



A Tale Of 2 Architects

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This seminar will illustrate some of the standards and outline the processes used by Brittain & White Architects throughout a typical project. In it we will show how we set up our computers to efficiently keep up with data, how we set up **ARRIS** to work on our projects, and how we use other softwares including eZ, and Corel Draw. While these setups and processes are certainly not the only way to do things, we have found that our methods work very well for us and may serve as an example for others to use or to develop their own methodology.

In this seminar we will use live real time illustrations on one of our computers for our data organization, standards, Project List, Project Page List, database names, drawing names, layer names, etc.

Setups and Standards

Computer Setup

Rule 1: Neatness Counts!

All of your data must be stored in a convenient, consistent, easy to locate place on your computer or network. Once this location is established, then **ARRIS** must be set to look for the data in this location. Brittain & White is set up with our data on a server on the network.

The server computer name is "BWSERVER"

On the "D" drive of this computer is a directory called \bwdata. All Brittain & White project and standards data is stored here.

The BWSERVER\bwdata directory is shared on the network. Each workstation maps this directory as a network drive – W: In this way all computers "see" the data in exactly the same way. This is important for the **ARRIS** Projects feature to work seamlessly.

The Standards directory is added under W: (BWSERVER\bwdata) as \standard. This is set up in **ARRIS** in the Environment Defaults as W:\standard.

Each Brittain & White project is given a 5 digit project number. These numbers are used to name the project directory on the computer. A project directory is created for each new



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project as it comes into the office. These are created under the W: (BWSERVER\\bwdata).
Example: W:\25003.pj

Note: This system has been made portable for our demonstration at the conference by copying the BWSERVER\\bwdata directory to a \bwdata directory on the local computer and then mapping this local drive as a network drive W:. In this way **ARRIS** sees the local copy exactly the same as it saw the data on the server.

This system can be duplicated for a single computer setup by simply creating a data directory under the C: drive of the computer and then creating the standards and project directories under that. Advantages of this system are simplicity, and all data is easily found together for work, backup, etc.

Projects

Brittain & White uses the **ARRIS** Projects feature to organize our architectural projects. This makes all of our data extremely accessible to everyone on our network. This is extremely important to our firm as many projects are constantly accessed each day.

The Project List is maintained in our Standards directory and contains several categories for Active Projects, Completed Projects, and Standards. Projects are organized within the categories by project number with the appropriate description.

Within the project, the drawings (pages of the drawing set) are organized by category – Architectural, Structural, Mechanical/Electrical, etc.

Database, Drawing, and Layer Standards.

We use a very strict Database, Drawing, and Layer standard. The reason for doing this is to achieve a standardization across all projects. The same type of data is always found in the same place within the project. This eliminates guessing and wasted time searching for data.

Databases are organized by type of information and by scale. We use 8 characters in a database name. The first 5 indicate the type of information in the database – such as "plans" (Floor Plans) or "elevation" (Exterior Elevations). The last 3 characters of the database name are a number which is a scale code indicating the scale of the database. This number represents the ratio of the database scale to full scale, hence a code of "048" means a 1:48 database or a scale of 1/4"=1'-0". Both architectural and engineering scales can be represented equally well with this system.

Drawings within a database are organized by which portion of the data within a database goes on a particular page of the drawing set. All layers in all groups of layers in a database



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which appear on a given page of the drawing set are contained within an ARRIS drawing for that page. The drawing .dr file name reflects the drawing set page name – such as "a01.dr"

for page A1, or if a point system is used for drawing set paging, "a11" for page A1.1 in the drawing set.

Layers are organized by type of drawing, group, and specific information. As an example a layer "pa1not" contains notes for a floor plan. The "p" designates floor plan, the "a1" designates a group – which floor plan, and the "not" designates notes.

A full explanation of the Database, Drawing, and Layer standards are included in documentation on the Conference CD.

Brittain & White uses heavy customization of **ARRIS** in order to achieve execution of office standards and enhanced drawing speed and productivity. The standards and naming conventions we use are in part done the way they are to enable automation.

Repeated Item Catalog

We use a customized repeated item catalog for all 2D Repeated Items. This catalog currently has around 1700 RIs. We also use a custom 3D RI catalog of about 1100 RIs.

Entity Style Catalogs

We use very simple entity style catalogs for lines, dimensions, patterns. These supplement custom programs used for linework, poche, etc.

Other Drafting Standards

Other drafting standards such as keys are executed using custom sigmacs. The important thing about the drafting standards is that the standard is set. The Sigmac simply implements and enforces this standard through automation. Brittain & White uses the **ARRIS** Notes feature and a custom Notes catalog.

Processes In Carrying Out A Project

Program and Information Gathering

When a project is first started, we add the project directory "xxxxx.pj" to our data directory so that all information for the project has a place to be stored. The design process for the project is generally begun using eZ to gather many diverse bits of information that are pertinent to the project, such as digital photographs, paper scans, and sketches of program information



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from the clients. These are pulled together into an eZ compound file and stored in the project directory. This is very involved with the client, asking the questions: What do you want? and What do you like?

Site data may be started in **ARRIS**, with the initial layout of the site boundaries, generally input from a plat. At this point the project is added to the office Projects list in **ARRIS**.

Site data may be brought in to eZ for sketching, bubble diagrams, & initial design.

Design Development

Design sketches are done in eZ, and initial plan layouts and possibly elevation layouts may be done in **ARRIS** using single lines.

Once the basic design is fairly settled, the floor plan database is created with layer groups needed for the project. The plan is then drawn adding wall thickness. The elevation database is also created at this time with all layers necessary for construction documentation (from the layer standard).

If a 3D model is to be done, it is usually begun here. Our 3D models are done in **ARRIS**, however the option to use SketchUp is also there. The 3D model is used to make design decisions. Modeling the building inherently forces decisions to be made about how the design is detailed and constructed. How far a model is taken depends on the project and what information is to be derived from it.

Production Drawings

Once the design is settled, construction drawings are done by expanding on the design development drawings already started. The construction drawing phase is done in **ARRIS**.

We usually wait until the design is completely settled before beginning Construction Drawings to avoid changes. Because we are heavily automated and the construction documentation phase is very short and fast, - almost an afterthought, we can get away with waiting until the last minute to begin it.

At any point in the Design Development and Construction Drawing phase, the current state of the **ARRIS** drawings may be launched to eZ for internal review, client review, redline & markup. Plotting hard copies is not done in our office for this, but only for producing final drawings for the field. The eZ markups are stored in the project directory. Old markups are moved into a subdirectory "eZ Archive" for permanent storage.

The actual construction drawings done will vary a little depending on the project but generally include:



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Site Plan
Site Submittal Data (for the City of Alexandria on larger multi-building projects) which include electrical distribution, water, sewer, landscaping.
Floor Plans
Exterior Elevations
Roof Plan
Wall Sections & Details (depending on the project)
Foundation Plans
Framing Plans (Floor Framing for each floor 2+ and Roof Framing)
Electrical Plans
HVAC Plans (depending on the project)

Pricing

Once the drawings are done, we go through the Pricing phase, bidding out subcontracts and materials. Depending on the project this may involve extra computer work or BIM using BuildersCAD.

Build

Brittain & White are also contractors so we build almost all of the work we design. Additional drawings for field clarification are done as needed (this is rare).

Promotion Drawings

Because Brittain & White is also a development company, on some projects promotional drawings for sales brochures etc. are needed. These are usually done in Corel Draw. This is a graphics and desktop publishing software that is well suited for this type of work. Basic data such as floor plans or elevations, etc. are brought in from **ARRIS** as .pdfs and then enhanced in Corel. Text and photographs are added as required. Color plots / prints and .pdf drawings are produced as needed.