City of Phoenix
Planning and Development Department

Electronic Plan Review (EPR) Submittal Requirements, File Preparation and FAQ Guide

(Revised February 2022)

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INTRODUCTION

In 2016, the city of Phoenix Planning & Development Department (PDD) embarked on a journey that would result in the Land Management Information System that we call SHAPE PHX. Our existing systems were aging, KIVA was over 20 years old, and this journey put PDD in a solid position to support the city of Phoenix residents.

Salesforce was the chosen platform, using Clariti as the application, which will work in concert with other applications like Skedulo for inspections, and Bluebeam Revu for electronic plan review, to improve the workflow for staff and service for PDD's customers.

The purpose of this guide is to introduce online users to SHAPE PHX, assist with file preparation for EPR submittal and provide a reference guide when there are questions.

WHAT IS SHAPE PHX?

SHAPE PHX is the comprehensive Land Management Information System adopted by the city of Phoenix Planning & Development Department (PDD). It replaced the multitude of systems that PDD had been using for many years to issue and manage permits, plan reviews, inspections, planning, historic preservation, and other activities. The oldest system, KIVA, had been in place since 1993. PlanWeb, the custom application for Planning & Zoning, was more than 15 years old. Neither of these programs were connected to the others requiring data entry in multiple systems.

SHAPE PHX offers a complete system for all city staff using the permitting system, not just those in PDD, allowing users to access information on zoning adjustments, code modifications, fire inspections, flood plain, etc., in one place. It also allows for expansion to include other departments with similar missions in the future.

WHAT'S IN IT FOR YOU?

The best part of SHAPE PHX for our customers will be the Customer Portal. The Customer Portal will be a huge improvement from the multiple systems currently being used online.

Like the current portal, it will be available 24/7, except now, the following can be done from one integrated system:

- Submit applications,
- Check plan review status,
- Communicate with staff,
- Request meetings with staff,
- Upload documents into the portal,
- Request inspections,
- Pay fees online, and more.

In the Portal, online users can utilize self-help tools and easy-to-access information.

SUBMITTAL REQUIREMENTS

FILE TYPES

1. PDF file format is the standard for reviewing and approving plans in Bluebeam Revu, since no other file format can be opened in the program application.

    a. Hand drawn drawings for Over-the-Counter Permit Review must be submitted in PDF file format and follow File Naming Requirement(s).

    b. Exceptions are:
        i. High resolution PNG/JPG photos for reference only that can be viewed in the SHAPE PHX system and does not require a review or approval.

FILE UPLOAD

1. Plan sets are required to be submitted as a single, combined, multi-page PDF file.

2. Supporting documents and reference plan sets can be uploaded separately as individually combined files.

FILE NAMING REQUIREMENT(S)

1. Start plan set file name with the project name followed by version number submitted to city.

Example: Initial File Naming

Document Type	Document Purpose	File Name Examples
Building Plan Set (Combined File)	Construction Drawings for Approval.	• Project Name_v1[1]
Calculations	Calculations associated with electrical, structural, plumbing, mechanical, etc. work.	• Calculations • Calcs • Calcs_Structural[2]
Energy Code Compliance Report(s)	Reports for mechanical and/or building.	• IECC Report • IECC Report_Mech • IECC Report_Building
Soils Report	An analysis of soil conditions at the site of the proposed project.	• Soils Report • Geotechnical Report • Geo Report
Special Inspection/Observation Certificate(s)	Certificates associated with Electrical, Geotechnical, Mechanical and Structural.	• SI_Geo • SI_Elec • SI_Mech • OBS_Elec • OBS_Mech • OBS_Struct
Additional Documents	Plan checklist(s), reference drawings, photos, and/or any other document(s) previously approved or currently in review under another instrument or agency.	• Res Plan Checklist • APPR_(Plan Type) • APPR_G&D • APPR_Site • Existing Building • Site Photos • MC Septic Permit

[1] V=Version of file being submitted.

[2] If there are more than one set of calculations, list the discipline in the file name.

Examples: Subsequent File Naming

Document Type	Document Purpose	File Name Examples
Building Plan Set (Combined File)	Construction Drawings for Approval.	• Project Name_v2, v3, v4, etc.[1]
Calculations	Calculations associated with electrical, structural, plumbing, mechanical, etc. work.	• Calculations_v2, v3, v4, etc.[1] • Calcs_v2, v3, v4, etc.[1] • Calcs_Structural_v2, v3, v4, etc.[1,2]
Energy Code Compliance Report(s)	Reports for mechanical and/or building.	• IECC Report_v2, v3, v4, etc.[1] • IECC Report_Mech_v2, v3, v4, etc.[1] • IECC Report_Building_v2, v3, v4, etc.[1]
Soils Report	An analysis of soil conditions at the site of the proposed project.	• Soils Report_v2, v3, v4, etc.[1] • Geotechnical Report_v2, v3, v4, etc.[1] • Geo Report_v2, v3, v4, etc.[1]
Special Inspection/Observation Certificate(s)	Certificates associated with Electrical, Geotechnical, Mechanical and Structural.	• SI_Geo_v2, v3, v4, etc.[1] • SI_Elec_v2, v3, v4, etc.[1] • SI_Mech_v2, v3, v4, etc.[1] • OBS_Elec_v2, v3, v4, etc.[1] • OBS_Mech_v2, v3, v4, etc.[1] • OBS_Struct_v2, v3, v4, etc.[1]

[1] V=Version of file being submitted.

[2] If there are more than one set of calculations, list the discipline in the file name.

2. File names should not exceed 30 characters or use the following special characters: / ? < > \ : * | " (% . + , $ #).

    a. Use underscores (_) in the file name instead of spaces.

    b. Do not include the date or the project number in the file name.

PLAN SHEET SIZE AND ORIENTATION

1. The following list indicates plan sheet sizes that can be submitted electronically. (See individual plan checklists for additional sizing requirements). 8 ½" x 11", 11" x 17", 24" x 36", and 30" x 42".

2. All plan sheets shall be saved in the horizontal (landscape) position, unless noted otherwise on plan checklist. Non-plan sheets (calculations, soils reports, manufacturer cut sheets, etc.) that are 8. 5" x 11" shall be saved in a vertical (portrait) position.

FILE SIZE

The maximum size limit per file is 1 GB (1024 MB). If the plan set exceeds this limit, contact the Team Leader assigned to the project or EPR Support for guidance on how to submit the project appropriately.

FILE PREPARATION

This section will assist Electronic Plan Review users in preparing and creating PDF documents for use in SHAPE PHX. For additional information and guidelines, view the "Guidelines for Construction PDF Documents" document provided by Construction Progress Coalition.

FILE FORMAT

1. PDFs shall be first generation vector-based file (direct conversion from AutoCAD, ArchiCAD, MS Word, etc.).

2. Plan drawings created in CAD program must line up when overlaid electronically.

    a. Use consistent:
        i. Plot location in paper space
        ii. Gridline visibility across disciplines
        iii. Naming convention of structures across disciplines
        iv. Title blocks across all disciplines' sheets
        v. Sheet size and orientation of sheets

3. Use TrueType font to create searchable text within the document. (SHX are not searchable)

4. Plot or print drawing sheets at full 1:1 scale from your authoring software. This is also called 100% or "to scale" output. Do not use "scale to fit" printing.

5. Every sheet must have the designer indicated. Where required to have a registered design professional, every sheet must be sealed.

6. Title blocks must have the consistent location and formatting of sheet number and sheet name on every sheet in the entire set.

7. Each plan sheet shall be provided with a blank rectangular space (2.75'' x 2'' min) for the city of Phoenix approval stamp.

    a. Exception: Civil plans shall follow the city's Engineering Division design criteria.

8. All design professionals, across disciplines, must use the same title layout and title block orientation.

9. Avoid hatch fills. If you do use hatch fills, use efficient fills.

10. The overlay and crossing of vector lines creates a significant lag in PDF drawing load-times when viewed on devices with limited rendering capacity. We ask that Designers limit or remove dense cross-hatching in their design drawings.

11. Heavy or dense hatching in any pattern can result in PDF drawings that are "blacked out" when overlaid. We accept angles of lines and gray-tone fills.

12. The AutoCAD 'Hatch' command is allowed. The Pattern for a Hatch command matters. The ANSI31 (or parallel line) pattern is ideal for any fill at any Hatch Scale.

13. The ANSI37 (or cross-line) pattern must be used at a higher Hatch Scale - equivalent to an approximately 1/16" or larger separation between lines on the printed page. A cross-line pattern with line separation smaller than 1/16" is not allowed.

14. If you already use Bluebeam to prepare documents, check that your PDFs also have:

    - Page labels in thumbnails
    - Bookmarks with page number and sheet name (drawings) or section title (specs).
        o Example: A0.0 - COVER SHEET
    - Nested bookmarks
    - Hyperlinks where needed

STAMPS AND SIGNATURES

1. Design Professional Stamps and Signatures should be added as graphic "scanned" images. You can do this in the native application (like AutoCAD or Word) when you create the file or in Bluebeam after the PDF is created.

    a. When a registrant is required per Arizona State Board of Technical Registration, follow their requirements for signature and stamp.

    b. The use of a scanned graphic signature with a PDF stamp is acceptable.

    c. Recommend a high-quality scan with a transparent background to create the best stamp and signature images.

2. Do not use certificate-type digital signatures. This will lock the file and delay your permit approval.

3. If you add a graphic stamp or signature after you create the PDF, flatten the PDF to embed the images.

4. You can use an AutoCAD signature within Bluebeam. Although, all PDFs must be unlocked.

FREQUENTLY ASKED QUESTIONS

1. WHAT PROJECTS CAN I SUBMIT THROUGH THE NEW SHAPE PHX CUSTOMER PORTAL FOR ELECTRONIC PLAN REVIEW?

For Release 1, only Single-Family Residential projects can be submitted through the SHAPE PHX Customer Portal. This includes Custom Homes, Remodels, Additions Standard Plans, and some Historic Preservation (HP) projects that can be administratively approved by HP staff. In Release 2, users will be able to submit all reviews pertaining to Residential Subdivisions Commercial projects, and Historic Preservation.

2. WHAT SOFTWARE SYSTEM IS THE PLANNING AND DEVELOPMENT DEPARTMENT USING TO PERFORM ELECTRONIC PLAN REVIEW?

In September of 2020, the Planning and Development Department chose "Bluebeam" as its electronic plan review markup tool. Bluebeam will be integrated into the SHAPE PHX system allowing for seamless and efficient communication.

3. WILL I BE REQUIRED TO WORK OUT OF THE OLD AND NEW CUSTOMER PORTAL?

Perhaps, depending on the type of projects you submit via electronic plan review.

a. If you submit projects for both commercial and residential, the answer is yes. You will have to utilize both portals. Both portals may also be necessary for some projects that require Historic Preservation approval.

b. If you only submit single-family residential projects, the answer is no. Although you may be required to access ProjectDox to resubmit projects currently in plan review.

4. WHAT WILL HAPPEN TO MY RESIDENTIAL PROJECT THAT IS IN THE OLD EPR SYSTEM?

When the system goes live, we will be moving files already uploaded for review in ProjectDox, along with all internal data associated with plan review, permits, and licenses from our old system to the new SHAPE PHX system. Users will be asked to create a new SHAPE PHX portal account in order to receive any new mark-up comments or to pay permit fees if plans have been approved.

For the plans and related documents that are in mid-review, the review will continue to be processed in ProjectDox until the plan review has been completed. The applicant will need to resubmit plans in ProjectDox to notify EPR staff the project is back in for review. EPR staff will then move the plans and related documents into SHAPE PHX where the subsequent review will take place.

5. DO I STILL NEED TO ENTER A SEQUENCE NUMBER FOLLOWED BY THE PLAN SHEET NUMBER AND NAME WHEN NAMING FILES?

No. Since the plan set can now be uploaded as one combined file, the old file naming convention is no longer needed. Although, we do ask you name the file by project name followed by version number (Example: Project Name_V1).