



TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION COUNCIL (TVET CDACC)

MENTORING TOOL

FOR

CIVIL ENGINEERING TECHNICIAN

LEVEL 6

FOREWORD

This mentoring tool has been developed by TVET Curriculum Development, Assessment and Certification Council (TVET CDACC) in partnership with trainers and industry experts in Civil Engineering.

Mentoring relationships have demonstrated to be an excellent way of enhancing professional growth. Both the mentor and the mentee give and grow in the mentoring process. The mentee can learn valuable knowledge from the mentor's expertise and past mistakes and competencies can be strengthened in specific areas. Mentees will have the opportunity to establish valuable connections with higher level employees. The success of mentoring will depend on clearly defined roles and expectations in addition to the mentee's awareness of the benefits of participating in the mentoring program.

This mentoring tool is an assessment tool used to assess whether a mentee meets the National Occupational Standards for Civil Engineering Technician Level 6. Whilst there is no agreement or finite evidence as to how many times this supervised exercise should occur, both the mentor and the mentee should feel confident that the mentee has the necessary knowledge, skills and attitudes (worker behaviors) to work as a Civil Engineering Technician.

The Mentoring will facilitate the experienced mentors in the world of work to share knowledge and experiences with mentees working under them towards a mutually beneficial professional development relationship. Mentors will be helpful in building competencies of mentees in areas of practice.

PROF. KISILU KITAINGE
CEO/COUNCIL SECRETARY

TRAINEE (MENTEE) DETAILS

Name of Trainee (Mentee)	
Institution's Registration Code of Trainee (Mentee)	
TVET CDACC Registration Code of Trainee (Mentee)	
Trainee's/mentee's Institution Details	Name:
	Physical & postal address:
	Phone and email address:
Date of Commencement of Mentoring Period (dd/mm/yyyy)	
Date of Completion of Mentoring Period (dd/mm/yyyy)	
Organization	Name:
	Physical & postal address:
	Phone and email address:

INFORMATION FOR USERS

Role of a Mentor

A **mentor** is someone who provides support and advice that empowers the mentee to achieve knowledge, skills and attitudes (worker behaviors).

This may be a supervisor, manager or a worker who is an expert in a particular field.

The role of the mentor includes:

- Assisting mentee understand the organisation's requirements
- Assigning mentee tasks
- Observing mentee performance and record areas where the mentee needs improvement
- Assisting the mentee to come up with action plan for areas where he/she needs improvement

Role of Mentee

A **mentee** is a trainee who is on work placement (attachment) or is on-job training in an organization.

The role of the mentee includes:

- Completing the assessment tasks assigned by the mentor and filling out the self-assessment section
- Keeping the company's information confidential
- Being aware that he/she may be working with people from different backgrounds and cultures, so there is a need to respect those differences
- Asking for feedback and giving feedback when required.
- Upholding the organization's standards of work ethics

Role of Industrial Liaison Officer

The Industrial Liaison Officer (ILO) is the officer in the training institution assigned the responsibility of coordinating activities of industry training based on TVET CDACC and institutions guidelines for industry training. The role of ILO include;

- Sensitizing trainees on their responsibilities during industry training
- Sensitizing mentors on their roles during industry training for trainees
- Coordinate industry training
- Receiving mentoring tools from trainees
- Ensuring mentorship tools are included in each candidate portfolio of evidence
- Upload candidate final mark to TVET CDACC portal

How to use the mentoring tool

- Where a skill, knowledge or attitude is not applicable in a particular workplace, the mentee should indicate not applicable (NA)
- The mentor should ask the mentee oral questions to gauge the knowledge of the mentee
- The mentee should fill the self-assessment section upon self-evaluation
- The mentor should fill the mentor review record upon observing and evaluating the mentee
- Action plan should be filled by the mentee after agreeing with the mentor for any item assessed as needs to improve

Mentoring Period

The attachment period should be at least three months. Mentee should spend at least two thirds of the attachment conducting material testing, performing highway survey, designing pavement structures, carrying out road construction works, designing of engineering structures, producing building drawings, carrying out building works, managing water resource quality, designing of wastewater collection and treatment

infrastructure, constructing wastewater infrastructure, designing onsite sanitation facilities, constructing onsite sanitation facilities and managing civil engineering project. Time spent in each section/department should be documented using form in Appendix A.

Number of Assessments

Three assessments are to be conducted using the mentoring tool: one within the first month of the attachment where the mentor assesses the mentee to assess their initial level of competence; another assessment will be conducted within the second month of the attachment period to gauge the progress of the mentee and the third one will be conducted within the third month of the attachment. However, the assessment outcome is based on the third /final assessment.

Submission of Mentoring Reports

The trainee/mentee is required to submit each of the three mentoring reports (in hard or soft copy) to the Industrial Liaison Officer of the respective institution. The Industrial Liaison Officer is required to submit to TVET CDACC offices the three mentor's summary reports (Appendix B). The mentoring reports for each trainee/mentee are to be kept in the institution and made available to TVET CDACC on request.

TABLE OF CONTENTS

FOREWORD	2
TRAINEE (MENTEE) DETAILS	3
INFORMATION FOR USERS	4
1. CONDUCT MATERIAL TESTING.....	8
2. PERFORM HIGHWAY SURVEY	13
3. DESIGN BASIC PAVEMENT STRUCTURES	19
4. CARRY OUT ROAD CONSTRUCTION WORKS.....	24
5. DESIGN ENGINEERING STRUCTURES.....	33
6. PRODUCE BUILDING DRAWINGS.....	37
7. CARRY OUT BUILDING WORKS	42
8. MANAGE WATER RESOURCES QUALITY.....	49
9. DESIGN WASTEWATER COLLECTION AND TREATMENT INFRASTRUCTURE	55
10. CONSTRUCT WASTEWATER INFRASTRUCTURE	60
11. DESIGN ONSITE SANITATION FACILITIES	65
12. CONSTRUCT ONSITE SANITATION FACILITIES	70
13. MANAGE CIVIL ENGINEERING PROJECTS	74
14. WORKER BEHAVIOUR.....	79
APPENDIX A: SUMMARY OF TOTAL PERIOD OF MENTORING (TO BE FILLED BY MENTEE).....	81
APPENDIX B: MENTOR SUMMARY REPORT (TO BE FILLED BY OVERALL SUPERVISOR)	82
APPENDIX C: ADDITIONAL SKILLS ACQUIRED DURING THE MENTORING PERIOD (TO BE FILLED BY MENTEE)	84
APPENDIX D: INDUSTRIAL LIAISON OFFICER FORM (TO BE FILLED BY ILO).....	85

1. CONDUCT MATERIAL TESTING

Mentor and mentee: Please fill information for each of the two sections in the respective columns. Initials should be used as given in the header below.

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	KNOWLEDGE The mentee demonstrates knowledge of:		Self-assessment	Mentor review		
1.	Material testing laboratory and equipment					
2.	Sampling procedures and samples preparation					
3.	Standard manuals, procedures and SOPs					
4.	Contract documents					
5.	Road construction materials: Types, Sources, Properties					
6.	Test parameters					
7.	Analysis, interpretation and report writing					
	SKILLS					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	The mentee:					
8.	Conducts preliminary site investigations as per contract document					
9.	Maintains material laboratory according to contract document					
10.	Obtains material testing manuals and contract documents based on project requirements					
11.	Identifies and obtains material testing equipment according to contract document and material testing manual					
12.	Develops sampling procedures according to standard tests procedures					
13.	Determines types of material tests according to test procedures and requirements					
14.	Operates and maintains testing equipment as per the SOPs (Soil, bitumen, timber, concrete and steel)					
15.	Identifies sources of road construction					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	materials based on contract document					
16.	Obtains sample procedures and manuals as per standard sampling procedures (Soil, bitumen, timber, concrete and steel samples)					
17.	Identifies and assembles sampling tools and equipment according to standard procedures (Soil, bitumen, timber, concrete and steel)					
18.	Carries out sampling as per standard sampling procedure (Soil, bitumen, timber, concrete and steel samples)					
19.	Stores samples awaiting analysis based on test requirements (Soil, bitumen, timber, concrete and steel samples)					
20.	Identifies timber tests, soil tests and bitumen tests according to contract document					
21.	Identifies and gathers material testing tools and apparatus based on test					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	requirements					
22.	Obtains samples according to test requirement					
23.	Conducts soil tests, timber tests and bitumen tests as per standard procedures					
24.	Casts cubes as per standard test procedures					
25.	Tests cubes, obtains and records results according to standard procedures					
26.	Identifies, obtains and calibrates tensile testing machines as per test requirement and manufacturers manual					
27.	Carries out structural steel tests according to standard test procedures					
28.	Records and analyses results according to standard procedures (Soil, bitumen, timber, concrete and steel tests)					
29.	Prepares and presents report based on contract document requirement (Soil, bitumen, timber, concrete and steel tests)					

Note:

To be declared competent, the mentee must get:

1. 15 of the 29 (50%) items of evaluation correct and
2. Items 11, 18, 23, 28 and 29 correct.

Evaluation	Remarks
Please tick as appropriate The mentee was found to be: Competent ☐ Not Yet Competent ☐ <i>(If not yet competent, please specify in the remarks column which areas the mentee need to improve on)</i>	

2. PERFORM HIGHWAY SURVEY

Mentor and mentee: Please fill information for each of the two sections in the respective columns. Initials should be used as given in the header below.

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	KNOWLEDGE The mentee demonstrates knowledge of:		Self-assessment	Mentor review		
1.	Survey tools and equipment					
2.	Road construction site conditions					
3.	Standard road construction procedures					
4.	Contracts documents					
5.	Legal and statutory requirements					
6.	Survey drawings					
7.	Manufacturer's manual and standard operating procedures					
8.	Survey data booking, computation and documentation					
9.	Road levels and cross-sections					
10.	Quality control operations					
	SKILLS					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	The mentee:					
11.	Prepares preliminary site survey plan in accordance with contract document					
12.	Identifies and mobilizes survey resources as per the contract document					
13.	Obtains and interprets survey drawings as per the contract document					
14.	Assesses site conditions and records findings according to standard road construction procedures					
15.	Establishes and documents original ground level (OGL) as per standard road construction procedures					
16.	Establishes reference points based on standard road construction procedures					
17.	Prepares preliminary survey report according to SOPs					
18.	Identifies and calibrates surveying tools and equipment are according to contract document					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
19.	Sets road levels according to the design data					
20.	Carries out monitoring and control of road levels as per the standard construction requirements					
21.	Identifies and selects tacheometry tools and equipment according to contract document					
22.	Determines horizontal and vertical distances based on datum coordinates					
23.	Collects tacheometry data based on standard procedures					
24.	Documents data collected based on standard road construction procedures					
25.	Records and computes road levels based on SOPs					
26.	Produces reduced levels based on computed road levels					
27.	Drafts and interprets road cross-sections based on road levels					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
28.	Establishes road designs based on interpreted road cross-sections and profiles					
29.	Identifies and selects setting out tools and equipment according to contract documents					
30.	Determines proposed alignment in accordance with preliminary survey report					
31.	Sets out horizontal alignment and vertical alignment based on OGL					
32.	Books and computes alignment data as per the standard construction procedures					
33.	Identifies and selects traversing tools and equipment according to contract documents					
34.	Determines bearings according to standard procedures					
35.	Measures distances according to standard procedures					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
36.	Plots traverses according to bearings and distances					
37.	Identifies pavement location					
38.	Prepares and carries out traffic survey as per SOPs					
39.	Estimates traffic and road characteristics					

Note:

To be declared competent, the mentee must get:

1. 20 of the 39 (50%) items of evaluation correct and
2. Items 11, 19, 23, 31, and 39 correct.

Evaluation	Remarks
Please tick as appropriate The mentee was found to be: Competent <input data-bbox="479 432 537 461" type="checkbox"/> Not Yet Competent <input data-bbox="479 493 537 521" type="checkbox"/> <i>(If not yet competent, please specify in the remarks column which areas the mentee need to improve on)</i>	

3. DESIGN BASIC PAVEMENT STRUCTURES

Mentor and mentee: Please fill information for each of the two sections in the respective columns. Initials should be used as given in the header below.

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	KNOWLEDGE The mentee demonstrates knowledge of:		Self-assessment	Mentor review		
1.	Horizontal and Vertical alignments					
2.	Interpretation of road construction drawings					
3.	CAD					
4.	Types of pavements and pavement structures					
5.	Traffic engineering					
6.	Material testing					
7.	Methods of structural designs					
8.	Alternative construction procedures					
9.	Design lifespan					
10.	Behaviour of different pavement materials					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
11.	Design manuals and procedures					
12.	Types of paths					
13.	Types of road furniture (Road markings, Information signs, Warning signs, Street lights, Traffic lights, Guard rails)					
14.	Engineers Code of Ethics					
	SKILLS The mentee:					
15.	Determines pavement location based on contract documents					
16.	Undertakes preparation for site visit as per contract document					
17.	Collects on site data according to standard procedures					
18.	Conducts preliminary site visit					
19.	Estimates surface run-off					
20.	Designs highway drainage structures (bridges, drifts, causeways, retaining walls) as per the design manuals and procedures					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
21.	Determines construction materials					
22.	Acquires resources in accordance with geometric design requirements					
23.	Obtains OGL (Original Ground Levels) according to standard road construction procedures					
24.	Designs horizontal and vertical alignments based on standard road construction procedures					
25.	Designs road intersections as per standard road construction procedures					
26.	Produces drawings as per design data					
27.	Prepares and presents report as per contract document					
28.	Acquires resources in accordance with pavement structure requirements.					
29.	Estimates traffic load as per traffic survey information.					
30.	Determines road/pavement type as per client/developer/financier requirements					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	and nature of the ground.					
31.	Designs pavement structures based on traffic engineering analysis outputs and material testing results					
32.	Produces pavement structural drawings as per design outputs					
33.	Develops materials schedules according to design results					
34.	Identifies and gathers required resources as per design requirements					
35.	Estimates pedestrian and cyclist traffic in accordance with traffic survey information					
36.	Determines pedestrian and cyclist path location according to road profile					
37.	Designs pedestrian and cyclist paths as per design manuals and procedures					
38.	Determines type and location of road furniture based on road type and relevant manuals					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
39.	Designs road furniture according standard road construction procedures					

Note:

To be declared competent, the mentee must get:

1. 20 of the 39 (50%) items of evaluation correct and
2. Items 18, 20, 25, 31 and 39 correct.

Evaluation	Remarks
Please tick as appropriate The mentee was found to be: Competent ☐ Not Yet Competent ☐ <i>(If not yet competent, please specify in the remarks column which areas the mentee need to improve on)</i>	

4. CARRY OUT ROAD CONSTRUCTION WORKS

Mentor and mentee: Please fill information for each of the two sections in the respective columns. Initials should be used as given in the header below.

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	KNOWLEDGE The mentee demonstrates knowledge of:		Self-assessment	Mentor review		
1.	Construction plant and equipment (Types, Uses, Housekeeping)					
2.	Setting out and levelling (Horizontal alignment, Vertical alignment)					
3.	Site clearance activities (Tree and stump removal, Boulders removal, Bush clearing, Grass cutting, Vegetable soil removal)					
4.	Cut and fills					
5.	Standard road construction procedures e.g. excavation, cut					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	material disposal, compaction					
6.	Types of pavements (Rigid, Flexible)					
7.	Road layers' construction procedures					
8.	Contract documents, relevant manuals and statutory requirements					
9.	Drawings for road works					
10.	Quality control procedures					
11.	Types of road construction materials					
12.	Alternative construction methods					
13.	Road drainage systems					
14.	Road furniture types					
15.	Maintenance procedures					
16.	Types of erosion prevention structures (Gabions, Catch basins, Scour checks)					
17.	Quality control procedures					
18.	Personal Protective Equipment					
	SKILLS					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	The mentee:					
19.	Obtains relevant legal documents and statutory requirements as per the contract requirements					
20.	Identifies and mobilizes earthwork resources as per the contract document					
21.	Carries out site clearance and demolition activities based on contract document and construction procedures					
22.	Interprets drawings as per construction procedures					
23.	Conducts setting out for earthworks based on design output					
24.	Establishes road formation based on standard construction procedures					
25.	Takes and documents ground levels according to SOPs					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
26.	Determines volumes of cut and fill materials in accordance with contract document					
27.	Carries out haulage and disposal of waste material as per the standard construction procedures					
28.	Operates and maintains construction tools and equipment as per the SOPs					
29.	Acquires and mobilizes required road construction resources as per contract document					
30.	Carries out levelling activities as per standard construction procedures					
31.	Constructs sub-grade, sub-base and base pavement layers according to contract document and standard road requirements					
32.	Documents ground levels as per standard procedures					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
33.	Constructs road surfacing as per the contract document and standard construction procedures					
34.	Carries out quality control operations according standard construction procedures					
35.	Undertakes maintenance of road/pavement structures as per maintenance procedures					
36.	Constructs parking, walkways and footbridges according to contract document, design manuals and standard construction procedures					
37.	Carries out quality control operations according standard construction procedures					
38.	Undertakes maintenance of parking, walk ways and cyclist lanes, foot bridges, bus bays as per maintenance					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	procedures					
39.	Mobilizes road furniture according to contract document and designs					
40.	Determines location of road furniture on the road according to standard road procedures and legal requirements					
41.	Identifies and acquires road furniture for installation as per contract document					
42.	Installs road furniture on the road based on standard construction procedures					
43.	Undertakes quality control procedures on road furniture installation as per relevant manuals					
44.	Carries out maintenance activities on road furniture based on standard maintenance procedures					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
45.	Reviews traffic signs according to standard requirements					
46.	Determines erosion control structures for construction based on prevailing site conditions					
47.	Establishes location of erosion prevention structures according to contract document					
48.	Carries out construction of erosion prevention structures in accordance with standard construction methods					
49.	Undertakes maintenance of erosion prevention structures as per maintenance procedures					
50.	Plans for highway drainage and hydraulic structures					
51.	Constructs culverts, side drains, mitre drains, cut-off drains, sub-surface drains, bridges, drifts, retaining walls					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
52.	Undertakes maintenance of highway drainage and hydraulic structures as per maintenance procedures					
53.	Assesses pavement conditions					
54.	Prepares for maintenance activities					
55.	Carries out emergency maintenance works, routine maintenance and periodic maintenance					

Note:

To be declared competent, the mentee must get:

1. 28 of the 55 (50%) items of evaluation correct and
2. Items 22, 30, 31, 42 and 55 correct.

Evaluation	Remarks
Please tick as appropriate The mentee was found to be: Competent ☐ Not Yet Competent ☐ <i>(If not yet competent, please specify in the remarks column which areas the mentee need to improve on)</i>	

5. DESIGN ENGINEERING STRUCTURES

Mentor and mentee: Please fill information for each of the two sections in the respective columns. Initials should be used as given in the header below.

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	KNOWLEDGE The mentee demonstrates knowledge of:		Self-assessment	Mentor review		
1.	Engineering CAD software					
2.	Codes of practice.					
3.	Occupational safety and health					
4.	Materials Science					
5.	Laboratory operation and procedures					
6.	Building regulations, Engineers Act and Engineers Code of Ethics					
7.	Engineering surveying					
	SKILLS The mentee:					
8.	Determines intended use of the structure as per client needs					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
9.	Creates layout of the structure from the architectural drawings as per design standards and structural use					
10.	Determines codes of practice/manuals required to obtain the required loading based on structural use.					
11.	Carries out load analysis/estimation as per code procedures					
12.	Selects design methods based on cost effectiveness and client needs as per code standards					
13.	Determines design software as per organizational standards.					
14.	Designs structural elements as per design standards					
15.	Determines alternative cost saving design methods and materials based on site conditions					
16.	Reviews preliminary designs to determine elements that can be reduced					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	or replaced as per design standards.					
17.	Modifies preliminary designs to suite site conditions as per code of practice standards.					
18.	Retests preliminary hypotheses for practicality to site conditions as per design standards					
19.	Conducts research and selects alternative design methods and materials					
20.	Establishes new hypotheses to support new designs and reflect site conditions as per the required conditions					

Note:

To be declared competent, the mentee must get:

1. 10 of the 20 (50%) items of evaluation correct and
2. Items 9, 10, 11, 14 and 16 correct.

Evaluation	Remarks
Please tick as appropriate The mentee was found to be: Competent <input data-bbox="479 432 537 461" type="checkbox"/> Not Yet Competent <input data-bbox="479 493 537 521" type="checkbox"/> <i>(If not yet competent, please specify in the remarks column which areas the mentee need to improve on)</i>	

6. PRODUCE BUILDING DRAWINGS

Mentor and mentee: Please fill information for each of the two sections in the respective columns. Initials should be used as given in the header below.

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	KNOWLEDGE The mentee demonstrates knowledge of:		Self-assessment	Mentor review		
1.	Working drawings (architectural, structural, mechanical, electrical civil engineering drawings)					
2.	Codes of practice, building code and local authority by-laws					
3.	Measurement					
4.	Plumbing					
5.	Structural design					
6.	Mechanical systems					
7.	Engineering software					
	SKILLS The mentee:					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
8.	Identifies construction dimensions according to the size of the proposed site, construction regulations, planning requirements and client specifications					
9.	Interprets architectural drawings in accordance with the architectural code of design, building code, local authority by laws, regulatory requirements and client specification					
10.	Designs structural elements according to the codes of practice					
11.	Draws detailed plans and sections of designed elements as per dimensions and relevant standards					
12.	Prepares bar bending schedule as per the code of practice					
13.	Produces structural drawings in accordance with building code, local authority by laws, regulatory requirements and client specification					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
14.	Interprets civil engineering drawings					
15.	Sketches electrical circuits drawings in accordance with the electrical code of practice and the architectural layout					
16.	Draws electrical connection layout in accordance with the electrical code of practice					
17.	Identifies building dimensions as per the architectural drawings, structural and electrical drawings					
18.	Determines pipe sizes as per consumption requirements and design requirements					
19.	Determines pipe types according to the design requirements					
20.	Determines pipe fittings according to the mode of connection or the pipe layout plan					
21.	Draws pipe layout plan as per the building design					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
22.	Obtains mechanical component dimensions as per structural and architectural drawings					
23.	Identifies mechanical components as per architectural and structural drawings					
24.	Sketches mechanical drawings					
25.	Interprets mechanical drawings as per specifications					

Note:

To be declared competent, the mentee must get:

1. 13 of the 25 (50%) items of evaluation correct and
2. Items 9, 10, 15, 24 and 25 correct.

Evaluation	Remarks
Please tick as appropriate The mentee was found to be: Competent ☐ Not Yet Competent ☐ <i>(If not yet competent, please specify in the remarks column which areas the mentee need to improve on)</i>	

7. CARRY OUT BUILDING WORKS

Mentor and mentee: Please fill information for each of the two sections in the respective columns. Initials should be used as given in the header below.

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	KNOWLEDGE The mentee demonstrates knowledge of:		Self-assessment	Mentor review		
1.	Measurement					
2.	Substructure and superstructure					
3.	Formwork and scaffolding					
4.	Wall construction					
5.	Technical drawings and interpretation					
6.	Structural design					
7.	Occupational safety and health					
8.	Codes of practice					
9.	Types of roofs and roofing materials					
10.	Materials science					
11.	Construction machines, tools and equipment					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
12.	Carpentry and joinery					
13.	Types of fireplace					
14.	Fixtures and fittings					
	SKILLS The mentee:					
15.	Observes occupational health and safety practices and regulations					
16.	Surveys building site as per standard construction procedures					
17.	Determines site boundary as per standard construction procedures					
18.	Hoards/screens building site as per standard construction procedures					
19.	Demolishes unwanted structures as per standard construction procedures					
20.	Clears building site as per standard construction procedures					
21.	Prepares site layout as per standard construction procedures					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
22.	Prepares site preliminary report as per standard construction procedures					
23.	Identifies and constructs site utilities as per standard construction procedures					
24.	Constructs storage facilities as per standard construction procedures					
25.	Constructs and dismantles trench timbering according to standard construction procedures					
26.	Constructs and dismantles building formwork/shuttering according to standard construction procedures					
27.	Erects and dismantles building scaffold according to standard construction procedures					
28.	Erects and dismantles building shores according to standard construction procedures					
29.	Set out building according to standard construction procedures					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
30.	Excavates building foundation according to standard construction procedures					
31.	Lays building foundation according to standard construction procedures					
32.	Erects foundation walls according to standard construction procedures					
33.	Constructs solid ground floor according to standard construction procedures					
34.	Sets out and constructs superstructure columns based on the construction method					
35.	Sets out and erects superstructure walling based on the construction method					
36.	Sets and constructs superstructure beams, stairs and upper floors based on the construction method					
37.	Sets and erects building roof according					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	to standard construction procedures					
38.	Constructs fire place according to standard construction procedures					
39.	Installs fixtures and fittings according to standard construction procedures					
40.	Applies floor finishes according to standard construction procedures					
41.	Paints building surfaces according to standard construction procedures					
42.	Applies building facings according to standard construction procedures					
43.	Applies wall finishes according to standard construction procedures					
44.	Applies ceiling finishes according to standard construction procedures					
45.	Carries out pointing and jointing according to standard construction procedures					
46.	Performs building rough casting according to standard construction					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	procedures					
47.	Lays external paving based on the mode of construction					
48.	Performs soft landscaping based on the mode of construction					
49.	Constructs drainage system based on the mode of construction					
50.	Constructs fences and gates based on the mode of construction					

Note:

To be declared competent, the mentee must get:

1. 25 of the 50 (50%) items of evaluation correct and
2. Items 20, 26, 31, 34 and 39 correct.

Evaluation	Remarks
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Please tick as appropriate The mentee was found to be: Competent ☐ Not Yet Competent ☐ <i>(If not yet competent, please specify in the remarks column which areas the mentee need to improve on)</i>	
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8. MANAGE WATER RESOURCES QUALITY

Mentor and mentee: Please fill information for each of the two sections in the respective columns. Initials should be used as given in the header below.

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	KNOWLEDGE The mentee demonstrates knowledge of:		Self-assessment	Mentor review		
1.	Instrumentation					
2.	Water resources management					
3.	Technical specifications					
4.	Statutory regulations					
5.	Occupational health and safety					
6.	Quality Assurance					
7.	Standard operating procedures					
8.	Hydrology					
9.	Integrated Water Resources Management					
10.	Environmental science					
11.	Water quality					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
12.	Water Act 2016					
	SKILLS The mentee:					
13.	Performs water quality reconnaissance survey based on the need					
14.	Identifies environmental Water sampling sites and water resource quality indicators based on the reconnaissance survey					
15.	Identifies matrices for water resource quality monitoring based on the reconnaissance survey					
16.	Identifies tools and equipment based on the need					
17.	Operates and maintains tools and equipment based on standard operation procedures					
18.	Prepares water quality monitoring protocol based on need					
19.	Implements water quality monitoring					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	schedules based on the monitoring protocol					
20.	Prepares and submits water quality monitoring report based on best practice					
21.	Identifies surface water quality challenges and issues based on management need					
22.	Characterizes surface water resources quality based on challenges and issues identified					
23.	Develops surface water quality management plan based on challenges and issues identified					
24.	Implements surface water quality management plan based on challenges and issues identified					
25.	Identifies ground water quality challenges and issues based on management need					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
26.	Characterizes groundwater resources quality based on challenges and issues identified					
27.	Develops groundwater quality management plan based on challenges and issues identified					
28.	Implements groundwater quality management plan based on challenges and issues identified					
29.	Identifies sources of wastewater based on characteristics					
30.	Assesses wastewater quality based on selected parameters					
31.	Prepares wastewater quality assessment report based on monitoring sites					
32.	Treats and disposes wastewater as per the environmental standards					
33.	Interprets wastewater quality assessment report based on monitoring					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	plan					
34.	Submits wastewater quality assessment report based on best practices					

Note:

To be declared competent, the mentee must get:

1. 17 of the 34 (50%) items of evaluation correct and
2. Items 20, 22, 27 and 30 correct.

Evaluation	Remarks
Please tick as appropriate The mentee was found to be: Competent ☐ Not Yet Competent ☐ <i>(If not yet competent, please specify in the remarks column which areas the mentee need to improve on)</i>	

9. DESIGN WASTEWATER COLLECTION AND TREATMENT INFRASTRUCTURE

Mentor and mentee: Please fill information for each of the two sections in the respective columns. Initials should be used as given in the header below.

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	KNOWLEDGE The mentee demonstrates knowledge of:		Self-assessment	Mentor review		
1.	Technical specifications					
2.	Occupational health and safety					
3.	Quality Assurance					
4.	Wastewater treatment technologies and processes					
5.	Soil analysis methods					
6.	Hydraulics skills					
7.	Statutory regulations and legislation in water					
	SKILLS The mentee:					
8.	Identifies properties of fluids based on					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	standards					
9.	Identifies tools and equipment for measurement of pressure, velocity and discharge based on fluid properties					
10.	Applies hydraulic principles based on the types of fluids					
11.	Identifies properties of materials based on the job requirements					
12.	Analyses section properties based on the materials, loading and sizes					
13.	Analyses structural elements based on material and loadings					
14.	Identifies structural elements based on the requirements					
15.	Designs structural elements based on design codes					
16.	Produces structural drawings based on the design.					
17.	Maps out area to be surveyed based on job requirements/specification.					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
18.	Prepares tools for data collection based on information required.					
19.	Collects data and information based on tools prepared.					
20.	Arranges data and information based on various themes.					
21.	Cleans data as per best practice.					
22.	Presents data based on various themes.					
23.	Identifies design parameters to be calculated based on wastewater design manual.					
24.	Identifies tools for parameter calculation based on the parameter to be calculated.					
25.	Calculates various wastewater infrastructure design parameters based on design codes.					
26.	Identifies and gathers drawing tools, equipment, supplies and materials based on available resources and					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	complexity of the design.					
27.	Draws wastewater infrastructure units based on the design parameters.					
28.	Submits wastewater infrastructure drawings for approval as per legal requirements.					
29.	Obtains design report format from the wastewater design manual.					
30.	Prepares design report based on identified format.					
31.	Submits design report to the client as per best practice.					

Note:

To be declared competent, the mentee must get:

1. 16 of the 31 (50%) items of evaluation correct and
2. Items 10,13, 19, 25 and 27 correct.

Evaluation	Remarks
Please tick as appropriate The mentee was found to be: Competent ☐ Not Yet Competent ☐ <i>(If not yet competent, please specify in the remarks column which areas the mentee need to improve on)</i>	

10. CONSTRUCT WASTEWATER INFRASTRUCTURE

Mentor and mentee: Please fill information for each of the two sections in the respective columns. Initials should be used as given in the header below.

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	KNOWLEDGE The mentee demonstrates knowledge of:		Self-assessment	Mentor review		
1.	Technical specifications					
2.	Technical drawings					
3.	Construction materials					
4.	Construction management					
5.	Occupational health, safety					
6.	Quality Assurance					
7.	Wastewater treatment technologies and processes					
8.	Soil analysis methods					
9.	Hydraulics					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
10.	Statutory regulations and legislation in water					
11.	Sewer construction					
12.	Measurement and costing					
13.	Construction documents					
	SKILLS The mentee:					
14.	Identifies and gathers soil analysis tools, supplies and materials based on available resources and the tests to be conducted					
15.	Identifies engineering properties of soils based on the soil classification					
16.	Analyses properties of soils based on the standard procedures					
17.	Prepares soil analysis report based on the results.					
18.	Interprets engineering drawings based on the engineering codes					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
19.	Identifies construction activities based on scope of work					
20.	Prepares project management timelines based on project specifications					
21.	Clears and secures site based on the contract document.					
22.	Identifies and mobilizes human resources, construction plant and equipment based on the contract document					
23.	Establishes site infrastructures based on contract document and legal requirements.					
24.	Sources and mobilizes construction materials and tools based on the bill of quantities					
25.	Sets out infrastructure based on the engineering drawings.					
26.	Constructs wastewater infrastructure units based on the design drawings					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
27.	Conducts labour payments based on the progress report and attendance.					
28.	Prepares and submits as built drawings based on the actual construction					
29.	Prepares payment certificate based on progress report.					
30.	Prepares completion certificate based on the legal requirements					
31.	Observes site personal health and safety as per the OSH Act and site regulations					

Note:

To be declared competent, the mentee must get:

1. 16 of the 31 (50%) items of evaluation correct and
2. Items 16, 20, 24 and 26 correct.

Evaluation	Remarks
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Please tick as appropriate The mentee was found to be: Competent ☐ Not Yet Competent ☐ <i>(If not yet competent, please specify in the remarks column which areas the mentee need to improve on)</i>	
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11. DESIGN ONSITE SANITATION FACILITIES

Mentor and mentee: Please fill information for each of the two sections in the respective columns. Initials should be used as given in the header below.

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	KNOWLEDGE The mentee demonstrates knowledge of:		Self-assessment	Mentor review		
1.	Technical specifications					
2.	Quality Assurance					
3.	Computer Aided design					
4.	Occupational health, safety					
5.	Wastewater treatment processes					
6.	Soil analysis methods					
7.	Surveying					
8.	Statutory regulations and legislation in water					
9.	Onsite sanitation facilities					
	SKILLS The mentee:					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
10.	Maps out area to be served based on job requirements/specification.					
11.	Prepares tools for data collection based on onsite sanitation facility to be designed.					
12.	Collects data and information based on tools prepared.					
13.	Arranges data and information based on onsite sanitation facility to be designed.					
14.	Presents data based on onsite sanitation facility to be designed.					
15.	Identifies design parameters to be calculated based on wastewater design manual.					
16.	Identifies tools for design parameter calculation based on the parameter to be calculated.					
17.	Calculates various onsite sanitation facility design parameters based on					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	design codes.					
18.	Identifies and gathers drawing tools, supplies and materials based on available resources and complexity of the design.					
19.	Draws onsite sanitation facilities based on the design parameters.					
20.	Submits onsite sanitation facility drawings for approval as per legal requirements					
21.	Identifies data required for shit flow diagram preparation according to standards					
22.	Identifies methodology for data collection as per the standards					
23.	Identifies and gathers tools, supplies and materials based on available resources					
24.	Collects, sorts and analyses data based on methodology identified					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
25.	Prepares SFD based on the data collected.					
26.	Prepares and submits design report based on identified format.					

Note:

To be declared competent, the mentee must get:

1. 13 of the 26 (50%) items of evaluation correct and
2. Items 10, 16, 24 and 26 correct.

Evaluation	Remarks
Please tick as appropriate The mentee was found to be: Competent <input data-bbox="479 432 537 461" type="checkbox"/> Not Yet Competent <input data-bbox="479 493 537 521" type="checkbox"/> <i>(If not yet competent, please specify in the remarks column which areas the mentee need to improve on)</i>	

12. CONSTRUCT ONSITE SANITATION FACILITIES

Mentor and mentee: Please fill information for each of the two sections in the respective columns. Initials should be used as given in the header below.

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	KNOWLEDGE The mentee demonstrates knowledge of:		Self-assessment	Mentor review		
1.	Technical specifications					
2.	Quality Assurance					
3.	Occupational health and safety					
4.	Wastewater treatment processes					
5.	Soil analysis methods					
6.	Surveying					
7.	Statutory regulations and legislation in water					
8.	Technical drawing					
9.	Onsite sanitation facilities					
10.	Construction management					
	SKILLS					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	The mentee:					
11.	Interprets engineering drawings based on the engineering codes					
12.	Identifies construction activities based on scope of work					
13.	Prepares project management timelines based on project specifications					
14.	Clears and secures site based on the contract document.					
15.	Identifies and mobilizes human resource, construction plant and equipment based on the contract document					
16.	Establishes onsite infrastructure based on contract document and legal requirements					
17.	Sources and mobilizes construction materials based on the bill of quantities					
18.	Sets out onsite sanitation facilities based on the engineering drawings.					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
19.	Constructs onsite sanitation facility units based on the design drawings					
20.	Conducts labour payments based on the progress report and attendance list.					
21.	Prepares and submits as-built drawings based on the actual construction works					
22.	Prepares substantial completion certificate based on FIDIC regulations					
23.	Prepares payment and completion certificates					

Note:

To be declared competent, the mentee must get:

1. 12 of the 23 (50%) items of evaluation correct and;
2. Items 13, 17, 19 and 23 correct.

Evaluation	Remarks
Please tick as appropriate The mentee was found to be: Competent ☐ Not Yet Competent ☐ <i>(If not yet competent, please specify in the remarks column which areas the mentee need to improve on)</i>	

13. MANAGE CIVIL ENGINEERING PROJECTS

Mentor and mentee: Please fill information for each of the two sections in the respective columns. Initials should be used as given in the header below.

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
	KNOWLEDGE The mentee demonstrates knowledge of:		Self-assessment	Mentor review		
1.	Construction dimensions and engineering drawing					
2.	Architectural and engineering drawings					
3.	Codes of practice, local authority by-laws and building code					
4.	Structural elements and structural design					
5.	Measurement					
6.	Plumbing and mechanical systems					
7.	Engineering software					
8.	Occupation Safety and Health					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
9.	Engineers Act and Code of Ethics					
	SKILLS The mentee:					
10.	Prepares work schedules and time programmes based on the project specifications					
11.	Monitors and evaluates project timelines based on the project specifications					
12.	Controls project time schedules based on the project specifications					
13.	Prepares and disseminates project timeline reports based on the project specifications					
14.	Develops construction project quality plans and methodology according to the contract specifications					
15.	Acquires construction project resources according to the contract specifications					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
16.	Prepares construction project quality reports according to the contract specifications					
17.	Conducts site health, safety and security inspections in line with the OSH Act					
18.	Coordinates and monitors project site security in line with the OSH Act					
19.	Prepares project budget according to the scope of the project					
20.	Procures, allocates and monitors site resource utilization according to the project scope					
21.	Controls project cost variation as per SOPs					
22.	Prepares project financial report					
23.	Develops project labour guidelines in line with Labour laws and FIDIC regulations					
24.	Establishes labour levelling plan					

S/N.	Items for evaluation (knowledge and skills)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any item assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes e.t.c.
25.	Allocates staff responsibilities					
26.	Manages labour welfare					
27.	Prepares project labour report					
28.	Manages project documentation					
29.	Engages project stakeholders					
30.	Inspects construction project works					
31.	Manages project information					
32.	Prepares project implementation report					
33.	Prepares site storage facility					
34.	Prepares construction materials and construction equipment schedule					
35.	Procures and issues construction materials and equipment					

Note:

To be declared competent, the mentee must get:

1. 18 of the 35 (50%) items of evaluation correct and
2. Items 11, 16, 17, 26 and 28 correct.

Evaluation	Remarks
Please tick as appropriate The mentee was found to be: Competent <input data-bbox="479 432 537 461" type="checkbox"/> Not Yet Competent <input data-bbox="479 493 537 521" type="checkbox"/> <i>(If not yet competent, please specify in the remarks column which areas the mentee need to improve on)</i>	

14. WORKER BEHAVIOUR

Mentor and mentee: Please fill information for these sections in the respective columns. Initials should be used as given in the header below. The mentee is supposed to demonstrate the following worker behaviour.

S/N.	Items for evaluation (attitudes)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes etc.
	The mentee is:		Self-assessment	Mentor review		
1.	An effective communicator					
2.	A team player/Impartial					
3.	Tolerant					
4.	Trustworthy					
5.	Respectful					
6.	Emotionally intelligent					
7.	A Problem solver					
8.	Open minded/open to correction and positive criticism					
9.	Self-aware					
10.	Creative and innovative					
11.	Diligent/ thorough					
12.	Environmentally conscious					
13.	Time conscious					
14.	Presentable					
15.	Resilient and self-driven					

S/N.	Items for evaluation (attitudes)	Not applicable (NA) To current area of practice	Self-assessment record: Need to improve (NI) Or met (date)	Mentor review record: Need to improve (NI) Or met (initials & date)	Record action plan for any assessed as needs to improve (as agreed with mentor)	Evidence e.g., marked scripts (written and/oral), observation checklist, products, photos and videos of products and processes etc.
16.	Discipline and observing organisation code of conduct					
17.	Growth oriented					

Note:

To be declared competent, the mentee must get 13 of the 176 (75%) items of evaluation correct.

Evaluation	Remarks
Please tick as appropriate The mentee was found to be: Competent ☐ Not Yet Competent ☐ <i>(If not yet competent, please specify in the remarks column which areas the mentee need to improve on)</i>	

APPENDIX A: SUMMARY OF TOTAL PERIOD OF MENTORING (TO BE FILLED BY MENTEE)

S/N	Section/Department/ Worksite/workstation/workshop/ workplace	Period (Weeks/days)	Mentor's Name
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

APPENDIX B: MENTOR SUMMARY REPORT (TO BE FILLED BY OVERALL SUPERVISOR)

NAME OF TRAINEE:	
REGISTRATION NUMBER OF TRAINEE:	
NAME OF TRAINEE'S INSTITUTION:	
NAME OF MENTOR:	
DESIGNATION:	
MENTORING ORGANIZATION:	
DATE :	
SIGNATURE AND STAMP:	
Evaluation	Remarks
Please tick as appropriate The mentee was found to be: Competent ☐ Not Yet Competent ☐ <i>(The candidate is competent if s/he gets 50% of the items correct)</i> <i>(If not yet competent, please specify in the remarks column which</i>	

areas the mentee need to improve on)	
Feedback from mentor (Supervisor):	
Mentor's signature:	Date
Feedback from mentee (trainee):	
Mentee's signature:	Date

APPENDIX C: ADDITIONAL SKILLS ACQUIRED DURING THE MENTORING PERIOD (TO BE FILLED BY MENTEE)

S/N	Additional skill acquired	Description of the task	What new things have you learned from this task
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

APPENDIX D: INDUSTRIAL LIAISON OFFICER FORM (TO BE FILLED BY ILO)

NAME OF INSTITUTION:

NAME OF ILO OFFICER:

DATE :

REMARKS

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SIGNATURE AND STAMP: