

CHAPTER 5 - GENERAL REQUIREMENTS FOR IMPROVEMENT PLANS

501 GENERAL INFORMATION

Proposed development projects that involve construction of any infrastructure improvements (streets, grading and drainage facilities, utilities, etc.) are required to submit improvement plans and supporting reports to the City of Casa Grande for review, approval and permitting. This chapter describes the general requirements for all plans prepared for development and infrastructure improvements in City of Casa Grande. Other improvement plan requirements that are specific to the type of improvement proposed are identified in other chapters of this manual. (15.32.050; 16.16.010.(F); 16.08.100)

501.1 Improvement Plan Submittals. The improvement plans submitted to City of Casa Grande for City Approval shall adhere to professional standards for submittal of complete improvement plans for construction. Improvement plans shall include all details, technical and drainage reports etc. Improvement plans that do not meet the professional standards or are incomplete will be returned by the City Staff without review comments and not be classified as the development's first submittal as defined by the regulatory bill of rights.

501.1.1 Improvement Plan Submittals must be made prior to any work commencing for any purpose on any public right-of-way, the person for whom the work is being completed shall file an application for a right-of-way permit. The City Engineer shall require plans and specifications at the time of application, as well as fees for the city review of the maintenance, construction or building plans. The fee shall be established in the City Consolidated Fee Schedule pursuant to Section 1.04.170. Fees shall be made payable to the city. No work shall commence without the written approval of the City Engineer.

502 REGISTRANTS SEAL AND SIGNATURE

The City requires that all improvement plans, specifications and reports submitted for review shall be sealed by a professional registrant in accordance with the requirements of the Arizona State Board of Technical Registration. **Due to the requirements of the "Regulatory Bill of Rights" the City of Casa Grande will no longer accept plans that have the words "Preliminary" or "Not for Construction", or similar disclaimers, over the registrant's seal or elsewhere on the sheet. Each plan must bear the un-obscured presentation of the registrant's seal with their legal signature (an electronic signature, as an option to a permanently legible signature, in accordance with A.R.S. Title 41 and Title 44, is acceptable) and appropriate date(s); plans not so sealed/signed will not be accepted for review.**

[(AAC 4-30-101.

9. "Direct supervision" means a registrant's critical examination and evaluation of a bona fide employee's work product, during and after the preparation, for purposes of compliance with applicable laws, codes, ordinances, and regulations pertaining to professional practice. &

13. "Gross negligence" means a substantial deviation in professional practice from the standard of professional care exercised by members of the registrant's profession, or a substantial deviation from any technical standards issued by a nationally recognized professional organization comprised of members of the registrant's profession, or a substantial deviation from requirements contained in state, municipal, and county laws, ordinances, and regulations pertaining to the registrant's professional practice.))

503 GENERAL REQUIREMENTS {Need to add Code authority to establish these!?!}

503.1 Construction Standards. Casa Grande uses the Uniform Standard Specifications and Details for Public Works Construction as published by Maricopa Association of Governments (MAG) for construction of public infrastructure.

503.2 Document Size.

Improvement Plans: shall be on 24" x 36" sheets with blue or black line types with a minimum of a 1 ½" left border and a ½" border on other sides.

Reports: All supporting or supplement reports shall be letter sized (8.5" x 11"). Any larger maps included within the reports are to be folded to letter size and bound or provided in a folder.

503.3 Final Approval Submittal. The cover sheet (with approval blocks) for improvement plans submitted for **final** approval shall be an original 4 mil grade Mylar drawings. The balance of the final submittal shall consist of three (3) full set bond copies.

503.4 Sheet Orientation. Plans shall be oriented with north towards the top or right of each sheet. A North arrow and scale (both written and graphic) shall be provided. All text should be readable from the bottom and the right of the sheet.

503.5 Text Designation. Minimum lettering and numbering size shall be 3/16" for manually drafted or 12 point font for mechanically/electronic produced letters, numbers and symbols. Lettering, numbering and line work must be uniform and with clear definition to be retrievable after being photocopied, microfilmed or digitally scanned.

503.6 Improvement Plan Designation. Separate improvement plans shall be provided for the following: **Do we really want separate cover sheets for as many as 8 different "sets" of plans. Should probably separate them based on "permitting processes.**

503.6.1 Paving and Storm Drain Improvements shall be on the same sheet.

- 503.6.2 Water system improvements
- 503.6.3 Sanitary sewer improvements
- 503.6.4 Grading and Drainage improvements
- 503.6.5 Traffic Signalization
- 503.6.6 Traffic Signing and Pavement Marking improvements
- 503.6.7 Landscape and Irrigation improvements
- 503.6.8 Streetlight and Electrical improvements
- 503.6.9 Reclaimed Water
- 503.6.10 Force Mains

503.7 Drawing Scales. The following are standard minimum drawing scales to be used for improvement plans submitted to City of Casa Grande. Note: The Engineer shall take into account when selecting drawing scales, line weights and lettering size so that the improvement plans may be photocopied, microfilmed or digitally scanned. Depending on the complexity of the design, a larger scale maybe required.

503.7.1 Grading	1" = 40' Horizontal
503.7.2 Water, Sewer, and Reclaimed:	1" = 40' Horizontal
	1" = 4' Vertical
503.7.3 Paving and Storm Drain:	1" = 40' Horizontal
	1" = 2' Vertical???
503.7.4 Traffic Signalization:	1" = 20' Horizontal
503.7.5 Traffic Signing and Pavement Marking:	1" = 40' Horizontal
503.7.6 Landscape and Irrigation:	1" = 30' Horizontal

503.8 All existing features (topography, utilities and other improvements) shall be screened. This will typically include existing contours with adequate spot elevations to show drainage, existing aerial and underground utilities, existing irrigation facilities, adjacent land uses, city limits, City limits where applicable, 100-year floodplain, flood elevations and floodway limits where applicable.

503.9 Plans shall show existing and proposed right of way, easements and property lines. Dimensions of these shall be clearly indicated.

503.10 New construction line work and construction notes shall be sufficiently heavier than existing features so as to allow it to be quickly and clearly identified.

503.11 Grade breaks shall be clearly shown with the applicable symbol on the plan and/or profile sheets.

503.12 "Blue Stake" notification shall be provided on each sheet.

503.13 An individual **cover sheet** with the following information is required for each

improvement planset.

503.13.1 Project heading block indicating name of project, type of plans. (Title to be consistent with the Final Plat or Final Plan of Development.)

503.13.2 Below the heading include the words “City of Casa Grande, Arizona”.

503.13.3 Title Blocks: All plan sheets shall note the project’s title or address in a title block on the sheets lower right hand corner. Project addresses may be located either along the bottom of the sheet, or the right hand side of the sheet.

503.13.4 Developer’s name, address, telephone number and contact person.

503.13.5 Engineer’s name, address, telephone number and contact person.

503.13.6 Engineer’s seal with signature and date. (Provided on each sheet).

503.13.7 Vicinity Map indicating the general location of the project with major arterial streets labeled and geographic orientation.

503.13.8 Provide the Section, Township and Range data.

503.13.9 Basis of bearings and benchmark. All vertical control shall be based on the 2012 City of Casa Grande Datum. Information for the City’s bench mark system is included in Appendix XX.

503.13.10 Sheet Index.

503.13.11 Case number (S-000-00) at the lower right hand corner.

503.13.12 Estimate of Quantities for all improvements.

503.13.13 Legend for symbols, abbreviations, grades and lines, etc.

503.13.14 Utility Company approval and signature block for all utilities including but not limited to: Water, electric, telephone, cable, and Natural Gas. (Proof of Approval required prior to City approval)

503.13.15 Provide City of Casa Grande Engineer Approval Block

APPROVAL FOR CONSTRUCTION:

APPROVAL FOR CONSTRUCTION RECOMMENDED:

CIVIL ENGINEER

DATE

PLANS APPROVED FOR CONSTRUCTION:

GREGORY B. SMITH, PE/PS
CITY ENGINEER

DATE APPROVED
: _____
EXPIRATION

DATE _____

THE CITY APPROVES THESE PLANS IN CONCEPT ONLY. THE CITY ACCEPTS NO RESPONSIBILITY FOR ERRORS OR OMISSIONS.

503.13.16 Provide an As-Built Certification Statement on the plans as follows:

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

DATE

REGISTRATION NUMBER

=====

AS-BUILT APPROVAL:
APPROVAL RECOMMENDED:

PUBLIC WORKS ENGINEERING INSPECTOR

DATE

AS-BUILT PLANS APPROVED:

GREGORY B. SMITH, PE/PS
CITY ENGINEER

DATE

503.14 Checklists: Application forms and checklists are available at Public Works Development Review Section for current or up to date plan/plat checklist. The applicant shall include a completed check list in each submittal indicating that they have reviewed the plans in accordance with the minimum requirements of this manual.

504 PLAN SHEETS

Improvement plans for Public Works construction shall consist of standard plan only sheets or standard plan and profile sheets. Plan sheets shall provide the following:

504.1 Professional Seal. Each sheet shall be sealed, signed and dated in accordance with the Arizona Board of Technical Registration requirements and Section 502 above.

504.2 Title Blocks. All plan sheets shall note the project's title or address in a title block on the sheets lower right hand corner.

504.3 Dimensioning. Casa Grande requires that all existing and proposed improvements shall be dimensioned in accordance with the following:

504.3.1 All plan sheets showing street improvements or dedicated rights-of-way shall be dimensioned per MAG Standard Detail 112.

504.3.2 All plan sheets showing the construction of utilities or existing utilities shall also dimension the utilities using the format of MAG Standard Detail 112.

504.3.3 All plan sheets showing the construction of utilities within an easement shall dimension the overall width of the easement, the offset of the proposed or existing utilities from the centerline or edge of the easement.

504.4 Horizontal Control

504.4.1 The origination point of all position systems shall be based on an established survey point or monument and identified on the plans.

504.4.2 Position systems shall be designed to proceed from South to North, West to East, left to right.

504.4.3 All plan sheets shall be stationed in 100-foot intervals minimum.

504.5 Symbols. Symbols noted on the plan sheets shall be per MAG Standard Detail 110. Special symbols not represented on MAG Standard Detail 110 may be used provided the symbol representation is identified.

504.6 Construction Notes. Construction notes for all new construction shall be noted on each plan sheet.

504.7 Required Information to be shown on plans:

504.7.1 Existing and proposed rights-of-way shall be shown and dimensioned.

504.7.2 Projects that are adjacent to corporate limits of municipalities shall delineate the location of the corporate limits and identify the jurisdictions on all applicable sheets.

504.7.3 Plans shall differentiate between the existing and proposed improvements and show all the existing conditions.

504.7.4 Plans shall show all existing utilities complete with line sizes, types (water, sewer, gas, etc) and locations.

505.5 Plan and Profile Sheets

505.5.1 Plan and profile sheets are required for the following:

505.5.1.1 All arterial, collectors, local streets and access road paving and storm drain improvement plans. Provide separate profiles for left curb or left edge of pavement, right curb or right edge of pavement and the centerline.

505.5.1.2 Waterline improvement plans for construction with size twelve (12) inches in diameter or greater.

505.5.1.3 All sanitary sewer improvement plans.

505.5.1.4 All storm drain improvement plans.

505.5.1.5 All reclaimed water line improvement plans.

505.5.2 The profile shall indicate elevations and the stationing grid clearly.

505.5.3 The profile of the existing surface shall be shown with the proposed construction line work and construction notes (i.e. elevations, slopes, grade breaks).

505.5.4 The existing utility crossings shall be shown in the profile view. Utility conflicts and design resolutions shall be noted in all the appropriate profiles.

505.6 Detail Sheets

Supplement sheets that depict special construction details required to clarify some aspect of the proposed improvements.

505.6.1 Professional Seal: Each sheet shall be sealed, signed and dated in accordance with the Arizona Board of Technical Registration requirements.

505.6.2 Standard Details: MAG Standard Details are not to be included on the detail sheets unless the Detail is being modified. The modifications shall be clearly identified and the detail shall be titled “Modified MAG Detail.”

505.7 Technical Reports

The following reports shall be submitted with each development project.

505.7.1 Traffic Impact Analysis (TIA): Developers shall be required, at the time of construction plan or final plat submittal (whichever occurs earlier), shall submit a final Traffic Impact Analysis for review and approval. Plans for roadways, traffic signal, striping, and/or other improvements impacted by matters covered in a final TIA may need to be revised as necessary to conform to the requirements of the “approved” TIA.

505.7.2 Geotechnical Report: Developers shall be responsible to submit a geotechnical report with street construction plans indicating “R” value, sieve analysis, plastic index of the subgrade and street structural cross section design. The design engineer is responsible for investigating and evaluating the existing pavement structure. The report shall indicate the recommended pavement cross-section for the project. The City minimum cross-sections shall be the default used unless a specific variance for the specific project is granted by the City Engineer.

505.7.3 Drainage Report: Developers shall be required, at the time of construction plan or final plat submittal (whichever occurs earlier), to submit a final Drainage Report for review and approval. The report shall be prepared in accordance with the current City of Casa Grande Drainage Ordinance and City of Casa Grande Floodplain Management Ordinance. Plans for roadways, drainage facilities, and/or other improvements impacted by matters covered in a final Drainage Report may need to be revised as necessary to conform to the requirements of the “approved” Drainage Report. [15.40.670]

505.7.4 Water System Report: Developers shall be required, at the time of construction plan or final plat submittal (whichever occurs earlier), shall be responsible to submit for review a Water System Report that addresses, at a minimum, the following:

505.7.4.1 Provisions for a supply of adequate and safe drinking water for all lots and land tracts.

505.7.4.2 Provisions for adequate water system for satisfactory

fire protection for all parts of the development must be assured.

Plans for roadways, drainage facilities, and/or other improvements impacted by matters covered in a final Water System Report may need to be revised as necessary to conform to the requirements of the “approved” Water System Report.

505.7.5 Sewer System Report: Developers shall be required, at the time of construction plan or final plat submittal (whichever occurs earlier), shall be responsible to submit for review a Sewer System Report that addresses, at a minimum, the following:

505.7.5.1 Provisions for adequate sewage disposal for all lots/buildings must be assured.

505.7.5.2 The use of individual sewage disposal systems is prohibited without the approval of the City Engineer (16.16.360). .

Plans for roadways, drainage facilities, and/or other improvements impacted by matters covered in a final Sewer System Report may need to be revised as necessary to conform to the requirements of the “approved” Sewer System Report.

505.7.6 Municipal Solid Waste Report: Developers shall be required, at the time of construction plan or final plat submittal (whichever occurs earlier), shall be responsible to submit for review a Municipal Solid Waste Report that addresses, at a minimum, the following:

505.7.6.1 Provisions for the collection and disposal of solid waste generated by the development. The report must clearly define the route proposed to be used by the MSW equipment to access the

505.7.8 Reliance on Prior Reports (Plans)

The City has a library of reports prepared for various phases/stages of developments throughout the City. Further the developer and/or their consultants may have access to previously approved reports for the project area and or areas adjacent to the proposed project. It is the responsibility of the developer’s consultant(s) to clearly state in the reports for the proposed project that they have thoroughly reviewed any such available approved reports and have, except as may be noted in the project report, accepted the assumptions, results, conclusions, and recommendations of such prior report(s) as a satisfactory basis of design for their project. This stipulation applies to all submittals, whether a fully new project, a subsequent phase of an existing project, or the re-approval of plans/reports whose approval has lapsed. [CE]

505.8 Plan Review Comments

All plan review comments (**Redlines**) shall be corrected or clarified. If there is a discrepancy

concerning a redline comment, contact the City plan review staff. The redline set of plans shall be returned with the next improvement plan submittal. Include a separate redline correction response letter addressing each comment and correction measure provided. The letter shall address each comment with plan sheet location noted, along with the applicable resolution of the comment.

Failure to identify all of the changes shall result in the return of the plans with an additional review required and shall require additional fees based on the City's fee schedule.

505.9 Approval of Plans

505.9.1 When the improvement plans meet the requirements for approval in accordance with Article 8 of the City of Casa Grande Subdivision Regulations, the original mylar cover sheet will be requested. With the submittal of the original mylar cover sheet include three (3) full size bond sets of plans and an Engineer's Opinion of Probable Cost. Prior to City Engineer signature all applicable reviewing agencies shall have signed the cover sheet. If an agency does not sign the cover, a letter of their approval shall accompany the cover sheet and the letter date and signing party noted on the cover sheet. Plan approval is valid for one year from date of signature. If construction has not begun prior to the plan approval expiration date the plans become void. A re-approval of the construction plans are required and applicable plan review fees will apply.

505.9.2 The Public Works Department will review all such resubmitted plans and specifications and may require revisions therein to comply with standards and specifications of these regulations and other applicable laws and ordinances. After the completion of revisions, the City Engineer may require that the Engineer's Cost Estimate be revised to reflect such revisions. The City Engineer shall only approve said plans and drawings if the improvements indicated are found to be in conformance with the standards and specifications of these regulations and other applicable laws and ordinances. Said approval shall be in writing.

505.10 As-Built Plans

As-Built Plans shall be prepared in accordance with Chapter 14 of this Manual.

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