

SCALE

1:?

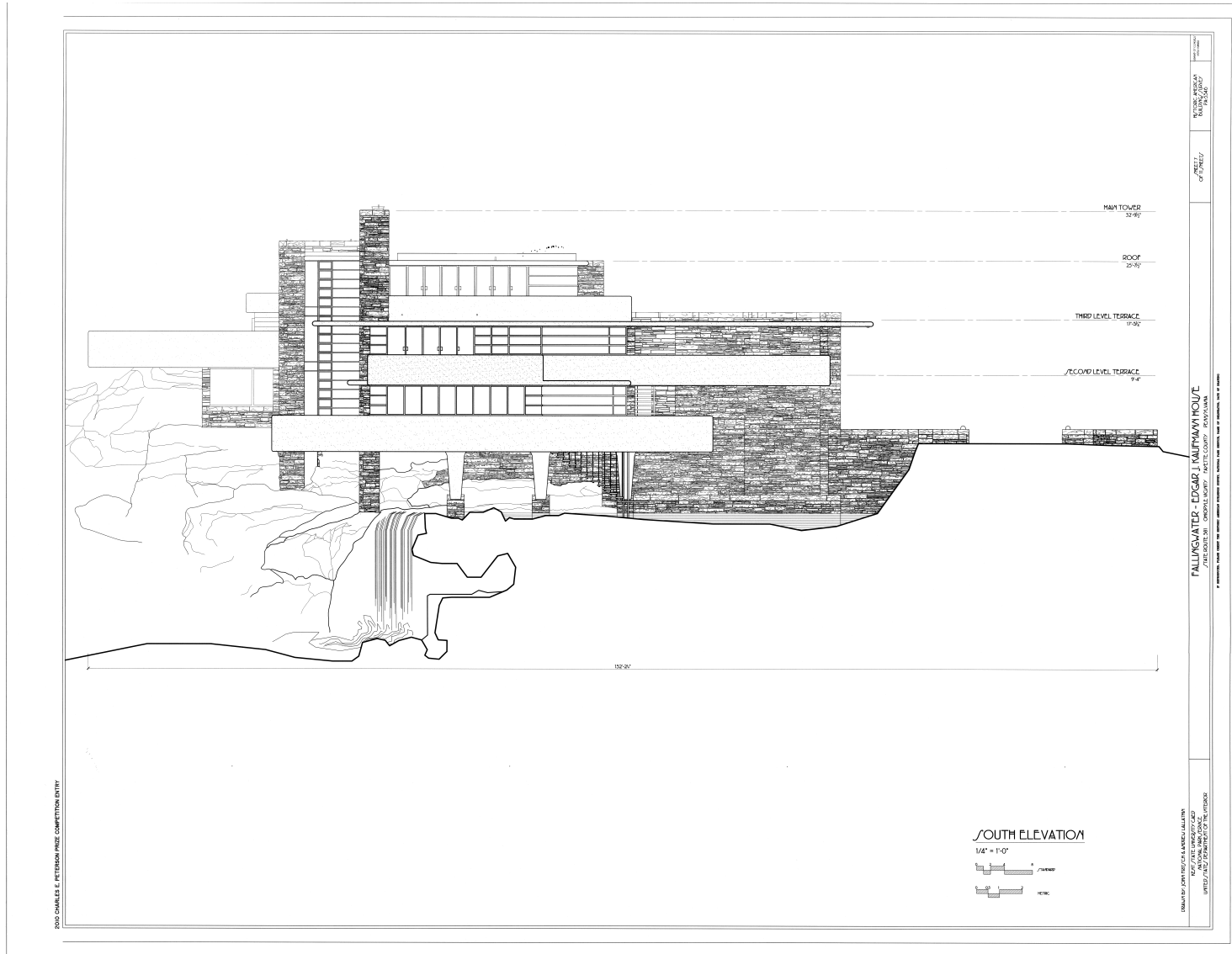
- Architects use scale when producing technical drawings of a building.
- These will include elevations and plans.
- These drawings in combination make up what are called Orthographic Projections.

Orthographic Projection

- Orthographic Projection is a technique for drawing a three dimensional object in two dimensions, by ‘projecting’ its surfaces into a two dimensional representation, where the projection lines are orthogonal to (perpendicular to) the projection plane (that is, there is no foreshortening or perspective).

Fallingwater

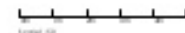
Frank Lloyd Wright



- In the construction industry, the term '**elevation**' refers to an orthographic projection of the exterior (or sometimes the interior) faces of a building, that is a two-dimensional drawing of the building's façades.
- Generally, **elevations** are produced for four directional views, for example, north, south, east, west.



DID NOT SCALE DIVING - MORE TO FOLLOW DIVE HOURS IN ALL CASES



Working in scale.

- Scale is used as a means of accurately translating the three dimensional world into two dimensions.
- It is also used to move accurately between two dimensional drawings whilst maintaining proportion.

- It is important that the scale used is noted on the drawing. In addition, because of the ease of reproducing, printing and re-sizing drawings, it is important to note the original sheet size that the scale was drawn at, so for example A4, A3, A2, A1, A0, and so on.

- Scales are expressed as ratios ie. 1:4
- These can also be thought of as fractions ie. $\frac{1}{4}$ or one quarter.
- This scale is communicating that the drawing you are looking at is one quarter the size of the thing that it represents.
- In order to arrive at the measurements for the drawing, the actual measurements of the object will have been divided by 4.

Convert:

1200mm x 600mm

Using a scale of :

1:10

120mm x 60mm

Convert:

1200mm x 600mm

Using a scale of :

1:5

240mm x 120mm

Convert:

2380mm x 1440mm

Using a scale of :

1:25

95.2mm x 57.6mm

Moving between scales

- If you are working on a design at 1:25 and decide you can't get enough detail, you may decide to set up an additional drawing at 1:4
- In order to move from your 1:25 drawing to the 1:4 drawing you will take your 1:25 drawings measurements (Y) and multiply by the scale.

- $Y \times 25 = \text{real life dimension (x)}.$
- Now you can re scale to a 1:4 drawing by dividing x by 4

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Move from:

34mm x 86mm @ 1:25 the original.

To a scale of 1:4 the original.

212.5mm x 537.5

Architectural Glass

Artists and Designers working in Architectural Glass will use scale often.

Two examples that we will look at today are:

- Producing scaled designs from measurements taken on site.
- Producing scaled designs from architects elevations.

Exercises

- Measure a window or set of windows and make a scale design in your A3 sketch book.
- Take the Architects Drawing and make a scale design in your A3 sketchbook.

In both instances you must select the appropriate scale to best fit on your chosen page.