



Receipt Date Stamp

CITY OF CARLSBAD

Planning, Engineering, and Regulation Department

PO Box 1569, Carlsbad, NM 88221

Phone (575) 885-1185

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DRAINAGE AND GRADING PERMIT

Sec. 56-150(g)

Application Date: _____

Fee Paid (\$10.00): _____

APPLICANT INFORMATION:

NAME ADDRESS

CITY STATE ZIP PHONE EMAIL

PROPERTY OWNER INFORMATION (IF DIFFERENT FROM APPLICANT*):

NAME ADDRESS

CITY STATE ZIP PHONE EMAIL

* If the applicant is not the property owner, a signed affidavit from the property owner, consenting to submittal of the application, must be included with the application.

LEGAL DESCRIPTION/STREET ADDRESS/ZONING OF PROPERTY:

ADDRESS LOT BLOCK SUBDIVISION ZONING

FOR OFFICIAL USE ONLY:

Floodplain Manager: [] Approved [] Denied Signature: _____

City Engineer: [] Approved [] Denied Signature: _____

Code of Ordinances Chapter 56-150(g)

Drainage and Grading Permit.

1. Purpose.

A Drainage and Grading Permit authorizes the applicant to undertake grading, paving, excavating, filling, dredging or other activity which is in compliance with design requirements of this Zoning Ordinance and other local, state and federal regulations. The design, construction and maintenance of all drainage control, flood control and erosion control facilities within the City shall be performed in accordance with the procedures, criteria, and standards contained in this Zoning Ordinance and Section 8-101 et. seq. of the Carlsbad Code of Ordinances. A Drainage and Grading Permit shall be required for the following:

- (a) New commercial or industrial development or that which is expanded greater than 500 square feet, or multi-family residential development containing five or more dwelling units;
- (b) Importation or excavation of material in excess of 500 cubic yards;
- (c) Grading of any area of one acre or more;
- (d) Any platting or construction within a designated flood hazard area or adjacent to a major arroyo;
- (e) An increase in impermeable surface area of over 1,000 square feet; or
- (f) Any development requiring off-site drainage facilities.

2. Submittal Requirements.

Every applicant shall complete a Drainage and Grading Permit Application which shall include a drainage and grading plan and all required documentation and information. The particular nature, location and scope of the proposed development will define the degree of detail required. However, at a minimum, the grading and drainage plan shall include:

- (a) Scale;
- (b) Bar scale;
- (c) North arrow;
- (d) Property lines;
- (e) Total lot area;
- (f) Net lot area;
- (g) Topography in the form of finished contour lines at five foot minimum intervals;
- (h) Adjacent and proposed right-of-way;
- (i) Existing and proposed easements;
- (j) Existing and proposed drainage ways;
- (k) Location of all drive aisles;
- (l) Location of all buildings; and
- (m) Dust and erosion abatement statement.

3. Applications for development of areas known to have been sanitary landfills shall be accompanied by a report which discusses the potential health and soil mechanics problems and their solutions. Such a report shall be prepared by a New Mexico Professional Engineer competent in soil mechanics.

4. A geotechnical report may be required by the City Engineer for cut and fill slopes which pose safety hazards. Such reports shall be prepared by a New Mexico Professional Engineer competent in soil mechanics.

5. Review Procedures.

- (a) The City Engineer and Floodplain Administrator shall have joint responsibility for reviewing and making determinations regarding applications for Drainage and Grading

Permits, based on the criteria below. The determinations of the City Engineer and Flood Plain Administrator shall be in writing and state the reasons for the decisions.

- (b) The decisions of the City Engineer and Floodplain Administrator may be appealed to the Planning and Zoning Commission.

6. Criteria.

The City Engineer and Floodplain Administrator shall issue Drainage and Grading Permits if he or she finds the following:

- (a) The requested permit complies with all of the requirements of this Section;
- (b) The proposed drainage and/or grading activity will not result in post-development discharge from the site exceeding discharge from natural conditions prior to development. On-site retention and/or detention is required where feasible, as determined by the City Engineer; and
- (c) The proposed drainage and grading activity complies with Section 8-101 et. Seq. of the Carlsbad Code of Ordinances regarding Flood Damage Prevention.

The implementation of the Drainage and Grading Permit Regulations, subsection 6(b), are pursuant to Resolution 2012-20 as Adopted 5/22/12 and described below:

1. The difference in storm water runoff between the pre-developed and post-developed conditions of a lot shall not be permitted to drain onto adjacent property excepting an adjacent City street or other such public facility designed to accommodate such drainage.
 2. Where such adjacent City street or public facility is not designed to accommodate such drainage, as determined by the City Engineer, on-site detention or retention shall be required.
 3. In such case, the on-site detention or retention facilities shall, at a minimum, be designed to accommodate the 10-year, 24-hour storm event as defined by the National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume I for New Mexico.
 4. The drainage calculations and design of such facilities shall be certified by a Professional Engineer licensed in the State of New Mexico.
 5. The methodology used to compute storm water runoff depends on the size of the drainage basin and/or lot area:
 - a. For drainage basins and/or lot area that is less than or equal to 5 acres, the Rational Method shall be used. Intensity values will be taken from the attached Intensity-Duration-Frequency Curve Spreadsheet.
 - b. For drainage basins and/or lot area that is greater than 5 acres, any one of the following methods may be used:
 - i. New Mexico Department of Transportation (Current Method).
 - ii. City of Albuquerque Development Process Manual (DPM) Volume 2 Chapter 22 (Current Method).
 - iii. AHYMO (latest version).
 - iv. HEC-RAS (latest version).
- The following assumptions shall be used for each method:
- v. NEW MEXICO shall be specified as the LOCATION.
 - vi. A Type 2 rainfall distribution shall be used.
 - vii. The minimum Time of Concentration (Tc) for a contributing drainage basin shall be 12 minutes

CITY OF CARLSBAD

Intensity – Duration – Frequency Curve Spreadsheet

Based on NOAA Atlas 14, Volume I for New Mexico, Elevation: 3300'

Return Period for Rainfall Distribution

Rainfall Depth in Inches

	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
6-Hour	1.60	2.20	2.60	3.20	3.60	4.05
24-Hour	2.00	2.70	3.20	4.00	4.40	5.00

Depth - Duration - Frequency (DDF) Table

	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
5-min	0.345	0.470	0.558	0.659	0.759	0.891
10-min	0.535	0.730	0.866	1.022	1.179	1.383
15-min	0.677	0.925	1.097	1.295	1.493	1.752
30-min	0.939	1.281	1.521	1.795	2.069	2.428
1-hr	1.189	1.622	1.925	2.272	2.619	3.073
2-hr	1.329	1.820	2.156	2.589	2.954	3.407
3-hr	1.435	1.968	2.329	2.828	3.207	3.658
6-hr	1.600	2.200	2.600	3.200	3.600	4.050
12-hr	1.800	2.450	2.900	3.600	4.000	4.530
24-hr	2.000	2.700	3.200	4.000	4.400	5.000

Intensity - Duration - Frequency (IDF) Table

	2-year	5-Year	10-Year	25-Year	50-Year	100-year
5-min	4.14	5.64	6.70	7.91	9.11	10.69
10-min	3.21	4.38	5.20	6.13	7.07	8.30
15-min	2.71	3.70	4.39	5.18	5.97	7.01
30-min	1.88	2.56	3.04	3.59	4.14	4.86
60-min	1.19	1.62	1.93	2.27	2.62	3.07

Intensity - Duration - Frequency

