CHAPTER 7

PLAN SUBMITTAL REQUIREMENTS

7-1 INTRODUCTION

This section of the City of Peoria Infrastructure Design Guidelines outlines the criteria for technical, as-built, record and electronic submittal requirements. Included in this chapter are the standard requirements for submittal of Civil Plan sets for projects prior to permitting and upon completion for As-Built drawing submittal. In addition, criteria are provided for electronic submittals to meet the requirements of the City of Peoria systems.

7-2 CIVIL PLAN SUBMITTALS

The following shall be included when submitting applicable plans for review and approval. .

A. Street Plans

1. Station for all grade breaks.
2. Curb offset dimension at all changes in alignment.
3. Top of curb, gutter and pavement centerline elevations at all grade breaks, curb returns, valley gutters, aprons, plus any other location necessary to adequately show drainage.
4. Survey monuments.
5. Street monument line and if different, centerline bearings, distances, and curve data.
6. Street centerline stationing of the centerline of driveways and width of driveway.
7. Stationing, location and limits of encasements, caps, pipe supports, etc.
8. Location of conduit crossing locations, including type of materials and depth of cover.

B. Irrigation and Storm Drain Plans

1. Street centerline station and offset dimension from street centerline to main at manholes, structures and all changes in alignment.
2. Street centerline station or easement bearing, dimension and offset dimension to the centerline to all manholes, structures and changes in alignment or grade of the pipe or channel.
3. Rim and invert elevations for each manhole, catch basin, stand pipe, turnout structures and miscellaneous drainage structure.
4. Hydraulic Grade Line (HGL) for the pipe mainline, channels, laterals and structures including manholes, catch basins, stand pipes and turnout structures.
5. Calculated slope of the mainline pipe and channel bottom between manholes or drainage structures.
6. The pipe material and diameter shall be shown on the plan and/or plan and profile sheets.
7. Stationing, location, limits and dimensions of encasements, caps, pipe supports, etc.
8. Stationing, location, limits and dimensions of repairs, including the type of materials used in the repair.
9. Stationing, location, limits and dimensions of facilities which are abandoned in place, including the size, depth and type of material remaining.
10. Storm drain markers per NPDES requirements.

11. Storm drain inlet protection.

C. Grading and Drainage Plans

1. Elevations at all drainage control points including basin overflow point, tops and bottoms of basins, drywell rims, valley gutters, curbs and lot drainage outfall points.
2. Dimensions of all retention areas/sedimentation basins including depth, high water level (HWL) elevation.
3. Retention/detention/sedimentation basin calculations revised to as-built condition, and certification of compliance.
4. Finished floor or pad elevations.
5. Locations of all drainage structures and building pads.
6. Direction of flow arrows.
7. Pipe, culvert, scupper, catch basin, and channel dimensions, grate and invert elevations, Include head wall, wingwall, sediment traps, splash pads and sump dimensions and elevations.
8. Flood plain delineation.

D. Water Plans

1. Street monument line and if different, centerline, easement line bearings, distances and curve data with offset dimension to all fire hydrants and fittings (i.e., valves, bends, and tees).
2. Mainline at all changes in horizontal or vertical alignment.
3. All horizontal control points (centerline intersects pc, pt, pcc, prc).
4. Centerline station and offset to each service tap, size of tap and dimension to nearest side property line. (Note: Front property corners must be visible to verify information for approval).
5. Centerline stations, offset and elevations to all changes in vertical alignment elements (i.e., dips, bends, etc. required to avoid conflicts with other utilities or facilities).
6. The water pipe material and diameter shall be shown on the plan and/or plan and profile sheets
7. Stationing, location and limits of encasements, caps, pipe supports, etc.
8. Stationing, location, limits and dimensions of repairs, including the type of materials used in the repair.
9. Stationing, location, limits and dimensions of facilities which are abandoned in place, including the size, depth and type of materials remaining.

E. Sewer Plans

1. Street centerline station and offset dimension from street centerline to main at manholes and all changes in alignment.
2. Sewer line station at centerline of each manhole.
3. Street Stationing and Sewer Line Stationing equation at the offset of the intersection.
4. Rim and invert elevations for each manhole.
5. Calculated slope between manholes.
6. Sewer line stationing at centerline of each service tap at 90 degrees to main. If not installed 90 degrees to main, then station and offset to both the taps on main and the end

of each service tap. (Note: front property corners must be visible to verify information for approval).

7. The sewer pipe material and diameter shall be shown on the plan and/or plan and profile sheets.
8. Stationing, location and limits of encasements, caps, pipe supports, etc.
9. Stationing, location, limits and dimensions of repairs, including the type of materials used in the repair.
10. Stationing, location, limits and dimensions of facilities which are abandoned in place, including the size, depth and type of materials remaining.

F. Right-of-Way Landscape and Irrigation Plans

1. Plant locations and type, revisions to locations or plant types noted including approved substituted plantings.
2. Location of all irrigation elements noted located and dimensioned to permanent fixed points.
3. Pipe sizes actually installed noted on plan with revisions if other than installed.
4. Irrigation element manufacturers and model numbers if different from specified on drawings.

G. Traffic Signal Plans

1. Foundation location and modifications to the structural details noted.
2. Conduit location, size, alignments, and type noted.
3. Cabinet location dimensions and type.
4. Pole location and types.
5. Mast Arm type, length and pendant locations.
6. Head locations and types.
7. Loop detector location, length and type.
8. Changes to items in the schedules.
9. Interconnect conduit location and pull box type and location.

H. Traffic Signing and Pavement Marking Plans

1. Sign base location, size or type changes from the approved plan noted.
2. Striping layout changes from the approved plan noted.
3. Changes to location, spacing and type of raised pavement markers.

I. Survey Monument Replacement

All developments shall provide survey monuments at section corners, street centerline intersections, street centerline alignment changes (P.C.'s, P.T.'s or P.I.'s if it is within the pavement), and subdivision corners.

All section corners, quarter corners, and center of sections shall be a brass cap in hand hole per MAG Standard Detail 120-1, Type A. All other required survey monuments shall be a brass cap per MAG Standard Detail 120-1, Type B. All existing monuments shall be preserved both horizontally and vertically.

An Arizona Registered Land Surveyor at the Contractor or Developer's expense must reset any survey monuments disturbed by construction. Disturbed monuments shall be reset to first order accuracy for horizontal location. Any disturbed monuments in the City's Vertical Survey Datum shall be reset to third order accuracy and a new vertical datum established and certified by an Arizona Registered Land Surveyor. At least two other section corner and/or quarter corner monuments on the City's survey list shall be referenced as a check.

The surveyor shall complete the City of Peoria-Monument Reset Form and record this document with the Maricopa County Recorder's Office. Once recorded, copies of the document will be submitted to the Maricopa County Department of Transportation Land Survey Department and the City of Peoria Engineering Department by the Surveyor or Developer. In addition, the survey notes showing these referenced monuments and elevations certifications shall be reflected on the as-built documents and submitted for approval to the Engineering Director before the project will be accepted as completed or bonds released.

All monument information, as referenced above, shall be submitted within 60 days of City acceptance or Certificates of Occupancies will be withheld.

7-3 AS-BUILT PLAN and RECORD DRAWING SUBMITTALS

A. As-Built Plans

The following additional requirements apply to As-Built Plan Submittal.

1. As-Built Review Process

   A set of blue-line plans must be submitted with "as-built" redline markings to the Engineering Inspector for review. These markings must represent actual as constructed conditions. Once the redline as-builts are approved and accepted by the Engineering Inspection Supervisor the final as-builts can be prepared and submitted.

2. As-Built Plans

   One set of As-Built plans will be provided as a hard copy, printed and bound in 24"x36" size. As-Built plans shall be signed and sealed by a Registered Professional Engineer or Registered Land Surveyor as applicable, prior to producing the hard copies. In addition, the original signatures of the approval block shall be intact.

3. Test Results, Certifications, Registrations and Reports shall be submitted as required in the other applicable chapters of the Infrastructure Design Guidelines. The following is a summary of documents that will be required as part of the as-built submittal. Refer to the appropriate Infrastructure Design Guidelines chapter for more information.

   a. Materials Testing required for all types of construction.
   b. Compaction, Density Test Results for Bedding, Backfill, Sub-grade, Base Materials and Pavements.
   c. Pressure and Leakage Testing.
   d. Disinfection Testing.

e. Drilling Logs, Registration and Certification.
f. Closed Circuit Television (CCTV) DVD for the sanitary sewer system.
g. Coating System Test results.
h. Percolation Test Results for drywells and basins.
i. Certified Pad or Finished Floor Elevations.
j. Certification of Provision of Required Retention Volume.
k. Signal Phase Timing Charts.
l. Well Abandonment Registration of Certification.
m. Acknowledgement of Completion to Satisfaction of other Jurisdiction or Agency requirements.
n. Final Drainage Report
o. Operation, Service and Maintenance Manuals.
p. Warranties.
q. Pavement Evaluation Report.
r. Survey Monument Replacement

4. As-Built Certification.

   The following As-Built Certification statement must be added to the plans and executed:

AS-BUILT CERTIFICATION

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

_____ _____ _____

Registered Land Surveyor Registration No. Date

CONTRACTOR:_____

PERMIT NO._____

APPROVAL DATE:_____

BY CITY INSPECTOR:_____

***NOTICE*:**

THE CITY OF PEORIA ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE "AS-BUILT" INFORMATION PROVIDED AS PUBLIC RECORD.

B. Record Drawings

1. Record Drawings are only required on facility or utility facility projects. Record Drawings will be used by the City of Peoria or their designees for facility maintenance and/or future project modifications. Typically, projects requiring Record Drawings will be City of Peoria

Capital Improvement projects or City of Peoria Operational projects. However, if a developer is required to construct a facility or utility facility with a development project, then record drawings are required by the City.

2. The term "Record Drawing" shall mean that drawing prepared for submission to the City of Peoria by the Registrant. A "Record Drawing" is prepared in CAD and contains the Registrant's corrections to the drawings based on as-built constructed conditions (RFI clarifications, field sketches, and scope additions/deletions) in addition to the construction markings provided by the Contractor. Record Drawings represent the combined knowledge of Designer and Contractor as the accurate representation of the constructed facility for the benefit of the City of Peoria and shall be prepared by the Design Firm of Record.

3. Record Drawing Certification.

   The following Record Drawing Certification statement must be added to the plans and executed:

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY THAT THESE RECORD DRAWINGS WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF

_____	_____	_____
Registered Professional Engineer	Registration No.	Date

7-4 ELECTRONIC SUBMITTALS

As a part of the approval process for permitting, as-builts and record drawings, electronic file submittals are required. Electronic base files of the civil plans that have been created or saved in AutoCAD 2008 or earlier format are required. All submittals are required to provide AutoCAD drawings. Images of the plan sheets for the project shall be submitted in PDF image format in separate PDFs for each permit plan set. These files will need to be submitted with the AutoCAD drawing at the approval (permitting) as-built and record drawing submittal.

Once an approved submittal has been obtained, the City of Peoria will import line work from the electronic submittal into the City's Geographical Information System (GIS) and electronic filing system.

The following requirements shall be met during the electronic submittal of civil plans:

GENERAL SUBMITTAL

A. A compact disc or DVD containing the AutoCAD drawing files and PDF images shall be submitted for acceptance.

CAD SUBMITTAL

B. CAD Drawings site/civil base models supplied to the City of Peoria will be created in relation to its geographic location. Use the ***Arizona State Plane Coordinate System, FIPSZONE 0202, North American Datum 1983, Units: International Feet (0.3048 Meters).*** This is the coordinate system recognized by the City of Peoria for all GIS applications.
C. A single base drawing is requested. If the drawing size is too large, line work can be divided into more drawings). Generally, the base drawing should include the Topography, Survey/Property line work, Site line work (curb, sidewalk, and walls), Utilities (storm, sanitary, and water), etc.
D. All CAD line work is to be created in model space. Text can remain in the drawings for user reference, but is not required.
E. All AutoCAD line work and symbols shall be separated onto known layers. The Engineer should follow the City of Peoria Layer Naming Convention or provide a layer list to the City.
F. All CAD drawings (model space) will be referenced to at least two accepted geodetic control points identifiable via the Peoria Geodetic Network – these points may be part of the existing Peoria Bench Mark control project, Maricopa County Geodetic Densification and Control Survey (GDACS) control network (published through MCDOT), or any monument survey control system approved by the City of Peoria Engineering Department.
G. All external references shall be bound and inserted in the base drawing. Purge all empty layers, unused blocks, line types, dimension styles, plot styles, text styles, shapes, etc. from the base drawing.
H. The use of standard AutoCAD fonts and shapes is required. Non-standard fonts and shapes must be transmitted with the drawings in the original file format as separate fonts subdirectory.

NOTE: *The City of Peoria may modify CAD drawings to adapt projection into the ArcGIS environment. These adjustments will not impact the integrity of the survey, but are for application of drawing information into the GIS environment.*

PDF SUBMITTAL

I. PDF images shall be saved on the compact disc or DVD in the set of plans they are representing, i.e., Grading, Water, Sewer, etc. All PDF images will be clear and readable.

The City of Peoria reserves the right to refuse CAD Drawings and Images that are not in conformance with the Submittal Requirements as outlined above.

CITY OF PEORIA – MONUMENT RESET FORM

PROJECT/SURVEYOR INFORMATION

Project Name	
Developer	
Developer Address, City, State, Zip	
Developer Phone Number	
Developer E-mail	
Surveyor Name	
Surveyor Address, City, State, Zip	
Surveyor Phone Number	
Surveyor E-mail	
Surveyor PLS#	

MONUMENT INFORMATION

Location (Cross Streets)	
Monument Characteristics	
Township, Range, Section	
UPLSS Corner Name	
UPLSS Corner Type	
Description of Old Monument (if known)	
Description of New Monument	
Latitude NAD83 (1992)	
Longitude NAD83 (1992)	
Ellipsoid Height (Int Feet) (1992)	
SPC AZ C Northing (Int Feet) (1992)	
SPC AZ C Easting (Int Feet) (1992)	
NAVD88 Elevation (Int Feet) (1992)	
Comments	

Provide pictures of the new monument and any supporting documentations with your submittal.

SIGNATURE AND RECORDING

Surveyor Signature	
Printed Surveyor Name and Date	
County Clerk Recordation Number	
Date of Recordation	
County Clerk Staff Processing Recordation	

Recorded Copies distributed to:
Maricopa County Department of Transportation Land Survey Department
City of Peoria Engineering Department

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