

CHAPTER 1 GENERAL PROVISIONS

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1.1 TITLE

This document is called the “Engineering Criteria Manual” and shall be referred to throughout the text as the “ECM.”

1.2 AUTHORITY

The El Paso Board of County Commissioners (BOCC) has adopted the ECM by resolution pursuant to the authority given by the Colorado Constitution and the following sections of the Colorado Revised Statutes, as amended:

- Article 1 of Title 32 (Special District Act/Provisions),
- Article 1 of Title 34 (Preservation of Commercial Mineral Deposits),
- Article 2 of Title 43 (State, County and Municipal Highways),
- Article 4 of Title 41 (Airports),
- Article 6 of Title 28 (Division of Aviation),
- Article 11 of Title 30 (County Powers and Functions),
- Article 15 of Title 30 (County Regulations under Police Power),
- Article 20 of Title 29 (Local Government Land Use Control Act),
- Article 28 of Title 30 (County Planning and Building Code),
- Article 30.5 of Title 38 (Conservation Easements),
- Article 32 of Title 22 (Zoning, Planning and Building Code Duties of School District Boards),
- Article 65.1 of Title 24 (Areas and Activities of State Interest), and
- Article 68 of Title 24 (Vested Property Rights).

1.3 PURPOSE

The purpose of this ECM is to set standards for designing, constructing, locating, maintaining, choosing materials for, repairing, reconstructing and using public improvements and guiding design and construction of common development improvements in El Paso County (County). The ECM was developed to be consistent with the El Paso County Land Development Code (LDC). The standards are necessary to protect and promote public health, safety, and the general welfare of the public; ensure that public infrastructure meets commonly accepted engineering standards; and maintain consistency and fairness in development review.

The ECM governs the quality of workmanship must be adhered when constructing public and development-related improvements. The ECM also provides standards for County staff to adhere to in reviewing plans and inspecting construction.

1.4 APPLICABILITY

1.4.1 Activities

The provisions of ECM shall apply to the planning, design, construction, enlargement, alteration, relocation, removal, conversion, demolition, repair, excavation and use of any public improvements. The ECM shall also apply as guidance or as specific regulatory standards when required by the LDC to common development improvements. The ECM applies to public and private projects including:

- new construction and modification of transportation facilities, storm drainage facilities, utilities, and any facility located in County rights-of-way or easements, whether occurring under permit or franchise, and other transportation facilities, storm drainage facilities, utilities and any facilities mandated by the LDC.
- facilities outside County rights-of-way (such as private roads or drainage systems), which are regulated through the LDC and County's police power authority to ensure public health, safety, and welfare, and Title 30, Article 15, Colorado Revised Statutes.
- every new placement and every planned, non-emergency replacement of existing utility poles and other utility structures within the County's rights-of-way.
- reconstruction, resurfacing, restoration, and rehabilitation of existing transportation facilities, storm drainage facilities, utilities and any other facilities located in County rights-of-way or easements, as well as other transportation facilities, storm drainage facilities, utilities, and facilities mandated by the LDC, as far as practicable and feasible.

1.4.2 Jurisdiction

The ECM applies to all subdividers, developers, landowners, owners of facilities located in the County's rights-of-way or easements and their employees, agents or contractors that design, construct, and maintain facilities or conduct activities subject to review and approval under the provisions of the ECM or where required by the LDC in El Paso County. The ECM further applies to the County and their employees, agents or contractors.

1.5 STANDARDS ADOPTED BY REFERENCE

The BOCC hereby adopts the following documents and standards by reference:

- Colorado Department of Transportation (CDOT) Standard Specifications for Road and Bridge Construction;
- American Association of State Highway & Transportation Officials (AASHTO) including Roadway Design Guide and Bicycle Design;
- Institute of Transportation Engineers (ITE) Trip Generation Manual;
- American Society for Testing Materials (ASTM);
- Manual on Uniform Traffic Control Devices (MUTCD);
- Colorado Springs and El Paso County Drainage Criteria Manual Volume 1 (DCM1);

- City of Colorado Springs' Drainage Criteria Manual Volume 2 (DCM2): Stormwater Quality Policies, Procedures and Best Management Practices; and
- The State of Colorado, Department of Highways "M & S" Standards.

The referenced documents and standards are enforceable parts of the ECM and may be amended and revised at the discretion of the BOCC in accordance with requirements and processes prescribed by the Colorado Constitution and applicable provisions of the Colorado Revised Statute.

1.6 MINIMUM STANDARDS

The standards presented in this ECM are considered the minimum requirements and design values necessary to accomplish the purpose of the ECM. Where minimum values are stated, greater values should be used whenever practical and consistent with State law; where maximum values are stated, lesser values should be used where practical.

Situations might arise where the application of individual standards from the ECM will not ensure the protection of public health, safety, and welfare. Accordingly, the ECM Administrator may impose additional or more stringent standards than those contained in the ECM, or require the modification of plans, specifications or operations to achieve the necessary public health, safety, and welfare. Modifications may include, but are not limited to, scheduling, phasing or timing restrictions.

1.7 NO STANDARDS SPECIFIC PROVIDED IN ECM

In the case of those improvements that are required by the County, but are not specifically addressed by the ECM, the County will require the owner, permit holder, developer, contractor, and their agents to follow applicable local, state, and federal guidelines or standards promulgated by professional organizations. The ECM Administrator shall be consulted for guidance on proper references.

1.8 MUNICIPAL STANDARDS MAY APPLY IN 3-MILE PLAN AREA

In areas subject to the requirements of C.R.S. § 31-12-105 (3-Mile Plan Areas), the design standards of the municipality may be applied if approved by the ECM Administrator. In cases where ECM standards are more restrictive, the ECM Administrator may require compliance with the ECM.

1.9 DEVIATIONS FROM STANDARDS

The ECM standards represent appropriate practice under most conditions, based on past experience in the County and in other jurisdictions. The Standards are intended to ensure that facilities are safe and appropriate for use in the County.

Engineering design is an endeavor that examines alternative solutions to real world situations. These standards are not intended to limit the introduction of new ideas. Situations will arise where alternatives to these standards may better accommodate existing conditions, overcome adverse topography or allow for more cost-effective solutions without adversely affecting safety, operations, maintenance or aesthetics.

Accordingly, requests for deviations from these standards will be considered by the ECM Administrator. The request for a deviation may be considered if the request is not based

exclusively on financial considerations. The deviation must not be detrimental to public safety or surrounding property. Requests must be submitted and reviewed in accordance with the process outlined in Chapter 5 and include supporting information demonstrating compliance with all of the following criteria:

- The deviation will achieve the intended result with a comparable or superior design and quality of improvement.
- The deviation will not adversely affect safety or operations.
- The deviation will not adversely affect maintenance and its associated cost.
- The deviation will not adversely affect aesthetic appearance.
- The deviation meets the design intent and purpose of these Standards.

It is recognized that the need for and timing of a deviation request may not be predictable. Requests should be submitted as soon as the need becomes known. No request will be considered until an application for a permit or other approval has been submitted. Known deviation requests that affect lot yield or scope of development must be decided before holding any public hearing or making an official decision on the application. This is important for public notice and participation in the decision process.

Deviations that affect engineering design, to the extent they are known, must be decided before submitting construction plans. This will minimize additional effort in the preparation of plans with non-standard features that cannot be approved.

The ECM Administrator is the final authority on all deviation requests. The ECM Administrator reserves the right to deny a deviation from these Standards, at any time, in the interest of public health, safety, and welfare.

1.9.1 PUD Zoning Districts

The ECM Administrator may establish, on a case-by-case basis, special standards (i.e., deviations) that apply to a project with a Planned Unit Development (PUD) zoning classification. The ECM Administrator, in establishing such standards, shall first find that there are mitigating elements in the design of the project that allow for such special standards and that the special standards are in conformance with the intent and purpose of these Standards.

1.9.2 Alternate Materials and Methods of Construction

The provisions of these Standards are not intended to prevent the use of any material or method of construction not specifically prescribed by these Standards, provided any alternate is approved in writing by the ECM Administrator as a deviation.

The ECM Administrator, as indicated above, shall require that sufficient evidence or proof be submitted to substantiate any request that may be made regarding the alternate method or material.

1.10 CONFLICTING PROVISIONS

The following standards shall apply in considering conflicts between provisions of the ECM:

- Whenever any provision of the ECM conflicts with a provision in any federal, state or local law, ordinance, resolution, rule, or regulation, the more restrictive or higher standard shall be used.
- Whenever any provision of the ECM conflicts with another provision of the ECM, the more restrictive or higher standard shall be used.
- Whenever any provision of the ECM conflicts with any provision of the documents and standards adopted by referenced, the provision of the ECM shall be used.

1.11 PERMITS REQUIRED

No owner, permit holder, developer, contractor, and their agents shall do or cause to be done any work governed by the ECM without first having obtained a permit to do the work in accordance with the provisions of Chapter 5. All work shall be done in accordance with the ECM, approved plans, and the conditions of the required permits. In many cases, a Notice to Proceed is also required before beginning work in accordance with the terms and conditions of a permit issued under the provisions of Chapter 5.

Other permits, approvals or agreements may be required by the County or others having jurisdiction before initiating any activities subject to the ECM. It is the responsibility of the owner, permit holder, developer, contractor and their agents to identify and secure all required permits, approvals, or agreements required to do the work.

1.12 PLAN REVIEW PROCEDURES, GENERAL

For County-constructed roads and drainage projects, plan review requirements are governed by the ECM and the policies and procedures of the ECM Administrator. For owner, permit holder, and developer-constructed public improvements and development or subdivision related improvements, all plans, reports, drawings, and specifications that support permit or land use applications are governed by the LDC, ECM and the policies and procedures of the ECM Administrator.

Construction plans are required for all proposed road and drainage-related improvements. Chapter 5 of the ECM outlines the submittal requirements. In some cases, additional engineering data may be required to be submitted.

Engineering Record Drawings (also known as "as-built" plans) for roads and drainage facilities must be submitted before final acceptance of any public facility and release of the required surety.

1.13 PROFESSIONAL QUALIFICATIONS

Professionals in the fields of engineering, architecture, geology or surveying who prepare or are responsible for preparing plans, drawings, specifications, calculations, technical reports, etc., for the purpose of obtaining County permits or approvals, shall be registered or authorized to practice in the state of Colorado. Registration or authorization to practice shall be in the specific technical area pertinent to the documents being prepared. In some cases, specific additional or special professional qualifications are required for preparing specific studies or plans. Any specific additional or special professional qualifications are identified in those sections of the ECM specifically governing preparation of the study or plan.

1.14 ERRORS AND OMISSIONS

At the discretion of the ECM Administrator, any significant errors or omissions in the approved plans or information used as a basis for such approvals may constitute grounds for withdrawal of the approvals and stoppage of any or all permitted work. It is the responsibility of the owner, permit holder, developer, contractor or their agents to demonstrate why work should continue and to make changes in plans that may be required by the ECM Administrator before the plans are re-approved.

1.15 OWNER, PERMIT HOLDER, DEVELOPER, CONTRACTOR AND AGENT RESPONSIBILITIES

1.15.1 Permit and Construction

It is the responsibility of the owner, permit holder, developer, contractor, and their agents to:

- Have an approved set of plans, required permits and Notice to Proceed before commencement of any work governed by the ECM.
- Notify the ECM Administrator in advance of the commencement of any authorized work, in accordance with permit requirements. A pre-construction meeting and field review may be required by the ECM Administrator before the commencement of any work on significant projects.
- Perform all work in accordance with the terms and conditions of the permit, ECM, and all applicable local, state, and federal laws.
- Have an approved set of plans, permits, and a copy of the ECM on the job site wherever work is being accomplished.
- Provide tests to substantiate the adequacy and placement of construction materials if requested by the ECM Administrator.

1.15.2 General Right-of-Way and Site Maintenance

The owner, permit holder, developer, contractor, and their agents shall:

- Schedule and control work so as to comply with all applicable provisions of El Paso County codes and applicable state and federal laws and to prevent any hazards to public safety, health, and welfare.
- Maintain two-way traffic on existing roads for vehicles, bicycles, and pedestrians at all times unless detour plans or lane closures have been approved in advance by the ECM Administrator.
- Keep roads, bridges, bikeways, and pedestrian facilities free of dirt, debris or any obstructions. Paved temporary detour(s) shall be provided when necessary and not detrimental to the abutting properties.
- Maintain pedestrian and vehicular access to occupied buildings, except where written approval from the building owner has been obtained.
- Complete on-site grading in a manner that minimizes off-site erosion and siltation in conformance with all statutory requirements, permits, and approved plans.

1.15.3 Work Conditions

A. Action by ECM Administrator to Protect Public or Private Interests

When the owner, permit holder, developer, contractor, or their agents have not taken sufficient precautions for the safety of the public or the protection of the work, adjacent structures or property, and when, as a result, the ECM Administrator determines a loss-of-life or damage could result, the ECM Administrator, with or without notice to the owner, permit holder, developer, contractor or their agents, may provide suitable protection by causing work to be done and materials to be furnished and placed as the ECM Administrator may consider necessary to protect the public or any private interest. The cost and expense of the ECM Administrator's action including the cost of labor, equipment and material is the responsibility of the owner, permit holder, developer, contractor, or their agents. All costs shall be paid by the owner, permit holder, developer, contractor, or their agents within 30 calendar days upon receipt of the invoice from the ECM Administrator.

The action performed under the direction of the ECM Administrator shall in no way relieve the owner, permit holder, developer, contractor, or their agents of responsibility for damages that may occur during or after such precaution has been taken.

B. Action by Owner to Protect Public or Private Interests

When an emergency threatening loss of life or damage to the work or an adjoining structure or property is identified by the owner, permit holder, developer, contractor or their agents and the person who identified the emergency is unable to obtain special instructions or authorization from the ECM Administrator, the owner, permit holder, developer, contractor, or their agents are hereby permitted to act to prevent loss of life or damage. The ECM Administrator shall be notified of such emergency work within four hours of the action.

C. Final Cleanup

The owner, permit holder, developer, contractor or their agents shall be responsible for daily clean-up on the project area and shall remove and properly dispose of all surplus and discarded materials, rubbish, and temporary structures from the project area and adjacent areas. They shall, where appropriate, leave the project area swept and in a neat and clean condition. The owner, permit holder, developer, contractor or their agents shall restore all work areas that have been damaged by the operations to general conformity with the specifications for the item or items involved and to the original condition.

The owner, permit holder, developer, contractor or their agents will be responsible for keeping roads free of dirt, mud, and any debris during construction. The work shall conform to the requirements for erosion control, as described in the statutes, ordinances or regulations. The owner, permit holder, developer, contractor or their agents shall be responsible, at their own expense,

for keeping on-site roads used as construction routes and rights-of-way clean of mud, rocks, and debris at all times during said construction.

The owner, permit holder, developer, contractor or their agents shall inspect and clean the interior of all manholes and catch basins within the construction limits or impacted by the construction.

The owner, permit holder, developer, contractor or their agents shall, within 24 hours of the ECM Administrator's notification of noncompliance with this section, commence clean-up operations and shall diligently pursue completion of said clean up to the satisfaction of the ECM Administrator. The County may revoke any and all permit approvals until the owner, permit holder, developer, contractor or their agents remedy the problem if:

- the owner, permit holder, developer, contractor or their agents fail to respond within 24 hours, or
- the ECM Administrator is unable to contact the owner, permit holder, developer, contractor or their agents after reasonable effort, or
- the owner, permit holder, developer, contractor or their agents fail to diligently pursue clean-up operations to the satisfaction of the ECM Administrator.

The ECM Administrator may also choose to have the streets and rights-of-way cleaned by County crews or an outside contracted firm and invoice the owner, permit holder, developer, contractor or their agents for all costs. All cost shall be paid by the owner, permit holder, developer, contractor or their agents within thirty days of being invoiced.

D. Suspension of Work

In case of suspension of work for any cause whatsoever, the owner, permit holder, developer, contractor or their agents, before leaving the job site, shall take such precautions as may be necessary to prevent damage to the work; provide for proper drainage; and erect any necessary barricades, signs, or other facilities. The owner, permit holder, developer, contractor or their agents will take the above precautions at their own expense, as required by applicable standards.

1.15.4 Protection of Existing Facilities

The owner, permit holder, developer, contractor or their agents shall notify the electric and gas utility, telephone company, cable television, and all other interested parties before beginning work. They shall have their facilities staked and located in the field in order to ensure that there are no interruptions of these services during progress of the work.

Existing power lines, telephone lines, trees, shrubbery, fences, water mains and services, gas mains and services, sewer mains and services, cables, conduits, drainage and irrigation ditches and pipes, embankments, and other structures in the vicinity of the work not authorized to be removed, shall be supported and protected from damage by the

owner, permit holder, developer, contractor or their agents during the construction and until completion of work.

The owner, permit holder, developer, contractor or their agents shall preserve intact any underground pipes or other utilities encountered during construction. The owner, permit holder, developer, contractor or their agents shall be liable for all damages done to such existing facilities and structures and shall hold the County harmless from any liability or expense for injuries, damages or repairs to such facilities. The type, size, approximate location and number of all known underground utilities shall be shown on all drawings. It shall be the responsibility of the owner, permit holder, developer, contractor or their agents to verify the existence and location of all underground utilities along the route of the work.

1.15.5 Traffic Control

The flow of traffic on public streets and roadways shall be maintained at all times during construction in accordance with the rules, regulations, and conditions as set forth in the Work in the Right-of-Way Permit issued by the ECM Administrator.

The owner, permit holder, developer, contractor or their agents shall be responsible for the provision of a safe travel-way on all roadways on and adjacent to the job site. The owner, permit holder, developer, contractor or their agents shall erect or cause erection of proper traffic control warning devices around all excavations, embankments, and obstructions. The owner, permit holder, developer, contractor or their agents shall be responsible for the proper maintenance of said erected devices, in accordance with their approved Work in the Right-of-Way permit.

The owner, permit holder, developer, contractor or their agents shall cause suitable warning lights or flares to be provided and kept lighted at night or other times when visibility is limited.

The owner, permit holder, developer, contractor or their agents shall provide flaggers or off-duty police protection, as may be determined by the ECM Administrator, for the protection of the public and workers on the job site.

The owner, permit holder, developer, contractor or their agents shall coordinate with the ECM Administrator so that arrangements may be made by the owner, permit holder, developer, contractor or their agents for detours, parking, and access to property adjacent to work, etc., 48 hours before they are needed.

The owner, permit holder, developer, contractor or their agents shall not work within any portion of a road right-of-way without receiving a Work in the Right-of-Way Permit from the ECM Administrator at least 48 hours before they begin work. Full roadway closures will be reviewed on a case-by-case basis; time of review will vary based on the extent of the closure.

The County reserves the right to refuse to allow full road closures. Requirements for such closures will be determined at the time of issuance of the permit. The owner, permit holder, developer, contractor or their agents will be responsible for all public notices, public meetings, and requirements as outlined in the Work in the Right-of-Way Permit. The owner, permit holder, developer, contractor or their agents shall notify the police and

fire departments at least 48 hours before closure and immediately after opening of any street, alley, or fire lane.

The ECM Administrator shall close down work that is not controlled in accordance with approved barricading procedures or on projects that require a Work in the Right-of-Way Permit, but on which one has not been obtained by the owner, permit holder, developer, contractor or their agents.

No work shall be allowed at signalized intersections or on arterial roadways that impedes normal traffic flow from 6:00 a.m. to 8:30 a.m. and 3:30 p.m. to 7:00 p.m., except during emergencies or with prior approval of the ECM Administrator.

1.15.6 Safety

Machinery, equipment, materials, and all hazards shall be guarded or eliminated in accordance with the MAPC and all applicable federal regulations including Office of Safety and Health Administration (OSHA), state, County, and municipal laws and regulations. No blasting shall be done without the prior approval of the County. Safety equipment, devices, and clothing shall be utilized by personnel where required by federal, state, and local laws. The owner, permit holder, developer, contractor or their agents shall strictly comply with MUTCD for temporary and permanent traffic control.

1.15.7 Removal of Unacceptable Work

Work shall be considered unacceptable if it does not conform to the approved plans and specifications or if it results in an inferior or unsatisfactory product. Unacceptable work found to exist prior to the final acceptance of the work shall be immediately removed and replaced or corrected by, and at the expense of, the owner, permit holder, developer, contractor or their agents, whether the unacceptable work is the result of poor workmanship, poor design, use of defective materials, damage through carelessness or any other cause. This expense includes total and complete restoration of any disturbed surface to original or to better than the original condition that existed before the repairs or replacement, regardless of improvements on lands where the repairs or replacement are required.

1.15.8 Control of Materials

A. Samples and Tests

To ascertain whether materials comply with contract requirements, samples shall be taken at the source or at the job destination as often as the ECM Administrator deems necessary. Samples shall be collected in accordance with standard practices, except where methods and procedures for sampling materials are otherwise set forth in this ECM.

The owner, permit holder, developer, contractor or their agents shall furnish, when requested by the ECM Administrator, a written statement of the origin, composition, and sample manufacture process of a material.

Any samples shall be collected and any tests performed shall be done so at the expense of the owner, permit holder, developer, contractor or their agents.

B. Storage of Material

Material shall be stored to ensure the preservation of its quality and suitability for the work. Stored material, even though inspected prior to storage, shall be subject to inspection prior to its use in the work and shall meet all requirements of these Standards at the time it is used. Stored material shall be located to facilitate inspection. With the ECM Administrator's approval, the owner, permit holder, developer, contractor or their agents may use portions of the right-of-way for storage purposes. Any additional storage required shall be secured by, and at the expense of, the owner, permit holder, developer, contractor or their agents.

C. Defective Materials

Materials not in conformance with the requirements of these Standards shall be considered defective and shall be rejected. Rejected materials shall be removed from the job site at the expense of the owner, permit holder, developer, contractor or their agents.

1.15.9 Protection of Public and Utility Interests

A. Public Convenience and Safety

Fire hydrants shall be visible and accessible to the fire district from the road at all times. No permanent or temporary obstructions (including, but not limited to, fencing, street lighting, landscaping, and mailboxes) shall be placed within 6 feet of a fire hydrant.

Unless otherwise specified, the owner, permit holder, developer, contractor or their agents shall give written notice to the proper authorities in charge of streets, gas and water pipes, sanitary and storm sewer facilities, electric service, cable television and other conduits, railroads, poles, manholes, catch basins and all other property that may be affected by the operations, at least 48 hours before breaking ground. The owner, permit holder, developer, contractor or their agents shall not hinder or interfere with any person in the protection of such property or with the operation of utilities at any time. The owner, permit holder, developer, contractor or their agents must obtain all necessary information regarding existing utilities, protect such utilities from damage, and avoid unnecessary exposure so that they shall not cause harm to the public.

The owner, permit holder, developer, contractor or their agents shall obtain all necessary information regarding the planned installation of new utilities and cables, conduits and transformers; make proper provision; and give proper notification so that new utilities and electrical equipment can be installed at the proper time without delay or unnecessary inconvenience. All underground utilities and electrical equipment shall be installed prior to the placement of the final lift of pavement.

When the work involves excavation adjacent to any properties or structures along the work site, the owner, permit holder, developer, contractor or their agents shall

give such property owners sufficient written notice thereof, and shall furnish a copy to the ECM Administrator.

B. Protection and Restoration of Property and Monuments

The owner, permit holder, developer, contractor or their agents shall use every precaution to prevent the damage or destruction of public or private property adjacent to or interfering with the work (such as poles; trees; shrubbery; crops; fences; monuments; and all overhead structures, such as wires and cables) within or outside of the right-of-way.

The owner, permit holder, developer, contractor or their agents shall protect and support all water, gas, sanitary sewer, storm sewer, electrical pipes and conduits, railroad tracks, buildings, walls, fences, landscaping, significant wetlands, or other properties that might be damaged during the execution of work. All reasonable and proper precautions shall be taken to protect property, persons, animals, and vehicles from injury. Wherever necessary, fencing or railing shall be placed around any excavation and a sufficient number of amber lights shall be on from twilight until sunrise. One or more guards shall be employed as additional security wherever they are needed or required by the ECM Administrator.

The owner, permit holder, developer, contractor or their agents shall not prevent the flow of water in the gutters of the street and shall use proper means to permit the flow of surface water along the gutters while the work is in progress.

The owner, permit holder, developer, contractor or their agents shall protect and carefully preserve all land boundary and all survey control monuments until the surveyor for the owner, permit holder, developer, contractor or their agents have referenced their location for relocation. All monuments disturbed or removed by the owner, permit holder, developer, contractor or their agents shall be replaced by a licensed surveyor at the expense of the owner, permit holder, developer, contractor or their agents.

The owner, permit holder, developer, contractor or their agents shall be responsible for the damage or destruction of property resulting from neglect, misconduct, or omission in the manner or method of execution or nonexecution of the work, or caused by defective work or the use of unsatisfactory materials. They shall restore such property to a condition similar to or better than existed before such damage or injury was done by repairing, rebuilding, or replacing it as might be directed.

The owner, permit holder, developer, contractor or their agents shall bear the cost of repairing underground pipes, wires, or conduits damaged by the work.

The owner, permit holder, developer, contractor or their agents shall be liable for all damage caused by storms and fire. They shall, under no circumstances, start fires without first securing the necessary permits and approval of the authority having jurisdiction, even though they may be ordered or required to do such burning. While burning brush, stumps, or rubbish, care shall be taken not to damage any standing trees, shrubs or other property.

The owner, permit holder, developer, contractor or their agents shall ensure the continued availability of public services including, but not limited to, postal, solid waste collection, emergency services, and public utilities.

C. Protection of Streams, Lakes, and Reservoirs

The owner, permit holder, developer, contractor or their agents shall take all necessary precautions to prevent pollution of streams, lakes, reservoirs, and irrigation ditches with fuels, oils, bitumen, sodium chloride, calcium chloride or other harmful materials. The operations shall be conducted and scheduled to avoid or minimize siltation of streams, lakes, and reservoirs. A plan for erosion protection shall be submitted to the ECM Administrator for approval before starting work and must conform to all local, state, and federal laws and regulations.

D. Barricades, Warning Signs, and Flagmen

Work shall be barricaded as necessary at all times. Between the hours of sunset and sunrise barricades shall be properly lighted to warn all persons. Signs, barricades, lights, and warning devices shall be constructed and used in accordance with the most current version of the MUTCD. These guidelines shall be strictly enforced by the ECM Administrator during the progress of the work.

The owner, permit holder, developer, contractor or their agents shall be responsible for obtaining a Work in the Right-of-Way Permit before beginning work. The owner, permit holder, developer, contractor or their agents shall apply for the permit and submit a traffic control plan for review and approval by the ECM Administrator.

The owner, permit holder, developer, contractor or their agents shall be responsible for all damages to the work due to failure to place barricades, signs, lights, and flaggers and other workers to protect it. Whenever evidence of such damage is found prior to acceptance, the ECM Administrator may order the damaged portion immediately removed and replaced by the owner, permit holder, developer, contractor or their agents.

1.15.10 Warranty

The permit holder is required to warrant Improvements for 2 years, as described in Chapter 5 and the standard Development Agreement and Subdivision Improvement Agreement. The preliminary and final acceptance processes are also described in Chapter 5.

1.16 ADMINISTRATION

1.16.1 Discretionary Authority

The ECM Administrator may utilize discretionary authority as it relates to the provisions of the ECM. Judgments will take into consideration the individual situation, but in no instance will safety features or structural integrity prescribed by these Standards be

sacrificed. Where the design standards, standard specifications or standard drawings do not cover improvements, the ECM Administrator shall establish appropriate standards.

1.16.2 Delegation and Review of Differences of Opinion

The ECM Administrator may appoint personnel as appropriate to administer these standards. The personnel appointed may only exercise the specific authority delegated to them by the ECM Administrator.

When a difference of opinion occurs between personnel appointed to exercise the authority of the ECM Administrator and an owner, permit holder, developer, contractor or their agents, the owner, permit holder, developer, contractor or their agents are required to obtain a review and decision from the ECM Administrator before appealing an issue to the BOCC. To obtain a review and decision, the owner, permit holder, developer, contractor or their agents shall submit a written request to the ECM Administrator identifying the conflict and describing the unresolved issue. After reviewing all pertinent information, the ECM Administrator will advise those interested parties of the decision relative to the conflict.

1.16.3 Interpretation

Interpretations of this ECM are made by the ECM Administrator. The ECM Administrator's interpretations of provisions may be appealed to the BOCC. The meanings and construction of words and phrases established in this section apply throughout the ECM.

- Words and phrases must be read in context and construed according to the rules of grammar and common usage. Words and phrases that have acquired a technical or particular meaning, whether by definition under the definitions section of the ECM, by legislative declaration or otherwise, must be construed accordingly.
- The particular controls the general.
- Mandatory requirements use the words "shall," "must" or "will" and are sometimes labeled "Standards." Recommendations use the words "may" or "should" and are sometimes labeled "Guidelines" or "Criteria".
- Words used in the present tense include the future, unless the context clearly indicates otherwise.
- Words or provisions apply. The word "or" indicates connected words or that provisions may apply singly or in any combination.
- Words indicating a specific gender apply to all persons and things unless the context clearly indicates otherwise.
- A reference to days is to calendar days unless otherwise specified in this code or state statute. If a deadline falls on a weekend or County holiday, the deadline extends to the next working day.
- When computing a period of days, the first day is excluded and the last day is included. If the last day falls on a weekend or County holiday, the last day is the next working day.

Section and subsection headings are for convenience only. They do not govern, limit or modify the scope, meaning or intent of the ECM.

1.16.4 Revisions to Approved Plans

Work performed within or outside the public right-of-way as mandated by the LDC, ECM or other County codes shall comply with the approved plans, the approved specifications, and these standards. The ECM Administrator must approve any revision to construction plans before the change is implemented.

1.16.5 Enforcement

The ECM Administrator has the authority to enforce the ECM as well as other referenced or pertinent standards and specifications. The ECM Administrator shall appoint personnel as appropriate to inspect work completed pursuant to the ECM standards. Personnel appointed may only exercise the specific authority delegated to them by the ECM Administrator.

Whenever any work is being done contrary to the provisions of these Standards, the ECM Administrator may order the work stopped by a written notice served on any persons engaged in doing the work or causing of the work to be done. Persons shall stop work until authorized by the ECM Administrator to proceed.

1.16.6 Inspection

The ECM Administrator is authorized to inspect all work completed and all material furnished. Inspections may extend to all or any part of the work and to the preparation, fabrication or manufacture of the materials to be used. The ECM Administrator shall notify the owner, permit holder, developer, contractor or their agents of any failure of the work or material conformity with these Standards. The ECM Administrator shall have the authority to reject materials until any questions at issue can be resolved by the ECM Administrator.

The ECM Administrator shall, in no case, act as foreman or perform other duties for, or interfere with the management of work done by, the owner, permit holder, developer, contractor or their agents. Any "advice" that the ECM Administrator might give the owner, permit holder, developer, contractor or their agents shall not be construed as binding upon the County in any way or release the owner, permit holder, developer, contractor or their agents from fulfilling all of the terms of these Standards.

The presence or absence of the ECM Administrator shall not relieve, in any degree, the responsibility or the obligation of the owner, permit holder, developer, contractor or their agents. The ECM Administrator, or an authorized designee, shall, at all times, be provided reasonable and safe access to inspect the work whenever it is in preparation or progress.

1.16.7 Right to Require Additional Tests

Whenever there is insufficient evidence of compliance with any of the provisions of these Standards or evidence that any material or construction does not conform to the requirements herein, the ECM Administrator may require that the owner, permit holder, developer, contractor or their agents, at their expense, provide test results to establish

compliance. Such tests shall be as specified by these Standards or by other recognized test standards approved by the ECM Administrator. If there are no recognized and accepted test methods, the ECM Administrator shall determine test procedures. Before testing begins, all tests shall be made by an agency approved by the ECM Administrator. Reports of such test results shall be retained by the County.

1.17 SURETY

Where authorized by the ECM, surety may be required by the ECM Administrator to guarantee the performance of, maintenance of or to correct permitted work. The type and amount of surety shall be per the applicable ECM Standard or, if not specified, at the discretion of the ECM Administrator.

Types of surety include, but are not limited to, cash deposits, assigned savings, and bonds. The ECM Administrator shall release surety upon satisfactory completion of the required work or any previously specified stipulations related to the required work in accordance with the surety release provisions of the ECM.

1.18 PENALTIES

Failure to comply with the ECM will be cause for withholding or withdrawing approval of plans or drawings; withholding of surety, final inspection approval or occupancy certificates; and other penalties as provided by County regulations or state law.

1.19 NO WAIVER OF LEGAL RIGHTS

The County shall not be precluded or stopped by any measurement, estimate, or certificate made either before or after the completion and acceptance of the work from showing:

- the true amount and character of the work performed and materials furnished by the owner, permit holder, developer, contractor or their agents, or
- that any such measurement, estimate or certificate is untrue or incorrectly made, or
- that the work or materials do not conform in fact to these Standards.

1.20 AMENDMENT AND REVISIONS

The ECM may be amended or revised at the sole discretion of the BOCC in accordance with requirements and process prescribed by the Colorado Constitution and applicable provisions of Colorado Revised Statute.

Upon consultation with the County Attorney, the ECM Administrator may make the following changes or corrections to the provisions of the ECM when the changes or corrections do not alter the sense or meaning of its provisions:

- Misspellings. Misspelled words may be corrected.
- Histories. Erroneous legislative histories may be corrected.
- Cross-references. Cross-references may be changed to agree with new, amended, reenacted, renumbered, re-lettered, reallocated or corrected ordinances or resolutions.
- Capitalization. Improper capitalization may be corrected.
- Headings. Descriptive headings of titles, chapters, sections or subsections may be edited or added to briefly and clearly indicate the subject matter of the title, chapter, section or subsection.

- Renumbering; re-lettering. The numbering or lettering of sections, including duplicative numbering or lettering created by conflicting enactments, may be corrected or properly arranged.
- Changed job titles; agency names. References in design standards to specific job titles or agency names that are changed without substantial affect on job or agency responsibilities may be changed to refer to the new job title or agency name.
- Punctuation. Punctuation, including hyphenization, may be corrected.
- Clerical Errors. Typographical or grammatical errors may be corrected.
- Gender. Gender-specific terms that occur may be changed to gender-neutral terms and necessary grammatical changes to properly use the gender neutral terms may be made.
- Mandated Changes. Additions, deletions, or revisions to design standards may be made when required for compliance with mandatory regional, state or federal regulations.

Any change or correction made under the authority of this section may not affect the substantive meaning of any enactment of the County. Any erroneous or inadvertent substantive change must be construed as a clerical error and given no effect. If the ECM Administrator or County Attorney is in doubt whether a specific change or correction is authorized by this section, the ECM Administrator may not make the change or correction under authority of this section.

1.21 SEVERABILITY

Except as otherwise provided, a determination by a court that a provision of the ECM is unconstitutional or invalid does not make the remainder of the ECM unconstitutional or invalid. A determination by a court that the application of the ECM to a particular project or parcel of land is unconstitutional or invalid does not apply to any other project or parcel of land.

1.22 TERMS AND DEFINITIONS

Whenever, in these Standards, the words "as ordered", "as directed", "as required", "as permitted", "as allowed", or words or phrases of like meaning are used, it shall be understood that the order, direction, requirement, permission, or allowance of the ECM Administrator is intended. Unless otherwise specified herein, the words "approved", "reasonable", "suitable", "acceptable", "properly", "satisfactory", or words of like meaning shall mean approved, reasonable, suitable, acceptable, proper or satisfactory in the judgment of the ECM Administrator. The following terms, definitions, and acronyms used in the ECM shall be defined as follows (See the LDC for additional definitions of terms not defined in this section):

AASHTO American Association of State Highway and Transportation Officials.

Acceleration Lane A speed change lane, including tapered areas, to enable a vehicle entering a roadway to increase its speed to a rate at which it can safely merge with through traffic.

Access	The place, means or way by which vehicles shall have a safe, adequate and usable ingress and egress to a property, use or parking space from a road.
ADA	Americans with Disabilities Act of 1990.
ADT	Average daily traffic. The total two-directional volume of traffic during a given time period (in whole days), greater than one day and less than one year, divided by the number of days in that time period.
Applicant	The individual, firm, business entity, trust, association, syndicate, partnership, or corporation of record or any person designated by the property owner who has applied for or is requesting a permit.
ASTM	American Society for Testing and Materials.
Best Management Practices or BMP	A BMP is a practice or combination of practices that is determined to be the most practicable means of preventing or reducing the amount of pollution generated by non-point sources to a level compatible with water quality goals.
Board of County Commissioners or BOCC	The El Paso County legislative board.
CDOT	Colorado Department of Transportation.
Clear Zone	The total roadside border area, starting at the edge of the travel lane, available for safe use by errant vehicles. This area may consist of a shoulder, a recoverable slope, a nonrecoverable slope or a clear runoff area.
Construction Plans	Project drawings subject to County review and approval prior to construction that show the location, character, and dimensions of the proposed work, such as layouts, profiles, cross sections, details, methods, and general notes.

Construction Representative	The person who directly inspects or who directly supervises the inspection of the construction of a project, on behalf of the permit holder, to ensure compliance with the plans and standard specifications. The Construction Representative maintains the Engineering Record Drawings. The Construction Representative is not required to be a register Professional Engineer, but shall have adequate construction and design experience to perform the work required by these standards.
Contractor	A person, partnership, corporation, subcontractor or other legal entity that undertakes to construct, install, alter, move, demolish, repair, replace, excavate or add to any public improvements covered by these Standards.
County	El Paso County, Colorado.
County Attorney	El Paso County Attorney.
County Engineer	The County Road Engineer for El Paso County with authority and duties as designated in Colorado Revised Statutes or his/her authorized designee.
Deceleration Lane	A speed change lane including tapered areas, to enable a turning vehicle to slow to a safe turning speed after it has left the mainstream of faster moving traffic
Defect Warranty Period	Shall be the time frame during which the permit holder is held liable for all work performed and materials utilized prior to final acceptance by El Paso County.
Design Engineer	The engineer who directly prepared plans and calculations or who directly supervises the preparation of project plans and calculations. The Design Engineer seals, signs, and dates the plans and calculations certifying that they meet the required standards.
Design Speed	A selected speed used to determine the various geometric design features of the roadway.

Developer	A property owner, or his/her agents or contractors, who are responsible for applying for or receiving a permit or approval for development.
Development Agreement	An agreement with the County which clearly establishes the terms and conditions of the approval, including the applicant's responsibility regarding project phasing, the provision of public and private facilities and improvements, and any other mutually agreed to terms and requirements. The agreement may also serve to implement the site specific development plan which establishes vested rights under Article 68 of Title 24, C.R.S.
Deviation	A technical adjustment from these Standards approved by the ECM Administrator due to unusual circumstances.
Driveway	A facility for the passage of vehicles that provides access from the edge of a public or private road to the edge of the right-of-way or easement and serving no more than three lots or parcels.
DSD	El Paso County Development Services Department.
Easement	A right granted by a property owner to specifically named parties or to the public for the use of certain land for specified purposes. Where appropriate to the context, easement may also refer to the land covered by the grant.
ECM	The El Paso County Engineering Criteria Manual.
ECM Administrator	The County Engineer or his/her authorized designee.
Encroachment	Occupancy of a County right-of-way by non-roadway structures or other objects.

Emergency Work	Construction work that responds to an unforeseen combination of circumstances or the resulting conditions that call for immediate action to restore utility service, pedestrian and traffic flow, or mitigate a safety hazard.
Encroachment	Occupancy of the County right-of-way by non-County-owned non-roadway structures or other objects.
Engineer	A Professional Engineer licensed by the State of Colorado.
EPC DOT	El Paso County Department of Transportation.
FEMA	Federal Emergency Management Agency.
FHWA	Federal Highway Administration.
Final Acceptance	The acknowledgement by the County that the defect warranty period has expired and there are no outstanding items to be corrected under the provisions of the defect warranty.
Franchise	A document granted by the County authorizing the use of County right-of-ways by public or private entities, subject to specified conditions in accordance with State law.
Full Movement Intersection or Access	An intersection or access that allows a full range of turn movements between the two intersecting roads or access.
Inspector	The authorized representative of the County Engineer assigned to make detailed inspection of construction work to assure compliance with these Standards and the plans as approved by the County.

ITE	Institute of Transportation Engineers.
Intersection	The area embraced within the prolongation or connection of the lateral curb lines, or if none, the lateral boundary lines of the roadways of two roads that join one another at, or approximately at, right angles, or the area within which vehicles traveling on different roads that join at any other angle may come into conflict. The junction of an alley or driveway access with a roadway or highway shall not constitute an intersection.
Land Development Code or LDC	The zoning, subdivision, and other land development regulations adopted by the Board of County Commissioners.
Level of Service or LOS	A qualitative measure of traffic flow. Six levels are defined as A through F with A being the best operating conditions and F being the worst (See Highway Capacity Manual).
Manual	El Paso County Engineering Criteria Manual.
MPH	Miles per hour.
MUTCD	The Manual on Uniform Traffic Control Devices, published by the U.S. Department of Transportation.
Neighborhood Path	A local pathway system that may or may not connect to a larger regional trail network.
Notice to Proceed	A document issued by the ECM Administrator authorizing a permit holder to begin construction of common development, subdivision or public improvements in accordance with an approved set of plans.
NPDES	National Pollutant Discharge Elimination System.

Owner	Any individual, corporation, partnership or other legal entity holding controlling title on property that is the subject a permit or improvements covered by these Standards.
Permit Holder	Any individual, corporation, partnership or other legal entity holding a valid permit authorized pursuant to the ECM.
Posted Speed	Maximum vehicle speed signed along a roadway.
Preliminary Acceptance	An acknowledgement by the County that, to the best of the County's knowledge, all work has been completed in accordance with the plans and specifications and the defect warranty period should begin.
Public Improvements	Improvements under the ownership or control of the County and maintained by the County including, but not limited to, the components of the street system and storm drainage system covered by these Standards.
Public Utility	Public utility as defined by Section 401103, C.R.S., 1973.
Record Drawings	An approved final revision of a design drawing or plan updated to include information from field inspections showing the true condition or configuration of what has been built. The drawing or plan is designated Record Drawing by stamp or lettering on the drawing.
Regional Trail	A bike or pedestrian facility designated by the County as a regional trail.
Right-of-Way or ROW	All property in which the County has any form of ownership or title and which is held for public purposes, regardless of whether or not any public improvement exists thereon or whether or not it is used, improved, or maintained for public use.
Roads, Private	Privately-owned and maintained road provided for by a tract, easement or other legal means, typically serving more than 3 lots, parcels, or tracts that do not have frontage on a public road right-of-way. Access to these facilities by the public is restricted. Like public roads, these facilities shall be built to public road standards.

Roads, Public	A road located within a right-of-way or easement that is not in private ownership. This term shall include roads in rights-of-way and easements however acquired by the public, including dedication and prescription.
Standards	The requirements contained in the El Paso County Engineering Criteria Manual.
Subdivision Improvements Agreement	An enforceable agreement between an applicant and El Paso County that serves as the security arrangement to secure the cost of public improvements required by the ECM and LDC.
Surety	A financial guarantee, by the applicant or permit holder and naming El Paso County as beneficiary, that public infrastructure and other common development or subdivision improvements required by the ECM, LDC, or other County rules and regulations will be completed.
Surveyor	A Professional Land Surveyor licensed by the State of Colorado.
Transportation Impact Study or TIS	A report that documents a study of traffic conditions before and after construction of a proposed development. It addresses any deficiencies in the transportation system, either current or after development, and proposes recommended mitigation.
Warrant	A threshold condition that, if found to be satisfied as part of an engineering study, shall result in analysis of other traffic conditions or factors to determine whether a traffic control signal or other transportation system improvement is justified.