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3745-520-420

Phasing plan.

(A) General requirements for the phasing plan. The phasing plan shall conform to the following:

(1) Drawings shall appear on plan sheets with minimum dimensions of twenty-four inches by thirty-six inches. If narrative is necessary to explain a drawing or a calculation, the narrative shall appear with the drawing or calculation.

(2) The phasing plan shall be signed and sealed by a professional engineer.

(3) All survey information included in the phasing plan shall be signed and sealed by a professional surveyor.

(4) Except for the plan cover sheet required by paragraph (B)(1) of this rule, each drawing in the phasing plan shall show northings and eastings referenced to the C&DD facility grid system as established in the approved facility design plan.

(5) Each drawing in the phasing plan shall show the C&DD facility boundary and the authorized disposal limits in the same location as the facility boundary and the authorized disposal limits are shown in the approved facility design plan.

(6) Each plan drawing required by paragraphs (B)(2)(a) and (B)(2)(b) of this rule shall include the following:

(a) Roads, railroads, and structures, including the locations of existing or proposed permanent access roads, maintenance buildings, office buildings, weighing facilities, and storage buildings.

(b) The areas of the C&DD facility where the main hauling road may be located shown in the same location as those areas are shown in the approved facility design plan.

(c) The north arrow.

(d) A legend containing information necessary to understand the drawing.

(e) The scale of the drawing.

(B) Phasing plan format and content. The phasing plan shall include the following:

(1) A plan cover sheet. The plan cover sheet, to be numbered sheet 1, shall contain the following information:

(a) The name of the C&DD facility.

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- (b) The precise geographic location of the C&DD facility boundary and of the horizontal authorized disposal limits shown on a road map which includes the area within a five mile radius of the facility boundary with a scale of one inch equals no greater than one mile.
- (c) Owner, operator, and property titleholder information including name, mailing address, and telephone number.
- (d) The name, mailing address, and telephone number of the professional engineer signing and certifying the plans.
- (2) The following plan drawings showing the phasing. The plan drawings shall be numbered consecutively 2A, 2B, 2C, etc. An individual plan drawing may contain information specified in more than one subheading. The scale on these drawings shall be one inch equals no greater than two hundred feet and contour intervals shall be no greater than five feet.

 - (a) A general phasing diagram that shows all of the phases at the C&DD facility.
 - (b) One plan drawing for each phase of the C&DD facility showing the following engineered components and other items as they will exist immediately prior to beginning disposal in the phase:

 - (i) The horizontal disposal limits for the phase and the basal elevations of the disposal limits of the phase.
 - (ii) Topography of areas of the C&DD facility that are undisturbed, with a contour interval no greater than five feet, including but not limited to vegetation, surface waters, and wetlands.
 - (iii) Topography of areas of the C&DD facility that were disturbed.
 - (iv) The tie-in areas for the phase.
 - (v) The final elevations and horizontal limits of disposed material and of the cap system or transitional cover as they will exist when the phase construction is certified.
 - (vi) Ground water monitoring wells, piezometers, and gas monitoring locations.
 - (vii) The engineered components of the leachate management system.

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(viii) If leachate recirculation is proposed, the location of leachate conveyance apparatuses that are part of the leachate recirculation system.

(ix) The horizontal limits of the cap system or transitional cover.

(x) The location and grade of access roads for the phase, including access roads on the cap system or transitional cover and access roads that are proposed to be built on internal slopes or across the facility bottom. Roads that are proposed but that will not be constructed until construction of subsequent phases shall be clearly marked.

(xi) The direction of flow and locations of concentrations of surface water.

(xii) Permanent and temporary surface water control structures and any permanent and temporary ground water control structures.

(xiii) The horizontal limits and final elevations of structural fill and added geologic material that do not have any engineered components constructed above them.

(xiv) The horizontal limits and final elevations of vegetated earthen berms or equivalent barriers to vegetated earthen berms, if vegetated earthen berms or equivalent barriers are required at the facility.

[Comment: Rule 3745-520-600 of the Administrative Code requires that vegetated earthen berms or equivalent barriers identified in the permit to install be constructed prior to disposing material in the disposal limits newly authorized by the permit to install.]

(xv) The location of permanent survey marks.

(c) At least one plan drawing that clearly identifies the phases of the C&DD facility where the owner or operator will be disposing material during either of the following:

(i) If the phasing plan is being submitted as part of a modification request and not with a license application, the current license year.

(ii) If the phasing plan is being submitted with a license application, the year for which the license application applies.

(d) At least one plan drawing that clearly identifies the phases of the C&DD facility where the owner or operator anticipates disposal will occur during the license year subsequent to the applicable license year described in paragraph (B)(2)(c) of this rule.

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(e) At least one plan drawing that clearly identifies the phases of the C&DD facility where the owner or operator anticipates disposal will occur during the license year subsequent to the license year described in paragraph (B)(2)(d) of this rule.

(f) Plan drawings that show when cap will be constructed in accordance with the following:

[Comment: Cost estimates for financial assurance require the inclusion of the costs for construction of the cap system. As a result, as the number of phases that are not capped increases, the cost of financial assurance will also increase. A provision in rule 3745-520-905 of the Administrative Code allows the owner or operator to request a reduction in the amount of financial assurance each year that cap system is constructed at the C&DD facility.]

(i) At least one drawing shall show the cap and transitional cover that will be constructed prior to beginning disposal in the phases described in paragraph (B)(2)(c) of this rule.

(ii) At least one drawing shall show the cap and transitional cover that will be constructed prior to beginning disposal in the phases described in paragraph (B)(2)(d) of this rule.

(iii) At least one drawing shall show the cap and transitional cover that will be constructed prior to beginning disposal in the phases described in paragraph (B)(2)(e) of this rule.

(g) If leachate recirculation is being proposed, at least one plan drawing that clearly identifies the phases of the C&DD facility where the owner or operator proposes to recirculate leachate.

[Comment: To conduct leachate recirculation, the design of the leachate recirculation system must be contained within an approved permit to install and the current license must authorize leachate recirculation.]

(3) Cross sections. Cross sections of the C&DD facility shall be at an interval no greater than every three hundred feet of length and width and shall clearly show the horizontal and vertical scales used. Each cross section shall be on plan drawings numbered consecutively 3A, 3B, 3C, etc., and shall show the following items:

(a) Existing topography.

(b) The horizontal and vertical limits of excavation.

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- (c) The horizontal limits, basal elevations, and final elevations of the authorized disposal limits.
- (d) The horizontal and vertical limits of each phase.
- (e) The horizontal limits and final elevations of the following:

 - (i) Structural fill.
 - (ii) An added geologic material layer.
 - (iii) Liner system.
 - (iv) Leachate collection system.
 - (v) Cap protection layer, surface water control structures, berms, benches, and roads.
- (4) Design calculations. This section shall include the following design calculations with references to equations used, showing site specific input, assumptions, and results:

 - (a) The static stability analyses for interim slopes of the phases in the manner specified in rule 3745-511-40 of the Administrative Code.
 - (b) The seismic stability analyses for interim slopes of the phases in the manner specified in rule 3745-511-50 of the Administrative Code.
 - (c) The acreage within the horizontal disposal limits that has had material disposed and the acreage within the horizontal disposal limits of each phase.
 - (d) The volume within the disposal limits of each phase.
 - (e) The total volume within the disposal limits.
 - (f) If leachate recirculation is being proposed, calculations for leachate recirculation including the following:

 - (i) The anticipated amount of leachate that will be generated by the C&DD facility. If leachate recirculation is being proposed for phases in which material has been disposed, documentation of how much leachate is currently being removed from within the disposal limits on a daily, weekly, monthly, and annual basis shall also be included.
 - (ii) The anticipated amount of leachate that will be recirculated.

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[Comment: Rule 3745-520-654 of the Administrative Code specifies the maximum volume of leachate that may be recirculated.]

(iii) Capacity of the leachate drainage layer, filter layer, leachate piping, leachate conveyances, leachate pumps, and leachate storage tanks to manage the amount of leachate that will be recirculated.

(iv) The vertical compressive stress and pore water pressure due to leachate recirculation. For existing leachate management systems, include documentation that leachate management system components will not be damaged by the increased vertical compressive stress.

(v) The depth of leachate above the liner, except in sumps.

(g) Other relevant calculations.