

Chapter NR 129

FLOODPLAIN AND
SHORELAND MAPPING GRANT PROGRAM

NR 129.01	Purpose (p. 181-3)	NR 129.10	Limitations on awards (p. 181-10)
NR 129.02	Applicability (p. 181-3)	NR 129.11	State share (p. 181-10)
NR 129.03	Definitions (p. 181-3)	NR 129.12	Mapping project period (p. 181-10)
NR 129.04	Severability (p. 181-5)	NR 129.13	Project period (p. 181-10)
NR 129.05	Eligibility for a state grant (p. 181-5)	NR 129.14	Map approval (p. 181-11)
NR 129.06	Eligible and ineligible costs (p. 181-5)	NR 129.15	Grant payments (p. 181-11)
NR 129.07	Grant awards (p. 181-7)	NR 129.16	Ordinance adoption or amendment period (p. 181-15)
NR 129.08	Criteria for priority ranking (p. 181-7)	NR 129.17	Grantee accountability (p. 181-15)
NR 129.09	Grant application (p. 181-8)		

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 floodplain and shoreland areas to assist in the establishment and the administration of floodplain and shoreland zoning ordinances.

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80; am. Register, April, 1983, No. 328, eff. 5-1-83.

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

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80; am. Register, April, 1983, No. 328, eff. 5-1-83.

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 employee 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 floodplain study" means a hydrologic and hydraulic analysis to determine the flood flow discharge for a given flood frequency and the resulting water surface profile of a watercourse.
- (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) "Floodplain" means the land which has been or may be hereafter covered by flood water during the regional flood. The floodplain includes the floodway and the flood fringe.
- (7) "Flood fringe" means that portion of the floodplain outside of the floodway, which is covered by flood waters during the regional flood, and

Register, April, 1983, No. 328
Environmental Protection

is generally associated with standing water rather than rapidly flowing water.

(8) "Floodplain management" means the full range of public policy and action for insuring wise use of floodplains. It includes everything from the collection and dissemination of flood control information to actual acquisition of floodplain lands and the enactment and administration of codes, ordinances and statutes for land use in the floodplain.

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

(10) "High flood damage potential" means the potential for any danger to life or health and any significant economic loss to a structure or building or its contents.

(11) "Municipality" means any county, city or village.

(12) "Official floodplain zoning map" means the map or maps adopted by a county, city or village, approved by the department, referenced in an official floodplain zoning ordinance and used for regulatory purposes.

(13) "Official shoreland zoning map" means the map or maps adopted by a county, approved by the department, referenced in the county's official shoreland zoning ordinance and used for regulatory purposes.

(14) "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.

(15) "Shoreland" means lands within the following distances from the ordinary high-water 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 floodplain, whichever distance is greater.

(16) "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.

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

(18) "Water surface profile" means a graphical representation of the elevation 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 floodplain areas.

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80; am. (3) and (6) to (9), renum. (10) to (17) to be (11) to (18) and am. (12), (13), (15) and (18), cr. (10), Register, April, 1983, No. 328, eff. 5-1-83.

Register, April, 1983, No. 328
Environmental Protection

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.

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80.

NR 129.05 Eligibility for a state grant. (1) SHORELAND MAPPING GRANTS. The following municipalities are eligible for a state grant for shoreland mapping:

(a) Counties which have a department-approved shoreland zoning ordinance in effect for the shoreland portion of the proposed project area.

(b) Counties which have, in the absence of an approved shoreland zoning ordinance in effect for the proposed project area, enacted a moratorium that prohibits all construction, filling and development in the shoreland portion of the proposed project area.

(2) FLOODPLAIN MAPPING GRANTS. The following municipalities are eligible for a state grant for floodplain mapping:

(a) Counties, cities and villages which have a department-approved floodplain zoning ordinance in effect for the floodplain portion of the proposed project area.

(b) Counties, cities and villages which have, in the absence of an approved floodplain zoning ordinance, enacted a moratorium that prohibits all construction, filling and development in the floodplain portion of the proposed project area.

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80; r. and rec. Register, April, 1983, No. 328, eff. 5-1-83.

NR 129.06 Eligible and ineligible costs. (1) ELIGIBLE COSTS. (a) The following project costs, whether incurred under contract or in the form of salaries and benefits, are eligible if they are allocatable to the mapping of eligible project areas and are not ineligible under sub. (2):

1. Control survey, including monumentation and identification, both horizontally and vertically, of U.S. public land survey section and $\frac{1}{4}$ section corners, centers of sections and correction corners within the eligible project area:

2. Aerial photography;

3. Topographic mapping;

4. Delineation of floodplain, floodway, and shoreland limits and annotation of other pertinent shoreland and floodplain data on the map sheets; and

5. Verification of map accuracy.

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

1. Any 1 64 section (nominally 10 acres) of the U.S. public land survey or, where another survey system has been used, any equivalent area of up to 10 acres, which contains a floodplain or shoreland area. The eligible project area shall be defined on a $7\frac{1}{2}$ minute series U.S. geological survey quadrangle map. If U.S.G.S. maps are unavailable, any suitable scale map which depicts the U.S. public land survey may be used. Any 1 64

section divided by a corporate boundary shall be considered eligible if it contains a floodplain or shoreland area.

2. Areas within the jurisdiction of the municipality, including proposed project areas outside of a city or village if the area is subject to:

- a. Annexation proceedings prior to the date of application;
- b. Extraterritorial zoning; or
- c. A county board resolution in which the county agrees to adopt, as part of the county's official floodplain or shoreland zoning ordinance, the maps developed for areas outside of the city or village as a result of the grant.

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

1. Costs incurred prior to the state grant offer;
2. Ordinary operating expenses and indirect costs incurred by the municipality;
3. Costs for which there is no prior department approval of eligibility unless s. NR 129.06 (3) (c) applies;
4. Costs for which payment has been or will be received under another state or federal cost sharing or grant program;
5. Costs attributable to the correction of errors or deficiencies in the mapping due to the consultant's failure to comply with contract specifications; and
6. The cost of a detailed floodplain study.

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

(3) ALLOCATION OF COSTS. Total project costs may be allocated between eligible and ineligible project areas using one of the following methods:

(a) Unit cost method. When this method is used, individual work items are prorated between eligible and ineligible project areas based on an equal cost per unit area.

Note: The following is an example of the calculation of an individual work item using the unit cost method: If the cost of aerial photography is \$500.00 per square mile (640 acres), and there are 320 acres of eligible project area, the eligible project cost would be $\$500.00 \div 320 \text{ acres} = \250.00 .

(b) Project cost method. When this method is used, eligible project costs are based on the total estimated cost of mapping only the eligible project area. Field work or data collection (e.g., ground control survey or aerial photography) outside the eligible project area may be eligible if it is necessary for the completion of the project. Projects using this method are required to submit the consultant's fee schedule showing the breakdown of eligible work items.

(c) Original cost estimates based on either method may be increased, using the grant amendment procedure in s. NR 129.07 (2), if it is determined upon completion of the final maps that the actual eligible project area is significantly larger than the area originally estimated to be eligible.

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80; am. Register, April, 1983, No. 328, eff. 5-1-83.

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

(a) The department shall establish a priority list for the current fiscal year by March 1 for all applications submitted to the department by February 1 of that year.

(b) Grants shall be awarded by April 1 to applicants in the order that they appear on the priority list, based on the total individual points received under the criteria set forth in s. NR 129.08.

(c) All applications received after February 1 shall be included on the priority list for the next fiscal year.

(d) If there are insufficient funds to award grants to all eligible applicants in a given fiscal, those applications not funded will be included on the priority list for the next fiscal year unless the department receives notification that an applicant wishes to withdraw the application.

(2) AMENDMENTS. Requests for additional funding, for the mapping of an eligible project area, necessitated by a change in the scope of work and requests for additional funding under s. NR 129.06 (3) (c) may be awarded by the department if unallocated funds remain for the fiscal year in which a grant amendment request is received. Such grant amendments shall be funded on a first-come, first-served basis. If no unallocated funds remain for that fiscal year, a grant amendment request shall be ranked on the priority list for the next fiscal year, according to the number of priority points assigned to the original application under s. NR 129.08.

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80; am. Register, April, 1983, No. 328, eff. 5-1-83.

NR 129.08 Criteria for priority ranking. The following criteria shall be used to rank proposed mapping projects for the purpose of determining funding priority:

(1) Type of study or map information available:

(a) Detailed floodplain study in progress, 10 points;

(b) Detailed floodplain study completed, 8 points;

(c) Approximate floodplain study map (e.g., flood hazard boundary map or flood prone area map) or shoreland map is available, 2 points.

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

- (a) \$5,000,000 or more, 8 points;
- (b) \$2,500,000 or more, but less than \$5,000,000, 6 points;
- (c) \$1,000,000 or more, but less than \$2,500,000, 4 points;
- (d) \$500,000 or more but less than \$1,000,000, 2 points;
- (e) \$250,000 or more but less than \$500,000, 1 point;
- (f) Less than \$250,000, 0 points.

(3) Potential for future development of floodplain or shoreland areas in the project area:

(a) High — evidenced by submission of a plat or plats, or application for 10 or more building permits in the preceding 2 years, or proposal for commercial development, 8 points;

(b) Moderate — evidenced by fewer than 10 applications for building permits in the preceding 2 years, 4 points;

(c) Low — No applications for building permits in the preceding 2 years, 0 points.

(4) Availability of mapping data from other sources: Where the cost of the project can be reduced by utilizing existing data (e.g., aerial photography or ground control surveys acquired through a previous mapping project), additional points shall be as follows:

(a) More than 30% reduction in total project cost, 5 points;

(b) 10% to 30% reduction in total project cost, 3 points;

(c) Less than 10% reduction in total project cost, 0 points.

(5) Adequacy of available maps:

(a) 10 foot or greater contour interval, 4 points;

(b) 3 foot through 9 foot contour interval, 2 points;

(c) 2 foot or less contour interval, 0 points.

(6) 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.

(7) If 2 or more applicants receive the same total points under this section, those applicants shall be ranked on the priority list in the order in which their applications were submitted to the department.

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80; am. Register, April, 1983, No. 328, eff. 5-1-83.

NR 129.09 Grant application. (1) PROCEDURE. (a) Applications shall be submitted to the department by February 1 to be considered for a mapping grant in the current fiscal year.

(b) A separate grant application must be submitted to the department for each proposed floodplain or shoreland mapping project.

Register, April, 1983, No. 328
Environmental Protection

(c) For floodplain mapping, where detailed floodplain studies are not available or in progress for all or part of a given watercourse within the project area, a separate application must be submitted for that portion of the municipality where no detailed engineering studies exist. Each application shall be ranked separately.

(d) The department shall review for completeness each application received and shall advise the applicant of any deficiencies, omissions or errors in the application in a letter acknowledging receipt of 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:

1. Resolutions to be submitted by all municipalities, including each municipality applying for a grant in a joint application:

a. 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.

b. A resolution stating that the municipality will adopt the maps developed as a result of the grant project as official zoning maps, and any necessary ordinance or map amendment, within 6 months after approval of the maps by the department.

c. A resolution stating that the municipality agrees to pay a share of the eligible costs which is equal to the state share.

2. Additional resolutions to be submitted by only those municipalities which will be responsible for either doing the mapping work or for contracting with a mapping consultant for photogrammetric or related services:

a. 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.

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

c. A resolution stating that the municipality will insure that all maps developed as a result of the grant project will meet, or exceed, the specifications set forth in s. NR 129.13.

(b) A map showing the proposed project area;

(c) Identification of all the municipalities 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, including the mapping consultant's fee schedule unless the eligible project costs have been allocated on a unit cost basis under s. NR 129.06 (3) (a); and

(g) Other information needed to determine eligible project area or priority ranking, 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 or from any District Office of the Wisconsin Department of Natural Resources.

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80; am. Register, April, 1983, No. 328, eff. 5-1-83.

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

- (1) All applicable requirements of s. NR 129.09 have been met;
- (2) Costs under proposed contracts or subcontracts are fair and reasonable; and
- (3) The work under the proposed contracts or subcontracts has not been started prior to the grant offer.

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80; am. Register, April, 1983, No. 328, eff. 5-1-83.

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

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80.

NR 129.12 Mapping project period. Completed maps shall be submitted to the department, in accordance with s. NR 129.14, within one year after the date of acceptance of the grant offer unless the department extends that period. If such an extension is warranted by the circumstances and is requested by the grantee prior to the end of the initial one-year project period, the department may extend the project period for up to 3 additional years.

(2) If the grantee fails to comply with sub. (1), the grantee may not receive any state funds under this chapter. A new grant application for the uncompleted portion of the mapping project would then be required for ranking in the next priority list.

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80; renum. from NR 129.13 and am. Register, April, 1983, No. 328, eff. 5-1-83.

NR 129.13 Specifications. (1) **GENERAL.** (a) Contracts between the grantee and the mapping consultant, and between the mapping consultant and subcontractors, if any, shall conform to the minimum mapping specifications set forth in this section, unless par. (b) is applicable.

Note: Within the 7 southeastern Wisconsin counties of Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington and Waukesha, the department encourages applicants to conduct mapping projects in accordance with specifications for large scale mapping which have been prepared by the Southeastern Wisconsin Regional Planning Commission (SEWRPC). These specifications may be obtained by writing to the:

Southeastern Wisconsin Regional Planning Commission
916 N. East Avenue
P.O. Box 769
Waukesha, WI 53187 - 1607

Register, April, 1983, No. 328
Environmental Protection

(b) 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.

(c) The maps, aerial photographs and negatives, and all other data developed as 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. "Classifications, 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 revisor of statutes.

(3) **AERIAL PHOTOGRAPHY.** (a) *Camera.* Photography shall be exposed with a 6-inch focal length lens to produce negatives 9 x 9 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 the specified contour interval accuracy is assured. However, flight height greater than 4800 feet above mean floodplain elevation is unacceptable for use with an optical-mechanical stereoplotter, and flight height greater than 3000 feet above mean floodplain 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.* 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°, an average tilt of more than one degree for the entire project, or tilt between any 2 successive negatives exceeding 4° may be cause for rejection.

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

(f) *Quality.* Photography shall be clear and sharp in detail and of average uniform density. It shall also be free of clouds, cloud shadows, light streaks, static marks or other blemishes which would interfere with its 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°.

(g) *Contact prints.* 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. Ninety percent of the elevations determined from the solid-line contours of the topographic maps shall have an accuracy with respect to true elevation of $\frac{1}{2}$ contour interval or better, and no such elevations shall be in error by more than one 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*. Ninety percent of all photogrammetrically determined spot elevations shall have an accuracy with respect to true elevation of $\frac{1}{4}$ contour interval or better, and no such elevations shall be in error by more than $\frac{1}{2}$ contour interval.

(c) *Coordinate grid lines*. Each coordinate grid line or tick shall be plotted on the finished map sheets within $\frac{1}{100}$ 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 $\frac{1}{100}$ of an inch of its true position as expressed by the adjusted coordinates computed for the point.

(e) *Planimetric features*. 1. Ninety percent 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 $\frac{1}{40}$ of an inch of their true coordinate position and no point shall be misplaced on the finished map by more than $\frac{1}{20}$ 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.

4. Floodplain, floodway and shoreland limits shall be shown on the finished map sheets along with other pertinent information related to the mapping project.

(6) **MAP MANUSCRIPT.** All drafting shall be of professional quality on dimensionally stable polyester base with emulsion on back and matte finish. The title block shall contain a graphic scale, date, type of map, name of municipality, north point, the source and date of floodplain and shoreland information represented on the map sheets, and the following statement: "This map was paid for, in part, with a Floodplain and Shoreland Mapping Grant from the State of Wisconsin Department of Natural Resources." The manuscript shall be prepared in such a manner that future modification to floodplain or shoreland limits can easily be made.

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80; renum. from NR 129.14 and am. (1), (3), (4) and (6), cr. (5) (c) 4., Register, April, 1983, No. 328, eff. 5-1-83.

NR 129.14 Map approval. After the mapping has been completed and approved by the grantee, the grantee shall submit 3 paper print copies of the finished maps and map index and 3 copies of the vertical control report to the department for approval.

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80; renum. from NR 129.15 and am. Register, April, 1983, No. 328, eff. 5-1-83.

NR 129.15 Grant payments. The grantee shall be paid the state share of those eligible project costs which have prior department approval in the following installments:

Register, April, 1983, No. 328
Environmental Protection

DEPARTMENT OF NATURAL RESOURCES 484-15
NR 129

(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 maps 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 chs. NR 115 and 116.

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80; renun. from NR 129.12, Register, April, 1983, No. 328, eff. 5-1-83.

NR 129.16 Ordinance adoption or amendment period. If the grantee fails to adopt the maps developed as a result of the grant project as official floodplain or shoreland zoning maps, or fails to adopt any necessary ordinances or amendments within 6 months after the department has approved the maps, without adequate justification as determined by the department, the grantee may not receive any further state funds under this chapter and shall be required to reimburse the department for state funds already received under this chapter.

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80; am. Register, April, 1983, No. 328, eff. 5-1-83.

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.

History: Cr. Register, May, 1980, No. 293, eff. 6-1-80.