Carpentry

Level-II

Learning Guide-19

Unit of Competence: Read and Interprets plans and specifications

Module Title: Reading and Interpreting plans and specifications

LG Code: EIS CRP2 M05 LO4-LG-19

TTLM Code: EIS CRP2 M05 TTLM 0919v1

LO 4: Locating and identify key features on a site plan

Instruction Sheet	Learning Guide 19

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Achieving Orientation of the plan with the site
- Identifying and locating Key features of the site
- Identifying services, main features, contours and datum

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, **upon completion of this** Learning **Guide, you will be able to**:

4.1. Orientation of the plan with the site is achieved.

4.2. Key features of the site are identified and located.

4.3. Access to site is gained and services, main features, contours and datum are identified.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1, to Sheet 3”.
4. Accomplish the “Self-checks respectively.
5. If you earned a satisfactory evaluation from the “Self-checks” proceed to “Operation Sheets**.**
6. Do the “LAP test” (if you are ready).

Information Sheet-1	Achieving Orientation of the plan with the site

4.1. Achieving Orientation of the plan with the site

4.1.1 Introduction to orientation

In general, idea orientation means: you get the right amount of sun plenty in winter and in cooler climates you're sheltered from strong/cold winds but can take advantage of breezes to cool your home when it is too warm. When you're designing a home or planning renovations, there'll also be other considerations such as local climate, view, terrain, vegetation, street access and noise. You'll need to balance these against the benefits you can achieve through harnessing the sun's energy for heating and breezes for cooling. It's important to consider orientation before you buy a property (including an apartment or townhouse), or start designing a new home or renovation. It's also worth considering orientation for your existing home, especially if there are small or no windows facing north, or large areas of glazing facing east, west or south. There may be simple ways to make the most of the orientation for example, increasing the size of north-facing windows or swapping the use of existing rooms so that the sunniest rooms become your living areas.

- **Positioning for sun**

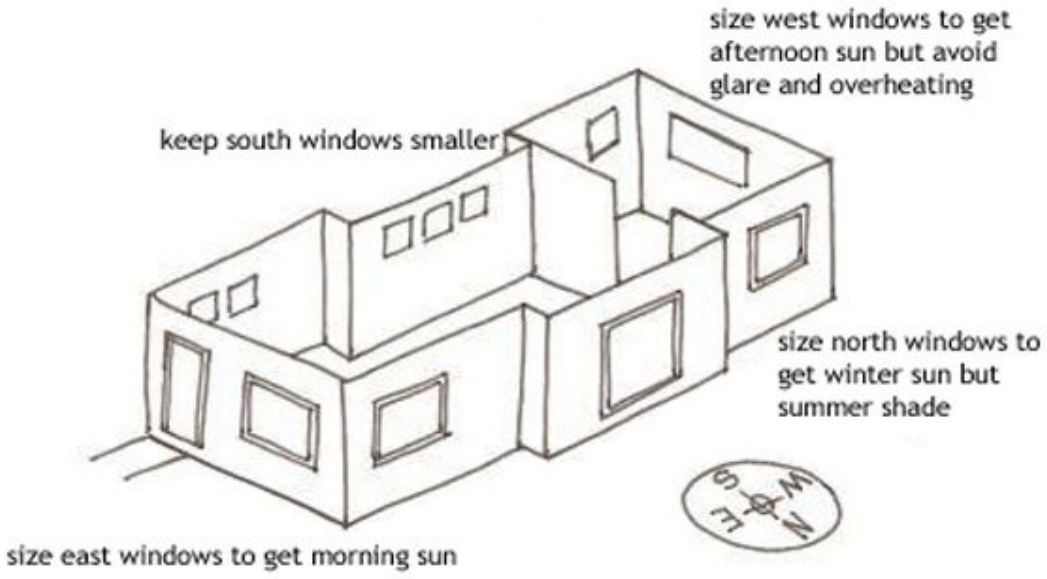
The exact amounts and proportions of glazing you choose will vary depending on other considerations such as:

- ✓ Climate
- ✓ The level of insulation in your home
- ✓ The thermal performance of windows and window frames, particularly in existing houses.

It is also worth considering the type of glazing alongside the placement and number of windows. For example, if you want south-facing windows to capture the view, consider fewer or smaller picture windows, that frame the view.

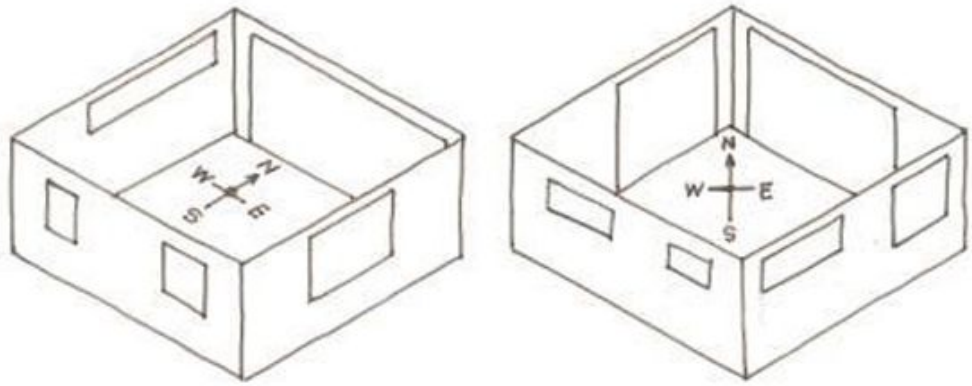
If you are building new, consider upgrading to windows better than double glazing. If you are renovating consider at least double glazing for any window you replace. And remember that frames are just as important as panes. If you are selecting your window frames, consider paying a little extra for thermally broken or high performance frames – these will significantly reduce (or possibly even eliminate) window condensation so you won't have to wipe down your windows or repaint your window sills as often.
To make the most of the sun for warmth and natural light, your home's main living areas (or any rooms you use a lot) should face north. The main glazing in the house, such as windows

and glass doors, should also face north. Anywhere between 20°W – 30°E of true north is fine.



- **Position windows to make the most of the sun.**

The sun is at its hottest at noon when it is at its peak. Because of this, ensure eaves over northern windows are wide enough to keep the sun out in summer, but not so wide that they block it from coming in during the winter.
You'll want less glazing facing west because of the potential for glare and overheating from late afternoon sun – particularly in hot, still summer climates, and if you aren't home during the day.
East-facing glazing captures morning sun and can be sized according to your preference in summer for light, heat control and ventilation. Glazing placement needs to be considered carefully to avoid issues with glare on working surfaces – particularly where there is an east-facing kitchen or study that is used in the morning.
South-facing windows receive minimal sun and should be relatively small to minimize heat loss but allow for diffused or reflected light and ventilation.
Ask your designer to run a thermal simulation of your house design and optimize the amount and positioning of glazing. This will help to prevent overheating in summer and reduce heat loss in winter.



- **Other considerations**

As well as sun and breezes, you'll also need to consider:

- ✓ How you will use the site (any garden, garage, shed, fencing, etc.)
- ✓ Views and outlooks (on your property and wider)
- ✓ Neighbors
  - ❖ For your and their privacy and security
  - ❖ Don't shade them with your house, fence or trees if you can avoid it
  - ❖ Consider neighborhood noise (for example, nearby businesses)
- ✓ Retain some windows that face the street for security and community connectedness
- Have space to park and turn a vehicle around and good visibility when leaving the property.

Safety and security includes information about house orientation and street view.

- **Striking a balance**

Achieving the ideal orientation is about striking a balance between sun, breeze and these other factors. If you compromise on orientation in order to take advantage of views, you may still be able to make your home energy-efficient by using features such as good insulation and well-placed, well-sized windows.

.

Self-Check -1	Written Test

Directions: Saying True or False for the questions listed below. Use the Answer sheet provided in the next page:

1. Orientation means: you get the right amount of sun plenty in winter and in cooler climates
2. When you're designing a home or planning renovations, local climate is no matter to be consider
3. Retain some windows that face the street for security and community connectedness are should be considered when designing

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____

Name: _____ Date: _____

1. ----------
2. ----------
3. ----------

Information Sheet- 2	Identifying and locating Key features of the site

4.2. Identifying and locating Key features of the site

4.2.1 PRE-CONSTRUCTION WORK

The Engineer and Contractor will carry out a joint condition-in survey using video or digital photographs to record the condition of the site upon handover to the Contractor. This will determine the state of the site that the Contractor must hand back upon completion of the works. The Contractor will carry out a detailed site set out survey for the works. A Pre-Construction Meeting will be held between the Engineer and the Contractor to review the following information:

- Condition-in Survey
- Site Survey
- Work Method Statement
- Program
- Schedule of Materials and Installed Equipment If the Engineer approves the above documentation, and then the Contractor will be issued with the Notice to Proceed.

The contract period begins on the day the Notice to Proceed is issued. The Contractor must mobilize on the project site within 7 calendar days of the date of issue of the Notice to Proceed. Site restrictions Site security limitations: Comply with any restrictions on site area, access or working times advised by the Engineer. Access: Access on to and within the site, use of the site for temporary works and constructional plant, including working and storage areas, location of offices, workshops, sheds, roads and parking, is restricted to the areas shown on the drawings or as agreed with the Engineer. Occupied areas of site or buildings for the parts of the site designated as occupied areas in the occupied areas schedule:

- Allow occupants to continue using the area for the required period.
- Make available safe access for occupants.
- Arrange work to minimize nuisance to occupants and ensure their safety.
- Protect occupants against weather, dust, dirt, water or other nuisance, by such means as temporary screens.

Protection of persons and property Temporary works: Provide and maintain required barricades, guards, fencing, shoring, temporary roadways, footpaths, signs, lighting and traffic flagging. Access ways, services: Do not obstruct or damage roadways and footpaths, drains and watercourses and other existing services in use on or adjacent to the site. Determine the location of such services. If damage occurs, immediately repair it at the Contractors cost. Property: Do not damage property which is to remain on or adjacent to the site, including adjoining property encroaching onto the site. If damage occurs, immediately repair it at the Contractors cost.

4.2.2 Key features of construction site

On site storage containers can be crucial to the success of a construction, remodeling or demolition project. Whether you're adding on, renovating or building from the ground up, optimal storage for tools, materials and key equipment is an essential consideration for construction companies.
However, there are some important elements you should insist upon. No matter what the size or scope of your project, look for these five important features in on site storage containers:

1. Durability in Design, Materials and Construction

The best on site storage containers for construction sites will be strong enough to both house your supplies and withstand a range of conditions. From weather changes to workplace hazards, on site storage containers should be able to handle it. The best on site storage containers are made of thick steel and embody resilient construction and design.

2. High Visibility and Safety Features

Construction sites can be dangerous enough and you're on site storage containers shouldn't add to these hazards. Look for onsite storage containers that don't have sharp edges or other elements that could pose a risk to persons on the job site. The color of on site storage containers can add to their safety and visibility as well; favor bright colors like orange or bright white. The safety of gray on site storage containers or other colors can be enhanced with reflective safety tape to assist with visibility.

3. Security for Your Tools and Equipment

The security of the contents of onsite storage containers is another component of their effectiveness. Tools, materials, equipment and other components are crucial to the success of your construction project. Favor on site storage containers that have double locking doors so that you can be assured maximum security of your items even when you are not on site.

4. Flexible and Versatile

On site storage containers should also be sizable and versatile enough to house a range of materials. Whether you need to store tools, equipment, materials, overstock or general items, the unit should be able to accommodate them. A range of size options is ideal so that you can select the perfect storage configuration for your needs. Large double doors allow for easy addition and removal of items from on site storage containers as needed.

5. A Proven Provider

lastly, on site storage containers should be obtained from a trusted, reputable source. Lakeshore Recycling Systems offers on site storage solutions for the construction industry to assist in the safe storage of tools, construction materials, equipment, overstock items and general storage. Our onsite storage containers have all of the features discussed here and more.
If you are planning a construction, renovation or demolition project, count on Lakeshore Recycling Systems for all your on site storage needs. Give us a call and we'll assist you in connecting with the perfect size, volume and quantity of on site storage containers for your outdoor storage needs.

Self-Check -2	Written Test

Directions: Match column A with column B for the questions listed below. Use the Answer sheet provided in the next page:

Column A

1. Look for onsite storage containers that don't have sharp edges or other elements that could pose a risk to persons on the job site.
2. Favor on site storage containers that have double locking doors
3. The best on site storage containers for construction sites will be strong enough
4. on site storage containers should be obtained from a trusted, reputable source

Column B

A. High Visibility and Safety Features
B. Flexible and Versatile
C. Durability in Design, Materials and Construction
D. Security for Your Tools and Equipment
E. A Proven Provider

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____

Name: _____ Date: _____

1. ----------
2. ----------
3. ----------
4. ----------

Information Sheet-3	Identifying services, main features, contours and datum

4.3. Identifying services, main features, contours and datum

4.3.1 Access to construction site

A construction site is an area or piece of land on which construction works are being carried out.
The term ‘building site’ is often used interchangeably with construction site, although this tends to indicate that building/s (and sometimes, more specifically, housing) are being constructed, whereas the term ‘construction site’ can refer to all types of works, such as road construction, sewer construction, landscaping, and so on.
Typically, land will become a construction site when it is handed over to a contractor to begin the construction works. Regulation 6 of the CDM regulations requires that notice is given to the Health and Safety Executive (HSE) as soon as is practicable before the construction phase begins. On projects involving more than one contractor, the CDM regulations also require that the client appoints a principal contractor to co-ordinate the construction phase.

In the first phase of the works, construction may be restricted to preliminary activities such as; securing the site, site clearance, setting up site facilities, demolition, ground works, and so on. It is often apparent that a site has become a construction site when hoarding is erected to secure its perimeter.
It is relatively common for sites to remain in this 'prepared' condition for some time with little evidence of further construction works being undertaken. This may be due to complexities in securing all the land required, obtaining permissions, securing all the funding required, complex ground works, ongoing design, and so on. This can leave developers open to accusations of land banking.
Once above ground works begin, construction sites may appear to progress relatively quickly as structural frames grow and cladding is installed. They may then appear to slow again as internal fit outs are undertaken and finishing work is carried out.
Typically, a construction site will revert to being a non-construction site when it is handed back to the client on certification of practical completion. However, there may be ongoing minor works required to rectify any defects that become apparent.

Construction sites can be dangerous places, and only authorized personnel should be allowed access. Dangers to non-authorized personnel include:

- Falling materials or tools.
- Falling into trenches.
- Falling from height.
- Being struck by moving plant and vehicles.
- Standing on sharp objects.
- Coming into contact with electricity or hazardous materials.
- Dust, noise and vibration.

In addition, construction sites can be vulnerable to vandalism, theft, arson, protests, and suicides and so on.

However, construction sites present a challenge in terms of securing access as:

- Their nature and layout is subject to frequent change.
- Access is required by a large number of contractors, suppliers, consultants and so on.
- They are often in highly-populated areas.
- It may be necessary to maintain user access to neighboring sites, or parts of the site itself.
- There can be time pressures to complete the works quickly.

Construction sites will generally adopt perimeter security measures to control access, both for safety purposes, and to prevent damage, theft or vandalism.

Perimeter hoarding or security fencing generally creates the primary boundary for controlling access. Hoarding is a temporary construction, of at least 2.4m that is more difficult to climb than fencing and prevents viewing of the site interior. However, can also prevent people from seeing un authorized personnel if they manage to gain access to the site. For more information, see Hoarding.

Self-Check -3	Written Test

Directions: Say True or False all the questions listed below. Use the Answer sheet provided in the next page:

1. Securing the site is one of preliminary activities
2. There is high difference b/n terms of 'building site' and 'construction site'
3. Construction sites can be dangerous places, for non-authorized but not for authorized personnel
4. Perimeter hoarding or security fencing generally creates the primary boundary for controlling access

Note: **Satisfactory rating – 3 and 4 points** **Unsatisfactory - below 3 and 4 points**
You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

True or False question

1. ----------
2. ----------
3. ----------
4. ----------

Table of Answer keys for the self checks provided on each information sheets

UNIT OF COMPETENCY: Read And Interpret Plan And Specification							
LO: 4 LG: 19 Locate and identify key features on a site plan.							
Self check: 1		Self check:2		Self check:3		Self check:4	
True or False		Matching		True or False			
1	True	1	A	1	True	1	
2	False	2	D	2	False	2	
3	True	3	C	3	False	3	
4		4	B	4	True	4	
5		5		5		5	

List of Reference Materials

- Design drawings and technical specifications AUTHORS: Rod Davis and Ross Stafford
- Designing Buildings
- Architectural Working Drawings8Ch
- Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices
- Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring By Devices Henry V. Oppermann, Chief NIST Weights and Measures Division Gaithersburg, MD 20899-2600
- Ethiopian Building Cod Standards ministry of work and urban development
- **Engineering drawing abbreviations and symbols**
- From Wikipedia, the free encyclopedia
- READ AND INTERPRET PLANS AND SPECIFICATIONS CERTIFICATE II IN BUILDING AND CONSTRUCTION (PATHWAY – PARAPROFESSIONAL) CPCCCM2001A LEARNER'S GUIDE on BUILDING AND CONSTRUCTION

The trainers prepare TTLM

No	Name	Qualification level	Region	TVET College	Phone number	E-mail address
1	Zeyede Tekle	B	Dire dawa	DDPTC	0921153259	zedjesus22@gmail.com
2	Yibeltal Shitie	B	Amhara	MOTTA PTC	0912455288	yibecon2019@gmail.com
3	Mihiretu Hambisa	B	Oromia	NEKEMTIE PTC	0910195546	mihambi@gmail.com
4	Tariku W/Agegne	A	SNNP	DILLA PTC	0916512167	mamush572@gmail.com
5	Fikrie Shiferaw	A	Somale	JIJIGA PTC	0913294412	

Facilitator

No	Name	Region	TVET Bureau	Email	Phone no
1	Tilahun Tesfaye	Amhara	Amhara TVET Bureau	Tilahuntesfaye eewnetu@gmail.com	0940651823
2	Abere Dagnaw	Amhara	Amhara TVET Bureau	Aberedagnaw10@gmail.com	09 18 1 41 11
3	Abdulahi Muktare	Somale	Somalia TVET Bureau		0935635068