

A watercolor illustration of the Fallingwater house, a modernist residence designed by Frank Lloyd Wright. The house is built on a rocky cliffside, with its terraces and balconies extending over a waterfall. The architecture is characterized by its integration with the natural environment, featuring large, flat concrete surfaces and a central brick chimney. The scene is rendered in soft, muted colors, with the water of the waterfall appearing as a series of vertical, light-colored streaks. The overall style is artistic and evocative, capturing the essence of the building's organic and democratic design.

Fallingwater

organic, democratic, plasticity, continuity

Frank Lloyd Wright's Fallingwater



Frank Lloyd Wright was born in Wisconsin in **1867**, two years after the end of the Civil War. He died at the age of 92 **in 1959**, just two years after the launching of the first satellite into space, Sputnik.



Wright is considered by many architectural authorities to be one of the 20th century's greatest architects. He designed over 1,100 works, of this total 532 resulted in completed buildings.

He was 68 the year he designed Fallingwater and had founded **his school of architecture**, Taliesin, in Wisconsin.

Frank Lloyd Wright's Fallingwater



One of Wright's students at Taliesin was the son of a wealthy Pittsburgh family, **Edgar Kaufmann jr.**

Edgar and Liliane Kaufmann owned a large department store in the city of **Pittsburgh**, called Kaufmann's. Mr. Kaufmann was the president of the store and Liliane managed her own shop on the 11th floor of the store, where they sold designer clothings, antiques and gifts.

Frank Lloyd Wright's Fallingwater



In 1916, Kaufmann's Department Store bought land just outside of Ohiopyle. The property had been operated as a camp for years and came with many existing buildings, such as a lodge and several cabins. Department store employees enjoyed the many activities that the camp had to offer and the Kaufmanns built themselves a small cabin near the main road 381. (left)

They decided to build a new vacation home, one that would be located away from the road and close to the waterfall. A home that would still allow them to “get back to nature”.



Frank Lloyd Wright's Fallingwater



It was **Bear Run stream** along with **its waterfall** that was the main focal point for people. One could fish or splashing below the falls.

Frank Lloyd Wright's Fallingwater

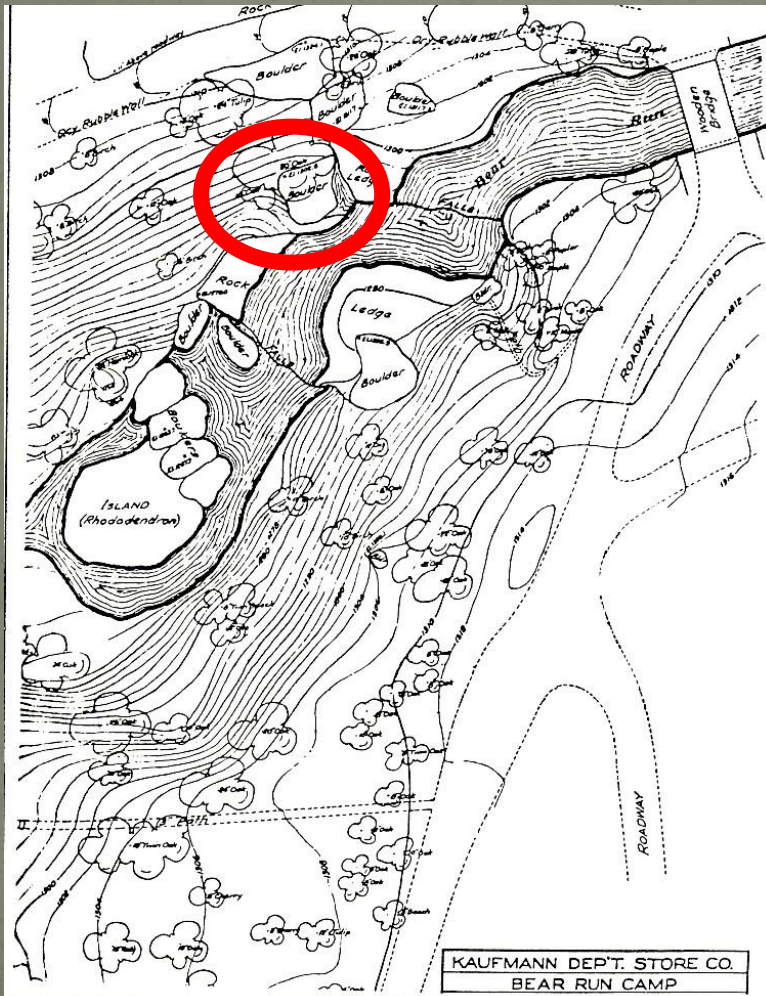


The Kaufmanns invited Wright to Bear Run in **December 1934**. Mr. Kaufmann and Wright walked about the property and looked **at the waterfall, with its wide, horizontal ledges of rock.**

Some of the family's requests were:

- **Year round use**, so central heating would be necessary as well as electricity and running water;
- **large outdoor areas** for sunning;
- **large areas for entertaining**; however, areas set aside for reading or relaxation should be important too.

Frank Lloyd Wright's Fallingwater



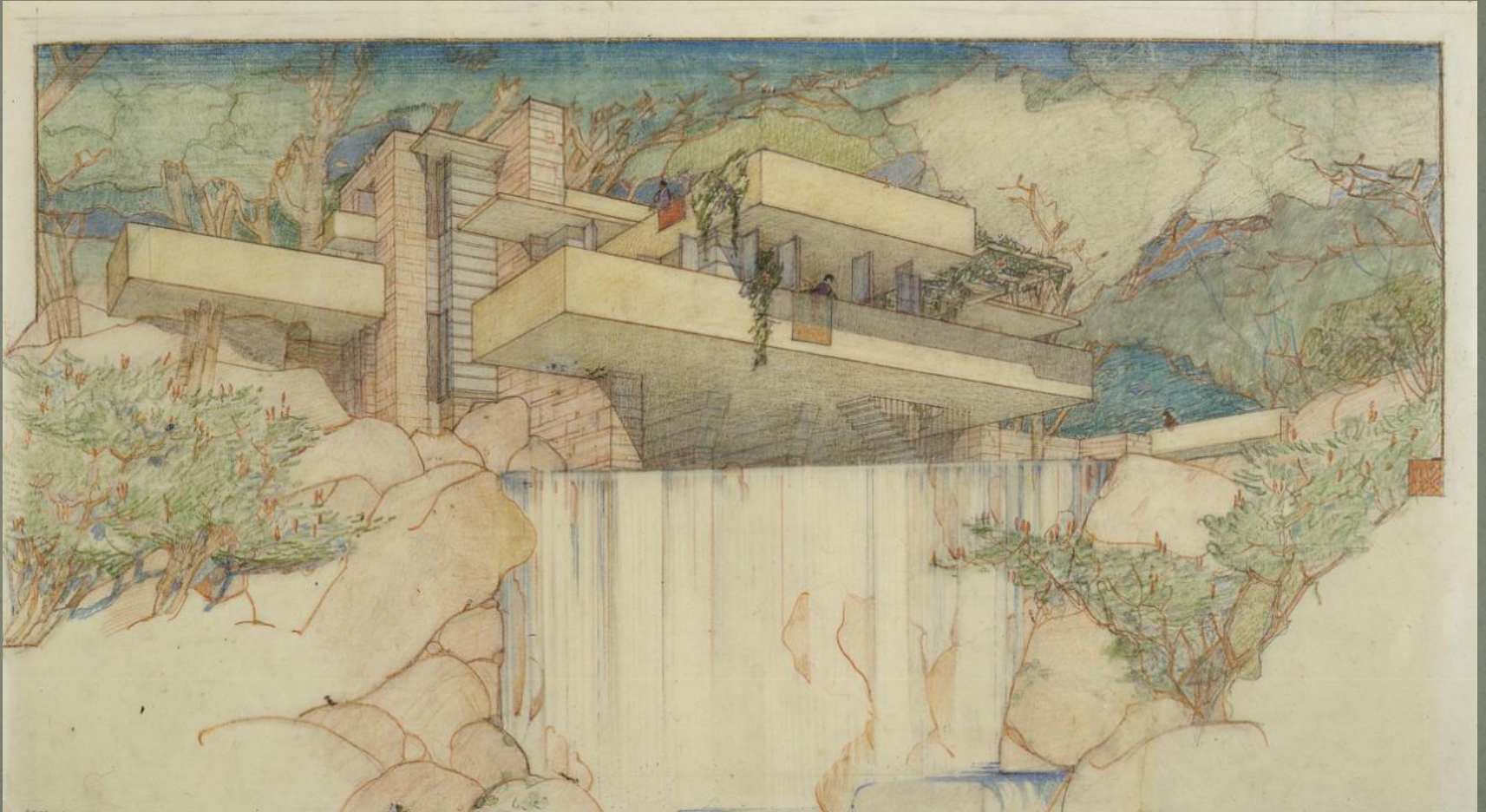
11. Topographic map of building site, March 1935.

Wright asked that a **topographical map** of the waterfall be prepared. This map would indicate where **trees and rocks were located** and would help him site the new home.

A form for the new building began to take shape in his mind, a shape that would draw on those large **sandstone ledges** for its inspiration.

Initially surprised at Wright's suggestion to **build on the waterfall, not below**, they were quickly captivated by his idea of **living with the waterfall** and not just looking at it from a distance.

Frank Lloyd Wright's Fallingwater



Frank Lloyd Wright's Fallingwater



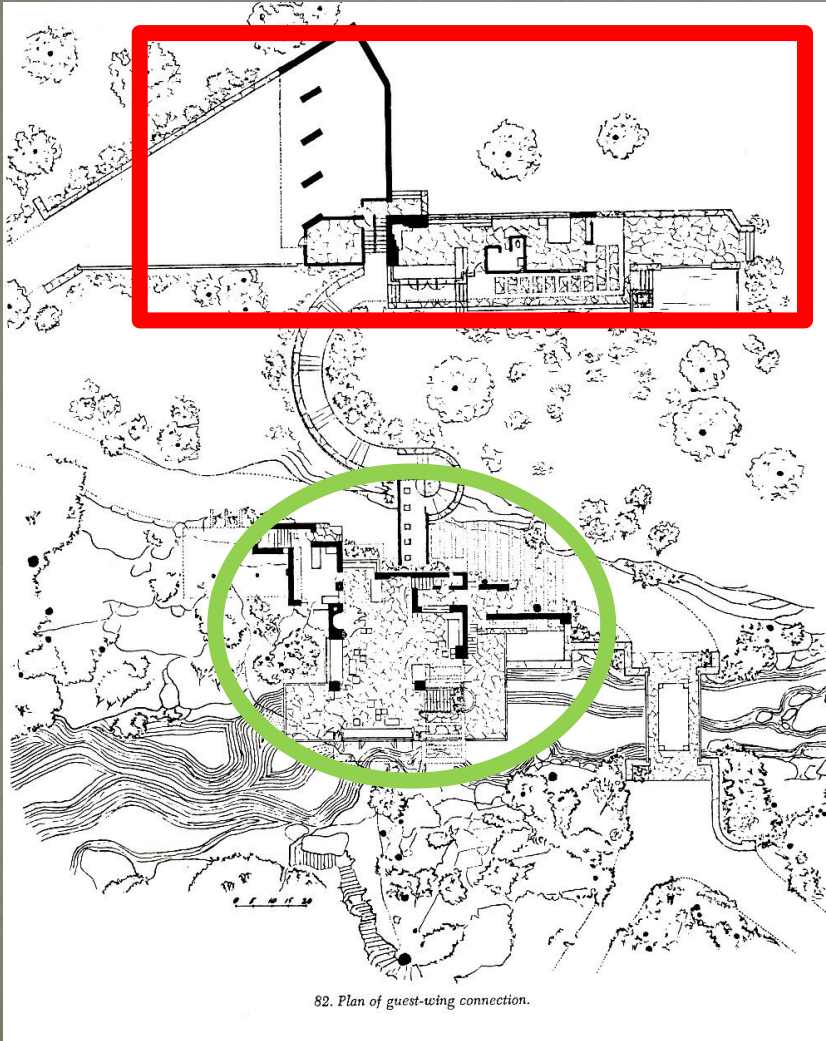
The stream flows in front of the house, from right to left in the photo (and under part of the cantilevered living room and terraces), but breaks at an angle away from the house at the upper falls, creating the illusion of water flowing out from the house itself.

Frank Lloyd Wright's Fallingwater



Parts of the cantilevered house - especially the **terraces** - seem to float in the air above the stream (Bear Run). The soaring vertical tower (on the left) **rises more than three stories**, windows stretching from floor to ceiling, creating a **continuous column of glass**, broken only by narrow steel support beams, painted as earthy **brick-red**.

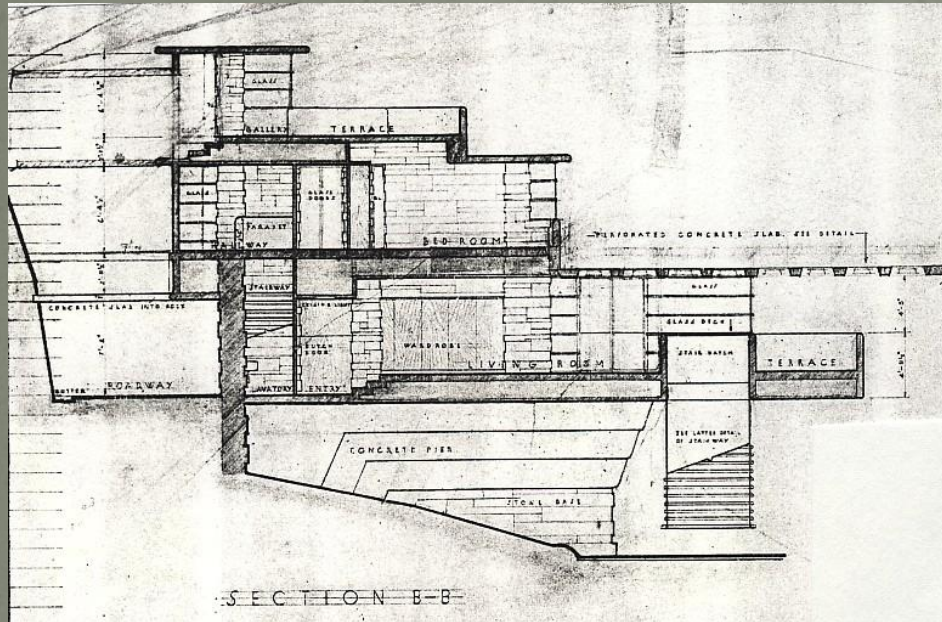
Frank Lloyd Wright's Fallingwater



The entire house is divided in two structures, **the main house** and the **guest wing**, that are connected by a **semi-circular stone walkway** protected by a cantilevered canopy of reinforced concrete.

The main house is situated above a twenty-foot drop waterfall, the largest Bear Run waterfall; and the guest wing is located on a hill, north of the main house.

Frank Lloyd Wright's Fallingwater



Fallingwater's structure consists of **cantilevered reinforced-concrete floors** and **cantilevered reinforced-concrete roofs** with integral parapets, supported **by natural rock outcroppings**, tapered **concrete piers ("bolsters")**, and **stone-bearing walls**. The stone (a calcareous sandstone) is of very high quality and was quarried on site.

The main house was completed in **1937**, and the guest house in **1939**. At \$155,000, the total cost of the complex, architect's fees included, was well over the estimated budget.

Frank Lloyd Wright's Fallingwater

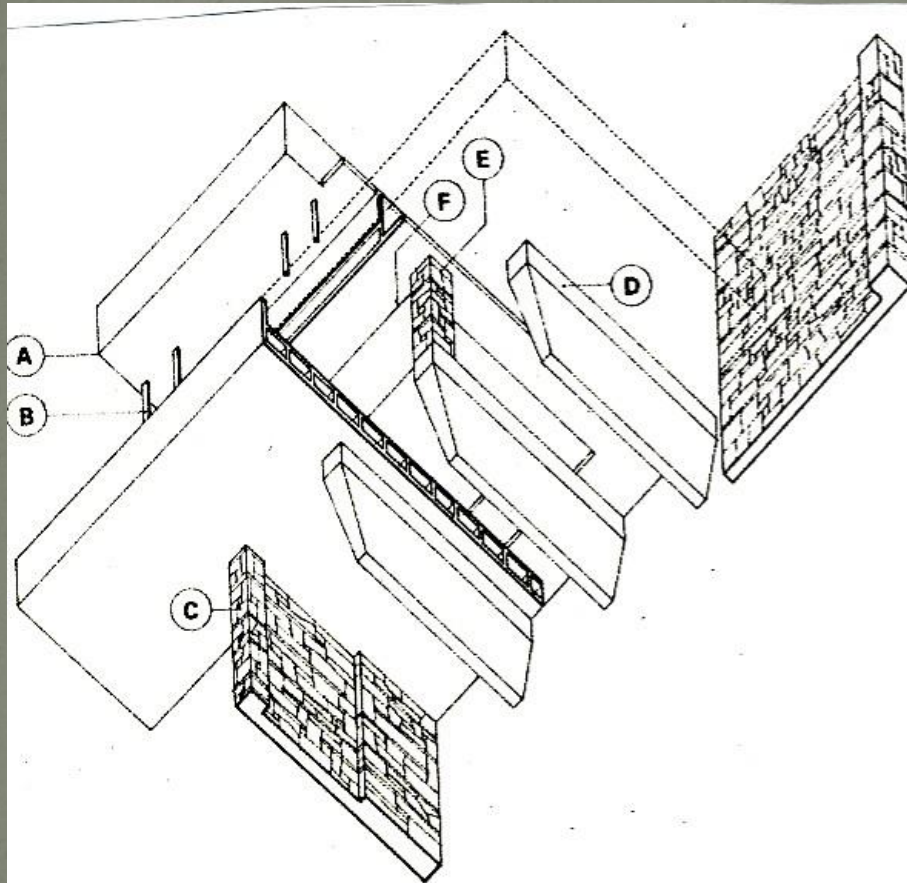


Fallingwater uses four main **piers** or **bolsters** for its foundation, **three of which are reinforced concrete with the fourth being stone masonry.**

In the image shown, the four bolsters can easily be seen below the first floor cantilever.

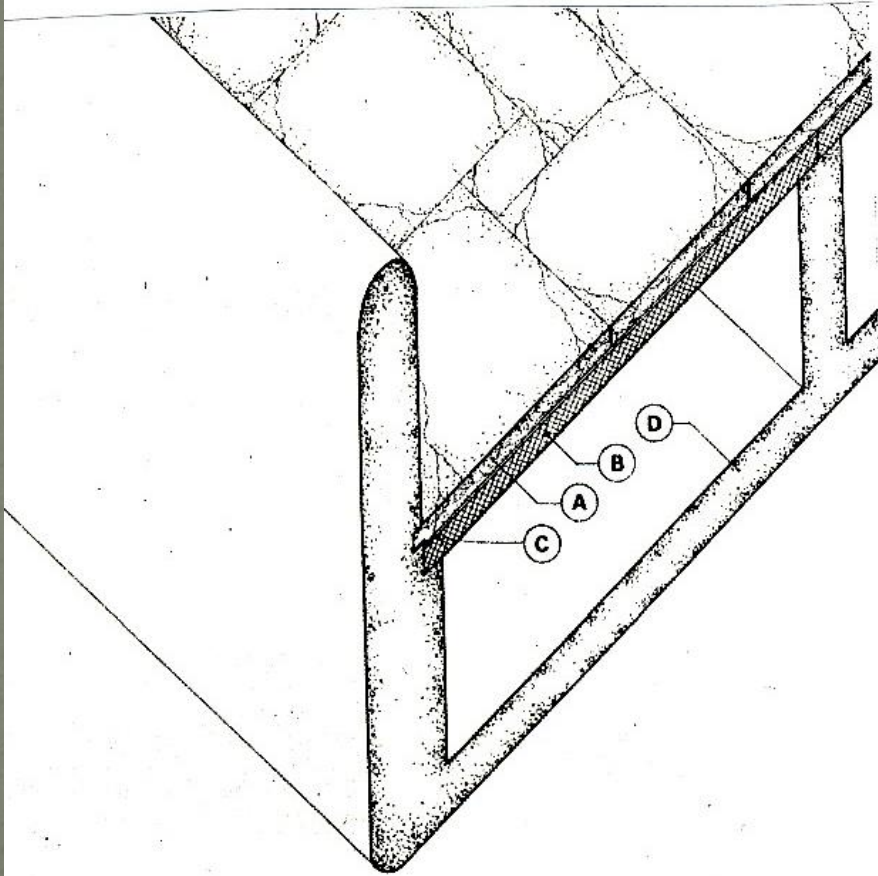
Four cantilevered beams project from these piers suspending the first floor out over the stream.

Frank Lloyd Wright's Fallingwater



Esecutivo assometrico della struttura portante della casa sulla cascata: A) balcone a sbalzo; B) montanti in acciaio; C) pilastri in muratura; D) setti in cemento poggianti sulla roccia; E) pilastri in muratura poggianti sui setti in cemento; F) soletta in cemento.

Frank Lloyd Wright's Fallingwater



*Particolare costruttivo del balcone
della casa sulla cascata:*

- A) pavimentazione a lastre di pietra;*
- B) doppio strato di gesso;*
- C) scossalina in piombo;*
- D) soletta di cemento.*

Frank Lloyd Wright's Fallingwater



Dramatic **cantilevered terraces** reflect the similar structure of the **rock ledges** below. Roomy terraces on either side of the living room on the main level, as well as the large terrace above it, create **strong horizontal lines** balanced by the almost unbroken vertical lines in the tower on the left (which in addition to stone columns over 10 meters tall, has 3 stories of floor-to-ceiling windows).

Frank Lloyd Wright's Fallingwater



These and many other **clear horizontal and vertical lines** in the house may be compared with the **formation of the rock**, with the horizontal and vertical of **ground and trees**, and with the **water moving horizontally** in the stream (Bear Run) and **vertically as "falling water"** in the form of waterfalls. The sound of the flowing water fills the house continuously.

Frank Lloyd Wright's Fallingwater



The **bridge on the right** leads across the stream (Bear Run) to the "front" door, which is tucked away in what at first seems to be an insignificant corner. The **terrace in the foreground** on the main level (first floor) leads **to the living room** through sets of double doors on each side of the **hatchway**.



There is **another terrace on the other side of the living room**, and the stream (Bear Run) runs under them, flowing from east to west (roughly right to left). The **second-floor terrace** on the left leads out from the **master bedroom**.

Frank Lloyd Wright's Fallingwater



The **front door** is rather small, a bit **hidden**, and in an unassuming corner of the house.

Some would be surprised at its location, at the opposite corner of the house from the famous view from downstream, but others would recognize this unpretentious choice as an aspect of Frank Lloyd Wright's "natural" and "organic" emphasis in his architecture.

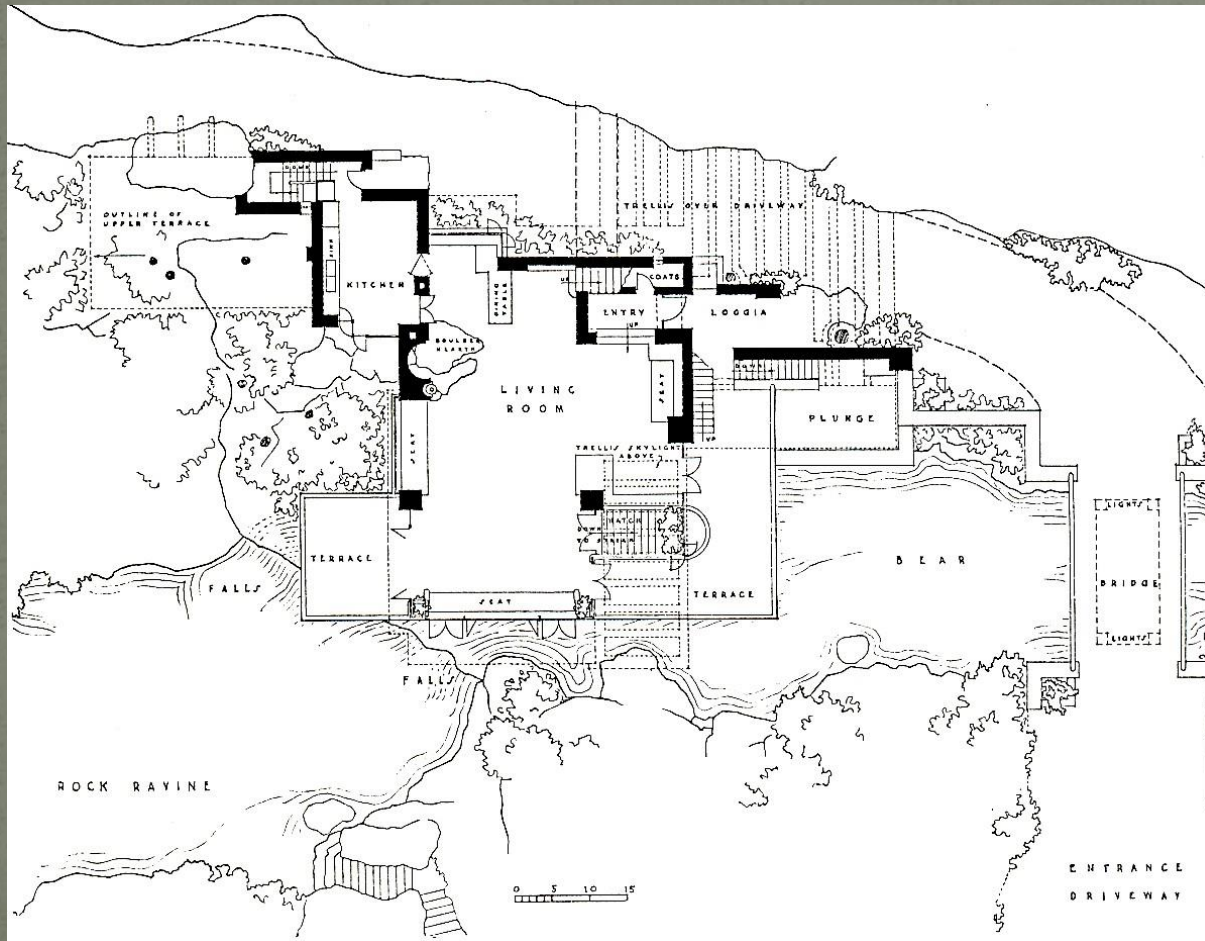
This door is recessed and protected rather than ostentatious and showy.

Frank Lloyd Wright's Fallingwater



The **driveway trellis** connects the back of the house to the hillside. On the right the walkway that leads from the second floor up the hill to the guest house.

Frank Lloyd Wright's Fallingwater



The first story includes a large central living room with a kitchen and a dining area, two terraces, one on the east and the other on the west, and a glazed hatch leading down steps to the stream.

Frank Lloyd Wright's Fallingwater



After one comes in the "front" door of the Fallingwater house and passes through the small entry way, one enters **the living room** and sees it from the view in the photo above. On the far right in the photo is a bit of the **fireplace and hearth**, the **natural boulder** protruding up through the floor. Near it in the photo, just a small corner of the dining table is visible. Next to the fireplace is the sitting area, and above the sitting area a large window through which one can look down the canyon.

Frank Lloyd Wright's Fallingwater



The living room, or great room, at Fallingwater includes several **sitting areas**, a **dining area**, a large built-in desk, and **the fireplace** seen in the middle of this photo. Stone, wood, and earth tones are featured, while modular seating cushions accent with autumn colors.

The dining area can be seen on the right, and a door to the kitchen is at the corner, just to the right of the fireplace.

Frank Lloyd Wright's Fallingwater



The sitting area includes a long built-in upholstered bench accompanied by cushioned modular seating. A similar, longer bench extends practically the full width of the living room, under the "front" windows at a right angle to the window in this picture. Cushions on the benches and in the modular seating are stone white or autumn colors. In front of the fireplace, lighter stone is visible; this is actually the top of an original boulder on the site, left in place, and which protrudes slightly above the level of the rest of the floor, becoming the hearth. The earth-red sphere recessed in the wall is a kettle, described in Edgar Kaufmann Jr's book on Fallingwater as "symbolic," but which can be swung out and around into the fireplace.

Frank Lloyd Wright's Fallingwater



The “**hatchway**” consists of **small vertical glass** doors that open out toward the camera as well as **horizontal sliding glass panels** that can be pushed back. This opening leads to the staircase to the stream below. So not only is the main level of the house cantilevered over the stream and partly over the waterfall, but even the living room (or great room) is physically connected to the stream (Bear Run) via the staircase.

Notice that **the ceiling here** (but in no other part of the house) **is glass**, set on a continuation of the **trellis over** the southeast terrace, so that a vertical openness above and below is created, which Edgar Kaufmann, Jr. describes in his beautiful book as a “**column of air**” to be contrasted with the “**column of stone**” that was the great, solid chimney wall.

Frank Lloyd Wright's Fallingwater



The low rounded wall in the foreground surrounds the opening above the stairway down to the stream from the hatchway in the living room.

Through the glass double doors on either side of the hatchway stairwell is the living room. The trellis above, partly outside (over the terrace), and partly inside (over the living room) adds to the theme of the vertical openness of the hatchway. It is open to the sky, and also extends horizontally into the living room, **two of the many suggestions of the continuity of inside and outside.**

Frank Lloyd Wright's Fallingwater



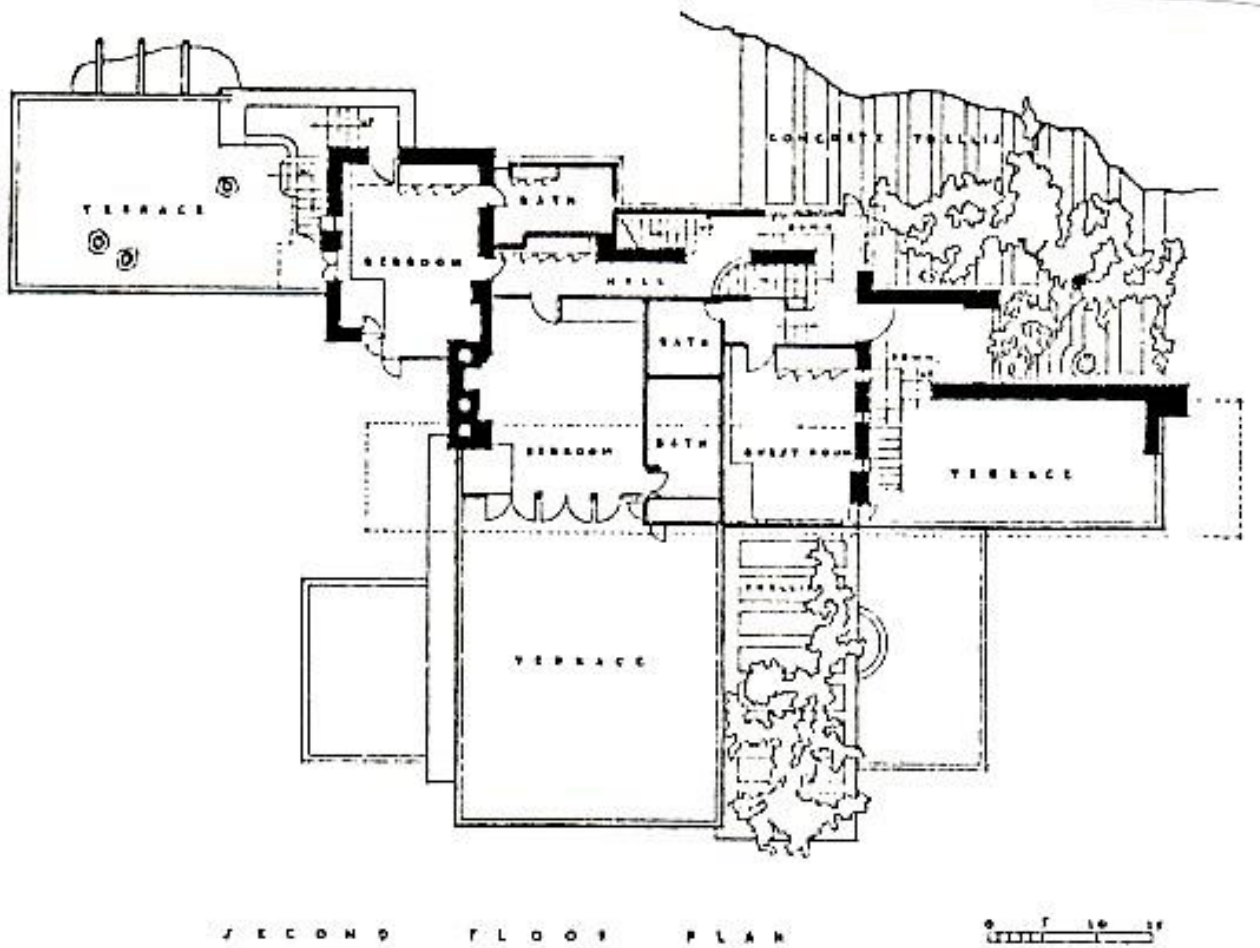
A stairway, with no supports from below, reaches down to a point just over the stream. The top of the stairway is inside the living room (or great room), and can be accessed through a "hatchway" with sliding glass panels. So people can take a path that flows right down from the main room in the house to the stream itself, echoing the flow of water over the falls. Viewed from the outside of the house, this human "flow" originates from the dramatic cantilevered edifice that is the main floor, and can be compared to the water flowing over large rectangular rock ledges.

Frank Lloyd Wright's Fallingwater



The stream (Bear Run) is in the foreground, and the **plunge pool** can be seen behind the low wall. Steps leading down to it are barely visible behind the Lipchitz *Mother and Child* statue, which sits on the corner of the low wall.

Frank Lloyd Wright's Fallingwater



The second story is comprised of a master bedroom opening into a large terrace, a guest room, a dressing room and two more terraces.

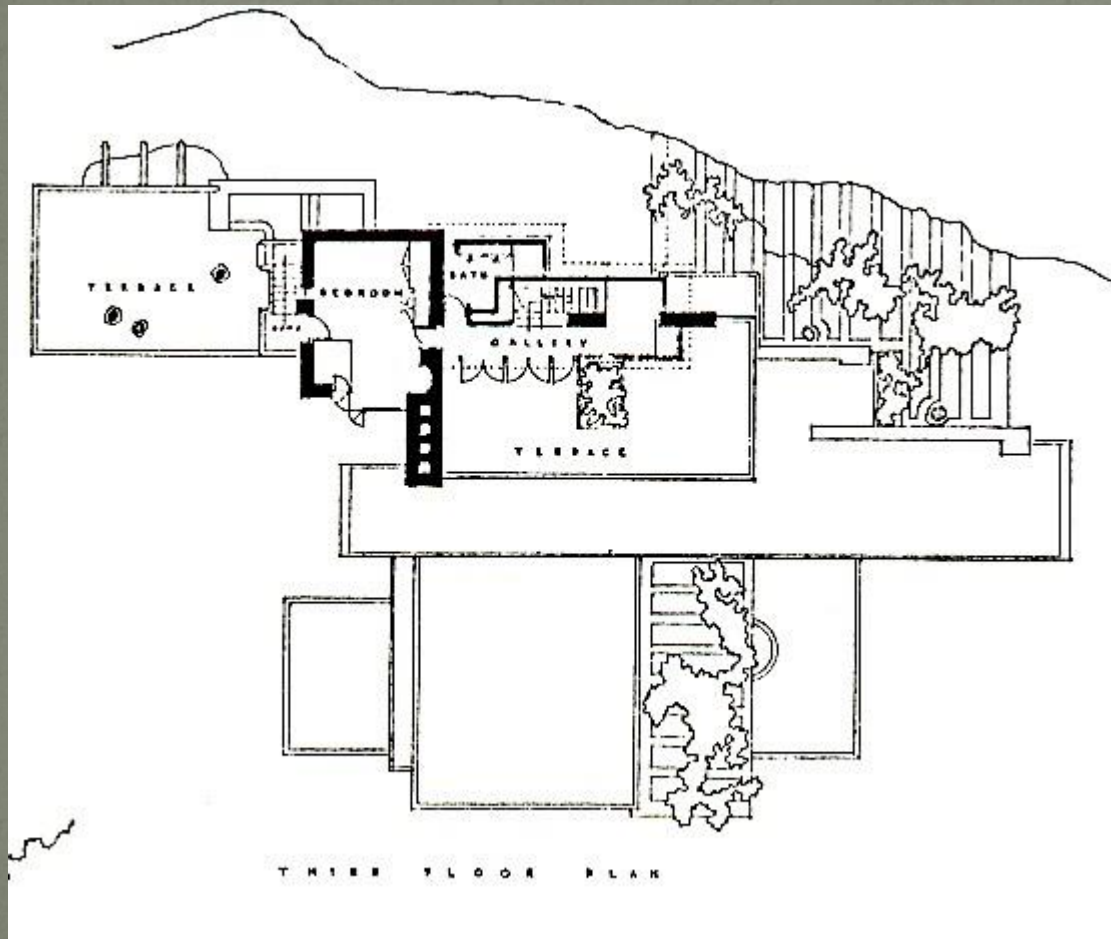
Frank Lloyd Wright's Fallingwater



Many features of Fallingwater are designed to maintain a **continuity between inside and outside**. Rather than setting a steel beam running up and down along the wall and setting the glass into it, the glass set directly into the stone wall eliminates the visual barrier along the wall between inside and outside.

Large arrays of windows create a direct visual experience of the closeness of nature. Some of these even extend to horizontal glass, as over the hatchway in the living room.

Frank Lloyd Wright's Fallingwater



The third story includes a bedroom, a study and a gallery opening onto a terrace above the center of the house.

The guest wing, built in 1939, is two-story high.

Frank Lloyd Wright's Fallingwater



One of the best known houses in the history of Modernism is not a house at all, but an elaborate movie set. Created entirely at MGM studios in Culver City, California for **Alfred Hitchcock's** classic film, **North by Northwest**. In 1958, when the movie was in production, **Frank Lloyd Wright** was the most famous Modernist architect in the world. His magnum opus, **Fallingwater**, was conceivably the most famous house anywhere. **Hitchcock** instructed the set designers at MGM Designers (Robert Boyle, William A. Horning, Merrill Pye, Henry Grace, and Frank McKelvey), to design a house **in the Wright style**, by its creation, the image of the **Vandamm House** became an **icon of Modernism** in architecture.

Frank Lloyd Wright's Fallingwater



From the beginning **Alfred Hitchcock** wanted **North By Northwest** to show the trappings of wealth, power and prestige. He and his art team carefully surrounded the hero Roger Thornhill (**Cary Grant**) with examples of **1950's luxury**: the Plaza Hotel in New York, the Phipps Estate on Long Island, the new United Nations Building, the Twentieth Century Limited, The Ambassador Hotel in Chicago.

Frank Lloyd Wright's Fallingwater



Many features of the Vandamm house are inspired by Fallingwater and other Frank Lloyd Wright's buildings.



Frank Lloyd Wright's Fallingwater



Frank Lloyd Wright's Fallingwater



Officially opened in October 2014, **Bosco Verticale (Vertical Forest)** is a pair of award-winning residential towers in the Porta Nuova district of Milan, Italy designed by **Boeri Studio** (Stefano Boeri, Gianandrea Barreca and Giovanni La Varra).

Frank Lloyd Wright's Fallingwater



The towers have heights of **110 metres and 76 metres** respectively and host **900 trees** (each measuring 3, 6 or 9 meters) and over 2,000 plants from a wide range of shrubs and floral plants distributed in relation to the façade's position towards the sun.

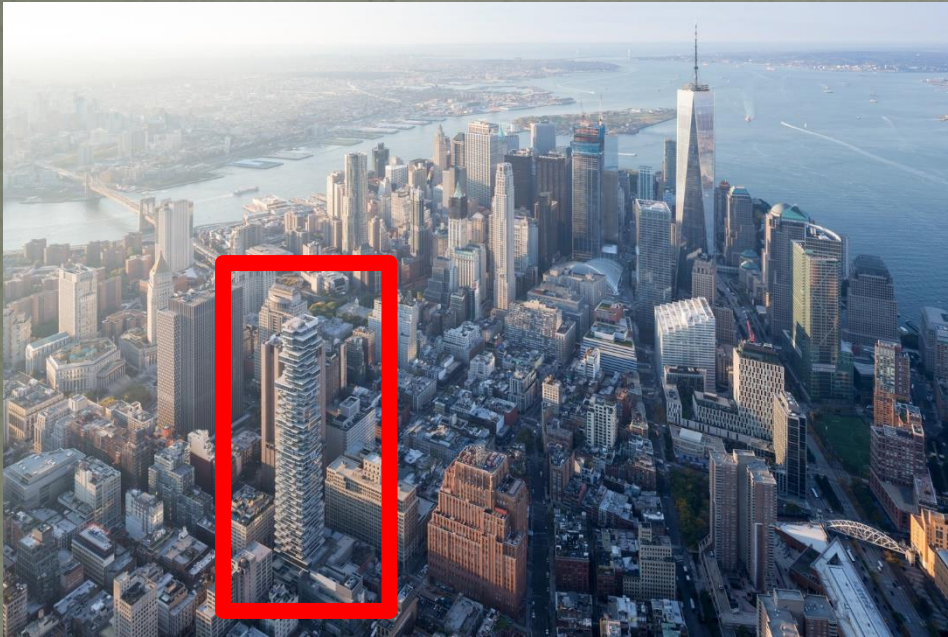
Frank Lloyd Wright's Fallingwater



Nanjing, Guizhou, Liuzhou, Shijiazhuang, and Chongqing are the Chinese locations where a horde of “Vertical Forests” will soon bloom.

Stefano Boeri's studio has a more far-reaching project, to create new buildings in Astana, Bratislava, and Lausanne (the latter of which has already begun construction). Thus, Boeri has designed new buildings (all of which have greenery on the balconies) for the crowded and polluted Chinese cities.

Frank Lloyd Wright's Fallingwater



Herzog & de Meuron's skyscraper in Tribeca, 56 Leonard Street, New York, also called "Jenga Tower".



Its stacked form, which houses 145 residences, has resulted in comparisons to wooden block game Jenga.

Frank Lloyd Wright's Fallingwater



Frank Lloyd Wright's Fallingwater



Concrete is used predominantly across the two levels, which are connected up a sculptural circular staircase also made from the material. The double-height spaces are supported by thick cylindrical columns, with thin lengths of LED lighting suspended in loops from the ceilings.



Frank Lloyd Wright's Fallingwater



The tower comprises a series of cuboid volumes that become increasingly offset from one another towards the top, drawing comparisons with the wooden blocks used in a game of Jenga.



Frank Lloyd Wright's Fallingwater



Jacques Herzog and Pierre de Meuron designed Beirut Terraces as part of a new masterplan developing around the St Georges Hotel. This area of the Lebanese capital is gradually being regenerated following a devastating car bomb attack that killed prime minister Rafik Hariri in 2005.

The residential tower is made up of irregularly sized floor slabs that give it an indefinite outline, not dissimilar to the firm's Jenga-like 56 Leonard skyscraper in New York.

Five modular floors are repeated in different combinations to create the staggered arrangement. The white slabs overhang the double-glazed walls by at least 60 centimetres to provide shade and to create terraces.

Frank Lloyd Wright's Fallingwater



Various perforations in the overhangs expose areas of the terraces to the sun, while others are cast in shadow.

White columns located in the corners of the tower support the overhangs, while glazed balustrades run around the edges.

Pot plants and trees add touches of greenery to the otherwise white block, which is envisioned as a vertical boulevard. The planting also serves as a screen, to ensure a degree of privacy for the glazed living areas while still permitting views out to sea.