COMPETENCY STANDARD

CONSTRUCTION SITE SUPERVISION

Level: 4

(Construction Sector)

Competency Standard Code: CS-CON-CSS-L4-EN-V1

National Skills Development Authority
Prime Minister's Office
Government of the People's Republic of Bangladesh

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National Skills Development Authority
Prime Minister's Office
Level: 10-11, Biniyog Bhaban,
E-6 / B, Agargaon, Sher-E-Bangla Nagar Dhaka-1207, Bangladesh.
Email: ec@nsda.gov.bd
Website: www.nsda.gov.bd.
National Skills Portal: http:\\skillsportal.gov.bd

This Competency Standard for **Construction Site Supervision** occupation is a document for the development of curricula, teaching and learning materials, and assessment tools. It also serves as the document for providing training consistent with the requirements of industry in order to meet the qualification of individuals who graduated through the established standard via competency-based assessment for a relevant job.

This document has been developed by NSDA in association with Construction Sector, industry representatives, academia, related specialist, trainer and related employee.

Public and private institutions may use the information contained in this standard for activities benefitting Bangladesh.

Introduction

The NSDA aims to enhance an individual's employability by certifying completeness with skills. NSDA works to expand the skilling capacity of identified public and private training providers qualitatively and quantitatively. It also aims to establish and operationalize a responsive skills ecosystem and delivery mechanism through a combination of well-defined set of mechanisms and necessary technical supports.

Key priority economic growth sectors identified by the government have been targeted by NSDA to improve current job skills along with existing workforce to ensure required skills to industry standards. Training providers are encouraged and supported to work with industry to address identified skills and knowledge to enable industry growth and increased employment through the provision of market responsive inclusive skills training program. " **Construction Site Supervision** " is selected as one of the priority occupations of Construction Sector. This standard is developed to adopt a demand driven approach to training with effective inputs from Industry Skills Councils (ISC's), employer associations and employers.

Generally, a competency standard informs curriculum, learning materials, assessment and certification of trainees enrolled in Skills Training. Trainees who successfully pass the assessment will receive a qualification in the National Skills Qualification Framework (NSQF) under Bangladesh National Qualification Framework and will be listed on the NSDA's online portal.

This competency standard is developed to improve skills and knowledge in accordance with the job roles, duties and tasks of the occupation and ensure that the required skills and knowledge are aligned to industry requirements. A series of stakeholder consultations, workshops were held to develop this document.

The document also details the format, sequencing, wording and layout of the Competency Standard for an occupation which is comprised of Units of Competence and its corresponding Elements.

Overview

A competency standard is a written specification of the knowledge, skills and attitudes required for the performance of an occupation, trade or job corresponding to the industry standard of performance required in the workplace.

The purpose of a competency standards is to:

- provide a consistent and reliable set of components for training, recognising and assessing people's skills, and may also have optional support materials
- enable industry recognised qualifications to be awarded through direct assessment of workplace competencies
- encourage the development and delivery of flexible training which suits individual and industry requirements
- encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes

Competency standards are developed by a working group comprised of representative from NSDA, Key Institutions, ISC, and industry experts to identify the competencies required of an occupation in Construction Sector.

Competency standards describe the skills, knowledge and attitude needed to perform effectively in the workplace. CS acknowledge that people can achieve technical and vocational competency in many ways by emphasizing what the learner can do, not how or where they learned to do it.

With competency standards, training and assessment may be conducted at the workplace or at training institute or any combination of these.

Competency standards consist of a number of units of competency. A unit of competency describes a distinct work activity that would normally be undertaken by one person in accordance with industry standards.

Units of competency are documented in a standard format that comprises of:

- unit title
- nominal duration
- unit code
- unit descriptor
- elements and performance criteria
- variables and range statement
- curricular content guide
- assessment evidence guides

Together, all the parts of a unit of competency:

- describe a work activity
- guide the assessor to determine whether the candidate is competent or not yet competent

The ensuing sections of this document comprise of a description of the relevant occupation, trade or job with all the key components of a unit of competency, including:

- a chart with an overview of all Units of Competency for the relevant occupation, trade or job including the Unit Codes and the Unit of Competency titles and corresponding Elements
- the Competency Standard that includes the Unit of Competency, Unit Descriptor, Elements and Performance Criteria, Range of Variables, Curricular Content Guide and Assessment Evidence Guide.

Competency Standards for National Skill Certificate, Level-04 in Construction Site Supervision of Construction Sector

Level Descriptors of NSQF (BNQF 1-6)

Level & Job classification	Knowledge Domain	Skills Domain	Responsibility Domain
6-Mid-Level Manager/ Sub Assistant Engineer	Comprehensive actual and theoretical knowledge within a specific work or study area with an awareness of the validity and limits of that knowledge, able to analyse, compare, relate and evaluate.	Specialised and wider range of cognitive and practical skills required to provide leadership in the development of creative solutions to defined problems. Communicate professional issues and solutions to the team and to external partners/users.	Work under broad guidance and self-motivation to execute strategic and operational plan/s. Lead lower-level management. Diagnose and resolve problems within and among work groups.
5-Supervisor	Broad knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to scrutinize and break information into parts by identifying motives or causes.	Broad range of cognitive and practical skills required to generate solutions to specific problems in one or more work or study areas. Communicate practice-related problems and possible solutions to external partners.	Work under guidance of management and self-direction to resolve specific issues. Lead and take responsibility for the work and actions of group/team members. Bridge between management.
4-Highly Skilled Worker	Broader knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to solve problems to new situations by comparing and applying acquired knowledge.	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying the full range of methods, tools, materials and information. Communicate using technical terminology and IT technology with partners and users as per workplace requirements.	Work under minimal supervision in specific contexts in response to workplace requirements. Resolve technical issues in response to workplace requirements and lead/guide a team/ group.
3-Skilled Worker	Moderately broad knowledge in a specific work or study area, able to perceive ideas and abstract from drawing and design according to workplace requirements.	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools. Communicate with his team and limited external partners upholding the values, nature and culture of the workplace	Work or study under supervision with considerable autonomy. Participate in teams and responsible for group coordination.
2-Semi Skilled Worker	Basic understanding of underpinning knowledge in a specific work or study area, able to interpret and apply common occupational terms and instructions.	Skills required to carry out simple tasks, communicate with his team in the workplace presenting and discussing results of his work with required clarity.	Work or study under supervision in a structured context with limited scope of manipulation
1 –Basic Skilled Worker	Elementary understanding of ability to interpret the underpinning knowledge in a specific study area, able to interpret common occupational terms and instructions.	Specific Basic skills required to carry out simple tasks. Interpret occupational terms and present the results of own work within guided work environment/ under supervision.	Work under direct supervision in a structured context with limited range of responsibilities.

List of Abbreviations

CS	Competency Standard
ISC	Industry Skills Council
NSDA	National Skills Development Authority
NSQF	National Skills Qualifications Framework
OSH	Occupational Safety and Health
PPE	Personal Protective Equipment
SCVC	Standards and Curriculum Validation Committee
STP	Skills Training Provider
SOP	Standard Operating Procedure
UoC	Unit of Competency
FPS	Foot, Pound, Second
MKS	Meter, Kilogram, Second

Approval of Competency Standard:

Approved by

25th Authority Meeting of NSDA

Held on 11.04.2023

Table of Contents

Competency Standards for National Skill Certificate, Level-4 in Construction Site Supervision of Construction Sector

Course Structure

SL No	Unit code and Title		UOC Level	Nominal (hours)
Generic Units of Competencies				
1.	GU-02-L2-V1	Apply Occupational Safety and Health (OSH) Practices at Workplace	2	15
2.	GU-11-L2-V1	Lead Small Team	4	20
Sub Total				**35**
Sector Specific Units of Competencies				
3.	SU-CON-01-L2-V1	Work Effectively in the Construction Sector	2	15
4.	SU-CON-02-L2-V1	Interpret Drawings and Specifications in Construction Manuals	2	20
Sub Total				**35**
Occupation Specific Units of Competencies				
5.	OU-CSS-01-L4-V1	Perform Fundamental Supervisory Works in Construction	4	40
6.	OU-CSS-02-L4-V1	Supervise Construction Project	4	40
7.	OU-CSS-03-L4-V1	Manage and Maintain Construction Sites / Projects.	4	70
8.	OU-CSS-04-L4-V1	Follow Safety and Building Codes	4	20
9.	OU-CSS-05-L4-V1	Prepare Progress Reports.	4	50
10.	OU-CSS-06-L4-V1	Estimate Cost of Construction Works	4	70
Sub Total				**290**
Total Duration				**360**

Units & Elements at Glance

Generic Competencies

Code	Unit of competency	Elements of competency	Duration (hours)
GU-02-L2-V1	Apply Occupational Safety and Health (OSH) Practices at Workplace	1. Identify OSH policies and procedures. 2. Follow OSH procedure 3. Report hazards and risks. 4. Respond to emergencies 5. Maintain personal well-being	15
GU-11-L4-V1	Lead Small Team	1. Provide team leadership 2. Assign responsibilities 3. Set performance expectations for team members 4. Supervise team performance	20
		Total hours	**35**

Sector specific competencies

Code	Unit of competency	Elements of competency	Duration (hours)
SU-CON-01-L2-V1	Work Effectively in the Construction Sector	1. Identify the organizational structure within the sector 2. Identify work processes and procedures 3. Identify workplace requirements 4. Organize own workload	15
SU-CON-02-L2-V1	Interpret Drawings and Specifications in Construction Manuals	1. Identify information from manuals 2. Identify drawings and specifications 3. Interpret drawings and specifications	20
		Total hours	**35**

Occupation specific competencies

Code	Unit of competency	Elements of competency	Duration (hours)
OU-CSS-01-L4-V1	Perform Fundamental Supervisory Works in Construction	1. Prepare work plan 2. Identify hand & power tools. 3. Interpret Construction Drawing & Specifications 4. Identify building components 5. Manage supervisory works with contractors 6. Interpret finishing work.	40
OU-CSS-02-L4-V1	Supervise construction project	1. Identify water supply layouts 2. Interpret sewerage & drainage layouts 3. Interpret ventilation & air distribution layouts. 4. Supervise requirements & layout for electrical installation 5. Supervise the design of the fire protection system.	40
OU-CSS-03-L4-V1	Manage and maintain construction sites / projects.	1. Manage construction team 2. Distribute & orient work in job duties and company policies 3. Supervise the administration & payment processes 4. Maintain on-site communications. 5. Monitor work progress 6. Control quality of compliance issues	70
OU-CSS-04-L4-V1	Follow Safety and Building Codes	1. Identify Building Codes & Practices in Bangladesh 2. Maintain a safe secure and healthy work environment.	20
OU-CSS-05-L4-V1	Prepare Progress Reports.	1. Organize checklist for works 2. Arrange Report on Progress of Construction work.	50
OU-CSS-06-L4-V1	Estimate cost of construction works	1. Calculate length, wide and height of the construction area. 2. Interpret plans & specifications 3. Calculate labor costs 4. Interpret projects costs	70
		Total Hours	**290**

Generic Units of Competencies

Unit Code and Title	**GU-02-L2-V1: Apply Occupational Safety and Health (OSH) Procedure in the Workplace**
Unit Descriptor	This unit covers the knowledge, skills and attitudes (KSA) required in applying occupational safety and health (OSH) procedures in the workplace. It specifically includes identifying OHS policies and procedures, following OSH procedure, reporting to emergencies, and maintaining personal well-being.
Nominal Hours	**15 Hours**
Elements of Competency	**Performance Criteria** **Bold & Underlined** terms are elaborated in the Range of Variables
1. Identify OSH policies and procedures.	1.1. **OHS policies** and **safe operating procedures** are accessed and stated. 1.2. **Safety signs and symbols** are identified and followed. 1.3. Emergency response, evacuation procedures and other contingency measures are determined according to workplace requirements.
2. Follow OSH procedure	2.1 **Personal protective equipment (PPE)** is selected and collected as required. 2.2 Personal protective equipment (PPE) is correctly used in accordance with organization OHS procedures and practices. 2.3 A clear and tidy workplace is maintained as per workplace standard. 2.4 PPE is maintained to keep them operational and compliant with OHS regulations.
3. Report hazards and risks.	3.1 **Hazards** and risks are identified, assessed and controlled. 3.2 Incidents arising from hazards and risks are reported to designated authority.
4. Respond to emergencies	4.1 Alarms and warning devices are responded. 4.2 Workplace **emergency procedures** are followed. 4.3 **Contingency measures** during workplace accidents, fire and other emergencies are recognized and followed in accordance with organization procedures. 4.4 Frist aid procedures is applied during emergency situations.
5. Maintain personal well-being	5.1 OHS policies and procedures are adhered to. 5.2 OHS awareness programs are participated in as per workplace guidelines and procedures. 5.3 Corrective actions are implemented to correct unsafe condition in the workplace.

	5.4 **<u>"Fit to work" records</u>** are updated and maintained according to workplace requirements.
Range of Variables	
Variables	**Range** (may include but not limited to):
1. OHS Policies	1.1. Bangladesh standards for OHS 1.2. Fire Safety Rules and Regulations 1.3. Code of Practice 1.4. Industry Guidelines
2. Safe Operating Procedures	2.1 Orientation on emergency exits, fire extinguishers, fire escape, etc. 2.2 Emergency procedures 2.3 First Aid procedures 2.4 Tagging procedures 2.5 Use of PPE 2.6 Safety procedures for hazardous substances
3. Safety Signs and symbols	3.1 Direction signs (exit, emergency exit, etc.) 3.2 First aid signs 3.3 Danger Tags 3.4 Hazard signs 3.5 Safety tags 3.6 Warning signs
4. Personal Protective Equipment (PPE)	4.1 Gas Mask 4.2 Gloves 4.3 Safety boots 4.4 Face mask 4.5 Overalls 4.6 Goggles and safety glasses 4.7 Sun block 4.8 Chemical/Gas detectors
5. Hazards	5.1 Chemical hazards 5.2 Biological hazards 5.3 Physical Hazards 5.4 Mechanical and Electrical Hazard 5.5 Mental hazard 5.6 Ergonomic hazard
6. Emergency Procedures	6.1 Fire fighting 6.2 Earthquake 6.3 Medical and first aid 6.4 evacuation`
7. Contingency measures	7.1 Evacuation 7.2 Isolation

	7.3 Decontamination
8. "Fit to Work" records	8.1 Medical Certificate every year 8.2 Accident reports, if any 8.3 Eye vision certificate
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent, recent and meet all requirements of current version of the Unit of Competency	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 stated OHS policies and safe operating procedures 1.2 followed safety signs and symbols 1.3 used personal protective equipment (PPE) 1.4 maintained workplace clear and tidy 1.5 assessed and Controlled hazards 1.6 followed emergency procedures 1.7 followed contingency measures 1.8 implemented corrective actions
2. Underpinning knowledge	2.1 Define OHS 2.2 OHS Workplace Policies and Procedures 2.3 Work Safety Procedures 2.4 Emergency Procedures 2.5 Hazard control procedure 2.6 Different types of Hazards 2.7 PPE and there uses 2.8 Personal Hygiene Practices 2.9 OHS Awareness
3. Underpinning skills	3.1 Accessing OHS policies 3.2 Handling of PPE 3.3 Handling cleaning tools and equipment 3.4 Writing report 3.5 Responding to emergency procedures
4. Required attitude	4.1 Commitment to occupational health and safety 4.2 Sincere and honest to duties 4.3 Promptness in carrying out activities 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect of peers and seniors in workplace 4.8 Communicate with peers and seniors in workplace
5. Resource implications	5.1 Workplace 5.2 Equipment and outfits appropriate in applying safety measures

	5.3 Tools, materials and documentation required 5.4 OHS Policies and Procedures
6. Methods of assessment	Competency should be assessed by: 6.1 Written test 6.2 Demonstration 6.3 Oral Questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NSQF qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Unit Code and Title	**GU-11-L4-V1: Lead Small Team**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to lead small team. It specifically includes – provide team leadership; assign responsibilities; set performance expectations for team members; and supervised team performance.
Nominal Hours	**20 Hours**
Elements of Competency	**Performance Criteria** **Bold & Underlined** terms are elaborated in the Range of Variables
1. Provide team leadership	1.1 **Work requirements** are identified and presented to team members 1.2 Reasons for instructions and requirements are communicated to team members 1.3 **Team members' queries and concerns** are recognized, discussed and dealt with
2. Assign responsibilities	2.1 Duties, and responsibilities are allocated having regard to the skills, knowledge and attitudes required to properly undertake the assigned task 2.2 Duties are allocated having regard to individual preference, domestic and personal considerations, whenever possible
3. Set performance expectations for team members	3.1 Performance expectations are established based on client needs and according to assignment requirements 3.2 Performance expectations are based on individual team members' duties and area of responsibility 3.3 Performance expectations are discussed and directed to implement in the workplace
4. Supervise team performance	4.1 **Monitoring of performance** are taken place against defined performance criteria and / or assignment instructions and corrective action taken if required 4.2 Team members are provided **feedback**, positive support and advice on strategies to overcome any deficiencies 4.3 **Performance issues** which cannot be rectified or addressed within the team are referenced to appropriate personnel 4.4 Team members are kept informed of any changes in the priority allocated to assignments or tasks which might impact on clients' / customers' needs and satisfaction 4.5 Team operations are monitored to ensure that employer / client needs and requirements are met 4.6 Follow-up communication is provided on all issues affecting the team 4.7 All relevant documentation is completed

Range of Variables	
Variable	**Range** (may include but are not limited to):
1. Work requirements	1.1 Client Profile 1.2 Assignment instructions
2. Team member's queries and concerns	2.1 Roster 2.2 Shift details
3. Monitoring of performance	3.1 Formal process 3.2 Informal process
4. Feedback	4.1 Formal process 4.2 Informal process 4.3 Sandwich process
5. Performance issues	5.1 Work output 5.2 Work quality 5.3 Team participation 5.4 Compliance with workplace protocols 5.5 Safety 5.6 Customer service
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent, recent and meet all requirements of current version of the Unit of Competency.	
1. Critical aspects of competency	1.1 Maintained or improved individuals and / or team performance given a variety of possible scenario 1.2 Assessed and monitored team and individual performance against set criteria 1.3 Represented concerns of a team and individual to next level of management or appropriate specialist and to negotiate on their behalf 1.4 Allocated duties and responsibilities, having regard to individual's knowledge, skills and attitude and the needs of the tasks to be performed 1.5 Set and communicated performance expectations for a range of tasks and duties within the team and provided feedback to team members
2. Underpinning knowledge	2.1 Company policies and procedures 2.2 Relevant legal requirements 2.3 How performance expectations are set 2.4 Methods of Monitoring Performance 2.5 Client expectations 2.6 Team members' duties and responsibilities
3. Underpinning skills	3.1 Informal performance counselling skills

	3.2 Team building skills 3.3 Negotiating skills
4. Required attitudes	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere and honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect for rights of peers and seniors in workplace 4.8 Communicate with peers and seniors in workplace
5. Resource implications	The following resources must be provided: 5.1 Workplace (actual or simulated) 5.2 Tools, equipment and facilities appropriate to processes or activity 5.3 Materials relevant to the proposed activity 5.4 Equipment and outfits appropriate in applying safety measures 5.5 Relevant drawings, manuals, codes, standards and reference material
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training centre or in an actual or simulated workplace after completion of the training module 7.2 Assessment should be done by NSDA certified assessor
Accreditation Requirements Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NSQF qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

Sector Specific Units of Competencies

Unit Code and Title	**SU-CON-01-L2-V1: Work Effectively in the Construction Sector**
Unit Descriptor	This unit covers the skills, knowledge and attitude required to work effectively in the construction sector. It specifically includes the task of identifying the organizational structure, interpreting processes and procedures, identifying workplace requirements and organizing own workload.
Nominal Hours	**15 Hours**
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the Range of Variables.
1. Identify the organizational structure	1.1 Scope, nature and **major fields** of the construction sector are identified 1.2 The profile of the construction sector in relation to Bangladesh **employment conditions** is identified 1.3 Trends and technologies relevant to the sector are interpreted. 1.4 Relevant policies and guidelines are identified and accessed. 1.5 **Instructions** as to procedures in achieving quality are maintained.
2. Interpret processes and procedures	2.1 Construction processes and procedure are interpreted 2.2 Work activities are identified. 2.3 Adjustments are interpreted.
3. Identify workplace requirements	3.1 **Workplace requirements** are identified. 3.2 Own roles and responsibilities in the workplace are interpreted. 3.3 Workplace practices are interpreted. 3.4 **Problem-solving strategies** are identified.
4. Organize own workload	4.1 Own work activities are planned and progress of work is communicated to relevant staff. 4.2 Work activities are performed. 4.3 Difficulties are identified and solutions are put forwarded. 4.4 Own work is monitored against workplace standards and areas for improvement identified and acted upon.
Range of Variables	
Variables	**Range** (may include but not limited to):
1. Major Fields	1.1 Residential building construction 1.2 Industrial and commercial building construction 1.3 Roads & highway construction 1.4 Bridge & culvert construction 1.5 Railway construction

	1.6 Foundation works (anchoring and piling) 1.7 Pipelaying 1.8 Tunnel/marine construction 1.9 Mass rapid transit (MRT) and Bus rapid transit (BRT)
2. Employment conditions	2.1 Code of practice 2.2 Salary/wage system 2.3 Labor practices 2.4 Gender issues 2.5 Awards 2.6 Procedures for handling disputes
3. Instructions	3.1 Specifications and requirements 3.2 Standard operating procedures 3.3 Manuals of instruction 3.4 Operations manual 3.5 Environmental guidelines 3.6 Gender and develop guidelines
4. Workplace requirements	4.1 Goals and objectives 4.2 Strategic and operational plans 4.3 Systems and processes 4.4 Monitoring and evaluation 4.5 Reports and documentation
5. Problem-solving strategies	5.1. Asking questions 5.2. Feedback and feed forward system 5.3. Reference to standard operating procedures 5.4. Accessing information 5.5. Reviews 5.6. Brainstorming
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 identified the organizational structure 1.2 interpreted processes and procedures 1.3 identified workplace requirements 1.4 organized own workload
2. Underpinning knowledge	2.1 Scope and major divisions of the construction workplace 2.2 Relevant policies and guidelines in the construction workplace 2.3 Manuals used in the construction workplace 2.4 Relevant terminologies and acronyms 2.5 Workplace practices 2.6 Recording and reporting practices

3. Underpinning skills	3.1 Interpreting the organization structure 3.2 Identifying construction processes and procedures 3.3 Identifying tools, equipment and materials 3.4 Identifying workplace practices 3.5 Organizing own workload 3.6 Practicing OHS
4. Underpinning attitudes	4.1 Commitment to occupational health and safety 4.2 Environmental concerns 4.3 Eagerness to learn 4.4 Tidiness and timeliness 4.5 Respect for rights of peers and seniors in workplace
5. Resource implications	The following resources must be available: 5.1 workplace (actual or simulated) 5.2 tools, equipment, materials and physical facilities appropriate to perform activities 5.3 relevant drawings, manuals and reference materials 5.4 required PPE.
6. Methods of assessment	Competency should be assessed by 6.1 Demonstration 6.2 Oral questioning 6.3 Written test
7. Context of assessment	7.1. Competency assessment must be done in NSDA accredited assessment centre 7.2. Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NSQF qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Unit Code and Title	**SU-CON-02-L2-V1: Interpret Drawings and Specifications in Construction Manuals**
Nominal Hours	**20 Hours**
Unit Descriptor	This unit covers the knowledge, skill and attitude required to interpret drawings and specifications in construction manuals. It specifically includes the task of identifying information from manuals, drawings and specifications and interpreting drawings and specifications.
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the Range of Variables.
1. Identify information from manuals	1.1 Appropriate **manuals** are identified and accessed. 1.2 Version and date of the manual are checked to ensure up-to-date specifications of tools, equipment, materials and procedures.
2. Identify drawings and specifications	2.1 Relevant **drawings** and specifications are identified. 2.2 Terms and abbreviations are identified. 2.3 Signs and symbols are identified
3. Interpret drawings and specifications	3.1 Drawings and specifications are interpreted. 3.2 Dimensions and specifications contained in the drawings are interpreted. 3.3 Documents are stored to prevent damage, and ready access and updating of information when required.
Range of Variables	
Variables	**Range** (may include but not limited to):
1. Manuals	1.1 Maintenance Procedure Manual 1.2 Periodic Maintenance Manual 1.3 Quality Manual 1.4 Manual of Instruction
2. Drawings	2.1 Technical drawings 2.2 Working drawings
Evidence Guide The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 identified information from manuals 1.2 identified drawings and specifications 1.3 interpreted drawings and specifications

2. Underpinning knowledge	2.1 Types of drawing 2.2 Identification of signs and symbols 2.3 Identification of units of measurement 2.4 Identification of units of conversion 2.5 Terms and abbreviations used 2.6 Construction manual
3. Underpinning skills	3.1 Identifying appropriate manuals 3.2 Identifying drawings and specifications 3.3 Interpreting drawings and specifications 3.4 Identifying sign and symbols
4. Underpinning attitudes	4.1 Commitment to occupational health and safety 4.2 Environmental concerns 4.3 Eagerness to learn 4.4 Tidiness and timeliness 4.5 Respect for rights of peers and seniors in workplace
5. Resource implications	The following resources must be available: 5.1 workplace (actual or simulated) 5.2 tools, equipment, materials and physical facilities appropriate to perform activities 5.3 relevant drawings, manuals and reference materials 5.4 required PPE.
6. Methods of assessment	Competency should be assessed by: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of any NSQF/BNQF qualification. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Occupation Specific Units of Competencies

Unit Code and Title	**OU-CSS-01-L4-V1: Perform Fundamental Supervisory Works in Construction**
Unit Descriptor	This unit covers the knowledge, skills and attitude required to perform fundamental supervisory works in construction. It includes – preparing work plan, identifying hand and power tools, interpreting construction drawings and specification's, identifying building components, managing supervisory works with contractors and interpreting finishing work.
Nominal Hours	**40 Hours**
Elements of competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the Range of variables
1. Prepare work plan	1.1. **Drawings** are collected as per job requirements. 1.2. Drawings are interpreted as per technical drawings. 1.3. Require tools, equipment and materials is ensured. 1.4. Require **manpower** is ensured as per job requirement. 1.5. **Work plan** is prepared as per job requirement.
2. Identify hand tools, power tools, equipment and materials of construction work	2.1. **PPE** is used as per the nature of the job. 2.2. **Hand tools** are identified based on job requirements. 2.3. **Power tools** are identified based on job requirements. 2.4. **Equipment** is identified based on job requirements. 2.5. **Materials** are identified based on job requirements 2.6. **Applications** of tools are defined. 2.7. Unsafe or faulty tools are identified and reported to project engineer.
3. Interpret Construction Drawings and Specifications	3.1. Types of drawings are identified. 3.2. Drawings are checked and confirmed with the assistance of the project engineer. 3.3. **Specifications** of drawings are interpreted. 3.4. Common construction terms and abbreviations are interpreted. 3.5. Common construction signs and symbols are interpreted. 3.6. Schedules, dimensions, clearances and tolerances contained in the drawings are interpreted.
4. Identify building components	4.1. The model building structure is collected. 4.2. Main **Building Components** are identified from a model building structure. 4.3. The function of the main building components is interpreted. 4.4. Name of the main building components is listed.
5. Manage supervisory	5.1. Selected **Contractors** are ensured as per job requirements. 5.2. Approved drawings and designs are provided to relevant contractors. 5.3. Work progress is monitored as per job requirements.

works with contractors	5.4. Unsafe or faulty works are identified and ensured for repair according to workplace procedures 5.5. The working area and risk issues are identified and reported to the authority;
6. Interpret finishing work.	6.1. **Finishing works** are identified. 6.2. Finishing works are interpreted as per job requirements. 6.3. **Quality issues** of finishing works are interpreted.
Range of Variables	
Variable	**Range** (May Include but are not limited to):
1. Drawings	1.1 Technical drawings 1.2 Working drawings
2. Manpower	2.1 Foreman 2.2 Labor 2.3 Electrician 2.4 Mason 2.5 Tiles fitter 2.6 Plumber 2.7 Rod binder 2.8 Carpenter 2.9 Welder 2.10 Painter
3. Work plan	3.1 Daily work plan 3.2 Weekly work plan 3.3 Monthly work plan
4. Personal Protective Equipment (PPE)	4.1. Dust mask 4.2. Safety glasses/Goggles 4.3. Gloves 4.4. Harness 4.5. Safety belt 4.6. Safety shoes/boots 4.7. Aprons 4.8. Face masks 4.9. Helmet 4.10. Ear plug
5. Hand tools	5.1 Measuring tape 5.2 Hammer 5.3 Nail removing handle/claw bar 5.4 Try square 5.5 Trowel 5.6 Wooden float 5.7 Manual Tile cutter

	5.8 Sprit level 5.9 Water level 5.10 Bolt cutter 5.11 Hand saw 5.12 Sheet cutter 5.13 Plumb bob 5.14 Steel wire brush 5.15 Files 5.16 Pliers 5.17 Cutting pliers 5.18 Wrench 5.19 Adjustable Spanner 5.20 Hand drill 5.21 Chisel
6. Power tools	6.1 Circular saw 6.2 Electric drill machine 6.3 Hammer drill machine 6.4 Compactor hammer 6.5 Nail gun 6.6 Wire cutter 6.7 Winch machine 6.8 Angle grinding machine 6.9 Concrete breaker machine
7. Equipment	7.1 Concrete mixer machine 7.2 Brick crushing machine 7.3 Tower hoist 7.4 Excavator 7.5 Vibrator 7.6 Roof hoist
8. Materials	8.1 Cement 8.2 Sand 8.3 Stone 8.4 Bricks 8.5 Water 8.6 Reinforcement 8.7 Admixture 8.8 Shuttering materials
9. Application	9.1. Adjusting 9.2. Aligning 9.3. Assembling 9.4. Boring 9.5. Clamping

	9.6. Cleaning 9.7. Cutting 9.8. Finishing 9.9. Hand sharpening 9.10. Lubricating 9.11. Scraping 9.12. Simple tool repairs 9.13. Threading 9.14. Tightening 9.15. Testing
10. Specifications	10.1. Product specifications 10.1.1. Material types 10.1.2. Standards of work 10.1.3. Tolerances 10.1.4. Treatments and finishes 10.2. Method specifications
11. Building components	11.1. Pile 11.2. Pile cap 11.3. Foundation 11.4. Underground water reservoir 11.5. Septic tank / soak well 11.6. Lift core 11.7. Grade beam 11.8. Short column 11.9. Stair 11.10. Beam 11.11. Column (Super Structure) 11.12. Slab 11.13. Lintel 11.14. Sunshade 11.15. Ribs 11.16. Parapet wall 11.17. Drop wall 11.18. Shear wall 11.19. Balcony 11.20. Overhead water tank
12. Contractors	12.1. Civil 12.2. Piling 12.3. Electrical 12.4. Sanitary and plumbing 12.5. Grill 12.6. Aluminum and glass

	12.7. Tiles 12.8. Paints 12.9. Wooden 12.10. Lime terracing 12.11. Floor finishing 12.12. Supplier
13. Finishing works	13.1. Brickwork 13.2. Door frame and window frame 13.3. Plasterwork 13.4. Electrical wiring 13.5. Aluminum Composite Panel (ACP) cladding 13.6. Ceramic cladding 13.7. Tiles work 13.8. Plumbing work 13.9. Painting work 13.10. Glass fitting 13.11. Interior 13.12. Exterior
14. Quality issues	14.1. Low-quality material 14.2. Faulty work 14.3. Design complexity 14.4. Unskilled man power

Evidence Guide

The evidence guide provides advice on assessment and must be read together with the performance criteria, required skills and knowledge and range of variable. Evidence must be gathered in the workplace wherever possible. Where no workplace is available, a simulated workplace must be provided.

To achieve competency in this unit, a trainee must be able to provide evidence in the form of the following:

1. Critical Aspects	The assessment required evidence that the candidate: 1.1. prepared work plan as per job requirements. 1.2. interpreted specifications from the drawings 1.3. ensured contractors as per job requirements. 1.4. monitored work progresses as per job requirements 1.5. identified risk issues 1.6. interpreted quality issues.
2. Underpinning knowledge	2.1. OHS requirements for the workplace. 2.2. Technical and working drawing. 2.3. Require manpower 2.4. Functions of hand tools and power tools. 2.5. Function of equipment 2.6. Use of construction materials

	2.7. Types of drawing and their uses. 2.8. Common terms, abbreviations, signs, and symbols used for construction works. 2.9. Name of main building components. 2.10. Functions of main building components 2.11. Contractors' selection. 2.12. Finishing works and quality issues.
3. Underpinning Skills	3.1. Preparing work plan as per job requirements. 3.2. Checking and confirming drawings. 3.3. Listing names of main building components. 3.4. Monitoring work progresses as per job requirements. 3.5. Interpreting quality issues of finishing works.
4. Required Attitude	4.1. Commitment to occupational safety and health. 4.2. Environmental concerns. 4.3. Tidiness and timeliness. 4.4. Respect for the rights of peers and seniors in the workplace. 4.5. Eagerness to learn. 4.6. Promptness in carrying out activities. 4.7. Sincere and honest to duties and responsibilities. 4.8. Communication with peers, subordinates and seniors in the workplace.
5. Resource Implication	The following resources should be provided: 5.1. Workplace location. 5.2. Materials are relevant to the proposed activity. 5.3. Drawings and specifications are relevant to the task.
6. Methods of Assessment	Competencies could be assessed by: 6.1. Written test 6.2. Demonstration 6.3. Oral questioning 6.4. Portfolio
7. Context of Assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/ nominated assessor.
Accreditation Requirements Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under NSQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

Unit Code and Title	**OU-CSS-02-L4-V1: Supervise construction project.**
Unit Descriptor	This unit covers the knowledge, skills, and attitude required to supervise construction project. It includes – identifying water supply layouts, interpreting sewerage and drainage layouts, ventilation and air distribution layouts, supervising requirements and layout for electrical installation and design of the fire protection system.
Nominal Hours	**40 Hours**
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are detailed in the range of variables
1. Identify building layout	1.1. PPE is used as per the nature of the job. 1.2. Sketch of building layouts is collected from site engineer. 1.3. Layouts of all works are identified
2. Identify water supply layouts	2.1. Sketch of water supply layouts is collected from site engineer. 2.2. Sketch is interpreted as per layout. 2.3. **Pipe, fittings, and fixtures** are ensured as per job requirements. 2.4. Water supply facilities are ensured as per layout with local water supply authority. 2.5. Water **storage tanks** are ensured and addressed. 2.6. Water supply connection processes are supervised as per working drawing.
3. Supervise sewerage and drainage layouts	3.1 Sketch of sewerage connections and layouts is identified. 3.2 Availability of **sewerage pipe and fittings** are ensured as per job requirements. 3.3 Connection process of sewerage line are supervised with relevant regulations and standards. 3.4 Maintaining Slopes of the sewerage lines are supervised as per drawing. Connection process of inspection pit to septic tank are supervised.
4. Supervise ventilation and air distribution layouts.	4.1. **Ventilation** and air distribution layouts are identified. 4.2. Ventilation & air distribution system is supervised as per job requirement.
5. Supervise requirements and layout for electrical installation	5.1 External electrical supply procedures are identified. 5.2 Electrical installation system design, cabling, and layouts are supervised. 5.3 **Availability of Electrical accessories** are ensured as per job requirement.

	5.4 Electrical installation systems are supervised as per working drawings. 5.5 Electrical fittings installation is supervised as per working drawings.
6. Supervise the design of the fire protection system.	6.1 **Fire protection tools and equipment** are identified and supervised. 6.2 Fire detectors, fire alarm systems are supervised. 6.3 Fire escape system requirements are ensured as per project requirement.
Range of Variables	
Variable	**Range** (May Include but are not limited to):
1. Pipe	1.1. Galvanizing Iron (Gi) Pipe 1.2. Thread pipe 1.3. Poly Propylene Random (PPR) pipe 1.4. Poly Vinyl Chloride (PVC) pipe 1.5. Chlorinated Poly Vinyl Chloride (CPVC) pipe
2. Fittings	2.1. Elbow 2.2. Socket 2.3. Tee 2.4. Union 2.5. Valve 2.6. Bend 2.7. Reducing socket 2.8. Nipple 2.9. CAP 2.10. Plug
3. Fixtures	3.1. Basin 3.2. Sink 3.3. Commode 3.4. Long pan 3.5. Tissue holder 3.6. Brush holder 3.7. Towel rail 3.8. Soap case 3.9. Mirror 3.10. Bath tub 3.11. Bib cock 3.12. Mixture 3.13. Shower 3.14. Push Shower 3.15. Angel stopcock

	3.16. Twin bib cock 3.17. Floor grating 3.18. Connection Pipe 3.19. Magic Pipe 3.20. Geyser
4. Accessories	4.1. Water pump 4.2. Die stock
5. Storage tanks	5.1. Overhead tank 5.2. Underground reserve tank
6. Sewerage pipe	6.1. PVC pipe (6″- 24″) 6.2. UPVC pipe (6″- 24″) 6.3. RCC pipe (Custom Size)
7. Fittings	7.1. Elbow 7.2. Socket 7.3. Bend 7.4. Door tee 7.5. Cross tee 7.6. Plain tee 7.7. Y tee 7.8. Reducing Tee 7.9. Reducing Elbow 7.10. Long Trap 7.11. Offset
8. Sewerage accessories	Inspection pit 8.1 Master trap 8.2 Manhole cover
9. Ventilation	9.1 Air conditioning applications 9.2 Air distribution including mechanical ventilation in enclosed areas 9.3 Air filtration systems and filter and ducting system
10. Electrical accessories	10.1 Fan and light 10.2 Switchboard 10.3 The main distribution board (MDB) 10.4 Panel board 10.5 SDB board 10.6 Joint box 10.7 Circular box
11. Electrical fittings	11.1 Switch 11.2 Socket 11.3 Plug 11.4 Ceiling rose 11.5 Circuit breaker

	11.6 DP Switch 11.7 Fan Dimmer 11.8 Fuse
12. Fire protection tools and equipment	12.1. Emergency light 12.2. Hose reel 12.3. Fire extinguisher 12.4. Raiser 12.5. Breathing apparatus 12.6. Fire shovel 12.7. Fire hook 12.8. Lock cutter 12.9. Fire blanket 12.10. Spring killer 12.11. Fire Door
Evidence Guide The evidence guide provides advice on assessment and must be read together with the performance criteria, required skills and knowledge and range of the variable. Evidence must be gathered in the workplace wherever possible. Where no workplace is available, a simulated workplace must be provided. To achieve competency in this unit, a trainee must be able to provide evidence in the form of the following:	
1. Critical Aspects	The assessment required evidence that the candidate: 1.1. ensured water supply facilities 1.2. ensured sewerage pipe, fittings, and accessories. 1.3. ensured electrical accessories. 1.4. supervised load types with building type. 1.5. supervised fire detectors, fire alarm system. 1.6. ensured fire escape system requirements.
1. Underpinning knowledge	2.1 Definition of pipe, fittings, and accessories. 2.2 Sewerage pipe, fittings, and accessories. 2.3 Process of load types with building type. 2.4 Procedures of ventilation and air distribution layouts. 2.5 Uses of electrical accessories. 2.6 Uses of fire protection tools and equipment. 2.7 System of the fire escape system
3 Underpinning Skills	3.1 Identifying Appropriate Tools 3.2 Ensuring sewerage pipe, fittings, and accessories. 3.3 Ensuring electrical accessories. 3.4 Supervising load types with building type. 3.5 Supervising fire detectors, fire alarm system. 3.6 Ensuring fire escape system requirements.

4 Required Attitude	4.1 Commitment to occupational safety and health. 4.2 Environmental concerns. 4.3 Tidiness and timeliness. 4.4 Respect for the rights of peers and seniors in the workplace. 4.5 Eagerness to learn. 4.6 Promptness in carrying out activities. 4.7 Sincere and honest to duties and responsibilities. 4.8 Communication with peers, subordinates and seniors in the workplace.
5 Resource Implication	The following resources should be provided: 5.1 Workplace location. 5.2 Materials are relevant to the proposed activity. 5.3 Hand tools and power tools to the appropriate activity.
6 Methods of Assessment	Competencies could be assessed by: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7 Context of Assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/ nominated assessor

Accreditation Requirements

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Unit Code and Title	**OU-CSS-03-L4-V1: Manage and maintain construction sites / projects.**
Unit Descriptor	This unit covers the knowledge, skills and attitude required to Manage and maintain construction sites / projects. It includes – managing construction team, distributing and orienting work in job duties and company policies, supervising the administration and payment processes, maintaining on-site communications, monitoring work progress and controlling quality of compliance issues.
Nominal Hours	**70 Hours**
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the range of variables
1. Manage construction team	1.1. PPE is used as per the nature of the job. 1.2. Manpower is ensured in accordance with job requirements. 1.3. Team members' support for other members is ensured to achieves goals and requirements. 1.4. Agreed reporting lines are followed using standard operating procedures.
2. Distribute and orient work as per job duties and company policies.	2.1. **Team goals** and processes are identified. 2.2. **The roles and responsibilities** of team members are identified. 2.3. Company policies are identified. 2.4. Relationships within the team and with other work areas are identified.
3. Manage the administration and payment processes	3.1. All payments are made in accordance with contract orders and allowances. 3.2. Insurance claims resulting from site loss or damage are completed and processed in line with contract requirements. 3.3. **Administrative processes** are conducted and supervised in line with relevant **regulatory and organizational requirements**
4. Maintain on-site communications.	4.1. PPE is used as per the nature of the job. 4.2. **On-site communications** and events are maintained with contractors, inspectors, unions, individuals, and suppliers. 4.3. Formal and informal forms of communication are used effectively to support team achievement. 4.4. **Workplace staff regulation** is used correctly to assist communication. 4.5. Site reports inspections are prepared & maintained up to date. 4.6. Variation requests & outcomes are recorded and maintained.

5. Monitor work progress	5.1. PPE is used as per the nature of the job. 5.2. A specific **construction site** is checked with a visual inspection. 5.3. Work progress is maintained as per the work plan. 5.4. The suggestion of instruction is provided as per specific work progress. 5.5. Overall work, progress is supervised as per work plan. 5.6. Work progress is reported to the project engineer.
6. Control quality of compliance issues	6.1. PPE is used as per the nature of the job. 6.2. **Quality Management System** & procedures are identified to assure work performance. 6.3. Non-compliance issues regarding quality and time are recorded and actioned in line with QMS and contract. 6.4. External authority inspections are arranged and recorded.
Range of Variables	
Variable	**Range** (May Include but are not limited to):
1. Team goals	1.1. Improve the quality of work 1.2. Enhance health and safety 1.3. Increase accountability within the team 1.4. Enhance mutual understanding among team members 1.5. Utilize resources, especially time 1.6. Generate more ideas and better decisions.
2. Roles and responsivities	2.1 Ensuring teams work together to deliver quality work to strict deadlines. 2.2 Monitoring construction processes, and providing training and team building sessions are required. 2.3 Ensuring adherence to health and safety regulations at all times. 2.4 Performing equipment, material, and routine site inspections. 2.5 Scheduling regular meetings with vendors, site inspectors, managers, and staff. 2.6 Writing up reports, budgets, project plans, and presenting them to relevant stakeholders. 2.7 Working closely with architects and other professionals. 2.8 Staying up-to-date with safety codes and advancements in construction. 2.9 Assisting with the recruitment and training of new staff. 2.10 Processing paperwork and traveling to multiple sites as required.
3 Administration processes	3.1 Supervise contract variations 3.2 Defect identification and rectification

	3.3 Monitoring project progress 3.4 Supervise site inspections 3.5 Supervise certification process and attainment 3.6 Supervise payment processing
4 Regulatory and organizational requirements	4.1 Building approval conditions 4.2 Contract documents and engineer reports 4.3 Environmental standards 4.4 Planning and scheduling 4.5 Risk management 4.6 Quality Management System (QMS) 4.7 Safety planning and records 4.8 Variation and site visit records 4.9 Financial planning, control and processing,
5 On site communication	5.1 Supervising and allocating human resources 5.2 Facilitating dispute prevention and resolution 5.3 Establishing functioning communication links with the regulatory authorities 5.4 Supervising efficient scheduling and dispersal of plant and equipment 5.5 Maintaining environmental control and obligations 5.6 Supervising on-site meetings 5.7 Supervise expenditure 5.8 Supervise procurement planning and management
6 Construction site	6.1 Building construction 6.2 Road construction 6.3 Bridge construction 6.4 Flyover construction 6.5 Industry/Factory construction
7 Quality management system	7.1 Goods receiving 7.2 Work contract quality auditing & compliance 7.3 Client review issues recorded & actioned.

Evidence Guide

The evidence guide provides advice on assessment and must be read together with the performance criteria, required skills and knowledge and range of variable. Evidence must be gathered in the workplace wherever possible. Where no workplace is available, a simulated workplace must be provided.

To achieve competency in this unit, a trainee must be able to provide evidence in the form of the following:

1. Critical Aspects	Assessment required evidence that the candidate: 1.1 followed agreed reporting lines using standard operating procedures.

	1.2 maintained on site communication 1.3 used workplace staff regulation. 1.4 prepared site report. 1.5 checked construction site with visual inspection 1.6 reported work progress
2. Underpinning knowledge	2.1. Standard operating procedures 2.2. Team goals 2.3. Roles and responsibility 2.4. Company policies 2.5. Administration processes 2.6. Regulatory and organizational requirements 2.7. On-site communication 2.8. Workplace staff regulation 2.9. Quality management system 2.10. Noncompliance issues
3. Underpinning Skills	3.1. Following agreed reporting lines using standard operating procedures. 3.2. Conducting administration processes. 3.3. Maintaining on-site communication 3.4. Using workplace staff regulation. 3.5. Preparing the site report. 3.6. Checking the construction site with a visual inspection 3.7. Reporting work progress
4. Required Attitude	4.1. Commitment to occupational safety and health. 4.2. Environmental concerns. 4.3. Tidiness and timeliness. 4.4. Respect for the rights of peers and seniors in the workplace. 4.5. Eagerness to learn. 4.6. Promptness in carrying out activities. 4.7. Sincere and honest to duties and responsibilities. 4.8. Communication with peers, subordinates and seniors in the workplace.
5. Resource Implication	The following resources should be provided: 5.1. Workplace location. 5.2. Materials are relevant to the proposed activity. 5.3. Hand tools and power tools to the appropriate activity.
6. Methods of Assessment	Competencies could be assessed by: 6.1. Written test 6.2. Demonstration 6.3. Oral questioning 6.4. Portfolio

7. Context of Assessment	7.1 Competency assessment must be done in NSDA accredited assessment center 7.2 Assessment should be done by a NSDA certified/ nominated assessor

Accreditation Requirements

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Unit Code and Title	**OU-CSS-04-L4-V1: Practice Safety and Building Codes.**
Unit Descriptor	This unit covers the knowledge, skills, and attitude required to practice safety and building codes. It includes – identifying building codes & practices in Bangladesh and maintaining a safe secure and healthy work environment.
Nominal Hours	**20 Hours**
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the range of variables
1. Identify building codes and practices in Bangladesh	1.1. **Bangladesh National Building Code (BNBC)** are identified as per job requirement. 1.2. Bangladesh National Building Code (BNBC) are ensured as per job requirement. 1.3. Bangladesh National Building Code (BNBC) are followed as per job requirement
2. Maintain a safe, secure and healthy work environment.	2.1. PPE is ensured as per job requirements. 2.2. Defective tools are identified and rectified. 2.3. Site **hazards** are identified and resolved. 2.4. **Safety equipment** is maintained in the working area 2.5. **Safety signs** and symbols are ensured in the working area. 2.6. Safety and security awareness is developed; 2.7. Safe and healthy work environment is maintained;
Range of Variables	
Variable	**Range** (May Include but are not limited to):
1. Bangladesh National Building Code (BNBC)	1.1. The Building Construction Act, 1952. 1.2. Building Construction Rules 2008. 1.3. Land Development Rules for Private Housing 2004. 1.4. Bangladesh National Building Code (BNBC) 2020.
2. Hazards	2.1 Physical 2.2 Chemical 2.3 Biological 2.4 Agronomical
3. Safety equipment	3.1 Safety net 3.2 Safety truss 3.3 First aid box
4. Safety sign	4.1 Prohibition and fire. 4.2 Mandatory. 4.3 Caution. 4.4 Safe condition.

Evidence Guide

The evidence guide provides advice on assessment and must be read together with the performance criteria, required skills and knowledge and range of variable. Evidence must be gathered in the workplace wherever possible. Where no workplace is available, a simulated workplace must be provided. To achieve competency in this unit, a trainee must be able to provide evidence in the form of the following:

1. Critical Aspects	The assessment required evidence that the candidate: 1.1. collected tools, equipment, and materials for safety works. 1.2. identified building code are as per job requirement 1.3. resolved defective tools as per job requirements 1.4. insured safety equipment is a job requirement
2. Underpinning knowledge	2.1 Types of tools, equipment. 2.2 BNBC Code. 2.3 Types of PPE. 2.4 Defective tools 2.5 Types of hazards. 2.6 Required safety equipment. 2.7 Safety sign and symbol
3. Underpinning Skills	3.1 Ensuring Bangladesh national building code in Bangladesh. 3.2 Checking hazard in the work area. 3.3 Using safety equipment. 3.4 Ensuring safety sign a symbol in the working area.
4. Required Attitudes	4.1 Commitment to occupational safety and health. 4.2 Environmental concerns. 4.3 Tidiness and timeliness. 4.4 Respect for the rights of peers and seniors in the workplace. 4.5 Eagerness to learn. 4.6 Promptness in carrying out activities. 4.7 Sincere and honest to duties and responsibilities. 4.8 Communication with peers, subordinates and seniors in the workplace.
5. Resource Implication	The following resources should be provided: 5.1 Adequate workplaces 5.2 Construction materials 5.3 Tools appropriate to the construction process
6. Methods of Assessment	Competencies could be assessed by: 6.1 Written test 6.2 Demonstration

	6.3 Oral questioning 6.4 Portfolio
7. Context of Assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/ nominated assessor.
Accreditation Requirements Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under NSQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

Unit Code and Title	**OU-CSS-05-L4-V1: Prepare Progress Reports.**
Unit Descriptor	This unit covers the knowledge, skills, and attitude required for prepare progress reports. It includes – organizing checklist for works and arranging report on the progress of construction work.
Nominal Hours	**50 Hours**
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the range of variables
1. Organize checklist for works	1.1. The **checklist** is received form project engineer 1.2. The checklist is filed up according to work 1.3. Works gaps are checked as per the checklist 1.4. The checklist is returned to the competent authority after checking.
2. Arrange report on progress of construction work.	2.1. Progress **report** formats are identified. 2.2. Instructions are obtained from the client/authority. 2.3. Information is collected from workable area of the project. 2.4. The progress report is prepared for **construction work**. 2.5. The progress report is submitted to the authority.
Range of Variables	
Variable	**Range** (May Include but are not limited to):
1. Checklist	1.1. Pre-construction risk assessment checklist 1.2. General fire safety inspection checklist 1.3. Electrical safety inspection checklist 1.4. General hazard assessment checklist. 1.5. Personal protective equipment walkaround checklist 1.6. Hand and power tools pre-use inspection checklist 1.7. Construction work progress checklist
2. Report	2.1 Oral 2.2 Written 2.3 Multimedia
3. Construction works	3.1 Layout and Marking 3.2 Earth excavation 3.3 Sand filling 3.4 Road binding 3.5 Footing 3.6 Column 3.7 Beam 3.8 Slab

	3.9 Brick 3.10 Plumbing 3.11 Electrical 3.12 Plaster 3.13 Painting
Evidence Guide The evidence guide provides advice on assessment and must be read together with the performance criteria, required skills and knowledge and range of variable. Evidence must be gathered in the workplace wherever possible. Where no workplace is available, a simulated workplace must be provided. To achieve competency in this unit, a trainee must be able to provide evidence in the form of the following:	
1. Critical Aspects	The assessment required evidence that the candidate: 1.1. followed checklist as per job requirement 1.2. filled checklist as per job requirement 1.3. fined works gaps as required the checklist 1.4. maintained progress report as per the checklist 1.5. collected information as per project need 1.6. construction parts are identified
2. Underpinning knowledge	2.1. Checklist procedure. 2.2. Types of a checklist. 2.3. Works gap finding procedure 2.4. Types of the project report. 2.5. Client handling. 2.6. Construction progress report.
3. Underpinning Skills	3.1. Identifying progress report 3.2. Preparing a checklist of construction works. 3.3. Preparing report for construction works 3.4. Handling Client as per requirement
4. Required Attitudes	4.1 Commitment to occupational safety and health. 4.2 Environmental concerns. 4.3 Tidiness and timeliness. 4.4 Respect for the rights of peers and seniors in the workplace. 4.5 Eagerness to learn. 4.6 Promptness in carrying out activities. 4.7 Sincere and honest to duties and responsibilities. 4.8 Communication with peers, subordinates and seniors in the workplace.
5. Resource Implication	The following resources should be provided: 5.1. Adequate workplaces

	5.2. Tools appropriate to the construction process 5.3. Information and documentation
6. Methods of Assessment	Competencies could be assessed by: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of Assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/ nominated assessor.
Accreditation Requirements Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under NSQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

Unit Code and Title	**OU-CSS-06-L4-V1: Estimate cost of construction works.**
Unit Descriptor	This unit covers the knowledge, skills and attitude required to estimate cost of construction works. It includes –calculating of construction area, interpreting plans & specifications, calculating labor cost and interpreting projects cost.
Nominal Hours	**70 Hours**
Elements of Competency	**Performance Criteria** **Bold and Underlined** terms are elaborated in the range of variables
1. Calculate length, wide and height of the construction area.	1.1. PPE is used as per the nature of the job. 1.2. Construction area are identified as per job requirement. 1.3. Construction area is measured by using **measuring tools**. 1.4. length width and height are calculated using a different **method.**
2. Interpret plans and specifications	2.1. Project **plans and specifications** sourced and interpreted. 2.2. Levels, heights, gradients and other relevant measurements are interpreted and recorded. 2.3. Material quantities planning are supervised as per plans, measurements and specifications.
3. Calculate labor costs	3.1. On-site personnel numbers, categories and time requirements estimated and approved. 3.2. Labor hours for non-contract elements of on-site work are calculated. 3.3. Costs/rates for all on-site work calculated and approved.
4. Interpret projects costs	4.1. Labor rates and material costs are applied and recorded. 4.2. **Unit Cost estimates** are applied and recorded. 4.3. Operational support cost elements identified and calculated (Insurance, Health, Environment Agency. 4.4. Waste management and other relevant statutory or additional costs are applied 4.5. Company overhead recovery and margins are applied; 4.6. Estimated **project costs** are calculated for inclusion in a tender.
Range of Variables	
Variable	**Range** (May Include but are not limited to):
1. Measuring tools	1.1. Measuring tape 1.2. Steel rule 1.3. Calculator 1.4. Try square

2. Method.	2.1 Meter kilogram Second (MKS)/SI units 2.2 Foot Pound Second (FPS) 2.3 Centimeter Gram Second (CGS)
3. Plans and specifications	3.1 Building codes 3.2 Materials lists and quantity schedules 3.3 Material specifications 3.4 Sketches and drawings 3.5 Statements of requirements
4. Unit cost estimating	4.1 Construction costs per square meter 4.2 Pipe installation costs per meter 4.3 Installation of sanitary ware per unit 4.4 Foundation laying per meter 4.5 Slab laying per square meter 4.6 Laying steel tray roofing per square meter. 4.7 Masonry walls per square meter 4.8 Tiling per square mater
5. Projects cost	5.1 Consultancy and design costs 5.2 Building construction costs 5.3 Statutory requirement costs 5.4 Consumables 5.5 Organization and subcontract labor hours 5.6 Project administration costs 5.7 Waste removal costs
Evidence Guide The evidence guide provides advice on assessment and must be read together with the performance criteria, required skills and knowledge and range of variable. Evidence must be gathered in the workplace wherever possible. Where no workplace is available, a simulated workplace must be provided. To achieve competency in this unit, a trainee must be able to provide evidence in the form of the following:	
1. Critical Aspects	Assessment required evidence that the candidate: 1.1. measured construction area. 1.2. calculated length wide and height using different method. 1.3. supervised material quantities planning. 1.4. estimated and approving on site personnel numbers. 1.5. applied labor rates and material costs. 1.6. applied company overhead recovery & margins. 1.7. calculated estimate project costs.

2. Underpinning knowledge	2.1. Measuring tools and methods 2.2. Project plans & specifications 2.3. Unit cost estimates 2.4. Waste management 2.5. Project costs
3. Underpinning Skills	3.1. Measuring construction area. 3.2. Calculating length wide and height using a different method. 3.3. Interpreting and sourcing project plans & specifications. 3.4. Supervising material quantities planning. 3.5. Estimating and approving on-site personnel numbers. 3.6. Applying labor rates and material costs. 3.7. Applying company overhead recovery & margins. 3.8. Calculating estimate project costs.
4. Required Attitudes	4.1 Commitment to occupational safety and health. 4.2 Environmental concerns. 4.3 Tidiness and timeliness. 4.4 Respect for the rights of peers and seniors in the workplace. 4.5 Eagerness to learn. 4.6 Promptness in carrying out activities. 4.7 Sincere and honest to duties and responsibilities. 4.8 Communication with peers, subordinates and seniors in the workplace.
5. Resource Implication	The following resources should be provided: 5.1. Adequate workplaces 5.2. Construction materials 5.3. Tools appropriate to the construction process 5.4. Information and documentation 5.5. Product specifications 5.6. Manual, Codes, Standards and reference materials
6. Methods of Assessment	Competencies could be assessed by: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
7. Context of Assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/ nominated assessor
Accreditation Requirements	

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under NSQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

Development of Competency Standard

The Competency Standards for National Skills Certificate in Construction Site Supervision, Leve- 4 is developed by NSDA on 26-27 December 2022.

List of Members

Sl No	Name and Address	Position in the committee
1.	Engr. Md. Majed Ali, Director, EDCL, Uttara, Dhaka-1230 Mobile: 01715-662573, Email: majed.edcl@gmail.com	Member
2.	M. Rashedul Islam, Project Engineer, Anowara Group, Narayangonj, Mobile: 01716171650, Email: rashedbt@gmail.com	Member
3.	Fakhrul Islam, Asstt. Engineer, Chandina Village Housing Ltd. Jatrabari, Dhaka, Mobile: 01622-585756, Email: eng.fakhrul2021@gmail.com	Member
4.	Md. Bayezid Hossain, Asstt. Engineer, Set Square, Mohammadpur, Dhaka, Mobile: 017408-55504, Email: bayeziddiu16@gmail.com	Member
5.	Md. Shafi Kamal, Asstt. Engineer, Akij Janata Jute mills, Faridpur, Mobile: 017181-97132, Email: mdshafikamal2018@gmail.com	Member
6.	Engr. Md. Abdur Razzaque, Specialist, NSDA, Cell: +88 01742734313, Email: razzaque159@gmail.com	Member