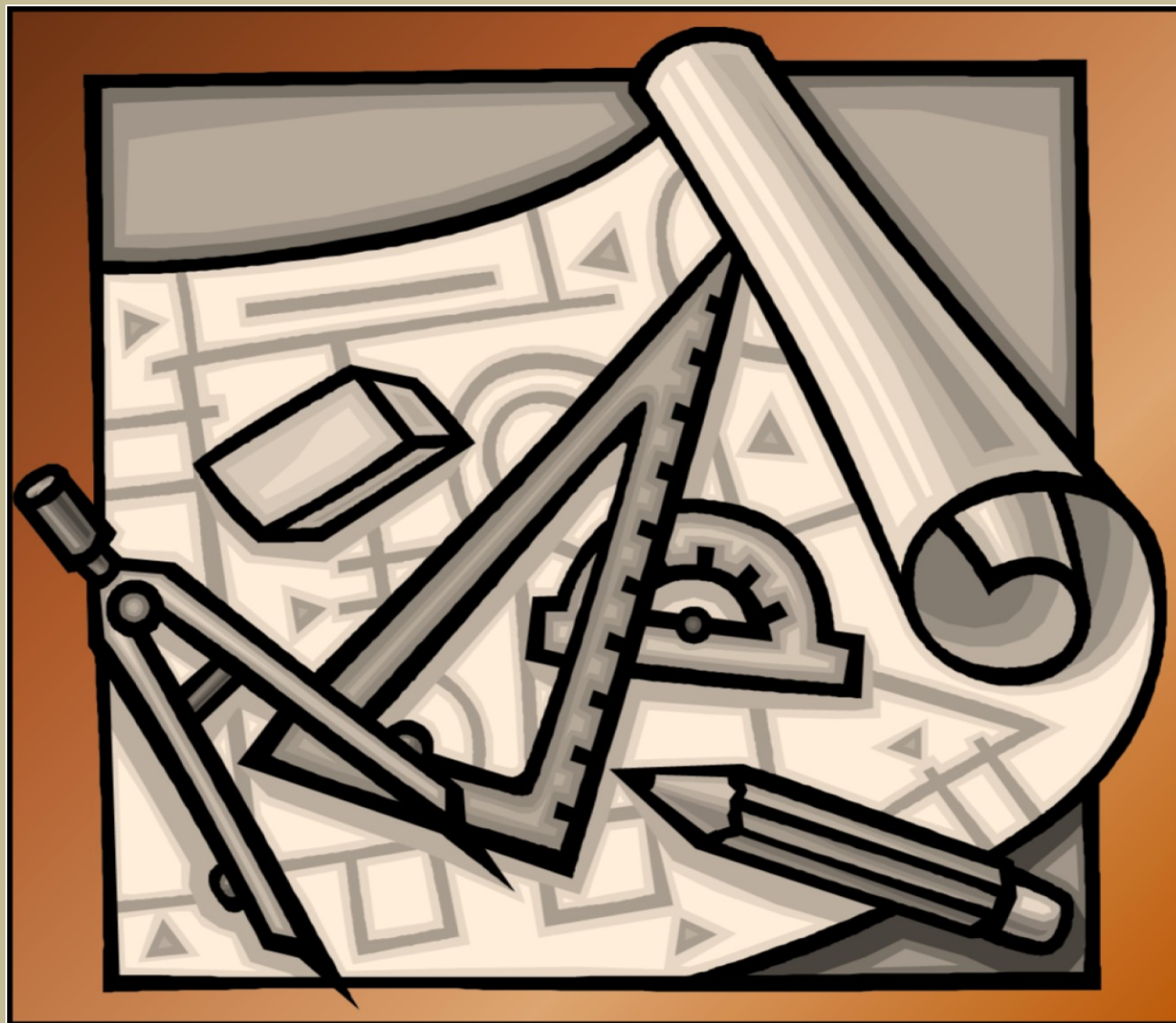


# SSID



**Submittal Standards for  
Improvements & Development  
October 2012**

## **PREFACE**

These regulations shall be referred to as the "Submittal Standards for Improvements and Development" or "SSID." These regulations have been prepared through a concerted effort by the Public Works, Utilities & Planning Department for the purpose of establishing City standards for development submittals. The City acknowledges the benefit of keeping communication lines open regarding the review process.

Applicants should be aware that City Staff does not represent the Applicant or the Applicant's interests. While City Staff will provide assistance regarding Zoning and Development Code requirements and interpretations, it is incumbent on Applicants and their representatives to understand the submittal requirements and code requirements and design projects accordingly.

**SUBMITTAL STANDARDS**  
**for**  
**IMPROVEMENTS and DEVELOPMENT**  
**(SSID)**

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October 2, 2012

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**APPENDIX A: Document Naming List**

**APPENDIX B: Document Orientation Guide**

**SECTION I.**  
**PURPOSE AND SCOPE**

# I. PURPOSE AND SCOPE

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## A. PURPOSE

1. Development codes and related design and improvement standards encourage quality planning, design and construction. With thorough application of development regulations, owners and the public at large will experience fewer adverse effects from development practices, and when high quality development is achieved, they will enjoy a better quality of life.
2. SSID presents in clear, concise terms what is required for various developments to occur; the content of the applications, the requirements for various plans, reports and other details are stated.

## B. AUTHORITY AND SCOPE

1. **JURISDICTION.** These regulations apply to all development and associated required improvements occurring within the City of Grand Junction.
2. **CONFLICTING PROVISION.** If these regulations conflict with other City ordinances, policies, regulations and/or implementing manuals or documents, then the ordinance, regulation, policy and/or implementing manual(s) that is established or adopted later in time, and results in a better outcome for the City, shall control.



**SECTION II.**

**APPLICATION PHASE**

**SUBMITTALS**

## II. APPLICATION PHASE SUBMITTALS

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- A. **SUBMITTAL REQUIREMENTS.** Whether a development becomes a valuable asset or a liability to the community is largely dependent upon how well the project is planned, designed, and constructed. Once a development is committed to “paper”, it will be reviewed by agencies with a broad diversity of expertise and interests. In this manner, each development is benefited by a “team” review.
- B. **MINIMUM SUBMITTAL REQUIREMENTS.** The Applicant will be advised of application requirements during the Preapplication or General Meeting Conference. A Preapplication Conference is highly recommended, but not required, for more complex projects. General Meetings may be in the form of an informal sit-down meeting with staff or less complex projects may receive application materials and general advice on application requirements in an abbreviated process referred to as a “Counter General Meeting.” A Submittal Checklist(s) for the type of development proposed will be completed by Staff. The Submittal Checklist shall be completed by City Staff as appropriate for the development proposed. Review agencies may require the Applicant to submit maps, drawings, documents, and/or information that was not required in the Submittal Checklist. The Applicant is always encouraged to discuss the proposed project with the project planner and/or any review agency(ies) prior to submittal of a Development Application to the City. The assigned planner is the manager of the City review process.
- C. **CHECKLIST.** A General Submittal Checklist, is available for the Development Application. The Submittal Checklist is to be completed for the specific project by City Staff, and Staff will provide additional application materials.

**SECTION III.**  
**SUBMITTAL FORMAT**

### III. SUBMITTAL FORMAT

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This section describes the format that shall be used when submitting an application.

#### A. GENERAL REQUIREMENTS

1. **Fees.** An application fee is due at the time of project submittal. Checks shall be made payable to the City of Grand Junction. Fees are set by City Resolution and may be adjusted from time-to-time. Separate fees may apply to different application types, application requirements, or review agencies.
2. **Application materials.** All application materials shall be submitted in electronic .pdf format (pdf - A is not acceptable).
3. **Authenticity.** By submitting electronic documents to the City for review, the applicant represents that the documents are authentically what they purport to be and that the applicant has the authority to submit them.

#### B. DRAWINGS. All drawings shall be submitted in electronic format (unless specifically called out as a paper submittal), named and oriented as described in subsections below.

1. **Naming.** Each document, plat and/or plan shall be submitted as an individual pdf document(s). The documents shall be named in the following format:

<document name yyyy-mm-dd>

Example: Site Plan 2012-07-04

\*See document naming conventions in Appendix A

2. **Orientation.** All pages shall be oriented with the top of each document oriented to the top of each page. See Appendix B - Document Orientation Guide for examples of correct orientation.
3. **Color.** All documents and drawings shall use black and / or dark colors only. Use of light colors (i.e. yellow, cyan etc) will not be accepted.
4. **As-Built Sketches.** Draft or red-lined versions of the approved plans shall be submitted to Engineering individually folded.
5. **As-Built Drawings** As-built drawings shall consist of an electronic copy of sealed prints in addition to a compact disk compatible with AutoCAD .dwg and .pdf files for all required drawings.

**SECTION IV.**

**GENERAL SUBMITTAL  
REQUIREMENTS**

# IV. GENERAL SUBMITTAL REQUIREMENTS

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## A. ADMINISTRATIVE REQUIREMENTS

### 1. Annexation Documentation

The following documents are necessary to prepare/submit an annexation petition.

- a. A Parcel Map showing the subject property and all other property adjacent to the subject property that are owned by the same owner;
- b. Tax Identification number for the subject property to be annexed;
- c. Legal description of the subject property to be annexed;
- d. A copy of the owner's deed;
- e. Complete list of owners' names and addresses if the owners do not reside on the property to be annexed; and
- f. Improvement survey.

These documents are submitted to the Public Works & Planning Department.

The annexation petition is drafted and returned to the property owner(s) for signature(s) in the presence of a Notary Public. The petition is then filed with the Public Works & Planning Department. Applicants will be advised of the dates and times of the meetings concerning the annexation application.

2. Appraisal of Vacant Land. For all development requiring payment into the parks/open space acquisition and/or development fund, an appraisal of fair market value of the unimproved land is required. The appraisal shall be a sales comparison appraisal done at the Applicant's expense and performed by an accredited certified MAI appraiser licensed by the State of Colorado. The appraisal shall be current within 30 days of the approval date.

3. Avigation Easement A dedication and/or conveyance of navigable airspace to an infinite height above the surface of the grantor's property. An avigation easement shall include a release by the grantor binding on successors and assigns, which shall run with the land, of all claims or causes of action, now or in the future, which arise from noise, vibrations, smoke, fumes, glare, fuel particles or any other cause by the operation of aircraft.

4. Boundary Agreement Any boundary agreement must be submitted for review. A map accompanying the agreement at a minimum shall be a sketch drawn to scale of the legal descriptions, showing a graphical depiction of the intents and limits of each lot, tract, or parcel of land included within the boundary agreement as the lots, tracts, or parcels of land shall exist henceforth as agreed. The sketch shall include a graphical depiction of all easements on each lot, tract, or parcel of land. All adjoining properties shall be identified. The sketch shall be signed and sealed by a professional

licensed land surveyor. If a plat accompanies the agreement, it shall comply with the plat requirements contained elsewhere herein. The final approval shall be the recording of the boundary agreement with the map or plat.

5. **County Treasurer's Tax Certificate** A current copy of the Treasurer's Certificate of taxes due.
6. **Covenants, Conditions, and Restrictions** A draft copy of Covenants, Conditions and Restrictions must be provided if there are common elements. The executed document will be recorded with the plat for the subdivision. Proof of incorporation of a Homeowner's Association (HOA) filed with the Secretary of State must also be provided.
7. **Conveyances** See Deed.
8. **Condominium Plat** The final plat which is recorded and any other instruments referred to in the condominium declaration that depicts the size, location, area, horizontal and vertical boundaries and area of each condominium unit, as well as the nature, location and size of the common elements.
9. **Deed** A document conveying and evidencing conveyance of land or conveyance of an interest in land. The City may specify the form (such as Warranty Deed, Special Warranty Deed, *etc.*) of any and all deed(s) submitted or required to be submitted. Conveyances to the City shall be done with a Warranty Deed unless approved otherwise by the Director. Proposed deed form(s) for conveyance of land or an interest in land to the City or to another as part of the development shall be submitted with a Development Application. Recording of deed(s) and payment of associated fees are the Applicant's sole responsibility. Final approval of any project is contingent upon the execution and recordation of any and all required deed(s).
10. **Development Improvements Agreement (DIA) and Guarantee**
  - a. **Agreement** The DIA consists of a detailed, itemized contract with the Applicant for the construction of public improvements, as well as the landscaping required for a development; quantities and costs shall be established. The agreement shall be approved by Public Works & Planning Director or their designees. The agreement shall include a date for completion of all improvements. A memorandum shall be recorded prior to recording a plat, issuance of a Planning Clearance or commencement of a use, whichever comes first. The Applicant shall pay all recording fees.
  - b. **Exhibit A "Legal Description"** A typed legal description of all properties involved in the proposed development. This must be a separate document from that which may be provided on drawings and sent via electronic mail to the Public Works & Planning Department. A

description obtained from the Mesa County Assessor's office is unacceptable. Identify the source of the description and, if known, the author of the description.

- c. **Exhibit B “Cost Estimate”** For initial project submittal and review, only the completed Exhibit B need be submitted for review. If a DIA is required, then at project approval a complete agreement with the security must be provided.
  - d. **Exhibit C “Guarantee”** The guarantee shall secure the construction of the public improvements and/or private improvements as shown in the agreement. Acceptable guarantees are as set forth in the Zoning and Development Code.
  - e. **Exhibit D “Recording Memorandum”** Document recorded with the Mesa County Clerk & Records Office, referencing a Development Improvements Agreement for the property and providing that the requirements contained therein shall run with the land and bind all successors, heirs, and assignees of the applicant
  - f. **Release of Agreement** A DIA shall not be released unless written verification is provided, in a form as required by the City Attorney, that there are no outstanding judgments or materialmens’ or suppliers’ liens against the property with indemnification of the City from the same. The Director shall review, and if appropriate, approve the release of the DIA. Release of the DIA, in whole or in part, does not constitute a Certificate of Completion and Release of Responsibility. The Applicant shall pay all recording fees associated with the recording memoranda to release the DIA.
  - g. **Release of Guarantee** The release of the guarantee shall be determined by the terms stated in the guarantee.
11. **Development Schedule** A development schedule, where required, shall be provided to indicate a project’s proposed start and completion dates, by phase or filing.
12. **Easement** A dedication to the City or other entity and/or conveyance by deed of an interest in land, (to the City of Grand Junction or other appropriate agency) for the use of said interest in land, for specific purposes, under such terms, conditions and requirements as established. Conveyances to the City shall be done with a Warranty Deed unless approved otherwise by the Director. Recording of deed(s) and payment of associated fees are the Applicant's sole responsibility. Final approval of any project is contingent upon the execution and recordation of any and all required deed(s).
13. **Haul Route Plan** A haul route plan is required to show proposed routing of all truck traffic from the project location to the truck route system. Primary



routes shall be indicated along with any proposed secondary routes. Projects with no proposed truck traffic on a local street system or non-truck route system shall state such.

**14. Ownership Information**

a. **Ownership Statement** An Ownership Statement for the appropriate development application(s) shall be completed by each owner of the land for a development application with the initial submittal. If the owner(s) change during the application process a new Ownership Statement shall be provided by each new owner. If any of the information included in the Ownership Statement changes during the process, a new Ownership Statement shall be completed by each owner reflecting the change.

b. **Proof of Owner(s)** A commitment for title insurance shall be required for all subdivision plats and condominiums. At the City's request, a commitment for title insurance for any development application may be required. A current commitment for title insurance shall be provided before the approval of a development application that is no more than five (5) days old which shall set forth the names of all owners of the property included in the application and a list of all persons who have/may have an interest in the land via liens and encumbrances including mortgages, judgments, easements, contracts and/or agreements of record that affect the property covered in the applications(s). If the application is not approved because of changes required to the project due to the information found in the commitment for title insurance, an updated commitment for title insurance may be required.

For final plats, if the title commitment discloses mortgages, judgments, liens, contracts or agreements, all holders, owners and others that claim a right, title or interest in the property by or through the same shall be required to approve the plat in writing by signing and notarizing a ratification of the plat and otherwise releasing and/or subordinating their interest(s) before the plat will be recorded.

c. **Lease Agreements** If the Applicant is a Lessee, then a copy of the lease agreement shall be provided with the initial application submittal in addition to the information required in a. and b. above.

**15. Legal Description** A typed legal description of all properties involved in the proposed development. This must be a separate document from that which may be provided on drawings and sent via electronic mail to the Public Works & Planning Department. A description obtained from the Mesa County Assessor's office is unacceptable. Identify the source of the description and, if known, the author of the description.

16. **Name and Address List** A list of all names and addresses of all property owners within 500 feet and all registered HOA/POA's within 1000 feet of all boundaries of the property. The Mesa County Assessor's records shall be used to determine all ownership(s) within the radius. The City will provide a name and address list.
17. **Power of Attorney for Improvement District** A form provided by the City. At the City's option, in lieu of construction of certain improvements, the commitment to participate in a future improvement district, if one is formed, is required. The property owner's signature is required.
18. **Right-of-Way (ROW)** Right-of-Way dedications are dedications and/or conveyance of land to the City of Grand Junction or other government agency for the use and/or ownership of the land for the construction, improvement and maintenance of public roads, highways, accesses and other public installations, uses, and/or improvements. ROW may also mean and refer to any platted or designated public street, alley, lane, parkway, avenue, road or other public way, whether or not it is constructed or has been used as ROW or for any other public purpose. The Applicant may be required to verify that there is adequate ROW existing to serve the project and, if not, to provide the same.
19. **Sign Plan/Sign Package** A drawing of all proposed exterior building and project signage showing sign lettering and graphics, sign mounting, sign dimensions, letter height and mounting height. A depiction of the location of proposed sign(s) shall be provided. A sign package is intended only to be applicable to building and business signage and not directional or traffic signage.
20. **Site Data Table** The Site Data Table provides information regarding the proposed land use(s) of the developing property. The table depicts the proposed square footage(s) for each use. A site data table establishes the size of the structure(s) with their prospective use(s), existing structure(s) on the site, retention area(s), hard surface area(s) (such as sidewalk and parking), landscaping area(s) and undeveloped ground.
21. **Submittal Checklist** This form is provided to the Applicant after the Preapplication Conference or General Meeting. The Submittal Checklist shows the specific submittal requirements for a particular project.
22. **Surveyor Verification** The Applicant(s)' surveyor shall complete a verification on a form provided by the City with the initial submittal of a development application that includes a plat. Final verification on a form provided by the City shall be required by the surveyor before approval of the final plat for any subdivision, including but not limited to simple subdivisions, major subdivisions, and condominiums.

**B. SPECIAL ENGINEERING AND PERMIT REQUIREMENTS.** Engineering and permit requirements that are not presented to/prepared for the City in the form of a drawing or a report are noted here.

1. **404 Permit** Development applications that will or might impact waters of the United States including “jurisdictional wetlands” are reviewed by the Army Corps of Engineers (COE). An original or verified copy of the COE approved or issued permit, shall be submitted to the City as a part of the Development Review process.
2. **CDOT Access Permit** Development that will require additional or modified access to a State Highway requires approval and a written permit from the Colorado Department of Transportation (CDOT). Highways 6, 6 Bypass (North Avenue), 24, 50, I-70, I-70 B, 141 and 340 are under CDOT jurisdiction. The Access Permit is negotiated by and between the Applicant and CDOT and a Notice To Proceed (NTP) issued by CDOT is required prior to plan approval.
3. **Certificate of Appropriateness** A separate form submitted by the applicant that provides detailed information regarding a proposed alteration to a building or site that is located within the boundaries of the North Seventh Street Historic Residential District.
4. **Floodplain Permit** A Floodplain Elevation Certificate (FEC) is provided by the Federal Emergency Management Agency (FEMA) on their website. The form must be completed by the Applicant’s engineer and/or land surveyor. An original or verified copy of the initial FEC shall be submitted to as a part of the Development Review process. After construction, the final FEC shall be submitted showing the final constructed elevation. The same applies for floodproofing certificates.
5. **Industrial Pretreatment** All commercial or industrial facilities shall complete an Industrial Pretreatment Survey (attached). Any facility that will be contributing process wastewater (anything other than domestic wastewater) to the sanitary sewer system shall contact the Persigo Wastewater Plant Industrial Pretreatment Program at 970-256-4180 for an application. A discharge permit may or may not be required. A verified copy of approval or issued permit, if any, shall be submitted to Public Works & Planning as a part of the Development Review process.
6. **National Pollution Discharge Elimination System (NPDES) – Colorado Department of Public Health and Environment (CDPHE) and 5-2-1 Drainage Authority Construction Activity Permits** In accordance with State and Federal regulations, a NPDES and/or CDPHE permit is required where construction activity for all phases of a project will disturb more than one acre of surface area of land. An original or verified copy of the 5-2-1 Drainage Authority approved or issued permit shall be submitted prior to project approval.

**SECTION V.**

**DRAWING AND  
GRAPHIC STANDARDS**

# V. DRAWING AND GRAPHIC STANDARDS

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All drawings, maps, exhibits, sketches, and plans shall conform to these standards.

Drawing Standards Checklists are prepared to indicate both drawing content as described in the “Features” section and graphic standards elements specified by letter designation in the “Graphics” section. This letter designation corresponds to the listed graphic standards at the end of this section.

In general, all drawings must comply with all graphic standards elements, whether listed on each Drawing Standard Checklist or not. Exceptions to graphic standards are specifically listed. Special conditions or instructions pertinent to the Graphic Standards may be included in the Drawing Standard Checklist.

# DRAWING STANDARDS CHECKLIST

## COMPOSITE PLAN

ITEM	GRAPHIC STANDARDS		
GRAPHIC STANDARDS	A	Scale: 1" = 20', 30', 40', or 50'	
	C	Utility lines are primary features.	
	D	Notation: All non-construction text	
	E	Line weights of existing and proposed (secondary and primary) features	
	F	Horizontal control: Subdivisions tied to Section aliquot corners	
	G	Vertical control: Benchmarks on United States Geological Survey (USGS) United States Geological Survey	
	H	Orientation and north arrow	
	J	Title block with names, titles, preparation and revision dates	
	L	Legend of symbols used	
	M	List of abbreviations used	
	O	Multiple sheets provided with overall graphical key and match lines	
P	Contouring interval and extent		
Q	Neatness and legibility		
ITEM	FEATURES		
REVISIONS	1	Use the Preliminary Subdivision Plan or Site Plan as a base drawing. The base drawing shall be an overall plan view of the development indicating all property lines, easements, building envelopes (for residential subdivisions) or building footprints (commercial developments), proposed roadways, parking areas (commercial), major drainageways, and other significant improvements.	
	2	Show and size water mains including hydrants, vaults, valves, bends, tees and crosses.	
	3	Show and size sanitary sewer mains in plan view only including manholes, force mains, pump stations and other structures. Indicate pipe distances, flow directions and slopes.	
	4	Show and size storm drain pipes, culverts, and inlets. Indicate pipe types, distances, flow directions and slopes	
	5	Show and size irrigation crossings or systems, existing and proposed, for installation within the right-of-way or public easement areas.	
	6	Show 100-year floodplains. Delineate 100-year floodplain using FIRM (Flood Insurance Rate Maps) from FEMA (Federal Emergency Management Agency), and National Wetlands Survey maps, or other engineering studies	
	7	Show proposed and existing power, telephone, gas, cable television, and irrigation water, sewer, storm sewer and other utilities (unless shown on a separate plan)	
<b>COMMENTS</b>			

# DRAWING STANDARDS CHECKLIST

## DETAIL SHEET

	ITEM	GRAPHIC STANDARDS	
GRAPHIC STANDARDS	A	Scale: as required	
	F	Location: All primary facilities are fully located horizontally and vertically	
	H	Orientation and north arrow	
	I	Stamped and sealed drawings by a Professional Engineer registered in Colorado	
	J	Title block with names, titles, preparation and revision dates	
	K	Reference to City Standard Drawings and Specifications	
	L	Legend of symbols used	
	M	List of abbreviations used	
	P	Contouring interval and extent	
	Q	Neatness and legibility	
	ITEM	FEATURES	
DETAILS	1	All necessary features shown and dimensioned	
	2	All proposed materials specified	
	3	Existing features shown as required for understanding	
	4	Elevations shown as appropriate	
	5	References to where features detailed may be found on other drawings	
	6	All non-standard details not contained on individual sheets	
	7	Any other pertinent information	
	8	Space for approval by City Engineering with date and title unless part of a Special Utility District standard Detail Sheet	
<b>COMMENTS</b>			
Do not show City standard details except street cross-section. They may merely be referenced.			

# DRAWING STANDARDS CHECKLIST

## ELEVATION AND/OR PERSPECTIVE DRAWING

ITEM	GRAPHIC STANDARDS	
GRAPHIC STANDARDS	A	Scale: 1/8" or 1/4" = 1.0 foot
	J	Title block with names, titles, preparation and revision dates
	Q	Neatness and legibility
ITEM	FEATURES	
DETAILS	1	Elevations of all sides for all proposed structures
	2	Identify all exterior materials, finishes, textures and colors
	3	Show location of all signs, exterior furnishings and other elements that effect the elevation of structures
	4	Indicate all doorways and building openings
	5	Indicate all exterior mechanical equipment including roof top mounted equipment and screening, if proposed
	6	Heights of all proposed structures
	7	Space for approval signature by Public Works & Planning Development Engineer & Planner with date and title
COMMENTS		



# DRAWING STANDARDS CHECKLIST

## GRADING PLAN

ITEM	GRAPHIC STANDARDS
GRAPHIC STANDARDS	A Scale: Match the Site Plan scale
	C Primary features consist only of proposed grading and drainage facilities
	D Notation: All non-construction text, and also construction notation for all primary features
	E Line weights of existing and proposed (secondary and primary) features per City Graphic Standards
	F Location: All primary facilities are fully located horizontally and vertically
	F Horizontal control: Subdivisions and all public utilities (final drawings) tied to Section aliquot corners
	G Vertical control: Benchmarks on United States Geological Survey (USGS) datum
	H Orientation and north arrow
	I Stamped and sealed drawings by registered professional competent in the work
	J Title block with names, titles, preparation and revision dates
	K Reference to City Standard Drawings and Specifications and inspection requirements
	L Legend of symbols used
	M List of abbreviations used
	O Multiple sheets provided with overall graphical key and match lines
	P Contouring interval and extent
	Q Neatness and legibility
ITEM	FEATURES
ADDITIONAL INFORMATION	1 Use the Site Plan as a base map or otherwise provide the same information
	2 Existing contours extending a minimum of 50' offsite to indicate offsite grading patterns and elevations and grading conformance
	3 Proposed contours for the entire site
	4 Lowest floor elevations are provided and are at least 1.0 foot above 100-year flood level, and 0.5 foot above the site outfall
	5 Show grades at all points of curvature, angle, tangency, grade breaks and changes, swales, channels, pipes, inlets, and other primary features, and also existing grades at tie-in locations
	6 Provide grade slopes between elevations provided in (5) above
	7 Show detention/retention basins with contours (off pavement) or delineation(on pavement)
	8 Indicate 10- and 100-year runoff and WQCV storage volumes and ponded water surface elevation
	9 Show existing contours on adjacent property as necessary to demonstrate how the site grade matches at the property line
	10 Show lot grading per the applicable administrative regulation
	11 Space for approval signature by City Engineering with date and title
	12 Show retaining walls, cut and fill slopes and other significant grading factors
	13 Provide a detail of typical lot grading, if any
	14 Floodplain, floodway and jurisdictional wetlands delineation.
	15 If a Storm Drainage Plan and Profile is not necessary, then all proposed drainage facilities also will be primary features (see C, D, E, & F above) If storm sewers and manholes are not proposed, then City staff may allow an option to omit the Storm Drainage Plan and Profile, in which case Item 12 must be completed
	16 Copy of the plan itself (24" X 36" format); Tabulation of the lots, top of floor elevations referenced to a subdivision benchmark and the designer's determination of the range of variation allowable for each lot. Upon receipt of this information, the Mesa County Building Department will deliver a letter acknowledging this information to the City of Grand Junction Public Works & Planning Department
COMMENTS	
1	This plan may also have full horizontal control on it if not provided on the Site Plan
2	This plan does not substitute for the Pre and Post-Development Drainage Maps

# DRAWING STANDARDS CHECKLIST

## INSIDE COVER SHEET

ITEM	GRAPHIC STANDARDS	
GRAPHIC STANDARDS	Q	Neatness and legibility
ITEM	FEATURES	
PROJECT INFORMATION	1	Project notes (general, water, sanitary, storm, grading, roadway) and special specifications
	2	List of abbreviations
	3	Legend
	4	Signature approval block for City Engineer, and applicable utility purveyors
<b>COMMENTS</b>		

# DRAWING STANDARDS CHECKLIST

## INSTITUTIONAL AND CIVIC FACILITY MASTER PLANS

ITEM	GRAPHIC STANDARDS	
GRAPHIC STANDARDS	A	Scale: 1" = 20', 30', 40' or 50'
	H	Orientation and north arrow
	J	Title block with names, titles, preparation and revision dates
	Q	Neatness and legibility
ITEM	FEATURES	
	1	Site boundary and adjacent property lines, land uses, and zoning
	2	Total site acreage
	3	All existing and proposed easements, streets, and right-of-ways
	4	Traffic ingress, egress, traffic flow patterns, and traffic control features
	5	All paving and concrete walks, pads, ramps or pedestrian corridors
	6	General building location and size/possible expansion areas
	7	Identify delivery or service areas
	8	Pedestrian circulation areas
	9	Adequate parking areas
	10	Location of open space and trails
	11	Drainage and stormwater management areas
	12	Areas where screening and/or buffering will be provided
<b>COMMENTS</b>		

# DRAWING STANDARDS CHECKLIST

## IRRIGATION PLAN & PROFILE

ITEM	GRAPHIC STANDARDS			
GRAPHIC STANDARDS	A	Scale: 1" = 20', 30', 40', or 50' H: 1" = 2', 3', 4', or 5'		
	C	Primary features consist only of proposed irrigation facilities		
	D	Notation: All non-construction text, and also construction notation for all primary features		
	E	Line weights of existing and proposed (secondary and primary) features per City Graphic Standards		
	F	Location: All primary facilities are fully located horizontally and vertically		
	F	Horizontal control: Subdivisions and all public utilities (final drawings) tied to Section aliquot corners		
	G	Vertical control: Benchmarks on USGS datum		
	H	Orientation and north arrow		
	I	Stamped and sealed drawings by a Professional Engineer registered in Colorado		
	J	Title block with names, titles, preparation and revision dates		
	K	Reference to City Standard Drawings and Specifications		
	L	Legend of symbols used		
	M	List of abbreviations used		
	O	Multiple sheets provided with overall graphical key and match lines		
	P	Contouring interval and extent		
	Q	Neatness and legibility		
ITEM	FEATURES	Plan	Profile	
GENERAL INFO	1	Use the Composite or Site Plan as a base map or otherwise provide similar information		
	2	Show proposed contours or grading		
	3	Call out minimum cover over irrigation lines		
	4	Specify all irrigation system materials		
	5	Show all special details, or reference detail sheet		
	6	System shown conforms to Irrigation System Design Report, if any		
	7	Space for approval signature by City Engineering with date and title		
GRAVITY FLOW INFO	8		X	
	9		X	
	10		X	
	11		X	
	12		X	
	13		X	
	14		X	
	15		X	

### COMMENTS

1. Only items 1-7 are required for pressure flow systems.

# DRAWING STANDARDS CHECKLIST

## IRRIGATION SYSTEM DESIGN MAP

ITEM	GRAPHIC STANDARDS	
GRAPHIC STANDARDS	A	Scale: 1" = 20', 30', 40', or 50'
	H	Orientation and north arrow
	I	Stamped and sealed drawings by registered professional competent in the work
	J	Title block with names, titles, preparation and revision dates
	L	Legend of symbols used
	M	List of abbreviations used
	O	Multiple sheets provided with overall graphical key and match lines
	P	Contouring interval and extent
	Q	Neatness and legibility
ITEM	FEATURES	
ADDITIONAL INFO ITEMS	1	Use the Irrigation Plan and Profile as a base map or otherwise provide the same information
	2	Indicate total supply rate (based upon shares)
	3	Show source of supply water (canal or extension, headgate)
	4	Indicate all discharge points within the system and the allowed maximum rate of flow at that point
	5	Indicate peak potential flow quantity and velocity for each reach of the delivery system
	6	For pressurized systems, indicate minimum pressures under the worst case scenario (with pump operating)
	7	Any other information pertinent to review of the proposed system
	8	Information conforms to the Irrigation System Design Report
	9	Space for approval signature by City Engineering with date and title
COMMENTS		

# DRAWING STANDARDS CHECKLIST

## LANDSCAPE PLAN

ITEM	GRAPHIC STANDARDS
GRAPHIC STANDARDS	A Scale: 1" = 10' or 20'
	C Primary features consist only of landscape features
	D Notation: All non-construction text, and also construction notation for all primary features
	E Line weights of existing and proposed (secondary and primary) features per City Graphic Standards
	G Vertical control: Benchmarks on USGS datum
	H Orientation and north arrow
	I Stamped and sealed drawings by a Colorado licensed Landscape Architect
	J Title block with names, titles, preparation and revision dates
	L Legend of symbols used
	M List of abbreviations used
	O Multiple sheets provided with overall graphical key and match lines
	P Contouring interval and extent
	Q Neatness and legibility
ITEM	FEATURES
	1 Use the Site Plan as a base map
	2 Identify areas to be covered with specific landscaping materials
	3 Boulders, mounds, swales, water courses, rock outcroppings
	4 Planting Material Legend includes common and botanical names, quantities, minimum purchase sizes, mature height, groundcover/perennial spacing, types of soil and other remarks
	5 Specification of soil type and preparation
	6 Landscape irrigation layout, design, materials and details (if requested by City staff)
	7 Planting/staking and other details as required
	8 Required note on Plan: "An underground, pressurized irrigation system will be provided"
	9 Space for approval signature by Public Works & Planning with date and title
	10 Show proposed fencing w/ a fence detail
	11 Subdivision entrance or monument sign (if proposed)
	12 Calculations used to derive required number of trees, shrubs and turf
	13 Location of overhead utilities if crossing proposed landscaped areas
	14 Show all fire hydrants and all above ground utilities and manholes located within landscape areas.
	15 Sight triangle per TEDS at all intersections and access points.
<b>COMMENTS</b>	
1. This drawing may be eliminated if information may be put on the Site Plan. See Note (2) on the Site Plan Checklist.	

# DRAWING STANDARDS CHECKLIST

## LIGHTING PLAN

ITEM	GRAPHIC STANDARDS	
GRAPHIC STANDARDS	A	Scale: Same use on site plan
	H	Orientation and north arrow
	Q	Neatness and legibility
ITEM	FEATURES	
ADDITIONAL INFO	1	Use Site Plan as a base map
	2	Location of all light fixtures and a numerical grid, or an ISO foot-candle diagram of lighting levels (in foot-candles) that the fixtures will produce on the ground
	3	Area of illumination (including any off-site areas)
	4	Lamp type and wattage
	5	Mounting height of all fixtures
	6	Cut sheet showing the design of all fixtures and designation as IESNA "cut-off" fixtures
	7	Drawings of all relevant building elevations showing the location and aiming points of the fixtures
	<b>COMMENTS</b>	
1.	As-built sketches and drawings must contain the same information. Submittal format is different. See Section VIII.	
2.	Illuminating Engineering Society of North America	

# DRAWING STANDARDS CHECKLIST

## MAP FOR DISPUTED BOUNDARY AGREEMENT

ITEM	GRAPHIC STANDARDS
A	A graphic bar scale is required on every sheet showing any portion parcel(s). Scale: Must be legible, for example: 1" = 20', 1" = 30'.
B	Sheet size: Must be legibly show all information. There shall be a top margin of at least 1" and a left, right, and bottom margin of at least .5".
F	Horizontal control: Complete horizontal control for all boundaries. Parcels shall be tied to Section aliquot corners unless the subject parcel(s) lie within a platted subdivision. If the parcel(s) lie within a platted subdivision, then show sufficient ties to controlling lines appearing on the plat.
G	Vertical information, such as benchmark, must have the elevation referenced to an adopted datum and benchmark location readily identified
H	Orientation and north arrow required on every sheet of map
I	Stamped and original sealed drawings by professional licensed surveyor registered in Colorado Signature and Seal of Surveyor shall be as follows: a. In black, permanent, non-smearing waterproof ink; b. Seal may be computer generated; c. Signature shall be across the seal and dated; and d. Surveyors name and PLS number legibly printed below signature or seal.
L	Legend of symbols used
M	List of abbreviations used
O	Multiple sheets provided with overall graphical key and match lines. Each sheet shall show the particular number of that sheet and the total number of sheets included.
Q	Neatness and legibility. .08" minimum letter size of lower case lettering – in all cases, the letter size and scale used shall be of sufficient size to show all detail. (Drawings which do not adequately show detail shall be rejected.)
U	Nonfading permanent print shall be used
<b>Features</b>	
1	Identify all Parcels and adjoining properties.
2	Limits of parcel(s) shall be identified with a bold, heavy line
3	All section, quarter section, and sixteenth-section lines occurring within the parcel(s) shall be indicated by lines (lightly dashed) drawn on the map, with appropriate words and figures describing the same
4	Lengths shown to 0.01 foot, angles and bearings to seconds of an arc
5	Provide acreage of all individual lots, tracts, or parcels and also total area to 0.01 acres
6	All dimensions must be provided to verify boundaries
7	Easements a. All recorded and apparent easements included within a parcel or adjacent to the boundary adjustment shall be shown and described; b. Book and Page information for all recorded easements shown shall be given on the drawing(s) to which the information pertains; c. Easements must be fully and completely dimensioned and located dimensionally with respect to the boundary and/or lot lines; and d. Identify record use/proposed use of all easements (apparent and recorded).
8	Basis of bearings a. The basis of all bearings (using one of the four (4) generally accepted methods of stating a basis of bearing: astronomic, reference to a recorded survey, grid and assumed) shall be stated in writing; and b. The line used for the basis of bearings must be easily identified and tied to the boundary of the parcel(s) so that another surveyor may readily retrace all or part of the survey in the future.



# **DRAWING STANDARDS CHECKLIST**

## **MAP FOR DISPUTED BOUNDARY AGREEMENT**

Item	Features
9	Curves a. Must show, as a minimum, the central angle, arc length, radius, chord bearing and chord length; and All nontangent curves must be clearly identified and labeled as such.
10	Line and/or curve data may be shown in a tabular form
11	Map must also conform to any applicable State Statutes
12	Descriptions within the Disputed Boundary Agreement shall include the following: a. The City, County and State together with the Section, Township, Range and Principal Meridian shall be stated; b. Lots within a platted subdivision must include the Plat Book or Book and Page along with the Block and Lot number(s); and c. Must be complete so that from it, without reference to the map, the starting point and the boundary may be determined.
<b>COMMENTS</b>	
1. A plat may be used. If it is, then must comply with Drawing Standards for "Plat" see V-14.	

# DRAWING STANDARDS CHECKLIST

## ODP DRAWING

ITEM	GRAPHIC STANDARDS	
GRAPHIC STANDARDS	A	Scale: 1"=50', 100', or 200'
	H	Orientation and north arrow
	J	Title block with names, titles, preparation and revision dates
	Q	Neatness and legibility
ITEM	FEATURES	
	1	Use accurate property boundaries as base drawing
	2	Delineate land use areas including parks, school sites, open space and anticipated buffers or screening
	3	Label each area with land use, acreage and proposed density (if residential)
	4	Show roadway network on adjacent properties and proposed circulation diagram on site
	5	Delineate 100-year floodplain, wetlands and other major environmental features
	6	Identify zoning, land use and subdivision names (if applicable) of adjacent properties
	7	Summary chart with acreages and percentages of land uses and roadways and total number of units (residential) and/or square footage (non-residential) proposed
	8	Show slopes steeper than 30%
<b>COMMENTS</b>		
1. Land use areas and densities shall be identified in "bubble diagram" format.		

# DRAWING STANDARDS CHECKLIST

## PLAT

ITEM	GRAPHIC STANDARDS
DRAWING	A SCALE: Must be a legible scale, for example: 1" = 20', 1" = 30'... Graphic bar scale required on each sheet on which is shown any portion of the lands being platted.
	B Sheet size: 24" X 36" 4 mil. Mylar (polymer film) for recording. Minimum margins: 2" – left side; 1" – top, ½" bottom & right
	E Use non-fading black <u>permanent</u> print. No other colors or "sticky-backs" allowed. Limits of platted parcel must be a bold, heavy line. All section, quarter-section and sixteenth-section lines occurring within or adjacent to the subdivision and those used for control shall be indicated by lightly dashed lines drawn upon the plat, with appropriate words and figures describing same. Cross hatching, if used, shall be neat and legible and in no instances shall it obscure text or other graphical features.
	I North arrow is required on each sheet on which is shown any portion of the lands being platted
	K A unique plat title shall be placed in large, bold characters at the top center of each sheet with descriptive references, including the aliquot portion of the section, township and range, to be located directly beneath the plat title. Any replat of already platted property shall, in addition, include the name and recording information of the original plat. Plat names beginning with "The", "A" or "Replat" are not allowed. In addition, no numerical names, i.e. "2nd" shall be used.
	M Legend of symbols
	N Legend of abbreviations
	P Multiple sheet plats shall have match lines and a graphical key index map that must show the particular number of that sheet and the total number of sheets included.
	Q Neat & legible: 0.08" minimum text height for lower case lettering.
	S Model Language, as approved by the City Attorney (available on the City web site), shall be used.
U <u>Ink For Mylar Prints</u> - Only black, non-fading permanent print and inks shall be used on mylar prints.	
ITEM	FEATURES
IMPROVEMENT SURVEY PLAT	<p>1 A signed and sealed "Improvement Survey Plat," as defined by title 38, articles 50 and 51, C.R.S., shall be required with the initial submittal of the plat. This survey is the result of a monumented land survey and at a minimum must show the following:</p> <ol style="list-style-type: none"> <li>a) Fences and walls situated on the described parcel that are within five feet of all boundaries of such parcel. Existing structures shall be shown to confirm proper setback requirements when required.</li> <li>b) Any conflicting boundary evidence (from deeds, plats, other recorded instruments or physical observations/locations).</li> <li>c) All visible utilities (City Staff may request an underground utilities location service be used for certain areas of conflict).</li> <li>d) A statement from the surveyor that all recorded or known easements, rights-of-way and reservations as are available from the county clerk and recorder, a title insurance company or other sources are clearly described and properly located on the plat.</li> <li>e) Rights-of-way apparent from a field inspection of the subject property.</li> <li>f) Encroachments on, to and from the subject property. For example, all apparent physical use onto or from adjoining property or abutting streets must be indicated, with the extent of such use shown or noted upon the survey.</li> <li>g) The survey may be prepared by one licensed land surveyor and another land surveyor may prepare the subdivision plat provided that the boundaries on each are the same.</li> <li>h) Indicate and label all adjoining lands, referring to record data</li> </ol>
EASEMENTS & RIGHTS-OF-WAY	<p>2 Easements and Rights-of-Way:</p> <ol style="list-style-type: none"> <li>a) Include all recorded and apparent rights-of-way and easements and, if research for recorded rights-of-way and easements is done by someone other than the professional land surveyor who prepares the plat, the source from which such recorded rights-of-way and easements were obtained.</li> <li>b) Book and page (or reception number) recording information must be indicated on the drawing and copies of such instruments must be submitted to the City for review with the plat.</li> <li>c) Rights-of-way and easements must be completely dimensioned and/or located dimensionally to the boundary and/or individual lot lines.</li> <li>d) The use of all easements, rights-of-way and reservations - apparent and recorded - must be identified.</li> <li>e) Blanket easements (and other easements not limited to a portion of the property) affecting all or a portion of the site must be noted, including the book and page (or reception number) recording information.</li> </ol>

# DRAWING STANDARDS CHECKLIST

## PLAT

ITEM	FEATURES
BASIS OF BEARINGS	<p>3</p> <p>Basis of bearings:</p> <ol style="list-style-type: none"> <li>a) A written statement is required describing how the bearings were determined using one of the four (4) generally accepted methods of stating a basis of bearing: astronomic, reference to a recorded survey, grid or assumed.</li> <li>b) The line used for the basis of bearings must be graphically depicted and easily identified and tied to the boundary of the Plat sufficiently to enable another surveyor to retrace all or part of that survey in the future.</li> </ol>
EXTERIOR MONUMENTS	<p>4</p> <p>Exterior Monuments:</p> <ol style="list-style-type: none"> <li>a) Must be set <u>prior</u> to submission of the Mylar to the City for recording, and must be in place when the plat is recorded. The City will inspect the site immediately prior to recordation to verify the exterior boundary monuments are in place.</li> <li>b) Must be fully described - size, markings and composition - and shown on the plat.</li> <li>c) Must be embedded in the ground, set in concrete, or evidenced by a durable metal disk or cap which shall be securely anchored in concrete or rock.</li> <li>d) Must have a durable cap bearing the registration number of the responsible surveyor. If a cap of another surveyor is relied upon, that cap must clearly show the same information.</li> <li>e) Must be no more than 1400' apart along any straight boundary line.</li> <li>f) Must be set at all angle points including: the beginning; end; all points of change of direction or change of radius of any curved boundaries defined by arcs; and at the beginning and end of each spiral curve.</li> <li>g) Reference monuments, if required, must be stamped "RM" (reference monument) or "WC" (witness corner). Two reference monuments are required at each corner if not set on the actual boundary line or a prolongation thereof.</li> <li>h) Control monuments used to establish the boundary must be identified and shown.</li> <li>i) To prevent the destruction of plat corners, monuments along rights-of-way shall be placed at the intersection of newly dedicated right-of-way.</li> </ol>
DESCRIPTION	<p>5</p> <p>Description:</p> <ol style="list-style-type: none"> <li>a) The City, County and State, and the section, township, range and principal meridian, must be stated.</li> <li>b) Replats of existing platted subdivisions must include the plat book and page (or book and page and/or reception number) of all of the earlier subdivision(s), along with the block and lot number(s) being replatted.</li> <li>c) The description must be complete enough so that, from it, without reference to the plat, the starting point and the boundary can be determined.</li> <li>d) The Point of Commencement (P.O.C.) and/or Point of Beginning (P.O.B.) must be clearly indicated, if applicable.</li> </ol>
SIGNATURE OF SURVEYOR	<p>6</p> <p>Signature of Surveyor:</p> <ol style="list-style-type: none"> <li>a) Must be in black, permanent, non-smearing waterproof ink and on all sheets of the plat.</li> <li>b) A seal may be computer generated.</li> <li>c) The signature shall be through or over the seal and dated.</li> <li>d) The surveyor's name and Colorado registration number shall be legibly printed below signature or seal.</li> </ol>
CONFLICTING BOUNDARY EVIDENCE	<p>7</p> <p>Conflicting boundary evidence:</p> <ol style="list-style-type: none"> <li>a) All conflicts from adjoining legal descriptions shall be resolved.</li> <li>b) Physical evidence of boundary conflicts as discovered by a field survey must be revealed.</li> <li>c) Any boundary agreements must be referenced.</li> </ol>
LIEN-HOLDERS	<p>8</p> <p>Lien-holders:</p> <ol style="list-style-type: none"> <li>a) Include the consent to subordination of all lien-holders.</li> <li>b) The lien-holder signatures shall be notarized.</li> <li>c) A separate lien-holders ratification of plat may be used with prior approval of the City Surveyor or City Attorney.</li> </ol>

# DRAWING STANDARDS CHECKLIST

## PLAT

ITEM		FEATURES
OWNERSHIP	9	Ownership: a) The record owner(s)' signature shall be notarized. b) The owner(s) shall certify "that all lien-holders appear hereon" or "there are no lien-holders of record."
AREA(S)	10	Area(s): a) The total area of lands being platted in acres or square footage must be shown. b) The area in acres or square footage of each lot, parcel, tract and right-of-way is required. (The area in acres is required if the parcel or plat exceeds 10,000 sq. ft., calculated to the nearest 0.01 acre.) c) A summary table must be provided of all areas, including percentages of the whole.
ADJOINING SUBDIVISIONS	11	Adjoining subdivisions: a) Adjoining subdivisions shall be indicated on the plat with the subdivision title and the recording information. b) If the subdivision being platted is a part or the whole of a previously recorded subdivision, sufficient ties shall be shown to controlling lines appearing on the earlier plat to permit an overlay to be made. c) All recorded and apparent easements and rights-of-way abutting the lands to be platted, as indicated on adjoining recorded subdivisions, shall be shown with appropriate recording information, if applicable. d) The location, width and use is required for each public and private: adjoining street; right-of-way; easement and reservation.
VERTICAL AND HORIZONTAL DATUM	12	Vertical and horizontal datum: a) Vertical information, if shown, such as a benchmark, must have the elevation referenced to NAVD88 (North American Vertical Datum of 1988), unless an alternative datum has been preapproved. b) The horizontal datum shall be that of the Mesa County Local Coordinate System, as adopted and published by Mesa County and found on Mesa County's web site.
TITLE BLOCK	13	Title Block: a) The proper section, township, range and meridian shall be shown. b) The title (name) of the plat shall appear in the title block. c) Revisions must be dated and shown on each submission except on the proposed final version of the plat.
CURVES	14	Curves: a) All curves must, as a minimum, show central angle, arc length, radius, chord bearing and chord length. b) All non-tangent curves must be clearly identified and labeled as such.
BLOCKS AND LOTS	15	Blocks and lots: a) Shall be numbered consecutively. b) Subsequent filings of the same subdivision, when contiguous, must continue with sequential numbering of lots and blocks.
SIGNATURE LINES	16	Space and signature lines are required for: a) An approval signature by the City Manager and the Mayor. b) The Clerk and Recorder's certificate. c) The book and page of the recording or deposit information.
TITLE CERTIFICATION	17	Title Certification: Every plat submitted for City review shall be signed by a Colorado attorney or title company certifying the following: a) The name of all person(s) holding any interest in the record title to the land. b) That all easements, reservations, restrictions and rights-of-way of record affecting the plat and all outstanding liens must be set forth.

# DRAWING STANDARDS CHECKLIST

## PLAT

ITEM		FEATURES
RECORDING INFORMATION	18	Recording information: a) If a recorded instrument is referenced on the plat, legible copies of such instruments must be submitted to the City for review with the plat. b) Legible copies of all documents referenced in the title commitment must be submitted to the City for review with the plat.
COVENANTS	19	Covenants: a) All applicable covenants and restrictions must be referred to (copies provided), and the book and page recording information shall be listed. b) Any proposed covenants and restrictions must be submitted to the City Surveyor for review with the plat.
DISKS AND COMPUTER PRINT-OUTS	20	Disks and computer print-outs: a) A computerized print-out of the boundary and individual lot(s) may be required by the City Surveyor to verify mathematical closures. Any mathematical closure errors in excess of one-hundredth of a foot must be corrected prior to plat approval. b) An electronic copy must be provided of the final (revised as applicable) plat to be recorded, in the City's approved digital form; .dwf or .dwg.
MISCELLANEOUS FEATURES	21	Include all dimensions necessary to establish the boundaries in the field. Lengths shall be shown to 0.01 foot, and angles and bearings to seconds of an angle.
	22	Include a written statement by the surveyor that the survey was performed by such surveyor or under his responsible charge.
	23	All interior "excepted" parcels as described in the description of the lands being platted shall be clearly indicated and labeled "NOT PLATTED HEREON."
	24	All signatures appearing on plans and plats shall be in black, permanent, non-smearing waterproof ink and shall be dated.
	25	Notary seals appearing on plans and plats shall be in black, permanent, non-smearing waterproof ink.
	26	A legible site map, indicating the location of all major streets and roads within a minimum of one-half (1/2) mile from each property boundary is required on the first sheet of all plats.
	27	Existing lots, tracts or other delineated parcels of land contained within lands being replatted shall not be graphically depicted.
	28	When it is not possible to show line or curve data information on the plat, a tabular form may be used. If possible, the tabular data must be shown on the sheet to which it applies.
	29	All easements, tracts, open-space, etc. not being offered for dedication to a public entity must be conveyed by separate instrument to be submitted, along with the plat, for City review.
	30	City Use Block: A designated and assigned informational block to be used by City personnel shall be included on the first sheet of the plat. This block will be used to list the recording information of separately recorded instruments, sometimes simultaneously recorded with the plat, such as grants to homeowners associations.
SURVEYOR VERIFICATION	31	Surveyor Checklists: a) A Subdivision Plat Submittal Checklist shall be completed by the Professional Land Surveyor in responsible charge of the subdivision plat. The check list verifies that the City of Grand Junction Platting Standards have been adhered to and applied to the plat. b) A Subdivision Final Submittal Checklist shall be completed by the Professional Land Surveyor in responsible charge of the subdivision plat. The check list verifies that the City of Grand Junction Platting Standards have been adhered to and applied to the final Mylar version of the plat.

### COMMENTS

Note: "Must" and "will" means the same as "shall" for these standards.

# DRAWING STANDARDS CHECKLIST

## PRELIMINARY COMPOSITE PLAN

ITEM	GRAPHIC STANDARDS		
<b>GRAPHIC STANDARDS</b>	A	Scale: 1" = 20', 30', 40', or 50' H: 1" = 2', 3', 4', or 5'	
	C	There are no primary features on this drawing	
	D	Notation: All non-construction text	
	E	Line weights of existing and proposed (secondary and primary) features per City Graphic Standards	
	F	Horizontal control: Subdivisions tied to Section aliquot corners	
	G	Vertical control: Benchmarks on United States Geological Survey (USGS) United States Geological Survey	
	H	Orientation and north arrow	
	J	Title block with names, titles, preparation and revision dates	
	L	Legend of symbols used	
	M	List of abbreviations used	
	O	Multiple sheets provided with overall graphical key and match lines	
	P	Contouring interval and extent	
	Q	Neatness and legibility	
ITEM	FEATURES		
<b>DRAINAGE</b>	1	Use the Preliminary Plan as a base drawing except for lots and blocks and easements, other preliminary platting information should not be shown	
	2	Show existing and proposed drainage concept, including retention/detention basins and location of inflow to and outflow from the site, and directional flow arrows on streets and channels	
	3	Show existing contours and any major proposed changes to site grading	
	4	Show 100-year floodplains and floodways per previous and current studies and reports. Delineate 100-year floodplain using FIRM (Flood Insurance Rate Maps) from FEMA (Federal Emergency Management Agency), and National Wetlands Survey maps, or other engineering studies	
	5	Show other existing natural or man-made drainageways, wetlands, ponds, etc	
	7	Show access points and street improvements for 200 feet offsite adjacent to the site's access points	
	8	Show and identify streets and identify proposed City standard street section	
	10	Show existing power, telephone, gas, cable television	
	11	Show existing fire hydrants, manholes, and inlets	
	12	Offsite improvements must be shown, with existing utilities and features. Separate sheets may be used if necessary	
<b>COMMENTS</b>			

# **DRAWING STANDARDS CHECKLIST**

## **PRELIMINARY PLAN FOR SUBDIVISION**

ITEM	GRAPHIC STANDARDS
<b>GRAPHIC STANDARDS</b>	A Scale: 1" = 20', 30', 40', or 50'
	C There are no primary features on this drawing
	D Notation: All non-construction text
	E Line weights of existing and proposed features per City Graphic Standards
	F Horizontal control: Subdivisions tied to Section aliquot corners
	G Vertical control: Benchmarks on United States Geological Survey (USGS) datum
	H Orientation and north arrow
	I Stamped and sealed drawings by a Professional Engineer registered in Colorado
	J Title block with names, titles, preparation and revision dates
	L Legend of symbols used
	M List of abbreviations used
	O Multiple sheets provided with overall graphical key and match lines
	P Contouring interval and extent
Q Neatness and legibility	
ITEM	FEATURES
<b>LAYOUT INFO</b>	1 Name of subdivision and total site acreage
	2 Show subdivision perimeter boundaries
	3 Identify utility vendors to the site
	4 Show existing and proposed lots, parcels, tracts, right-of-way and easements on and adjacent to site. For perimeter streets, show roadway width from curb to curb or edge of pavement to edge of pavement, right-of-way width and monument or section line
	5 Show and identify proposed ownership and use of common and public tracts
	6 Show location of or reference to arterial and/or collector roads
<b>ADDITIONAL INFO</b>	7 Indicate land use breakdown by percentage (lots, tracts, right-of-way), and number of lots
	8 Show adjacent properties and identify zoning and use
	9 Show and identify buildings and use which are on and/or immediately adjacent to the site
	10 Number lots and blocks consecutively
	11 Dimension (approximate only) lot and tract boundaries and street and right-of-way widths (square footage required)
	12 Identify nature of proposed open space improvements, if any.
<b>COMMENTS</b>	



# DRAWING STANDARDS CHECKLIST

## ROAD CROSS-SECTIONS

ITEM	GRAPHIC STANDARDS	OK	NA	
GRAPHIC STANDARDS	A	Scale: 1" =5', 10', or 20' H: 1" =0.5', 1', or 2' V		
	C	Primary features consist only of proposed roadway features		
	D	Notation: All non-construction text, and also construction annotation for all primary features		
	E	Line weights of existing and proposed (secondary and primary) features per City Graphic Standards		
	F	Location: All primary facilities are fully located horizontally and vertically		
	G	Vertical control: Benchmarks on United States Geological Survey (U.S.G.S.) datum		
	H	Orientation and north arrow		
	I	Stamped and sealed drawings by a Professional Engineer registered in Colorado		
	J	Title block with names, titles, preparation and revision dates		
	K	Reference to City Standard Drawings and Specifications		
	L	Legend of symbols used		
	M	List of abbreviations used		
	Q	Neatness and legibility		
ITEM	FEATURES	OK	NA	
	1	Cross section station		
	2	Existing and proposed surface profile at the cross-section		
	3	Existing and proposed right-of-way and easement locations		
	4	Cut and/or fill slopes to daylight or within 25' of edge of roadway section in the case of mass grading.		
	5	Indicate existing and proposed surface cross-slope		
	6	Elevations at C <sub>L</sub> , EP (existing), EP (proposed), curbing		
	7	Existing and proposed buried utilities and drainage facilities		
COMMENTS				

# DRAWING STANDARDS CHECKLIST

## ROADWAY PLAN & PROFILE

ITEM	GRAPHIC STANDARDS
A	Scale: 1" = 20', 30', 40', or 50' Horizontal; 1" = 2', 3', 4', or 5' Vertical
C	Primary features consist only of lighting and traffic features
D	Notation: All non-construction text, and also construction notation for all primary features
E	Line weights of existing and proposed (secondary and primary) features per City Graphic Standards
F	Location: All primary facilities are fully located horizontally and vertically
F	Horizontal control: Subdivisions and all public utilities (final drawings) tied to Section aliquot corners
G	Vertical control: Existing and proposed benchmarks on United States Geological Survey (USGS) datum
H	Orientation and north arrow
I	Stamped and sealed drawings by a Professional Engineer registered in Colorado
J	Title block with names, titles, preparation and revision dates
K	Reference to City Standard Drawings and Specifications
L	Legend of symbols used
M	List of abbreviations used
O	Multiple sheets provided with overall graphical key and match lines
P	Contouring interval and extent
Q	Neatness and legibility

ITEM	FEATURES	Plan	Profile
1	Use the Composite or Site Plan as a base map or otherwise provide similar information	X	
2	Segmentize plan view as required to provide profiles below plan views	X	
3	Show all existing and proposed profiles at C <sub>L</sub> . Show right and left flowline profiles only when not a uniform vertical offset from centerline. Provide slopes with "+" or "-"		X
4	Show existing and proposed profiles at edge of pavement if there is no gutter		X
5	Note adjustment of all MH rims and valve covers for final grade	X	
6	Elevation of F <sub>L</sub> at fillet/valley pan interface	X	
7	Station & elevation of F <sub>L</sub> at BCRs, ECRs, and handicap ramps	X	
8	Station & elevation of pavement C <sub>L</sub> and F <sub>L</sub> at endpoints, BCRs, ECRs, PCs, PTs, PRCs, and PCCs		X
9	Station & elevation at all grade changes and C <sub>L</sub> and F <sub>L</sub> VPIs, VPCs, VPTs and high & low points.		X
10	Station & elevation at all grade changes and C <sub>L</sub> pavement warp at intersections		X
11	Provide pavement, base, and subgrade specifications		
12	Barricades, turn-arounds, tapers, delineators, driveways	X	
13	Street lights, signals, signing, and other traffic controls	X	
14	Show future road extension alignment to support current design, where applicable	X	X
15	Provide all necessary details or reference detail and/or cross-section sheets		
16	Show proposed permanent benchmark (for new subdivisions) and all proposed horizontal control survey markers and street intersections, offset if required	X	
17	Space for approval signature by City Engineer with date and title. <b>Note:</b> Contractor must contact City of Grand Junction Traffic Operations Supervisor prior to construction or placement of traffic control devices (striping, signals, medians, etc).		
18	Space for approved signature by City Traffic Engineer when new traffic controls are proposed (striping, signals, medians, etc.)		

### COMMENTS

For a definition of abbreviations used above, see page VIII-4.

# DRAWING STANDARDS CHECKLIST

## SITE PLAN

ITEM	GRAPHIC STANDARDS
<b>GRAPHIC STANDARDS</b>	A Scale: 1" = 20', 30', 40', or 50'
	C Primary features consist only of proposed facilities except those related to drainage
	D Dimension and label all features existing and proposed
	E Line weights of existing and proposed (secondary and primary) features per City Graphic Standards
	F Location: All primary facilities are fully located horizontally
	H Orientation and north arrow
	I Stamped / sealed drawings by Professional Engineer registered in Colorado or other professional competent in the field
	J Title block with names, titles, preparation and revision dates
	K Reference to City Standard Drawings and Specifications
	L Legend of symbols used
	M List of abbreviations used
	O Multiple sheets provided with overall graphical key and match lines
Q Neatness and legibility	
ITEM	FEATURES
1	Site boundary, and adjacent property lines, land use and zoning
2	Total site acreage and proposed land use breakdown including breakdown of existing and impervious surface square footage
3	All existing and proposed easements, streets and right-of-ways
4	Identify utility vendors to the site
5	Identify existing and proposed utilities, including fire hydrants, meters and service taps
6	Contractor must contact City of Grand Junction Traffic Operations Supervisor prior to construction or placement of traffic control devices/features (striping, signals, medians, etc.) for construction in the right-of-way only.
7	Show existing and proposed drainage inlets, pipes, channels and manholes
8	Top and toe of slopes for retention/detention basins or other embankments
9	Traffic ingress, egress, traffic flow patterns and traffic control features
10	All paving and concrete walks, pads, ramps, wheel chocks
11	Building footprint, roof line, exterior doorways and roof drain location
12	Parking areas, striping, stalls, lighting
13	Areas to receive gravel
14	Signage, trash collection areas, bike racks and paths, crosswalks, fire lanes
15	Miscellaneous structures, fences, walls
16	Other non-landscaping surface facilities
17	Do not show existing or proposed contours
18	For perimeter streets, show roadway width from curb to curb or edge of pavement to edge of pavement, right-of-way width and the monument or section line
19	When applicable, identify the maximum delivery or service truck size and turning radius, hours of anticipated deliveries, and show truck turning radii on the plan to show adequacy of entry/exit and on-site design
20	Identify trash dumpster type and accessibility
21	Space for approval signature by City Engineer and City Planner with date and title
22	Show access points and street improvements for 200 feet offsite adjacent to the site's access points or as noted by City Engineer in General Meeting Notes.

### COMMENTS

1. Dimension strings are required to demonstrate all site features (i.e. parking stalls, drive aisles, building locations, etc.) meet City standards.
2. If the scale is 1" = 10' or 20', instead of preparing a separate Landscaping Plan, that information may be provided hereon if it will not be too cluttered and confusing.
3. Building elevations with colors and material boards may be required.
4. Floor plans may be required.

# **DRAWING STANDARDS CHECKLIST**

## **SITE SKETCH**

ITEM	GRAPHIC STANDARDS
<b>GRAPHIC STANDARDS</b>	A Scale: As required
	D Notation: All non-construction text
	H Orientation and north arrow
	J Title block with names, titles, preparation and revision dates
	L Legend of symbols used
	M List of abbreviations used
	Q Neatness and legibility
ITEM	FEATURES
<b>ADDITIONAL INFO</b>	1 Location and boundaries of the site (See Comment 1)
	2 Existing and proposed on-site and adjacent streets, alleys, rights-of-way and easements
	3 Site geographic relationship to collector or arterial roads
	4 Proposed and existing improvements including buildings, utilities, parking and storage areas
	5 Major drainage courses and floodplains on or adjacent to the property
	6 Total site acreage
	7 Zoning and existing land use of the site and adjacent property
	8 Location and size of water and sewer facilities in the vicinity (subdivision only)
	9 Approval block for City Engineer and City Public Works & Planning
<b>COMMENTS</b>	
1. For a vacation or revocable permit application, boundaries must be monumented.	

# DRAWING STANDARDS CHECKLIST

## SKETCH FOR DESCRIPTIONS

ITEM	GRAPHIC STANDARDS
A	A graphic bar scale is required on every sheet showing any portion parcel(s). Scale: Must be legible, for example: 1" = 20', 1" =
B	Sheet size: minimum is 8.5" x 11" but must be large enough to legibly show all information. There shall be a top margin of at least 1" and a left, right, and bottom margin of at least .5".
F	Horizontal control: Complete horizontal control for all boundaries. Parcels and/or described areas shall be tied to Section aliquot corners unless the subject parcel(s) lie within a platted subdivision. If the parcel(s) or described areas lie within a platted subdivision, then show sufficient ties to controlling lines appearing on the plat. For revocable permits that abut the property benefiting from the permit, the permit area may be tied to the benefiting property.
G	Vertical information, such as benchmark, must have the elevation referenced to an adopted datum and benchmark location readily
H	Orientation and north arrow required on every sheet of sketch
I	Stamped and original sealed drawings by professional licensed surveyor registered in Colorado Signature and Seal of Surveyor shall be as follows: e. In black, permanent, non-smearing waterproof ink; f. Seal may be computer generated; g. Signature shall be across the seal and dated; and h. Surveyors name and PLS number legibly printed below signature or seal.
L	Legend of symbols used
M	List of abbreviations used
O	Multiple sheets provided with overall graphical key and match lines. Each sheet shall show the particular number of that sheet and the total number of sheets included.
Q	Neatness and legibility .08" minimum letter size of lower case lettering – in all cases, the letter size and scale used shall be of sufficient size to show all detail. (Drawings which do not adequately show detail shall be rejected.)
U	Non-fading permanent print shall be used
ITEM	DRAWING FEATURES
1	Identify all parcels that the described area is included within and adjoining properties to the described area
2	All section, quarter section, and sixteenth-section lines occurring within the parcel(s) shall be indicated by lines (lightly dashed) drawn on the sketch, with appropriate words and figures describing the same
3	Lengths shown to 0.01 foot, angles and bearings to seconds of an arc
4	Provide acreage of the described area to 0.01 acres
5	All dimensions must be provided to verify boundaries
6	Easements e. All recorded and apparent easements included within or adjoining the area described shall be shown and described; f. Book and Page information for all recorded easements shown shall be given on the drawing(s) to which the information pertains; g. Easements must be fully and completely dimensioned and located dimensionally with respect to the boundary and/or lot lines;
7	Basis of bearings c. The basis of all bearings (using one of the four (4) generally accepted methods of stating a basis of bearing; (astronomic, reference to a recorded survey, grid and assumed) shall be stated in writing; and d. The line used for the basis of bearings must be easily identified and tied to the boundary of the area described so that another surveyor may readily retrace all or part of the survey in the future.
8	Curves b. Must show, as a minimum, the central angle, arc length, radius, chord bearing and chord length; and c. All non-tangent curves must be clearly identified and labeled as such.
9	Line and/or curve data may be shown in a tabular form
10	Area shall be shown in square feet, to the nearest tenth of a square foot of depicted and described parcel.
11	Parcel numbers shall be shown for subject and adjacent parcels. Parcel numbers are available from the Mesa County Assessor's
12	Property address and complete name(s) of owner(s) shall be shown.
13	Show all existing easement and rights-of-way on or adjoining the parcel and annotated with recording information. Label dimensions.

# ***DRAWING STANDARDS CHECKLIST***

## **SKETCH FOR DESCRIPTIONS**

<b>ITEM</b>	<b>DRAWING FEATURES</b>
14	Label all applicable Points of Beginning and Points of Curvature from the description.
15	Do not include the following information: a. Topography, landscaping or existing or proposed property improvements. b. Legal Description

### **COMMENTS**

Items 2, 5, and 6 are not required for a sketch for a revocable permit. Item 6 is not required for a sketch of an easement or right-of-way being vacated.

# ***DRAWING STANDARDS CHECKLIST***

## **STORMWATER MANAGEMENT PLAN**

### **CHECKLIST**

Typed Text (appendices may be handwritten)

Title Page:       a.       Name of report and preparer, date of preparation and revision (if any)  
                      b.       Professional's seal and signature

Table of Contents: For text and appendices, if any (appendices shall be paged)

Exhibits: Contained in report

Required maps contained in the report

### **CONTENT**

Report Content is as specified in the current Mesa County/City of Grand Junction Stormwater Management Manual available on the City's Website.

# DRAWING STANDARDS CHECKLIST

## TRAFFIC PLAN

ITEM	GRAPHIC STANDARDS	
GRAPHIC STANDARDS	A	Scale: 1" = 20', 30', 40', or 50' H: 1" = 2', 3', 4', or 5'
	C	Primary features consist only of lighting and traffic features
	D	Notation: All non-construction test, and also construction notation for all primary features
	E	Line weights of existing and proposed (secondary and primary) features per City Graphic Standards
	F	Location: All primary facilities are fully located horizontally and vertically
	H	Orientation and north arrow
	I	Stamped and sealed drawings by a Professional Engineer registered in Colorado
	J	Title block with names, titles, preparation and revision dates
	K	Reference to City Standard Drawings and Specifications
	L	Legend of symbols used
	M	List of abbreviations used
	O	Multiple sheets provided with overall graphical key and match lines
	Q	Neatness and legibility
ITEM	FEATURES	
1	Use the Composite or Site Plan as a base map or otherwise provide similar information. Detail "total roadway existing signs, medians, striping, signals, walks, shoulders, above ground utilities along project frontage as well as extending 300' minimum beyond frontage boundaries	
2	Show sign locations and call out sign legend, Manual on Uniform Traffic Control Devices (MUTCD) code, and size if appropriate. This includes barricades and delineation	
3	Show luminaire locations indicating type of lighting	
4	Traffic signals - new or modifications to existing will require an intersection plan - show pole locations, conduit, pullboxes, mast arm lengths, loop detector locations and size and type, signal heads and pedestrian indications, phasing plan, controller, cabinet, and wiring. Show location of stop bars and crosswalks. Sample drawings are shown in the Transportation Engineering Design Standards manual (TEDS) available on the City website @ <a href="http://gcity.org">gcity.org</a> .	
5	Pavement markings - show appropriate striping and marking indicating dimensions, materials, taper lengths, colors, obliteration of existing markings	
6	Traffic control for construction including types of devices, placement, spacing, phasing	
7	Provide all necessary details or reference detail and/or cross-section sheets	
8	Include Note: Contractor must contact City of Grand Junction Traffic Operations Supervisor prior to construction, placement or removal of traffic control devices/features (striping, signals, signs, medians, etc.)	
9	Space for approval by City Engineer with date and title.	
10	Space for approval signature by City Traffic Engineer when new traffic controls are proposed (striping, signals, medians, etc.)	
COMMENTS		



# DRAWING STANDARDS CHECKLIST

## WATER & SEWER SYSTEM DESIGN MAP

ITEM	GRAPHIC STANDARDS	
GRAPHIC STANDARDS	A	Scale: 1" = 20', 30', 40', or 50' H: 1" = 2', 3', 4', or 5'
	H	Orientation and north arrow
	I	Stamped and sealed drawings by a Professional Engineer registered in Colorado
	J	Title block with names, titles, preparation and revision dates
	L	Legend of symbols used
	M	List of abbreviations used
	O	Multiple sheets provided with overall graphical key and match lines
	P	Contouring interval and extent
	Q	Neatness and legibility
ITEM	FEATURES	
WATER	1	Use the Water and Sewer Plan and Profile as a base drawing
	2	Identify analysis points or nodes and pipes numbers
	3	Identify fire flow rates and locations
	4	Identify peak hour and average daily flow rates
SEWER	5	Show accumulative flow rates and velocities in each reach of sewer for average daily and peak hour flow conditions
COMMENTS		

# DRAWING STANDARDS CHECKLIST

## WATER, SEWER, & STORM SEWER PLAN & PROFILE

ITEM	GRAPHIC STANDARDS			
GRAPHIC STANDARDS	A	Scale: 1"= 20', 30', 40', or 50' H: 1" = 2', 3', 4', or 5' V		
	C	Primary features consist only of proposed water and sewer facilities		
	D	Notation: All non-construction text, and also construction notation for all primary features		
	E	Line weights of existing and proposed (secondary and primary) features according to City Graphic Standards		
	F	Location: All primary facilities are fully located horizontally and vertically		
	F	Horizontal control: Subdivisions and all public utilities (final drawings) tied to Section aliquot corners		
	G	Vertical control: Existing and proposed benchmarks on United States Geological Survey (USGS) datum		
	H	Orientation and north arrow		
	I	Stamped and sealed drawings by a Professional Engineer registered in Colorado		
	J	Title block with names, titles, preparation and revision dates		
	K	Reference to City Standard Drawings and Specifications		
	L	Legend of symbols used		
	M	List of abbreviations used		
	O	Multiple sheets provided with overall graphical key and match lines		
	P	Contouring interval and extent		
Q	Neatness and legibility			
ITEM	FEATURES	Plan	Profile	
WAER & SEWER DESIGN INFO	1	Use the Composite or Site Plan as a base map, or otherwise provide similar information	X	
	2	Segmentize plan view as required to provide profiles below plan views	X	
	3	Show all existing and proposed storm and sanitary sewer facilities in profile		X
	4	Show all existing and proposed buried facilities that cross the storm or sanitary sewer		X
	5	Show water mains at dips or crossings with other buried facilities		X
	6	Dimension separation between water and sanitary or storm sewers	X	X
	7	Show and identify encasement or structural pipe where applicable	X	X
	8	Add water and sewer services	X	
	9	Station and label all manholes, inlets, and culverts; add rim and invert elevations		X
	10	Add storm or sanitary sewer main slopes and distances between manholes (centerline to centerline)		X
	11	Add existing and proposed surface profile		X
	*12	Call out water and sewer pipe type in notes		
	*13	Call out minimum cover over water and sanitary or storm sewer in notes		
	*14	Provide all necessary details or reference detail sheet(s)		
	15	Assure systems shown conform to water and sewer report, and drainage report, if any	X	X
	*16	Provide note regarding separation of water and sewer mains		
	17	Provide note regarding service line markers and endpoint locations	X	X
	18	Space for approval signature by City Engineering and appropriate districts with date and title		
	19	Provide note requiring all Ute water lines be tested in accordance with City Standard Drawings and Specifications prior to street construction	X	
	*20	Call out pipe and culvert type and any special bedding or backfill requirements in notes or plan view		
	21	Show HGL and/or EGL on the storm sewer profile.		X
COMMENTS				
*Can be noted in general notes				

# GRAPHIC STANDARDS FOR DRAWINGS

- A. **SCALE** Minimum and maximum scale permitted for each type of drawing is indicated in the description of the specific drawing. In all cases, scale used shall be of sufficient size to show all details. A graphic bar scale shall be provided on each sheet having a plan view.
- B. **SIZE** All construction and as-built drawings and plats shall be 24" X 36".
- C. **PRIMARY AND SECONDARY PROPOSED FEATURES** Drawing checklists identify which proposed features are primary. All other proposed features are secondary and shall be drawn according to these regulations.
- D. **NOTATION** Street names, lot numbers, utility types and sizes (such as 8" SAN for an 8 inch sanitary sewer line), contour elevations and other descriptive notations shall appear on all plans for all facilities shown. Construction notation, such as notes that identify length, width, thickness, quantity, to construct or install, specifications or standards, removals, replacements, etc., shall be provided as applicable only for the primary features on a drawing. Sufficient construction detail and dimensioning shall be shown for all proposed items.
- E. **LINE WEIGHT AND TYPE** Line weight and type for drawing existing features must contrast with that used for proposed features, such as using dashed/solid or light solid/dark solid combinations. A system of line weights and types shall be used to enhance legibility and readability of plans. City Standard Autocad files are available electronically free of charge from the City Engineer or on the City website.
- F. **HORIZONTAL CONTROL** Survey control for subdivision improvement drawings and plats must be tied to Section (aliquot) corners. Mesa County SIMS coordinate system shall be used for all public improvement construction.
- G. **VERTICAL CONTROL** One bench mark shall be given for all drawings with grades. If facilities are proposed, then a permanent bench mark must be referenced with the elevation based on United States Geological Survey (USGS) datum or other approved datum obtained from local governmental agencies or sources. If the existing benchmark is far enough removed from the site that it reasonably cannot be shown on the plan, then the description of the benchmark location shall not only include aliquot corner description, but street reference. All proposed bench marks must be shown.
- H. **ORIENTATION** All plan view drawings shall have a properly oriented North arrow. North shall be at the top or right of the drawing; however, in the case of sewer lines, pipes may be drawn to slope down to the left side of the drawing.
- I. **SEALED DRAWINGS** All construction drawings and plats that are submitted for approval must be signed, sealed and dated by a Colorado registered

Professional Engineer, Professional Land Surveyor or Landscape Architect. Review drawings are not required to be signed.

- J. **TITLE BLOCK** Each drawing shall have a title block that provides the project name, drawing title and the name, address and telephone number of the author of the plan. A preparation date shall be provided, and each re-submittal(s) shall have a revision date(s).
- K. **STANDARD DRAWINGS AND SPECIFICATIONS** A note shall be provided on each construction drawing that requires facilities to be constructed in accordance with all applicable specifications and standard details; most current edition.
- L. **SYMBOLS** All symbols must be identified in a legend provided on the drawing or in the drawing set, both for proposed and existing facilities. Use of City standard drafting symbols is preferred, but not required. City symbols are available electronically from the City Engineer.
- M. **ABBREVIATIONS** All abbreviations must be identified in a legend provided on the drawing or in the drawing set. City drafting abbreviations are preferred and are available electronically from the City Engineer.
- N. **AS-BUILT DRAWINGS** The words “As-built,” or “Record Drawing,” or “As Constructed” shall appear in 20 point bold lettering on each drawing that is represented by the Applicant as an as-built. Design information that does not match as-built conditions shall not be erased, but shall be crossed out with a fine line which does not obscure readability. The correct information shall be provided immediately beside the design information and initialed by the person making the change. “As-built” drawings must consist of construction drawings with as-built information. All final as-built information and conditions must be submitted to the City as .dwg and .pdf files. (See Section III – Submittal Format.) As-built information must be neat and legible. Information which cannot be easily read will be rejected.
- O. **MULTIPLE SHEETS** Multiple sheet plans and plats shall have match lines and a graphical key index map that must show the particular number of that sheet and the total number of sheets included.
- P. **CONTOURS**
  - 1. **Interval** Contour interval shall be consistent throughout a drawing and conform to the following:
    - a. 1 foot for grades generally between 0 and 2%;
    - b. 2 foot for grades generally between 2% and 5%; and
    - c. 5 foot for grades generally in excess of 5%.
  - 2. **Extent** Contours shall be shown 50’ beyond property or watershed limits in order to define gradients at the property boundaries. Proposed and

finished contours shall be shown for road, detention/retention basin, drainage channel and swales, embankment and lot grading.

- Q. NEATNESS AND LEGIBILITY** All drawings must be neat, legible and of such size that detail is not obscured or readability of text is not impaired, with a 0.08” minimum text height for lower case lettering. In all instances, the letter size and scale shall be of sufficient size to show all details. The City may reject any/all nonconforming drawings.
- R. SITE SKETCHES** Site sketches submitted as a part of a Minor Site Plan, Change of Use or other simple permit review may be hand drawn and may, where intent is clear, not conform with parts E, G, H, J, K, L, O, P, and Q of this Section.
- S. MODEL LANGUAGE** For plats and deeds, Model Language, as amended from time to time—available on the City web site—shall be used for the following:
- a) Dedications to the City.
  - b) Lienholders consent.
  - c) Title certification.
  - d) City approval.
- T. IMPROVEMENT SURVEY PLAT** A signed and sealed “Improvement Survey Plat,” as defined by title 38, parts 50 and 51, C.R.S., shall be required with the initial submittal of the plat. This survey is the result of a monumented land survey and at a minimum must show the following:
- a) Fences and walls situated on the described parcel that are within five feet of all boundaries of such parcel. Existing structures shall be shown to confirm proper setback requirements when required.
  - b) Any conflicting boundary evidence (from deeds, plats, other recorded instruments or physical observations/locations).
  - c) All visible utilities (City Staff may request an underground utilities location service be used for certain areas of conflict).
  - d) A statement from the surveyor that all recorded or known easements, rights-of-way and reservations as are available from the county clerk and recorder, a title insurance company or other sources are clearly described and properly located on the plat.
  - e) Rights-of-way apparent from a field inspection of the subject property.
  - f) Encroachments on, to and from the subject property. For example, all apparent physical use onto or from adjoining property or abutting streets must be indicated, with the extent of such use shown or noted upon the survey.
  - g) The survey may be prepared by one licensed land surveyor and another land surveyor may prepare the subdivision plat provided that the boundaries on each are the same.
- U. INK FOR MYLAR PRINTS** Only black, nonfading permanent print and inks shall be used on mylar prints.

**SECTION VI.**  
**REPORT STANDARDS**

## VI. REPORT STANDARDS

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Report Checklists and Outlines have been prepared to establish consistency and establish general scope.

Complete engineering design reports, stamped and sealed by a Colorado registered Professional Engineer, are required. The reports shall certify in writing that the Engineer has done or through the Engineer's supervision has determined that, on the stated project, all work is in conformance with City standards.

All required reports shall conform in content to the applicable portion(s) of the standards presented in this Section. Outline/checklists are provided in alphabetical order as listed in the Table of Contents.

**Note:** See Traffic Engineering Design Standards Manual (TEDS) for Traffic Impact Study information available on the City website at [gjcity.org](http://gjcity.org).

See Mesa County/City of Grand Junction Stormwater Management Manual (Stormwater Management Manual (SWMM)) for Drainage Study information available on the City website at [gjcity.org](http://gjcity.org).

# **REPORT CHECKLIST AND OUTLINE**

## **FINAL DRAINAGE REPORT**

### **CHECKLIST**

Typed Text (appendices may be handwritten)

Title Page:       a.       Name of report and preparer, date of preparation and revision (if any)  
                      b.       Professional's seal and signature

Table of Contents: For text and appendices, if any (appendices shall be paged)

Exhibits: contained in report

Required maps contained in the report.

### **CONTENT**

Report Content is as specified in the current Mesa County/City of Grand Junction Stormwater Management Manual.



# **REPORT CHECKLIST AND OUTLINE**

## **FINAL GEOTECHNICAL REPORT**

### **CHECKLIST**

Typed text (appendices may be handwritten)

Title Page:       a. Name of report and preparer, date of preparation and revision (if any)  
                      b. Professional's seal and signature

Table of Contents: For text and appendices if any (appendices shall be paged)

Exhibits: contained in report

Maps contained in the report: (Provide drawings as required to clarify report)

### **OUTLINE**

- A. General Soil Classifications
  - 1. Soil classification
  - 2. Geologic hazards
  - 3. Potentially unstable slopes
  - 4. Swell potential
  - 5. Consolidation potential
  - 6. Water table
  - 7. Corrosivity to concrete
  - 8. Presence of rock outcrops
  - 9. Presence of gamma radiation
- B. Grading and Excavation Considerations
  - 1. Potential construction difficulties and general recommendations
  - 2. Suitability of native material for trench backfill and structural fill
  - 3. Compaction of fills and subgrades
- C. Retained Earth Information (If applicable)
  - 1. Lateral earth pressure (active and passive)
  - 2. Coefficient of friction to lateral movement
  - 3. Angle of internal friction
  - 4. Backfill compaction
- D. Foundations
  - 1. Allowable bearing capacity
  - 2. Soil weights
  - 3. Types of recommended foundations
  - 4. Recommended perimeter drains and groundwater
- E. Drainage and Irrigation
  - 1. Permeability of soil
  - 2. Hydrologic soil group (SCS classification)
  - 3. Irrigation practices
  - 4. Grades around buildings
  - 5. Depth of groundwater surface
  - 6. Groundwater monitoring results and discussion (where required)
  - 7. Solutions to groundwater problems
- F. Pavement Structures
  - 1. Subgrade compaction
  - 2. Recommended fabrics and/or geogrids
  - 3. R values
  - 4. Base and pavement thickness design (new pavements and overlays, as appropriate)
  - 5. Asphalt compaction
- G. Boring Logs

### **COMMENTS**

1. Additional fee and form required for Colorado Geologic Survey review.

# REPORT CHECKLIST AND OUTLINE

## GENERAL PROJECT REPORT

### CHECKLIST

Typed text

Name of report on a title page or on the first page of text

### OUTLINE

A. Project Description

1. Location
2. Acreage
3. Proposed use

B. Public Benefit

C. If a "Neighborhood Meeting" has been held, proof of those who attended, along with the date, time and place shall be provided. See the Zoning and Development Code for details on Neighborhood Meetings.

D. Project Compliance, Compatibility, and Impact

1. Adopted plans and/or policies (for rezones, variances, conditional and special use, revocable permits, and vacations, discuss the circumstances that justify the request, as required by the Zoning and Development Code)
2. Land use in the surrounding area
3. Site access and traffic patterns
4. Availability of utilities, including proximity of fire hydrants
5. Special or unusual demands on utilities (high water or sewage quantities, grease, or sediment contribution, pre-treatment needs, etc.)
6. Effects on public facilities (fire, police, sanitation, roads, parks, schools, irrigation, etc.)
7. Hours of operation
8. Number of employees
9. Signage plans (required with Conditional Use Permits and Planned Development)
10. Site soils and geology (such as Soils Conservation Service (SCS) soils mapping)
11. Impact of project on site geology and geological hazards, if any

E. Must address the review criteria contained in the Zoning and Development Code for the type of application being submitted.

F. Development Schedule and Phasing

### COMMENTS

# **REPORT CHECKLIST AND OUTLINE**

## **HISTORIC DESIGNATION PROJECT REPORT**

### **CHECKLIST**

Typed Text

Title Page: Name of Report and Preparer, date of preparation and revision (if any)

Table of Contents: for text and appendices, if any

Submittal Deadline: First Monday of the month for the Historic Board Meeting on the first Tuesday of the following month.

Exhibits: Contained in report

### **OUTLINE**

#### **PROJECT REPORT SUBMITTAL MATERIALS:**

1. Description of the general characteristics of the site, structure, or district.
2. Description of the particular features of the structure, site or district which should be preserved.
3. Address, Tax Parcel Number and Legal Description of the property or the outer boundaries of the proposed district.

Note: 1, 2 and 3 above are satisfied with a complete Colorado Historical Society Inventory Record form for the property. Call the Neighborhood Services Division to determine if a form has been completed.

### **COMMENTS**

Upon determining that an application is complete, Neighborhood Services staff will schedule the application before the Historic Preservation Board for its review and recommendation to City Council. Staff will publish a legal advertisement in the newspaper one-week in advance of the Board meeting, advertising both the Board and Council meetings regarding the proposed historic designation. The Historic Preservation Board meets the first Tuesday of the month. The applicant/property owner need not be present at the meeting unless requested by the Board or Staff.

The Historic Preservation Board recommendation will be scheduled at the next available City Council meeting – typically the 3<sup>rd</sup> Wednesday of the month. Again, the applicant/property owner need not be present at that hearing. If the City Council approves a historic designation, the applicant/property owner will be sent a copy of the resolution designating the property in the City Register of Historic Sites, Structures and Districts.

Please contact the Neighborhood Services Division at 970/244-1491 for questions regarding designation in the Grand Junction Register of Historic Sites, Structures and Districts.

# **REPORT CHECKLIST AND OUTLINE**

## **PHASE I / II ENVIRONMENTAL REPORT**

### **CHECKLIST**

Typed text

Title Page: a. Name of report and preparer, date of preparation and revision (if any)  
b. Signature of Professional Engineer, Registered Environmental Property Assessor, or other qualified professional

Table of Contents: For text and appendices, if any

Exhibits: Contained in report

Maps contained in the report: (Provide drawings as required to clarify report)

### **OUTLINE**

#### **A. Remedial Investigation (RI portion)**

This section reports on quantitative investigation to verify whether or not a problem exists, and, if so to what extent. Typical tasks may include:

1. Geophysical studies to identify subsurface features (pipelines, tanks, and potential contamination sources)
2. Field screening to approximate extent and magnitude of contamination
3. Develop a site specific sampling and analysis plan
4. Perform a quantitative soil and water sampling and analysis plan
5. Conclusions and recommendations. If there is a problem, is it significant enough to justify remedial action? If not, the Feasibility Study portion of the report is not required.

#### **B. Feasibility Study (FS portion)**

If deemed necessary per the Remedial Investigation, a Feasibility Study must be performed. However, do not submit this part to the City for review. Submit Phase I and Phase II Environmental Reports to the Colorado Department of Health (CDH) for review and acceptance. The City will then require submittal of correspondence from CDH that indicates that an acceptable remediation program has been approved.

C. Refer to American Society for Testing & Materials (ASTM) Practices E 1527 (Phase I) or E1903 (Phase II) , most current editions for complete required scope and allowed limitations.

**COMMENTS**

# ***REPORT CHECKLIST AND OUTLINE***

## **PRELIMINARY DRAINAGE REPORT**

### **CHECKLIST**

Typed text

Title Page: Name of report and preparer, date of preparation and revision (if any)

Exhibits: Contained in report and folded as required to 8½"x11" size

Maps contained in the report:

### **OUTLINE**

Report Content is as specified in the current Mesa County/City of Grand Junction Stormwater Management Manual available on the City's website at [gjc.org](http://gjc.org).

**COMMENTS**

# REPORT CHECKLIST AND OUTLINE

## PRELIMINARY GEOTECHNICAL REPORT

### CHECKLIST

Typed text (appendices may be handwritten)

Title Page: a. Name of report and preparer, date of preparation and revision (if any)  
b. Professional's seal and signature

Table of Contents: For text and appendices if any (appendices shall be paged)

Exhibits: Contained in report

Maps contained in the report: (Provide drawings as required to clarify report)

### OUTLINE

#### A. General Soil Classifications

1. Soil classification
  2. Geologic hazards
  3. Potentially unstable slopes
  4. Swell potential
  5. Consolidation potential
  6. Water table
  7. Corrosivity to concrete
  8. Rock outcrops
- } Engineer's opinion of . . .

#### B. Grading and Excavation Considerations

1. Potential construction difficulties and general recommendations
2. Suitability of native material for trench backfill and structural fill

#### C. Foundations

1. Types of foundations
2. Perimeter drains and groundwater

#### D. Drainage and Irrigation

1. Permeability of soil
2. Hydrologic soil group (Soil Conservation Service (SCS) classification)
3. Irrigation practices
4. Special needs related to groundwater

#### E. Pavement Structures

1. Ability of soils to support streets and traffic

#### NOTE:

1. The intent of this report is to identify the suitability of the site for development and to determine any special design considerations. It is not intended to quantify design parameters.
2. On all projects next to canals or significant water features, or with groundwater table depth shallower than 10 feet shall include a groundwater level monitoring system and collect regular groundwater level data over the course of one calendar year minimum prior to Final Plan Approval. Groundwater influencing the construction or operation of public infrastructure or proposed construction must be mitigated by proposed improvements included in the Final Geotechnical Report.

### COMMENTS

Additional fee and form required.

# REPORT CHECKLIST AND OUTLINE

## SEWER SYSTEM DESIGN REPORT

### CHECKLIST

Typed text (appendices may be handwritten)

Title Page: a. Name of report and preparer, date of preparation and revision (if any)  
b. Professional's seal and signature

Table of Contents: For text and appendices, if any

Exhibits: Contained in report

Maps: Include Water and Sewer System Design Maps (applicable portions only) in the report

### OUTLINE

- A. SEWAGE SERVICE AND GENERATION
  - 1. Estimate average daily flows (using 85 gallons per capita per day (gpcd) or other supported criteria)
  - 2. Estimate peak hour flows for interceptors/outfalls and collector/laterals (use 170 and 255 gpcd, respectively, or other supported criteria)
  - 3. Determine average daily and peak hour flow velocities
- B. SEWAGE PUMPING AND LIFT STATIONS
  - 1. Design Flow Range
    - a. Estimate minimum daily flows (using 1/3 average daily flows or other supported criteria)
    - b. Discuss anticipated range of inflows, from initial to future conditions.
    - c. Estimate maximum peak flow in the receiving pipe and determine if it has capacity while the pumps are running.
  - 2. Well Design
    - a. Evaluate appropriate pump type for the anticipated flow range, and impact on well type
    - b. Discuss well depth and physical restraints
    - c. Consider desired number of pumps (see Comment 1).
    - d. Discuss emergency volume (or back-up power source) and lag volume
    - e. Discuss operational volume considering cycle and run time, and also stagnation period. Show that the holding period is not more than 30 minutes unless aeration or other means to prevent stagnation are provided
    - f. Size well
    - g. Design against buoyancy flotation of well
  - 3. Discharge Line
    - a. Determine flow velocities and head loss rates for various pipe sizes and flow rates within design flow range
    - b. Substantiate preliminary pipe size selection, maintaining 2 feet per second minimum and providing adequate "seating volume" on valving
  - 4. Pump Selection (Note: A minimum of two pumps are required -- see Comment 1)
    - a. Determine net positive suction head required
    - b. Provide system head-capacity curve; compare with pump head-capacity and efficiency curves - show operational range
    - c. Substantiate final pump selection (proper operational range, impeller size, horsepower)
    - d. Discuss controls and power

### COMMENTS

- 1. For stations having 2 pumps, each pump shall have a capacity of at least 100% of peak hour inflow. For stations having 3 or more pumps, one pump may be considered standby, and the remaining pumps must have a combined capacity of at least 100% of peak hour inflow.

# ***REPORT CHECKLIST AND OUTLINE***

## **STORMWATER MANAGEMENT PLAN**

### **CHECKLIST**

Typed text

Title Page: Name of report and preparer, date of preparation and revision (if any)

Table of Contents: For text

Exhibits: Contained in report

### **OUTLINE**

Report Content is as specified in the current Mesa County/City of Grand Junction Stormwater Management Manual available on the City's website at [gjcity.org](http://gjcity.org).

### **COMMENTS**

1. A copy of the construction activity permit from the State CDPHE is required prior to plan approval and construction commencement.
2. Features described in this report shall be referenced to and shown on the Grading and Drainage Plan (non-subdivisions) or Grading and Stormwater Management Plan (subdivisions).
3. Concepts discussed in this report shall be consistent with drainage and soils reports. It is advisable that this report be prepared by the same person who prepared the drainage report for the site.



# **REPORT CHECKLIST AND OUTLINE**

## **TRAFFIC IMPACT STUDY**

### **CHECKLIST**

Typed Text

Title Page: Name of Report and Preparer, date of preparation and revision (if any) ;

Table of contents: for text and appendices, if any

Exhibits and Diagrams: Contained in report

Signed and sealed by a professional engineer

### **OUTLINE**

REFER TO Traffic Engineering Design Standards Manual (TEDS) for Traffic Impact Study information.

### **COMMENTS**

1. A more detailed discussion of the requirements for this report is provided in the City Transportation Engineering Design Standards (TEDS).

# **REPORT CHECKLIST AND OUTLINE**

## **TRANSACTION SCREEN PROCESS**

### **CHECKLIST**

Typed text

Title Page:   a. Name of report and preparer, date of preparation and revision (if any)  
              b. Signature of Professional Engineer, Registered Environmental Property Assessor, or other qualified professional

Table of Contents: For text and appendices, if any

Exhibits: Contained in report

Maps contained in the report: (Provide drawings as required to clarify report)

### **OUTLINE**

Refer to American Society for Testing & Materials (ASTM) Practice 1528, most current edition.

**COMMENTS**

# **REPORT CHECKLIST AND OUTLINE**

## **WATER SYSTEM DESIGN REPORT**

### **CHECKLIST**

Typed text

Title Page: a. Name of report and preparer, date of preparation and revision (if any)  
b. Professional's seal and signature

Table of Contents: For text and appendices, if any

Exhibits: Contained in report

Maps: Include Water and Sewer System Design Map (applicable portions only) in the report

### **OUTLINE**

- A. WATER SUPPLY
  1. Discuss supply line sizes, lengths, and owner
  2. Static supply line pressures
  3. Domestic usage residual supply line pressures
- B. WATER USAGE
  1. Estimate population to be served
  2. Estimate average daily and peak hour flows
  3. Determine required fire flow
- C. WATER DISTRIBUTION SYSTEM
  1. Show that proposed systems will not experience static pressures in excess of 100 psi (pressure per square inch) unless specifically designed for such
  2. Show that at peak hour flows, main line domestic usage residual pressure will be 40 psi or greater
  3. Show that at peak hour flow plus required fire flow, main line residual pressure will be 20 psi or greater

COMMENTS

**SECTION VII.**

**CONSTRUCTION  
PHASE SUBMITTALS**

## **VII. CONSTRUCTION PHASE SUBMITTALS**

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**A. CONSTRUCTION PHASE SUBMITTALS** A checklist has been prepared that identifies various steps of construction activity and corresponding required submittals. The submittals may be varied depending on the type and size of the project involved. The checklist will be completed by Staff and submitted to the Applicant. Items are required as noted. Those items with shaded-in circles will be required. Additional information may be required. Descriptions of submittal items are contained in this chapter. Construction submittals are made to the assigned City Engineer.

**B. APPROVAL OF CONSTRUCTION DRAWINGS** Upon satisfaction of the following criteria, the construction drawings will be ready for City Planning and Engineering approval (signature).

- a. Payment of all applicable project fees including water tap fees, Sanitary Sewer Plant Investment Fees (PIF), Transportation Capacity Payments (TCP), drainage fees.
- b. Approval of the plans by all utility companies either through the Utility Coordinating Committee or individual utility company signature. Approval of the plans by the Fruitvale, Central Grand Valley and Orchard Mesa Sanitation District is always by separate signature.
- c. Approval of the utility composite by the appropriate Fire Department (Clifton Fire or Grand Junction Fire).
- d. Provision of any necessary fully executed Developments Improvement Agreement including required financial security.

Planning and Engineering approval is always the last set of approval signatures.

One full electronic set of signed plans are required to be submitted to the City.

### **C. GENERAL CONSTRUCTION SUBMITTAL REQUIREMENTS**

#### **a. GENERAL CONSTRUCTION SUBMITTAL REQUIREMENTS**

**i. Required Quality Control And Assurance** Adequate quantity and quality of observation and testing during the construction process is essential to achieving a quality product. Consequently, the City requires Quality Control and Quality Assurance observation and testing during the construction of:

- 1) Facilities that will become public, such as streets, sidewalks, water, sewer and storm drains; and

- 2) Facilities that may ultimately impact the public at large, such as Stormwater Best Management Practices, overlot grading, private detention/retention basins and storm water collection and conveyance.
  - 3) Dry utility installations such as phone, cable TV, electricity, gas, fiber optics, etc.
- ii. **Responsibility** The Applicant is legally responsible for quality control and assurance of the development project. The Applicant, the engineer and/or contractor—as the Applicant’s agent(s)— shall implement the procedures, methods, testing, surveying and observation that are required by the City to insure the work conforms to all City specifications.
  - iii. **Construction Observation Reporting** The Applicant is responsible for providing independent and qualified observation of the construction. Prior to commencing construction, the Applicant must submit the proposed name of the firm or individual(s) responsible for construction observation to the City. Construction Observation shall include the regular observation of all phases of construction for conformance with the plans, specifications and design intent by an independent third party under supervision of the Applicant’s Engineer.
  - iv. **City Inspection** In addition to Quality Control (QC) and Quality Assurance (QA) provided by the Applicant and his agent(s), the City may perform spot inspections of the construction of any facilities. As time permits, a City Inspector may make periodic inspections of the work. Such inspection, or not, of the work by the City does not relieve the Applicant of the obligation(s) to observe, monitor and conduct necessary tests. The City Inspector and/or City Engineer may require work to be uncovered or removed (at no cost to the City) if QC/QA to City standards is not demonstrated to the satisfaction of the City Inspector and/or City Engineer.
  - v. **Construction Segmentation** As construction proceeds, the quality or acceptability of work often depends upon the preceding quality of work. Any or all work on a development may be stopped unless and until QC/QA observations and testing are made and/or City approval(s) of the same are given.

**b. CONSTRUCTION PHASE SUBMITTAL ITEMS**

- i. **Draft Sanitary Sewer As-Builts** Sanitary Sewer as-builts are required prior to concrete placement. These must include invert elevations and slopes of each reach and stub-outs. Red-lined as-builts shall be followed up with the required final as-builts.

- ii. **Draft Storm Sewer As-Builts** Storm sewer as-builts are required prior to concrete placement. These must include invert elevations and slopes of each reach and stub-outs. Red-lined as-builts shall be followed up with the required final as-builts.
  
- iii. **Materials Testing Reports** All materials properties and materials compaction test reports according to the method and frequency required by the City Standard Construction Documents or tests and observations required by special geotechnical recommendation shall be submitted to the Development Engineer as follows:
  - 1. **Compaction test results:** Compaction test results indicating location, proctor, minimum requirements, test method and results shall be reported for all tests. Retests shall be indicated. Failing results for moisture or density shall be flagged. A unique and recognizable location including depth, strata (subgrade, finish grade, etc), type of utility trench or position in the road structure (subgrade, sidewalk) shall be identified for each test. Abbreviations or codes shall be included in the legend. Electronic typed compaction test reports approved by the certified laboratory supervisor or engineer are required for project acceptance.
  - 2. **Materials Tests Reports:** Complete materials tests reports—for Portland cement concrete and asphalt concrete materials—indicating all materials properties as required by the materials testing requirements listed in the City of Grand Junction Standard Contract Documents shall be submitted. Failing results on any material test property shall be flagged. A unique and recognizable location shall be identified for each test. Abbreviations or codes shall be included in the legend. Electronic typed materials approved by the certified laboratory supervisor or engineer are required for project acceptance.
  - 3. **Testing Location Maps:** Electronic (pdf) using composite plan as a base map, prepared by the testing agency shall be submitted indicating the location of all compaction and materials test locations. A methodology for identifying different areas of compaction tests (sewer or water trenches, base course, etc.) shall be employed. Depth of materials tests shall be indicated.
  - 4. **Materials Proctors:** All materials proctors shall be included.
  - 5. **Failing Tests:** Failing materials test results must be submitted to the City within 15 days.
  
- iv. **Certificates of Compliance** Certificates of Compliance for manufactured materials must be submitted to the City prior to installation.
  
- v. **Stormwater Control Facility Certification** A letter from the engineer certifying the conformance of the as-constructed stormwater control pond features including volume, erosion protection, drainage, water quality and outlet or level control to all design parameters and criteria is required. Specifically

included shall be the certification of pump and electrical systems used to control discharge rates.

- vi. **Sewer line Lamping Video and Pressure Testing** (Applies to collection systems in the City of Grand Junction service area only. Other Sanitation Districts have their own requirements.) Once the manholes and sewer line installations are complete and sub-grade and base course in roadways has been compacted preparatory to paving, the City will inspect the sewer line. Requests for inspection shall be made by calling the City Development Inspector. After inspection, the contractor shall pressure test the sanitary sewer according to City specifications. After all concrete and paving is complete and after all telephone, gas, power, cable television, etc., have been installed, the sanitary sewer shall be pressure tested again. The Applicant's engineer shall observe all pressure tests, and when the line(s) passes, write, sign and seal a letter stating that passing test results have been obtained.
- vii. **Water Line Pressure and Disinfection Tests** Written documentation from the water provider stating that passing test results have been obtained is required prior to paving.
- viii. **Work Within Public Right-of-way Permit** A right-of-way permit from the appropriate governmental jurisdiction (City, County, State) must be obtained prior to commencement of cut, fill, utility work and/or traffic flagging/routing within a public right-of-way.

**D. MAINTENANCE GUARANTEE** The maintenance guarantee shall secure the construction of the public improvements and/or landscaping as shown in the agreement. Acceptable financial security forms are defined in the Zoning and Development Code.

a. **Release of Agreement** A DIA shall not be released unless written verification is provided, in a form as required by the City Attorney, that there are no outstanding judgments or materialmen's or suppliers' liens against the property with indemnification of the City from the same. The Director shall review, and if appropriate, approve the release of the DIA. Release of the DIA, in whole or in part, does not constitute a Certificate of Completion and Release of Responsibility. The Applicant shall pay all recording fees associated with the recording memoranda to release the DIA.

b. **Release of Guarantee** The release of the guarantee shall be determined by the terms stated in the guarantee.

**E. LEIN WAIVERS:** Provide for all work in the public right-of-way prior to initial acceptance.



# CONSTRUCTION PHASE SUBMITTAL CHECKLIST

Project Number: \_\_\_\_\_

Project Name: \_\_\_\_\_

Applicant: \_\_\_\_\_

Location: \_\_\_\_\_

STEP	ACTIVITY	SUBMITTAL ITEMS	Reference
1	<u>Pre-construction</u>  City Approval	<input type="radio"/> City Approval of Construction Drawings <input type="radio"/> Development Construction Notice <input type="radio"/> Work within Public Right-of-way Permit <input type="radio"/> Development Improvements Agreement/Guarantee <input type="radio"/> City of Grand Junction Stormwater Permit <input type="radio"/> _____ <input type="radio"/> _____ By: _____	VII-A City Form VII-C.b.viii  City Form
2	<u>Utility Construction and Grading</u>  Grading Street Rough Cut Sanitary Sewer Domestic Water Irrigation Other Utilities Subgrade Base Course  City Approval for Concrete Placement*	<input type="radio"/> Construction Report: Grading and Pipeline Phase <input type="radio"/> Construction Report: Concrete and Pavement Preparation <input type="radio"/> Request City inspection of Sewerline. (City Sewer Only) <input type="radio"/> Complete Compaction Tests for all utilities, subgrade, and base course under concrete <input type="radio"/> Draft Sanitary Sewer As-Built Drawings <input type="radio"/> Draft Storm Sewer As-Built Drawings <input type="radio"/> Letter from sanitary sewer district stating passage of initial tests and inspections <input type="radio"/> Letter from water purveyor stating passage of pressure and disinfection tests. <input type="radio"/> All at once  By: _____	VII-8 VII-6 VII-C.b.vi VII-C.b.iii VII-5 VII-5 VII-C.b.vi VII-C.b.vi
3	<u>Concrete &amp; Road Construction</u>  Concrete Placement Base Course  City approval for concrete placement	<input type="radio"/> Revised Pavement Design <input type="radio"/> Sanitary sewer pressure test certification letter after wet utility installation. <input type="radio"/> Complete Compaction Tests for base course under asphalt. All at once just prior to pavement.  By: _____	NA VII-C.b.vi VII-C.b.iii

<p style="text-align: center; font-size: 2em; font-weight: bold;">4</p>	<p><u>Final Improvements and Certifications</u></p> <p>Asphalt Pavement  Dry Utilities  Traffic Control Facilities  Monumentation  Permanent Benchmark  (Subdivisions Only)</p>	<ul style="list-style-type: none"> <li><input type="radio"/> Complete Quality Assurance Reports for asphalt and concrete materials and compaction</li> <li><input type="radio"/> Construction Report: Concrete and Pavement Placement</li> <li><input type="radio"/> Complete set of Final As-Built Drawings and Electronic Files</li> <li><input type="radio"/> As-built irrigation drawings</li> <li><input type="radio"/> Request for City initial inspection</li> <li><input type="radio"/> Sanitary sewer pressure test certification letter after dry utility installation.</li> <li><input type="radio"/> Stormwater Basin Certification</li> <li><input type="radio"/> Construction Report: Irrigation</li> <li><input type="radio"/> _____</li> </ul> <p>By: _____</p>	<p>VII-C.b.iii  VII-7  VII-6 thru 8</p> <p>NA  VII-C.b.vi  VII-C.b.v</p>
<p style="text-align: center; font-size: 2em; font-weight: bold;">5</p>	<p><u>Initial Acceptance for Warranty Period</u></p>	<ul style="list-style-type: none"> <li><input type="radio"/> Final Inspection: All construction items complete</li> <li><input type="radio"/> Maintenance Guarantee and Security</li> </ul>	<p>NA  ZDC**</p>

**NOTES:**

1. Those submittal items that are preceded by a shaded-in circle are required for the project. A copy of this checklist that has been completed for the specific project will be transmitted to the Applicant at the preconstruction meeting.
2. City Engineering approval of submittal items is required prior to commencement of subsequent steps. The City will make an effort to provide timely approvals in order to accommodate construction schedules. Allow 2 full business days for review of the items in Sections 3 and 4.
3. The "APPROVAL FOR CONCRETE" and "APPROVAL FOR ASPHALT PAVEMENT " lines must be signed or other written notification given by the City Construction Inspector or the City Engineer prior to placing concrete or asphalt. No concrete or asphalt shall be placed without these signatures. **IT IS THE APPLICANT'S RESPONSIBILITY TO OBTAIN THESE SIGNATURES.**

**\*\*ZDC = Zoning and Development Code**

# DRAWING STANDARDS CHECKLIST

## AS-BUILT GRADING

ITEM	GRAPHIC STANDARDS	
GRAPHIC STANDARDS	J	Stamped and sealed drawings by a Professional Engineer registered in Colorado
	O	As-built drawings
	R	Neatness and legibility
ITEM	FEATURES	
ADDITIONAL INFO	1	Use the Grading and Drainage Plan or Grading and Stormwater Management Plan as a base drawing
	2	Provide as-built pad elevations for all lots that are in or are adjacent to the 100-year floodplain
	3	Detention/retention basin as-built contours (except for where on pavement, then use as-built grading).
	4	Volume verification of detention/retention/water quality basin and outlet systems including pump systems and irrigation level control systems
	5	Drainage channel and swale as-built information
<b>COMMENTS</b>		
<ol style="list-style-type: none"> <li>1. As-built sketches and drawings must contain the same information. See Section III for submittal format.</li> <li>2. Detention/retention/water quality basin shall be surveyed to the extent necessary that a Professional Engineer can verify the volume. The volume must be at least as large as the volume required in the drainage report. Volumes shall be calculated allowing for landscaping. The outlet works shall be surveyed and elevations and orifice/weir measurements shown on as-builts to the 0.01' accuracy.</li> </ol>		

# DRAWING STANDARDS CHECKLIST

## AS-BUILT ROADWAY

ITEM	GRAPHIC STANDARDS	
GRAPHIC STANDARDS	J	Stamped and sealed drawings by a Professional Engineer registered in Colorado
	O	As-built drawings
	R	Neatness and legibility
ITEM	FEATURES	
ADDITIONAL INFO	1	Use the Roadway Plan and Profile as a base drawing
	2	All vertical, horizontal, and other design information required for primary features on the Roadway Plan and Profile must have corresponding as-built information provided including pavement width, curb/gutter/sidewalk width and type, base course, and pavement thickness, geosynthetics, sub-grade stabilization, elevations horizontal control, signalization, etc.
	3	As-built information for all significant changes from the approved design plans
	4	Provide elevations for all point of curvatures, point of tangencies, end of curve returns, angle points, grade breaks, and all locations where elevations were shown on the design drawing.
<b>COMMENTS</b>		

# DRAWING STANDARDS CHECKLIST

## AS-BUILT UTILITIES

ITEM	GRAPHIC STANDARDS	
<b>GRAPHIC STANDARDS</b>	J	Stamped and sealed drawings by a Professional Engineer registered in Colorado
	O	As-built drawings
	R	Neatness and legibility
ITEM	FEATURES	
<b>ADDITIONAL INFO</b>	1	Use the Storm Drain, Irrigation, or Water and Sewer Plan and Profile as a base drawing, as appropriate
	2	All vertical, horizontal, and other design information required for primary features on Storm Sewer, Irrigation and/or Sanitary Sewer Plan and Profile must have corresponding as-built information provided including elevations, station and offset, etc. for manholes, cleanouts, inlets, outlets, structures and other appurtenances. Irrigation features are required to be as-built where crossing public right-of-way or easements or where part of a system that is not owned or operated by the Homeowners Association. For all subdivisions all irrigation features shall be as-built regardless of ownership or operation.
	3	Ends of services (subdivisions only) must be tied to lot corners or be located by station and offset. The top of the pipe or invert elevation shall be shown for sanitary services.
	4	As-built information for all significant changes from the approved design plans
	5	Pipe type and type of pipe connections (Mechanical Joint, Slip Joint, Flange, etc.)
	6	All horizontal and other design information for primary features on the Water and Sewer Plan and Profile corresponding to as-built information provided. Including elevations, station and offset, etc. for fire hydrants, valves, and vaults.
<b>COMMENTS</b>		

# REPORT CHECKLIST AND OUTLINE

## CONSTRUCTION REPORT: CONCRETE AND PAVEMENT PLACEMENT

### CHECKLIST

Title Page: Name of report

Exhibits: Contained in report

Maps: Include Testing Location Maps in the report

### OUTLINE

This report does not require full-time inspection, but does require periodic observation to verify that the correct materials are used, construction methods meet requirements, all items required by plans and specifications have been completed, the general design intent has been met and no errors or omissions remain unresolved.

The items below marked with an **(R)** are required and must be verified to the City by a qualified person being either a licensed engineer familiar with the design of the project and the design requirements or a person with adequate construction and engineering knowledge working in direct contact with and under the supervision of such a licensed engineer.

The items below marked with an **(O)** are optional, but are recommended.

#### I. OBSERVATION FOR VERIFICATION

##### A. Concrete

- (R)** Lines and Grades
- (R)** Expansion joints
- (R)** Finishing
- (R)** Curing and sealing
- (R)** Freeze protection
- (O)** Weather conditions
- (O)** General progress
- (O)** Other observations

##### B. Paving

- (R)** Lines and Grades
- (R)** Lift thickness
- (R)** Joints (location and type)
- (R)** Compaction effort
- (R)** Surface texture and uniformity
- (O)** Weather conditions

##### C. **(R)** All items required by the specifications and shown on the plans are complete

#### II. TESTING (Testing frequency and methods shall be per City Specifications)

##### A. Concrete

- (R)** Air content
- (R)** Slump
- (R)** Compressive strength

##### B. Asphalt

- (R)** See City of Grand Junction Standard Specifications and Contract Documents

### COMMENTS

Submit test results to the City Engineer as directed on the "Construction Phase Submittal Checklist." The geotechnical testing must include a signed statement by a Colorado registered Professional Engineer verifying testing meets City frequency requirements and other specifications. Test reports shall state the quantity of the items being tested and the total number of tests so the testing frequency can be easily verified. Whether submitted previously or not, a complete set of test results and Test Location Map or exhibits, as required, shall be submitted together with inspection reports as shown above.

# REPORT CHECKLIST AND OUTLINE

## CONSTRUCTION REPORT: CONCRETE AND PAVEMENT PREPARATION

### CHECKLIST

Title Page: Name of report

Exhibits: Contained in report

Maps: Include Testing Location Maps in the report

### OUTLINE

This report does not require full-time inspection, but does require periodic observation to verify that the correct materials are used, construction methods meet requirements, all items required by plans and specifications have been completed, the general design intent has been met and no errors or omissions remain unresolved.

The items below marked with an **(R)** are required and must be verified to the City by a qualified person being either a licensed engineer familiar with the design of the project and the design requirements or a person with adequate construction and engineering knowledge working in direct contact with and under the supervision of such a licensed engineer.

The items below marked with an **(O)** are optional, but are recommended

#### I OBSERVATION FOR VERIFICATION

- (R)** Subgrade conditioning methods and results
- (R)** Subgrade and base course compaction effort
- (R)** Base course thickness
- (R)** Materials
- (R)** Lines, grades, and crown
- (R)** All items required by the specifications and shown on the plans are complete
- (O)** Weather
- (O)** General progress
- (O)** Other observations

#### II TESTING (Testing frequency and methods shall be according to City Specifications)

- (R)** Subgrade compaction
- (R)** Base course compaction
- (R)** Proof rolling

### COMMENTS

1. Submit test results to the City Engineer as directed on the "Construction Phase Submittal Checklist." The geotechnical testing must include a signed statement by a Colorado registered Professional Engineer verifying testing meets City frequency requirements and other specifications. Test reports shall state the quantity of the items being tested and the total number of tests so the testing frequency can be easily verified. Whether submitted previously or not, a complete set of test results and Test Location Map or exhibits, as required, shall be submitted together with inspection reports as shown above.

# REPORT CHECKLIST AND OUTLINE

## CONSTRUCTION REPORT: GRADING & PIPELINE PHASE & IRRIGATION SYSTEM

### CHECKLIST

Title Page: Name of report and preparer

Exhibits: Contained in report

Maps: Include Testing Location Maps in the report

### OUTLINE

This report does not require full-time inspection, but does require periodic observation to verify that the correct materials are used, construction methods meet requirements, all items required by plans and specifications have been completed, the general design intent has been met and no errors or omissions remain unresolved.

The items below marked with an **(R)** are required and must be verified to the City by a qualified person being either a licensed engineer familiar with the design of the project and the design requirements or a person with adequate construction and engineering knowledge working in direct contact with and under the supervision of such a licensed engineer.

The items below marked with an **(O)** are optional, but are recommended

#### I OBSERVATION FOR VERIFICATION

##### A. Grading phase

**(R)** Compaction effort

**(R)** Field conditions are substantially similar to design conditions or proposed design adjustments

**(O)** Best management practices

**(O)** Weather conditions

**(O)** General progress

**(O)** Other observations

##### B. Pipeline phase (water line, sanitary sewer, storm sewer, irrigation, conduit, other pipelines)

**(R)** Bedding type, placement and depth

**(R)** Pipeline material

**(R)** Backfill material

**(R)** Manholes

**(R)** Compaction effort

**(R)** Field conditions are substantially similar to design conditions or proposed design adjustments

**(O)** Weather conditions

**(O)** General progress

**(O)** Other observations

#### II TESTING (Testing frequency and methods shall be according to City specifications)

##### A. Grading phase

**(R)** Compaction in structural fill areas

##### B. Pipeline Phase

**(R)** Bedding compaction

**(R)** Backfill compaction

**(R)** Waterline pressure tests

**(R)** Waterline chlorination & bacteria

**(R)** Sewer line pressure tests

**(R)** Sewer line lamping results

**(R)** Sewer line CCTV results

**(O)** Sewer line deflection (if required)

### COMMENTS

1. Submit test results to the City Engineer as directed on the "Construction Phase Submittal Checklist." The geotechnical testing must include a signed statement by a Colorado registered Professional Engineer verifying testing meets City frequency requirements and other specifications. Test reports shall state the quantity of the items being tested and the total number of tests so the testing frequency can be easily verified. Whether submitted previously or not, a complete set of test results and Test Location Map or exhibits, as required, shall be submitted together with inspection reports as shown above.



# APPENDIX A

## Document Naming List

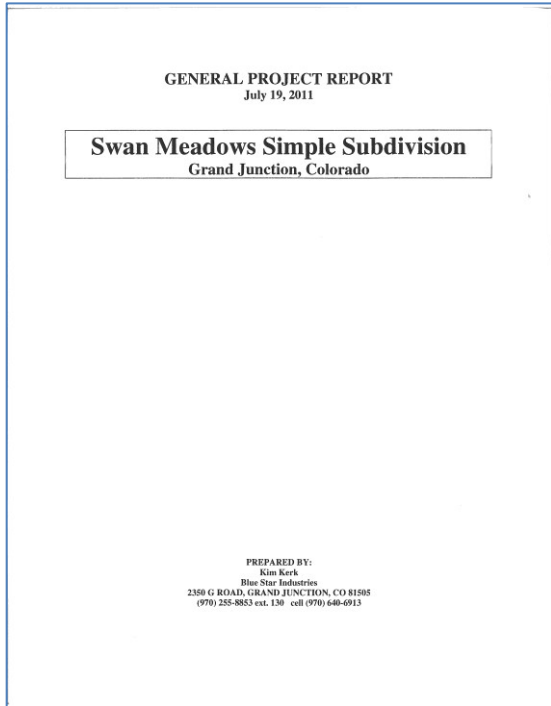
❖ Select appropriate document name

- |                               |                                    |
|-------------------------------|------------------------------------|
| Annexation Info Sheet         | Industrial Pretreatment App        |
| Annexation Petition           | Inside Cover Sheet                 |
| Appraisal                     | Institutional Master Plan          |
| Avigation Easement            | Landscape Plan                     |
| Boundary Agmt                 | Legal Description                  |
| Boundary Survey               | Lighting Plan                      |
| Building Elevations           | Materials Testing Plan             |
| CDOT Access Permit            | Neighborhood Mtg Notes             |
| Cell Site Inventory           | Outline Development Plan           |
| Composite Plan                | ❖ Ownership Statement or Deed Plat |
| Conveyances                   | Post Const Stormwater Agmt         |
| County Treasurer's Tax Cert   | Prelim Drainage Report             |
| Coverage Area Map             | Prelim Geotechnical Report         |
| ❖ CC&R or Condo Declarations  | Prelim Subdivision Plan            |
| Delineate Wetlands            | Reclamation Plan                   |
| Detail Sheet                  | Road Cross-sections                |
| Development App               | Roadway Plan & Profile             |
| Development Improvements Agmt | Sewer System Design Report         |
| Dredge & Fill Permit          | ❖ Sign Plan or Sign Package        |
| FCC License                   | Site Data Table                    |
| ❖ Fence or Wall Plan          | Site Plan                          |
| Final Drainage Report         | Site Sketch                        |
| Final Geotechnical Report     | Sketch for Descriptions            |
| Fire Flow Form                | Stormwater Mgmt Plan-Permit        |
| Floodplain Elevation Cert     | Summary & Articles of Inc          |
| Floor Plan                    | Surveyor Verification              |
| General Project Report        | Traffic Impact Study               |
| Grading Plan                  | Transaction Screen Process         |
| Haul Route Plan               | Utilities Plan & Profile           |
| Improvement Survey            | Water System Design Report         |

# APPENDIX B

## Document Orientation Guide

**Correct Orientation:  
Orientation:**



**Incorrect**

