GUIDE TO ARCHITECTURAL SITE ANALYSIS

FIRST IN ARCHITECTURE

Firstly, thank you for downloading this free guide. I really hope that it will give you all the information you need to successfully carry out a thorough site analysis, from start to finish.

I wrote this because when I first had to carry out a site analysis for a university assignment, I didn't have a clue what to do! It was also hard to find information anywhere that would help me figure out what was required on the site visit, what information you needed to collect, and how to present that information once you had it.

Fast forward several years, with a fair few site analysis studies under my belt, I thought I would put together this guide to help others out who are in the position I was when I first started out.

The tips and ideas in this guide are techniques that I have used in my work, but it is not an exhaustive list. So, I may have missed things - by all means let me know, and I can add them to the guide.

If you want to ask any questions, then don't hesitate to contact me. I'm on Twitter (@archi1st), or the Facebook page First In Architecture, or email emma@firstinarchitecture.co.uk.

Finally, join our community! We have a growing facebook community where you can ask questions, share ideas, and get support from other members of the community. Be a part of it!

Emma

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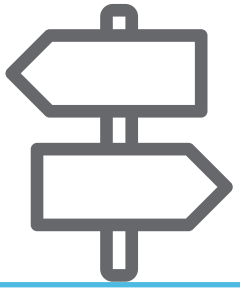

Why do you carry out a site analysis?

Prior to starting any design, your client will want to know whether construction on the site is viable. Carrying out an extensive site analysis [or context analysis] will assess wether development is financially feasible, and establish parameters to implement the best design that responds to the physical and environmental features of the site.

A contextual analysis is a research activity that looks at the existing conditions of a project site, along with any imminent or potential future conditions. The purpose is to inform us about a site prior to the start of our design process so that our initial design thinking about a site can incorporate considered responses to the external conditions.

An architectural site analysis will look at issues such as site location, size, topography, zoning, traffic conditions and climate. The analysis also needs to consider any future developments, or changes to the sites surroundings, such as a change of roads designations, changing cultural patterns, or other significant building developments within the area.

Understanding the context of a site is key to enabling the designer to weave the new design in with the existing fabric of the site. It allows us to understand the existing opportunities, or problems in a site, and make informed decisions on how to respond to our findings. This response could be that the designed building reflects the surrounding context and is designed to be in sympathy, or perhaps to turn away or eliminate certain unwanted site conditions.

Making sure the analysis is thorough

It is important when carrying out a site analysis, that we endeavour to research as much as possible and collect all available data that relates to the site and our design. A poorly executed site analysis can lead to a sub standard design due to the designer not having all available information to respond to and develop solutions for. You can never know too much about the site.

To help with collecting information, I have made a checklist that is a starting point for analysing the site and gathering data. The checklist is not exhaustive, which means you can add to the checklist every time you come across new issue or factor relating to a site.

What kind of information are we collecting?

Our analysis data can be split into two main categories. Hard data and soft data.

Soft data looks at site conditions that can be changed. Hard data looks at more concrete elements such as site boundaries, site areas, utility locations, contours, dimensions, site features, climate, legal information. Early site investigations should look at hard data. From this, we are able to establish which elements we consider to have a negative impact on the site or proposed design and which conditions have a more positive influence. This allows us to create a hierarchy and gives a more systematic approach to understanding our data and developing the design.

The general categories of data we will be looking at as we carry out our architectural site analysis are:

- Location - where the site is situated
- Neighbourhood context - the immediate surrounding of the site including data on zoning and buildings and other impacts on our project.
- Zoning and size - dimensional considerations such as boundaries, easements, height restrictions, site area, access along with any further plans.
- Legal information - ownership, restrictions or covenants, council related information, future urban development plans.
- Natural physical features - actual features of the site such as trees, rocks, topography, rivers, ponds, drainage patterns.
- Man made features - existing buildings, walls, surrounding vernacular, setbacks, materials, landscaping, scale.
- Circulation - Vehicle and pedestrian movements in, through and around the site. Consider the timing of these movements, and duration of heavier patterns. Future traffic and road developments should also be considered.
- Utilities - Any electricity, gas, water, sewer and telephone services that are situated in or near the site, along with distances, depths and materials.
- Climate - all climatic information such as rainfall, snowfall, wind directions, temperatures, sun path, all considered during the different times of the year.
- Sensory - this addresses the visual, audible and tactile aspects of the site, such as views, noise, and so on. These again should be considered in time frames and a positive or negative factor can be attributed to the condition.
- Human and cultural - the cultural, psychological, behavioural and sociological aspects of the surrounding neighbourhood. Activities and patterns, density, population ethnic patterns, employment, income, values and so on.

Desktop Study

Before you visit the site, there is a lot of information you can gain from a desktop study. By carrying out thorough research prior to your visit to site, you will arrive well informed, and possibly have identified specific things that you want to check or look out for on your site visit.

Prior to your site visit it may be necessary to obtain an OS map of the site. From this, and from client information you can clarify the location of site boundaries.

Things to look into before you go to site:

Location:

- Geological maps to discover predominant type of soil or rock on the site.
- Aerial photographs and maps (google and bing have really useful and quite different aerial images). Historical maps can also be interesting.
- Distances and travel times between the site and other locations of importance

Legal Information:

- Rights of way, rights of access, Town and Country Planning restrictions, is the site in a green belt?
- History of the site – anything you can use to inform your design. Any tunnels, disused mines, archaeological interests under the site could curtail development.
- Historical use of the site – could industrial processes have contaminated the land?
- If the site sits in a conservation area or close to listed buildings you may need to go into more detail regarding cultural significance, historic significance, etc.
- Developmental controls – is the site subject to any specific planning controls, building control or health and safety?
- Are there any trees on the site? Do they have Tree Preservation Orders on them?

Utilities

- Determine whether water, electricity, gas, telephone, sewerage and other services are connected to the land.

Climate

- Climate conditions of the site/area.
- Sun path and angles.
- Is the area susceptible to flooding, is it considered a flood risk area?

Some information is not freely available, but a client or their legal representative should be able to clarify any issues regarding rights of way, rights of light, legal easements and any rights of tenants.

There are many more things to look at, and each site is very different, but hopefully this will give you a starting point for getting the best out of your site visit. In the next section we will look at visiting the site, and some of the items on the checklist according to the categories that you should look out for.

Visiting the site - What to take with you

Depending on the project you will want to consider taking the following items with you when you go to look at a potential site, or proposed site for your design project. It is likely you will require PPE (personal protection equipment) so make sure you have all the necessary items before heading to site.

- Camera – essential. Make sure you take pictures of everything. Also, make sure you get some shots of the site from a distance so you can use these in your final images, cgi's and so on. Also take pictures of what is opposite the site, so you can use these as reflections in windows of your design. It is so frustrating when you go to the trouble of visiting a site and come back wishing you had taken more pictures.
- Smart phone. If you have any apps that assist with taking panoramic pictures, take a few of these too. You can do some interesting stuff when you get to later design stages if you have a few panoramics to play with.
- Note book. Really important to be able to jot down any observations.
- Tape measure. Some sites may be close to hazards or situations where you will need to measure the proximity. If you have one, a disto, or laser measure could also come in handy, but not essential.
- Good weather! If you have a choice of when to visit the site try to pick a day when there is a bit of blue sky around. It will look better for your site photos, particularly if you are planning on using them in future presentations.

What to look out for

I would suggest you go with a list of items to look out for, and check off your list so that you don't miss anything. My list would go something like this based on the categories we established earlier:

Site and surroundings

Location

- ☐ Site location details (road names, address, major landmarks etc)
- ☐ Current context – existing buildings, car parking, roads.

Neighbourhood context

- ☐ Look at existing and proposed building uses in the neighbourhood
- ☐ What condition are the buildings in?
- ☐ Are there exterior spaces and what are they used for?
- ☐ Are there activities in the neighbourhood that may create strong vehicle or pedestrian traffic?
- ☐ Existing vehicle movement patterns, major and minor roads, bus routes and stops.
- ☐ Street lighting
- ☐ Vernacular context, materials, architectural features, fenestration, landscaping, parking, building heights
- ☐ Any nearby historical buildings, or buildings of particular significance
- ☐ Sun and shade patterns during the year
- ☐ Building context – what style, period, state of repair are the surrounding buildings? It is a historical/heritage/conservation area? Will your design need to reflect the existing style?
- ☐ Is the site close to listed buildings?
- ☐ Surfaces and materials around the site.

Site and Zoning

- ☐ Site boundary and dimensions
- ☐ Any rights of way through the site and the dimensions
- ☐ Any easements location and dimensions
- ☐ Buildable area of the site

- ☐ Any building height restrictions
- ☐ Access to the site – car parking, bus routes, train stations, cycle routes, pedestrian walkways.
- ☐ Access to site for construction – will there be any obstacles or restrictions that could affect the construction process?

Natural Features

- ☐ Topography of the site, valleys, ridges, slopes etc.
- ☐ Vegetation – landscaping, greenery, shrubs and trees, open spaces.
- ☐ Site levels. How will this affect your design process? How does the site drainage work, would there be any potential problems with drainage?
- ☐ Soil types on site

Man made features

- ☐ What was the previous use of the site? Would there be any contamination concerns?
- ☐ Are there existing buildings on the site – what is their state of repair? Is there any sign of subsidence or settlement damage?
- ☐ Are the existing buildings part of the project?
- ☐ Any walls, retaining walls on the site, or other built items

Circulation

- ☐ Circulation – how do visitors/pedestrians/traffic to or near the site flow around or within it.
- ☐ Accessibility – current provisions of disabled access to the site and how will this need to be considered.
- ☐ Does the existing pedestrian movement need to be preserved?
- ☐ What is the vehicle peak loads and when?
- ☐ Public transport close to the site
- ☐ Locations of best access to site for both vehicles and pedestrians
- ☐ Travel time to walk across the site

Utilities

- ☐ Location of all services: electricity, gas, water, sewer, telephone. This includes both

underground and above ground.

- ☐ Location of power poles.
- ☐ Drainage
- ☐ Sub-stations

Sensory

- ☐ Views – where are the best views to and from the site.
- ☐ What are the views of?
- ☐ Mark out the positive and negative views.
- ☐ Which is the most likely feature aspect?
- ☐ Look at views towards the site from different approaches to see how the site would be seen when drawing near to the site. What are the best views of the site, and would these change in the long term?
- ☐ Noise, odour and pollution – is the site in a particularly noisy area? Or near industrial buildings that produce levels of pollution. Is it near a facility that creates smoke?

Human and Cultural

- ☐ Negative neighbourhood issues such as vandalism and crime.
- ☐ What are the attitudes towards the site and the potential build?
- ☐ What are the general neighbourhood attitudes about the area?
- ☐ What is the cultural, psychological, behavioural and sociological aspects of the surrounding area.
- ☐ What is the population, density, family size, ethnic patterns, employment, recreation activities etc.

Climate

- ☐ Orientation of the site.
- ☐ Weather – how does the weather affect the site? Is it well shaded, exposed?
- ☐ How does the temperature, rainfall etc vary throughout the year?
- ☐ What are the prevailing wind directions throughout the year?
- ☐ What is the sun path throughout the different times of the year, and day.

Take some time to walk around the site as much as possible. Take note of the general topography of the site, and any significant changes in level. Also note any indications of what is underneath the surface, for example, any marsh grasses could suggest that there is a high water table, if the soil is sticky it could indicate the subsoil on the site is clay. If there is any rubble on the site, it could suggest there has been previous development, or possibly landfill on the land.

Many of these site issues (particularly services) would be picked up on a topographical survey or other professional report, but for the benefit of a student site analysis assignment I think it would be good to demonstrate that you have considered the hazards that could be on or around the site.

Diagramming your findings

The best way to present much of the data you have collected is through diagrams. There are varying approaches to expressing the features of the site, some prefer to include as much information as possible on one diagram, while others will produce a number of smaller diagrams to demonstrate particular site conditions or features.

Both options work, but if you decide to present all the data on one drawing, it is important to make sure it doesn't become muddled and difficult to interpret the information. So a single diagram demonstrating many of the site conditions will be a larger drawing than numerous individual diagrams demonstrating one site factor. It is also important that the hierarchy of the drawing is clear - using your pen thicknesses to demonstrate the different aspects.

You can represent data from your site visit in plans, elevations and sections, isometrics or perspectives. Be sure to choose the best option for the date you are trying to explain. We want to make sure the diagram is simple, and clear, with the data we are presenting graphically bolder than the referent information. You want the emphasis to be on the information you are communicating, for example a path through the site, or the position of trees on the site. If you choose to create a series of drawings, ensure that the site drawing is always the same orientation, and preferably scale, so that the reader can easily understand the drawings.

Evaluating Your Site Visit

So you have collected all this information and taken a shed load of photos, now you've got to evaluate this information and consider the implications to your design process. As well as considering all the points below you also have to integrate the requirements of the brief. You are slowly putting together the pieces of the puzzle in order to come up with a great design.

Your diagrams and data collection will be starting to build a picture of the site, helping you to evaluate what you have found and begin to consider solutions.

When looking at your site and considering your design think about the following:

The Site

- Street patterns
- Street section
- Scale and the hierarchy/form/space

- Land use
- Typologies
- Neighbourhood relationships, formal street variation
- Perspective relationships, views
- Edge conditions, surfaces and materials
- Natural and man made
- Movement and circulation within and around the site
- Vehicle vs. pedestrian
- Access
- Public space vs. private space
- Open space
- History
- Climate – sun angles and sun shadows
- Negative and positive spaces – we move through negative spaces and dwell in positive spaces

The Building

Think about how your proposal is going to link in with the site, and how the site will connect with the building. Make a few notes about each of the points below about what you are looking to achieve.

- Massing
- Structure
- Circulation
- Axis
- Symmetry
- Scale and proportion
- Balance
- Regulating lines
- Light quality
- Rhythm and repetition
- Views
- Geometry
- Hierarchy
- Enclosure
- Space/void relationship

During your evaluation of the site, it may be useful to create a model of a particular aspect, or even the site itself. A model may demonstrate something better than a drawing or photograph, particularly three dimensional situations. Land contours, are often demonstrated using a simple site model. This base model could then be used as part of your concept development.

Presenting your Site Analysis

It may not be a requirement to present your site analysis information, but in many cases it is. Whether you are putting together a couple of plans with your findings, or a full report, here are some tips and ideas to help you get the information across.

- Give an overview of the site and the information you have found.
- Show some of the key photographs of the site.
- Give more detail about the elements of your site analysis that you feel will be important in your design process.
- Make sure you include images. There are various ways you can do this:
    - Sketches from site
    - Photographs from site
    - Annotated photographs
- Present any relevant data found (climate, sun paths etc). Keep data clear and concise, don't bore everyone with complicated graphs and tables. Instead, make your own chart or table that picks out the important information.
- Present your sun paths and angles as some sort of annotated drawing. Sketchup can be a useful way of presenting sun path drawings.
- Depending on what has been asked of you, sometimes it is useful to present a couple of overlay drawings showing some initial ideas you have worked on. This will demonstrate your understanding of the site.

The most important thing when presenting your site analysis is to ensure that the information is clear, and the reader can understand what you have found. In my opinion there is no point labouring away on fancy graphics if the information is not clear and difficult to digest. I have a Pinterest board dedicated to site analysis graphics and ideas, feel free to check it out for some inspiration.

Pinterest Site Analysis

Don't forget - if you want to check out the original post, with all the associated images follow the link below:
https://www.firstinarchitecture.co.uk/architecture-site-analysis-guide/

GOOD LUCK ;)

Thank You!

I hope you have found this guide useful.
I appreciate every one of you for taking the time to read this.

If you have any questions or comments please send me an email emma@firstinarchitecture.co.uk

Thanks again, and I wish you every success for the future!

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