific tasks;

- (e) An itemized description of the estimated costs for the project;
- (f) Proposed contracts or subcontracts;
- (g) Information necessary to determine priority ranking; and
- (h) Other information needed to determine eligible project scope and costs, as requested by the department.

NOTE: Application forms may be obtained, at no charge, from the Bureau of Water Grants, Wisconsin Department of Natural Resources, P.O. Box 7921, Madison, Wisconsin 53707.

NR 129.10 Limitations on award. Before awarding grant assistance for any project for flood plain or shoreland mapping, the department shall determine:

- (1) That all of the applicable requirements of section NR 129.09 have been met;
- (2) That such projects are entitled to priority in accordance with section NR 129.08;
- (3) That costs under proposed contracts or subcontracts are fair and reasonable, as determined by the department; and
- (4) That the flood plain or shoreland mapping project was not started prior to department approval of the proposed contracts or subcontracts. Payment shall not be authorized for costs incurred prior to the approved project start date established in the grant agreement.

NR 129.11 State share. The state share shall not exceed 50% of the total eligible project costs.

NR 129.12 Grant payments. The grantee shall be paid the state share of those eligible project costs which have prior department approval in the following installments:

- (1) 75% of the state share of eligible costs shall be paid to the grantee within 60 days after the department has conducted a final audit and has determined the final audited eligible costs. A final audit shall be conducted within 60 days after the mapping has been completed and approved by the grantee and the department.
- (2) 25% of the state share of eligible costs shall be paid to the grantee within 60 days after the grantee has adopted, by ordinance, the map(s) developed as a result of the grant project; and has also adopted department-approved flood plain and shoreland ordinances or amendments which the department has determined to be necessary under chapters NR 115 and NR 116, Wis. Adm. Code.

NR 129.13 Project period. The grant offer is valid for one year after the date of acceptance of the grant offer by the grantee unless the department extends that period.

- (1) The department may extend the grant offer for up to 3 years if such an extension is warranted by the circumstances and if it is requested by the grantee at least 30 days prior to the end of the initial

one-year project period.

(2) If the work covered by the state grant offer is not completed and approved by the grantee within one year from the time the grant offer is accepted by the grantee, or within an extension period if one has been granted, the state grant offer shall become null and void. The municipality in question would then have to submit a new grant application, and be ranked under the current priority list, to receive funding for its project.

NR 129.14 Specifications. (1) GENERAL. (a) Contracts between the grantee and the mapping consultant, and between the mapping consultant and subcontractors, if any, shall contain the mapping specifications set forth in this section, unless pars. (b) or (c) are applicable.

(b) Within the 7 southeastern Wisconsin counties of Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha, the department encourages applicants to design mapping programs on the basis of the specifications for large-scale mapping prepared and published by the southeastern Wisconsin regional planning commission (SEWRPC) in its Technical Report No. 7, "Horizontal and Vertical Survey Control in Southeastern Wisconsin".

NOTE: This publication may be obtained from the:

Southeastern Wisconsin Regional Planning Commission
916 N. East Avenue
P.O. Box 769
Waukesha, WI 53187

This publication is available for inspection at the offices of the Department, the Secretary of State and the Revisor of Statutes.

(c) If the department determines that compliance with the specifications of this section would be impractical in specific cases, it may approve alternative specifications which, in its opinion, represent a reasonable approach to achieving the desired end product.

(d) Before any work is undertaken, the consultant and subcontractors, if any, shall meet with representatives of the municipality and the department to discuss the scope of work and the procedures which will satisfy the mapping requirements set forth in this section.

(e) The map(s), aerial photographs and negatives, and all other data developed as a part of the mapping project shall be considered public records and shall be made available for public inspection.

(2) GROUND CONTROL. (a) Records. It shall be the grantee's responsibility to make known to the mapping consultant all existing monumentation and to furnish the consultant with existing local unpublished survey data of the required order of accuracy or better.

(b) Control report. The consultant shall prepare and furnish to the grantee a bound control report providing all data pertaining to the project survey control. The report shall contain:

1. A narrative, outlining survey methods used and applicable survey instrumentation and computational and adjustment procedures utilized;
2. The closure and adjustment computations and original field note books for horizontal and vertical control;
3. Sketches, descriptions, elevations and state plane coordinates of all existing and newly established recoverable control; and
4. A scale control diagram summarizing the existing project survey control utilized for origin and closure purposes, along with the relationship to newly established recoverable horizontal and vertical control.

(c) Vertical control. The consultant shall perform necessary field surveys to maintain full model vertical ground control with all elevations referred to national geodetic vertical datum of 1929. Third-order accuracy is required and shall conform to national geodetic survey specifications. There shall be enough ground-surveyed bench marks such that no point within the flood plain or shoreland area will be greater than 3000 feet from a described and recoverable bench mark. No analytical aerotriangulation for vertical mapping control shall be accepted unless it is otherwise impractical to gain physical or legal access.

(d) Horizontal control. The consultant shall perform horizontal control surveys to obtain third-order, class I accuracy and shall conform to national geodetic survey specifications. The horizontal control survey shall be based on the state plane coordinate system and shall originate and end on the basic control for which closures are known and available, or shall be run to make a closed and checked circuit. Analytical aerotriangulation for horizontal mapping control is acceptable.

(e) Specifications for vertical and horizontal control have been prepared and published by the U.S. department of commerce in the following publications:

1. "Classification, Standards of Accuracy, and General Specifications of Geodetic Control Surveys" reprinted January 1979; NTIS accession no. PB265442.
2. "Specifications to Support Classification, Standards of Accuracy, and General Specifications of Geodetic Control Surveys" reprinted January 1979; NTIS accession no. PB261037.

NOTE: These publications may be obtained from either the:

National Geodetic Information Center (single copies)

C185, NOS

Rockville, MD 20852

or the:

U.S. Department of Commerce (multiple copies)

National Technical Information Service

Springville, VA 22161

Both publications are available for inspection at the offices of the Department, the Secretary of the State and the Revisor of Statutes.

(3) AERIAL PHOTOGRAPHY. (a) Camera. Photography shall be exposed with a 6-inch focal length lens to produce negatives 9x9 inches in size. The camera used and its designated companion film magazine must have been certified by the U.S. geological survey or the manufacturer within 3 years prior to the date of the grant application.

(b) Scale. Photography shall be obtained from a flight height chosen by the mapping consultant so that 2-foot contour interval accuracy is assured, and shall be such that the negatives will yield a final map scale of 1" = 200' for urban areas and 1" = 400' for rural areas. However, flight height greater than 4000 feet above mean flood plain elevation is unacceptable for use with an optical-mechanical stereoplotter, and flight height greater than 3000 feet above mean flood plain elevation is unacceptable with a projection type stereoplotter. Negatives which have a departure from the intended scale of photography exceeding 5% may be rejected.

(c) Overlap. The overlap shall be sufficient to provide full stereoscopic coverage of the complete area to be mapped. The endlap shall average 60%, with side lap not less than 20% or more than 55%.

(d) Tilt. Tilt of any negative by more than 3 degrees, an average tilt of more than one degree for the entire project, or tilt between any 2 successive negatives exceeding 4 degrees may be cause for rejection.

(e) Crab. Crab in excess of 3 degrees may be cause for rejection of the flight line of negatives or portions thereof in which such crab occurs.

(f) Quality. The photographs shall be clear and sharp in detail and of average uniform density. They shall also be free of clouds, cloud shadows, light streaks, static marks or other blemishes which would interfere with their intended use. All photography shall be taken when the area to be mapped is free of snow, with the water confined to the main low water channel, before foliation, and at such time as to insure a minimum solar angle of 30 degrees.

(g) Contact prints. The contact prints from the vertical negatives shall be printed on double weight, semi-matte paper of suitable contrast.

(h) Photo index. Photo indices shall be prepared by directly photographing on safety base film, at a convenient scale, the assembly of contact prints from all indexed and evaluated prints and shall be reproduced on dimensionally stable polyester base material. The photo index map shall carry a suitable title, scale, and north point.

(4) MAP ACCURACY. (a) Contours. 1. 90% of the elevations determined from the solid-line contours of the topographic maps shall have an accuracy with respect to true elevation of 1/2 contour interval, or better and no such elevations shall be in error by more than one contour interval based on a 2-foot contour interval.

2. In each particular area where the intermediate contours have been omitted due to the steepness of the ground slopes, and only the index contours are delineated on the maps, the accuracy stipulations apply to the contour interval of the index contours.

3. In densely wooded areas where heavy brush or tree cover fully obscures the ground and the contours are shown as dashed lines, the contours shall be plotted as accurately as possible from the stereoscopic model, while making full use of spot elevations obtained during ground control surveys and all spot elevations measured photogrammetrically in places where the ground is visible.

(b) Spot elevations. 90% of all photogrammetrically determined spot elevations shall have an accuracy with respect to true elevation of $1/4$ contour interval, or better, and no such elevations shall be in error by more than $1/2$ contour interval based on a 2-foot contour interval.

(c) Coordinate grid lines. Each coordinate grid line or tick shall be plotted on the finished map sheets within $1/100$ of an inch of the true grid values.

(d) Horizontal control. Each horizontal control station and section corner shall be plotted on the finished map sheets within $1/100$ of an inch of its true position as expressed by the adjusted coordinates computed for the point.

(e) Planimetric features. 1. 90% of all well-defined planimetric features on the photographs shall be plotted so that their position on the finished maps shall be accurate to within $1/40$ of an inch of their true coordinate position and no point shall be misplaced on the finished map by more than $1/20$ of an inch from its true position.

(5) TOPOGRAPHIC MAPS. (a) Coordinate grid. Grid line intersections of the state plane coordinate system shall be shown on the finished map(s) together with corresponding coordinate values. Spacing of these lines shall be 5 inches.

(b) Match lines. Match lines shall be provided for the map sheets so that each sheet may be joined accurately to those adjacent to it.

(c) Planimetry. 1. The map(s) shall contain all planimetric features which are visible from the aerial photography, including land use features such as, but not limited to, buildings, canals, ditches, reservoirs, trails, roads, highways, railroads, ferry slips, fords, quarries, borrow pits, cemeteries, orchards, boundaries of wooded areas, fence lines and individual, lone, large trees that can be recognized as such. Structures, such as bridges, trestles, tunnels, piers, retaining walls, dams, power plants, transformer and other substations, transportation terminals and airfields, storage tank fields, and the like, shall also be shown.

2. Buildings and similar dimensionable objects shall be correctly outlined and oriented on the maps, and shall be to actual scale, except those building dimensions smaller than representable by $1/20$ inch in size. Minor irregularities in building outlines that are not representable by $1/40$ inch at map scale shall be ignored.

3. Township, range, and section lines; and city, town, county, and political subdivision lines shall be obtained by the consultant from the municipality or other available sources and identified on the map(s).

(d) Spot elevation. 1. Spot elevations determined photogrammetrically or by field survey shall be shown on the maps in proper position at water level on the shoreline of lakes, reservoirs, ponds and the like; on hilltops; in saddles; at the bottom of depressions; at the intersection of well-traveled roads, principal streets in cities, railroads, and highways; and on the centerline at each end of bridges and like locations where such elevations are significant.

2. In areas where the contours are more than 3 inches apart at map scale, photogrammetric spot elevations shall also be shown to adequately depict the ground configuration.

(e) Topography. 1. Unless otherwise stipulated in special provisions, the maps shall contain all representable and specified topographic features which are visible from the aerial photography.

2. Contours shall be delineated to represent true elevation above mean sea level and the exact shape of the ground. Every fifth contour shall be accentuated and numbered.

3. Wherever they exist, hydrographic features required on the maps shall include all watercourses which are longer than one inch at map scale, and all ponds, lakes, flowages and wetlands.

(6) MAP MANUSCRIPT. All drafting shall be of professional quality. The map shall be no larger than 24X36 inches on dimensionally stable polyester base .007 inch thick with emulsion on back and matte finish. The title block shall contain a graphic scale, date, type of map, name of municipality, and north point. The manuscript shall be prepared in such a manner that future modification to flood plain/floodway limits can easily be made.

NR 129.15 Map approval. (1) After the mapping has been completed, and approved by the grantee, the grantee shall submit one polyester stable base film copy of the final map(s) and map index and one copy of the ground control report to the department for approval. The department shall make a decision within 30 days.

(2) The grantee shall be responsible for insuring that the final product meets the specifications of the contract. The cost of the correction of errors or deficiencies will not be grant eligible.

NR 129.16 Failure to adopt map. If the grantee fails to adopt the map(s) developed as a result of the grant project as the official flood plain or shoreland zoning map, or fails to adopt any necessary ordinances or amendments within 6 months after the department has approved the map(s) without adequate justification as determined by the department, the grantee shall not receive any further state funds under the flood plain and shoreland mapping grant program and shall be required to reimburse the department for state funds already received under the program.

NR 129.17 Grantee accountability. (1) RECORDS. The grantee shall maintain such accounting records as are necessary in accordance with standard accounting procedures for receipt and disbursement of monies associated with the project and eligible for state grant participation.

(2) ACCESS. The grantee's records, and the records of mapping consultants and subcontractors which are pertinent to a specific state grant award, shall be subject at all reasonable times to inspection, copying and audit by the department.

The foregoing rules were approved and adopted by the State of Wisconsin Natural Resources Board on January 23, 1980.

The rules contained in the foregoing order shall take effect upon publication as required by s. 227.026, Stats.

Dated at Madison, Wisconsin

25 March 1980

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES

By

Anthony S. Earl
Anthony S. Earl, Secretary

(SEAL)



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

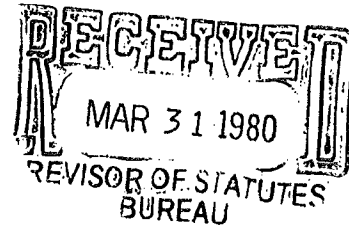
Anthony S. Earl
Secretary

March 27, 1980

BOX 7921
MADISON, WISCONSIN 53707

IN REPLY REFER TO: 1020

Mr. Orlan L. Prestegard
Revisor of Statutes
411 West
C A P I T O L




Dear Mr. Prestegard:

Enclosed are two copies, including one certified copy, of State of Wisconsin Natural Resources Board Order No. WR-48-79. These rules were reviewed by the Assembly Committee on Environmental Resources and the Senate Committee on Natural Resources and Tourism pursuant to sec. 227.018, Stats. There were no comments.

You will note that this order takes effect upon publication. Kindly publish it in the Administrative Code accordingly.

Sincerely,


Anthony S. Earl
Secretary

Enc.