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Article 14-8: DEVELOPMENT AND DESIGN STANDARDS

14-8.1 GENERAL PROVISIONS

(A) Purpose

The purposes of this article include:

(1) ~~To provide~~**ing** proper standards that ensure a high quality appearance ~~of~~ the Santa Fe area and ~~promote~~**ing** good design while also allowing individuality, creativity, and artistic expression;

(2) ~~To encourage~~**ing** the proper use of the land by promoting an appropriate balance between the built environment and the preservation of *open space* and natural environmental resources;

(3) ~~To protect~~**ing** private and public investment through preservation of *open space*, protection of natural resources, including the existing tree canopy; providing buffers between incompatible uses and along roadways; and encouraging the planting of appropriate~~new~~ vegetation ~~as deemed appropriate~~;

(4) ~~To preserve~~**ing** and ~~protect~~**ing** the identity and character of Santa Fe, and ~~to enhance~~**ing** the business economy; and

(5) ~~To promote~~**ing** water conservation ~~and~~ efficiency through preserving natural areas, encouraging good soil management, and encouraging the use of native ~~and/or~~ drought tolerant plant materials.

(6) **ensuring compliance with the City of Santa Fe's obligations to the US Environmental Protection Agency (EPA) as a National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Phase II permittee.**

Comment [CLG1]: "promoting" changed to "ensuring" 10 08 2010 per PC Sub
Comment [CLG2]: added per staff request (stormwater manager)

(B) Applicability

Unless otherwise noted, the requirements of this article shall apply to all land development activity covered under this Chapter 14.

14-8.2 TERRAIN AND STORM WATER MANAGEMENT,

(A) Purpose

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The purpose of these regulations is to protect, maintain and enhance the health, safety, and general welfare of the citizens and natural environment of the City. The following considerations shall be used during the design and planning process for all proposed developments subject to these regulations:

(1) — ~~e~~ Ensure sound and orderly development of the natural terrain;

(2) — ~~p~~ Protect life and property from the dangers of flooding and the hazard of improper cuts and fills;

(3) — ~~m~~ Minimize erosion and sedimentation;

(4) — ~~m~~ Minimize destruction of the natural landscape;

(5) — ~~p~~ Protect the scenic character of Santa Fe from the visual blight of indiscriminate cuts and fills and vegetation removal resulting from extensive grading, and utility scars;

(6) — ~~t~~ Treat storm water runoff as a valuable natural resource in Santa Fe, a community that is prone to drought, by encouraging water collection and infiltration on site;

(7) — ~~c~~ Control the adverse impacts associated with accelerated storm water runoff on natural drainage ways and all *structures* due to increased development and impervious surfaces;

(8) — ~~m~~ Minimize erosion and degradation of arroyo channels and improve the condition of the channels ~~s~~ where possible;

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(9) ~~___~~ ~~—~~ ~~R~~espect, protect, maintain, and restore natural *drainage-ways*, wetlands, bosques, flood plains, steep *slopes*, riparian vegetation, and wildlife habitat areas;

(10) ~~___~~ ~~—~~ ~~P~~revent storm water runoff from entering or ~~d~~amaging acequias or other irrigation facilities;

Comment [CLG3]: per PC subcommittee 07/15/10 at request of Acequia Madre

(11) ~~___~~ ~~—~~ ~~I~~ntegrate storm water management measures into the landscape and site planning process as set forth in §14-8.4; and

(12) ~~___~~ ~~—~~ ~~P~~rovide aesthetically pleasing solutions to storm water management and erosion control measures by integrating measures into the overall landscape and site design.

(13) promoting improved water quality through compliance with the USEPA NPDES MS4 permit and Construction General Permit (CGP).

(14) improving storm water quality and reducing storm water runoff and its harmful effects through the use of green infrastructure and low impact development storm water management techniques.

Comment [CLG4]: added per staff request (stormwater manager)

~~___~~ ~~(B)~~ ~~—~~ Applicability

(1) Minimum standards and submittal requirements for terrain and storm water management are based on the type of project, as follows:

(a) ~~Grading~~ construction ~~permit applications~~, when required by §14-3.10(E), shall meet the minimum standards and submittal requirements in §14-8.2(D);

(b) b ~~—~~ Building permit *applications* shall meet the minimum standards and submittal requirements in:

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(i) ~~Section~~§14-8.2(E);

(ii) ~~Section~~§14-8.2(F); or

Comment [CLG5]: changed from 'and' per WB 12 08 2010

(iii) ~~If~~ all terrain and storm water management requirements have been met at the final development plan or subdivision plat stage, the approved final terrain and storm water plans shall be submitted with the *application* for a building permit and no further submittals shall be required;

Comment [CLG6]: both individual terms are defined, but 'building permit' is not.

(c) ~~m~~Master plan, preliminary development plan and preliminary subdivision plat *applications* shall meet the minimum standards and submittal requirements in §14-8.2(G);

(d) ~~F~~final development plan and subdivision plat *applications* shall meet the requirements in §14-8.2(H); and

(e) ~~All~~ City departments ~~that~~~~which~~ implement construction projects shall comply with the objectives, intent, and minimum standards of this section.

(2) ~~Exemptions~~

~~New construction, remodeling, additions, or other alterations to existing structures~~
are Development is exempt from the requirements of this section ~~if provided that they it~~ meets the following conditions:

Comment [CLG7]: Staff request for broader applicability

(a) ~~Less than 1000~~ 250 square feet of total land area is disturbed;

Comment [CLG8]: threshold changed per PC subcommittee 07/15/10

(b) ~~No slopes greater than ten percent~~ 10% are disturbed; ~~and~~

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(c) ~~Existing~~ drainage patterns on the property are not changed in a way that would increase the amount of storm water runoff leaving the property or cause significant change to on site drainage patterns, and;

Comment [CLG9]: Staff suggestion for increased oversight

(d) Adequate erosion control is provided.

Comment [CLG10]: Storm Water Manager suggested language replaced per staff 12/08/2010

Comment [CLG11]: added per staff request (stormwater manager)

~~(3) Variances.~~

~~Variances to these regulations shall be pursuant to §14-3.7(F).~~

Comment [CLG12]: unnecessary

(34) ~~Alternative~~ Means of Compliance.

Applicants may propose alternatives to standard storm water management techniques, so long as these alternatives allow the project to meet the minimum standards and general requirements of this section. Alternative techniques may be proposed that achieve improved environmental performance, including reduced storm water runoff, increased infiltration, reduced sedimentation and erosion, and for aesthetic purposes. Proposals for alternative compliance to standard storm water management techniques shall be subject to review and approval of the City Engineer in writing, stating the basis for such a waiver.

Comment [CLG13]: "Such alternatives shall comply with EPA NPDES guidelines." suggested by storm water manager, removed per staff after PC Subcomm review 12 08 2010

(C) Procedures and General Requirements

(1) ~~All proposed development shall meet the purpose listed in §14-8.2(A).~~

Comment [CLG14]: cannot "meet" purpose, and unnecessary

(2) ~~The City Engineer shall be~~ is authorized to determine the following:

Comment [CLG15]: this is a purpose not a standard

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(a) ~~—~~ ~~The completeness of all required terrain and storm~~ water management submittals;

(b) c ~~—~~ Compliance with all minimum standards;

(c) ~~—~~ The acceptability of all proposed erosion control and storm water management methods; and

(d) ~~—~~ The need for additional information or written approval in order to determine compliance with the purposes, intent, and minimum standards of this section.

~~(23)~~ ~~—~~ The preparation of submittals shall be as follows:

(a) ~~—~~ Building Permits for Minor Development.

Submittals may be prepared by any person individual, including the homeowner; however, the City Engineer may require that submittals be prepared and signed by a New Mexico professional engineer, architect, or landscape architect registered in New Mexico if ~~it is deemed necessary in order to fulfill the requirements of this section;~~

Comment [CLG16]: unnecessary because part of definition

(b) ~~—~~ Grading Permits

Comment [CLG17]: revisit term

Submittals shall be prepared and certified by a New Mexico professional engineer, or a architect or landscape architect ~~or architect~~ registered in New Mexico; and

Comment [CLG18]: "Architect" is a defined term but "landscape architect" is not

(c) ~~—~~ Building Permits for All Other Development

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(i)) — Topographic Plans-

Submittals shall be prepared and certified by a ~~New Mexico~~ *professional engineer* or *professional* a land surveyor licensed in New Mexico.

Comment [CLG19]: in definition so not necessary here

(ii)) — Storm water Management

Submittals for master plans, subdivisions and development plans shall be prepared and certified by a ~~New Mexico~~ *professional engineer*. Submittals for all other building permits shall be prepared by a ~~New Mexico~~ *professional engineer* or an *architect* or landscape architect registered in New Mexico;

(iii)) — Site Restoration-

Submittals shall be prepared and certified by a professional engineer, architect or landscape architect ~~or architect registered in New Mexico or a New Mexico professional engineer.~~

Comment [CLG20]: " and shall meet NPDES guidelines " added per staff request (stormwater manager) removed 12 16 2010

(34) - — No certificate of occupancy or any type of final construction approval shall be issued by the City unless a *parcel* is in full compliance with the requirements of this section and all inspections have been conducted as described in §14-8.2(4).

(45) — Activities permitted by this section may also require notification or permitting by other agencies, including ~~but not limited to~~ written approval from the Acequia Madre de Santa Fe Community Acequia Association or other official watercourse-related entity organization, the ~~Federal~~ United States Environmental Protection Agency, the United States Army Corps of Engineers, the ~~F~~ Federal Emergency Management Agency (FEMA) and the New Mexico Department of Environment-Department. It is the responsibility of each applicant to determine whether additional notification or permitting is required.

Comment [CLG21]: per PC Subcommittee 07/15/10 at request for Acequia Madre

Comment [CLG22]: "The applicant shall perform regular inspections of all grading, erosion control, and storm water management measures and shall maintain them to effectively control storm water flows and soil erosion. " suggested by storm water manager removed by staff after PC Subcomm review 12 08 2010

(5) All inspections shall be documented in written form, shall be made available to the City Engineer or code enforcement officer upon request.

Comment [CLG23]: Moved from (I) and maintenance requirement added in

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(D) — ~~Grading Permits~~ Standards for All Grading; Submittal Requirements

(1) —Minimum Standards

When a grading permit is required by ~~§14-8.2-Grading Permits Required~~ this section, applications for the *permit* shall show compliance with the following minimum standards:

(a) —Cut and Fill Slopes

(i) —~~c~~ Cut slopes on a site shall not exceed ten feet in height, except as otherwise permitted by this section. In no case shall the height of a cut exceed the height of any ~~the building constructed in the excavated area;~~

Comment [CLG24]: addresses 15' allowance for roads, below

(ii) —~~f~~ Fill slopes on a site shall not exceed ~~fifteen~~ 15 feet in height. Retaining walls for fill slopes shall be no greater than ten feet in height; ~~h. However, in the escarpment overlay district retaining walls shall be no greater than five feet in height, except as otherwise provided in §14-5.6(F)(2), and in the case of cement concrete or masonry, shall be a matching earth tone color.~~ Unstabilized ~~Fill slopes~~ shall be no steeper than 3:1, unless a structural alternative such as a retaining wall or some other measure acceptable to the City Engineer is provided;

Comment [CLG25]: reference to 5' wall incorrect, cured by reference escarpment regulations

Comment [CLG26]: Changed from 5.6(G)(8), per WB 12 08 2010

Comment [CLG27]: per staff

Comment [CLG28]: using defined term

Comment [CLG29]: "unstabilized" unnecessary because of second clause in sentence

(iii) —~~c~~ Cut or fill slopes for roads shall not exceed ~~fifteen~~ 15 feet in height; and

(iv) —~~a~~ All cut slopes that are not stabilized by a retaining wall or some other measure acceptable to the City Engineer, shall be no steeper than 2:1 ~~(two 2 horizontal to one 1 vertical)~~, unless a structural alternative is provided or unless it can be demonstrated by the geotechnical study that existing soils will naturally accommodate a steeper ~~slope~~ Slope and acceptable revegetation; or other erosion control can be achieved;

Comment [CLG30]: Added "expressed in terms of measures of horizontal distance to measures of vertical distance." to definition of slope.

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(b) —Grading

(i) —Grading ~~for on buildings sites~~ is limited to ~~fifteen~~15 feet beyond the outer edge of the building foundation, patio, wall, driveway, road, parking area, or other constructed facility except as necessary:

Comment [CLG31]: amended 02 09 2011 to use defined term

A. —As necessary for the construction of storm water runoff management measures in compliance with this section; or

B. —As necessary to accommodate required horizontal to vertical measurements for cut and fill slopes.

~~(ii) Private driveways shall not exceed a grade of 15 percent nor shall the inside turning radius of any private driveway be less than 15 feet.~~

Comment [CLG32]: driveway slope standard will be addressed in 14-9 and or the parking and driveway standards appendix

~~(iii) Natural slopes greater than thirty~~30 percent or greater shall remain undisturbed, except for arroyo crossings and for no more than three isolated occurrences ~~such as arroyo crossings and other~~of sloped areas where each individualthe disturbance shall not exceed one thousand1,000 square feet ~~in total~~, as approved by the City Engineer. The City Engineer may waive this provision, in writing, stating the reasons and basis for such approval, if evidence is provided by the applicant showing that strict enforcement of this provision would prohibit access to the lot or placement of utilities. This provision shall apply solely to the construction of roads, driveways, and utility placement and is not intended to permit development on natural slopes exceeding ~~thirty~~30 percent. The other provisions of the escarpment overlay district ordinance and the terrain and storm water management regulations shall remain in effect.

Comment [CLG33]: changes per 07/15/10 PC Subcommittee meeting

Comment [CLG34]: revise 14-12 to comply with use of "natural slope" vs "natural grade"

Comment [CLG35]: change per WB 12 08 2010

Comment [CLG36]: change to Land Use Director reversed per WB 12 08 2010

Comment [CLG37]: change to 'structures' reversed per PC Subcomm 08/10/2010

~~(iv) Where the volume of earth to be moved on a site exceeds one thousand 1,000 cubic yards, a soil engineering report prepared by a New Mexico professional engineer shall be submitted and approved. A soil engineering report shall include the soil type, classification, permeability, erosion potential, and any other pertinent soil information requested by the City Engineer.~~

Comment [CLG38]: never used, not necessary

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(v) —Phasing for grading and clearing may be required by the City Engineer on all sites where construction will not begin immediately after clearing and grading;

(vi) A—~~No~~ grading permit for driveway construction shall **not** be issued unless the City Engineer has first determined that a buildable area as defined in §14-8.2(F)(2)(b) exists on the lot, and that the permit complies with the requirements of §14-5.6. ~~In the escarpment overlay district, a grading permit for driveway construction shall be issued only for access to the buildable area farthest from the view line; and~~

Comment [CLG39]: This is no longer a correct statement, thus it is replaced with the reference, although the reference is probably not necessary anyway.

(vii) —All grading completed on the site shall be in conformance to the approved grading plan.

~~(e) Site Restoration~~

~~All development subject to a grading permit shall be required to meet the requirements of §14-8.2(F)(2)(d) as appropriate for the project;~~

Comment [CLG40]: unnecessary

~~(c) Best Management Practices~~

The following best management practices shall be used before and during the construction process:

Comment [CLG41]: “Best management practice erosion and sediment control devices and techniques shall be in accordance with EPA guidelines.” suggested by storm water manager removed per WB 12.08.2010

(i) —Disturbed areas shall be protected from erosion during construction by diverting storm water around the disturbed area, energy dissipation of storm water adequate to prevent erosion, retention of sediment on the disturbed area, and/or other means adequate to retain soil on site;

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(ii) —Except as necessary to install temporary erosion and sediment control devices, land shall not be graded or cleared of vegetation until all such temporary devices have been properly installed and inspected. Temporary erosion and sediment control devices may include silt fencing, *swales*, straw bales, berms, geotextiles sediment basins or traps, and fencing. Control devices shall be kept in place and used until the disturbed area is permanently stabilized;

(iii) —*Significant trees*, areas with substantial grass coverage, and *drainage-ways* that are to remain undisturbed shall be fenced off prior to the use of any heavy machinery on-site and shall remain fenced during the entire construction process. Fencing material may include snow fencing, plastic mesh or other similar fencing material. To protect the root zone of *significant trees*, fencing shall be placed 5 feet to the outside of their dripline ~~of significant trees~~;

(iv) —To prevent soil from leaving a site, soil stockpiles shall be protected from wind and water erosion throughout the construction process by using appropriate erosion control techniques. Staging and soil stockpile areas shall be clearly designated on the site. All topsoil shall be kept on site, within the disturbance zone of a construction site, and then reintroduced into planting areas to the extent possible. Stockpiled soil shall not be allowed to enter arroyos or other *drainage-ways*;

(v) —Techniques to prevent the blowing of dust or sediment from the site, such as watering down exposed areas, are required for projects which disturb greater than 5,000 square feet; and

(vi) —Protection for storm drain inlets, drainageways and any storm water conveyance shall be provided, if needed, to prevent the entry of sediment and pollutants from the site while still allowing the entry of storm water.

Comment [CLG42]: per stormwater manager request

(2) —Submittals

Applications for grading *permits* shall include the following, unless the requirement is waived by the Land Use Director:

Comment [CLG43]: per 06/08/2010 PC Subcomm meeting

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(a) ~~A~~ a topographic survey and grading plan with elevation contours shown at not more than two foot intervals on *slopes* ~~less than up to 30~~ less than ~~thirty~~ up to 30 percent and five foot intervals on *slopes* ~~greater than~~ of thirty percent ~~30% or greater~~ which shows:

(i) ~~All~~ All areas with *slopes* ~~0-~~ less than 20 percent; ~~greater than or equal to twenty percent~~ and less than thirty 21-30 percent; and ~~thirty~~ thirty 31 percent ~~or~~ and greater, differentiated through shading, tone, color, or line weight;

Comment [CLG44]: changed from 20 percent or less per WB 12 08 2010

Comment [CLG45]: per WB 12 08 2010

Comment [CLG46]: This language is more precise, as it addresses slopes between 20 and 21 percent and between 30 and 31 percent.

(ii) ~~All~~ All areas to be graded on the site and the final contours to be achieved by the grading;

(iii) ~~All~~ All finished floor or grade elevations;

(iv) ~~Spot~~ Spot elevations, as needed;

(v) ~~Areas~~ Areas of soils with severe limitations for the intended use;

(vi) ~~The~~ The location of temporary erosion control *structures* and methods used, including staging and stockpile areas;

(vii) ~~All~~ All *significant trees* and areas with substantial grass coverage to be removed;

(viii) ~~A~~ A construction schedule when the project will be developed in phases;

(ix) ~~The~~ The location of fencing around the areas to be protected;

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(x) ~~The~~ the ratio of horizontal to vertical measurement for cut and fill *slopes*;

(xi) ~~The~~ the total volume, in cubic yards, of earth to be moved; all existing disturbed areas; and

(xii) FEMA flood hazard areas; **and**.

(xiii) any other information reasonably required by the Land Use Director to ensure compliance with this section.

~~(b) For all roads or other excavations where the volume of earth to be moved exceeds 1,000 cubic yards, cross sections or contour maps showing the height of cuts and fills at a maximum of 100 foot intervals and at any major breaks in the terrain may be required by the City Engineer.~~

(E) — **Building Permits Standards for Minor Development; Submittal Requirements**

(1) Minor Development

A minor development includes the construction of any structure including but not limited to single family residences, additions, sheds, garages, driveways, or pavement that meets all of the following criteria:

(a) All development takes place on a single lot or a subdivision of ~~less~~ fewer than three lots;

(b) Development disturbs less than 5,000-square feet of land ~~per~~ on a lot;

Comment [CLG47]: "(c) An NPDES post-development storm water runoff control pre-treatment plan that demonstrates how post-development runoff will be treated for pollutant removal prior to discharge to the MS4. (d) When needed, EPA acknowledgement that an acceptable NPDES NOI has been filed. suggested by stormwater manager removed 12 08 2010 per WB

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(c) ~~_____~~ —Development disturbs no slope greater than ~~10~~twenty percent; and

Comment [CLG48]: per staff

(d) No more than 3,500-square feet of new impervious surface is created per lot.

(2) Minimum Standards: Means of Compliance

Comment [CLG49]: This paragraph contains means of compliance as well as minimum standards. It was revised for brevity and clarity.

(a) ~~For m~~Minor development, ~~shall comply with the following minimum standards:~~

(a) ~~T~~The minimum volume of water to be contained or infiltrated on site shall be determined by multiplying the total area of new impervious surface, in square feet, by 0.16 feet to arrive at a value expressed in cubic feet. ~~{(i.e. 160 cubic feet of water containment is required per 1000 square feet of impervious surface).}~~

(b) Compliance may be achieved by:

(i) ~~T~~The use of active water harvesting or passive water harvesting techniques such as but not limited to, cisterns, swales, berms, and check dams, tree wells and dry wells;

Comment [CLG50]: added per stormwater manager request

Comment [CLG51]: per staff

(ii) ~~T~~The construction of a *detention* or *retention* basin; or

(iii) ~~A~~any combination thereof (i) and (ii).

(b) a —All water containment ~~structures that, which,~~ have water open to the air; shall empty within ~~24~~twenty four hours either through percolation into the soil or through outlet ~~structures that are~~ designed to ensure a controlled release of water that will not cause flooding or erosion;

Comment [CLG52]: stormwater manager suggested "and that discharge offsite shall not exceed pre-development conditions"; rejected by staff review

(c) t —To protect against erosion, all land disturbed during construction shall be revegetated with drought tolerant vegetation. Trees and shrubs shall be irrigated until established. The use of

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naturally degrading erosion control blankets or other erosion control materials is encouraged to ensure that grasses become established. Stones or treated landscape timber may be used to stabilize disturbed areas in lieu of revegetation. Creosote treated materials are not permitted.

Comment [CLG53]: added per stormwater manager request

(3) Submittals

Building permit applications for minor development shall include the following, unless the requirement is waived by the Land Use Director:

Comment [CLG54]: per 06/08/2010 PC Subcomm meeting

(a) ~~A~~a brief narrative description of the proposed project;

(b) ~~a~~a topographic map of the property to scale, including United States geological survey quadrangle maps or maps generated by the City of Santa Fe, adequate to show elevation contours, natural drainage ways, existing and proposed improvements;

(c) ~~A~~a brief verbal description and/or representative photographs of the type (such as, pinon and juniper trees, annual weeds, grass cover, bare ground, and so on) and approximate coverage of existing vegetation at the site, and a plan for vegetation removal at the site;

(d) ~~A~~a description of all proposed grading or ground disturbance;

(e) ~~c~~c—Calculations and a plan drawing showing:

(i) ~~T~~the size and location of all proposed runoff containment *structures* or methods and how water will be directed to the *structures* or methods; and

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(ii) ~~p~~—Percolation test results or other means of demonstrating that containment *structures* will empty within 24 hours.

(f) ~~A~~a roof run-off drainage plan; and

(g) ~~a~~a—A planting plan for revegetation showing proposed plant materials and a description of the proposed irrigation method or other methods used to establish vegetation and prevent erosion until vegetation becomes established.

~~(F)~~ (F) — ~~Permits~~Standards For All Other Development; Submittal Requirements

~~(1)~~ (1) — All Other Development

Comment [CLG55]: deletion per 07/15/10 PC subcommittee meeting

All other *development* that requires a *building permit* and does not meet the requirements of §14-8.2(E) shall meet the following minimum standards and submittal requirements:

~~(2)~~ (2) — ~~Minimum Standards~~

~~(1a)~~ (1a) — All projects shall meet the minimum standards for grading in §14-8.2(D).

Comment [CLG56]: change per 07/15/10 PC subcommittee meeting

~~(b)~~ (b) — Topography

~~(a)~~ (a) ~~e~~—Each *lot* shall have an area designated as suitable for ~~a structure~~a building of not less than 2,000 square feet, which can be developed in accordance with the terrain and ~~stormwater~~storm water management standards and with other applicable development standards including required setbacks and access requirements~~minimum performance standards~~;

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(bii) ~~—~~ At least one-half of the area designated as suitable for building, and at least one-half of any ~~designated for the building~~ footprint shall have a natural *slope* of less than 20 ~~twenty~~ percent ~~or less~~. ~~The other one-half~~ remainder of the area or building footprint may have a natural *slope* of twenty ~~between 20~~ percent or more, but and less than thirty ~~30~~ percent;

(ciii) ~~—~~ For a structure built on a natural slope over 20 percent, the finished floor elevation at any point of any portion of a building built on a natural slope of twenty percent or greater shall not exceed five vertical feet above the natural ~~grade~~ slope at that point; and

(div) ~~—~~ No structure shall be ~~may be~~ built on a natural *slope* of over thirty ~~30~~ percent or greater ~~unless as specified in Section 14-9.4 (A)~~.

(2e) ~~—~~ Stormwater ~~Storm water~~ Management

(a) ~~—~~ General Standards

Ai. ~~—~~ Stormwater ~~storm water~~ management measures shall be selected to best accommodate the specific geologic, hydrologic, and topographic features of the land to be developed;

Bii. ~~—~~ Stormwater ~~storm water~~ management measures shall be designed as both a comprehensive and integral part of the development;

iiiC. ~~—~~ s ~~—~~ Stormwater ~~storm water~~ management measures shall be designed to directly address additional flows from the proposed development. Compliance with these standards shall not be achieved solely by alterations to flows upstream of a proposed development; and

ivD. ~~—~~ s ~~—~~ Stormwater ~~storm water~~ management plans may be designed to incorporate measures that are shared by two or more developments provided that the measures comply with the minimum standard of this section.

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~~_____~~
~~_____~~
~~_____~~ (bii) _____ Discharge Standards

i.A. _____ Except as **otherwise** required **by this section** for certain development in §14-8.2(G)(1)(e), the ~~stormwater~~**storm water** runoff peak flow rate discharged from a site shall not exceed pre-development conditions for any frequency storm event up to the 100-year, 24-hour storm event at each discharge point. Calculation of the runoff peak flow rate may approximate the event from available data;

Comment [CLG57]: corrects incorrect reference

ii.B. _____ Runoff control measures may include, but are not limited to, the use of *detention* or *retention* basins and *active water harvesting* and *passive water harvesting* techniques including *swales*, berms, ~~cisterns~~, check dams, vegetative ground cover, **permeable pavements**, **tree wells**, **dry wells** and other techniques appropriate for retaining and infiltrating water on-site. **Cisterns may be used provided that the cistern is connected to an irrigation system or other water use. A cistern may be used for up to fifty percent of the required detention volume;**

Comment [CLG58]: removed per staff

Comment [CLG59]: added per stormwater manager

Comment [CLG60]: per staff

Comment [CLG61]: added oer staff

iii.C. _____ No ~~stormwater~~**storm water** shall **not** be discharged into any watercourse or drainage channel without adequate reduction of flow velocity. This shall be accomplished by erosion control techniques that may include the routing or energy dissipation of ~~stormwater~~**storm water** runoff to a vegetated *swale*, vegetated basin, or stone-protected area. The techniques used shall be sufficient to diminish runoff velocity and spread runoff flow adequately to avoid erosion upon entering the watercourse;

iv.D. _____ No storm water runoff shall **not** be routed into irrigation ditches, canals, acequias or watercourses related to an acequia system unless specific plans have been approved in writing by the person or entity legally responsible for the operation and maintenance of the facility and the City Engineer. It shall be the responsibility of the developer to obtain all such approvals before submittal of any *application*;

v.E. **an** _____ No existing acequia, watercourse or other natural drainage ~~system not related to an existing or historic acequia system~~, whether on-site or off-site, shall **not** be disturbed by any

Comment [CLG62]: confusing; removed per comment of acequia madre commissioner

Text: Underline = New Material; ~~Strikethrough~~ = Removed Material

Comment Text: **Green** is explanatory, **Blue** is for discussion, **Red** is for issues remaining to be addressed

~~on-site-building~~ development or construction activity unless the City Engineer approves the change to the watercourse or other natural drainage system; and

viF. an — ~~No~~ active, historic acequia, whether on-site or off-site, shall not be disturbed in any way by ~~on-site-building~~ development or construction activity unless specific plans have been approved in writing by the person or entity legally responsible for the operation and maintenance of the acequias. It shall be the responsibility of the developer to obtain all such approvals before submittal of any *application*.

(ciii) Detention Basin Standards

Comment [CLG63]: per staff

Comment [CLG64]: several storm water manager suggestions removed by subsequent review

iA. Stormwater~~storm water~~ detention basins and overflow *structures* shall be sized and designed to adequately accommodate flows from 100-year, ~~twenty-four~~24-hour storm events. However, such basins shall also be equipped with outflow *structures* that limit flow-through from lesser magnitude storms to runoff rates equal to or less than pre-development runoff rates. ~~Calculations may be approximated from available data.~~

Comment [CLG65]: per staff

iiB. Infiltration, ~~detention~~, and *retention* basins shall provide a means of controlling and removing sediment. Methods may include sedimentation settling ponds, sediment traps, filters on drop inlets, or other methods. All basins shall be designed to empty within no more than ~~twenty-four~~24 hours;

C. ~~French drains, infiltration basins or other similar structures used for the percolation of water into the soil, shall not be constructed so that their depth is greater than its widest horizontal dimension unless a notice of intent for the construction is filed with the New Mexico Environment Department; and~~

Comment [CLG66]: removed per staff

iiiD. Landscape treatment of infiltration, ~~retention~~, and *detention* basins ~~is~~may be required and shall be in accordance with the ~~§§14-8.4(F) and 14-8.4(E).~~

Comment [CLG67]: per staff

Comment [CLG68]: Specific reference incorrect, and unnecessary

Text: Underline = New Material; ~~Strikethrough~~ = Removed Material

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~~(E)~~(d) A maximum of fifty percent of required storm water detention volume may be stored in cisterns. Cisterns shall be installed and operated in compliance with applicable provisions of other regulations, including §14-8.4 Landscaping and Site Design, and Chapter 7 Building and Housing.

Comment [CLG69]: added per PC Subcommittee 07/15/10

~~(e)~~(iv) —Arroyo, Stream and Watercourse Standards

i.A. —For arroyos, streams, or watercourses that carry 100 cubic feet per second or more of storm water flow in a ~~100-year, 24-hour storm~~ one percent chance event, all structures, paved roads, driveways, and parking lots shall be set back a minimum of ~~twenty-five~~ 25 feet from the top shoulder of an arroyo plus the depth of the arroyo channel. This setback provision does not apply to storm water management structures or public access trails. The Land Use Director may waive this provision, in writing, stating the reasons and basis for such approval, if evidence is provided by a professional engineer demonstrating arroyo bank stability;

Comment [CLG70]: change 01 20 2011

ii for arroyos, streams or watercourses that carry less than 100 cubic feet per second in a one percent chance event the City Engineer may require a setback determined based on soils and hydrologic information supplied by the applicant.

Comment [CLG71]: added per staff; adapted from 14-8.2(D)(1)(b)(iii)

Comment [CLG72]: adapted and relocated from 14-8.3

iii.B. —Except for erosion control measures, storm water management measures, public access trails, or the placement of underground utilities required for development, no grading shall occur within the setback area;

iv.C. —Where practical, erosion control and channel stability in arroyos, streams, or watercourses shall be achieved using techniques that reduce storm water velocity and pollution, preserve active flood plains, provide adequate room for flood waters to spread safely, and utilize native vegetation. Arroyo and watercourse banks shall not be armored with concrete, gabion baskets, sheet piling, rip-rap, or similar hardened material unless no reasonable alternative exists to protect public infrastructure or pre-existing structures; and

Comment [CLG73]: per stormwater manager

v.D. f—Fences, walls, and similar structures may not be constructed in or across any arroyo, stream, or watercourse.

Text: Underline = New Material; ~~Strikethrough~~ = Removed Material

Comment Text: **Green** is explanatory, **Blue** is for discussion, **Red** is for issues remaining to be addressed

~~(i)~~—The City Engineer may require implementation of more than the minimum storm water standards if arroyos on site or immediately downstream of a site show evidence of increased flooding, channel erosion or sedimentation, as a direct result of conditions on the site. Increased requirements shall be limited to the following on-site measures:

~~_____~~ (a)

~~A.~~ Erosion and sediment control measures extended to a broader area of the site than the *development* area;

~~_____~~ (b)

~~B.~~ Revegetation and/or stabilization of highly eroded areas;

Comment [CLG76]: per stormwater manager

~~_____~~ (c)

~~C.~~ Arroyo restoration or other erosion control measures within highly eroded channels; or

~~_____~~ (d)

~~D.~~ a—A combination of the above measures.

~~(354)~~ Submittals

Submittals for building permit *applications* for all other development shall include:

(a) _____—The submittals for grading listed in §14-8.2(D).

(b) a topography plan which includes:

(i) All sloped areas of 0 - 20 percent, 21 - 30 percent, and greater than 30 percent shall be clearly marked and differentiated by shade, tone, or color at the same scale required for preliminary subdivision plat;

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(ii) Ground elevations which conform to either the United States geological survey sea level datum, as modified, or to the City of Santa Fe's monument system, showing elevation contours at not more than two foot intervals on *slopes* ~~up to~~ less than 30 percent and not more than five foot intervals on *slopes* greater than or equal to 30 percent;

Comment [CLG77]: changes per WB
12 08 2010

(iii) The designated building lot area(s); and

(iv) Date, method of survey, and certification from a New Mexico *professional engineer* or *professional land surveyor* that the plan is in compliance with national map accuracy standards.

(c) a sStorm water management plan which includes:

(i) A vicinity map;

(ii) Existing and proposed contours, all watercourses, arroyos, drainage ways, impoundments, and wetlands on or adjacent to the site or into which storm water from the site flows;

(iii) Location of all existing and proposed improvements including *buildings*, *structures*, impervious surface, stormw ater management measures, roads, and utilities;

(iv) Location of all easements and rights-of-way;

(v) The delineation, if applicable, of the ~~100-year~~ *floodplain one percent chance event*, including the *flood fringe* and *flood way*, if available, and any on-site or adjacent wetlands;

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(vi) Description of all soils, including general soil characteristics and areas of solid rock;

(vii) Percolation test results for all areas with retention ponds or other facilities designed for infiltration and a description of techniques to be used to prevent the clogging of soil pores by fine sediment;

(viii) A description of the approximate area of the watershed above the site, including the vegetative coverage and impervious surfaces;

(ix) The total peak flow rate of storm water that would be discharged from the site for pre-development and post development runoff conditions in the two, ten, 50, and 100-year, 24-hour storm event and type of calculation method used;

(x) Sizing, volume, and peak flow rate calculations in cubic feet per second for storm water management facilities;

(xi) Structural and construction details for all components of the proposed drainage system;

(xii) Data for total site area, disturbed area, new impervious area, and total impervious area; and

_____ (xiii) A plant schedule of materials to be used as landscape treatment for storm water management **measures**; _____

(d) as—Site restoration plan ~~that~~**which** includes the location of all permanent erosion control methods, including location, type and amount of plant and seed material to be used,

Comment [CLG78]: "(xiv) An NPDES Post-Development stormwater runoff control pre-treatment plan that demonstrates how post development runoff will be treated for pollutant removal prior to discharge to the MS4. (xv) When needed, EPA acknowledgement that an acceptable NPDES NOI has been filed." suggested by stormwater manager removed at staff review

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proposed irrigation, any soil stabilization needed prior to plant establishment, time schedule for installation, and maintenance schedule for one year beyond the planting date.

 (G) — **Standards for Master Plans, Preliminary Development Plans and Preliminary Subdivision Plats; Submittal Requirements**

 (1) —Minimum standards

(a) Projects shall meet the minimum standards of §§14-8.2(D) and 14-8.2(F);

(b) All land below the base flood elevation for a ~~100-year, 24-hour storm~~ **one percent chance event** shall be dedicated as **a drainage easement and as public or private open space or public right of way.**

~~public open space, drainage easement and public right of way depending on the nature of the development and the hydrology of the area to prevent infringement to the hydrologic floodplain~~
~~Under no circumstances shall pedestrian or other public easements or open space dedications be precluded for purely non hydrologic reasons; and~~

Comment [CLG79]: per staff

(c) For all development where one-half or more of the land within the subdivision exceeds ~~20~~ **twenty** percent ~~slope~~, the quantity and peak flow rate of post-development ~~stormwater~~ **storm water** runoff on all developed or disturbed land shall not exceed ~~seventy-five~~ **75** percent of the quantity and peak flow rate of the pre-development runoff.

(2) —Submittals. Submittals for master plans, preliminary development plans and subdivision plats shall include:

(a) **A** conceptual plan and report that shows the general approach proposed for terrain and storm water management, and how the proposed *development* will meet all of the minimum standards described in §§14-8.2(D) and 14-8.2(F);

Text: Underline = New Material; ~~Strikethrough~~ = Removed Material

Comment Text: **Green** is explanatory, **Blue** is for discussion, **Red** is for issues remaining to be addressed

(b) A topography plan as outlined in §14-8.2(F)(3); and

(c) A brief description of the watershed directly upstream and downstream of the parcel, including the size, terrain, type and extent of vegetation cover, and degree of *development* for all areas draining to the project site; and

~~(d) A water availability and conservation plan shall be submitted for all new subdivisions of 15 or more *dwelling units* which are sited, in whole or in part, on natural *sloped areas* greater than 20 percent.~~

Comment [CLG80]: Should be moved to water reg's

(H) —Final Development Plans and Subdivision Plats

(1) Minimum standards. Final development plans and subdivision plats shall meet the minimum standards described in §§14-8.2(D), 14-8.2(F), and 14-8.2(G).

~~(2) Submittals.~~ Submittals for final development plans and subdivision plats shall include:

~~(a.21)~~ a—All submittals required in §§14-8.2(D) and 14-8.2(F);

~~(3.2b)~~ a—A long-term maintenance schedule for the life of the storm_{water} management measures, including the time frame for completion and the responsible party who shall perform the maintenance; and

~~(4.3e)~~ a—An as-built certification signature block to be executed by a ~~New Mexico~~ *professional engineer* after the project completion to ensure that the constructed storm_{water} management systems comply with the approved storm_{water} plans.

(I) —Inspections and Violations During Construction Process

Text: Underline = New Material; ~~Strikethrough~~ = Removed Material

Comment Text: **Green** is explanatory, **Blue** is for discussion, **Red** is for issues remaining to be addressed

(1) ~~_____~~ Inspections

(a) ~~_____~~ For all non-residential projects and all residential projects that do not qualify as minor development, an applicant shall notify the City to set up a City inspection at the following times:

~~_____~~
(a) ~~_____~~ w When the construction erosion and sediment control devices and measures are in place, temporary best management practices are completed;

Comment [CLG81]: per stormwater manager

~~_____~~
(b) ~~_____~~ w When final storm water management measures are completed; and

~~_____~~
(c) ~~_____~~ w When the final site restoration measures are completed; however, if final site restoration measures are being delayed due to the season, the applicant shall notify the City when temporary erosion control measures, for use until site restoration is complete, in place and ready for inspection; and

~~_____~~
(d) ~~_____~~ f Further construction or issuance of any *permits* shall not occur until written approval has been granted by the inspector after each inspection that the best management practices and storm water management control methods have been completed in accordance with approved plans;

~~_____~~
(2) ~~_____~~ b ~~The City Engineer or code enforcement officer~~ Land Use Director may enter upon any property subject to this section at reasonable times to conduct inspections of grading, erosion and storm water management measures to determine compliance with City policies and procedures and to carry out duties in the enforcement of this section; and

Comment [CLG82]: Moved to (C)(5) and subsequently removed

~~_____~~
(c) ~~_____~~ The applicant shall perform regular inspections of all grading, erosion control, and stormwater management measures. All inspections shall be documented in written form and shall be made available to the City Engineer or code enforcement officer upon request.

Comment [CLG83]: "Maintenance of control measures and devices as well as SWPPP inspections, reports and modifications shall be in accordance with EPA NPDES CGP guidelines " added per stormwater manager remover 12 08 2010 per WB

~~_____~~
(3) The Land Use Director may waive or consolidate any inspections required under this Paragraph.

Comment [CLG84]: reflects current practice

Text: Underline = New Material; ~~Strikethrough~~ = Removed Material

Comment Text: **Green** is explanatory, **Blue** is for discussion, **Red** is for issues remaining to be addressed

~~(2)~~ **Violations**

Any violation of this section shall be subject to the provisions of §§14 11.5(A) and 14 11.5(B).

Comment [CLG85]: **unneded**

(J) ___—Dedications, Easements and Right-of-Ways

(1) All land below the base flood elevation for a 100-year, 24-hour storm event shall be dedicated to the City as public open space, drainage easement and public right of way depending on the nature of the development and the hydrology of the area. Under no circumstances shall pedestrian or other public easements or open space be precluded for purely non-hydrologic reasons as a drainage easement and as public or private open space or public right of way.

Comment [CLG86]: **per staff**

(2) ~~Irrevocable~~ dedications to the City may be required by the City Engineer for the components of the storm water drainage system including access for maintenance. The types of all easements and open space dedications shall be determined by the City Engineer. If a dedication is required, it shall be designated on the plan or plat and in effect prior to building permit approval.

Comment [CLG87]: **Not used anywhere else. Confusing.**

(3) ___—An applicant may make requests for acceptance of dedications of a storm water drainage system to the City, however, the City is not obligated to accept a dedication offer. Only the ~~Planning Commission or the~~ Governing Body, whichever is the appropriate body hearing the matter, may accept dedications to the City. If a dedication is offered to and accepted by the City, it shall be designated on the plan or plat and in effect prior to building permit approval.

Comment [CLG88]: **PC cannot accept dedications**

(K) ___—Long Term Maintenance Responsibilities and Inspections

(1) ___—Responsibilities

Text: Underline = New Material; ~~Strikethrough~~ = Removed Material

Comment Text: **Green** is explanatory, **Blue** is for discussion, **Red** is for issues remaining to be addressed

All storm water management measures and facilities shall be maintained by the fee simple owner of the property or a ~~homeowners~~ property owners association, unless a dedication of the storm water management system was ~~has been~~ required and was ~~or~~ accepted by the City, in which case, the City shall be responsible for maintenance. ~~For developments of 15 or more dwelling units, developers shall provide liability and property damage insurance, in a form approved in writing by the City Attorney, in order to protect adjacent property owners from failure of drainage or erosion control structures which were required for the development. For new developments of fifteen or more dwelling units, performance bonds or their equivalent shall be posted by the developer for 10 years and thereafter, shall be renewed by the neighborhood or responsible association for maintaining all common drainage structures. Failure to renew the bond in a timely manner on an annual basis shall be grounds for the City Attorney's office to call the bond. The bond must be in an amount sufficient to defray maintenance costs for 10 years.~~ The storm water management system shall be maintained in good condition and promptly repaired. Maintenance shall include the repair and restoration of all grade surfaces, *walls, swales*, drains, dams, ponds, basins, site restoration measures, associated vegetation, and any other storm water measure constructed on site. Such maintenance shall be in accordance with approved storm water management plans.

Comment [CLG89]: This is not done in current practice

(2) City Inspections

The City or its authorized agent may enter upon a property, ~~that~~ which is subject to this section; at reasonable times to access the storm water management system to ensure that the system is maintained in proper working condition to meet the approved storm water management plans and the objectives and minimum standards of this section.

(3) —Maintenance Violations

If after notice by the City to correct a violation requiring maintenance work, satisfactory corrections are not made by the owner(s) or responsible party within a reasonable period of time, the City may perform all necessary work to place the facility in proper working condition. The owner(s) or responsible party of the facility shall be assessed the associated costs of the work.