

DEPARTMENT OF ENVIRONMENTAL QUALITY

LAND QUALITY DIVISION

CHAPTER 2

PERMIT APPLICATION REQUIREMENTS

Section 1. General Requirements.

(a) All applications shall be filed in a format required by the Administrator and shall include, at a minimum, all information required by the Act and, for coal mining operations, all the applicable information required under Sections 2 through 5 of this Chapter.

(b) Information set forth in the application shall be current, presented clearly and concisely, and supported or authenticated, when appropriate, by references to technical material, persons, or public or private organizations which were used, consulted, or were responsible for collecting and analyzing the data.

(c) Maps submitted with the application shall be, or be the equivalent of a U.S. Geological Survey topographic map at a scale determined by the Administrator. All maps shall contain a title relative to the subject matter of the map, a map number, legend, and show the limits of the permit area. The maps shall distinguish among the following phases of the operation:

- (i) Prior to August 3, 1977;
- (ii) After August 3, 1977 and prior to May 3, 1978;
- (iii) After May 3, 1978 and prior to approval of the State Program;
- (iv) After the estimated date of issuance of the permit; and
- (v) The five regulatory periods as defined in Chapter 1, Section 2(dm).

(d) Applicants may reference materials. If used in the application, referenced materials shall either be provided to the Division or be readily available to the Division. Relevant portions of referenced materials shall be presented briefly and concisely in the application by photocopying or abstracting and with explicit citations.

(e) The applicant may consult with the local conservation district during preparation of the reclamation plan for conformance with technical standards.

Section 2. **Adjudication Requirements.**

(a) In addition to that information required by W.S. § 35-11-406(a), each application for a coal mining permit shall contain:

(i) A complete identification of interests, which shall include:

(A) All owners of record of the property to be mined including legal and equitable owners, holders of record of any leasehold interest, and any purchaser of record under a real estate contract for the property to be mined;

(B) The names, addresses and telephone numbers of any operators, if different from the applicant. If the applicant is a business entity other than a single proprietorship, then the names, addresses and telephone numbers of all limited and general partners, or if a corporation then the names, addresses and telephone numbers of principal shareholder, officers and director or other person performing a function similar to a director, and resident agent(s) of the applicant. This shall also include the names under which the applicant, partner or principal shareholder operates or previously operated a coal mining operation in the United States within the five years preceding the date of application;

(C) A statement and identification of any pending, current or previous coal mining permit in the United States held by the applicant, partner or principal shareholder during the five years preceding the date of the application. This shall also identify the regulatory authority with jurisdiction over the operation;

(D) A statement of all lands, interests in lands, options, or pending bids on interests held or made by the applicant for lands which are contiguous to the proposed permit area; and

(E) Legal ownership - if the operator includes roads or spur lines within the permit area but does not possess the mineral rights or the right-to-mine for these lands, the legal land description shall then be listed in the application as a separate subsection in Appendix "C". The heading of the subsection shall make it clear that the right-to-mine is not claimed on the described lands. Surface owners shall be listed for all lands crossed by spur lines and roads.

(ii) A complete statement of compliance which shall include:

(A) A brief statement, including identification and current status of the interest, identification of the regulatory authority, and description of any proceedings and their current status, of whether the applicant or entities controlled by or under common control with the applicant has:

(I) Had any Federal or State coal mining permit

suspended or revoked in the five years preceding the date of application; or

(II) Forfeited a Federal or State coal mining performance bond or similar security deposited in lieu of bond.

(B) The listing of notices of violation required by W. S. § 35-11-406(a)(xiv) shall describe or identify the violation, when it occurred, any abatement action taken, the issuing regulatory authority, and any proceedings initiated concerning the violation. This listing shall include only notices issued to the applicant and any subsidiaries, affiliates, or persons controlled by or under common control with the applicant.

(iii) The right of entry statements and documents required by W.S. § 35-11-406(a)(ii) and (b)(xi) shall clearly explain and support the legal rights claimed by the applicant and shall also include whether that right is the subject of pending litigation;

(iv) A statement on whether the proposed area to be mined during the term of the permit is within an area designated unsuitable for coal mining operations pursuant to W.S. § 35-11-425, under study for any designation, or within an area where mining is prohibited pursuant to Chapter 12, Section 1(a)(v), Land Quality Rules and Regulations. This shall also include the basis on which the applicant claims any available exemption so as to obtain the permit to mine;

(v) A list identifying the Mine Safety and Health Administration identification number for all mine facilities that require MSHA approval and licenses, permits or approvals needed by the applicant to conduct the proposed operation, whether and when they have been issued, the issuing authority, and the steps to be taken to comply with the requirements. To the extent possible, the Administrator and Director shall advise, consult and cooperate with the identified authorities so as to provide for the coordination of review and issuance of these licenses, permits or approvals with the permit to mine. This list shall contain:

(A) Copies or identifying numbers of all permits obtained from the State Engineer or from any other division of the Department, including Solid Waste Management, together with the following:

(I) Water Quality Information. The information from the application for the approved Water Quality permit which affirmatively demonstrates:

(1.) There is a detailed plan, with appropriate maps and cross-sections, for the construction and operation of any mine facility capable of causing or contributing to pollution of surface and groundwater. The plan shall be in accordance with Chapters III and XI, and as applicable Chapter X, of the Water Quality Division Rules and Regulations. As applicable, any plans shall include a copy of the NPDES permit granted by the Water Quality Division and quantitative limits on

pollutants in discharges of water from all point sources.

(2.) There is a plan for the collection, recording, and reporting of groundwater quality and surface water quality according to Chapter II, Section 12, Water Quality Rules and Regulations. This plan shall, at a minimum, be adequate to measure accurately and record water quantity and quality of the discharges from the permit area in order to plan for modification of mining activities, if necessary, to minimize adverse effects on the water of the State.

(II) Solid Waste Information. The information from the application for the approved permit(s) for any Solid Waste Management Facility(ies) located within the proposed permit area. Note that a Solid Waste Management Facility, as defined by W.S. § 35-11-103(d)(ii), is a facility that receives solid waste which is generated outside the proposed permit area by any activity other than a mine mouth power plant or mine mouth coal drier. Solid Waste Management Facilities are subject to the permitting, bonding and performance standards of Article 5 of the Environmental Quality Act.

(III) State Engineer Information. The information from the application for the approved permit to construct a reservoir to store or impound water which affirmatively demonstrates that the reservoirs will be constructed and maintained in accordance with the requirements set out in Chapter V, Section 8, State Engineer Rules and Regulations. In addition, if the application includes a proposed transfer of a well for use as a water well, the application shall contain information from the approved application for a permit to appropriate groundwater which affirmatively demonstrates a plan for construction, completion and removal of wells in accordance with requirements which are at least as stringent as those governing wells drilled in conjunction with coal mining or exploration operations.

(B) For any permits or approvals which have not been obtained, the information required by (A) above which has been or will be submitted to the agencies involved, including a description of the steps to be taken to comply with the relevant requirements.

Section 3 Vegetation Baseline Requirements.

(a) The plan for a baseline vegetation study to establish baseline conditions shall be submitted to the Administrator prior to the field sampling season for review and approval, prior to implementation, unless otherwise approved by the Administrator.

(b) If baseline information was previously collected in the area for a different permit or project, then the Administrator may require resampling. The Administrator's determination as to whether resampling is required, and to what extent, will be based upon:

- (i) Differences in scope between the permits or project;
- (ii) Differences in existing and historic conditions;
- (iii) Improvements in sample collection techniques;
- (iv) The elapsed time since the last evaluation of the presence of threatened and endangered species; or
- (v) Concerns with sampling methodology.

(c) The applicant shall map the vegetation communities within the permit area and adjacent area and shall sample and describe the characteristics of vegetation communities within the permit area, to include:

(i) The map shall show the vegetation communities in the permit and adjacent lands. Communities that are 2 acres and larger shall be mapped. Inclusions within larger communities do not need to be mapped as separate vegetation communities. The applicant may use the terminology used by the NRCS in naming vegetation communities;

(ii) The map shall be of a scale approved by the Administrator and use an aerial mosaic or USGS topographic , or equivalent, map as a base;

(iii) The vegetation community map shall identify:

(A) Sample locations for cover and shrub density;

(B) Reference Areas unless a technical success standard is proposed for evaluation of revegetation;

(C) Areas to be affected by mining and associated activities:

(D) The locations and orientations of all photographs provided with the descriptions of the vegetation communities and Reference Areas, as required in Chapter 2, Section 3(j);

(E) The general location of trees;

(F) The location and extent of designated and/or prohibited noxious weeds per Chapter 2, Section 3(l); and

(G) Extent of existing disturbance.

(iv) The vegetation communities in the study area may be mapped any

time the ground is clear of snow, but must be field checked and verified prior to the sampling.

(d) Percent cover, by vegetation community, shall be estimated using either:

(i) Quantitative methods, as approved by the Administrator, when the applicant intends to develop a technical standard or when the Administrator determines the study area is in a location that baseline vegetation has not been adequately described.

(ii) With approval of the Administrator, semi-quantitative methods as outlined below shall be used when the applicant does not intend to use a technical standard or those areas where the Administrator determines there is sufficient quantitative vegetation baseline in the general areas.

(A) The quadrat or point intercept method shall be used except there is not a sample adequacy requirement. The number of samples per vegetation community and reference area shall be:

<u>Vegetation Community size</u>	<u>No. of samples</u>
0 to 5 acres	3
>5 to 50 acres	5
>50 acres	10

(e) If the applicant intends to propose a technical success standard, annual herbaceous production, by community, shall be estimated using quantitative methods. Annual herbaceous production shall also be quantitatively estimated when the Administrator determines that previously collected baseline vegetation data inadequately describes the proposed permit area. If semi-quantitative methods are approved for baseline, no production for baseline is necessary.

(f) A “Reference area”, as defined in Chapter 1, Section 2(dl), shall be established for each vegetation community which will be disturbed unless a technical success standard is proposed for evaluation of revegetation.

(g) Shrub density sampling shall use the quantitative methods as approved by the Administrator unless the applicant commits to the maximum shrub reestablishment performance standard of one full shrub per square meter within shrub patches distributed over 20 percent of the eligible land for Option II. If the applicant accepts this maximum shrub reestablishment performance standard, the applicant shall use the following provisions to complete the calculations in Appendix 4B, Tables 1 and 2.

(i) For Option II, the full shrub with the highest baseline relative cover value across all premining vegetation communities shall be listed as the dominant premine full shrub species and the target postmine species. No calculations for Appendix 4B, Table 1 or Table 2, shall be performed. In Table 2, the Density of the Dominant

Postmining (Full) Shrub shall be 0.5 per square meter, and the Density of Residual (Full) Shrubs shall be 0.25 per square meter and the Density of Approved Subshrubs shall be 0.25 per square meter.

(h) If trees are present within the proposed permit area, then the description shall include the number, general distribution, and species.

(i) The applicant shall compile an inventory, by vegetation community, of all plants species observed within the study area and corresponding Reference Areas, in accordance with the following requirements:

(i) The plant species shall be listed:

(A) By life forms as described in Chapter 1, Section 2(ca).

(B) By scientific binomial (with reference to the botanic key used);

(C) By common name; and

(D) Identified as a native (native to North America) or introduced species.

(ii) The plant inventory shall be field checked and updated at least three times from April through September during the baseline sampling year to capture the phenological expression of species that do not express themselves every month. The plant inventory shall not be compared to any qualitative, semi-quantitative or quantitative criteria.

(iii) The plant inventory shall note the names and field locations of:

(A) Any herbarium samples collected;

(B) Any Designated Noxious Weeds or Prohibited Noxious Weeds defined by the State of Wyoming;

(C) Any plant species or habitat of special concern at the time of sampling; and

(D) Any species not previously recorded in Wyoming or outside its known range.

(j) Each baseline vegetation study shall present descriptions of the vegetation communities and, unless a technical success standard is proposed for evaluation of revegetation present descriptions, of the Reference Areas/Unit. The descriptions shall

include:

- (i) The general vegetation composition;
 - (ii) The major species in each life form;
 - (iii) The characteristic topography, including overall slope and aspect;
 - (iv) The characteristic soil types;
 - (v) The number, sizes, and types of inclusions;
 - (vi) The degree of interspersion between communities;
 - (vii) A summary of the quantitative, semi-quantitative, and qualitative vegetation information for each community;
 - (viii) The presence of Designated Noxious Weeds or Prohibited Noxious Weeds identified in Chapter 2, Section 3(k), the description shall include information on the present and historical weed treatment; and
- (iv) A three-inch by five-inch (or larger) color photograph, color copy or digital photograph panorama, showing the general features of each “Vegetation community” and “Reference area”.
- (k) Each baseline vegetation study shall include documentation of the presence or absence of Designated Noxious Weeds or Prohibited Noxious Weeds as defined by the State of Wyoming, Department of Agriculture.
- (i) If any Designated Noxious Weeds or Prohibited Noxious Weeds are present within the proposed permit area, the description shall include a list of their names, either common or scientific, and a visual estimate of their relative cover.
 - (ii) If any Designated Noxious Weeds or Prohibited Noxious Weeds are estimated to comprise more than 25% of the relative vegetation cover on two or more contiguous acres, that acreage shall be identified on the vegetation community map.
- (l) If any State or Federally listed endangered or threatened plant species are known to exist within the permit area or in adjacent areas, their location shall be described and an evaluation provided on potential habitats within the permit area and in adjacent areas.
- (m) Cropland, either as a vegetation community and/or a land use category, is exempt from Chapter 2, Sections 3 (d) through (g), (i) and (j).

Section 4 **Other Baseline Requirements.**

(a) A description of the lands to be affected within the permit area, how these lands will be affected, for what purpose these areas will be used during the course of the mining operation, and a time schedule for affecting these lands. This description shall include a description of:

(i) The major past and present uses of the proposed permit area and adjacent lands. Previous uses of affected lands must be ranked on an individual basis according to the overall economic or social value of the land use to the landowner, community, or area in which these lands are found. The Administrator of the Land Quality Division shall bear the responsibility of making the final decision on the ranking of land uses in a particular area. This decision must be based on information concerning the economy, historical use of the area and the needs and desires of the landowner. The Land Quality Advisory Board may be consulted for suggestions or recommendations on the ranking of land uses in a given area. The present land uses shall be listed using the definitions of Chapter 1, and the vegetation communities which comprise each land use shall be presented.

(ii) The capability of the land prior to mining to support a variety of uses, giving consideration to soil and foundation characteristics, topography, vegetative cover, and the land's history of previous mining, if any, and the uses of the land preceding mining; as well as the land use classification under local law, if any, of the proposed permit area and adjacent areas.

(iii) Annual precipitation - the operator shall submit an estimated total annual precipitation for the proposed permit area. Data from the nearest official weather reporting station may be used. Operations more than 50 miles from an official weather station that are permanently staffed may be required to keep precipitation records.

(iv) Average wind direction and velocity - the operator shall submit the average wind direction and velocity recorded at the nearest official weather station or as measured at the site.

(v) Prime farmland information, which shall include, after a preapplication investigation of the proposed permit area, either:

(A) A request for a determination that the land not be considered prime farmland on the basis that either the land has not had a history of intensive agricultural use; or there are no soil map units that have been designated prime farmland by the Natural Resource Conservation Service in accordance with 7 CFR 657 (Federal Register Vol. 43, No. 21) and the Memorandum of Understanding between the Conservation Districts and the Soil Conservation Service, or

(B) Where prime farmland occurs on proposed affected land,

an application which shall be submitted in accordance with Chapter 3.

(vi) Studies of fish, wildlife, and their habitats, in the level of detail and for those areas as determined by the Administrator, after consultation with the Wyoming Game and Fish Department in accordance with the Memorandum of Understanding between the two agencies; and Federal agencies having responsibilities for the management or conservation of such environmental values, including:

(A) A list of indigenous vertebrate wildlife species within and adjacent to the permit area by common and scientific names. The area of survey for the possible presence of threatened or endangered species shall be on or within one mile of the permit area.

(B) If critical habitat disruption is likely, the U.S. Fish and Wildlife Service and Wyoming Game and Fish Department shall be contacted by the Administrator. If crucial or important habitat or migration route disruption is likely, the Wyoming Game and Fish Department shall be contacted by the Administrator. Contacting the appropriate agency(ies) is required in order to determine the types and numbers of wildlife likely to be disturbed or displaced.

(vii) A detailed description, prepared or certified by a licensed professional geologist, or other qualified professional (as required by W.S. § 33-41-101 through 121), of the geology within the proposed permit area down to and including any aquifer to be adversely affected by mining below the lowest coal seam to be mined. The description shall include the aerial and structural geology of the permit area and, by extrapolation, adjacent areas, including geologic parameters which influence the required reclamation, and the occurrence, availability, movement, quantity, and quality of potentially affected surface and groundwaters.

(viii) For the proposed permit area and, by extrapolation, adjacent areas, characterization of the geologic strata down to and including the deeper of either the stratum immediately below the lowest coal seam to be mined, or any aquifer below the lowest coal seam to be mined which may be adversely impacted by mining. This information shall include a statement of the results of test borings or core samples which have been collected and analyzed to show:

(A) Location of any groundwater;

(B) Lithologic characteristics and thickness of each stratum and each coal seam;

(C) Physical and chemical properties including the toxic and acid-forming properties of each stratum within the overburden; and

(D) Chemical analyses for acid or toxic-forming substances of

the coal seam, including the total sulphur and pyritic sulphur content. The Administrator may waive in whole or in part the requirements of these paragraphs if he makes a written finding that the testing is unnecessary because other equivalent information is available to him in a satisfactory form.

(ix) Maps and cross-sections of the area, certified by a registered professional engineer, licensed professional geologist, or other qualified professional (as required by W.S. § 33-29-139 and 33-41-101 through 121), showing:

(A) Nature, depth and thickness of any coal seams to be mined or above those to be mined, each stratum of the overburden, and the stratum below the lowest coal seam to be mined;

(B) All coal crop lines and the strike and dip of the coal to be mined within the proposed permit area;

(C) Location and extent of existing or previously surface mined or underground mined areas within the proposed permit area and adjacent areas;

(D) Sufficient slope measurements of the proposed permit area measured and recorded at such distances as the Administrator determines to be representative of the premining configuration and reflect geomorphic differences of the land to be mined;

(E) The location of water supply intakes for current users of surface water flowing into, out of and within a hydrologic area defined by the Administrator, and those surface waters which will receive discharges from affected areas in the proposed permit area;

(F) The location of areas on which mining is limited or prohibited within or adjacent to the permit area, pursuant to Chapter 12, Section 1(a)(v), Land Quality Rules and Regulations;

(G) Elevations and locations of test borings and core samplings;

(H) Elevations and locations of monitoring stations used to gather data for water quality and quantity, fish and wildlife, and air quality in preparation of the application; and

(I) Other relevant information required by the Administrator.

(x) Overburden, topsoil, subsoil, mineral seams or other deposits.

(A) Overburden - the operator shall submit a description including the thickness, geological nature (rock type, orientation, etc.), the presence of

toxic, acid-forming, or vegetative-retarding substances, or any other factor that will influence the mining or reclamation activities.

(B) Topsoil and subsoil information including a soil survey of the affected lands conducted in accordance with the standards of the National Cooperative Soil Survey of the U.S. Department of Agriculture. If alternative materials are proposed to be used as a supplement to or substitute for topsoil, their suitability shall be demonstrated in accordance with Chapter 4, Section 2(c)(ix).

(I) Topsoil - the operator shall submit a description of the thickness and nature of the topsoil, if any, over the proposed affected lands. A soils survey and soil analyses conducted in accordance with standard methods acceptable to the Administrator, may be required to show variations in topsoil depth and suitability.

(II) Subsoil - the nature, thickness and distribution of the subsoil, if any, shall be described over the proposed affected lands. Detailed analyses of the subsoil may be required, if there is reason to suspect it may be of better quality for revegetation than the topsoil, or if it is to function as a topsoil supplement in reclamation efforts. If the subsoil is suspected of containing substances that might cause pollution or hinder reclamation, analyses will provide a basis for determining how to handle this material during reclamation.

(C) Mineral seams or other deposits - the operator shall submit a description of the mineral seams in the proposed permit area, including, but not limited to, their depth, thickness, orientation (strike and dip), and rock or mineral type. Maps or geologic cross-sections may be used to illustrate the description of the mineral seams.

(xi) Complete information on surface water for the permit area and adjacent areas. This shall include the following:

(A) The operator shall list and describe the name and location for the present surface waters in and adjacent to the proposed permit area. The list shall include, but not be limited to, rivers, creeks, lakes, reservoirs, springs and marshes. Streams shall be classified as ephemeral, intermittent or perennial;

(B) The operator shall submit a description of the immediate drainage area which includes the proposed permit area. Surface water use shall be identified as to domestic, municipal, industrial, agricultural, and wildlife;

(C) Baseline monitoring information of surface water quantity within the permit area which is representative of the surface hydrologic system. Water quantity descriptions shall include, at a minimum, baseline information on seasonal flow rates, and identification of drainage area acreage; and

(D) Water quality data sufficient to identify seasonal variation.

All surface water-quality sampling and analyses performed to meet the requirements of this Section shall be conducted according to the methodology in the 20th edition of "Standard Methods for the Examination of Water and Wastewater," or the methodology in 40 CFR Part 136 - "Guidelines Establishing Test Procedures for the Analysis of Pollutants," as amended on January 16, 2001. Contact the Land Quality Division for information on how to obtain a copy of either reference materials. The data shall include at a minimum:

- (I) Total dissolved solids (mg/l);
- (II) Total suspended solids (mg/l);
- (III) pH (standards units);
- (IV) Total and dissolved iron (mg/l); and
- (V) Total manganese (mg/l).

(E) Baseline alkalinity and acidity information shall be provided if there is a potential for acid drainage from the proposed mining operation.

(xii) Complete information on groundwater which may be affected in the permit area and adjacent areas. This shall include the following:

(A) The operator shall submit an estimate of the depth and quantity of any groundwater existing in the proposed permit area down to and including the strata immediately below the lowest mineral seam to be mined. The operator may be required to conduct test drilling and monitoring in order to determine the exact depth, quantity and quality of groundwater in geological formations affected by the mining operations. Such drilling will require permits from the State Engineer's Office;

(B) The lithology and thickness of all known aquifers;

(C) All water-quality sampling and analyses performed to meet the requirements of this Section shall be conducted according to the methodology in the 20th edition of "Standard Methods for the Examination of Water and Wastewater" or the methodology in 40 CFR Part 136 - "Guidelines Establishing Test Procedures for the Analysis of Pollutants," as amended on January 16, 2001. Contact the Land Quality Division for information on how to obtain a copy of either reference materials. The data shall include at a minimum:

- (I) Total dissolved solids (mg/l);
- (II) Total and dissolved iron (mg/l);

(III) Total manganese (mg/l); and

(IV) pH (standard units).

(D) According to the parameters and in the detail required by the Administrator, the recharge, storage, and discharge characteristics of the groundwater.

(xiii) Water rights.

(A) The operator shall list by name and owner all known adjudicated and permitted water rights on the proposed permit area and adjacent lands.

(B) The operator shall submit a list by name and owner of all existing water wells on the proposed permit area and adjacent lands, including all wells filed with the State Engineer's Office three miles or less from the proposed permit area. A survey of the premining water levels in the above wells may be required.

(xiv) A description of the surface water and groundwater and related geology in the permit area and general area sufficient to assess the probable hydrologic consequences (PHC). If the determination of the PHC required by Chapter 19, Section 2(a)(i) indicates that adverse impacts on or off the proposed permit area may occur to the hydrologic balance, or that acid-forming or toxic material is present that may result in the contamination of groundwater or surface water supplies, then information supplemental to that required under (a)(xi) and (a)(xii) of this Section shall be provided to evaluate such PHC and to plan remedial and reclamation activities. Such supplemental information may be based upon drilling, aquifer tests, hydrogeologic analysis of the water-bearing strata, flood flows, or analysis of other water-quality or quantity characteristics.

(xv) Information concerning the presence or absence of an alluvial valley floor within the permit area or on adjacent areas in accordance with Chapter 3.

(xvi) The location of existing man-made features to include roads, railroads, reservoirs, public or private rights-of-way and easements, utility lines, pipelines, oil wells, gas wells, and water wells.

(xvii) Boundaries and descriptions of all cultural, historic and archaeological resources listed on, or eligible for listing on, the National Register of Historic Places. In compliance with the Archaeological Resources Protection Act of 1979 (P.L. 96-95), this information shall not be placed on display at the county clerk's office (as required by W.S. § 35-11-406(d)) where such resources occur on lands owned by the United States. This information shall be clearly labeled as "Confidential" and submitted separately from the remainder of the application materials. Requests to disclose confidential information shall be administered under the Department of Environmental Quality, Rules of Practice and Procedure, the Wyoming Public Records

Act (W.S. §§ 16-4-2001 thru 16-4-2005 (2007)) and the Wyoming Environmental Quality Act (2007).

(xviii) A description of any significant artifacts, fossil or other article of cultural, historical, archaeological or paleontological value. Upon recommendation by a qualified archaeologist or a qualified paleontologist, the Administrator may require an evaluation of the proposed permit area prior to the time that a permit or license is issued.

Section 5 **Mine Plan.**

(a) In addition to that information required by W.S. § 35-11-406(b), each application for a surface coal mining permit shall contain:

(i) A complete operations plan proposed to be conducted during the life of the mine including:

(A) A narrative description of the type and method of mining, the number of acres that will be affected annually, overburden and mineral removal and transport, anticipated annual and total production by tonnage, and the major equipment to be used for all aspects of the operations.

(B) A map showing the estimated orderly progression of mining and reclamation on all proposed affected lands.

(C) The size, sequence and timing of the areas for which it is anticipated that renewed permits for mining will be requested over the estimated total life of the proposed operation.

(D) Cross-sections, and/or maps and plans of the area to be mined during the term of the permit, unless required for the permit area by the Administrator or as specified below, certified by a registered professional engineer or professional geologist, showing:

(I) Location of proposed water treatment control and monitoring facilities;

(II) Location of each proposed explosive storage and handling facility;

(III) Location and construction of each proposed waste disposal facility relating to coal processing or pollution control;

(IV) Location of and typical design for surface water and groundwater hydrologic control methods including proposed temporary impoundments, sedimentation ponds, diversions, stream channels, erosion control methods, and water

treatment, water storage, water collection and discharge facilities. The location and typical design of permanent impoundments and general location of the above described hydrologic control methods shall be provided for the permit area;

(V) The location, construction and maintenance of coal stockpiles, temporary and excess spoil piles shall be provided for the permit area;

(VI) Location of permanently fixed signs and markers in accordance with and meeting the requirements of Chapter 4, Section 2(o); and

(VII) Location and description of any undisturbed natural barrier which is proposed to be provided to prevent slides and erosion, in accordance with the requirements of Chapter 4, Section 2(s).

(ii) A narrative and a map of the permit area identifying the location of existing structures, a description of their use and maintenance, and an explanation of whether they meet the requirements of Chapter 4 or the plan for removal, if required, or modification to comply with those standards in a manner which protects the environment and public health and safety.

(iii) A description of the measures to be used to maximize the use and conservation of the coal resource as required in Chapter 4, Section 2(v).

(iv) A description of the contingency plans which have been developed to preclude sustained combustion of any materials constituting a fire hazard.

(v) A description, plans, and drawings for each mine facility to be constructed, used, or maintained within the proposed permit area. The plans and drawings shall include a map, appropriate cross-sections, design drawings, and specifications sufficient to demonstrate compliance with section 2(n) of Chapter 4 for each facility.

(vi) A map of the permit area which clearly shows that a railroad spur(s) which provides exclusive service to that particular permit is being included within the permit boundary from the point that it provides such service. This spur(s) shall be covered by a reclamation bond.

(vii) A blasting plan for the area to be mined during the term of the permit, which shall include:

(A) Proposed compliance with limitations on ground vibration and airblast, the basis for those limitations, and methods to be applied in controlling the adverse effects of blasting operations. The applicant should also include:

(I) A blasting plan which depicts the worst-case

scenario (i.e., the maximum probable amount of explosives to be detonated in any eight millisecond period).

(II) The identification, direction and distance, in feet to the nearest dwelling, public building, school, church, and community or institutional building from any blasting area during the term of the permit. This paragraph shall not apply if the building is owned by the operator and not leased to another or, if leased, the lessee signs a waiver relieving the operator from meeting the limitations in Chapter 6.

(B) If blasting operations will be conducted within 1,000 feet of any building used as a dwelling, public building, school, church, and community or institutional building outside the permit area, or within 500 feet of an active or abandoned underground mine, an anticipated blast design, prepared and signed by a certified blaster. The design shall contain sketches of the drill patterns, delay periods, and decking and shall indicate the type and amount of explosives to be used, critical dimensions, and the location and general description of structures to be protected, as well as a discussion of design factors to be used which protect the public and meet the applicable airblast, flyrock and ground vibration standards in Chapter 6. This paragraph shall not apply if the building is owned by the operator and not leased to another or, if leased, the lessee signs a waiver relieving the operator from meeting the limitations in Chapter 6.

(C) Description and location of blasting monitoring, warning and site access control equipment and procedures proposed to be used pursuant to Chapter 6, Section 4.

(D) Description of procedures and plans for recording and retaining information required by Chapter 6, Section 5.

(E) A sample copy of the public notices required by Chapter 6, Section 3.

(F) Other information requested by the Administrator which he determines necessary to ensure compliance with Chapter 6.

(viii) A plan for minimizing adverse impacts to fish, wildlife and related environmental values within and adjacent to the permit area during the operation, including:

(A) Whether such resources will be enhanced through successful revegetation in accordance with Chapter 4, Section 2(r);

(B) A statement of how the applicant will utilize monitoring methods as specified in Appendix B of these rules and regulations, and impact control measures and management techniques to protect or enhance the following, if they are likely to be affected by the proposed operation:

(I) Threatened or endangered species of plants or animals listed by the Secretary under the Endangered Species Act of 1973, as amended (16 U.S.C. Section 1531 et seq.) and their critical habitats;

(II) Species identified through the consultation process described in Section 2(a)(vi)(G); and

(III) Important habitats for fish and wildlife, such as wetlands, riparian areas, rimrocks, areas offering special shelter or protection, reproduction and nursery areas, and wintering areas.

(C) Upon request, the Administrator shall provide the resource information required under paragraph (B) of this Section and that required by Section 2(a)(vi)(G) of this Chapter to the U.S. Department of the Interior, Fish and Wildlife Service regional or field office for their review. This information shall be provided within 10 days of receipt of the request from the Service.

(ix) A plan to ensure the protection of the quantity and quality of, and rights to, surface water and groundwater both within and adjacent to the permit area, which shall include:

(A) A plan and timetable for control and treatment of surface water and groundwater in accordance with Chapter 4, Section 2(e)-(h);

(B) A plan for sediment removal and disposal;

(C) A plan to restore the approximate recharge capacity of the permit area in accordance with Chapter 4, Section 2(h);

(D) A plan to collect, record and report water quantity and quality data according to Chapter 4, Section 2(i); and

(I) Surface water monitoring plan.

(1.) The application shall include a monitoring plan based upon the PHC determination required under subsection 2(b)(xii) of this Chapter and the analysis of all baseline hydrologic, geologic, and other information in the permit application. The plan shall provide for the monitoring of parameters that relate to the suitability of the surface water for current and approved postmining land uses and to the objectives for protection of the hydrologic balance as set forth in subsection 2(b)(xi) of this Chapter.

(2.) The plan shall identify the surface water quantity and quality parameters to be monitored, sampling frequency, and site locations.

At a minimum, the parameters specified in Section 2(a)(vi)(L)(III) and (IV) of this Chapter shall be measured. Results of monitoring shall be available for inspection at the mine and available to the Director's designated authorized representative, and shall be reasonably current. Surface water monitoring shall be conducted quarterly unless an alternate frequency, appropriate to the monitored site, is approved by the Administrator. Results of monitoring shall be submitted in the annual report for each monitoring location.

(3.) The plan shall describe how the data may be used to determine the impacts of the operation upon the hydrologic balance.

(II) Groundwater monitoring plan.

(1.) The application shall include a groundwater monitoring plan based upon the PHC determination required under subsection 2(b)(xii) of this Chapter and the analysis of all baseline hydrologic, geologic, and other information in the permit application. The plan shall provide for the monitoring of parameters that relate to the suitability of the groundwater for current and approved postmining land uses and to the objectives for protection of the hydrologic balance set forth in subsection 2(b)(xi) of this Chapter.

(2.) The plan shall identify the quantity and quality parameters to be monitored, sampling frequency, and site locations. It shall describe how the data may be used to determine the impacts of the operation upon the hydrologic balance. At a minimum, the parameters specified in Section 2(a)(vi)(M)(III) of this Chapter and water levels shall be measured. Groundwater monitoring shall be conducted quarterly unless an alternate frequency, appropriate to the monitored site, is approved by the Administrator. Results of monitoring shall be available for inspection at the mine and available to the Director's designated authorized representative, and shall be reasonably current. Results of monitoring shall be submitted in the annual report for each monitoring location.

(E) A plan to provide alternative sources of water in accordance with W.S. § 35-11-415(b)(xii), where the protection of quantity or quality cannot be ensured as determined under the requirements of (x) below.

(x) Probable hydrologic consequences determination (PHC). A determination of the PHC of the proposed operation on the hydrologic regime and the quantity and quality of surface water and groundwater systems within the permit area and the general area consistent with the information required in Chapter 19, Section 2 of these regulations. The PHC determination shall be based on baseline hydrologic, geologic and other information collected for the permit application and may include data statistically representative of the site. This determination shall specifically address potential adverse hydrologic consequences and describe preventive and remedial measures.

(xi) An evaluation of the impact of the proposed mining activities that may result in contamination, diminution, or interruption of the quality and quantity of groundwater or surface water within the proposed mine permit area or adjacent areas that are used for domestic, agricultural, industrial, or other legitimate purposes. If contamination, diminution, or interruption may result, then the application shall identify the alternative sources of water supply that could be developed to replace the existing sources in accordance with State law.

(xii) A general plan for each coal-processing waste bank. It shall contain a description, map, and cross-section of the structure and its location, preliminary hydrologic information required to assess the hydrologic impact of the bank, and any additional information the Administrator may deem necessary to show compliance with Chapter 4, Section 2(c). Where the applicant proposes to return coal-processing waste to abandoned underground workings, the application shall:

(A) Describe the design, operation and maintenance of any proposed coal-processing waste disposal facility, including flow diagrams and any other necessary drawings and maps, for the approval of the Administrator and the Mine Safety and Health Administration;

(B) Describe the sources and quality of waste to be stowed, area to be backfilled, percent of the mine void to be filled, method of constructing underground retaining walls, influence of the backfilling operation on active underground mine operations, surface area to be supported by the backfill and the anticipated occurrence of surface effects following backfilling;

(C) Describe the source of the hydraulic transport mediums, method of dewatering the placed backfill, retainment of water underground, treatment of water if released to surface streams, and the effect on the hydrologic regime;

(D) Describe each permanent monitoring well to be located in the backfilled area, the stratum underlying the mined coal, and gradient from the backfilled area except where pneumatic backfilling operations are exempted from hydrologic monitoring; and

(E) Be approved by MSHA as well as the Administrator prior to implementation.

(xiii) For surface mining activities to be conducted within 500 feet of an underground mine, measures to be used to comply with Chapter 4, Section 2(t).

(xiv) Plans describing the measures to be taken to obtain permit approval regarding areas where mining would be otherwise limited or prohibited pursuant to Chapter 12, Section 1(a)(v).

(xv) Descriptions, including appropriate maps and cross-sections of any proposed excess spoil disposal site and design of the spoil piles in accordance with the requirements of Chapter 4, Section 2(c). This shall contain the results of a geotechnical investigation of the proposed excess spoil disposal site, including the following:

(A) The character of bedrock and any adverse geologic conditions in the disposal area;

(B) A survey identifying all springs, seepage, and groundwater flow observed or anticipated during wet periods in the area of the disposal site;

(C) Where applicable, an evaluation of the potential effects of subsidence of the subsurface strata due to past and future mining operations;

(D) A stability analysis including, but not limited to, strength parameters, pore pressures and long-term seepage conditions. These data shall be accompanied by a description of all engineering design assumptions and calculations and the alternatives considered in selecting the specific design specifications and methods; and

(E) If, under Chapter 4, Section 2(c)(xi)(F), special structural provisions are required for spoil disposal on overall slopes greater than 20 degrees, information on:

(I) The number, location and depth of borings or test pits which shall be determined with respect to the size of the spoil disposal structure and subsurface conditions; and

(II) The engineering designs, design rationale and design calculations for the special structural provisions, which are based on the information required in paragraph (D) above.

(xvi) Road Systems.

(A) Each applicant shall submit plans and drawings for each road as defined in Chapter 1 to be constructed, used, or maintained within the proposed permit area. The plans and drawings shall:

(I) Include a map, appropriate cross-sections, design drawings and specifications for road widths, gradients, surfacing materials, cuts, fill embankments, culverts, bridges, drainage ditches, drainage structures and low-water crossings;

(II) Contain the drawings and specifications of each proposed road that is located in the channel of an ephemeral stream that has the potential

for sufficient flow to cause substantial environmental harm unless a downstream sediment control structure exists within the permit boundaries, any intermittent or any perennial stream, as necessary for approval of the road by the Administrator in accordance with Chapter 4, Section 2(j)(iv)(A);

(III) Contain the drawings and specifications for each proposed ford of intermittent or perennial streams that is used as a temporary route, as necessary for approval of the ford by the Administrator in accordance with Chapter 4, Section 2(j)(vii)(C)(II);

(IV) Contain a description of measures to be taken to obtain approval from the Administrator for alteration or relocation of a natural stream channel under Chapter 4 Section 2(j)(vii)(D)(IV);

(V) Contain the drawings and specifications for each low-water crossing of an ephemeral stream channel that has the potential for sufficient flow to cause substantial environmental harm unless a downstream sediment control structure exists within the permit boundaries, any intermittent stream channel or any perennial stream channel so that the Administrator can maximize the protection of the stream in accordance with Chapter 4, Section 2(j)(vii)(D)(VI); and

(VI) Describe the plans to remove and reclaim each road that would not be retained under an approved postmining land use, and the schedule for this removal and reclamation.

(B) The plans and drawings for each primary road (as defined in Chapter 4, Section 2(j)(i)(B)) shall be prepared by, or under the direction of, and certified by a qualified registered professional engineer as meeting the requirements of this Chapter and current, prudent engineering practices.

(xvii) Plans for compliance with the temporary and permanent cessation of operations requirements contained in Chapter 4, Section 2(k) and (u).

(xviii) Plans of mine facilities (including overstrip areas) that are to be shared by two or more separately permitted mining operations may be included in one permit application and referenced in the other application(s). Each permittee shall bond the mine facilities unless the permittees sharing it agree to another arrangement for assuming their respective responsibilities. If such agreement is reached, the application shall include a copy of the agreement between or among the parties setting forth the respective bonding responsibilities of each party for the mine facilities. The agreement shall demonstrate to the satisfaction of the Administrator that all responsibilities under the Act and regulations for the mine facilities will be met.

(xix) A Cultural Resources Management Plan which:

(A) Describes the measures to be used to prevent impacts to public parks or places listed on the National Register of Historic Places or, in cases of valid existing rights or where joint agency approval has been obtained, to minimize impacts to such parks or places;

(B) Provides for the mitigation of adverse effects to historic or archaeological properties eligible for listing on the National Register of Historic Places; and

(C) Ensures that the appropriate treatment measures or mitigation will be undertaken prior to the commencement of any specific mining operation that would affect such parks, places or properties.

(xx) A plan for the management and disposal within the proposed permit area of industrial solid wastes generated by the operation (such as, but not limited to, grease, lubricants, paints, flammable liquids, garbage, trash, discarded mining machinery, lumber and other combustible material), in accordance with Chapter 4, Section 2(c) and with those provisions of the Solid Waste Management Rules and Regulations deemed appropriate by the Administrator.

(xxi) Plans for the management and disposal within the permit area of any solid wastes generated by a mine mouth power plant or mine mouth coal drier, in accordance with Chapter 4, Section 2(c) and with provisions of the Solid Waste Management Rules and Regulations deemed appropriate by the Administrator.

Section 6 Reclamation Plan.

(a) The reclamation plan shall include a time schedule for each major step in the reclamation which coordinates the operator's reclamation plan with the mining plan in such a manner so as to facilitate reclamation at the earliest possible time consistent with Chapter 4, Section 2(k) and the orderly development of the mining property.

(b) The reclamation plan shall also describe how the operator will reclaim the affected lands to the proposed postmining land use in accordance with Chapter 4, Section 2(a) which shall include:

(i) A plan for topsoil and subsoil removal, storage, protection, and replacement; and for handling and disposal of all toxic, acid-forming, or otherwise hazardous materials, in accordance with Chapter 4, Section 2(c). This shall include a description with location maps and, where appropriate, typical topographic profiles of the mine facility area, mineral stockpiles, spoil piles, and topsoil and subsoil stockpiles. The location, and where required, the capacity of each stockpile shall be described and shown on a map. The application shall also explain how the topsoil will be replaced on the affected land during reclamation, including a description of the thickness of topsoil to be replaced and procedures that will be followed to protect the topsoil from excessive

compaction and wind and water erosion until vegetation has become adequately established.

(ii) A plan for backfilling, grading and contouring of all affected lands in accordance with Chapter 4, Section 2(b). The plan shall include:

(A) A description of the reclaimed land surface with contour maps or cross-sections that show the final surface configuration of the affected lands.

(B) Where terraces or benches are proposed, detailed drawings shall be provided which show dimension and design of the terraces, check dams, any erosion prevention techniques and slopes of the terraces and their interval.

(C) Where permanent water impoundments are proposed, contour maps and cross-sections which show slope conditions around the impoundment and the anticipated high and low postmining water level. The plan shall contain a description of erosion control techniques and such other design criteria and water quality and quantity conditions to comply with Chapter 4, Section 2(g)(ii).

(D) Maps and descriptions necessary to demonstrate that the slopes of the reclaimed land surface do not exceed the approximate premining slopes.

(E) Procedures for assuring stability of the reclaimed land surface.

(iii) A plan to assure revegetation of all affected land in accordance with Chapter 4, Section 2(d). The plan shall include:

(A) The method and schedule of revegetation, including but not limited to species of plants, seeding rates, seeding techniques, mulching requirements and other erosion control techniques, and seeding times to be used in a given area for reclamation purposes.

(B) For crucial habitat and critical habitat, consultation with and approval obtained from the Wyoming Game and Fish Department for tree and shrub species composition and ground cover for minimum stocking and planting arrangements of trees and shrubs. Crucial habitat must be declared as such prior to the submittal of a permit application or any subsequent amendment.

(C) For important habitat, consultation with and recommendations obtained from the Wyoming Game and Fish Department for tree and shrub species composition and ground cover for minimum stocking and planting arrangements.

(D) The tree species, the number per species, and the location

of tree plantings.

(E) A separate seed mix(es) shall be developed for each approved postmining land use, considering the dominant postmining topographic features and landowner desires.

(I) The species shall be described in the reclamation plan indicating the composition of seed mixtures and the amount of seed to be distributed on the area on a per acre basis.

(II) The species and varieties shall depend upon the climatic and soil conditions prevailing in the permit area and the proposed postmining landuses.

(III) The species shall be self-renewing;

(IV) Seeding rates shall depend upon seed types, climatic conditions and the techniques to be used in seeding;

(V) The seed mix shall contain introduced species only if:

or (1.) Additional herbaceous species are needed;

(2.) Suitable, native species are unavailable; or

(3.) For cropland or pastureland or;

(4.) Needed to achieve a quick, temporary, stabilizing cover to control erosion; or

(5.) Conducive to achieve a postmining land use approved by the Administrator.

(VI) The operator shall document, unless otherwise authorized by the Administrator, the suitability of introduced species using data from published literature, from experimental test plots, from on-site experience, or from other information sources.

(VII) For grazingland, the seed mix shall contain full shrub and/or subshrub species when these species will support the postmining land uses. To increase postmining species diversity and establish shrub mosaics, shrub mixtures shall be developed and seeded separately from the herbaceous mixtures.

(VIII) For federally owned surface, the federal land managing agency shall be consulted for mulching requirements and seeding requirements for cover crops, temporary and permanent reclamation.

(IX) The proposed postmining location of each seed mixture shall be illustrated on a post mining contour map.

(F) Locations and/or conditions where the operator specifically requests approval not to use mulch.

(G) A weed control plan for State of Wyoming Designated Noxious and Designated Prohibited Weeds and, on federal surface, any additional weeds listed by the federal land managing agency.

(H) An explanation of any plans for irrigation.

(I) An explanation of pest and disease control measures, if appropriate;

(J) A plan for monitoring permanent revegetation on reclaimed areas, specifically including quantitative sampling, as required by Chapter 4, Section 2(d)(xi).

(iv) A plan for measurement of revegetation success to include:

(A) How a “Reference area” shall be used for cover and production, unless technical standards for cover and production have been approved for a projected postmine community. A “Reference area” is defined in Chapter 1, Section 2(dl).

(B) The methods to be used for measuring the shrub density standard as approved by the Administrator.

(C) The methods to be used for evaluating the shrub density goal as approved by the Administrator, where applicable.

(D) The procedures to be used for measuring species diversity and composition as approved by the Administrator.

(E) If proposed, a technical success standard for a specified vegetation parameter. The technical success standard:

(I) Is derived from a sufficient number of years of baseline data so the standard value can be considered representative over a range of climatic conditions or a relationship between the parameter and climatic variables can be

determined. For technical standards for cover and production, a minimum of five years of baseline data is necessary; and

(II) May be extended to an amendment area if the baseline information indicates the standard is applicable in that area.

(F) The procedures to be used as approved by the Administrator for the evaluation of restored postmining vegetation communities which carry the Cropland or Pastureland land use designation.

(G) If reforestation for commercial harvest is the method of revegetation, reforestation shall be deemed to be complete when a reasonable population density as established in the reclamation plan has been achieved, the trees have shown themselves capable of continued growth for a minimum period of five years following planting, and the understory vegetation is adequate to control erosion and is appropriate for the land use goal.

(v) Descriptions, including maps and cross-sections, of the surface water diversion systems which meet the requirements of Chapter 4, Section 2(e). Monitoring of surface and groundwater conditions may be required during the course of the operation based on the existing water conditions and the nature of the proposed operation. If so required, the application shall include a description of the location, construction, maintenance, and removal, where necessary, of such monitoring stations.

(vi) Where a permanent water impoundment is proposed as final reclamation, the application shall include:

(A) Written consent from the surface landowner if different than the mineral owner.

(B) A description of the proposed use of the impoundment.

(C) A statement of the source, quality and quantity of water available for impoundment and a statement regarding its suitability for recreational, irrigation, livestock or wildlife watering. If, upon review of this information, water quality and quantity are not reasonably demonstrated to be suitable for the postmining use, the applicant shall be so notified in writing and shall be allowed to submit further documentation in support of the proposed impoundment to reasonably satisfy the Administrator. If the applicant is unable to demonstrate to the satisfaction of the Administrator that the water quality and quantity will be suitable for the postmining land use, the applicant shall provide an alternate plan.

(D) The operator may be required to monitor surface and groundwaters in order to determine that upon completion of the operation, the water quality and quantity will be consistent with the approved postmining use.

(E) A description of the construction of the impoundment so as to meet the requirements of Chapter 4, Section 2(g)(ii).

(vii) A plan to assure proper construction and reclamation of any tailings impoundments in accordance with the Act and these regulations.

(viii) A plan for the disposal of mine facilities, erected, used or modified by the applicant in accordance with the requirements of Chapter 4, Section 2(m).

(ix) A description of the measures to be used to seal or manage mine openings in accordance with Chapter 4, Section 2(p), and to cap, plug and seal all exploration holes, bore holes, wells and other openings, excepting developmental drill holes which will be mined through within one year, within the area to be mined during the term of the permit in accordance with Chapter 14. For developmental drilling the application shall contain general descriptions relating to spacing, data collection, and techniques which will be employed, including those which may be needed to comply with the plugging and sealing requirements of W.S. § 35-11-404.

(x) A postmining land use plan, including:

(A) The necessary support and maintenance activities that may be needed to achieve the proposed land use.

(B) Where a land use is proposed different from the premining land use:

(I) A discussion of the utility and capacity of the reclaimed land to support a variety of uses and the relationship of the proposed use to existing land use policies and plans; and

(II) A comparison of the premining and postmining land uses. The premining uses of land to which the postmining land use is compared shall be those uses which the land previously supported, if the land has not been previously mined and has been properly managed.

(1.) The postmining land use for land that has been mined and not reclaimed shall be judged on the basis of the highest and best use that can be achieved and is compatible with surrounding areas without requiring unreasonable disturbance of areas previously unaffected by mining.

(2.) The postmining land use for land that has received improper management shall be judged on the basis of the premining use of surrounding lands that have received proper management.

(3.) If the premining use of the land was changed within five years of the beginning of the mining, the comparison of postmining use to premining use shall include a comparison with the historic use of the land as well as its use immediately preceding mining.

(C) Approval of alternative land uses shall require a demonstration that:

(I) The alternative land use is equal to or greater than the highest previous use;

(II) There is reasonable likelihood for achievement of the use;

(III) The use does not present any actual or probable hazard to public health or safety, or threat of water diminution or pollution; and

(IV) The use will not:

(1.) Be impractical or unreasonable;

(2.) Be inconsistent with applicable land use policies or plans;

(3.) Involve unreasonable delay in implementation; or

(4.) Cause or contribute to violation of Federal, State, or local law.