

Water Well Program Administrative Procedures and Policies

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I. APPROVAL CONDITIONS FOR ALTERATIONS TO PROPERTIES

This section provides additional clarification for conducting property alteration reviews when the location of the well must be considered for protection and/or accessibility for maintenance.

- a) **Well located in a driveway** – It is not recommended to have a well in a driveway due to protection concerns.
 - i) When a well is located in a driveway and the driveway is proposed to be paved (currently unpaved), or re-surfaced, the well shall be protected by installing posts designed to stop vehicles from striking the well.
- b) **Well proposed to be located under a deck, gazebo or building overhang** – Access to the well from above must be provided. If it is unclear if the proposal would provide access, the applicant must submit a signed and dated statement from a licensed well contractor stating the well is accessible for maintenance.
- c) **Grade modification around well** – Modifying the grade around a well is permitted providing the well cap is at least eight inches above the final grade. The well shall not be encircled by

landscaping bricks, stones, wood, concrete blocks, poured concrete, or other material, creating an enclosure/cavity that would trap surface water around the well casing unless an outlet is provided for the water to flow out.

- d) **Proposals to replace building** – In the case of a catastrophic loss caused by fire, flooding, wind, collapse, and/or life safety issues, the owner of record at the time of loss shall submit a proposal for replacing the lost building within one year of the occurrence of the damage to the building. The following requirements apply:
- i) The well must be at least 10 feet from a perforated foundation footing drain tile.
 - ii) The well must have an approved well cap.
 - iii) If the elevation of the grade at the well casing is below the base flood elevation, the top of the well casing must be at least 2 feet above the base flood elevation.
 - iv) The well must be at least 2 feet from the roof dripline of a building.
 - v) The well cannot be located in an area where vehicles are driven or parked unless it is protected by posts designed to stop vehicles from striking the well per Section I (a) above.
 - vi) A water sample from the well must be determined to be bacteriologically and nitrate/nitrite safe as confirmed by an IEPA certified laboratory prior to use.
- e) **Connection to an existing water well** – Connecting to an existing water well for use as the potable water supply shall be approved when the requirements of this section are met. The following requirements apply:
- i) The well must be at least 10 feet from a perforated foundation footing drain tile.
 - ii) The well must have an approved well cap.
 - iii) If the elevation of the grade at the well casing is below the base flood elevation, the top of the well casing must be at least 2 feet above the base flood elevation.
 - iv) The well must be at least 2 feet from the roof dripline of a building.
 - v) The well cannot be located in an area where vehicles are driven or parked unless it is protected by posts designed to stop vehicles from striking the well.
 - vi) A water sample from the well must be determined to be bacteriologically and nitrate/nitrite safe as confirmed by an IEPA certified laboratory prior to use.
 - vii) If the water system will be semi-private or non-community, all other IDPH requirements must be met.

II. COMMUNITY WATER AVAILABILITY

When it has been determined that a community water system is available in accordance with Chapter 170, Section 170.04 Definitions, (distance, connection and controlling authority requirements), the owner may still request a variance from the requirement to connect to the community water system. In addition to the annexation exemption in Section 170.04, if the owner must obtain access or easement rights to private property from a third party to connect to the community water system, the system will be considered unavailable, though the owner may voluntarily seek those rights. The distance requirements in Section 170.04 shall be measured along the proposed route of the water line as required by the controlling authority.

Section 170.08, Variances; Hearings, allows applicants to request a variance when compliance with the code is impossible *or* impractical. The costs associated with connection could be considerably higher than construction of a new or replacement potable well would cost, potentially rendering

the connection impractical. For an owner to make the case that it would be impractical to require the connection, at a minimum, he or she would have to demonstrate the following:

- a) Indication in writing that the controlling authority of the water system and/or the municipality in which the property is located has no objection to the construction of the new or replacement water well.
- b) The cost difference between water connection and construction of the new or replacement water well must be presented, and it must be demonstrated that the cost differential, in terms of the percentage of the cost of the entire project (including potential alterations to the building) renders the connection impractical.

III. **PLAN/PERMIT APPROVAL CONDITIONS FOR CONSTRUCTION OF WELLS**

This section provides additional clarification for conducting plan reviews to construct wells. The major types of water well plan reviews include:

- a) **New Construction** (constructing a water well on property without an existing water well, or on a property that is using a shared well on or off the property) - The siting and construction of the water well must comply with the requirements of the Illinois Water Well Construction Code and Lake County Code of Ordinances, Chapter 170.
- b) **Replacement Well** (constructing a water well replacing an existing poorly functioning or non-functioning well) - The siting and construction of the water well must comply with the requirements of the Illinois Water Well Construction Code and Lake County Code of Ordinances, Chapter 170, with following exceptions:
 - i) With respect to non-compliant setback distances to sources of contamination, the location of the replacement well must be determined to be the best available location by the Lake County Health Department and an Illinois licensed water well contractor.
 - ii) Non-compliant condition(s) shall not exceed existing conditions. For example, if the existing water well is located 50 feet from the existing onsite wastewater treatment system absorption component, the replacement water well cannot be any closer to that component.
- c) **Well Modification** – Conducting any of the following actions to an existing well requires a well modification permit:
 - ~~i) Extending casing to the required height above grade, including but not limited to, when the well cap/seal is below the ground surface, and/or in a well pit.~~
 - ~~ii) Replacing/adding a pitless adapter or unit.~~ Elimination of a buried suction line.
 - ~~iii) Replacing a well screen in a water well.~~
 - ~~iv) Deepening the water well.~~
 - ~~v) Inserting a liner in the casing of a water well.~~
 - ~~vi) Altering the construction of the borehole,~~ regrouting and adding additional boreholes for a closed loop well.
- d) **Closed Loop Wells** – The siting and construction of the closed loop well or well system must comply with the requirements of the Illinois Water Well Construction Code and Lake County Code of Ordinances, Chapter 170. In addition to these requirements, the well program

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specialist shall also collect the following information from the contractor when reviewing a permit to construct a closed loop well or closed loop well system:

- i) Confirmation of the type of heat exchange liquid that will be used.
- ii) Confirmation that the grouting method proposed is appropriate (e.g., tremie from bottom up). If the well(s) will terminate in bedrock the grouting method must be discussed with well contractor to assure protection of that formation.
- iii) Confirmation of the type and mix of grout that will be used and the permeability. Maximum allowed permeability is 10^{-7} cm/sec, and 10^{-8} is better, 10^{-6} is unacceptable.
- iv) Confirmation that all the tubing will be heat fused. Glued or any mechanical joints are not acceptable.

IV. EMERGENCY APPROVAL TO CONSTRUCT A REPLACEMENT WATER WELL AND/OR SEAL A WELL

At times it is necessary for the department to issue approval to construct a replacement water well and/or seal a well prior to issuing the actual permit. These circumstances are described below.

- a) **Replacement water well** - Health Department staff may allow the construction process for a replacement water well to begin prior to the actual issuance of the permit when it is determined by an Illinois licensed well driller and a health department well program specialist that a lack of water or insufficient amount of water exists in the building. The following steps shall occur that would allow the drilling process for a replacement well to begin:
 - i) A Health Department well specialist shall meet onsite with the well driller to approve the best available location to drill the replacement well.
 - ii) As soon as possible, the well driller shall submit a completed application, site plan, and appropriate fees.
 - iii) If the replacement well will not be in a code compliant location, in addition to the requirements of subpart ii above, the well driller shall submit a variance request with supporting evidence for approval of the well location.
- b) **Well sealing** - Health Department staff may allow the sealing process for a well to begin prior to the actual issuance of the permit when it is determined by an Illinois licensed well driller and a health department well specialist, that an identified well requires immediate sealing. Examples of a well requiring immediate sealing include but are not limited to:
 - i) A well is discovered during the demolition of a structure.
 - ii) A well is discovered during earth moving activities for a construction project, examples include but are not limited to: road widening, road right-of-way improvements, excavation during construction of a structure.
 - iii) An additional water well(s) is found when the contractor is on site sealing a water well for which a permit has been granted. **No additional permit fees are required for the permit(s) to seal the additional water wells.**

The following steps shall occur that would allow for the sealing of the well to proceed:

- i) A Health Department well program specialist shall discuss, either in person, through email, or on the telephone, the situation with the licensed well driller that will seal the well and issue approval to seal the well.
- ii) Upon completion of the well sealing, the well driller shall submit a completed application, site plan, and plan review fee.
- iii) An environmental health practitioner shall conduct an inspection of the sealed well.

V. ABANDONED WELLS

Section 920.120(a) of the IDPH Water Well Construction Code states:

"The owner of a water well, boring, or monitoring well shall assure that a well is sealed within 30 days after it is abandoned and when the well is no longer used to supply water or is in such a state of disrepair that the well or boring has the potential for transmitting contaminants into an aquifer or otherwise threatens the public health or safety. The Department will grant an extension of this time if the owner submits a written request to the Department indicating the reasons for the request and an estimate of time in which the well will be either sealed or reused. For an extension to be granted, the owner shall assure the Department that applicable protective measures will be taken and that the methods and materials will be in compliance with the Act and this Part. Applicable protective measures may include ensuring that sources of contamination are down grade from the water source, ensuring isolation of the potential source of contamination so as to prevent a route of contamination of the groundwater, or isolating the potential source of contamination to prevent accidental introduction of contaminants into groundwater."

When the Lake County Health Department identifies a water well that is abandoned (see above), or will become abandoned because of the demolition of a structure (and the well will not be re-connected to a new structure), the following options for retaining the water well exist:

a) **Scenario 1** - An abandoned water well (not currently in use) is identified by a site inspection.

The following actions shall occur.

- i) The owner will be informed that ~~he or she~~they must seal the water well.
- ii) A case investigation file will be started.
- ~~iii)~~iii) A site drawing, aerial photo or GIS coordinates indicating the location of the well must be placed in the case file (i.e., electronically in EnerGov). Case notes of the investigation must be entered the same of next day and shall be updated regularly.
- ~~iii)~~iv) An abandoned well Notice of Violation ~~will~~must be sent to the property owner followed by a Final Notice of Violation, and referral to the State's Attorney's, if necessary. If the well presents an imminent health hazard (see definition in Chapter 170), corrective action shall be pursued through the Circuit Court process.
- ~~iv)~~v) If the owner expresses the wish to keep the water well and convert it to a supplemental irrigation well in accordance with Chapter 170, ~~he or she~~they may do so providing a dwelling and a primary drinking water source exists on the property, and all requirements of Chapter 170 are met.
- ~~v)~~vi) If the owner wants an extension of the time specified to seal the water well or expresses the desire to keep the water well for future use, ~~he or she~~they **must submit a written request "indicating the reasons for the request and an estimate of time in which the well will be either sealed or reused."** (IWWC, 920.120 (a)(1)). Exceptions are that if the water well is in a pit or basement, it must be sealed in accordance with, or modified to be brought into compliance with, the IDPH Water Well Construction Code and Chapter 170. A site visit shall be conducted to assure that the water well is in sound condition and is marked, fenced, or otherwise protected. If the water well has other construction defects, they must be corrected prior to the request being granted.
- ~~vi)~~vii) If the request is granted, the case file shall be amended to add the violation code "170.03 (B) Request to keep water well" and **the water well shall be inspected at least every 6 months** to assure it is in sound condition. The **owner shall be contacted by**

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phone, email or other means at least one time per year to renew/extend the request and to determine his or her plans for the water well.

- b) **Scenario 2** - A structure currently served by a water well is proposed to be demolished, or has already been demolished or has burned down, and there are no immediate plans to re-build a structure and connect to the well at the present time, but the owner would like to keep the well for future use.
- i) If the structure is served by a water well on another property serving another structure, the water line to the house being demolished must be capped to prevent water entry to the functioning well.
 - ii) The owner must submit a written request “indicating the reasons for the request and an estimate of time in which the well will be either sealed or reused.” (IWWC, 920.120 (a)(1)). Exceptions are that if the water well is in a pit or basement, it must be sealed in accordance with, or modified to be brought into compliance with, the IDPH Water Well Construction Code and Chapter 170. Additionally, if the water well has other construction defects, they must be corrected prior to the request being granted.
 - iii) The criteria for considering the request are ~~that~~:
 - (1) the lot is buildable, wastewater disposal is feasible and will allow for meeting required setbacks; ~~and~~
 - (2) community water is unavailable; (unless village provides written approval allowing the well to continue to be used as the primary water source for the home);- and
 - iii)(3) Additionally, a site visit shall be conducted to and confirms assure that the water well is in sound condition and is marked, fenced, or otherwise protected from demolition activities.
 - iv) If the request is granted, the case file shall be amended to add the violation code “170.03 (B) Request to keep water well” and **the water well shall be inspected at least every 6 months** to assure it is in sound condition. **The owner shall be contacted by phone, email or other means at least one time per year** to renew/extend the request and to determine ~~his or her~~ their plans for the water well.

c) Managing request to keep Water Well cases (HLKEEP/170.03 (B) Request to keep water well)

- i) For requests older than 5 years with no plans to rebuild and, with the water well still not in use, in addition to the annual contact, the owner must be sent a letter requiring the submission of a renewed written request to keep the well and an estimate of time in which the well will be either sealed or reused. The letter will explain the potential problems and expenses they may incur leaving a well unused for a long period of time. If the owner fails to respond, staff shall start the NOV process and, if necessary, court process, to pursue the sealing of the well.
- ii) If at any time, the well falls into disrepair or the owner does not respond to an annual effort to contact them, staff shall start the NOV process to pursue the sealing of the well. If, after discussions with a Well Specialist and/or OWTS/Water Well Program Coordinator, it is determined that the owner has not adequately responded or completed required corrective action, staff shall send a Final Notice of Violation.

VI. WELL SEALINGS CONDUCTED BY HOMEOWNER

The IDPH Water Well Code Section 920.120(a) (2), allows a well to be sealed by an individual other than a licensed water well driller if, 1) the well is located on land that is owned or leased by the

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individual or, 2) the land is used by the individual for farming purposes or as the individual's place of abode.

Because of the risks an improperly sealed well presents to groundwater aquifers, a water well program specialist will consult with individuals requesting to seal a well in accordance with 1) and 2) above and encourage the owner to contact a licensed water well driller to seal the well. Should the individual still want to proceed with sealing the well, the Lake County Health Department shall require the following actions to occur:

- a) The individual must demonstrate during discussions with a well program specialist that they have the knowledge and ability to seal the subject well.
- b) The individual must show they have, or have access to, the necessary equipment and materials to seal a well.
- c) If it is determined that the owner possesses the knowledge and equipment/materials necessary to seal the well, a well sealing application shall be completed and submitted, and the permit fee shall be paid.
- d) The entire sealing process shall be witnessed by LCHD staff, and the well sealing completion form shall be completed by staff and signed by the owner on-site.

VII. EXPIRED WELL PERMITS

The IDPH Water Well Code Section 920.130 (c), states "a permit is void if construction has not commenced within one year after the date of issuance."

When the LCHD receives an application to construct or modify a well, two fees are assessed: a water well plan review (permit) fee and an installation/inspection fee. When a permit is voided after one year as stated above, a new plan review (permit) fee and application to construct or modify a well must be submitted for review and approval. The installation/inspection fee that was initially charged is not required to be re-paid.

VIII. WATER WELL INSPECTIONS

Inspection of the construction and/or installation of a water well, or component thereof, shall be conducted by the Health Officer to determine compliance with Chapter 170. The following items are part of the inspection.

- a) **Reports:** Inspections shall be conducted using the Department's Water Well/Closed Loop Well Inspection checklist. All relevant items for the inspection must be checked, noted where appropriate, and when completed, initialed, and dated. If an item is unable to be verified it shall be marked UV (unverified). All measurements/dimensions/capacities are to be checked to confirm agreement with the approved site plan. Additional notes, comments, and sketches are to be entered on the bottom of the checklist.
- b) **Required Documents to Close a File for Final Approval:** The following documents are required prior to the issuance of the Certificate of Completion of Water Well.
 - i) Well drilling log
 - ii) Satisfactory water sample for Total Coliform and Nitrate/Nitrite

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- iii) Completed well inspection report
 - iv) Sealing form if applicable
- c) **Location:** Wells shall be drilled in the location shown on the approved plans as accurately as possible. At least two measurements (to the nearest foot) from permanent reference points shall be recorded and marked on the approved plan. The marked-up plan shall be retained by the Health Department as the official site plan of the well.
- d) **Non-Producing Well/Bore Hole:** The environmental health practitioner or specialist must document the existence of a non-producing well/bore hole on the approved plan and inspection report. The non-producing well/bore hole shall be sealed in accordance with IDPH Water Well Construction Code, Section 920.120 (c), which does allow the well to be sealed with “clay” (i.e., in many cases, drill cuttings). **Section 920.120(c), however, also states that if “a water well is drilled and a water-bearing formation is located, but the yield from the formation is not sufficient, or if the water well is to be sealed for any other reason, the water well shall be sealed in accordance with all provisions of this Part regulating the sealing of water wells.”** These wells need to be sealed as would any other water well.
- e) For a non-producing water well, a sealing permit, well construction log, or sealing completion form is not required. For a well that produces insufficient or undesirable water a well, a sealing permit is not required, but the contractor must submit a well construction report and well sealing completion form.

IX. NON-COMMUNITY WATER SYSTEMS

- a) **Non-community annual operating permit:** Lake County Code of Ordinances Chapter 170, Section 170.06(B) requires a valid permit, issued by the Health Officer, to operate a non-community water system. Owners of non-community water systems are required to pay a fee for an annual operating permit fee. If payment for an annual operating permit is not received, LCHD shall proceed with attempts to collect the permit fee through activities, including but not limited to, site visits, office compliance hearings, and administrative adjudication warnings and/or tickets.
- b) **Seasonal startup procedure:** When a seasonal non-community water system is completely or partially de-pressurized during the winter season, a start-up procedure shall occur in the spring before the water supply is used for the up-coming year. ~~Certified~~ The manager ~~operators or owners~~ of the seasonal system shall be contacted by the LCHD to remind them that they must perform the following start-up procedure:
- i) The well cap, storage tank, plumbing and treatment, if applicable, shall be inspected by the owner/operator to assure they are in good condition.
 - ii) The water distribution systems must be flushed until the water is clear and free of particulate matter or cloudiness at all outlets.
 - iii) The well and water distribution system must be chlorinated. The chlorine solution must remain in the water system for at least 24 hrs. After 24 hours, all faucets are to be opened to run the water until no chlorine odor is present.
 - iv) After the above chlorination procedure has been completed, the owner shall contact the LCHD to schedule an appointment to collect a start-up coliform -water sample (defined as a special sample by IDPH).

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~~iv-v)~~ A second water sample is required to be collected for coliform and nitrate/nitrite later in the season. This sample may be considered the annual routine water sample.

Upon completion of the above procedure, the LCHD shall complete the IDPH start-up certification and non-community survey forms~~form~~ upon confirmation that the water from the well has been determined to be bacteriologically safe and compliant for nitrate and nitrite.

- c) **Unsatisfactory Routine Samples:** Routine water sample(s) are collected and analyzed by LCHD annually, quarterly, or monthly from each non-community water system, depending on the population served. The cost of routine sample collection and analysis, ~~with the exception of monthly samples,~~ is included in the annual non-community water system permit fee, with the exception that systems requiring monthly samples pay a separate annual fee. When the result of a routine sample test ~~result~~ is unsatisfactory, repeat samples must be collected and analyzed until it is determined the water is safe for consumption. Repeat water sample collection and analysis is also included in the annual non-community water system permit fee, except as noted in subpart i) below. The period of time over which repeat samples must be collected and analyzed is determined by the USEPA Revised Total Coliform Rule (RTCR).

The likely cause of the unsatisfactory water analysis result shall be investigated by the Health Officer in consultation with the parties involved including but not limited to, the owner, certified system operator, Illinois licensed plumber, and/or Illinois licensed water well contractor. Repeat samples shall be collected and analyzed according to the RTCR.

- i) If the Health Officer determines unsatisfactory water analysis ~~is~~ are the results are due to-of owner/operator negligence or inaction, the cost of repeat sample collection and analyses shall be assessed to the non-community system owner. When diagnostic samples are collected by the Health Officer at their discretion, the cost of sample collection and analyses shall not be charged to the system owner. Negligence or inaction means that the owner/operator has not taken required or advisory actions to mitigate the cause of the unsatisfactory sample result(s) including, but not limited to the following: failure to correct a water well or water system deficiency as required by the Health Officer; not maintaining a system flushing schedule or conducting a system flushing; not completing a plumbing system audit; not installing sampling taps to isolate sections of the distribution system; failure to maintain a water treatment system; or not disinfecting or purging the water well and distribution system.

X. UNSATISFACTORY BACTERIOLOGICAL DRINKING WATER LABORATORY RESULTS FROM PRIVATE AND SEMI-PRIVATE WATER WELLS

Whenever a drinking water sample result is unsatisfactory for bacteriological analyses, a well program specialist or environmental health practitioner shall contact the submitter of the analyses within 24 hours. The following is a set of guidelines to assist in these calls.

- a) **Result of positive total coliform only:** The submitter shall be provided with information to not consume the water, use it for brushing teeth, or use it to wash foods that won't be cooked. Possible reasons for the unsatisfactory results are to be discussed, including but not limited to: loose/missing/damaged cap and/or conduit; recent work done on the well, plumbing system, treatment units; addition of a treatment unit; and the possibility sampling error. The submitter

should be advised to have the well disinfected with chlorine, and then re-sampled after the chlorine has been flushed from the system.

- b) **Result positive for fecal coliform/ E. coli:** The submitter shall be provided with information to not consume the water, use it for brushing teeth, use it for washing foods, or use it for cooking, and to avoid contact with the water in general (bathing/washing is not recommended). Possible reasons for the unsatisfactory results are to be discussed, including but not limited to: loose/missing/damaged cap and/or conduit; recent work done on the well, plumbing system, treatment units; addition of a treatment unit; flooded well, possible cross connections, and the possibility of sampling error. The submitter shall be advised to have the well disinfected with chlorine, and then re-sampled after the chlorine has been flushed from the system.
 - i) A case for Water Well in Unsafe Condition shall started and an inspection of the well by LCHD staff shall be conducted to assess its condition and to attempt to determine the possible source of the fecal bacteria.

XI. OFFICE COMPLIANCE HEARINGS

When a non-community water system operator repeatedly or seriously fails to comply with any of the requirements on Lake County Code of Ordinances Chapter 170, the operator may be required in writing to attend an office compliance hearing with the Health Officer. The following conditions would warrant an office compliance hearing, though this list is not all inclusive:

- a) Failing to pay an annual operating permit fee or late fee.
- b) If an operator refuses access or entry to the Health Officer or becomes belligerent, aggressive or threatening. The Health Officer must also complete an incident report describing the encounter.

XII. VARIANCES

Chapter 170, Section 170.08 allows an applicant to request a variance when compliance with the requirements of the Chapter is impossible or impractical. The variance request must be submitted in accordance with Section 170.08. In cases of replacement wells where it is impossible to meet code compliant horizontal separation distances, however, the variance fee shall not be assessed.

XIII. DEWATERING WELLS

a) General requirements.

- i) A water well designed to lower the groundwater level is often referred to as a dewatering well, and as such falls under the Illinois Water Well Construction Code, Section 920.10, definition of a water well.
- ii) An uncased excavation temporarily installed for purposes of dewatering, or a cased excavation with less than 20 feet of temporary casing is not considered a water well.
- iii) Dewatering systems can be either permanent, e.g., maintaining the groundwater below a certain level for a stretch of highway, or temporary, usually lasting no more than 12 months, e.g., building projects, installation of pipelines.
- iv) A dewatering well shall not connect to a potable water system. Like a non-potable irrigation well, a dewatering well is not required to be sampled for the presence of coliform bacteria and nitrate concentration.

b) **Permits.**

- i) A permit is required to construct a dewatering well or wells.
- ii) For temporary monitoring wells, the permit fee shall allow for the construction and sealing of the well.
- iii) No Installation/Inspection Fee shall be assessed for dewatering wells.
- iv) For projects where multiple temporary dewatering wells are proposed, the Health Officer may combine/reduce the permit fees.

c) **Contractor Licensing.** A dewatering well shall be constructed by a licensed water well contractor or an individual who performs labor or services for a licensed water well contractor and under the personal supervision of a licensed water well contractor. Rental pumps, wire and discharge for dewatering wells shall be installed by a licensed water well pump installation contractor or an individual who performs labor or services for a licensed water well pump installation contractor and under the personal supervision of a licensed water well pump installation contractor on stationary construction projects, e.g., building projects, and the initial setup for moving projects such as pipelines or sewer work. On moving projects, pumps, wire and discharge can be moved by the contractor performing the work as the project progresses as long as he or she follows the procedures used by the licensed water well pump installer.

d) **Construction of a Permanent Dewatering Well.** A permanent dewatering well shall be constructed in accordance with the Illinois Water Well Construction Code and Chapter 170. Perforated well casing or well screen may extend up to within 10 feet of the ground surface for dewatering wells intended for shallow aquifers or alluvial formations. In such situations, the annular space shall be grouted from two feet above the gravel pack to the surface.

e) **Construction of a Temporary Dewatering Well.** A temporary dewatering well extending into an unconsolidated formation, and installed for a specified period of time, not to exceed 12 months unless justification can be provided to the Department or local health department, shall meet the minimum following requirements:

- i) The casing shall be watertight, free of contaminants, and constructed to withstand the forces exerted on it during installation and removal. Well casing that is removed may be reused only for the construction of other dewatering wells.
- ii) The upper terminal of the casing shall extend at least 12 inches above the working grade. The working grade is the temporary elevation of the ground surface during a construction project.
- iii) If used, screen selection is optional. The well screen shall be sufficiently strong and durable so that it may be readily removed intact with the well casing.
- iv) The top of the casing shall be capped or covered in a manner to prevent entry of foreign material, and precautions shall be taken to prevent the entry of flood water into the casing.
- v) If filtering material (gravel pack) is used, it shall be clean and free of contaminants.
- vi) The filtering material shall extend no more than 5 feet above the top of the sand and gravel formation. The annular space shall be filled with impervious clay or with native material that is of the same composition as what was excavated from the borehole. Where native sand and gravel material continues above the water bearing sand and

gravel formation, the top of the sand and gravel formation shall be considered the point at which water is first encountered.

f) Pump Installation and Operation.

- i) The discharge line of a dewatering well shall leave the well above working grade.
- ii) Electrical connections to the pumping equipment shall be made in accordance with the current edition of the National Electric Code or the local authority with such jurisdiction and shall be made in a manner that protect the safety and welfare of workers and the public from possible electrical shock.
- iii) The contractor, consulting engineer, and the owner of the construction project for which the dewatering system is being installed shall give due consideration as to what effect the lowering of the groundwater table will exert on existing nearby wells.

g) Loss of Potable Supply. The contractor who installs a dewatering system that causes the loss of an adequate private, semi-private, or non-community water system shall provide such water supply owner with a temporary supply of potable water during the operation of the dewatering well. LCHD may require the private water well to be tested to determine if the water quality is satisfactory for potable use before the alternate source of water supply is discontinued.

h) Sealing a Permanent Dewatering Well. A permanent dewatering well shall be sealed in accordance with the Illinois Water Well Construction Code, Section 920.120, and Chapter 170.

i) Sealing a Temporary Dewatering Well. An abandoned temporary dewatering well extending into an unconsolidated formation (alluvial formations consisting of gravel and sand), shall be sealed as follows:

- i) The contractor shall follow the requirements of Section 920.120 (e), regarding notification prior to beginning the operation of sealing wells in the dewatering well system.
- ii) The casing and screen may be pulled and reused only in the construction of a dewatering well.
- iii) When the casing is being pulled, the filtering material may be allowed to cave in.
- iv) If, when the filtering material caves in, and the top of the filtering material is below the top of the sand and gravel formation, the filtering material may be topped off with similar material (sand and gravel that was removed during the drilling process), limestone chips, impervious clay, or pea gravel to within three feet of the top of the sand and gravel formation.
- v) Where the annular space that was sealed with impervious clay or native materials remains open after the casing has been pulled, it shall be filled with impervious clay or bentonite chips within two feet of the surface and the balance filled with topsoil.

j) Well Construction and Sealing Reports.

- i) When **constructing** a dewatering well or well system, the contractor must complete and submit a well construction report in accordance with the Illinois Water Well Construction Code, Section 920.30 (b) and Chapter 170.

- ii) When **sealing** a dewatering well, the contractor must complete and submit a well sealing completion report and meet all the applicable requirements of the Illinois Water Well Construction Code and Chapter 170.

XIV. MONITORING WELL SEALING PERMIT FEES

For projects where multiple monitoring wells are to be sealed on a site, the Health Officer may combine/reduce the permit fees.