Step 7. Analyze potential sites to make sure they can physically accommodate a proposed project and provide easy access to the amenities and services its occupants will need.

Why is this important?

In most cases, getting the right site is the single most important step in the affordable housing development process. Sometimes an available site simply won't work for the project the developers have in mind, but would be well-suited to an entirely different purpose or user group. Sometimes the site is difficult, but good design can make it work. And sometimes the site will not be suitable for a development at all, and enormous amounts of effort and resources can be saved and devoted elsewhere. See below for more about the **Importance of Site Analysis**.

When should this be done?

During site selection or very early in the site evaluation phase of Predevelopment. (See the **Design/Development Matrix**.)

Who should do this?

The owner/developer with assistance from an architect or other experienced development professional.

What should be done?

- Gather basic information on the physical characteristics of the site (size, shape, surrounding roads and services), the condition of the neighborhood and the types of occupancies that exist there. (Much of this data may also be collected during **Step 6**, "Establish Design Goals for Community.")
- Review the **Dwelling Types Overview** to get an idea of the variety of different types of housing that can be developed.
- Use this information to fill out the **Access to Services Checklist** and to complete the **Site Suitability Test.**
- *Add the completed Access to Services Checklist and Site Suitability Test to the Project Book.*

How can doing this help move my project forward?

- Being sure that the project fits its site – physically and contextually – helps avoid downstream problems that could force a complete rethinking of project after considerable upfront development resources have already been expended.
- A clear demonstration that the project will work on the proposed site will improve the credibility of the project during the early stages of development.
- The unit count/mix developed during the **Site Suitability Test** can feed directly into the feasibility study for the project.

Additional resources

For additional information on basic site analysis, consult:

Architectural Graphic Standards published by John Wiley & Sons, or
Time-Saver Standards for Housing and Residential Development, published by McGraw-Hill.

Contact points: www.wiley.com
www.mcgraw-hill.com

Importance of Site Analysis – Expanded Narrative

A site which cannot physically handle its projected density and use, or one which will be intrinsically costly to develop, will fail to "pencil out" financially, requiring either a radical rethinking of the project or abandoning the site. Likewise a site hampered by regulatory constraints may prove unfeasible. It is critical to identify such limitations as early as possible in the development process, before valuable time and resources have been spent on a site that may not be appropriate.

Too often the sites available for affordable housing are marginal, "leftover" sites that are, for various reasons, unattractive to for-profit developers. This means that the sites may be inherently difficult to develop. All the more reason for the type and amount of housing proposed to closely match the physical capabilities of the site.

In addition, even if a site "works" physically it must also be located so as to provide easy access to the amenities and services its occupants will require. If the project seeks to house working families, then access to transportation, jobs, schools and shopping is critical. If it is a project for the elderly, access to jobs and schools may be much less important than being located near a park that is perceived to be safe and secure. If such user-specific amenities and services are lacking – or are too far away to be accessible – the project will encounter problems attracting and retaining tenants or buyers.

Finally, even if a site can physically accommodate the uses and density proposed for it – and provide adequate access to the services its occupants will need – the development itself must also "fit" with the neighborhood into which it is being placed. For example, locating an elderly housing project on an isolated site near a light commercial district would be a mistake, even if the land were free. Inappropriate uses and/or densities can generate political opposition to the project, and the wrong project in the wrong location may never succeed financially. Both good reasons to ensure – as early in the process as possible – that proposed use and density "fit" the site's neighborhood.

Access to Services Checklist

Name of Project: _____
Address of Potential Site: _____
Date: _____

Service	**Proximity** ("walking distance," "5 minutes by car," "30 minutes by bus," etc.)	**Impact on Residents** (negative, neutral, or positive and why)
1. Adult Day Care		
2. Bank		
3. Bus Line/Subway		
4. Child Care		
5. Clinic		
6. Community Center		
7. Convenience Store		
8. Department Store		
9. Drug Store		
10. Employment		

Service	**Proximity** ("walking distance," "5 minutes by car," "30 minutes by bus," etc.)	**Impact on Residents** (negative, neutral, or positive and why)
11. Government Services		
12. Health Center		
13. Hospital		
14. Laundromat		
15. Library		
16. Local Retail		
17. Medical Office		
18. Movie Theater		
19. Park		
20. Place(s) of Worship		
21. Playground		
22. Restaurant		
23. School		

Service	**Proximity** ("walking distance," "5 minutes by car," "30 minutes by bus," etc.)	**Impact on Residents** (negative, neutral, or positive and why)
24. Shopping Center		
25. Super Market		
26.		
27.		
28.		
29.		
30.		

Analysis (overall, does the proposed site provide good access to the services its occupants will need; will the site "work" for its target residents?)

Example
Access to Services Checklist

Name of Project: _____

Address of Potential Site: DOE STREET

Date: _____

Service	Proximity ("walking distance," "5 minutes by car," "30 minutes by bus," etc.)	Impact on Residents (negative, neutral, or positive and why)
1. Adult Day Care	Senior center 100 yards from site.	Not a priority for this user group - services provided on site by AIDS Coalition and visiting nurses.
2. Bank	KEY BANK – 1/2 Mile on bus line	PLEASANT WALK
3. Bus Line/Subway	BUS STOP ON DELAWARE AVE and Madison AVE near site	EXCELLENT SERVICE NEARBY
4. Child Care	DAYCARE at several churches within 1/2 Mi.	NOT A priority for this user group
5. Clinic	Clinics 1/4-1/2 Mile away	Excellent
6. Community Center	Boys club 1/4 Mi. away. YMCA 2 Mi. by bus.	Good
7. Convenience Store	24 hour Price Chopper adjacent to site.	Excellent
8. Department Store	Dept. stores 5-10 Mi away by bus	Slight constraint on residents
9. Drug Store	Pharmacies at nearby hospitals.	Good
10. Employment	Empire State Plaza and CBD nearby.	Excellent employment opptys. near site

Example (con't)

Service	Proximity ("walking distance," "5 minutes by car," "30 minutes by bus," etc.)	Impact on Residents (negative, neutral, or positive and why)
11. Government Services	City Hall & county offices 2 Mi. away by bus	Good
12. Health Center	VA Hospital, Albany Medical Center 1/4-1/2 Mi away	Excellent
13. Hospital	"	" Excellent
14. Laundromat	Laundry and dry cleaner 1/4 Mi. away	Excellent
15. Library	Main branch of public library 1/2 Mile away	Good
16. Local Retail	Specialty shops within walking distance.	Excellent
17. Medical Office	VA Hospital, Albany Medical Center 1/4-1/2 Mi away	Excellent
18. Movie Theater	2 Theaters within 1 1/2 Miles	Good
19. Park	2 large parks within 1/4 Mi.	Excellent
20. Place(s) of Worship	4 churches in immediate neighborhood, 3 synagogues within 1 Mile, 6 Mosques within 1 1/2 Miles	Good
21. Playground	Playgrounds in both parks	Excellent
22. Restaurant	Variety of restaurants within walking distance	Excellent
23. School	Elementary and Middle school - 1/8 Mile away High School - 2 1/2 Miles away	Good - not a priority for this user group

Example (con't)

Service	Proximity ("walking distance," "5 minutes by car," "30 minutes by bus," etc.)	Impact on Residents (negative, neutral, or positive and why)
24. Shopping Center	Dept. stores 5-10 miles away, accessible by bus	Slight constraint on residents
25. Super Market	Price Chopper, 24 hr. grocery adjacent to site	Excellent
26.		
27.		
28.		
29.		
30.		

Analysis (overall, does the proposed site provide good access to the services its occupants will need; will the site "work" for its target residents?)

In terms of access to services, this site is practically ideal for the target residents.

Site Suitability Test

This exercise will help ensure that your site can legally and physically accommodate the type and size of project you envision. In addition you will be able to use all the documentation collected, the square footages calculated, and the drawings developed in future phases of your project, should you decide to move forward on the site.

Collect Basic Site Information

A. Analyze zoning and other development regulations:
   Determine that proposed use is permitted (make sure you can build the type of project you want)
   Determine required setbacks.
   Identify height, bulk, floor-area ratio, or footprint restrictions.
   Determine parking and driveway requirements—number of spaces and size.
   Determine required open space minimums (public and private) and other on-site recreation or environmental requirements.
   Determine if any special permits, regulations, planning procedures (variances, design review, public hearings, environmental tests/data) are required.

B. Identify key site elements:
   Those you want to keep (trees, plants, ponds, views, etc.)
   Those you can't touch (wetlands, utility structures, etc.).

C. Identify any "hidden" constraints to the physical development of the site:
   Legal easements across the property
   Buried cable, piping, etc.
   Rights of way across the property
   Drainage, flood elevation requirements, geotechnical issues, etc.

D. Obtain site documentation
   Topographical map
   Parcel map showing legal boundaries and adjacent parcels
   Sanborn map, aerial photos and/or other documents showing configuration of adjacent properties to scale, if possible.

Calculate Gross Sizes

E. Determine how much gross parking you need

Analyze zoning and/or other local ordinances concerning parking requirements
Determine number of parking spaces you will need or be required to provide—usually based on number of units or number of bedrooms.
Multiply by 350 square feet per car (or the actual square footage your jurisdiction requires).

F. Determine how much gross area your building will need.

Determine the maximum number and general mix of units you intend to provide.
Using the unit size rules below:

Multiply the number of units of each type by their average area.
Add all the areas together.
Add 15-30% for circulation and other uses such as community rooms, etc.

The total equals the gross building area you will need to achieve your desired unit mix.

Typical Affordable Housing Unit Sizes

First, check with HUD and your local building department regarding any required minimum room sizes and dimensions. Then review the dimensions and sizes of successful developments of similar type in your area. Unit size will vary depending on user profile, income level, and budget issues. The following are general ranges and exclude garages, porches, exterior storage, etc. Add 10% for fully accessible units.

Unit Type	Size range
Studio—	300-400sf
1BR flat—	500-600sf
2BR flat—	780-900sf
3BR flat—	950-1150sf
4BR flat —	1100-1300sf
2BR TH—	850-950sf
3BR TH—	1000-1200sf
4BR TH—	1200-1350sf

Develop Feasibility Sketch

G. Draw base sketch of site.

Based on the documentation assembled in Step D, draw a sketch of the site and surrounding building footprints, streets, and sidewalks.

Use a scale between 1:20 ands 1:40, depending on the size of the site.

H. Delineate usable area.

Draw setback lines.

Locate and sketch in key site elements identified earlier.

Locate and sketch in any site constraints.

Make copies of the drawing.

I. Draw parking.

Using the gross square footage for parking calculated in Step E, draw a rectangle—at the same scale as the site sketch—with one dimension 60 feet wide and as long as is required to fit all parking spaces needed. This will give you a general idea of how much space your parking will consume.

Make sure the parking is accessible to a street.

J. Determine the basic building type(s) you want.

Considering your population, local building types, budget, zoning, and site constraints, choose a basic building type and height. eg 4 story elevator-served stacked flats over an on-grade parking garage; two story townhouses over flats with surface parking; attached single family duplexes with surface parking; etc.

You may want more than one building type on the site.

For more information on building type consult the **Dwelling Types Overview** in the Tools section of the Design Advisor.

K. Draw the building footprint.

Using the gross square footage for your building calculated in Step F, draw a rectangle or group of rectangles—at the same scale as the site sketch—that will accommodate the total area needed for the building.

The size and shape of the rectangle(s) will depend on the building type or types that you have chosen.

For example, if you are planning a 4 story apartment building with corridors, the building might be 50-60 feet wide and 100 feet or more long. If you are planning triplexes of two townhouses over a flat each footprint might be about 30 feet x 40 feet, and you'll need to calculate how many of these footprints you'll need to handle all your units.

This gets complicated quickly, so it is adequate to get a rough idea of the gross area and see if it fits. Consult a local architect or other building professional for typical sizes and shapes for common building types.

L. Layout your parking and building footprint on your site sketch.

Make sure everything "fits" in a way that is straightforward and reasonable, not overly complicated or intricate.

Make sure all site constraints are respected and all key site elements are preserved.

Make sure that parking has access to a street.

Make sure that the minimum required open space is accounted for and that it can actually be used by the occupants.

Finally, make sure that the building footprint, parking and required open space don't take up every last inch of the site. Roughly 10% of the site should be "left over" to allow flexibility when actual development begins.

Analyze Results

If the building footprint, parking and open space fit cleanly on the site—with a minimum 10% of "left over" area—there is a good chance that the site will physically accommodate your project. If the site is also accessible to the amenities and services your occupants will need (see **Access to Services Checklist**) then it will probably be a good place to locate your project.

Example
Site Suitability Test

Name of Project INDEPENDENT HOUSING
Address of Potential Site DOVE STREET
Date _____

Basic Site Information

A. Zoning and other regulations

5 - LOTS ARE ZONED FOR 2 FAMILY OCCUPANCY - A SPECIAL PERMIT WOULD BE REQUIRED TO COMBINE SITES & MULTI-FAMILY OCCUPANCY

B. Key site elements

TRANSFORMER FOR ADJACENT GROCERY.
OVERHEAD ELECTRIC LINES.

C. Hidden constraints

SHALLOW FOOTING ON ADJACENT ROWHOUSE
EASEMENT

D. Site documentation

ATTACHED SURVEY & SANBORN

Example (con't)

Gross Sizes

E. Parking

THE ZONING ORDINANCE DOES NOT PROVIDE SPECIFIC PARKING REQUIREMENTS IN THIS DISTRICT - MOST PARKING IS ON THE STREET. THE OWNERS WOULD LIKE 8-10 SPACES.

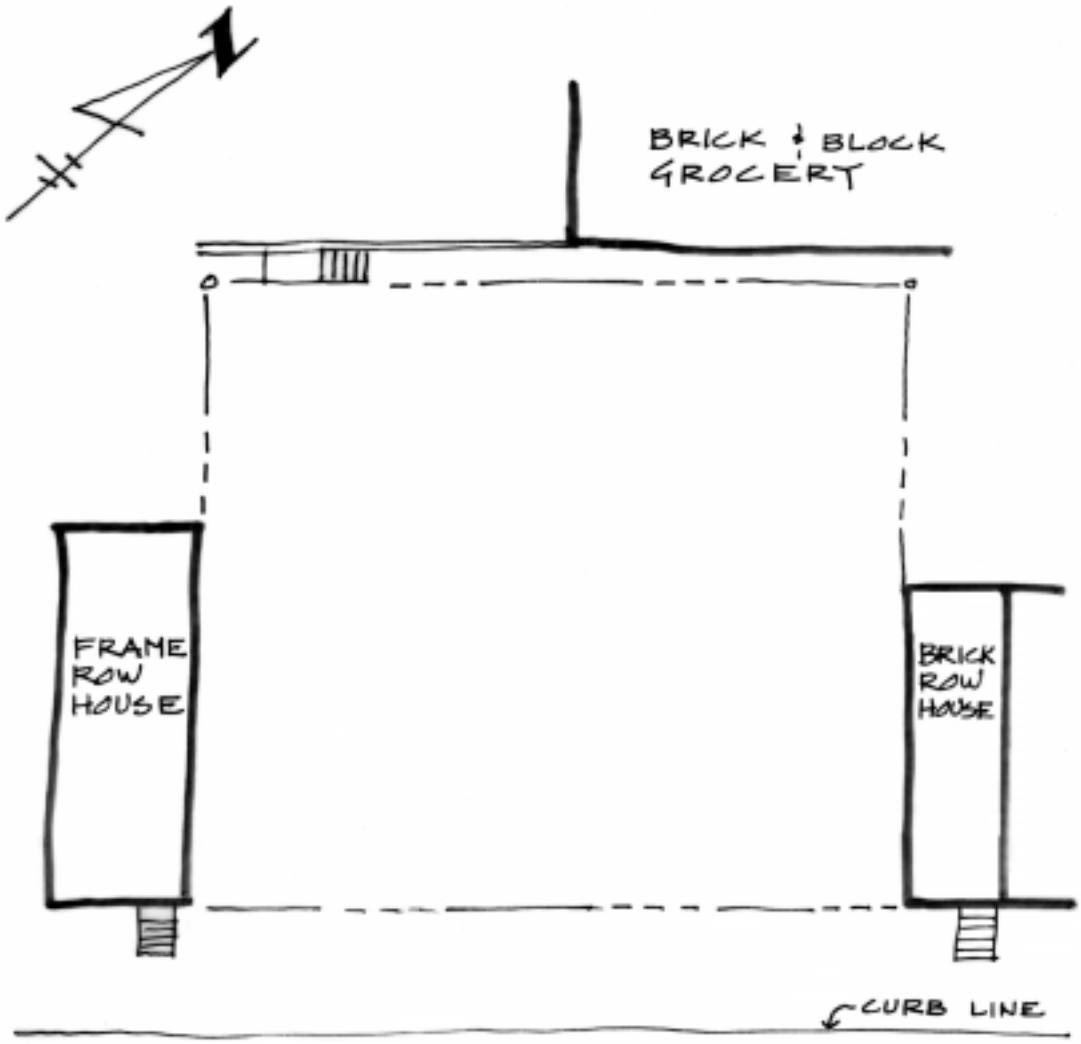
A SINGLE LOADED PARKING AREA WOULD BE 43' WIDE (25' FOR ROAD PLUS 18' FOR THE PARKING SPACE) AND 84' LONG (6 SPACES OF 10' IN WIDTH PLUS TWO 12' WIDE SPACES FOR ACCESSIBLE PARKING)

F. Building

THE ZONING ORDINANCE FOR THIS SITE REQUIRES THAT NEW CONSTRUCTION BE COMPATIBLE WITH THE EXISTING CONTEXT. ONE OF THE REQUIREMENTS IS THAT THE HEIGHT OF THE BUILDING MUST BE BETWEEN THAT OF THE ADJOINING STRUCTURES.

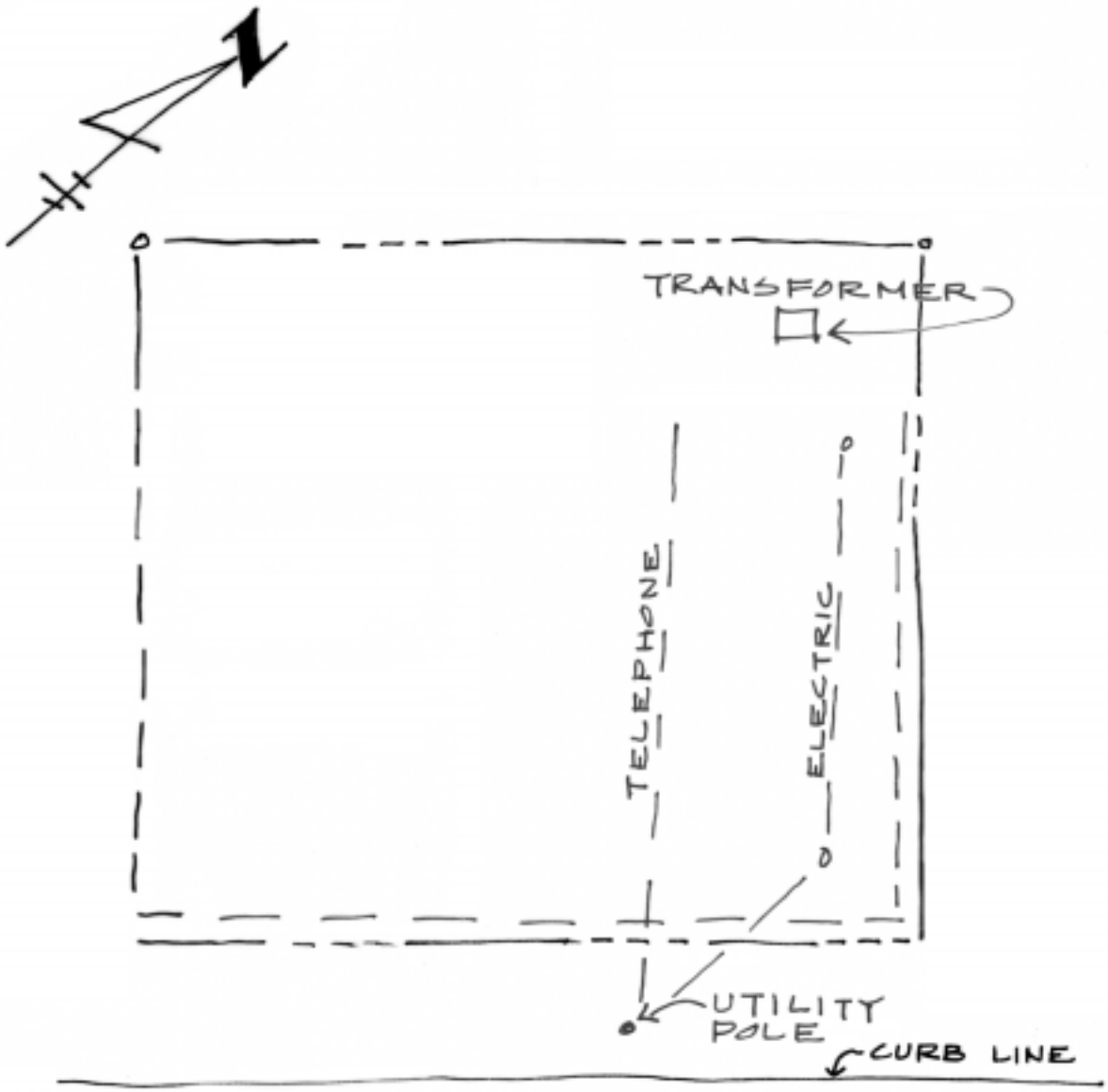
Feasibility Sketch

G. Base sketch of site.



Example (con't)

H. Usable area.



Example (con't)

I. Parking.

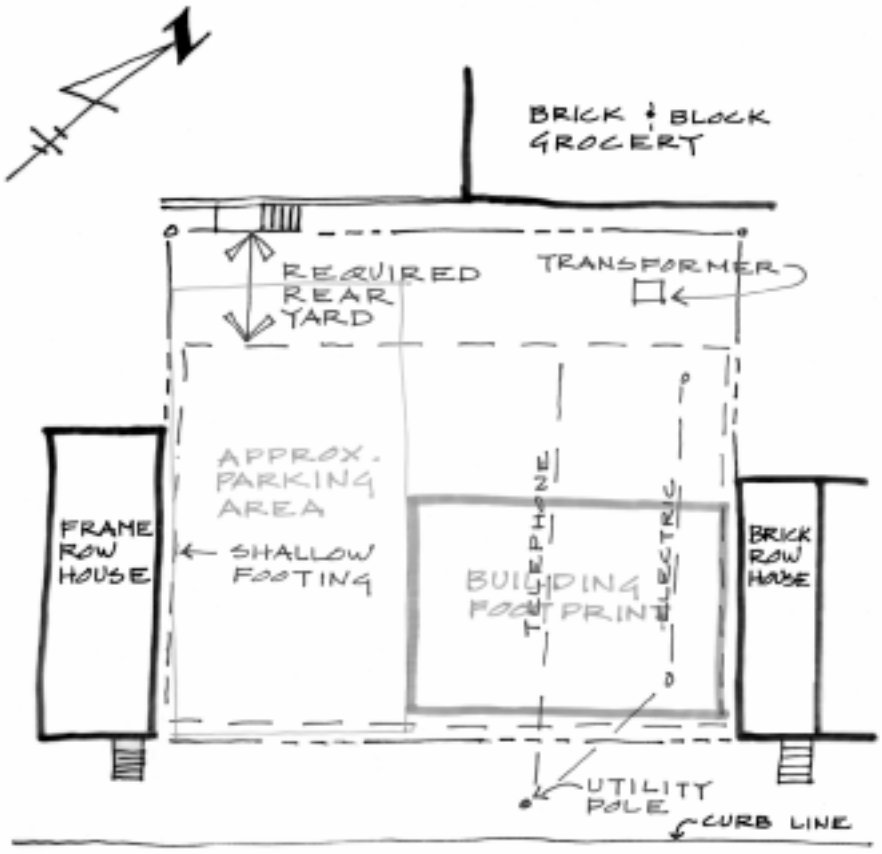
J. Basic building type(s)

THREE STORY APARTMENT BLOCK W/. ELEVATOR TO INCLUDE PROPORTIONS FROM AREA ROW HOMES.

K. Building footprint.

Example (con't)

L. Layout parking and building footprint on your site sketch.



Analysis

Discuss whether/how the site "works" and how you know. Is there 10% left over and how could you tell? What about this process made you confident that you could proceed with next phase?

SITE WORKS WELL. IT COULD ACCOMODATE MORE PARKING OR UNITS IF REQUIRED.