

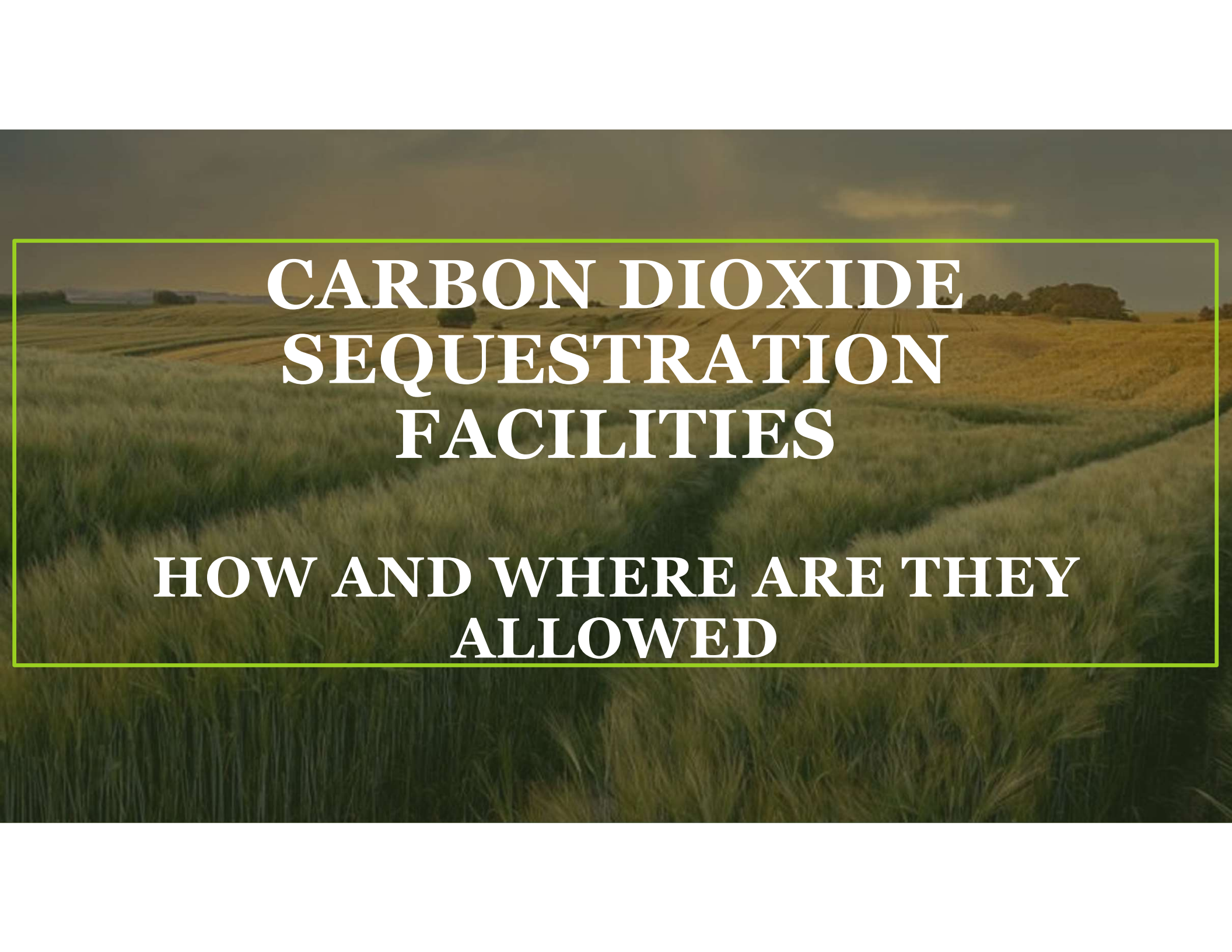
ZONING CASE 212-AT-26

**ADDING CARBON DIOXIDE SEQUESTRATION
FACILITIES TO THE ZONING ORDINANCE**

PUBLIC HEARING JULY 16TH, 2026

ZONING CASE 212-AT-26
JULY 16TH, 2026

- Where & How are Carbon Dioxide Sequestration Facilities allowed
- Where Carbon Dioxide Sequestration Facilities are not allowed
- Where Carbon Dioxide Sequestration Facilities Injection Wells are not allowed
- County Board Special Use Permit Standard Conditions similar to wind & solar
- County Board Special Use Permit Standard Conditions unique to Carbon Dioxide Sequestration Facilities

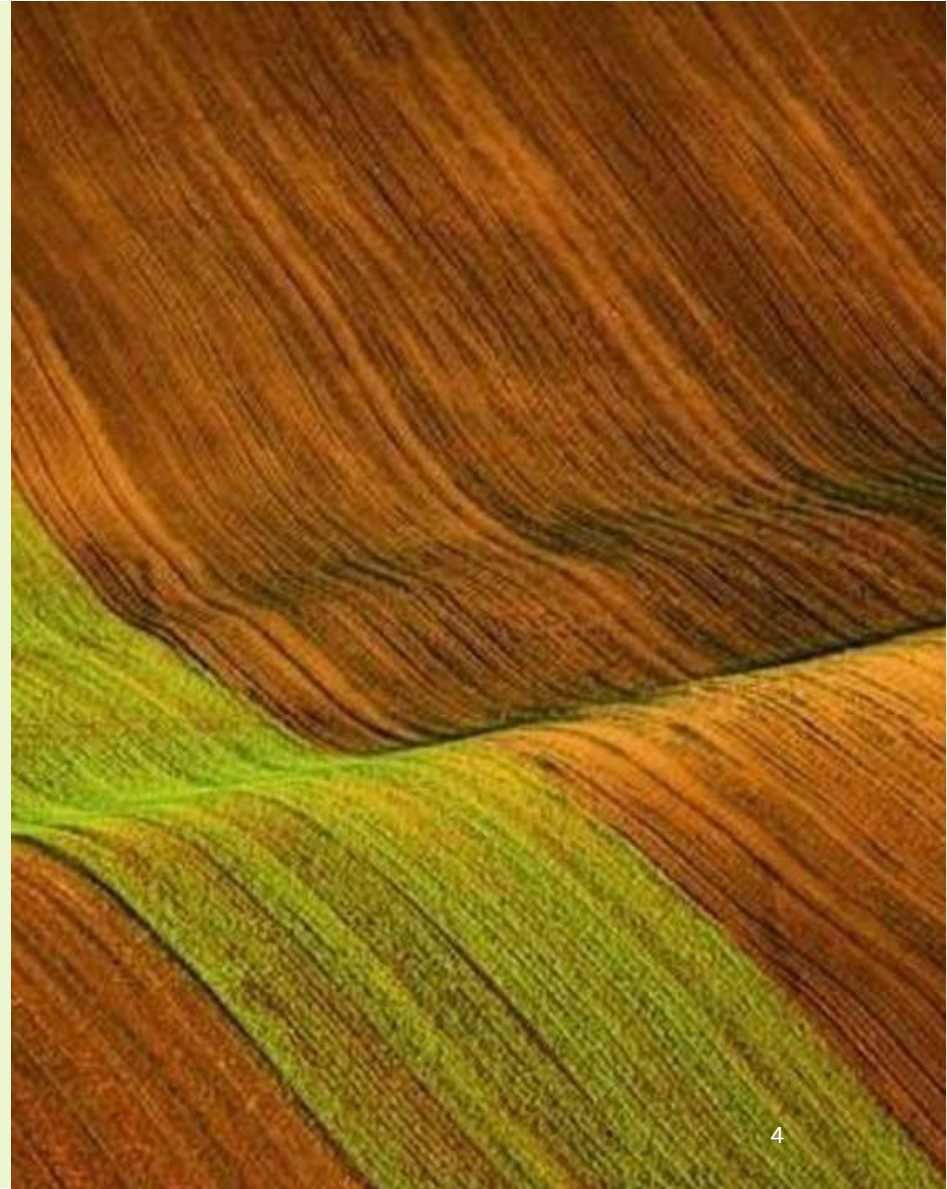


CARBON DIOXIDE SEQUESTRATION FACILITIES

HOW AND WHERE ARE THEY ALLOWED

CARBON DIOXIDE SEQUESTRATION FACILITIES

A COUNTY BOARD APPROVED
SPECIAL USE PERMIT ***WILL*** BE
REQUIRED



CARBON DIOXIDE SEQUESTRATION FACILITIES

WHERE WILL CARBON
DIOXIDE SEQUESTRATION
FACILITIES BE ALLOWED

Which Zoning Districts will Carbon
Dioxide Sequestration Facilities be
allowed in

- AG-1, Agriculture Zoning District
- AG-2, Agriculture Zoning District
- I-2, Heavy Industry Zoning District
- Also need to add CR, Conservation Recreation, B-1, Rural Business, and B-3, Highway Business Zoning Districts



CARBON DIOXIDE SEQUESTRATION FACILITIES

THE SPECIAL USE PERMIT SHALL
INCLUDE ALL LAND SURFACE
ABOVE THE CARBON DIOXIDE
PLUME
(SEC. 6.1.7A.(1))

CDSF MAY BE QUITE EXTENSIVE
ON THE LAND



CARBON DIOXIDE SEQUESTRATION FACILITIES

WHERE WILL CDSF NOT BE ALLOWED

- Over, through, or under the Mahomet Aquifer as recently mapped (Sec. 6.1.7 A.(3)a.))
- Over, through, or under any Major Sand and Gravel Aquifer (Sec. 6.1.7 A.(3)b.))
- Under or less than 1½ miles from a municipality (Sec. 6.1.7A.(3)c. & d.)
- Where geologic strata could be fractured by CO₂ injection (Sec. 6.1.7D.(2))
- Underneath any non-participating property except as may be ordered for “unitization and integration” by IDNR per SAFE CCS Act (Public Act 104-0119)



CARBON DIOXIDE SEQUESTRATION FACILITIES WHERE WILL CO₂ INJECTION WELLS NOT BE ALLOWED

- Less than 2,640 feet (1/2 mile) from a Principal Structure, outdoor gathering space, or livestock operation (Sec. 6.1.7D.(4)b.)
- Less than 2,000 feet from a public street, third party transmission line, or communication tower (Sec. 6.1.7D.(4)a.(a))
- Any location where evacuation of a Principal Structure or outdoor gathering space, cannot prevent exposure to CO₂ between 30,000 and 40,000 PPM within 15 minutes (Sec. 6.1.7D.(5))

CARBON DIOXIDE SEQUESTRATION FACILITIES

FEDERAL AND STATE PERMITS ARE ALSO REQUIRED

- Class VI Well Permit from the U.S.EPA (Sec. 6.1.7E.(3))

- Sequestration Permit from the Illinois EPA ((Sec. 6.1.7E.(3))

- A Draft Class VI Well Permit Application and an application to the Illinois EPA are required at the time of Special Use Permit Application

- An approved Class VI Well Permit and an approved Illinois EPA Sequestration Permit are required for a Zoning Use Permit to authorize construction



CARBON DIOXIDE SEQUESTRATION FACILITIES

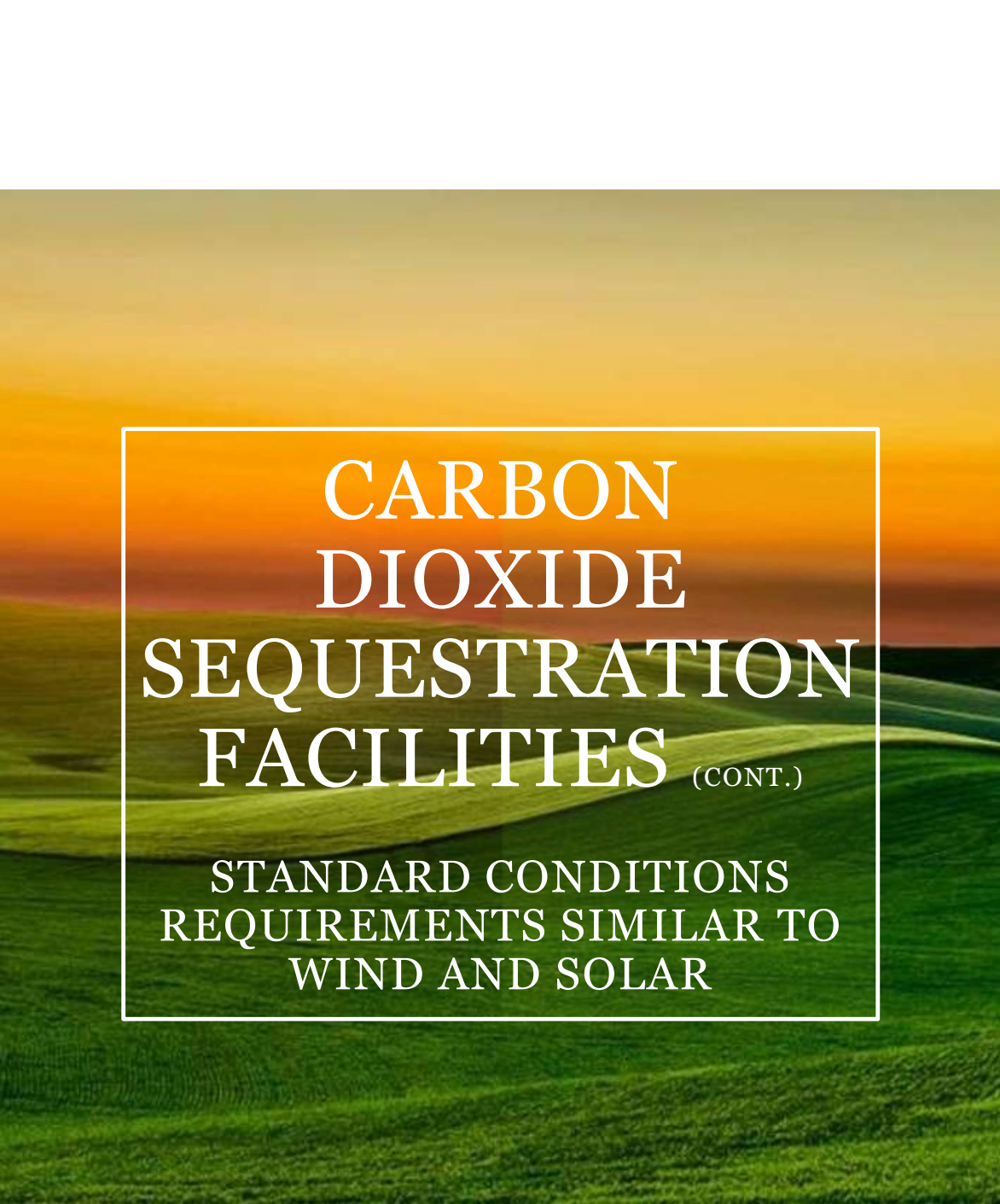
STANDARD CONDITION REQUIREMENTS



CARBON DIOXIDE SEQUESTRATION FACILITIES

STANDARD CONDITIONS
REQUIREMENTS SIMILAR TO
WIND AND SOLAR

- Mitigate damage to farmland (Sec. 6.1.7F.)
- Use of Public Streets (Sec. 6.1.7G.)
- Coordination with Local Fire Protection District (Sec. 6.1.7H.)
- Allowable noise level (Sec. 6.1.7K.)
- Endangered species consultation (Sec. 6.1.7L.)
- Historic and Archaeological Review (Sec. 6.1.7M.)
- Wildlife impacts (Sec. 6.1.7N.)



CARBON DIOXIDE SEQUESTRATION FACILITIES (CONT.)

STANDARD CONDITIONS
REQUIREMENTS SIMILAR TO
WIND AND SOLAR

- Screening and fencing (Sec. 6.1.7O.)
- Liability insurance (Sec. 6.1.7P.)
- Decommissioning and Site Reclamation Plan (Sec. 6.1.7R.)
- Complaint hotline (Sec. 6.1.7S.)
- Expiration of Special Use Permit (Sec. 6.1.7T.)



CARBON DIOXIDE SEQUESTRATION FACILITIES

STANDARD CONDITIONS SPECIFIC TO CDSF

- EMERGENCY AND REMEDIAL RESPONSE PLAN (SEC. 6.1.7I.)
- WATER REPLACEMENT PLAN (SEC. 6.1.7J.)
- CONTAINMENT OF CO₂ (SEC. 6.1.7Q.(4))
- SUBSURFACE LEAKS (SEC. 6.1.7Q.(5))
- WATER QUALITY REPORTING (SEC. 6.1.7Q.(6))



CARBON DIOXIDE SEQUESTRATION FACILITIES

EMERGENCY AND REMEDIAL RESPONSE PLAN (SEC. 6.1.7I.)

- Shall be same narrative as for U.S.EPA Class VI Well application (Sec. 6.1.7I.(1))
- Shall identify all potentially impacted resources (e.g. ground or surface water) or infrastructure (Sec.6.1.7I.(2))
- Any subsurface leak shall be reported to County Executive & Zoning Administrator (Sec. 6.1.7I.(3))
- Shall address when CO₂ sequestration will be stopped due to mechanical failure (Sec. 61.7I.(4))



CARBON DIOXIDE SEQUESTRATION FACILITIES

EMERGENCY AND REMEDIAL RESPONSE PLAN (SEC. 6.1.7I.) (CONT.)

- Shall consider for each identified resource or infrastructure element, any potential adverse events that may occur including induced seismicity and shall notify County and U.S. EPA when a natural or induced earthquake of M1.5 to 2.0 magnitude or greater has occurred (Sec. 6.1.7I.(5)a.)



CARBON DIOXIDE SEQUESTRATION FACILITIES

EMERGENCY AND REMEDIAL RESPONSE PLAN (SEC. 6.1.7I.) (CONT.)

- Shall initiate a CO₂ rate reduction plan when a natural or induced earthquake of M_{3.5} or greater is reported until inspection and evaluation of any damage to the confining zone, any well, or CDSF equipment takes place. The plan must indicate that injection of CO₂ (Sec. 6.1.7I.(5)b.):
- Shall only resume if it can be determined that resuming injection will not pose an undue risk; and
- Shall be scaled back until a potentially safe operation level has been verified by a third-party consultant; and



CARBON DIOXIDE SEQUESTRATION FACILITIES

EMERGENCY AND REMEDIAL RESPONSE PLAN (SEC. 6.1.7I.) (CONT.)

- Shall be shut down per a CO₂ shutdown plan when a natural or induced earthquake M3.5 or greater occurs, and there is confirmation of damage. This shutdown plan shall include the following (Sec. 6.1.7I.(5)c.):
 - The initiation of an Evacuation Plan
 - Immediate contact with the U.S. EPA Underground Injection Control (UIC) Program Director
 - Immediate communication to the County Executive of all corrective actions required by the U.S. EPA's UIC Program Director



CARBON DIOXIDE SEQUESTRATION FACILITIES

EMERGENCY AND REMEDIAL RESPONSE PLAN (SEC. 6.1.7I.) (CONT.)

The Evacuation Plan shall include the following (Sec. 6.1.7I.(6)):

- Each primary structure that could be exposed to CO₂ concentrations of 20,000 ppm or greater in the event of an injection well leak or blowout (Sec. 6.1.7I.(6)a.)
- Plan for barricading roadways that pass within CO₂ concentrations of 20,000 ppm or greater (Sec. 6.1.7I.(6)b.)
- A plan approved by first responders for first responders to assist with evacuation (Sec. 6.1.7I.(6)c.)



CARBON DIOXIDE SEQUESTRATION FACILITIES

EMERGENCY AND REMEDIAL RESPONSE PLAN (SEC. 6.1.7I.) (CONT.)

The Emergency and Remedial Response Plan shall identify the personnel and equipment needed to implement the response actions including the following (Sec. 6.1.7I.(7)):

- Local emergency response agencies that the operator must notify immediately in the event of a carbon dioxide monitoring well leak or injection well leak or blowout (Sec. 6.1.7I.(7)a.)



CARBON DIOXIDE SEQUESTRATION FACILITIES

EMERGENCY AND REMEDIAL RESPONSE PLAN (SEC. 6.1.7I.) (CONT.)

- CDSF operator emergency response personnel contacts for use by County and municipal emergency response personnel (Sec. 6.1.7I.(7)b.)
- Recommended emergency response equipment and training required by County and municipal emergency response personnel and a plan for both providing and funding such equipment and training (Sec. 6.1.7I.(7)c.)



CARBON DIOXIDE SEQUESTRATION FACILITIES

EMERGENCY AND REMEDIAL RESPONSE PLAN (SEC. 6.1.7I.) (CONT.)

The Emergency and Remedial Response Plan shall include the following commitments (Sec. 6.1.7I.(8)):

- The applicant shall work with emergency response personnel to design, construct, and fund a telephonic and electronic emergency alert system for individuals who live or operate businesses near the CDSF to provide alerts to evacuate in the event of an uncontrolled release of CO₂ into the atmosphere (Sec. 6.1.7I.(8)a.)



CARBON DIOXIDE SEQUESTRATION FACILITIES

EMERGENCY AND REMEDIAL RESPONSE PLAN (SEC. 6.1.7I.) (CONT.)

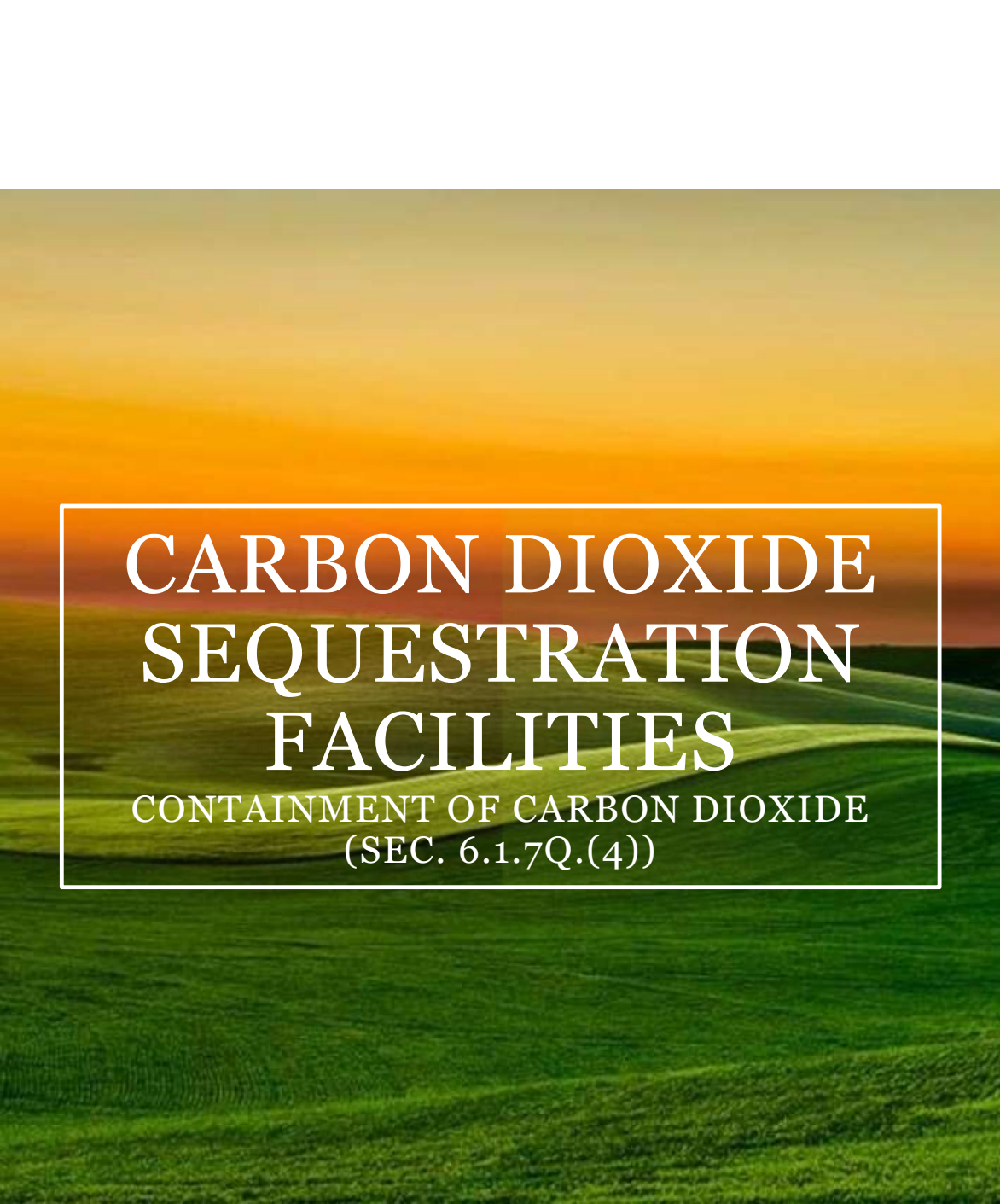
- The applicant shall provide CO₂ detectors with alarms to occupants of primary structures that could be exposed to concentrations of 20,000 ppm or more in the event of an uncontrolled release of CO₂. Such CO₂ detectors must be provided, maintained and replaced at the applicant's expense, and monitored annually and replaced as needed to ensure continuous protection (Sec. 6.1.7I.(8)b.)



CARBON DIOXIDE SEQUESTRATION FACILITIES

WATER REPLACEMENT PLAN (SEC. 6.1.7J.)

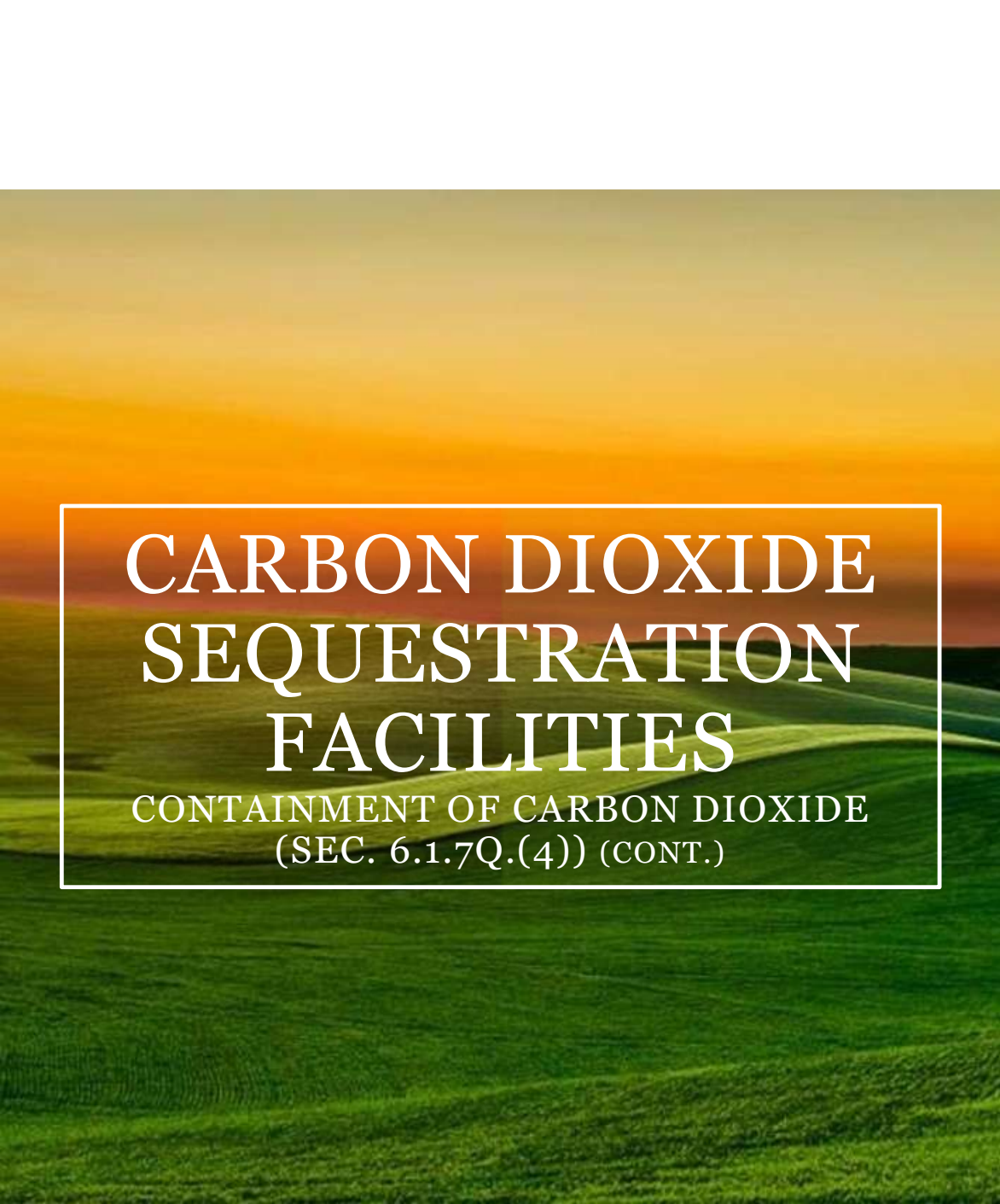
- THE APPLICATION SHALL INCLUDE A WATER REPLACEMENT PLAN THAT ADDRESSES POTENTIAL IMPACTS TO GROUNDWATER FROM CARBON DIOXIDE INJECTION (SEC. 6.1.7J.(1))
- THE WATER REPLACEMENT PLAN MUST INCLUDE METHODOLOGIES FOR REMEDIATING ANY LEAK OF CARBON DIOXIDE, IDENTIFICATION OF ALTERNATIVE WATER SOURCES, AND SHOW HOW SUCH WATER WOULD LEGALLY AND FINANCIALLY BE OBTAINED AND DISTRIBUTED TO POTENTIALLY AFFECTED GROUNDWATER USERS (SEC. 6.1.7J.(2))



CARBON DIOXIDE SEQUESTRATION FACILITIES

CONTAINMENT OF CARBON DIOXIDE
(SEC. 6.1.7Q.(4))

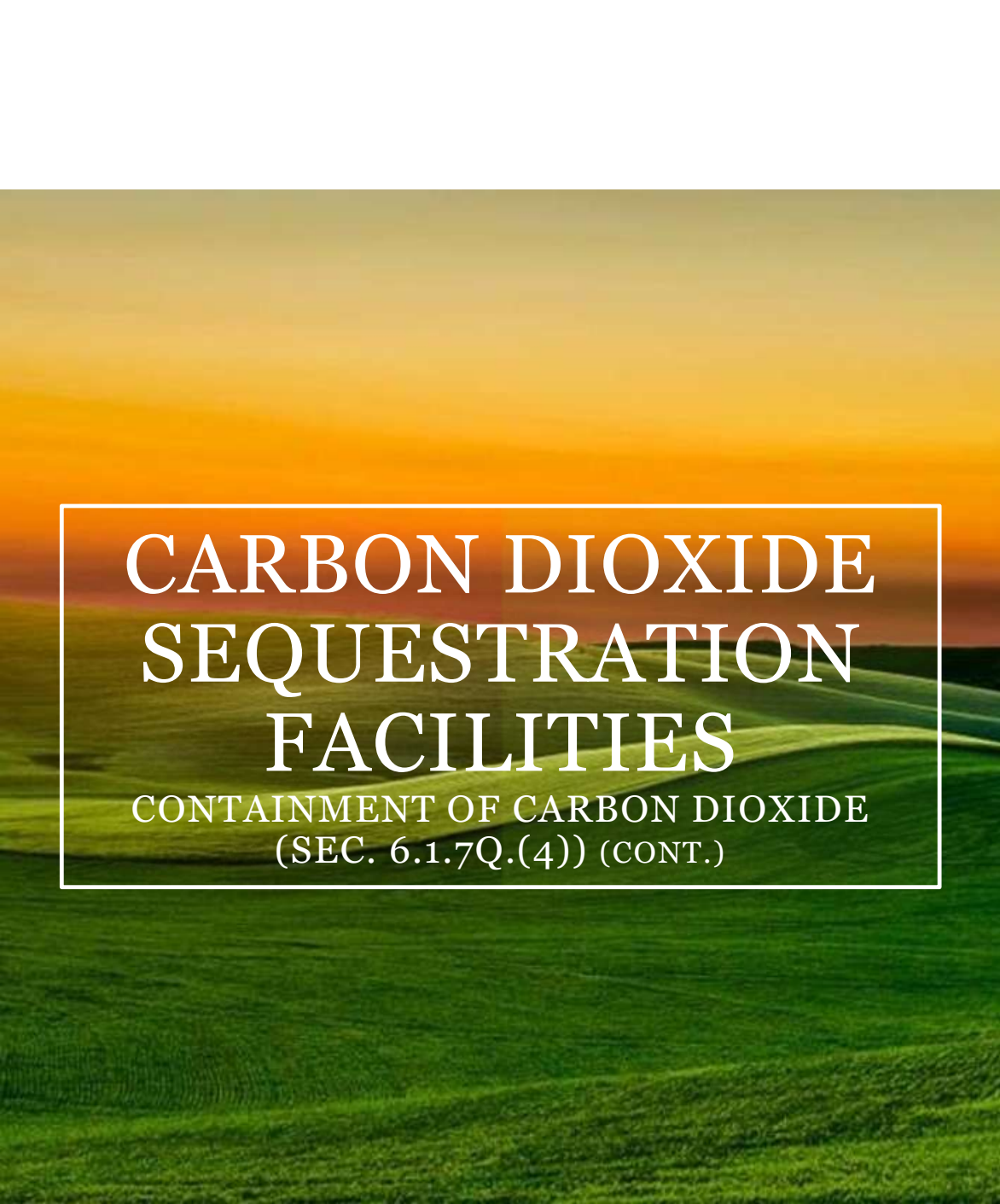
- Once the CDSF begins to inject carbon dioxide, the owner shall submit semi-annual reports to the Zoning Administrator that identify the actual horizontal spread and vertical rise of the underground carbon dioxide plume, and the extent of subsurface pressure changes caused by the CDSF (Sec. 6.1.7Q.(4)a.)
- These reports shall be required until such time as the U.S EPA determines the post closure care of the project is complete or as otherwise might be determined by the Illinois EPA (Sec. 6.1.7Q.(4)a.)



CARBON DIOXIDE SEQUESTRATION FACILITIES

CONTAINMENT OF CARBON DIOXIDE
(SEC. 6.1.7Q.(4)) (CONT.)

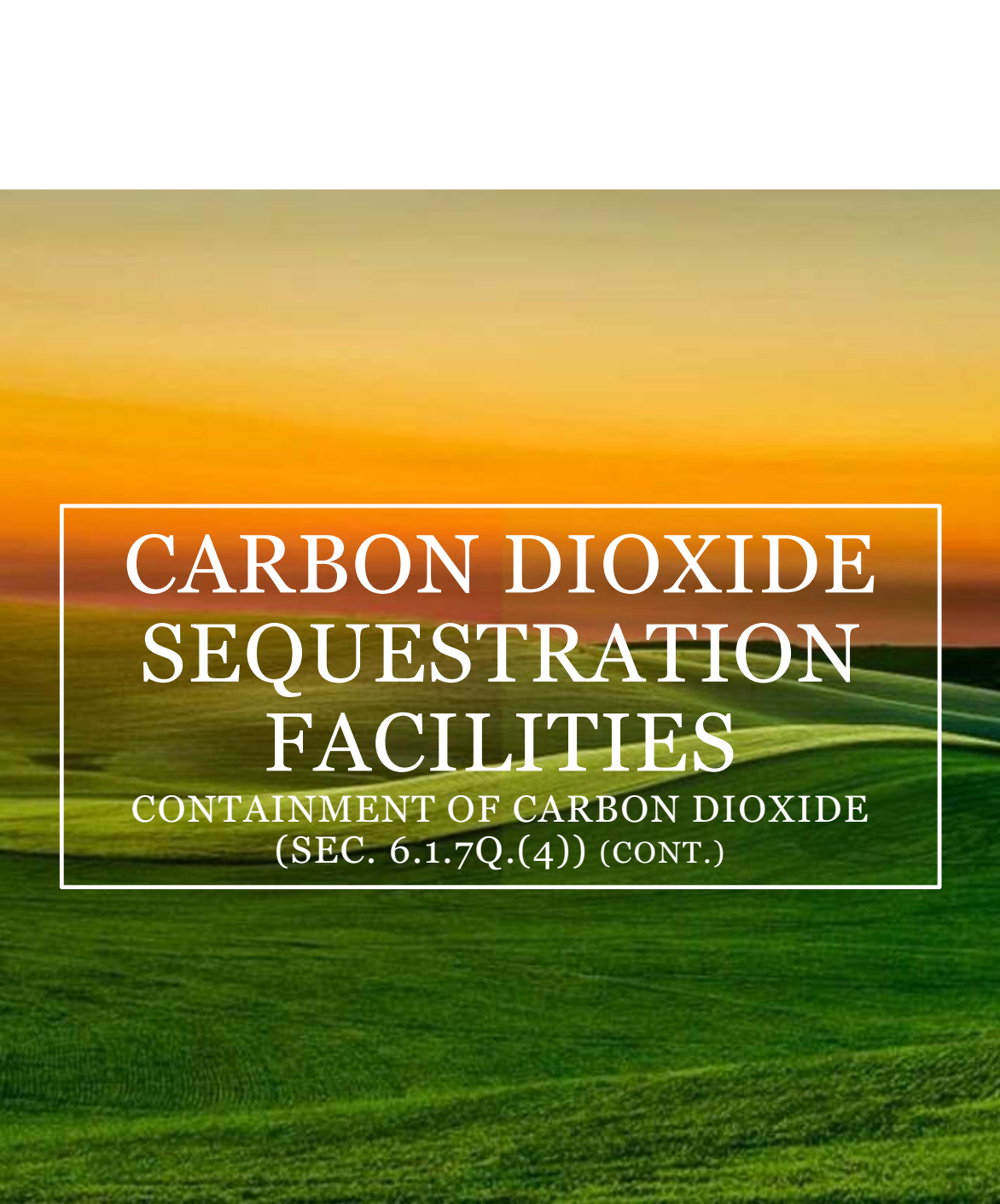
- The purpose of this requirement is to verify that the injected carbon dioxide is following models approved by the U.S. EPA and not escaping containment or moving to unauthorized areas, which would be considered trespass (Sec. 6.1.7Q.(4)a.)
- The applicant shall submit semi-annual reports that compare the location of the carbon dioxide plume to that which was modeled and approved by the U.S. EPA (Sec. 6.1.7Q.(4)b.)



CARBON DIOXIDE SEQUESTRATION FACILITIES

CONTAINMENT OF CARBON DIOXIDE
(SEC. 6.1.7Q.(4)) (CONT.)

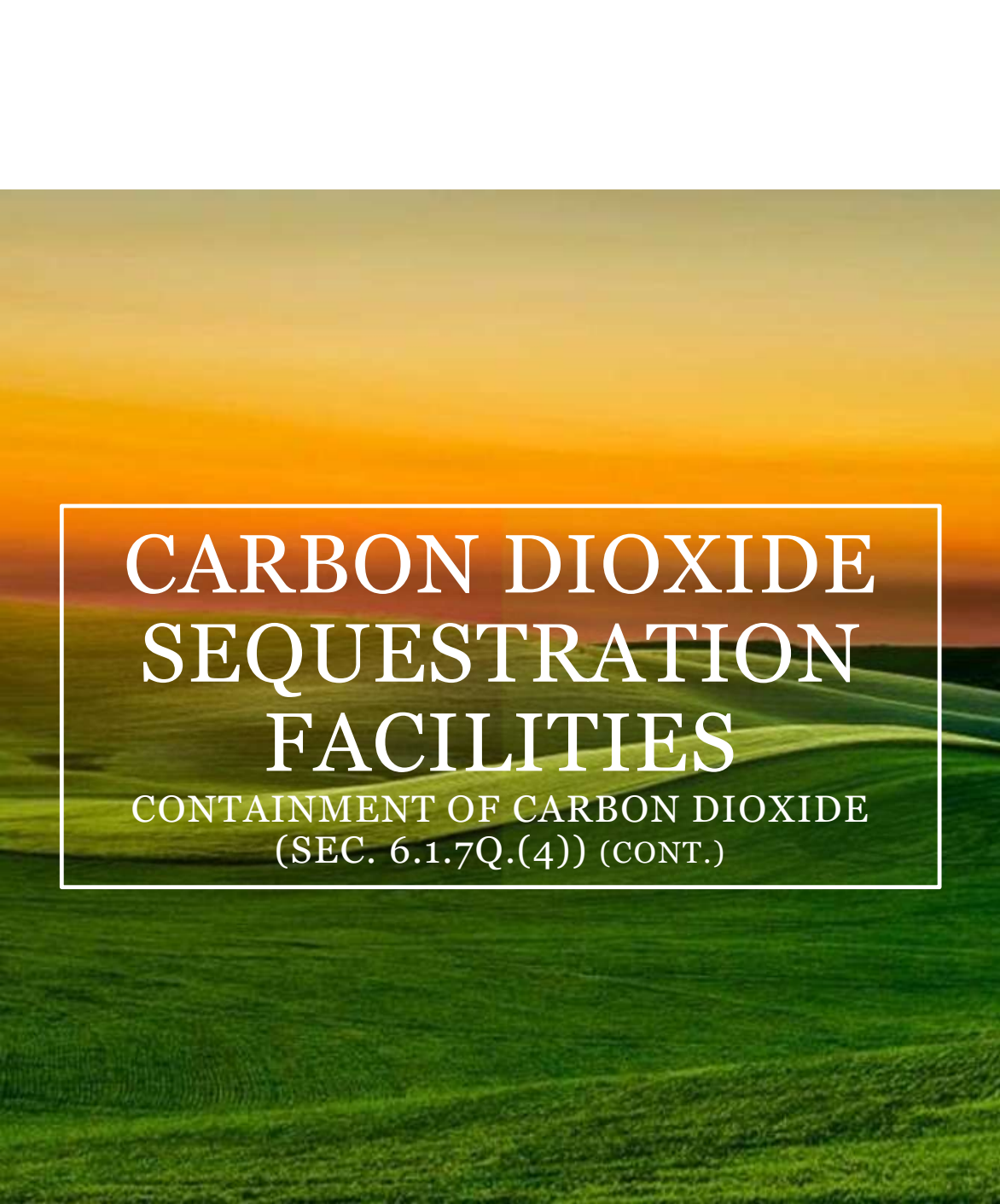
- When such reports show the footprint of the plume is within 90% of the approved, injection of carbon dioxide shall cease to avoid trespass (Sec. 6.1.7Q.(4)b.)
- Resuming injection may only occur if it can be demonstrated to the County Board, in consultation with an approved third-party qualified professional, that injection of carbon dioxide can continue without risking trespass or posing a hazard to any Major Sand and Gravel Aquifer. This may require adjusting the rate and/or volume of carbon dioxide injected, or other methods may be put in place to prevent trespass (Sec. 6.1.7Q.(4)b.)



CARBON DIOXIDE SEQUESTRATION FACILITIES

CONTAINMENT OF CARBON DIOXIDE
(SEC. 6.1.7Q.(4)) (CONT.)

- Carbon dioxide that has migrated horizontally beyond the approved underground shall be considered a trespass, requiring immediate cessation of carbon dioxide injection (Sec. 6.1.7Q.(4)c.)
- If, despite the reporting or agreed-to actions to allow carbon dioxide injection to continue without trespass, it is determined that carbon dioxide has migrated beyond the approved underground plume, the operator shall cease all injection of carbon dioxide and compensate the affected non-consenting landowners per requirements set forth in the SAFE CCS Act (Sec. 6.1.7Q.(4)d.)

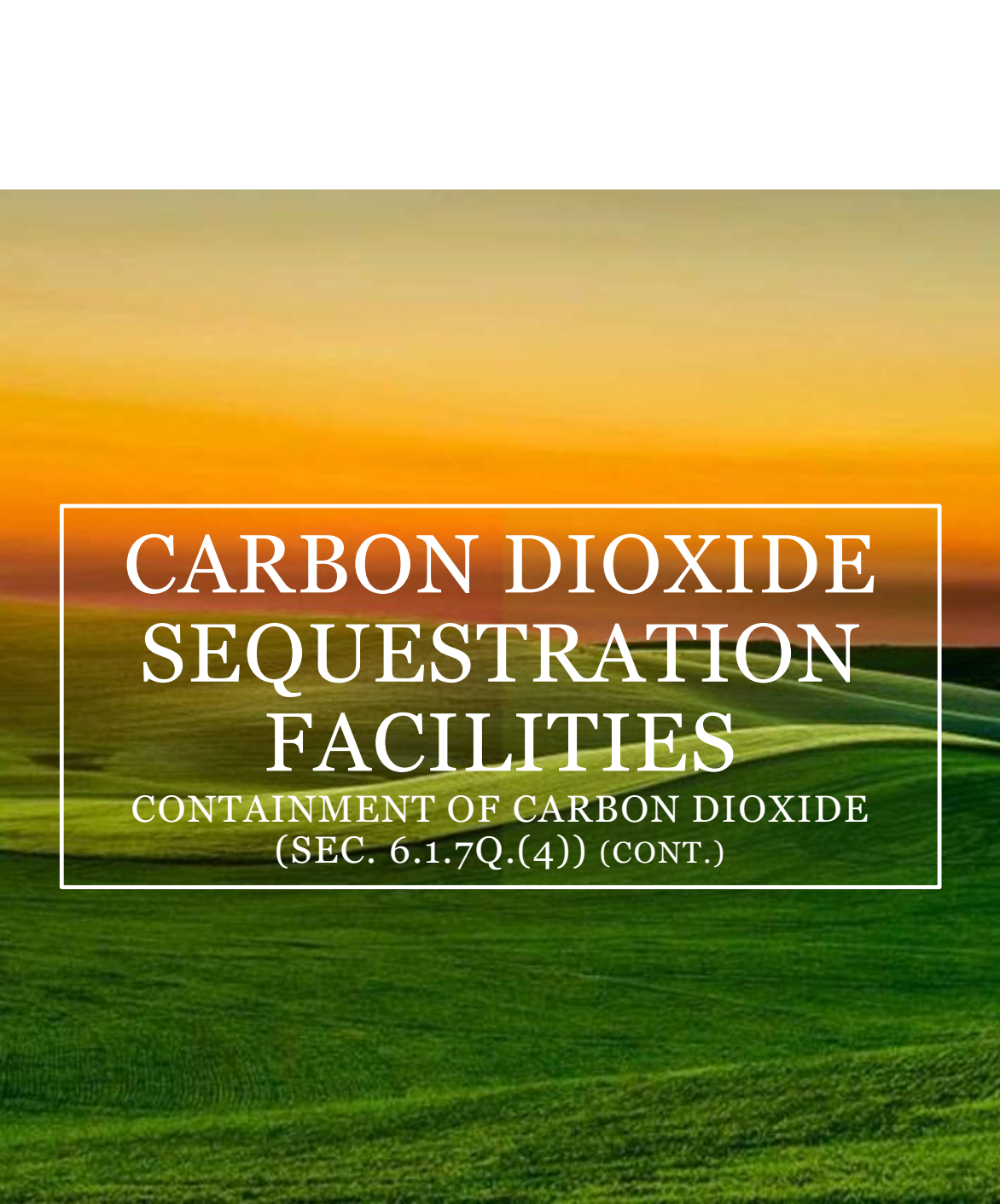


CARBON DIOXIDE SEQUESTRATION FACILITIES

CONTAINMENT OF CARBON DIOXIDE
(SEC. 6.1.7Q.(4)) (CONT.)

If the carbon dioxide plume is moving vertically toward the cap rock at a rate faster than anticipated (Sec. 6.1.7Q.(4)e.):

- The applicant or owner shall pay an approved third-party qualified professional to perform necessary studies and submit documentation to the County Board demonstrating that the pace of the vertical rise is not related to a path created by a fault or a fissure or fracture that was either unmapped or created by an induced earthquake that could allow carbon dioxide to move into an aquifer or leak into overlying strata or the atmosphere (Sec. 6.1.7Q.(4)e.(a))



CARBON DIOXIDE SEQUESTRATION FACILITIES

CONTAINMENT OF CARBON DIOXIDE
(SEC. 6.1.7Q.(4)) (CONT.)

- If the submitted studies and documentation do not demonstrate that the pace of the vertical rise is not related to a path created by a fault or a fissure or fracture that was either unmapped or created by an induced earthquake that cannot be demonstrated, the County Executive shall contact the U.S. EPA's UIC Program Director of their concern for a potential leak, along with a request to the U.S. EPA to halt carbon dioxide injection, until such time as it can be determined that carbon dioxide injection can be safely resumed (Sec. 6.1.7Q.(4)e.(b))



CARBON DIOXIDE SEQUESTRATION FACILITIES

SUBSURFACE LEAKS (SEC. 6.1.7Q.(5))

- THE CDSF OPERATOR MUST IMMEDIATELY NOTIFY THE COUNTY EMERGENCY MANAGEMENT AGENCY AND THE COUNTY EXECUTIVE WHENEVER AN INJECTION OR MONITORING WELL EXPERIENCES SUBSURFACE LEAKS OR MALFUNCTIONS TO THE EXTENT IT CAN NO LONGER SAMPLE IN ALL REQUIRED ZONES (SEC. 6.1.7Q.(5)A.)
- THE OWNER OR OPERATOR MUST DEMONSTRATE THAT COORDINATION WITH THE U.S. EPA HAS OCCURRED AND SHALL REPORT MEASURES TAKEN TO CONTAIN THE LEAK TO THE COUNTY EXECUTIVE (SEC. 6.1.7Q.(5)B.)



CARBON DIOXIDE SEQUESTRATION FACILITIES

SUBSURFACE LEAKS (SEC. 6.1.7Q.(5)) (CONT.)

- IF THE COUNTY BOARD DETERMINES THE AGENCY'S ACTIONS DO NOT ADEQUATELY ENSURE THE PROTECTION OF AN UNDERGROUND SOURCE OF DRINKING WATER, THE COUNTY BOARD MAY APPEAL SUCH REMEDIATION TO THE U.S. EPA BOARD OF APPEALS, AS APPLICABLE, OR SEEK OTHER REMEDIES PROVIDED BY LAW. COSTS OF ANY APPEAL SHALL BE PAID FOR BY THE OWNER(S) OR OPERATOR(S) OF THE CDSF (SEC. 6.1.7Q.(5)C.)



CARBON DIOXIDE SEQUESTRATION FACILITIES

WATER QUALITY REPORTING (SEC. 6.1.7Q.(6))

- One year after carbon dioxide injection begins at a CDSF and every year thereafter for the duration of CDSF, the operator shall have an approved third-party qualified professional to submit water quality reports to the Zoning Administrator (6.1.7Q.(6)a.)
- The water quality reports shall highlight any changes in pH, metals, cations, anions, or chemical compounds that are in the groundwater and shall include a written narrative to explain whether or not carbon dioxide has leaked from the CDSF and migrated into groundwater that is a source of drinking water (6.1.7Q.(6)a.)



CARBON DIOXIDE SEQUESTRATION FACILITIES

WATER QUALITY REPORTING (SEC. 6.1.7Q.(6)) (CONT.)

- Groundwater that is a source of drinking water and that is contaminated by a carbon dioxide leak from a CDSF must be replaced with an alternate water supply, pursuant to the water replacement plan submitted to and approved by the County Board as part of this Special Use permit (6.1.7Q.(6)b.)

CARBON DIOXIDE SEQUESTRATION FACILITIES APPLICATION FEES

- Zoning Use Permit fee:
\$275 per ground surface acre
of carbon dioxide plume (Sec.
9.3.1K.)

- Zoning Case Filing Fees:
Upon submission of the
application, applicant shall
submit a certified check to
Champaign County in the
amount of \$250,000 (Sec.
9.3.3B.(9))

Regarding Zoning Case Fees:

- This shall be placed in a guaranteed money market account that will be used to cover the County's costs to hire third-party experts
- Should the actual costs to the County exceed \$250,000, the applicant shall be responsible for those costs
- Any amount remaining in the account after the County renders its decision and all bills and invoices have been paid shall be refunded to the applicant
- The applicant shall reimburse the County for any and all reasonable fees for professional services incurred if the County, in its sole discretion, deems it necessary.

**THANKS TO MEMBERS OF THE
CARBON SEQUESTRATION
TASK FORCE**

Dr. Chris Stohr, Chair, former County Board member

Honorable Debra Feinen, Mayor City of Champaign

Eric Thorsland, former County Board member

Jon Cable, County Board member

Jennifer Locke, Chair, County Board

**Bailey Conrady, former Director of Champaign County
Farm Bureau**

Lucas Stark, Champaign County Farm Bureau

Allen Wehrmann, P.E.

Andrew Rehn, Prairie Rivers Network

Pam Richart, Eco Justice Collaborative*

***Special Thanks to Pam Ritchart, who authored the
model sequestration ordinance**

