

**3745-512-01 Construction - applicability and general compliance.**

(A) The rules in this multi-program chapter shall apply when referenced in either of the following:

- (1) A rule in a program chapter.
- (2) A rule in another multi-program chapter that was made applicable by a rule in a program chapter.

Program chapters are Chapters 3745-520 to 3745-599 of the Administrative Code.

(B) General compliance.

- (1) The applicant, owner, or operator shall test, construct and certify engineered components as required by this chapter.
- (2) Any exception to the applicability of paragraph (B)(1) of this rule will be made by the program chapter. If an engineered component is not included in the facility's design as required in the program chapter, this chapter does not require that the engineered component be constructed. However, if an engineered component is included in the facility's design, and has not yet been constructed, then paragraph (B)(1) of this rule is applicable.

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**3745-512-02 Construction - definitions.**

If a term used in this chapter is defined in rule 3745-500-02 of the Administrative Code, that definition used in rule 3745-500-02 of the Administrative Code is applicable to this chapter unless the term is defined in this rule. As used in this chapter:

- (A) Reserved.
- (B) Reserved.
- (C) "Concurring authority" means Ohio EPA.

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**3745-512-17      Alternative construction materials evaluation and reporting.**

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, test methods, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-500-03 of the Administrative Code titled "Incorporation by reference."]

- (A) Upon approval by the permitting authority, the owner or operator may use an alternative construction material if the alternative construction material undergoes an evaluation in accordance with this rule prior to use to construct the facility.

[Comment: This rule requires approval prior to use of the alternative construction material; therefore, a construction certification report cannot include a request for approval of an alternative construction material.]

[Comment: As defined and instructed by the applicable program chapter, if use of the alternative construction material meets the definition of an alteration, the owner or operator shall also submit an alteration request (the alternative construction material evaluation may be included in the alteration request). If use of the alternative construction material meets the definition of a modification, the owner or operator shall also submit a permit to install application (the alternative construction material evaluation may be included in the permit to install application).]

- (B) The alternative construction material evaluation shall be signed and sealed by a professional engineer and include the following:
- (1) A narrative section that identifies the alternative construction material and the engineering component for which the alternative material will be used.
  - (2) A demonstration that the alternative construction material meets the approval requirements established in paragraph (E) of this rule, as applicable.
- (C) The approval for use of an alternative construction material is valid only for the area identified in the alternative construction material request. If the alternative construction material is to be used in additional areas, the owner or operator shall submit another evaluation under this rule.
- (D) Approval to use an alternative construction material does not relieve the owner or operator from complying with requirements established by this chapter and any specification in the authorizing document.
- (E) The permitting authority shall not approve use of an alternative construction material unless the permitting authority determines the following:
- (1) The alternative construction material is not a solid waste. This paragraph does not apply to the leachate collection system granular drainage layer.
  - (2) Use of the alternative construction material does not interfere with the ability of the owner or operator to do the following:
    - (a) Construct, operate, close, and maintain during the post-closure care period the facility in compliance with Chapters 3704., 3714., 3734., and 6111. of the Revised Code or rules promulgated thereunder and with authorizing documents.
    - (b) Conduct corrective actions presently being taken or that are proposed to be taken at the facility or in the immediate area including but not limited to fire, gas, odors, or ground water corrective actions.

(c) Monitor the impact of the facility on the environment.

- (3) The owner or operator has demonstrated the ability or is otherwise capable of using the alternative construction material.
- (4) For conveyance pipes in the leachate management system of a solid waste transfer facility, the alternative construction material and joints shall be capable of not leaking under anticipated pressures.

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**3745-512-30 Construction activities - general requirements.**

- (A) The owner or operator shall construct engineered components in compliance with the authorizing document and with the requirements in this chapter. Except as provided in rule 3745-512-50 of the Administrative Code, an engineered component cannot be altered without obtaining prior written concurrence from the concurring authority. If an engineered component is altered and concurrence is not obtained, the owner or operator shall reconstruct the engineered component to meet the requirements in this chapter and the specifications in the authorizing document.
- (B) Until the construction certification report has been concurred with by the concurring authority, the owner or operator shall keep copies of construction activity logs at the facility. These logs shall be made available upon request to Ohio EPA and the approved board of health.
- (C) If any oil or gas well is discovered within the disposal limits, the owner or operator shall demonstrate that the well was properly plugged and abandoned in accordance with Chapter 1509. of the Revised Code prior to construction of any engineered component above the well. The demonstration shall be included in the construction certification report required under rule 3745-512-50 of the Administrative Code.
- (D) The owner or operator shall employ measures to attain compliance with applicable laws and authorizing documents for erosion control of all disturbed soils.
- (E) The owner or operator shall clear naturally occurring vegetation only to the extent necessary for proper construction of the facility.



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**3745-512-50 Construction certification.**

- (A) For each engineered component at the facility, the owner or operator shall demonstrate the following through a construction certification report:
- (1) Compliance with the facility design in the authorizing document.
  - (2) The engineered component was installed in a manner that did not damage the engineered component or other engineered components.
  - (3) Compliance with the construction requirements in this chapter for the engineered component.
- (B) The construction certification report shall be signed and sealed by a professional engineer.
- (C) Each construction certification report shall include the following:
- (1) A narrative section that identifies the engineered components that were constructed during the construction event, which shall include the following:
    - (a) A comparison of each constructed engineered component to the design and any material or construction specification in the authorizing document and to the material and construction specifications in this chapter.
    - (b) A summary of how construction was impacted by weather, equipment limitations, and any other difficulty that was encountered.
  - (2) All alterations and alternatives that relate to the installation of any engineered component to be certified, and to be presented as follows:
    - (a) A listing of all alterations previously concurred with and all alternatives previously approved.
    - (b) All alteration requests which are proposed for concurrence. The alteration request shall conform to the requirements in rule 3745-512-55 of the Administrative Code.
  - (3) The certification requirements for each engineered component constructed during the construction event in accordance with rules 3745-512-110 to 3745-512-460 of the Administrative Code and in accordance with any requirement in the authorizing document, which shall include the following:
    - (a) Test results including all passing, failing, and inconclusive test results.
    - (b) All survey information, which shall be signed and sealed by a professional surveyor.
  - (4) A demonstration that the integrity of the engineered components was maintained, including references to construction activity logs.
  - (5) If any oil or gas well was plugged and abandoned, a demonstration of compliance with paragraph (C) of rule 3745-512-30 of the Administrative Code.
  - ~~(7)~~(6) Verification that whenever equipment is used to test an engineered component, the equipment is properly calibrated in accordance with the manufacturer's recommendations and specifications.
  - ~~(8)~~(7) A description of the experience, training, responsibilities in decision making, and any other qualifications of the personnel who provided construction oversight and conducted all of the testing on the engineered components for which the certification report is being submitted.

~~(9)~~(8) A certification statement and signature in accordance with rule 3745-500-50 of the Administrative Code.

**3745-512-51 Procedure for concurrence of construction certification.**

- (A) Upon providing written notice of deficiency, the concurring authority may decline to act on the construction certification, including the alterations contained therein, of an engineered component until the construction certification report is complete.
- (B) The concurring authority shall not concur with a construction certification report unless the following is determined:
  - (1) The engineered component being certified was constructed in accordance with Chapter 3714. or 3734. of the Revised Code, and rules adopted thereunder.
  - (2) The engineered component being certified was constructed in accordance with the specifications in the authorizing document, unless the owner or operator has requested concurrence of an alteration made during construction and the requested alteration is contained within the construction certification report and the criteria in paragraph (C)(3) of this rule were met.
  - (3) Alterations made during construction and requested in the construction certification report meet the following:
    - (a) The subject of the request is not a modification of the facility.
    - (b) The alteration request applies only to the portion of the facility being certified.
    - (c) Will not interfere with the ability of the owner or operator to construct, operate, close, and maintain during the post-closure care period the facility in compliance with Chapter 3704., 3714., 3734., or 6111. of the Revised Code or rules promulgated thereunder, and with authorizing documents.
    - (d) The owner or operator has obtained other approvals and authorizations including but not limited to approvals and authorizations issued pursuant to Chapter 3704., 3714., 3734., or 6111. of the Revised Code made necessary by the alteration.
    - (e) Will not interfere with the ability of the owner or operator to conduct corrective actions presently being taken or that are proposed to be taken at the facility or in the immediate area including but not limited to fire, explosion, gas, odors, or ground water corrective actions.
    - (f) There is no interference with the ability of the owner or operator to monitor the impact of the facility on the environment.
- (C) Any concurrence of a construction certification report is rendered invalid if any statement or assertion of fact made in the construction certification report is false, inaccurate, or omits required information.

**3745-512-55 Failed tests and alterations.**

(A) Upon detection by the owner or operator or upon notification by the concurring authority that a failed test or an alteration which was not previously concurred with by the concurring authority has occurred in any engineered component or portion of a facility, the owner or operator shall comply with the procedures contained in this rule.

[Comment: Alternatives are not alterations. Use of an alternative material requires prior approval in accordance with rule 3745-512-17 of the Administrative Code.]

(B) Failed test. For the purposes of this rule, a failed test occurs when a test performed on an engineered component of the facility yields a result that does not meet the specifications established in the applicable authorizing document and in the rules. If, prior to submission of the construction certification report for the engineered component or portion of the facility, the owner or operator determines that there is a failed test, the owner or operator shall either comply with paragraph (C) of this rule or perform the following:

- (1) Assess the engineered component or portion of the facility to determine if construction is in compliance with the applicable authorizing document and rules.
- (2) Implement measures to attain compliance with the applicable authorizing document and rules. An area with a verified failure shall be reconstructed or, in the case of in situ foundation, have nonconforming material removed and replaced with structural fill or added geologic material. Reconstructed areas shall be retested at a frequency sufficient to demonstrate to the concurring authority that compliance was attained.

(C) Alteration. If, prior to submission of the construction certification report for the constructed engineered component or portion of the facility, the owner or operator determines that there is an alteration which was not previously concurred with by the concurring authority, the owner or operator shall include the information required by paragraph (G) of this rule in the construction certification report in accordance with rule 3745-512-50 of the Administrative Code.

(D) If, after submission of the construction certification report, the owner or operator determines that the construction certification report is in error because a failed test or an alteration which was not concurred with by the concurring authority was detected, the owner or operator shall do the following:

- (1) Notify the concurring authority of the noncompliance verbally not later than twenty-four hours after detection and in writing not later than seven days after detection.
- (2) Not later than fourteen days after submitting the written notification required by paragraph (D)(1) of this rule, do either of the following:
  - (a) For a failed test, follow the applicable steps outlined in paragraph (B) of this rule and amend the construction certification report in accordance with paragraph (F) of this rule.
  - (b) For an alteration which was not previously concurred with by the concurring authority, submit the information required by paragraph (G) of this rule.

[Comment: Compliance with paragraph (D) of this rule does not relieve the owner or operator from liability for failure to construct or operate the facility in compliance with the applicable authorizing document, other requirements of this chapter, or failure to submit a certification report that is true, accurate, and complete as required by the construction certification requirements.]

(E) If the owner or operator is notified by the concurring authority that there is a failed test or an alteration which

was not previously concurred with by the concurring authority, the owner or operator shall do the following:

- (1) For a failed test detected prior to submission of the construction certification report, implement measures to attain compliance with the applicable authorizing document and rules. An area with a verified failure shall be reconstructed. Reconstructed areas shall be retested at a frequency sufficient to demonstrate to the concurring authority that compliance was attained.
- (2) For an alteration detected prior to submission of the construction certification report, submit the information required by paragraph (G) of this rule in accordance with rule 3745-512-50 of the Administrative Code.
- (3) For a failed test or an alteration detected after submission of the construction certification report, do either of the following not later than twenty-one days after receiving notice from the concurring authority:
  - (a) For a failed test, follow the applicable steps outlined in paragraph (B) of this rule and amend the construction certification report in accordance with paragraph (F) of this rule.
  - (b) For an alteration which was not previously concurred with by the concurring authority, submit the information required by paragraph (G) of this rule to the concurring authority.
- (F) Amendments. The owner or operator amending the construction certification report shall submit the amendment to the concurring authority. The amendment shall contain the following:
  - (1) Identification of the engineered component and portion of the facility affected.
  - (2) Explanation of the circumstances of the failed test and how compliance was attained.
  - (3) Testing results from reconstructed areas.
  - (4) The signature and seal of a professional engineer.
- (G) Alterations. The owner or operator requesting an alteration shall provide the following information to the concurring authority:
  - (1) Identification of the engineered component and portion of the facility affected and an explanation of the alteration.
  - (2) A demonstration that the alteration is at least equivalent to the requirements in the applicable authorizing document and rules.
  - (3) Supporting documentation including applicable testing results.
  - (4) If the alteration is requested after the construction certification report is submitted, the alteration request shall be signed and sealed by a professional engineer.

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**3745-512-60 Repair of damaged or failed engineered components.**

- (A) Immediately upon discovery of a damaged or failed engineered component and in accordance with applicable federal, state, and local statutes and rules, the owner or operator shall do the following:
- (1) Notify the following:
    - (a) If a spill needs to be reported in accordance with Chapter 3750-25 of the Administrative Code:
      - (i) Ohio EPA emergency response twenty-four-hour telephone service for spill reporting.
      - (ii) For a licensed facility, the licensing authority.
      - (iii) For a permitted facility, the permitting authority.
    - (b) If necessary, emergency responders.
  - (2) Take all actions in accordance with all applicable federal, state, and local statutes and rules necessary to protect public health and safety and the environment including but not limited to the following:
    - (a) Prevent the release of pollution (such as waste, C&DD, and leachate) from the facility to waters of the state.
    - (b) Prevent the release of pollution (such as explosive gas, hydrogen sulfide gas, particulates, and fugitive dust) to the air or control such pollution such that the owner or operator is in compliance with all applicable air permits issued under Chapter 3704. of the Administrative Code.
    - (c) Prevent the occurrence of blowing litter, attraction of vectors, and fire.
    - (d) Prevent the damage or failure from worsening.
    - (e) Prevent future damage or another failure.
    - (f) Provide access to the responders, investigators, and the licensing and permitting authorities to the area with the failure.
- (B) The owner or operator shall use all testing, analyses, observations, and calculations necessary to investigate the nature of and determine the cause of the damage or failure to an engineered component.
- (C) The owner or operator shall repair or reconstruct the damaged or failed engineered component.
- (D) The owner or operator shall reconstruct any engineered component in strict accordance with applicable authorizing documents and submit a construction certification report prepared in accordance with rule 3745-512-50 of the Administrative Code.
- (E) If the damage or failure of the engineered component was due to inadequate design, prior to reconstruction of the engineered component the owner or operator shall obtain authorization for another design from the permitting authority or, if the change is an alteration, from the concurring authority.
- (F) If the damage or failure of the engineered component was due to an inadequate material, the owner or operator shall reconstruct the failed engineered component with a material that will prevent a failure from occurring.
- (G) Not later than forty-five days after the date of discovery of the damaged or failed engineered component, the



owner or operator shall submit to the concurring authority an investigation report that contains at a minimum the following information:

- (1) The name and location of the facility.
  - (2) The name, address, and telephone number of the owner and operator.
  - (3) A summary describing the activities taken by the owner or operator to investigate and respond to the damage or failure, including repair or reconstruction.
  - (4) The potential causes of the damage or failure and an assessment of whether the damage or failure was due to inadequate design or inadequate materials.
  - (5) A description and schedule of the following additional activities the owner or operator will conduct:
    - (a) To continue to respond to the damage or failure.
    - (b) To investigate the damage or failure.
    - (c) To prevent similar damage or failure from occurring in the future.
  - (6) All photographs and results of sampling, testing, and analyses conducted during the investigation.
- (H) The owner or operator may request an extension of the time frame in paragraph (G) of this rule. The request for an extension shall be submitted to the concurring authority. The concurring authority may grant an extension provided the following are met:
- (1) The owner or operator is in compliance with paragraph (A) of this rule.
  - (2) The owner or operator needs the extension of time to be able to comply with paragraph (B), (C), or (D) of this rule.
  - (3) The owner or operator has conducted the response and investigation of the damage or failure in a timely manner.
  - (4) The granting of the extension will not adversely affect public health or safety or the environment or cause or contribute to water pollution or air pollution.

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**3745-512-450      Conveyance pipes.**

(A) Conveyance pipes shall meet the following criteria:

- (1) For pressurized pipes, be composed of high density polyethylene (HDPE), unless an alternative material is approved in accordance with rule 3745-512-17 of the Administrative Code.
- (2) Be resistant to crushing and deformation under the expected maximum loads and settlement.
- (3) Be resistant to buoyancy.
- (4) Be solid wall.
- (5) Be permanently joined together.

(B) Conveyance pipes located outside the disposal limits shall be pressure tested to verify that no leaks exist.

(C) Certification of the conveyance pipes by the owner or operator shall include the following:

- (1) Record drawings of the conveyance pipes showing the location of the pipes in plan view, the elevation of the pipe invert at the ends of each run of pipe, and if the conveyance pipes are gravity drained, the slope of the pipes, as constructed.
- (2) Drawings showing the details of the conveyance pipes, as constructed.
- (3) Results of all testing and verification that the conveyance pipes meet the standards in paragraphs (A) and (B) of this rule and the specifications in the authorizing document. If an alternative material is used, the evaluation conducted pursuant to rule 3745-512-17 of the Administrative Code was submitted prior to use of the alternative material and therefore verification is not required to be submitted with the construction certification report under this rule. However, results of all testing to verify that the alternative material meets material specifications are required in the construction certification report.

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**3745-512-460 Tanks.**

- (A) The owner or operator shall visually inspect each tank to identify any leak, repair each leak found, and test the repair. Testing using air pressure shall be at twice the hydrostatic pressure at the bottom of the tank when the tank is full.
- (B) Certification of each tank by the owner or operator shall include the following:
  - (1) Record drawings depicting the location of the tank and spill containment, as constructed.
  - (2) Record drawings showing the details of the tank, spill containment, and load-out facilities, as constructed.
  - (3) Results of all testing and verification that the tank meets the standards in paragraph (A) of this rule and the specifications in the authorizing document.

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