CHAPTER 4717
DEPARTMENT OF HEALTH
MISCELLANEOUS ENVIRONMENTAL HEALTH RULES

NOTE: Under Minnesota Statutes, section 144.011, the State Board of Health was abolished and all of its duties transferred to the commissioner of health.

PUBLIC SWIMMING POOLS

4717.0100 SCOPE AND PURPOSE.

The provisions of parts 4717.0100 to 4717.3900 shall apply to all public swimming and wading pools as hereinafter defined, including all facilities incident thereto. The purpose of parts 4717.0100 to 4717.3900 shall be to provide a standard for the design, construction, operation, and maintenance of such pools so that health and safety hazards will be minimized.

Statutory Authority: *MS s 144.05*

4717.0200 DEFINITIONS.

Subpart 1. **Application.** The following definitions shall apply in the interpretation and enforcement of parts 4717.0100 to 4717.3900. The word "shall" as used herein indicates a mandatory requirement.

Subp. 2. **Commissioner.** "Commissioner" means commissioner of health.

Subp. 3. **Person.** "Person" means any person, firm, partnership, association, corporation, company, governmental agency, club, or organization of any kind.

Subp. 4. **Private residential swimming pool.** "Private residential swimming pool" means any swimming pool, located on private property under the control of the homeowner, the use of which is limited to swimming or bathing by members of his family or their invited guests. (The design, construction, and operation of such pools are not subject to the provisions of parts 4717.0100 to 4717.3900.)

Subp. 5. **Public swimming pool.** "Public swimming pool" means any swimming pool, other than a private residential swimming pool, intended to be used collectively by numbers of persons for swimming or bathing, operated by any person as defined herein, whether he be owner, lessee, operator, licensee, or concessionaire, regardless of whether a fee is charged for such use.

Subp. 6. **Special purpose pool.** "Special purpose pool" means treatment pools, therapeutic pools, special pools for water therapy, whirlpools, spas, and cold plunges.

Subp. 7. **Swimming pool.** "Swimming pool" means any structure, basin, chamber, or tank containing an artificial body of water for swimming, diving, relaxation, or recreational bathing, including special purpose pools.

Subp. 8. **Wading pool.** "Wading pool" means any pool used or designed to be used exclusively for wading or bathing and having a maximum depth of 24 inches.

Statutory Authority: *MS s 144.05*

4717.0300 SUBMISSION OF PLANS AND SPECIFICATIONS.

No swimming pool used or intended for use by the public or by any school, club, organization, or institution shall be constructed, nor shall any such swimming pool, now or hereafter existing, used or intended for such use, be materially altered until complete plans and specifications therefor, together with such further information as the board may require, shall have been submitted in duplicate and approved by the board so far as sanitary features are concerned. After such plans have been approved by the board, no modification affecting the sanitary or safety features thereof shall be made without approval of the board. No contract for the construction, alteration, or enlargement of any such swimming pool shall be let until the plans and specifications therefor have been approved as provided.

The pool and facilities shall be built in accordance with the plans as approved unless approval of changes has been given in writing by the board. The owner or his agent shall notify the board at the time of completion of the pool to permit adequate inspection of the pool and related equipment. The pool shall not be placed in operation until such inspection shows compliance with the provisions of parts 4717.0100 to 4717.3900.

Statutory Authority: *MS s 144.05*

4717.0350 HEALTH AND SAFETY.

Not more than the maximum design bather load as calculated in part 4717.2200 shall be permitted in the swimming pool at any one time. The design bather load shall be posted in a conspicuous location.

No person having or suspected of having a communicable disease shall work at or use any public swimming pool.

Access to the pool shall be controlled by fencing or other effective means acceptable to the board. Fencing shall meet the following criteria. The fencing shall effectively prevent the entrance of children and be without hand- or foot-holds that would enable a child to climb over it. The fencing shall be at least four feet high and entrances shall be equipped with a self-closing, latching gate which is capable of being locked.

Instruction regarding emergency calls shall be prominently posted.

Statutory Authority: *MS s 144.05*

4717.0400 OPERATOR OF THE POOL.

No person shall operate any public swimming pool unless such swimming pool is under the supervision of a trained operator or person who shall assume the responsibility for compliance with all provisions of parts 4717.0100 to 4717.3900 relating to pool operation, maintenance, and safety of bathers.

The operator of each pool shall keep a daily record of information regarding operation as specified in part 4717.3600, together with other data as may be required by the board.

Statutory Authority: *MS s 144.05*

4717.0500 WATER SUPPLY.

The water supply serving the swimming pool and all plumbing fixtures including drinking fountains, lavatories, and showers shall meet the requirements of the board. Where strict compliance with the requirement that the water supply serving the swimming pool be of potable quality is not possible or reasonable, the board may grant a variance which does not endanger the health and safety of the users of the pool.

All portions of the water distribution system serving the swimming pool and auxiliary facilities shall be protected against backflow. Water introduced into the pool, either directly or to the recirculation system, shall be supplied through an air gap (Minnesota Plumbing Code, parts 4715.2000 to 4715.2170). When such connections are not possible, the supply shall be protected by a suitable backflow preventer (Minnesota Plumbing Code, parts 4715.2000 to 4715.2170) installed on the discharge side of the last control to the fixture, device, or appurtenance.

The pumps, filter, disinfectant and chemical feeders, and related appurtenances shall be kept in operation at all times during the swimming season unless approved by the board.

Statutory Authority: *MS s 144.05*

4717.0600 SEWER SYSTEM.

The sewer shall be adequate to serve the facility, including bathhouse, locker room, and related accomodations, and shall conform to the standards of the board and the Minnesota Pollution Control Agency.

There shall be no direct physical connection between the sewer system and any drain from the swimming pool or recirculation system. Any swimming pool or gutter drain or overflow from the recirculation system when discharged to the sewer system, storm drain, or other approved natural drainage course shall connect through a suitable air gap or air break so as to preclude the possibility of backup of sewage or waste into the swimming pool or piping system.

The sanitary sewer serving the swimming pool auxiliary facilities shall discharge into the public sewer system. Where no such sewer is available, the connection shall be made to a suitable disposal plant designed, constructed, and operated in accordance with the requirements of the board and the Minnesota Pollution Control Agency.

Statutory Authority: *MS s 144.05*

4717.0700 INSPECTION.

The board is authorized to conduct such inspections as it deems necessary to ensure compliance with all provisions of parts 4717.0100 to 4717.3900 and shall have right of entry, at any reasonable hour, to the swimming pool for this purpose.

Statutory Authority: *MS s 144.05*

THE POOL

4717.0800 CONSTRUCTION MATERIALS.

Swimming pools and all appurtenances thereto shall be constructed of materials which are inert, nontoxic to man, impervious, permanent, and enduring; which can withstand the design stresses; which will provide a tight tank with a smooth and easily cleaned surface, or to which a smooth, easily cleaned surface finish can be applied, and which may be finished in white or light color.

Swimming pool finish, including bottom and sides, shall be of white or light colored material, nontoxic to man, with a smooth finished surface, without cracks or joints, bonded to the supporting members, excluding structural expansion joints.

Statutory Authority: *MS s 144.05*

4717.0900 DESIGN, DETAIL, AND STRUCTURAL STABILITY.

All swimming pools shall be designed and constructed to withstand all anticipated loading for both full and empty conditions. A hydrostatic relief valve and/or a suitable underdrain system shall be provided in areas having a high water table. The designing architect or engineer shall be responsible for certifying to the structural stability and safety of the pool.

No limits are specified for length and width of swimming pools, except that swimming pools used for competition should meet required dimensions, and the requirements for the diving area as shown in part 4717.3900 shall be observed. Consideration shall be given to shape from the standpoint of safety and the need to facilitate supervision of bathers using the pool.

The shape of any swimming pool shall be such that the circulation of pool water and control of swimmers' safety are not impaired. There shall be no underwater or overhead projections or obstructions which would endanger bather safety or interfere with proper pool operation.

All corners formed by the intersection of walls, and of walls and floors, shall be rounded.

Provisions shall be made for complete, continuous circulation of water through all parts of the swimming pool. All swimming pools shall have a recirculation system with necessary treatment and filtration equipment as required in this regulation. Nothing in this part shall prohibit the use of so-called flow-through type swimming facilities constructed in accordance with the rules of the board.

Statutory Authority: *MS s 144.05*

4717.1000 DEPTH OF WATER IN THE POOL.

The minimum depth of water in the swimming pool shall be three feet except for special purpose pools. Wading facilities for children shall be physically separated from the swimming pool and be provided with a separate recirculation system. The maximum depth of the shallow end of the swimming pool shall not exceed three feet six inches except for competitive or special purpose pools.

Statutory Authority: *MS s 144.05*

4717.1100 NEW EQUIPMENT.

All new equipment installed after the effective date of parts 4717.0100 to 4717.3900 shall comply with the following standards of the National Sanitation Foundation when applicable:

A. Standard No. 9, Diatomite Type Filters for Swimming Pool Equipment, October 1966.

B. Standard No. 10, Sand Type Filters for Swimming Pool Equipment, October 1966.

C. Standard No. 11, Recessed Automatic Surface Skimmers, October 1965.

D. Standard No. 17, Centrifugal Pumps for Swimming Pools, January 1966.

E. Standard No. 19, Adjustable Output Rate Chemical Feeding Equipment for Swimming Pools, October 1966.

F. Standard No. 22, Swimming Pool Water Treatment Chemicals and/or Processes, May 1968.

G. Standard No. 27, Multiport Valves for Swimming Pools, May 1969.

H. Standard No. 38, Test kits for Swimming Pools, November 1970.

Statutory Authority: *MS s 144.05*

4717.1200 DEPTH MARKINGS AND LINES.

Depth of water shall be plainly marked at or above the water surface on the vertical pool wall or on the edge of the deck or walk next to the pool, at maximum and minimum points, at the points of change of slope between the deep and shallow portions and at intermediate increments of depth, spaced at not more than 25-foot intervals.

Depth markings shall be numerals of four inches minimum height and of a color contrasting with the background. Markings shall be on both sides and ends of the pool. Lane lines or other markings on the bottom of the swimming pool shall be a minimum of ten inches in width and of a contrasting color.

Statutory Authority: *MS s 144.05*

4717.1300 INLETS AND OUTLETS.

Subpart 1. **Outlet.** All swimming pools shall be provided with an outlet at the deepest point to permit the pool to be completely and easily emptied. Openings must be covered by a proper grating which is not readily removable by bathers. Outlet openings of the grating in the floor of the pool shall be at least four times the area of discharge pipe or provide sufficient area so the maximum velocity of the water passing the grate will not exceed 1-1/2 feet per second. The maximum width of grate openings shall be one-half inch. In swimming pools with deep water at or near one end, multiple outlets shall be provided where the width of the pool is more than 30 feet. In such cases, outlets shall be spaced not more than 30 feet apart, nor more than 15 feet from side walls.

Subp. 2. **No connection to sewers.** No direct connections to sewers shall be permitted, and all drains from the swimming pool to sewers shall be broken at a point where any sewage which may back up from the sewer will overflow to

waste instead of reaching the pool. Valves and/or pumps used for draining swimming pools shall be sized to prevent the surcharging of the sanitary sewer.

Subp. 3. **Inlets.** Inlets for fresh and/or repurified water shall be located to produce uniform circulation of water and to facilitate the maintenance of a uniform disinfectant residual throughout the entire swimming pool without existence of dead spots. Inlets from the circulation system shall be flush with the pool wall and submerged at least 12 inches below the water level. No over-the-rim fill spout will be accepted unless located under a diving board or installed in a manner approved by the board so as to remove any hazard. Makeup-water spouts shall terminate at least six inches above the fill rim of the pool or surge tank.

Subp. 4. **Adjustable inlets.** Adjustable inlets shall be located in conjunction with proposed methods of recirculation to provide effective and uniform circulation of the incoming water throughout the pool and prevent unnecessary dead spots. The maximum spacing of inlets shall be 20 feet based on the pool perimeter. In swimming pools with surface areas greater than 1,600 square feet or length in excess of 60 feet, side inlets shall be placed at 15-foot intervals around the entire perimeter. In any case, an adequate number of inlets shall be provided, properly spaced and located to accomplish complete and uniform recirculation of water and maintenance of a uniform disinfectant residual at all times. Each inlet shall be designed as an orifice subject to adjustment or shall be provided with an individual gate or similar valve to permit adjustment of water volume to obtain the best circulation.

Statutory Authority: *MS s 144.05*

4717.1400 SLOPE OF BOTTOM.

The slope of the bottom of any portion of the swimming pool having a water depth of less than five feet shall not be more than one foot in ten feet, and said slope shall be uniform. In portions with a depth greater than five feet the slope shall not exceed one foot in three feet.

Statutory Authority: *MS s 144.05*

4717.1500 SIDE WALLS.

Walls of a swimming pool shall be either vertical for water depths of at least six feet; or vertical for a distance of three feet below the water level, below which the wall may be curved to the bottom with a radius not greater than the difference between the depth at that point and three feet, provided that vertical is interpreted to permit slopes not greater than one foot, horizontally, for each five feet of depth of sidewall (11 degrees from vertical).

Statutory Authority: *MS s 144.05*

4717.1600 OVERFLOW GUTTERS.

Overflow gutters shall extend completely around the swimming pool except at steps or recessed ladders. The overflow gutter shall also serve as a handhold. This gutter shall be capable of continuously removing 50 percent or more of the recirculated water and returning it to the filter. All overflow gutters shall be connected to the recirculation system through a properly designed surge tank. The gutter, drains, and return piping to the surge tank shall be designed to rapidly remove overflow water caused by recirculation, displacement, wave action, or other cause produced from maximum pool bathing load. Spacing of drainage outlets shall not be more than 15 feet. The opening into the gutter beneath the coping shall not be less than four inches and the interior of the gutter shall not be less than three inches wide with a depth of at least three inches. Where large gutters are used, they shall be designed to prevent entrances or entrapment of bathers' arms or legs. The overflow edge or lip shall be rounded and not thicker than 2-1/2 inches for the top two inches. The

overflow outlets shall be provided with outlet pipes which shall in any case be at least two inches in diameter. The outlet fittings shall have a clear opening in the grating at least equal to 1-1/2 times the cross sectional area of the outlet pipe.

Nothing in this part shall preclude the use of roll-out or deck-level-type swimming pools. The design of the curb and handhold shall conform to accepted standards, and the approval of the board shall be based on detailed review of this feature of construction and evaluated in the light of proposed use of the pool.

Statutory Authority: *MS s 144.05*

4717.1700 SKIMMERS.

Subpart 1. **Provision for use of skimmers.** Skimmers are permitted on public swimming pools provided approved handholds are installed and sufficient motion to the pool water is induced by the pressure return inlets. At least one skimming device shall be provided for each 400 square feet of water surface area or fraction thereof. Where two or more skimmers are required, they shall be so located as to minimize interference with each other and to insure proper skimming of the entire pool surface. Handholds shall consist of bull-nosed coping not over 2-1/2 inches thick for the outer two inches, or be of an equivalent approved type. The handholds must be no more than nine inches above the normal water line. Skimming devices shall be built into the pool wall, shall develop sufficient velocity on the pool water surface to induce floating oils and wastes into the skimmer from the water surface of the entire pool area, and shall meet the general specifications in subparts 2 to 5.

Subp. 2. **Design.** The piping and other pertinent components of skimmers shall be designed for a total capacity of at least 80 percent of the required filter flow of the recirculation system, and no skimmer shall be designed for a flow-through rate of less than 30 gallons per minute or 3.75 gallons per minute per lineal inch of weir. The skimmer shall be of sturdy, corrosion-resistant materials.

Subp. 3. **Skimmer weir.** The skimmer weir shall be automatically adjustable and shall operate freely with continuous action to variations in water level over a range of at least four inches. The weir shall operate at all flow variations as described in this part. The weir shall be of such buoyancy and design as to develop an effective velocity.

Subp. 4. **Screen.** An easily removable and cleanable basket or screen through which all overflow water must pass shall be provided to trap large solids.

Subp. 5. **Prevention of airlock.** The skimmer shall be provided with a device to prevent airlock in the suction line. If an equalizer pipe is used, it shall provide an adequate amount of water for pump suction should the water of the swimming pool drop below the weir level, provided that, if any other device, surge tank, or arrangement is used, a sufficient amount of water for pump suction shall be assured. Where the equalizer pipe is used, it shall be sized to meet the capacity requirements of the filter and pump and shall in no case be less than two inches in diameter. This pipe shall be located at least one foot below the lowest overflow level of the skimmer. It shall be provided with a valve or equivalent device that will remain tightly closed under normal operating conditions, but will automatically open when the water level drops as much as two inches below the lowest weir level.

Statutory Authority: *MS s 144.05*

4717.1800 RECIRCULATION SYSTEMS.

Subpart 1. **System.** A recirculation system, consisting of pumps, piping, filters, water conditioning, and disinfection equipment, and other accessory equipment shall be provided which will clarify and disinfect the swimming pool volume of water in six hours or less, thus providing a minimum turnover of at least four times in 24 hours, except that the recirculation rate shall be increased to provide a two-hour turnover for wading and special purpose pools.

The recirculation system shall include a strainer to prevent hair, lint, etc., from reaching the pump and filters. Strainers shall be corrosion-resistant with openings not more than one-eighth inch in size providing a free flow area at least four times the area of the pump suction line and shall be readily accessible for frequent cleaning.

Subp. 2. **Piping.** All piping shall be designed to reduce friction losses to a minimum and to carry the required quantity of water at a maximum velocity not to exceed six feet per second. Piping shall be of nontoxic material, resistant to corrosion, and able to withstand operating pressures. Pipes shall be identified by a color code, tags, or other acceptable markings.

Subp. 3. **Cleaning system.** A vacuum-cleaning system shall be provided. When that system is an integral part of the recirculation system, sufficient connnections shall be located in the walls of the swimming pool, at least eight inches below the water line.

Subp. 4. **Rate-of-flow indicator.** A rate-of-flow indicator, reading in gallons per minute, shall be installed and located, preferably on the swimming pool return line, so that the rate of recirculation and backwash rate will be indicated. The indicator shall be capable of flows measuring at least 1-1/2 times the design flow rate, shall be accurate within ten percent of true flow, and shall be easy to read.

Subp. 5. **Pumps.** Pumps shall be of adequate capacity to provide the required number of turnovers of swimming pool water as specified in this part, and whenever possible shall be so located as to eliminate need for priming. If the pump or suction piping is located above the overflow level of the pool, the pump shall be self-priming. The pump or pumps shall be capable of providing flow adequate for the backwashing of filters. Under normal conditions the pump or pumps shall supply the recirculation rate of flow at a dynamic head of at least 50 feet for pressure sand type filters or at least 80 feet for pressure diatomaceous earth type filters.

Subp. 6. **Heaters.** Swimming pools equipped with heaters shall have a fixed thermometer in the recirculation line near the outlet to the pool.

Statutory Authority: *MS s 144.05*

4717.1900 LADDERS, RECESSED TREADS, AND STAIRS.

Subpart 1. **Where provided in the pool.** Steps or ladders shall be provided at the shallow end of the swimming pool if the vertical distance from the bottom of the pool to the deck or walk is over two feet. Recessed steps or ladders shall be provided at the deep portion of the swimming pool, and, if the pool is over 30 feet wide, such steps or ladders shall be installed on each side.

Subp. 2. **Steps.** Steps leading into the swimming pool shall be of nonslip design, and have a minimum tread of 12 inches and a maximum rise or height of ten inches. There shall be no abrupt drop-off or submerged projections into the pool, unless guarded by handrails.

Subp. 3. **Ladders.** Swimming pool ladders shall be corrosion-resistant and shall be equipped with nonslip treads. All ladders shall be so designed as to provide a handhold and shall be rigidly installed. There shall be a clearance of not more than five inches nor less than three inches between any ladder and the pool wall. If steps are inserted in the walls or if stepholes are provided, they shall be of such design that they may be cleaned readily and shall be arranged to

drain into the pool to prevent the accumulation of dirt thereon. Stepholes shall have a minimum tread of five inches and a minimum width of 14 inches.

Subp. 4. **Handrails.** Where steps, stepholes, or ladders are provided within the swimming pool, there shall be a handrail at the top of both sides thereof, extending over the coping or edge of the deck.

Subp. 5. **Diving boards.** Supports, platforms, and steps for diving boards shall be of substantial construction and of sufficient structural strength to carry safely the maximum anticipated loads. Steps shall be of corrosion-resistant material, easily cleanable, and of nonslip design. Handrails shall be provided at all steps and ladders leading to diving boards more than one meter above the water, except those set at 15 degrees or more from the vertical. Platforms and diving boards which are over one meter high shall be protected with guard railings.

Statutory Authority: *MS s 144.05*

4717.2000 DECKS AND WALKWAYS.

A continuous deck, free from fixed obstructions, at least five feet (and preferably eight or more feet) wide shall extend completely around the swimming pool. The deck shall be sloped away from the pool to drain at a grade of one-fourth inch to three-eighths inch per lineal foot and shall have a nonslip surface. Deck drains connected to the recirculation system or gutters shall be prohibited on outdoor swimming pools. In deck areas where carpeting is used, the deck shall be so designed and constructed as to provide adequate drainage and convey all water away from carpeted areas. The carpeting shall not, in any case, be permitted within ten feet of the pool.

Statutory Authority: *MS s 144.05*

4717.2100 DIVING AREAS.

The dimensions of the swimming pool and appurtenances in the diving area shall conform to part 4717.3900.

There shall be a completely unobstructed clear distance of 16 feet above the diving board measured from the center of the front end of the board, and this area shall extend at least eight feet behind, eight feet to each side, and 16 feet ahead of the measuring point. Board approval shall be obtained for a variance of this part.

Statutory Authority: *MS s 144.05*

4717.2200 USER LOADING.

For the purposes of computing user loading, those portions of the swimming pool five feet or less in depth shall be designated as "nonswimming" areas. In order to compute swimmer and bather capacity, swimming pool areas shall be determined as follows:

A. ten square feet of pool water surface area shall be provided for each nonswimmer expected at time of maximum load;

B. 24 square feet shall be provided for each swimmer expected at time of maximum load;

C. 300 square feet of pool water surface area shall be reserved around each diving board or diving platform and this area shall not be included in computing the area of the swimming section.

The board shall make additional allowance for bathers in cases of swimming pools with extensive deck areas used by patrons for lounging or sunbathing.

Statutory Authority: *MS s 144.05*

4717.2300 SAND TYPE FILTERS.

Subpart 1. **Requirements.** The requirements in subparts 2 to 9 are equally applicable to either gravity or pressure sand type filters.

Subp. 2. **Pressure sand type filters.** Pressure sand type filters shall be designed for a filter rate of three gallons per minute per square foot of bed area at time of maximum head loss, with sufficient area to meet the design rate of flow required by the prescribed turnover. The design filtration rate for high-rate sand filters shall not be in excess of 25 gallons per minute per square foot of bed area. Also, high-rate sand filters shall meet or be equal to the standards of the National Sanitation Foundation as specified in part 4717.1100.

Subp. 3. **Filtering material.** Filtering material shall consist of at least 20 inches of screened, sharp filter sand with an effective size between 0.4 and 0.55 mm, and a uniformity coefficient not exceeding 1.75, supported by at least ten inches of graded filter gravel. Anthracite having an effective size between 0.6 and 0.8 mm, with a uniformity coefficient of not greater than 1.8 may be used in lieu of the sand. The gravel shall effectively distribute water uniformly during filtration and backwashing. A reduction in this depth or an elimination of gravel may be permitted where equivalent performance and service are demonstrated.

Subp. 4. **Underdrain system.** The underdrain system shall be of corrosion-resistant and enduring material, and so designed that the orifices or other openings will maintain approximately constant area. It shall be designed to provide even collection or distribution of the flow during filtration and backwashing.

Subp. 5. **Freeboard.** At least 12 inches of freeboard shall be provided between the upper surface of the filter media and the lowest portion of the pipes or drains which serve as overflows during backwashing.

Subp. 6. **Filter system.** The filter system shall be provided with influent and effluent pressure gauges, backwash sight glass on the waste discharge line, and air-relief valves at or near the high point of the filter. The filter system shall be designed with necessary valves and piping to permit:

A. filtering to swimming pool;

B. individual backwashing of filters to waste at a rate of not less than 15 gallons per minute per square foot of filter area;

C. isolation of individual filters for repairs while other units are in service;

D. complete drainage of all parts of the system;

E. necessary maintenance, operation, and inspection in a convenient manner.

Subp. 7. **Access to filters.** Each pressure type filter tank shall be provided with an access opening of not less than a standard 11-inch by 15-inch manhole and cover.

Subp. 8. **Dosage cover.** Devices with reasonably accurate dosage control features shall be provided if coagulants are added ahead of filters.

Subp. 9. **Tank.** On pressure type filters, the tank and its integral parts shall be constructed of substantial material capable of withstanding continuous anticipated usage, and shall be designed for a pressure safety factor of four based on the maximum shutoff head of the pump. The shutoff head for design purposes shall in no case be considered less than 50 pounds per square inch.

Statutory Authority: *MS s 144.05*

4717.2400 DIATOMACEOUS EARTH TYPE FILTERS.

Subpart 1. **Area.** Sufficient filtering area shall be provided to meet the design pump capacity as required by this part.

Filtering area, where fabric is used, shall be determined on the basis of effective filtering surfaces as created by the septum supports, with no allowances for areas of impaired filtration, such as broad supports, folds, or portions which may bridge.

Subp. 2. **Rate of filtration.** The design rate of filtration shall not be greater than two gallons per minute per square foot of the effective filtering area without continuous body feed, and not greater than 2.5 gallons per minute per square foot with continuous body feed.

Subp. 3. **Use of a body feeder.** If a body feeder is required, the device shall be accurate (ten percent) and dependable, and shall be capable of continually feeding within a calibrated range, adjustable from two to six ppm, at the design capacity of the recirculation pump. The feeding of diatomaceous earth through skimmers is prohibited.

Subp. 4. **Construction of the filter.** The filter and all component parts shall be of such materials, design, and construction as to withstand normal continuous use without significant deformation, deterioration, corrosion, or wear which could adversely affect filter operation. The filter shall be so designed and constructed, or provision made, to preclude the introduction of appreciable quantities of filter-aid into the pool during precoating operations.

Where dissimilar metals, which may set up galvanic electric currents, are used in the filters, provision shall be made to resist electrolytic corrosion. The filters shall be designed in such a manner that they may be easily disassembled, with allowances made for adequate working space above and around the filter to permit the removal and replacement of any part and proper maintenance.

All filters shall be equipped for cleaning by one or more of the following methods: back-washing, air-bump-assist back-washing, spray wash (mechanical or manual), or agitation.

Subp. 5. **Construction of the tank.** The tank containing the filter elements shall be constructed of steel, plastic, or other suitable material, which will satisfactorily provide resistance to corrosion, with or without coating. Pressure type filters shall be designed for a minimum working pressure of 50 pounds per square inch with a four to one safety factor. Vacuum type filters shall be designed to withstand the pressure developed by the weight of the water contained therein, and closed vacuum type filters shall, in addition, be designed to withstand the crushing pressure developed under a vacuum of 25 inches of mercury with a safety factor of 1.5 in both instances. The septa or elements which support the filter-aid shall be of corrosion-resistant material. The septa shall be constructed to be resistant to rupture under conditions of the maximum differential pressure between influent and effluent which can be developed by the circulating pump, and be of adequate strength to resist any additional stresses developed by the cleaning operation.

Subp. 6. **Filter plant.** The filter plant shall be provided with such pressure, vacuum, or compound gauges as are required to indicate the condition of the filter. In vacuum type filter installations where the circulating pump is two horsepower or higher, an adjustable high vacuum automatic shutoff shall be provided to prevent damage to the pump by cavitation.

Subp.. 7. **Rapid draining of the filter.** Provision shall be made for completely and rapidly draining the filter.

Statutory Authority: *MS s 144.05*

4717.2500 DISINFECTANT AND CHEMICAL FEEDERS.

The swimming pool shall be equipped with a chlorinator, hypochlorinator, or other disinfectant feeder or feeders which meet the following requirements. They shall be of sturdy construction and materials which will withstand wear, corrosion, or attack by disinfectant solutions or vapors and which are not adversely affected by repeated regular adjustments or other conditions anticipated in the use of the device. The feeder shall be capable of being easily disassembled for cleaning and maintenance. The design and construction shall be such as to preclude stoppage from chemicals intended to be used or foreign materials that may be contained therein. The feeder shall incorporate failure-proof features so that the disinfectant cannot feed directly into the swimming pool, the pool piping system, water supply system, or the swimming pool enclosure under any type of failure of the equipment or its maintenance. They shall be capable of supplying at least the equivalent of one pound of chlorine per eight hours for each 10,000 gallons of swimming pool capacity under conditions of operation to be anticipated at the proposed installation. They shall have a graduated and clearly marked dosage adjustment to provide flows from full capacity to 25 percent of such capacity. The device shall be capable of continuous delivery within ten percent of the dosage at any setting.

When the disinfectant is introduced at the suction side of the pump, a device or method shall be provided to prevent air lock of the pump or recirculation system.

Statutory Authority: *MS s 144.05*

4717.2600 USE OF CHLORINE GAS.

When compressed chlorine gas is used, the following additional features shall be provided:

A. The chlorine and chlorinating equipment shall be in a separate mechanically ventilated room. Such rooms shall not be below ground level and shall be provided with vents near the floor which terminate out-of-doors. The door of the room shall not open to the swimming pool, and shall open to the outside. The door shall be labeled "DANGER -- GAS CHLORINE" in letters at least four inches in height and of an orange color on a green background. Board approval shall be obtained for a variance of this item.

B. The chlorinator equipment shall be of rugged design, capable of withstanding wear without developing leaks.

C. All chlorine cylinders shall be anchored to prevent their falling over. A valve stem wrench shall be maintained on the chlorine cylinder so that the supply can be shut off quickly in the case of an emergency. The valve protection hood shall be kept in place except when the cylinder is connected.

D. The chlorine-feeding device shall be designed so that during accidents or interruptions of the water supply leaking chlorine gas will be conducted to the out-of-doors.

E. The chlorinator shall be a solution-feed type, capable of delivering chlorine at its maximum rate without releasing chlorine gas to the atmosphere.

F. The chlorinators shall be designed to prevent the backflow of water into the chlorine solution container.

G. A gas mask designed for use in a chlorine atmosphere and of a type approved by the United States Bureau of Mines shall be provided. In addition, replacement canisters shall be provided and a record shall be kept of gas mask usage to ensure that the mask will be serviceable when needed.

H. The gas mask shall be kept in a closed cabinet, accessible without a key, located outside of the room in which the chlorinator is maintained.

I. Installation of chlorinator equipment, and operation thereof, shall be carried on by and under the supervision of personnel experienced with installation and operation of such equipment.

Statutory Authority: *MS s 144.05*

4717.2700 USE OF HYPOCHLORITE SOLUTION.

When a hypochlorite solution is used to be fed through hypochlorinator equipment:

A. feed shall be continuous under all conditions of pressure in the circulating system, and without artificial constriction of the pump suction line, whether this line is under vacuum or pressure head;

B. regulation shall be provided to ensure constant feed with varying supply or back pressure;

C. positive features shall be provided for preventing backflow from the recirculation system to the solution container and for reducing to a minimum the entry into the swimming pool of free calcium released from calcium hypochlorite; and

D. means shall be provided to prevent siphoning of hypochlorite solution when the recirculation pump and hypochlorinator are both turned off. (This applies to above-swimming-pool-level installations only.)

Statutory Authority: *MS s 144.05*

4717.2800 EQUIPMENT FOR CHEMICALS.

Equipment and piping used to apply chemicals to the water shall be of such size, design, and material as to be nonclogging and easily cleanable; equipment of the positive displacement type is preferred. All material used for such equipment and piping shall be resistant to action of chemicals to be used therein.

Statutory Authority: *MS s 144.05*

4717.2900 LIGHTING, VENTILATION, AND ELECTRICAL REQUIREMENTS.

Where underwater lighting is used, not less than 0.5 watts shall be employed per square foot of swimming pool water surface areas. Such lights shall be spaced to provide illumination so that all portions of the pool, including the bottom, may be readily seen without glare.

Area lighting shall provide at least 0.6 watts per square foot of deck area. If such lighting is used for night swimming, area and swimming pool lighting combined shall provide at least two watts per square foot of pool and deck area.

All electrical wiring shall conform with the applicable provisions of the latest edition of the National Electrical Code (article 680), as provided for in Minnesota Statutes, section 326.243 (1969) and the code of the Board of Electricity.

All indoor swimming pools, bathhouses, dressing rooms, shower rooms, and toilet spaces shall be adequately ventilated by mechanical means.

Statutory Authority: *MS s 144.05*

4717.3000 MAINTENANCE REQUIREMENTS.

The swimming pool, swimming pool equipment, and appurtenances shall be maintained in a satisfactory operating condition.

Statutory Authority: *MS s 144.05*

4717.3100 DRESSING ROOMS.

Bathhouses to be used simultaneously by both sexes shall be divided into two parts separated by a tight partition, each designated for men or women. The entrances and exits shall be screened to break line of sight. Bathhouse floors shall be smooth finished material with nonslip surface, impervious to moisture, and sloped to a drain. Junctions between walls and floors shall be coved. Walls and partitions shall be of smooth, impervious material, free from cracks or open joints. Partitions between dressing rooms shall terminate at least ten inches above the floor or shall be placed on continuous raised masonry or concrete bases at least four inches high. Lockers shall be set either on solid masonry bases four inches high or on legs, with the bottom of the locker at least ten inches above the floor. Lockers shall be properly vented.

The rules relating to bathhouses, dressing rooms, toilet facilities, and showers may be waived when such facilities are conveniently available to swimming pool patrons.

Statutory Authority: *MS s 144.05*

4717.3200 TOILETS AND SHOWERS.

Toilet and shower facilities shall be provided on the basis of the following fixture schedule. Fixture schedules should be increased for swimming pools at schools or similar locations where bather loads may reach peaks due to schedules of use.

	Males	Females
Water Closets	1/75	1/50
Urinals	1/75	-
Lavatories	1/100	1/100
Showers (minimum of two)	1/50	1/50

Drinking fountain -- minimum of one to be located in swimming pool area.

The layout of the bathhouse shall be such that the bathers on leaving the dressing room pass the toilets and showers en route to the swimming pool. Showers shall be supplied with water at a temperature of at least 90 degrees Fahrenheit at a rate of at least three gallons per minute. Thermostatic, tempering, or mixing valves shall be installed, if necessary, to prevent scalding of the bathers.

Statutory Authority: *MS s 144.05*

4717.3300 SAFETY REQUIREMENT; LIFESAVING EQUIPMENT.

Subpart 1. **Use of lifeguard platform.** Swimming pools operated primarily for unorganized use and having an area of more than 2,250 square feet of water surface area shall be provided with an elevated lifeguard platform or chair. In pools with 4,000 square feet or more of water surface area, additional elevated chairs or stations shall be provided, located so as to provide a clear unobstructed view of the pool bottom in the area under surveillance.

Subp. 2. **Equipment.** One unit of lifesaving equipment shall consist of the following: A ring buoy not more than 15 inches in diameter and equivalent in weight to a cork buoy, to which shall be attached a 60-foot length of 3/16-inch manila rope or equivalent; a life pole or shepherd's crook type of pole having blunted ends and a minimum length of 12 feet; and a separate throwing line of one-fourth-inch rope with a length not less than 1-1/2 times the maximum width of the pool. Not less than one unit of equipment, as enumerated above, shall be provided at every public swimming pool. One unit shall be presumed to be adequate for 2,000 square feet of water surface area, and one additional unit shall be provided for each additional 2,000 square feet, or major fraction thereof, of water.

Every pool, where a lifeguard is provided, shall be equipped with a standard 16-unit first aid kit which shall be kept filled and ready for use.

Subp. 3. **Accessibility of equipment.** Lifesaving equipment shall be mounted in conspicuous places, distributed around the swimming pool deck, at lifeguard chairs, or elsewhere, readily accessible, its function plainly marked, and kept in repair and ready condition. Bathers or others shall not be permitted to tamper with, use for any purpose other than its intended use, or remove such equipment from its established location.

Subp. 4. **Warning sign.** Where no lifeguard service is provided, a warning sign shall be placed in plain view and shall state "Warning--No Lifeguard on Duty" with clearly legible letters at least four inches high. In addition, the sign shall state "Children Shall Not Use Pool Without An Adult In Attendance."

Statutory Authority: *MS s 144.05*

4717.3400 DISINFECTION AND QUALITY OF WATER.

Subpart 1. **Disinfection.** Swimming pools, when in use, shall be continuously disinfected with a chemical which imparts an easily measured, free available residual effect. When chlorine is used, a free chlorine residual of at least 0.5 ppm shall be maintained throughout the pool whenever it is open or in use. If other halogens are used, residuals of equivalent disinfecting strength shall be maintained. A testing kit for measuring the concentration of the disinfectant, accurate within 0.1 ppm, shall be provided at each swimming pool. The board may accept other disinfecting materials or methods when they have been adequately demonstrated to provide a satisfactory residual effect which is easily measured, and to be otherwise equally as effective under conditions of use as the chlorine concentration required herein, and not be dangerous to public health, create objectionable physiological effects, or impart toxic properties to the water.

Subp. 2. **Condition of the water.** The swimming pool water shall be maintained in alkaline condition as indicated by a pH of not less than 7.2 and not over 8.2. A pH testing kit accurate to the nearest 0.2 pH unit shall be provided at each swimming pool. The alkalinity of the water shall be at least 50 ppm as measured by the methyl orange test. The water shall have sufficient clarity at all times so that a black disc, six inches in diameter, is readily visible when placed on a white field at the deepest point of the swimming pool. Failure to meet this requirement shall constitute grounds for immediate closing of the pool.

Subp. 3. **Sample check.** Not more than 15 percent of the samples collected over any considerable period of time shall either:

A. contain more than 200 bacteria per ml, as determined by the standard (35 degrees Celsius) agar plate count; or

B. show positive test (confirmed test) for coliform organisms in any of the five 10 ml portions of a sample or more than 1.0 coliform organisms per 50 ml when the membrane filter test is used.

All samples shall be collected, dechlorinated, and examined in accordance with the procedures outlined in the 13th edition (1971) of "Standard Methods for the Examination of Water and Wastewater" (APHA). The board may collect and examine samples on a routine basis when the swimming pool is in active use.

Subp. 4. **Use of nontoxic chemicals.** Chemicals used in controlling the quality of water shall be demonstrated as imparting no toxic properties to the water. Such chemicals as may be used for algae control shall be approved for use by the board.

Statutory Authority: *MS s 144.05*

4717.3500 CLEANING SWIMMING POOLS.

Visible dirt on the bottom of the swimming pool shall be removed every 24 hours or more frequently as required.

Visible scum or floating matter on the swimming pool surface shall be removed every 24 hours or more frequently as required by flushing or other effective means.

Statutory Authority: *MS s 144.05*

4717.3600 SUPERVISION OF SWIMMING POOLS.

Every swimming pool shall be operated under the close supervision of a designated operator. The board may require a certificate of competency obtained through attendance at and successful completion of a swimming pool operator's training course. Proper operating records, which may include the following as required by the board, shall be kept daily showing:

A. bather loads, total;

B. peak bather load;

C. volume fresh water added;

D. operating periods of recirculation pumps and filters and corresponding rate-of-flow meter readings;

E. amounts of chemical used;

F. disinfectant residuals;

G. pH readings; and

H. maintenance (and malfunctioning) of equipment.

Statutory Authority: *MS s 144.05*

4717.3700 SUPERVISION OF BATHERS.

A qualified attendant, trained in first aid and resuscitation, shall be on duty at all times the swimming pool is open to use by bathers except as provided in part 4717.3300, subpart 4. Such attendant should be in full charge of bathing and have authority to enforce all rules of safety and sanitation. The following personal rules shall be enforced:

A. All persons using the swimming pool shall take a cleansing shower bath in the nude, using warm water and soap and thoroughly rinsing off all soap suds, before entering the swimming pool room or enclosure. A bather leaving the pool to use the toilet shall take a second cleansing bath before returning to the swimming pool room or enclosure.

B. Any person having an infectious or communicable disease shall be excluded from a public swimming pool. Persons having any considerable area of exposed subepidermal tissue, open blisters, cuts, etc., shall be warned that these are likely to become infected and advised not to use the pool.

C. Spitting, spouting of water, blowing the nose, etc., in the swimming pool shall be strictly prohibited.

D. No running and boisterous or rough play, except supervised water sports, shall be permitted in the pool, on the runways, diving boards, floats or platforms, or in dressing rooms, shower rooms, etc.

E. Glassware or similar materials having a tendency to shatter upon impact shall not be allowed within the swimming pool enclosure area.

F. Suitable placards embodying the above personal regulations and instructions and those relating to suits and towels shall be conspicuously posted in the swimming pool room or enclosure and in the dressing rooms and offices at all swimming pools.

Statutory Authority: *MS s 144.05*

4717.3800 CLOSURE OF POOLS.

When any of the following conditions are found, any public swimming pool shall be immediately closed to use when so ordered by any authorized representative of the board, and may be placarded with the appropriate wording to indicate that it has been closed:

A. The proper number of units of safety equipment are not provided.

B. The clarity is such that a black disc, six inches in diameter, is not readily visible when placed on a white field at the deepest point of the pool.

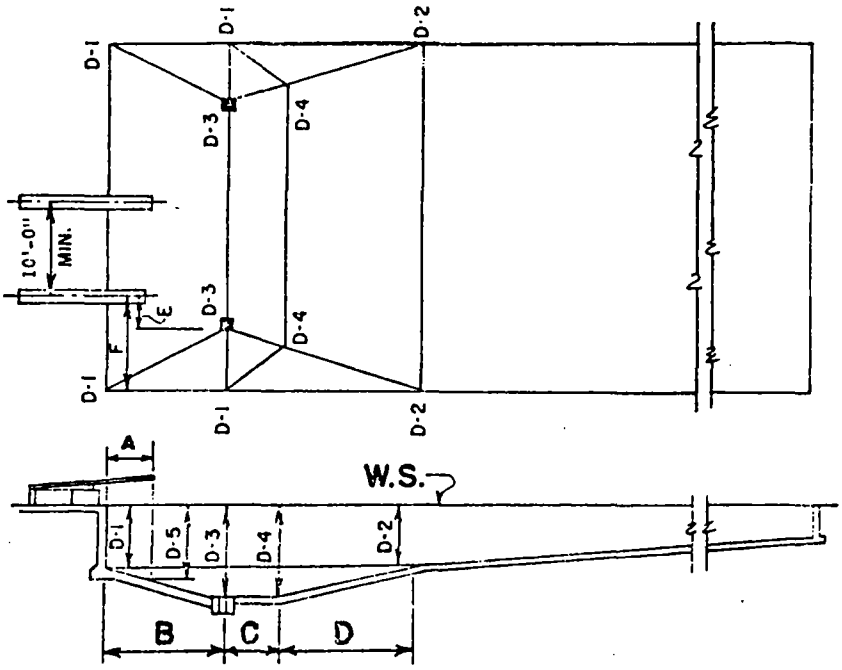
C. The disinfectant residual is found to be below the acceptable levels established in part 4717.3400.

D. Any other condition which endangers the health, safety, or welfare of the public.

The pool shall remain closed until the conditions are corrected and followup observations made by an authorized representative of the board.

Statutory Authority: *MS s 144.05*

4717.3900 MINIMUM STANDARDS FOR PUBLIC SWIMMING POOLS DIVING AREA; SCHEDULE OF DEPTHS AND THEIR LOCATIONS.



D-1 Shall be at End Wall of Diving Area or Not More Than 12" From This Wall.

STANDS & BOARDS		DEPTH—MIN.—MAX.					LENGTH OF SECTION					
		D-1	D-2	D-3	D-4	D-5	A	B	C	D	E	F
3—METER BOARD	Min.	5'-0"	4'-6"	11'-0"	9'-9"	8'-6"	5'-0"	*6'-0"	*9'-0"	20'-0"	1'-0"	12'-0"
	Max.		5'-6"				6'-0"	10'-0"				
1—METER BOARD	Min.	5'-0"	4'-6"	9'-0"	8'-3"	7'-6"	5'-0"	*6'-0"	*9'-0"	15'-0"	1'-0"	10'-0"
	Max.		5'-6"				6'-0"	10'-0"				
DECK LEVEL BOARD	Min.	5'-0"	4'-6"	8'-0"	7'-6"		2'-6"	^6'-0"	^6'-0"	12'-0"	1'-0"	10'-0"
	Max.		5'-6"				4'-0"	10'-0"				
NO BOARD	Min.	NO DIVING					*B & *C May Vary to Attain Total 15'-0" Min.					
	Max.						^B & ^C May Vary to Attain Total 12'-0" Min.					

Statutory Authority: *MS s 144.05*

ON-LAND DISPOSAL FACILITIES FOR SEWAGE AND OTHER WASTES FROM MARINE TOILETS EQUIPPED WITH RETENTION DEVICES

4717.4000 PUMP.

A self-priming pump, suitable for pumping raw sewage or other wastes, and easily serviceable in the event of clogging shall be provided for the on-land disposition of sewage or other wastes from watercraft or other marine conveyance equipped with a marine toilet and retention device. Head characteristics and capacity shall be based on installation needs for the site; however, as a minimum the pump shall be capable of lifting sewage or other wastes 12 feet. The pump may be either fixed in position or portable mounted.

Statutory Authority: *MS s 144.12 subd 1*

4717.4100 SUCTION HOSE.

The suction hose shall be pliable, noncollapsible, nonkinking, and a minimum of 15 feet in length. It shall have a smooth interior. A quick-connect drip-proof connector shall be fitted to the end of the hose that is attached to the boat piping outlet. Such connector should be capable of a friction fit in the inside diameter of a 1-1/2-inch Schedule 40 pipe.

Statutory Authority: *MS s 144.12 subd 1*

4717.4200 DISCHARGE HOSE.

Flexible hose, compatible with the pump characteristics, shall be used. The discharge hose and suction hose of part 4717.4100 shall be labeled and color-coded brown. All permanent piping shall conform to the Minnesota State Plumbing Code, parts 4715.0100 to 4715.6000.

Statutory Authority: *MS s 144.12 subd 1*

4717.4300 SEWAGE OR OTHER WASTE DISPOSAL REQUIREMENTS.

When connection to a public sanitary sewer is available, the disposal piping shall be designed to discharge thereto.

When a public sewer is not available, a private sewage disposal system installed in compliance with applicable state standards shall be provided unless adequate private treatment and disposal systems are already available. The sewage disposal system may be either a septic tank-soil absorption system or a holding tank.

Statutory Authority: *MS s 144.12 subd 1*

4717.4400 WATER SUPPLY REQUIREMENTS.

The on-land disposal facility shall be served by a water supply piping system to permit flushing of the facilities serviced. If a potable water supply is the source of flushing, the distribution piping shall be protected from back-siphonage and back-pressure, labeled, and color-coded brown from the back-siphonage, back-pressure device to the end of the hose. A separate hose shall be provided for filling the drinking water system of the watercraft or other marine conveyance. That hose shall be labeled and color-coded blue.

Statutory Authority: *MS s 144.12 subd 1*

4717.4500 PLAN APPROVAL.

Subpart 1. **Plans submitted.** Two sets of plans and specifications for the proposed construction of new, or modification of existing on-land disposal facilities for the receipt of sewage or other wastes from watercraft or other marine conveyances equipped with marine toilets and retention devices shall be submitted to the Minnesota Department of Health. The proposed modification or construction of the on land disposal facilities shall not commence until the plans and specifications are approved, in writing, by the Department of Health. If the disposal system is designed to discharge an effluent to the waters of the state, or

involves a sewer extension from a municipal sewer system, plan approval and a permit shall also be obtained from the Minnesota Pollution Control Agency.

Subp. 2. **Content of plans.** At a minimum, plans and specifications shall cover in detail the materials to be used, the pump characteristics, and the water supply system. Where applicable, the connection to the public sewer or the private disposal system, the size and construction details of the septic or holding tank, results of soil percolation tests and soil borings and the construction details of the soil absorption system shall be included. Location of all wells within 100 feet of the absorption system, the surface water high water level and the general topography of the area shall be shown on the plans.

Subp. 3. **Plan approval.** Plans and specifications will not be reviewed for approval until they are submitted in sufficient detail to permit proper evaluation for compliance with Minnesota Statutes, section 361.29 and these and all other applicable rules. The plan approval required by this section shall be in addition to any other permit, approval, or license required by federal, state, or local law.

Statutory Authority: *MS s 144.12 subd 1*

APPROVAL OF LABORATORIES PERFORMING BACTERIOLOGICAL EXAMINATIONS OF WATER

4717.4600 SCOPE AND PURPOSE.

In order to better protect the health of the public, the Minnesota State Board of Health hereby establishes a system of approval for laboratories that perform bacteriological examinations of water. Parts 4717.4600 to 4717.5300 list those examinations necessary for adequate public protection and specifies the criteria to be used in the approval of laboratories. Any laboratory performing bacteriological examinations of water may apply for a certificate of approval. The board shall issue a certificate of approval and place the laboratory on the approved list upon proper application therefor and upon determination by survey that all standards as specified in parts 4717.4600 to 4717.5300 are being met. Only results of examinations performed by laboratories on the approved list will be accepted by the board for official use in evaluation of water quality.

Statutory Authority: *MS s 144.05*

4717.4700 DEFINITIONS.

Subpart 1. **Scope.** For the purposes of parts 4717.4600 to 4717.5300 the following terms are defined.

Subp. 2. **Applicant.** "Applicant" shall mean a laboratory which has applied for a certificate of approval and placement on the approved list.

Subp. 3. **Approved list.** "Approved list" shall mean a list of those laboratories which have a valid certificate of approval.

Subp. 4. **Approved personnel.** "Approved personnel" shall mean those individuals who have been surveyed and approved to perform those tests for which a certificate of approval may be or has been issued.

Subp. 5. **Board.** "Board" shall mean the Minnesota Board of Health or its authorized agent or representative.

Subp. 6. **Certificate of approval.** "Certificate of approval" shall mean the document issued by the board to any laboratory which submits an application therefor and complies with the standards and criteria specified in parts 4717.4600 to 4717.5300.

Subp. 7. **Laboratory.** "Laboratory" shall mean any facility at which bacteriological examinations of water are conducted.

Subp. 8. **Official use.** "Official use" shall mean the use of the laboratory results by the board in the evaluation of the bacteriological quality of water.

Subp. 9. **Personnel.** "Personnel" shall mean those individuals performing the tests for which a certificate of approval may be sought.

Subp. 10. **Survey.** "Survey" shall mean an on site study of a laboratory and its operations.

Subp. 11. **Test.** "Test" shall mean the examinations of water for a specific organism or group of organisms by a specific method.

Statutory Authority: *MS s 144.05*

4717.4800 BACTERIOLOGICAL TESTS FOR WHICH A CERTIFICATE OF APPROVAL WILL BE ISSUED.

Subpart 1. **Tests.** A certificate of approval may be issued for any one test or combination of the following tests as defined in "Standard Methods for the Examination of Water and Wastewater," 13th edition:

A. standard plate count;

B. total coliform estimation by the multiple tube method and by the membrane filter method;

C. fecal coliform estimation by the multiple tube method and the membrane filter method; and

D. fecal streptococcus estimation by the multiple tube method and the membrane filter method.

Subp. 2. **Results.** Results from any of the tests listed under under subpart 1 will be accepted for official use only from those laboratories approved for that test.

Subp. 3. **Certificate of approval.** A certificate of approval will not be issued for any test not listed in subpart 1.

Statutory Authority: *MS s 144.05*

4717.4900 PERSONNEL UPON WHOSE PERFORMANCE A CERTIFICATE OF APPROVAL MAY BE ISSUED.

Any laboratory personnel may be approved to perform a test or combination of tests specified in part 4717.4800, subpart 1. Approved personnel shall hold such status only for that laboratory which lists the individual in the application for certificate of approval.

Statutory Authority: *MS s 144.05*

4717.5000 APPLICATION FOR CERTIFICATE OF APPROVAL.

Subpart 1. **Certificate of approval.** Any laboratory may apply for a certificate of approval.

Subp. 2. **Application.** The application for the initial issuance of a certificate of approval shall be submitted by the laboratory to the board on forms provided by the board. The application form shall request information from the applicant that includes but is not limited to the following:

A. Name and address of laboratory. If one company operates several laboratories, separate applications for each location are required.

B. Name of person making application for the laboratory and his position therewith.

C. Tests for whom approval is sought.

D. Personnel for whom approval is sought.

Subp. 3. **Subsequent issuances of the certificate of approval.** The application for subsequent issuances of a certificate of approval shall be submitted by the laboratory to the board on forms provided by the board. The application form shall request information from the applicant that includes but is not limited to the following: that information listed in subpart 2; and dates of any previous certificate of approval.

Statutory Authority: *MS s 144.05*

4717.5100 PROCEDURE AND PERFORMANCE STANDARDS REQUIRED FOR ISSUANCE OF A CERTIFICATE OF APPROVAL.

To qualify for issuance of a certificate of approval for a test or tests an applicant shall:

A. Submit a fully completed application for a certificate of approval.

B. Demonstrate through a survey that bacteriological examinations of water performed by the applicant laboratory are conducted in accordance with the criteria specified in Standard Methods for the Examination of Water and Wastewater, 13th edition, published jointly by the American Public Health Association and the Water Pollution Control Federation. Compliance with later editions shall be considered compliance with the 13th edition. The burden of proof shall be upon the applicant for a certificate of approval that compliance has been made.

C. Demonstrate through a survey that personnel for whom approval is sought are capable of performing water examinations in accordance with the criteria specified in item B.

D. Demonstrate through a survey that personnel for whom approval is sought are performing these tests in part 4717.4800, subpart 1, in a competent, fit, safe, and acceptable manner.

Upon meeting the above requirements, a certificate of approval may be issued for those tests surveyed.

Statutory Authority: *MS s 144.05*

4717.5200 SPECIFICATIONS CONCERNING THE ISSUING OF A CERTIFICATE OF APPROVAL.

Any laboratory issued a certificate of approval shall be placed on an approved list. This list shall be updated quarterly and available to the public. Any laboratory issued a certificate of approval shall participate in proficiency programs as required by the board with the production of results that are satisfactory to the board.

This certificate of approval will be valid for two years from date of issuance or until the laboratory changes or modifies tests, fails to comply with standards referenced in part 4717.5100, item B, or permits personnel not approved by the board to perform tests for which the certificate of approval was issued, whichever occurs first.

The certificate of approval shall be displayed in the laboratory in a conspicuous place observable to the public. The certificate of approval will contain the following information: date of expiration; names of approved personnel; test or tests to which it applies; laboratory name and address at which the tests are to be performed.

Statutory Authority: *MS s 144.05*

4717.5300 RENEWAL OF CERTIFICATE OF APPROVAL.

Within the 60 days prior to the expiration of the certificate of approval, a laboratory shall apply for a certificate of approval renewal pursuant to part 4717.5000, subpart 3. Should a laboratory no longer employ approved personnel or employ additional personnel to perform the tests listed in part 4717.4800, subpart 1, within 60 days of such event it shall apply for a certificate of approval renewal pursuant to part 4717.5000, subpart 3. Failure to apply for a renewal of certificate of approval as required above shall result in the automatic removal of a laboratory from the approved list.

Statutory Authority: *MS s 144.05*

WATER PURIFICATION AND FILTRATION PLANTS GRANTS PROGRAM

4717.6000 SCOPE, PURPOSE, AND AUTHORITY.

Parts 4717.6000 to 4717.6900 shall apply to the distribution of funds appropriated to the State Board of Health to be awarded as grants to municipalities using Lake Superior as their drinking water source for the construction of water filtration and purification systems which are determined to be necessary for the elimination of polluting or potentially injurious substances from the water. The purpose of parts 4717.6000 to 4717.6900 is to provide a means of equitably distributing the funds appropriated to the State Board of Health in accordance with law. Parts 4717.6000 to 4717.6900 are promulgated pursuant to the grant of authority contained in the enabling legislation.

Statutory Authority: *MS s 298.244*

4717.6100 DEFINITIONS.

Subpart 1. **Scope.** For the purpose of parts 4717.6000 to 4717.6900, the following terms shall have the meanings given them.

Subp. 2. **Statutory definitions.** The terms "agency," "municipality," "eligible cost," and "municipal water purification system" shall have the meanings assigned them by Laws of Minnesota 1975, chapter 437, article XI, section 2, subdivision 2, clause (a).

Subp. 3. **Application.** "Application" means the form prescribed by the agency with attachments specified by parts 4717.6000 to 4717.6900 which is submitted by a municipality for a grant.

Subp. 4. **Commissioner.** "Commissioner" means the secretary and executive officer of the State Board of Health.

Subp. 5. **Discharges.** "Discharges" means the person, corporation, or any other association issued a permit by the state of Minnesota or any of its departments or agencies for the addition or discharge of any substance or pollutant, including taconite tailings, to the waters of Lake Superior.

Subp. 6. **Enabling legislation.** "Enabling legislation" means Laws of Minnesota 1975, chapter 437, article XI, section 2, subdivision 2.

Subp. 7. **Grant.** "Grant" means the award of moneys by the agency under the authority of the enabling legislation and parts 4717.6000 to 4717.6900.

Statutory Authority: *MS s 298.244*

4717.6200 REQUIREMENTS.

To be eligible for a grant:

A. The application shall be submitted to the agency on forms prescribed by it, not later than July 31, 1976. The agency shall have the right to request additional information to assure a complete and accurate review of each application in keeping with the purposes of the enabling legislation and parts 4717.6000 to 4717.6900, such information may be related but not limited to the accuracy of eligible cost estimates and to the amount of the grant requested to assure that it applies to eligible costs only. Failure to supply the requested information shall result in denial of the grant.

B. Executed contracts shall require construction on the project to commence not later than July 1, 1977, with completion scheduled for not later than July 1, 1979.

C. Costs for which a grant may be requested shall not include landscaping, furnishings, office equipment, and other personal property which is not directly related to the construction and establishment of a permanent municipal water filtration or purification system.

D. An application, when submitted to the agency, shall have attached to it:

(1) A statement detailing the major eligible cost items for which a grant is requested such as site acquisition, site preparation, building, equipment, engineering fees, contingencies, and administrative costs.

(2) A description of the proposed water treatment process (i.e., the municipal water purification system) including the major treatment units which are determined by the applicant municipality to be necessary for the satisfactory removal of polluting or potentially injurious substances from the water. The statement shall also list the polluting or potentially injurious substances intended to be removed from the water by the proposed water treatment process.

(3) A proposed contract whereby the applicant municipality covenants that it will either: pursue its remedies, specifying how it will do so and how it will reimburse the state with any recovery under the permits granted to the discharges; or subrogate to the state those remedies for purposes of obtaining reimbursement of the state funds expended under the grants program established by the enabling legislation and parts 4717.6000 to 4717.6900.

Award of any grant is dependent upon the agency and the municipality reaching agreement as to how the state will be reimbursed. (See part 4717.6400, item B.)

Statutory Authority: *MS s 298.244*

APPROVAL OF GRANT

4717.6300 CONDITIONAL APPROVAL OF A GRANT.

The application shall be conditionally approved upon a finding by the agency that the municipal water purification system is necessary for the elimination of polluting or potentially injurious substances from water used for municipal water supply purposes, and the costs for which the grant is requested qualify as eligible costs as limited by part 4717.6500. It is recognized that the costs quoted in the application will be estimates.

Statutory Authority: *MS s 298.244*

4717.6400 FINAL APPROVAL.

The agency shall not give final approval of the grant nor pay any moneys to a municipal grant recipient until all of the following conditions are met:

A. Submission of plans for the municipal water purification system to the State Department of Health for review and approval pursuant to part 4720.0010. Part 4720.0010 relates to the approval by the department of final and complete plans and specifications for the installation, alteration, or extension of water supply systems.

B. Execution of a contract between the agency and the municipal grant recipient specifying the terms by which the state will be reimbursed either after the municipality has successfully pursued its remedies under the permits granted to the discharges or by subrogation of those remedies to the agency on behalf of the state of Minnesota.

Statutory Authority: *MS s 298.244*

4717.6500 QUANTITY OF GRANT.

Subpart 1. **Percentage limitations.** No municipality shall receive a grant for more than 33 percent of the actual eligible cost of its project.

Subp. 2. **Dollar amount limitations.** No municipality shall receive a grant of more than $2,000,000.

Subp. 3. **Limitations.** Since the application will contain and be based upon estimated eligible costs, approval of the grant means that the municipality is eligible for grant funds. The actual amount paid under the grant will be determined by actual eligible costs for construction of the municipal water

purification system subject to the payment limitations specified in subparts 1 and 2, and parts 4717.6600 to 4717.6800.

Statutory Authority: *MS s 298.244*

PAYMENT OF GRANT

4717.6600 FUNDS TO EQUAL ACTUAL ELIGIBLE COSTS.

All approved grants shall be funded so that each municipal grantee will receive funds for the same percentage of their total actual eligible costs, except as specified in part 4717.6500, subparts 1 and 2; and that any grant limited by part 4717.6500, subpart 2 shall not act as a percentage limitation on the funding of the remaining grants.

When a grant has been approved by the agency and all conditions for payment of the grant met by the grantee, payment of the grant may be made in the following manner, except as limited by part 4717.6800:

A. monthly installment payments for up to 75 percent of the eligible construction or other items as measured by its actual cost, such payments to be made only for completed eligible construction or other items for which: payment by the municipality to the contractor or other person has been made or is due and owing; and no previous payment by the agency has been made; and

B. any other method of payment requested by the municipal grantee which is agreeable to the commissioner in his sole discretion.

Statutory Authority: *MS s 298.244*

4717.6700 FURTHER DISBURSEMENTS.

After the commissioner has authorized the method of payment pursuant to part 4717.6600 or 4717.6800, the commissioner shall authorize disbursement of moneys under such method upon reviewing expenditures for eligible costs. The eligible cost expenditures shall be certified to by the grantee and the project engineer.

Statutory Authority: *MS s 298.244*

4717.6800 FINAL PAYMENTS.

The final 25 percent payment will be made in increments of ten, ten, and five percent when:

A. in the opinion of the commissioner work has proceeded on all projects for which grants were approved to the point where it can be determined that payments will comply with part 4717.6600;

B. payment by the municipality to the contractor or other person has been made or is due and owing; and

C. no previous payment for the construction in question has been made by the agency.

Statutory Authority: *MS s 298.244*

4717.6900 WAIVER OF RULE.

The agency may waive any provision of parts 4717.6000 to 4717.6900 with respect to any municipality when necessary to accomplish the purposes and intent of the enabling legislation. A waiver shall not be granted if it will violate any specific provision of the enabling legislation. A waiver shall only be granted when the agency has made a documented finding that the granting of the waiver is necessary to meet the intent and purpose of the enabling legislation. Governed by this standard, a waiver shall be granted at the reasonable discretion of the agency. The agency shall specify in writing the exact rule that is waived and the detailed reasons for granting the waiver.

Statutory Authority: *MS s 298.244*