

**CHAPTER 12-A**

**HILLSIDE PRESERVATION AND GRADING PERMIT**

*(Amended 6/14/11)*

- Section 12-A.010. Hillside Preservation Purpose and Intent.
- Section 12-A.020. Hillside Preservation General Provisions.
- Section 12-A.030. Hillside Preservation Development Standards and Provisions.
- Section 12-A.040. Hillside Preservation Building Standards.
- Section 12-A.050. Dispute Resolution.
- Section 12-A.060. Grading Permit – Purpose and Intent.
- Section 12-A.070. Grading Permit Requirements.
- Section 12-A.080. Grading Permit General Conditions.
- Section 12-A.090. Grading Permit Submittal Requirements.
- Section 12-A.100. Grading Permit Issuance.
- Section 12-A.110. Grading Permit Administration
- Section 12-A.120. Landowner Grading Project Requirements
- Section 12-A.130. Grading Permit Violations
- Section 12-A.140. Penalties

**Section 12-A.010 Hillside Preservation Purpose and Intent.**

To ensure that proposed development in hillside areas reflects the best interests of the City, its residents, and private property owners, all grading, excavation, filling or erection of any structure on land in any hillside area shall conform to the standards, guidelines, and criteria of this chapter. The purpose and intent of the Hillside Preservation ordinance is to:

- A. Preserve hillside, mountain, and/or slope areas.
- B. Encourage minimal grading, where possible, to maintain the natural contour of the land.
- C. Promote quality development of hillside, mountain, and/of slope areas.
- D. Promote grading which considers drainage, stability, safety, and sound engineering and construction practices.
- E. Encourage responsible erosion control practices.

F. Protect natural drainage channels, except where otherwise approved by the City.

G. Preserve natural landmarks and prominent natural features including ridgelines, wildlife habitat and open space.

H. Minimize public exposure to geological and natural hazards, including but not limited to snow avalanche, rock slides, rock falls, debris flow, debris floods, land-sliding, surface fault rupturing, and hazards relating to ground water.

I. Prohibit activities and uses which would result in the degradation of fragile soils and steep slopes.

J. Encourage preservation of open space and natural terrain.

**Section 12-A.020 Hillside Preservation General Provisions.**

A. The hillside preservation standards contained in this Chapter shall be applied to all properties containing slopes of ten percent (10%) or greater. Any land or parcel having a slope of greater than ten (10%) percent shall be deemed to be land having a “steep slope” within the meaning of this Chapter.

B. In the event that any provisions of this chapter conflict with other sections of the Lehi City Development Code, the most restrictive provision shall apply.

C. . Unless specifically stated by this chapter, the underlying zone shall determine density, minimum lot sizes, widths, frontages, etc.; except in the case of slopes exceeding thirty percent (30%) no density will be given. When determining density calculations, areas with slopes above thirty percent (30%) must be subtracted from the overall project area.

D. The City encourages the use of Planned Residential Developments, Planned Unit Developments, and Planned Communities in areas with steep slopes in order to preserve the natural terrain, and to maintain the steep slopes as open space.

E. Lands preserved as open space due to the presence of steep slopes may be offered to Lehi City, a private land trust, or to a non-profit agency in order to preserve and maintain the area in its natural state.

F. All buildings on steep slopes shall comply with the applicable sections of the International Building

Code and International Residential Code, except where the recommendations of the soils report and/or the geologic report are more restrictive.

**Section 12-A.030 Hillside Preservation Development Standards.**

These provisions are intended to minimize floods, erosion, and other environmental hazards relating to development in slope areas, to protect the natural scenic character of hillside areas, and to ensure that the development of hillside and slope areas reflects the best interests of Lehi City, its residents and private property owners. To ensure the safe development of hillsides and slopes within Lehi City, the following standards shall apply to all development within Hillside Preservation areas:

A. No person shall be permitted to grade, excavate, fill, erect any structure, or otherwise disturb any slope over thirty percent (30%) unless appropriate engineering measures are taken to address any associated hazards, as recommended by an engineering analysis and accepted by the Lehi City Council.

B. Any person proposing to grade, excavate, fill or erect any structure on any slope or hillside with a slope greater than ten percent (10%) shall be required to submit the following documents to the City for review and approval. These documents shall be submitted for review in addition to the development requirements for site plan and/or subdivision (whichever is applicable):

1. Soils report. The soils report shall be prepared and stamped by a geotechnical engineer, licensed by the State of Utah and qualified to prepare such report, and must contain the following information:

- (a) Stability analysis for "steep slopes";
- (b) Unified soil classification for the major horizons or layers of soil profile, or of the zone of the footing foundation;
- (c) Soils engineering tests to determine bearing capacity, settlement potential, and shrink/swell potential of the site soils;
- (d) Analysis of the soil suitabilities, constraints, and proposed methods of mitigating such constraints in implementing the proposed development;
- (e) Groundwater levels and flows that may affect the development and estimated elevation of groundwater levels;
- (f) Frost depth and potential frost action based upon material type and groundwater levels;

(g) Irrigation, runoff, and surface flows that may affect the development;

(h) Seismic considerations, including estimated peak ground accelerations, spectral accelerations and the appropriate Site Class in accordance with the International Building Code (for projects involving structures), and other potential seismic hazards relating to the proposed development. The report should address the potential impacts of seismic ground motions on slope stability;

(i) Bearing capacities, compaction, and other applicable factors deemed relevant by the geotechnical engineer.; and

(j) Recommended means to minimize any hazards and/or adverse impacts to the natural environment. Recommendations should address concerns identified in the soils report as well as the geologic report.

2. Geologic report. A geologic report and map shall be prepared and stamped by geologist, licensed by the State of Utah and qualified to prepare such report. Mapping shall reflect careful attention to the rock composition, structural elements, and distribution of earth materials, and shall be drawn at a scale of 1"=100'. The report should include the following:

(a) Location and size of subject area and its general setting with respect to major geologic features;

(b) Location and probability of landslide potential;

(c) Discussion of other potential geologic hazards, including but not limited to avalanche, rock fall, debris flow, flooding, groundwater-related hazards, fault rupture, and other seismic hazards;

(d) Topography and drainage in the subject area;

(e) Estimated depth to bedrock and geologic characteristics of bedrock layers;

(f) Reference to any State, Federal, and County reports covering the area (responding to issues/concerns identified in the reports); and

(g) Conclusions and recommendations regarding the effect of geological conditions on the proposed development, and recommendations covering the adequacy of sites to be developed.

3. Grading and drainage plan. A grading and drainage plan shall be prepared by an engineer, licensed by the State of Utah and qualified to

prepare such report. The plan must be sufficient to determine erosion control measures necessary to prevent soil loss during construction. The plan shall also include the following information:

- (a) A map of the entire site showing existing details and contours of the property as well as proposed modifications. Map shall be prepared using a scale of one inch equals one hundred feet (1"= 100');
- (b) Map of areas to be graded, showing existing details and contours at five-foot (5') intervals where terrain is to be modified;
- (c) A drainage report, including a narrative and calculations. The report shall include an investigation of the effects of a 100-storm and an evaluation of how the proposed drainage system will handle predicted flows for the areas within development and for areas outside of the development but drain through the subject area. This report shall address the effects on downstream development;
- (d) The history, including frequency and duration of flooding; any additional permits required for floodplain and/or wetland areas; as well as any mitigation efforts proposed as a part of the plan; and
- (e) A plan for the prevention and control of erosion and sedimentation during construction and during the period before the landscaping is established.

4. **Vegetation Plan.** A vegetation plan and report shall be prepared by a person or firm qualified by training and experience to have expert knowledge of the subject, including any applicable State licensing. The Vegetation Plan shall include the following:

- (a) A survey of the existing vegetation and ground cover;
- (b) A plan of the proposed re-vegetation of the site, including existing vegetation to be preserved and/or modified. This plan should disturb as little native vegetation as possible;
- (c) A maintenance program for existing vegetation and new plantings; and
- (d) A written statement by the person or firm preparing the vegetation plan and report, identifying any vegetation problems and stating the ability of the proposed plan to eliminate any potential problems, to prevent hazards or adverse effects.

C. Any development of property deemed to be a "steep slope" shall also conform to the following provisions:

- 1. **Grading.** No grading, filling, or excavation of any kind shall be accomplished without first obtaining a grading permit as required by the Grading Permit requirements of this Chapter.
- 2. **Drainage:**
  - (a) Required storm water runoff collection facilities shall be designed to retain storm water runoff and landscape irrigation flows on development sites for a sufficient length of time so as to prevent flooding and/or erosion.
  - (b) Required storm water collection facilities shall be designed to divert surface and irrigation water away from cut faces or sloping surfaces of a fill. French drains are not acceptable.
  - (c) Curb, gutter, and pavement designs shall be such that water on roadways is prevented from flowing off the roadways.
  - (d) Natural drainage, open channel drainage and culvert discharge points, shall be rip-rapped for a distance sufficient to convey the discharge without channel erosion.
  - (e) Sediment catchment ponds shall be constructed downstream from each development, unless sediment retention facilities are otherwise provided.
- 3. **Vegetation and Re-vegetation:**
  - (a) Conserve topsoil removed during construction for later use on disturbed areas as needed, and as approved by the City.
  - (b) All disturbed soil surfaces shall be stabilized before final acceptance of the development by the City. Stabilization shall include, at a minimum, six (6) inches of topsoil and native seed mix.
  - (c) In all areas under ownership and control of the Developer, the Developer shall be fully responsible for any destruction of native vegetation required to be retained, and shall be responsible for replacing destroyed vegetation.
- 4. **Fire Protection:**
  - (a) Lot size and potential placement of buildings thereon shall be such that adequate clearance of hazardous, flammable vegetative cover may be accomplished to

comply with the Urban Wildlife Interface Code.

(b) Recorded easements for firebreaks shall be required with all developments.

5. Incorporation of Geotechnical and Geologic Recommendations. A written review of the development plans shall be performed by the person or firm preparing the soils and geologic reports to determine if the recommendations from the reports have been incorporated and to recommend changes to the development plans if needed.

**Section 12-A.040 Hillside Preservation Building Standards**

The following standards shall apply to all construction within the Hillside Preservation Overlay Zone.

A. No dwelling or other structure used for human habitation shall be constructed on fill material, unless such material shall have been compacted as directed by a geotechnical engineer licensed in the State of Utah.

B. No building permit shall be issued until all of the items required by this ordinance have been reviewed and approved by the appropriate body within the City.

C. A building permit issued from the Lehi City Building Department is required for all retaining walls, as defined by the International Building Code or International Residential Code.

~~D.~~ The final building inspection on any structure cannot be scheduled by the Lehi City Building Department until all landscaping (required during the development process), including landscaping on private lots and any retaining walls, are installed. In the case where landscaping cannot be installed because of seasonal and/or weather constraints, the bond for the landscaping shall not be released until the landscaping is installed in a manner acceptable to the City.

E. In the event that the International Building Code or International Residential Code has differing requirements, the more restrictive provisions shall apply.

**Section 12-A.050 Dispute Resolution**

To insure sound engineering practices and analysis are implemented, any disputes between the city and developers engineering consultants shall be resolved

per the requirements in Title 10 Chapter 9a of the Utah State code.

**Section 12-A.060 Grading Permit – Purpose and Intent**

A. For the purposes of this section, grading is defined as the act of leveling, smoothing, or otherwise preparing a development site for construction, by creating a level (or possibly sloped to a specific degree) base; or otherwise excavating, compacting, removing native vegetation, grubbing, cutting and/or filling a development site in preparation for the construction of an approved development project. Grading does not include mining, or otherwise removing, screening, or stock-piling material primarily for economic gain; however, the incidental sale of materials may be allowed provided it is not the sole purpose of the grading.

B. During the construction process, soil is highly vulnerable to erosion by wind and water. Eroded soil endangers water resources by reducing water quality and causing siltation of aquatic habit for fish and other species. Eroded soil also necessitates increased maintenance of sewers, storm drains and ditches. In addition, clearing and grading during construction causes the loss of native vegetation, which can further cause erosion. The purpose and intent of this section is to:

1. Safeguard persons, protect property, and minimize damage to the environment and local infrastructure.
2. Promote the public welfare by guiding, regulating, and controlling the construction process, as well as the use and maintenance of any development or activity that disturbs or breaks the topsoil or results in the movement of earth.
3. Remedy sediment pollution when it occurs.

**Section 12-A.070 Grading Permit Requirements**

A. A grading permit is required for a project involving any of the following:

1. Any grading or grubbing in excess of one (1) acre, (43,560 square feet).
2. Any fill and/or excavation that changes the elevation of the existing property more than two (2) feet from adjacent properties and surrounding roadway grades. Quantities of fill and excavation are separately calculated and

then added together, even if excavated material is used as fill on the same site.

3. Over one (1) acre (43,560 square feet) of clearing, as measured at the ground level. Clearing includes the felling or topping of trees when the ground has been disturbed in excess of one (1) acre (43,560 square feet).

4. Retaining walls and modular block walls (including landscape walls, etc.) over four (4) feet in height as measured from the bottom of the footing, base rock or block must be designed by a professional engineer and building permit obtained. Terraced walls having a total height greater than four feet are included in this requirement, unless individual walls are less than four feet high and the horizontal distance between walls is at least two times the individual wall height (reference Section 105.2 of the International Building Code).

B. The following activities are exempt from the requirements for a grading permit:

1. Agricultural crop management of existing farmed areas.
2. Routine landscape maintenance of existing landscaped areas on developed lots, including pruning, weeding, planting annuals, and other activities associated with maintaining an already established landscape.
3. Installation of residential landscaping or landscaping that is a part of a bonded and approved site plan or subdivision plat.
4. Any construction project that has a valid building permit.
5. Work needed to correct an immediate danger to life or property in an emergency situation as declared by Lehi City.
6. Cemetery graves.
7. Routine drainage maintenance of existing, constructed stormwater drainage facilities located outside of a protected area, including, but not limited to, detention/retention ponds, wetponds, sediment ponds, constructed drainage swales, water quality treatment facilities such as filtration systems, and regional storm facilities that are necessary to preserve the water quality

treatment and flow control functions of the facility. This exemption does not apply to any expansion and/or modification to already excavated and constructed stormwater drainage facilities.

8. Industrial, manufacturing, and mining areas existing at the time this code is adopted.

9. Any public road project, including roadway repairs and overlays.

C. An exemption from a grading permit does not exempt the person doing the work from meeting all applicable city codes and obtaining any other required approvals.

**Section 12-A.080 Grading Permit General Conditions**

A grading permit will be issued by the Public Works Director or his/her designee, following a completed application, all required fees and all necessary approvals, and is subject to the following conditions:

- A. In order to minimize the impact of the grading, the smallest area of land possible shall be disturbed at any one time during development and the duration of such disturbance shall be kept to a practical minimum.
- B. Whenever feasible, natural vegetation and the natural ground surface shall be retained and protected.
- C. Disturbed soil shall be stabilized as quickly as practicable.
- D. Diversions and outlets, both temporary and permanent, shall be constructed or installed to accommodate runoff caused by the changed soil and surface conditions during and after development, including surface flooding.
- E. In the event that the International Building Code has differing requirements, the more restrictive provisions shall apply.

**Section 12-A.090 Grading Permit Submittal Requirements**

An application for grading permit shall include the following:

- A. A narrative outlining the project. The narrative must include a reason grading is required.

B. A re-vegetation plan must be provided for any disturbed land including slopes created by grading and any vegetation that will remain.

C. A general vicinity map of the proposed site.

D. A meets and bounds description of the proposed grading site is required. The description must be submitted in hard copy and electronically, in a format acceptable to Lehi City. The property limits and accurate contours of the existing ground must be provided.

E. A map of the subject area showing the elevations or finished contours to be achieved by grading and the boundaries of the grading site as required by subsection D above. The map should show representative depth of cuts/fills on the grading plan, as well as any critical or sensitive lands as identified by Section 12.060 (J) (K) of the Lehi City Development Code. It should also include the specifications and recommendations on any associated soil compaction of the site.

F. The amount of material to be moved and/or removed must be provided. Extractable volumes must also be provided in both bank cubic yards (BCY) and loose cubic yards (LCY). Where applicable, in fill areas, compacted cubic yards (CCY) must be provided. The number of estimated total truck loads and the estimated number of truck loads per day must be provided.

G. A completion date must be provided. In no case can a grading permit be approved for a timeframe greater than one (1) year; however an extension may be requested if the project is not completed within the approval timeframe. All extensions shall be as per Section 10.120 of the Development Code.

H. There must be a main haul route and a secondary haul route outlined and shown on a map. Haul routes should avoid school zones, and any areas of potential conflict where possible. The number of expected daily trips shall also be indicated. Haul routes for projects greater than 10 acres must be approved by the City Council

I. A plan showing the locations of retaining walls in excess of four (4) feet.

J. A map of the subject area showing the location and type of erosion and sedimentation control devices. Some erosion is unavoidable. The resulting sediment must be trapped on the site, even during de-

sign flood conditions. Construct sediment fences and sediment traps and basins before other land-disturbing activities occur. Sediment fences, traps, and basins must be properly maintained, regularly inspected, and cleaned as necessary. Dispose of the sediment removed during cleaning in a place where it will not flow back into the control structure. Consider the maintenance and repair costs of each erosion control practice before construction. Erosion and sediment control structures should be inspected and maintained. If not properly maintained, some practices may cause more damage than they prevent.

K. A written statement and or plan addressing the following provisions:

1. Temporary vegetative protection during time of development;
2. Dust control; and
3. Traffic control plans

L. No person shall block, impede the flow of, alter, or construct any structure or deposit any material or commit any act which will affect normal or flood flow in any stream or watercourse without first obtaining a permit from the appropriate agency.

M. All engineering work shall be approved and stamped by a licensed professional engineer who can demonstrate experience in geotechnical or geological sciences.

N. The landowner or his/her designee will be required to post a bond for all restoration of graded areas. The bond will cover the cost of needed reclamation, at a minimum the cost of topsoil, seeding, and erosion control measures. The bond must be placed in accordance with City bonding procedures as per Sections 11.210 and 11.310, Guarantees and Bonds, of the Lehi City Development Code.

O. A current Storm Water Pollution Prevention Plan (SWPPP) as a Utah State Notice of Intent (NOI) will be submitted and maintained during the permit period.

**Section 12-A.100 Grading Permit Issuance**

A. A grading permit may be issued in advance of a building permit and/or final development approval; provided that any required application(s) for development of the subject property has been filed with the appropriate City department and a

preliminary subdivision plat and/or site plan for the development has been approved by Lehi City.

B. The approval of a grading permit may be combined and processed concurrently with the approval of a preliminary subdivision plat or site plan.

C. Grading permit applications shall be submitted to the Lehi City Planning Department.

1. Once the application has been deemed complete, the grading permit application shall be placed on the Development Review Committee (DRC) agenda for consideration.

2. Grading Permits for grading projects with ten (10) contiguous acres or less may be issued by the Public Works Director following a review by the DRC. The Public Works Director may request that the approval of a Grading Permit be forwarded to the Planning Commission and City Council for approval as per item 3 below if they determine the project may have a significant impact on traffic, environmental quality, or the health, safety, or general welfare of the surrounding properties or residents.

3. Grading Permits for grading projects with more than ten (10) contiguous acres may be issued by the Public Works Director following review by the DRC, review and recommendation following a public hearing by the Planning Commission and review and approval following a public hearing by the City Council.

(a) When considering the approval of the grading permit the Public Works Director, DRC, and (when applicable), Planning Commission and City Council, will verify that all of the following criteria are met (in addition to other applicable requirements of this code and other city codes):

(i) Approval of the proposal will not pose a threat to or be detrimental to the public health, safety, and welfare, nor be materially detrimental to fish and wildlife habitat and/or water resources as determined by an expert consultant.

(ii) The proposal is not in a sensitive lands area, as defined by

Sections 12.060 (J) (K) of the Lehi City Development Code.

(iii) All subdivisions plats and/or site plans must have at least a preliminary approval prior to issuance of a grading permit.

D. If construction necessitates access, construction, or intrusion onto or across property not under the applicant's control, then the applicant must provide the City with a copy of a valid construction easement or right of entry before the permit can be issued.

E. The permit may be issued to the property owner or his/her agent. Both the property owner and the agent will be considered the permittee and are each responsible for ensuring compliance with the terms of the permit.

F. Upon completion of the above, the grading permit will be issued. The grading permit along with the approved grading plans and the SWPPP must be kept on site through the duration of the grading project.

G. A grading permit is valid for one year from the date of issuance. Any amount of time exceeding one year shall require an extension, as per Section 10.120, Extensions, of the Lehi City Development Code.

**Section 12-A.110 Grading Permit Administration**

A. Before work begins on a grading project and after the bond is posted the Public Works Director will hold a preconstruction conference. The approved grading plans will be issued at this conference.

B. Once a grading permit is approved, the Public Works Director or his/her designee will be responsible for the grading permit project administration, in conjunction with the Streets Superintendent.

C. The Streets Department will monitor the grading project as often as deemed necessary by the department administration with an employee that is designated as the grading inspector.

D. The grading inspector will be responsible for inspecting and monitoring the following:

1. Grading is done only in the designated survey area.

- 2. Monitoring the approved extent and depth of the grading (both horizontally and vertically).
- 3. Verification that all required reports are submitted to the City. Reports must include daily logs of real-time data, and may be requested by the inspector weekly or daily if needed.
- 4. Reviewing the daily truck trips and the weekly calculation of daily trip averages as outlined in 12-A.120.B. The effective capacity of each truck must be specified on every report.
- 5. Designated haul routes are being used and that safe hauling practices are being followed.
- 6. Reviewing a volumetric survey provided by the landowner or his/her designee, using a mutually agreed upon method, monthly.

**Section 12-A.120 Landowner Grading Project Requirements**

- A. The area approved for grading will be staked with stakes placed at least every one hundred fifty (150) feet so it is clear where the grading should be taking place. In order to protect the stakes from equipment, stakes may be placed a maximum of thirty feet off of legal survey line. The distance must be specified, submitted to the grading inspector in writing and written on the stakes.
- B. The landowner or his/her designee must track number of truck loads that leave the site and these daily totals must be provided to the grading inspector in written form when requested. The daily average will be calculated weekly to make sure the estimated daily trips outlined in the permit process is not exceeded.
  - 1. If during the grading project, the landowner or his/her designee find that the number of daily trips was estimated too low, he/she may request, in writing, the daily trips from the grading site be increased. This written request must be submitted to the Public Works Director.
  - 2. The Public Works Director will consider the request taking into account haul route safety, volumetric survey results compared with truck load totals to check for major errors and inconsistencies and other mitigating circumstances.
- C. The landowner or his/her designee will ensure the trucks hauling from the grading site are following

the approved main haul route. If the secondary haul route is to be used the grading inspector will be notified.

D. The contractor/owner will meet as often as necessary with the Public Works Director, Streets Superintendent and grading inspector to provide project updates.

E. If the landowner or his/her designee does not believe the grading project will be or can be completed by the specified deadline he/she may request an extension. The request for extension must be submitted as per the requirements for extension as per Section 10.120 of this code.

**Section 12-A.130 Grading Permit Violations**

A grading project will be deemed in violation if any of the following occur:

- A. Any grading that takes place outside the official surveyed area.
- B. Removal of survey stakes and/or not maintaining clearly marked survey stakes.
- C. Grading that removes more material than specified in the permit request.
- D. Trucks hauling from the grading site not following approved haul routes for following safe trucking standards.
- E. Grading that occurs after the grading permit has expired.
- F. Exceeding the average daily truck trips by more than ten percent (10%) in a 30 day period without requesting a higher average in writing.
- G. Any work is not performed in compliance with the SWPPP Plan.

**Section 12-A.140 Penalties**

A. If grading occurs outside the approved surveyed area the grading project may be stop work ordered and all work will be stopped. The stop work order will stay in place until the area graded outside of the approved area is returned to its original elevation and re-vegetated. If grading is conducted outside the surveyed area a second time no grading will be allowed for 30 days as well as the unauthorized graded area will be returned to original elevation and re-vegetated. If grading occurs a third time outside the approved area the grading permit will be revoked

and the landowner or his/her designee must apply for a new grading permit paying the permit fee again as well as a new bond, if applicable and the disturbed ground outside the approved area must be restored before the new grading permit will be considered.

B. The same rules apply for removal and maintenance of survey stakes, too much material removed and trucks not following designated haul routes or not practicing safe trucking standards.

C. Grading that occurs after the grading permit has expired will result in a minimum daily fine of five hundred dollars (\$500) per day.

D. Any person who is found to be in violation of an approved grading permit, or who is found to be in violation of this Code, may be charged with a misdemeanor and subject to enforcement by the City, as per Section 34.010 of this Code.