ANNEX H SCREENING FORM FOR POTENTIAL E&S ISSUES

This form is to be used by the PMU (with assistance from other stakeholders as relevant, including the community proposing the subproject) to screen potential environmental and social risks and impacts of the rural water supply system subproject for the, Habusi and riverside communities.

The purpose of screening is to (i) determine whether activities are eligible to be financed, and likely to have potential negative environmental and social risks and impacts; and (ii) identify appropriate specific mitigation measures for activities with adverse risks or impacts. Detailed mitigations for general E&S issues are found in the E&S tools and do not require repeating in this form. The screening will help the PMU in identifying the relevant E&S tools required to assess and manage the E&S risks associated with the subproject.

IMPACTS SCREENING FORM

(to be completed by E&S focal point)

Filled in by FMO and PMU E&S focal points (name): Xavie Vaisekavea

Support provided by (name/s and role/s): Titus Siapu (CLO), Boniface Talu (WSE), Lionald T (JTO)

Approved by CBSP PMU Project Manager (name) and FMO Fund Manager: Francis Kapini

Sub-project name and project code: Gravity Fed Water Supply System for Habusi, Namopila, Komureo and nearby Communities.

Brief description of subproject and resources/materials (e.g., labour [skilled, unskilled], construction materials, machinery, water, etc) required for construction and operation:

This subproject is for the construction of the gravity fed water supply system proposed for Habusi, Namopila and nearby riverside communities. See Annex A for the map of the site. The water supply aims to improve the access to clean and safe water for the communities. This subproject will involve the construction of a dam at an existing open water source located upstream from Habusi Village. See Annex D for the design of the proposed dam and the storage tank shed. The proposed open water source is a separate stream located 1km South of Habusi Village and is not going to be directly affected by the construction of the Tina Dam. The proposed dam site sits on a 130m elevation from the Tina river. The storage tank is a 1x 10KL rotomould tank which is estimated to supply a population of 114 people who are currently relying on the Tina river as the main source of water. The water supply will be distributed via stand pipes that will be located at accessible locations within the village.

To ensure the proposed water supply system is constructed as per design and specifications, skilled and unskilled labour will be required as well as construction materials such as cement, mixed gravel, rebar, wire mesh, tie wire, timber, plywood, pipe and fittings, Dam and Tank fittings etc.

Target beneficiaries of the subproject (e.g., community/ individual groups/ age groups): Habusi, Namopila, Komureo and nearby riverside communities.

Location of Community: Bahomea Region

No.	Subject	Screening Questions	Yes	No	N/A	Note/Comment (column to be completed with additional information – use separate sheet if more space is required)
	ELIGIBILITY SCREENING					

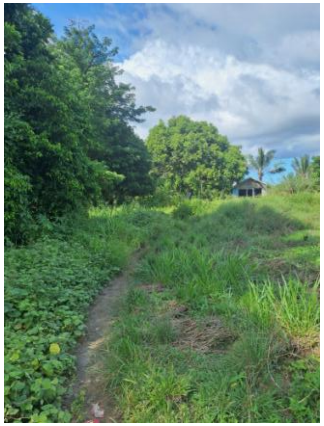
1a	Ineligibility for financing	Is the subproject listed as eligible in **Table 3** of the ESMF?	Yes			*If yes, complete the screening.* *See Table 3 in Annex B*
1b		Is the subproject listed in the ineligible activity list?		No		*if yes subproject is not eligible funding.*
		If the subproject type is not listed in **Table 3** *then consult with the by CBSP PMU Project Manager to confirm eligibility.*				
	CONSIDERATIONS FOR SCOPING PHASE					
2	What major hazards apply to the selected site and could affect the subproject? (Circle or highlight those that apply)	Sea level rise Earthquake Cyclone Storm Surge Flooding Drought Landslide Wildfire Tsunami Industrial hazards Volcanic eruption Other (write):	Yes Yes	 No 		• *Is the proposed site appropriate?* ***Dam*** *The proposed site for the dam is isolated from the village, no nearby agricultural activities and the water source is a separate stream from the Tina River and is located upstream from Habusi Village.* ***Storage Tank*** *The site for storage tank is 500m downstream from the source. See attached KML files.* ***Pipeline Alignment*** *The pipeline alignment is through the forest from the dam to the Storage Tank. The alignment through the village is along existing bush track.* *The site is appropriate for the water supply system infrastructure.* • *Can risks associated with the hazards be reduced by different siting or location?* *Since all the hazards are commonly experienced in Solomon Islands, the risks remains and will not be reduced by different siting or location. See annex A for map.* • *Are measures possible around the subproject site to reduce hazard risk, to approve the location?* *The site is covered with thick vegetation and trees therefore low risk for landslide. The area required for clearance will be minimal and measures such as marking the footprint of the structure prior to clearance will be required.* *Provide comments/conditions:*
3	Land ownership	Who owns the land?				*The community has responsibility over the land and the village chief and elders will be responsible for signing of the agreement for use of land for the project.*

		Will the project require acquisition of customary land or resettlement? Yes		No		*Projects requiring permanent resettlement are not eligible for funding.* *Projects requiring acquisition of customary land are not eligible for financing.* *Has a voluntary land donation form been signed for any customary land? A voluntary land donation form has been signed. See Annex C.*
4	Current land use	What is the land currently used for? Is it used to grow crops or raise animals?				*Part of the land is within the forest and other part of the land is along an existing bush track.* *No, it is all clear land.*
5	Community support	Does the community support the project? Have they raised any concerns?	Yes Yes			*The community supports the project and have mentioned during consultations that they have always wanted permanent water supply and look forward to work together with the project team to complete this subproject.* *One of the concern raised by a community member is a request to extend water supply connection to his village, however, they were advised that the designs are as per scope and budget therefore cannot cater for extra pipe lengths to his village. Also, adding more lengths to the system will result in redesign and procurement of larger pipe diameters.*
6	Unexploded ordnance (UXO) (e.g., from WWII)	From discussions with local community around previous potential finds, is there potential to find UXOs at the site?		No		*If yes, need to get site cleared before ground disturbance activities can commence. Need to ensure allocation for this is included the project budget.*

7	Positive impacts	Is the project expected to have positive environmental and/or social impacts/benefits?	Yes			*Describe such impacts* *The subproject site is not near any protected areas and it is anticipated that only hand digging will be required for pipe alignment from water source to the village, hence minimum vegetation clearance.* *The project is expected to have positive social impacts such as access; women, children and other vulnerable people will not have to walk long distances to collect water.* *Reliability; The permanent water system is anticipated to be more reliable than the existing rain water catchment system.* *Improved Sanitation; Increase access and reliability to water supply will improve sanitation practices as well.*
8	Sustainability	Does the community have a plan for the management and maintenance of assets (including prevention of vandalism if this is a risk) after implementation?	Yes			*Management Plan to accompany an application for funding* *A preconstruction training will be conducted prior to commencement of construction where a Water Committee will be set up with assistance from RWASH. The Water Committee will be responsible for the plan and management and maintenance of assets after implementation.*
	CONSIDERATIONS/IMAPCTS DURING DESIGN & CONSTRUCTION PHASE					
9	Does the subproject design consider needs of woman and people with disabilities?		Yes			*Describe how the subproject design considered needs of woman and people with disabilities.* Design consideration that addresses the needs of women includes the following. 1. Access to water will be within the village where women don't need to travel long distance to collect water. 2. Stand pipes will be at convenient locations as desired by the community, taking into consideration cultural values of the community and households of people with disabilities. 3. Reliability of water supply will help improve women's hygiene practices. 4. Installation of valves at strategic locations to manage flow and isolate sections for maintenance will ensure supply of water is not affected when

						some sections of distribution line is undergoing maintenance.
10	Vegetation cover, trees, insects, animals	a) Will the subproject remove vegetation cover, cut down trees for timber or site clearance?	Yes	No		*Specify the number and the type of trees to be cut down or area of vegetation (m^2)* Some trees will need to be cut down to clear the storage tank site.. However, at the dam site, no tree removal will be required. See Annex D for the design of the proposed system. ***Will you clear vegetation from a riverbank or within 10m of a river?*** The open water source is an existing small stream (see photo). At the open water source, some clearance of shrubs, grass, and dirt will be necessary. Since the concrete box will be built on a hard rock surface, excavation for the footing will also be required.  At the storage tank site, excavation will be needed to level the base of the storage tank, which will require minimal clearance and leveling of site. Erosion and sediment control planning will be included in the management plan. **For projects that require clearing of vegetation within 10m or a river bank, erosion and sediment control planning should be included in the CoESP or ESMP for the project.**

		b) Will the subproject affect cropland or gardens with waste and wastewater?		No		*Assess if waste and wastewater generated during construction may affect existing crops/ gardens* *No existing gardens or croplands nearby that will be affected.*
		c) Will the subproject disturb protected wildlife?		No No		*Are populations of protected wildlife near the subproject site and likely to be affected by the subproject? There are no protected wildlife near the subproject site.*
		d) Will the subproject remove or disturb sensitive habitat?		No		*What area of land is required to be cleared for the project in m^2?* *Tank Stand Area = Approx. 8 square meters.* *Dam area =Approx. 7 square meters.* *Which of the following describe the site (choose more than one if relevant):* *(a) Cleared area (grass only)* *(b) Cleared area with some trees and plants* *(c) Food gardens* *(d) Mix of food garden plants and bush plants* *(e) Bushland which has not been cleared previously* *(f) Located in or within 10m of a river or on a steeply sloped site*

						    ***If your project will require clearing of more up to 10m^2 of undisturbed bushland (category e above) the project design should consider options to minimize the area to be cleared.*** ***For projects which will be constructed on cleared areas or garden areas a CoESP for Small Infrastructure is sufficient to manage risks provided no***

						other screening questions trigger an ESMP. **For projects that require clearing of vegetation within 10m or a river bank, or on a steeply sloped site, erosion and sediment control planning should be included in the CoESP or ESMP for the project.** ***Project which impact on protected areas are not eligible for funding.***
11	Pests and diseases (land-based and marine)	Does the subproject have a risk of introducing or spreading pests and diseases (e.g., through use of non-local soil and plant matter, use of non-local machinery/equipment, translocation of animals)?		No		*The risk of introducing or spreading pests and diseases is low and it is anticipated no heavy machineries will be used for the project. Only hand held tools and trucks for transportation of materials.*
12	Natural resources	Is the subproject located near forest or protected areas?	Yes			*Describe any such nearby areas and estimate the distance from the subproject site* *The water source and storage tank proposed location is in the forest. There are no protected areas nearby.* ***Project which impact on protected areas are not eligible for funding.***
13	Landscape	Will the subproject cause significant changes to, or negatively affect the landscape of the area?		No		*Describe the nature of change, e.g. from green site to concrete/ wooden structures, dumps created in green area* *It is anticipated that the subproject will not negatively affect the landscape of the area since no major cutting of trees is required and the size of the structure is minimal.* ***Projects which are expected to significantly negatively effect the landscape (e.g. large structures that are visible from a distance and would significantly change the landscape) require preparation of an ESMP.***
14	Solid waste	Will the subproject generate solid waste such as excavated soil, unused materials	Yes			*There will be generation of excavated soil, waste from packages, HDPE pipe off cuts and other construction materials that can affect cropland or garden.* *Mitigation measures will be required to ensure all solid wastes shall be collected and removed from site. No dumping of wastes in the cropland areas*

			Yes			*or gardens will be allowed. Any recyclable or items fit for reuse can be gifted to the community.* *Will the generated waste be able to be managed in accordance with WMP (Annex D of ESMF)?* ***If no, a subproject specific waste management plan must be prepared.***
15	Hazardous wastes	Will the subproject generate hazardous waste such as batteries, unused paints, oil, lubricant, etc.	Yes	Yes		*Oil paint will be used in the project.* *Will the generated waste be able to be managed in accordance with WMP (Annex D of ESMF)?* ***If no, a subproject specific waste management plan must be prepared.***
16	Wastewater	Will the subproject generate wastewater from the site?	Yes			*List the types of activities (e.g. concrete mixing, tools washing etc.) that may generate waste water and* *quantity.* *Concrete mixing will be carried out especially in the construction of the dam at the source and the storage tank stand. Dam footprint is only 4.1m x 1.7m which is a small structure as well as the tank stand which is approx 2.8m x 2.8m. This is a small infrastructure and it is anticipated that the generated waste water will be minimal; hence risks can be managed via a CoESP.* ***Projects that generate small amounts of wastewater can manage risks vias a CoESP for Small Infrastructure. Projects which generate large volumes of wastewater must prepare a ESMP.***
17	Dust and smoke	Will the subproject cause increased dust level at the site, or generate smoke	Yes			*Identify the sources, e.g. barren soil, disturbed ground, solid waste dumped at the sites, sand, gravel* *loaded at the site etc.* *The source that can increase dust level at the site is the transportation of mix gravel for concrete works.* *Describe the distance from the*

						nearest house *The proposed site for tank and dam (concrete works is required here) are distant from the village.* *If the subproject will increase dust/smoke at nearest house/school/church, measures to reduce dust/smoke should be included in the subproject CoESP (or ESMP if ESMP preparation is required based on other screening questions).*
18	Noise and vibration	Will the subproject generate high noise and vibration	Yes			*Identify the sources, e.g. drilling, pile driving, steel/timber cutting and the time that noise/vibration lasts* *Steel cutting is one of the activities that can generate high noise.* *Describe the distance from the* *nearest house to noise sources* *Houses are scattered within the village and distant from proposed site.* *If the subproject will increase noise and vibration substantially at nearest house/school/church, measures to reduce noise/vibration should be included in the subproject CoESP (or ESMP if ESMP preparation is required based on other screening questions).*
19	Erosion risks	Will the subproject disturb slopes?	Yes			*Describe the construction site, status of vegetation cover and the level of interference by the project. Consider rainfall during construction phase.* *The proposed site for the dam and tank is completely covered with shrubs and trees. The clearance required for the project will be minimal clearance of shrubs, trees and levelling. See footprint required for foundation of dam and tank shed in the designs. Area disturbed is anticipated to be less than 10 square meters and dam and tank area are at different locations. See KML file attached.* ***For projects located on steep slopes which will disturb more than 10m^2 an ESMP should be prepared.*** ***For projects where erosion and sediment control risks are lower (flat sites,*** *small area to be cleared) a CoESP for Small Infrastructure can be used to manage risks.*

20	Water quality	Will the subproject cause water pollution by construction waste and materials loaded at the construction site	Yes			*Estimate the type and quantity of materials loaded at the site at a time, the distance from construction site to the nearest water bodies and topographical condition* *The subproject will include minor excavation (manual digging) for the foundation of the dam. See design in Annex D. However, it is anticipated that the risk for water pollution will be low due to no risks for spillage of any hazardous chemicals or storage of hazardous materials on site especially around dam area.* ***Projects that generate low risk of water pollution (small projects, only minor excavation required, and/or located away from waterbodies) can manage risks vias a CoESP for Small Infrastructure.*** ***Other projects must prepare as ESMP to address water pollution risk.***
21	Local flooding	Will the subproject increase localised flooding risk by temporary/permanent loading of construction materials/wastes?		No		*Describe site topography of the site and how the subproject may affect it and hence affect flood risk*
22	Water quantity	Will the subproject extract or use a large amount of water in local river/streams may cause shortage to water supply to other users in the locality?		No		*Estimate the water requirements of the project and proposed source of water* *The water demand at riverside communities is 11.4KL. The water source will be from surface water (stream).* *Water quality testing will include physical and chemical test to check for turbidity level, dissolved solids, odor, pH, hardness, B.O.D etc.* *Habusi and other nearby communities who will be benefitting from this new water supply are currently relying on the newly installed HEC temporary water supply system as well as the Tina River.* ***Projects which could negatively impact water supply to other users in the locality must arrange an alternate water source to avoid impacts to users.***
23	Social disturbance	a) Will the subproject disrupt local traffic/ transportation/ pedestrian traffic	Yes			*List the activities/circumstance that can cause social disturbance (e.g. disrupt the pedestrian traffic or the operation of local water supply system etc)* *There is no existing vehicle access to the village since it is located on the Eastern side of Tina River. In order to get to the site, river crossing is required. Proper*

						vehicle access to the river is through the Tina Power Station access road.
		b) Will the subproject disrupt the operation of local water supply system?		No		There is currently a temporary water supply system installed by HEC for the communities. The community are currently relying on temporary system and the Tina river as their source of water supply. Therefore, this subproject will not disrupt operation of local water supply.
		c) Will the subproject disrupt the operation of local irrigation system?		No		
		d) Will the subproject disrupt the operation of local drainage system?		No		
		e) Will the subproject disrupt local farming activities?		No		*There will not be any removal or disruption of local farming activities.* *Refer to the Ministry of Agriculture and Livestock (MAL) process for crop compensation calculation if crops will be removed for the subproject.*
		f) Will the subproject disrupt community meetings/social events?		No		
		g) Will the subproject affect community security or safety?		No		
24	Public health	Will the subproject cause concerns on public health/ sanitation /hygiene in the local community / increase risk of mosquito-borne disease (e.g., through standing/ponding water)?		No		*Describe the nature of the activities that may cause health risks or create unhygienic conditions in project area*
25	Worker's health & safety	Will the subproject cause workers health and safety concerns	Yes			*Any construction works will create worker health and safety risks.* ***A health and safety management plan or Environmental and Social Code of Practice which incorporates health and safety measures are required for all projects.***

26	Cultural heritage	Will the subproject cause impact cultural sites such as church, historical site, graveyard, etc.		No		
27	Others:					Specify **Impacts to cultural sites must be avoided wherever possible. If these cannot be avoided appropriate consultations must be completed with the community.**
	CONSIDERATIONS/IMPACTS DURING OPERATION PHASE					
28	Water/soil pollution	Will the subproject generate wastewater from the site?		No		**Subprojects which will generate wastewater during operation must prepare a wastewater management plan prior to construction.**
29	Waste	Will the subproject generate solid waste	Yes			**Subprojects which will generate solid waste during operation must prepare an operational waste management plan prior to construction.** Solid waste will be generated when maintenance and repair works is required. The water Committee shall ensure to prepare an operational waste management plan.
30	Nuisance noise, odour	Will the subproject result in noise or odour impacts to nearby receivers (houses, schools, community facilities etc.)?		No	NA	Where a project will generate noise/ odour, have nearby receivers been consulted?
31	Unhygienic conditions, public health risks		Yes			Dirty water source can cause public health risks. The community water committee together with RWASH shall ensure an operational management plan is prepared prior to construction. **Subprojects which will generate public health risk during operation must prepare an operational management plan prior to construction.**
32	Worker's health & safety	Will the subproject require training and health and safety management for workers to allow for safe operation	Yes			*List the activities/circumstance that may create safety risks to workers and how these are proposed to be managed* *Operation and maintenance works will create safety risks to members of the community responsible for the water supply system. The post construction training for the water committee shall cover basic H&S practices/procedures.*

33	Visual impacts				N/A	
34	Conflict with downstream water users?			No		*List the activities/circumstance that may create conflict with downstream water users and how this is proposed to be managed*
35	Fish stocks	Will the project contribute to or encourage overfishing?			N/A	
36	Sustainability	What maintenance is required? Who will undertake this maintenance?				Specify Operation and maintenance of the water supply system is required which will include repair of pipe leaks or changing of fittings etc. The community will undertake the maintenance of the infrastructure. A water committee will be set up to ensure maintenance is conducted
37	Others					Specify

Conclusion: Based on the above screening preparation of the following E&S tools is recommended (refer to guidance in notes column):

Health & Safety (*all works require a Health and Safety Plan that is aligned with the scale of the works)*

✓ Health and Safety Plan (refer to Annex I of the ESMF as an example)

Environment & Social *(the CoESP for Small Infrastructure will cover most works. For subprojects with risks/impacts that are not covered in CoESP for Small Infrastructure, a Subproject-specific ESIA/ESMP will be required. For subproject with a high level of risks/impacts a full EIA incorporating ESMP (following Solomon Islands regulations and World Bank requirements) would be required, however, projects of this scale this would typically be ineligible for funding).*

✓ CoESP for Small Infrastructure (Annex C of the ESMF)

OR

○ Subproject-specific ESIA/ESMP (following template in Annex J of the ESMF)

OR

○ Subproject-specific full EIA incorporating ESMP (following Solomon Islands regulations and World Bank requirements)

Waste Management *(the Generic Waste Management Plan will cover most works. Where waste types will be generated that are not included in the Generic Waste Management Plan then a Subproject-specific Waste Management Plan will be required)*

✓ Generic Waste Management Plan (Annex D of the ESMF)

OR

○ Subproject-specific Waste Management Plan

Chance Finds *(the Chance Finds Procedure is required for any works that involve ground disturbance)*

✓ Chance Finds Procedure (Annex B of the ESMF)

Operational Management Plan a subproject specific operational management plan may be required where a subproject will generate operational risks.

✓ Subproject-specific Operational Waste Management Plan

OR

○ Operational Management Plan (to address any non-waste) operational risks

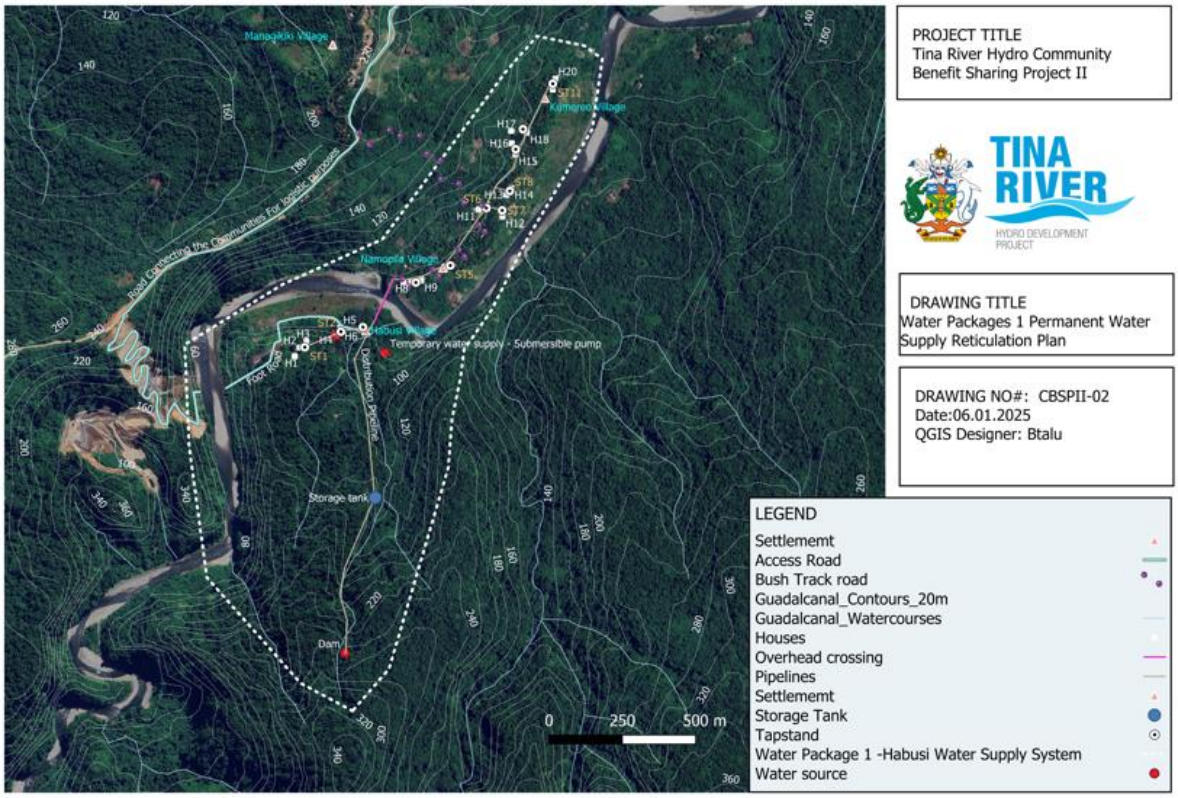
Signatures

Completed by: ……Xavie Vaisekavea……date: ……12.03.25……..

Verified by: ……Xavie Vaisekavea……date: ……18.03.25……..

Approved by: ……Francis Kapini…… date:……18.03.25……..

ANNEX A HABUSI MAP



ANNEX B ELIGIBILITY AND INELIGIBILITY LIST

Table 3 – Eligible and Ineligible Activity List

The following activities **are** eligible for funding under the project provided the Screening Form for Potential Env & Social Issues (Annex III) is completed according to the processes outlined in this ESMF:

- Staff housing (educators, healthcare workers)
- Gravity fed piped water supplies (schemes servicing less than 2,000 people)
- Boreholes and shallow wells (if investigations confirm sufficient good quality groundwater is available)
- Rainwater harvesting (rooftop catchment) and ground water replenishment (small infiltration dams), spring protection works and rainwater storage tanks
- Sanitation facilities, ablution blocks
- Pedestrian and off-road access infrastructure, such as footpaths, footbridges, handrails, and drainage facilities
- Road maintenance/repairs (roads, bridges), and climate resilient road upgrades
- Sporting fields/ facilities/ courts/ youth centres
- Classrooms/ education facilities
- Community halls/ resource centres/ Women's Centres
- Health facilities/ Rural health clinics / Aid posts
- Cyclone shelters
- Drainage and erosion control measures, retaining walls
- Electrification systems including standalone solar power systems, and solar pump systems (water supply)

The following activities **are not** eligible for financing under the Project:

- Activities of any type classifiable as "Substantial" or "High" risk pursuant to the World Bank's ESS1 of the ESF.
- Examples of "High" risk activities are activities that:
    - may cause long term, permanent and/or irreversible (e.g., loss of major natural habitat) adverse impacts
    - have potential to cause significant loss or degradation of critical natural habitats whether directly or indirectly or those that could adversely affect forest and forest health; Critical natural habitats include reefs, mangroves, forest areas which have not previously been cleared or disturbed.
    - have high probability of causing serious adverse effects to human health and/or the environment
    - would result in adverse impacts on cultural heritage
    - could affect sites with archaeological, paleontological, historical, religious, or unique natural values
    - may have significant adverse social impacts and may give rise to significant social conflict
    - would affect indigenous peoples, unless due consultation and broad support has been documented and confirmed prior to the commencement of the activities
    - may affect lands or rights of indigenous people or other vulnerable minorities
    - may involve permanent resettlement or land acquisition.
    - would result in adverse impacts on involuntary taking of land, relocation of households, loss of assets or access to assets that leads to loss of income sources or other means of livelihoods, and interference with households' use of land and livelihoods
    - use goods, equipment or lands abandoned due to social tension/conflict, or the ownership is disputed or cannot be ascertained
    - involve the demolition or removal of assets, unless the ownership of the assets can be ascertained, and the owners are consulted
    - involve forced/conscripted labour, child labour (under the age of 18), or other harmful or exploitative forms of labour
    - use goods and equipment for military or paramilitary purposes
    - involve major construction and civil works that would cause significant adverse impact and require a full ESIA report according to the national ESIA regulation.
- "Substantial" risk activities are likely to have considerable adverse E&S impacts but are less sensitive and more limited than those under category "High". Their impacts are site-specific and largely reversible, which could be readily identified and mitigated through recognized good practices. Examples of

"substantial" risk activities which are not eligible for finance include:

- Construction of runways, ports, large jetties, and some roads (see points below for clarification on roads)
- Incinerators, landfills, and other waste management systems
- Extraction of water from rivers and streams:
  - where the average extraction rate is greater than 100 m^3 per day; or
  - where the average extraction rate greater than 5% of the annual average discharge; or
  - involving diverting the stream or river or may affect the downstream flow pattern.
- Industrial or large-scale agricultural manufacturing and processing facilities

- Road sub-projects ineligible for finance are:
  - Construction of new roads
  - Construction and/or rehabilitation of roads that are not included in MID National Transport Master Plan
  - Roads that primarily benefit commercial private use with no valid developmental justification or low public use
  - Roads which would likely directly encourage or benefit mining, logging or (other) illegal activities

ANNEX C LAND USE COMMITMENT LETTER

Land Use Commitment Letter

Dear Sir,

Re: LAND AVAILABILITY FOR THE PROJECT – HABUSI AND RIVERSIDE COMMUNITIES WATER SUPPLY

This letter serves to confirm our commitment that land is available for the Community Benefit Sharing Project.

This area of land is confirmed to be available to use for the construction of Permanent Water Supply Infrastructure to provide water to Habusi and nearby riverside communities. Once complete, the water supply system will be available for free use by any member of the local community.

We are providing this land for the improvement of the water supply to the surrounding villages. No payment will be made for the use of the land.

The signatories agree that this commitment is irrevocable.

1. Community representative (Name) — NAUSY

2. Community representative (Name) — SAMUEL TUPA

2. Signature

3. Date — 8/04/2025 — 8/4/25

4. Verified by Village Chief and CBSP-2 Staff

Village Chief

CBSP-2 Staff

Table 1 Photos of Habusi and Nearby Communities and proposed site for the Water Supply System

Photos	Description
	Proposed Dam Site
 	Proposed pipeline alignment along existing access
 	Proper vehicle access to Habusi Village ends here at Tina Power Station site. River crossing required to get to village.
 	Proposed overhead pipe crossing across river.

		Proposed alignment along flat area.
		Proposed alignment along flat area.
		Proposed alignment along flat area.
		Proposed alignment along flat area.

ANNEX D SUBPROJECT DESIGN

See below the designs for the proposed dam and tank shed.

TINA RIVER HYDRO DEVELOPMENT PROJECT

PROJECT TITLE: COMMUNITY BENEFIT SHARING PROJECT II

PROJECT NAME: HABUSI WATER SUPPLY PROJECT
(DIRECT GRAVITY FED TYPE SYSTEM)

PROJECT NO#: WATER PACKAGE 2 - CBSP II

STRUCTURAL DRAWING INDEX

GENERAL NOTES

G1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ALL DISCREPANCIES SHALL BE REFERRED TO THE D4SE FOR DECISION BEFORE PROCEEDING WITH THE WORK.

G2 ALL DIMENSIONS RELEVANT TO SETTING OUT SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION IS COMMENCED. THE ENGINEER'S DRAWINGS SHALL NOT BE SCALED.

G3 WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT AUSTRALIAN STANDARDS AND NEW ZEALAND STANDARDS INCLUDING ALL AMENDMENTS, BUILDING REGULATIONS, AND THE REQUIREMENTS OF ANY OTHER RELEVANT STATUTORY AUTHORITIES, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

G4 THE APPROVAL OF A SUBSTITUTION SHALL BE SOUGHT FROM THE ENGINEER BUT IS NOT AN AUTHORISATION FOR A VARIATION. ANY VARIATION INVOLVED MUST BE TAKEN UP WITH D4SE BEFORE THE WORK COMMENCES.

G5 ALL DIMENSIONS ARE IN MILLIMETERS UNLESS STATED OTHERWISE. ALL LEVELS ARE EXPRESSED IN METRES.

G6 CONTRACT WORKS SHALL NOT COMMENCE UNTIL APPROVED BY RELEVANT AUTHORITIES.

G7 THESE DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION UNTIL ISSUED AS "FOR CONSTRUCTION".

G9 THE CONTRACTOR SHALL ALLOW IN THE TENDER FOR DETAILS NOT SHOWN ON THESE DRAWINGS BUT NECESSARY FOR COMPLETION OF THE CONTRACT.

G10 THE STRUCTURAL DRAWINGS DO NOT SHOW ALL DETAILS OF FIXTURES, INSERTS, SLEEVES, OPENINGS, ETC. REQUIRED BY THE VARIOUS TRADES. ALL SUCH DETAILS, INCLUDING RECESSES AND CHASES, MUST BE APPROVED BY THE D4SE BEFORE PROCEEDING WITH CONSTRUCTION.

G11 THE CONTRACTOR SHALL GIVE AT LEAST 2 WORKING DAYS NOTICE FOR ALL ENGINEERING INSPECTIONS.

G12 THE CONTRACTOR RETAINS RESPONSIBILITY OF THE WORKS EVEN IF THE ENGINEER HAS INSPECTED THE WORKS DURING CONSTRUCTION.

G13 A COPY OF THESE DRAWINGS SHALL BE KEPT ON SITE DURING THE CONSTRUCTION PERIOD.

G14 THE DESIGN, CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF FORMWORK AND FALSE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT CODES.

G15 THE CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION PROCEDURE AND ALL LOADS DURING CONSTRUCTION. IF THE CONTRACTOR SUBMITS THIS SUGGESTED CONSTRUCTION PROCEDURE TO THE ENGINEER FOR REVIEW, THE ACCEPTANCE OF THE PROCEDURE BY THE ENGINEER WILL NOT ABSOLVE THE CONTRACTOR FROM HIS RESPONSIBILITY FOR THE PROCEDURE OR FROM ANY CONSEQUENCES WHICH MAY OCCUR DURING CONSTRUCTION.

G16 DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURE IN A STABLE CONDITION AND ENSURING NO PART SHALL BE OVER STRESSED UNDER CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL DESIGN AND INSTALL TEMPORARY BRACING AS REQUIRED TO KEEP THE WORKS AND EXCAVATION STABLE AT ALL TIMES. WHEN REQUESTED, THE CONTRACTOR SHALL PROVIDE CALCULATIONS TO JUSTIFY THE ADEQUACY OF THE STRUCTURE TO SAFELY WITHSTAND ANY IMPOSED LOADS AND/OR CONSTRUCTION PROCEDURE.

G17 WHERE ADDITIONAL CONSTRUCTION LOADS SUCH AS TEMPORARY SHORING, MOBILE CRANES, ETC. ARE TO BE IMPOSED ON THE STRUCTURE, THE CONTRACTOR SHALL SUBMIT FULL DETAILS OF THE PROPOSED TEMPORARY SUPPORTS TO THE ENGINEER FOR REVIEW. SUCH INFORMATION MUST BE PROVIDED A MINIMUM OF 7 WORKING DAYS PRIOR TO THE PROPOSED WORKS COMMENCING.

G18 IF THE CONTRACTOR INTENDS TO VARY THE SCOPE OR METHOD OF WORKS OR MATERIALS USED THE CONTRACTOR SHALL SUBMIT FULL DETAILS OF THE PROPOSAL TO THE ENGINEER FOR DESIGN CHECK.

G19 THE COSTS FOR CARRYING OUT THE DESIGN AND REVIEW IN CLAUSES G14, G15, G16, G17 AND G18 SHALL BE AT THE CONTRACTORS EXPENSE. COSTS INCURRED TO CARRY OUT THE ABOVE TASKS SHALL BE RECOVERED FROM THE CONTRACTOR DETERMINED BY HOURLY RATES.

G20 PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CHECK WITH ALL RELEVANT AUTHORITIES AND OBTAIN ALL NECESSARY PERMITS AND BY SITE EXPLORATION IF NECESSARY FOR THE LOCATION OF ANY EXISTING SERVICES WHICH MAY AFFECT THE WORKS. IF SERVICES ARE FOUND TO EXIST, THEN THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OBTAIN INSTRUCTIONS PRIOR TO PROCEEDING.

G21 ALL PROPRIETARY PRODUCTS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

FORMWORK

FM1 DESIGN AND CONSTRUCTION AND STRIPPING TIMES TO COMPLY WITH AS 3610 AND AS 3600 UNLESS OTHERWISE APPROVED BY THE ENGINEER.

FM2 THE CONTRACTOR SHALL ALLOW FOR THE FORMWORK TO REMAIN IN POSITION FOR NOT LESS THAN THE FOLLOWING MINIMUM PERIODS :-

FORMWORK PAD EDGES	3 DAYS
TRENCH WALLS	7 DAYS

FM3 ALL FORMED EXPOSED EDGES AND RE-ENTRANT CORNERS SHALL BE CHAMFERED OR FILLETED 15mm UNLESS NOTED OTHERWISE ON THE DRAWINGS. ALSO REFER CONCRETE NOTES FOR COVER REQUIREMENTS.

CONCRETE

C1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

C2 CONCRETE SHALL BE FROM AN APPROVED SOURCE AND SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING STANDARDS, UNLESS NOTED OTHERWISE :-

AS 3600	CONCRETE STRUCTURES
AS 4671	STEEL REINFORCING MATERIALS
AS 3972	PORTLAND CEMENT
AS 1379	READY-MIXED CONCRETE
AS 2758.1	CONCRETE AGGREGATES

C3 UNLESS NOTED OTHERWISE ALL CEMENT SHALL BE "GB" GENERAL PURPOSE BLENDED CEMENT AND SHALL COMPLY WITH AS3972. RAPID HARDENING CEMENT CONTAINING SUPERSULPHATE AND CHLORIDE AND HIGH ALUMINA CEMENT SHALL NOT BE USED.

C4 CONCRETE FOR WALL FOOTING, CONCRETE WALL OPTION SHALL HAVE A 28 DAY CHARACTERISTIC STRENGTH (f'c) OF 32MPa WITH A SLUMP OF 80mm.

C5 CONCRETE SHALL HAVE A MINIMUM 'GB' CEMENT CONTENT OF 360kg/m³ AND MAXIMUM WATER CEMENT RATIO OF 0.5 UNLESS VARIED BY AN APPROVED CONCRETE MIX.

C6 'GB' CEMENT SHALL BE EITHER
(1) 20-25% FLY ASH AND 75-80% 'SL' CEMENT, OR
(2) 60-65% SLAGMENT AND 35-40% 'GP' CEMENT.

C7 ALL CONCRETE SUPPLIED SHALL HAVE A MAXIMUM NOMINAL AGGREGATE SIZE OF 20mm AND A MAXIMUM DRYING SHRINKAGE AT 56 DAYS OF 750 UNLESS OTHERWISE APPROVED BY THE ENGINEER.

C8 THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENOUS MASS, COMPLETELY FILLING THE FORMWORK THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF HONEY COMBING.

C9 THE CONTRACTOR SHALL ALLOW FOR ALL NECESSARY CONSTRUCTION JOINTS. CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED AND USED ONLY WHERE SHOWN OR SPECIFICALLY APPROVED BY THE ENGINEER.

C10 ALL CONCRETE INTERFACES ARE TO BE ROUGHENED TO ENSURE SATISFACTORY BOND BETWEEN ADJACENT CONCRETE SURFACES U.N.O. ALL CONCRETE SURFACES SHALL BE CLEAN AND FREE OF LAITANCE.

C11 MAXIMUM ALLOWED FREE DROP OF CONCRETE DURING PLACING IS 1000mm.

C12 ALL CONCRETE, SHALL BE THOROUGHLY COMPACTED USING VIBRATION EQUIPMENT.

C13 VIBRATION OF FORMS IS NOT ACCEPTABLE AND CONCRETE SHALL NOT BE SPREAD BY VIBRATING.

C14 THE CONCRETE SHALL BE SUBJECT TO PRODUCTION ASSESSMENT FOR COMPLIANCE.

C16 CURING OF CONCRETE SHALL COMMENCE NO LATER THAN 2 HOURS AFTER FINISHING OPERATIONS HAVE BEEN COMPLETED. THE CONCRETE SHALL BE CURED FOR A PERIOD OF 7 DAYS BY ONE OF THE FOLLOWING METHODS:-

(A) PONDING OR CONTINUOUS SPRINKLING WITH WATER.

(B) USE OF AN ABSORPTIVE COVER KEPT CONTINUOUSLY WET.

(C) COATING WITH AN APPROVED SPRAYED MEMBRANE CURING COMPOUND COMPATIBLE WITH FINISHES WITH MINIMUM 90% MOISTURE RETENTION TO AS 3799.

(D) USE OF AN APPROVED MOISTURE RETAINING COVERING SUCH AS HEAVY GAUGE CLEAR POLYTHENE SHEETING OR BUILDING PAPER, FIRMLY HELD AGAINST THE CONCRETE SURFACES TO PREVENT AIR CIRCULATION AT THE CONCRETE SURFACES. SUCH COVERS SHALL BE MAINTAINED UNDAMAGED DURING THE CURING PERIOD.

NOTE: WHERE AMBIENT TEMPERATURE EXCEEDS 27°C AND WIND EXCEEDS 20km/h, ALIPHATIC ALCOHOL SHALL BE SPRAYED ON CONCRETE IMMEDIATELY AFTER PLACEMENT.

REINFORCEMENT

R1 REINFORCEMENT SHOWN ON THE DRAWINGS IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY SHOWN IN TRUE PROJECTION.

R2 SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITION SHOWN ON THE DRAWINGS OR AS OTHERWISE APPROVED BY THE ENGINEER. WHERE THE LAP LENGTH IS NOT SHOWN IT SHALL BE SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE REINFORCEMENT. BAR LAPS IN MILLIMETRES ARE TO BE AS SHOWN BELOW UNLESS SHOWN OTHERWISE:-

R3 BUNDLED BARS SHALL BE TIED TOGETHER AT 30 BAR DIAMETER CENTRES WITH 3 WRAPS OF TIE WIRE.

R4 REINFORCEMENT SYMBOLS :
N GRADE 500 DEFORMED REINFORCING BARS, DUCTILITY CLASS N TO AS 4671.
R GRADE 250 PLAIN REINFORCING BARS TO AS 1302.
W HARD DRAWN STEEL REINFORCING WIRE, GRADE 500 DUCTILITY CLASS L TO AS 4671.
TM HARD DRAWN STEEL TRENCH MESH, GRADE 500 DUCTILITY CLASS L TO AS 4671.
RL RECTANGULAR RIB MESH, GRADE 500 DUCTILITY CLASS L TO AS 4671.
SL SQUARE RIB MESH, GRADE 500 DUCTILITY CLASS L TO AS 4671.
THE NUMBER FOLLOWING THE BAR SYMBOL IS THE NOMINAL BAR DIAMETER IN MILLIMETERS.

MINIMUM LAP SPLICE LENGTH SCHEDULE (mm)

BAR SIZE	FOR LESS THAN 300mm CONCRETE CAST BELOW HORIZONTAL BARS OR FOR VERTICAL BARS		FOR MORE THAN 300mm CONCRETE CAST BELOW HORIZONTAL BARS	
	CONCRETE CHARACTERISTIC STRENGTH (f'c)		CONCRETE CHARACTERISTIC STRENGTH (f'c)	
	25MPa	⩾ 32MPa	25MPa	⩾ 32MPa
N10	400	400	550	500
N12	550	500	700	650
N16	800	700	1050	950
N20	1100	950	1400	1250
N24	1400	1250	1800	1600
N28	1700	1500	2200	1950
N32	2000	1800	2600	2300
N36	2350	2100	3050	2700
N40	2750	2450	3550	3150

NOTES:
- THESE SPLICE LENGTHS APPLY FOR ALL SLABS AND WALLS UNO.
- SPLICE LENGTHS ARE BASED ON THE FOLLOWING:
- Fsy = 500MPa
- MINIMUM COVER = 25mm
- MINIMUM CLEAR DISTANCE BETWEEN BARS = 50mm
- MAXIMUM CLEAR DISTANCE BETWEEN BARS AND SPLICING BARS (Sb) = 5 x BAR DIAMETER
- THESE LAP SPLICE LENGTHS SHALL NOT BE USED FOR THE FOLLOWING:
  - BUNDLED BARS
  - EPOXY COATED BARS
  - LIGHTWEIGHT CONCRETE (SATURATED SURFACE - DRY DENSITY 2100 kg/m³
  - STRUCTURES BUILT WITH SLIP FORMS

R5 REINFORCEMENT ABBREVIATIONS :-

EF	EACH FACE,	NF	NEAR FACE
FF	FAR FACE,	EW	EACH WAY
T	TOP,	B or BTM	BOTTOM
C	CENTRAL,	LV	LENGTH VARIES

R6 ALL REINFORCING BARS SHALL BE FIRMLY SUPPORTED ON PLASTIC CHAIRS OR CONCRETE CHAIRS AT SPACING NOT GREATER THAN 60 BAR DIAMETERS. MESH SHALL BE SUPPORTED ON PLASTIC OR CONCRETE CHAIRS AT 750 MAXIMUM CENTRES. ALL REINFORCEMENT SHALL BE SECURELY TIED WITH WIRE TIES AND ALL TIE ENDS SHALL BE TURNED INWARD CLEAR OF THE COVER ZONE.

R7 MINIMUM LAPS IN MESH SHALL BE THE LARGER SPACING OF TRANSVERSE WIRES UNLESS SHOWN OTHERWISE.

R8 MESH SHALL NOT BE LAID ON THE GROUND AND PULLED INTO POSITION THROUGH THE CONCRETE.

R9 REINFORCEMENT DEVELOPMENT LENGTHS SHALL EQUAL LAP SPLICE LENGTHS.

R10 CONCRETE SHALL NOT BE DELIVERED UNTIL FINAL APPROVAL FOR REINFORCEMENT INSPECTION IS OBTAINED.

FABRICATION

FN1 ALL SHS TUBE SHALL BE PRE - FABRICATE AT WORKSTATION BEFORE DELIVER WORK SITE .

FN2 DRILL HOLE DIAMETERS FOR BARB WIRE AND BOLTS SHALL BE IN ACCORDANCE WITH THE DESIGN SPECIFICATIONS.

FN3 REINFORCEMENT ANCHORS BARS ONLY APPLY WHERE SHOWN ON THE DRAWINGS.

FN4 REINFORCEMENT ANCHORS BARS WHERE NOT SHOWN ON THE DRAWINGS SHALL BE APPROVED BY THE ENGINEER.

FINISHING WORK

FW1 ALL WELDED SURFACES SHALL BE PAINTED AND DRY (24HR) BEFORE DELIVERED TO SITE FOR INSTALLATION

FW2 ALL PAINT ARE TO BE SPECIFIED BY D4SE PROJECT ENGINEER

FW3 ALL SURFACES ARE TO GRIND AND CLEAN BEFORE PAINTING

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing			
A	HABUSI WATER SUPPLY PROJECT		BT	FKapini	03/02/2025
			CBSP Water Specialist	CBSPII PM	Date

TINA RIVER HYDRO DEVELOPMENT PROJECT

Issued Stamp

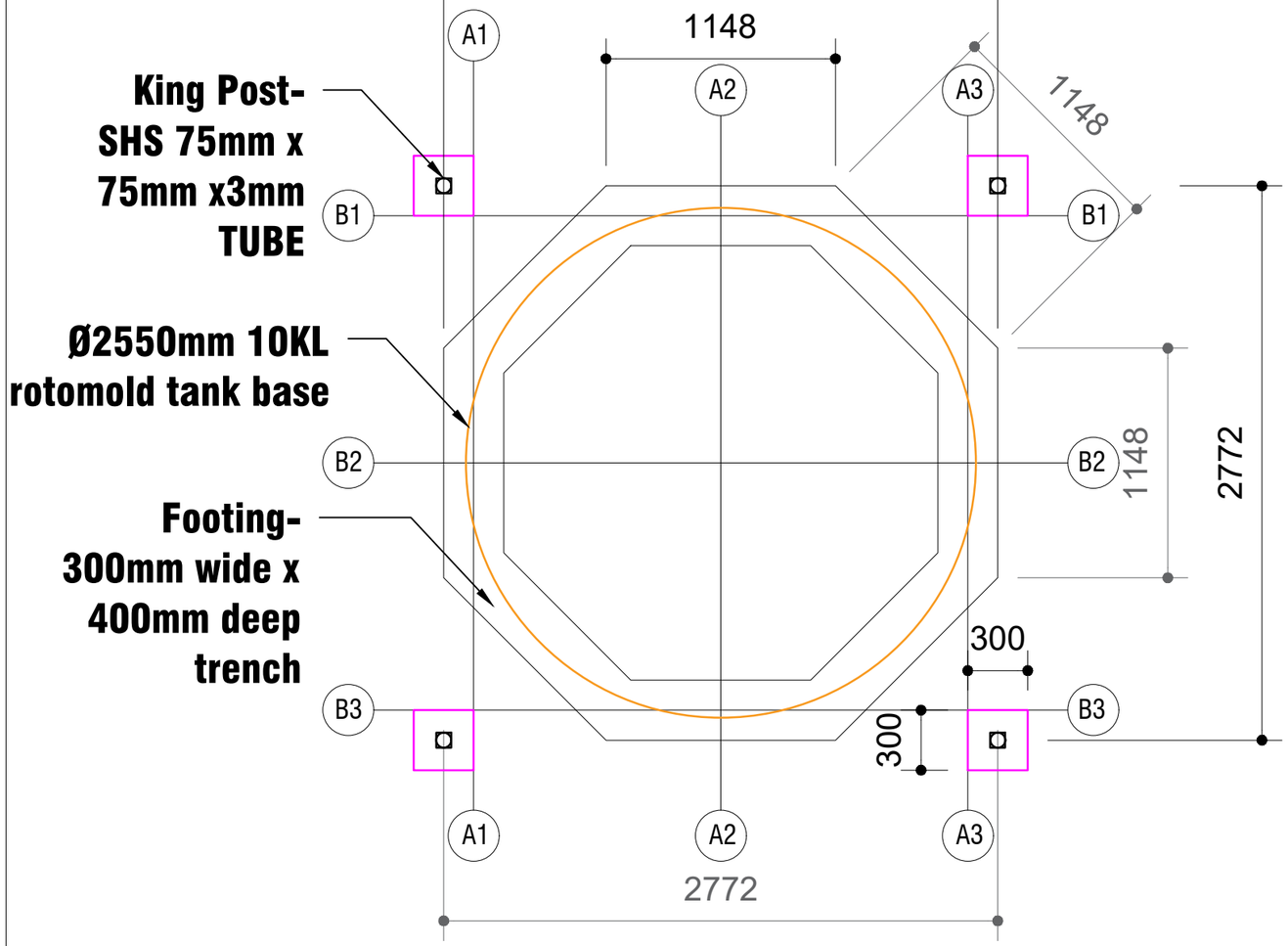
CONSTRUCTION DRAWING

This Drawing shall not be used for Construction unless Signed and Sealed For Construction

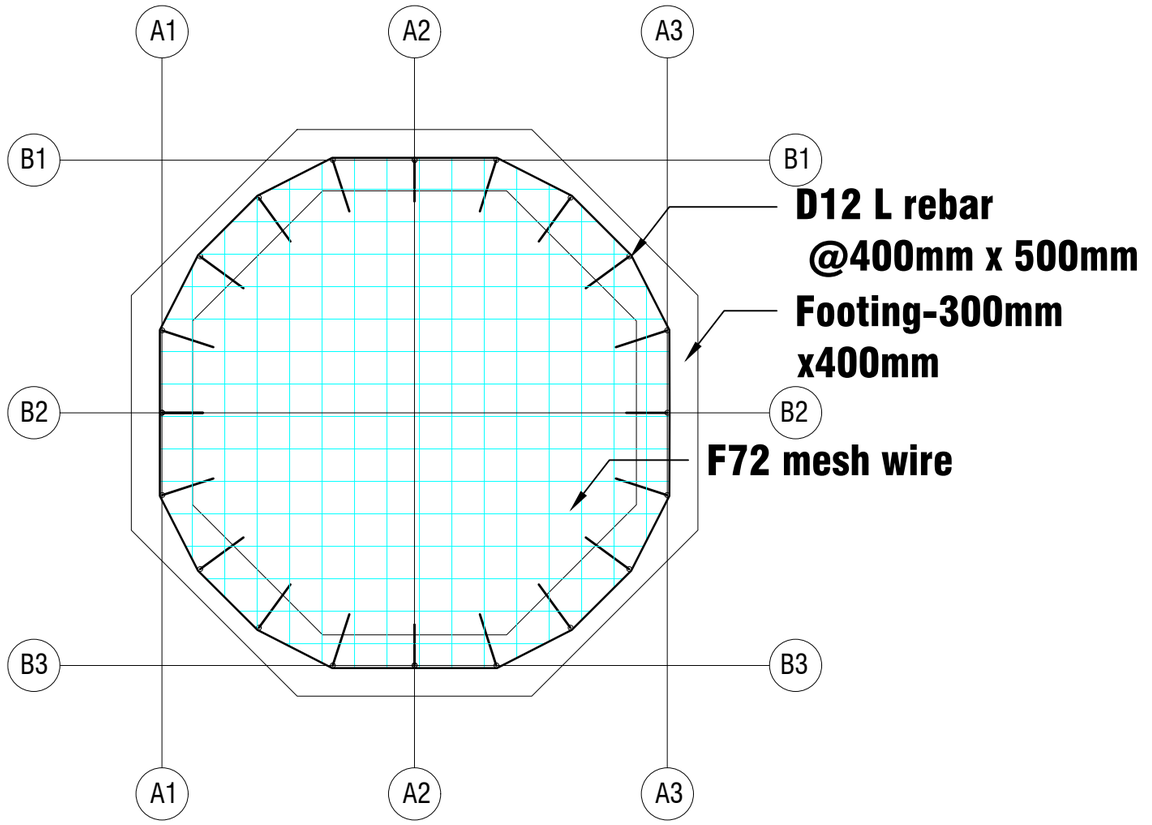
Notes:

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED MATERIALS CERTIFICATIONS CAN BE SUPPLIED ON SPECIFICATION

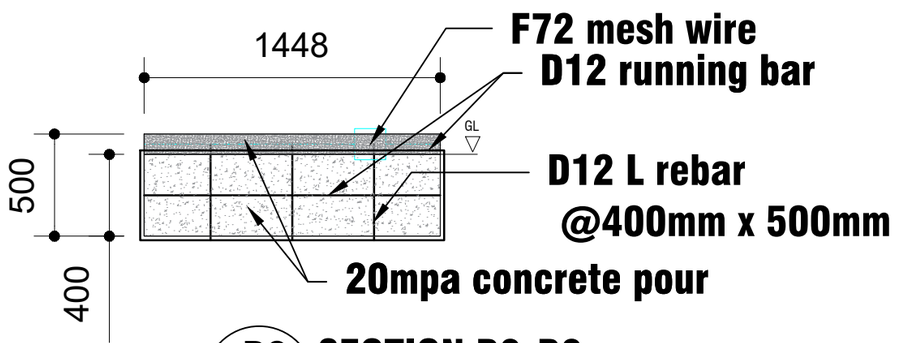
Drawn	BTALU	Client	TINA PROJECT OFFICE
CBS Project No	CBSPII -WP2	Project	COMMUNITY BENEFIT SHARING PROJECT II - HABUSI GRAVITY FED WATER SUPPLY SYSTEM
Revision No	A	Drawing Title	GENERAL NOTES FOR CONSTRUCTION WORKS
Scale	1:15	Drawing No	H-01



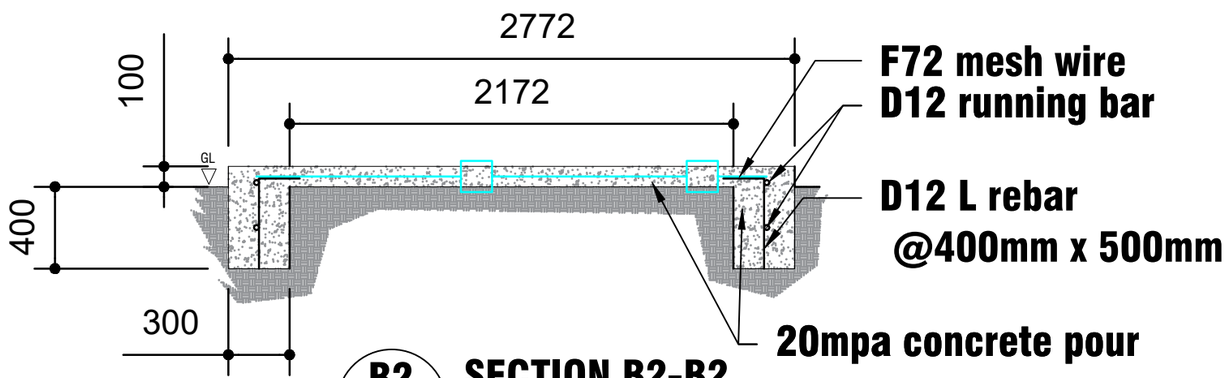
P01 TANK BASE FOUNDATION- LAYOUT PLAN



P02 TANK BASE FLOOR - LAYOUT PLAN

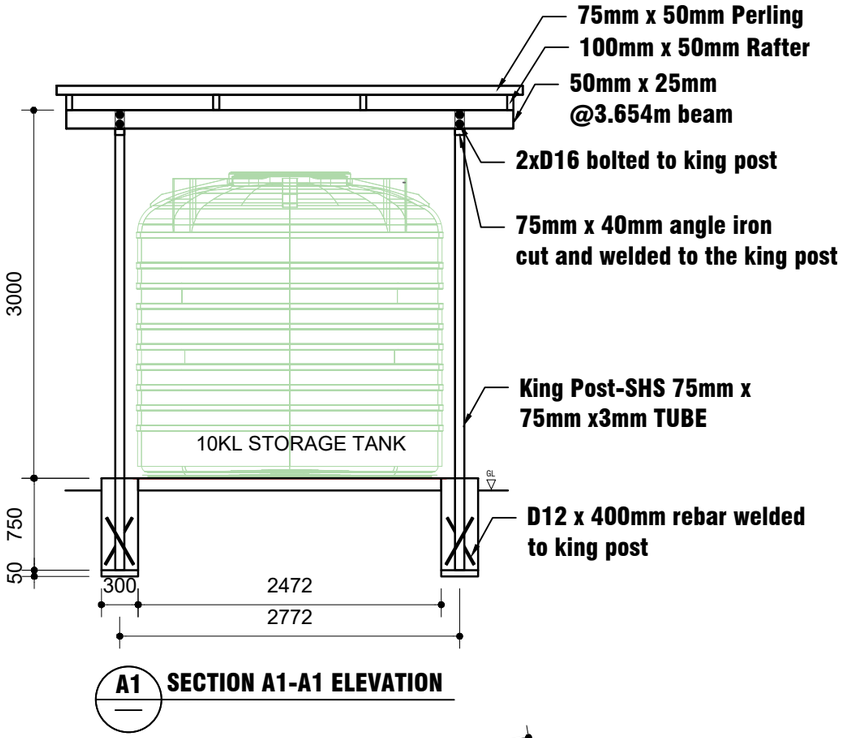


B3 SECTION B3-B3

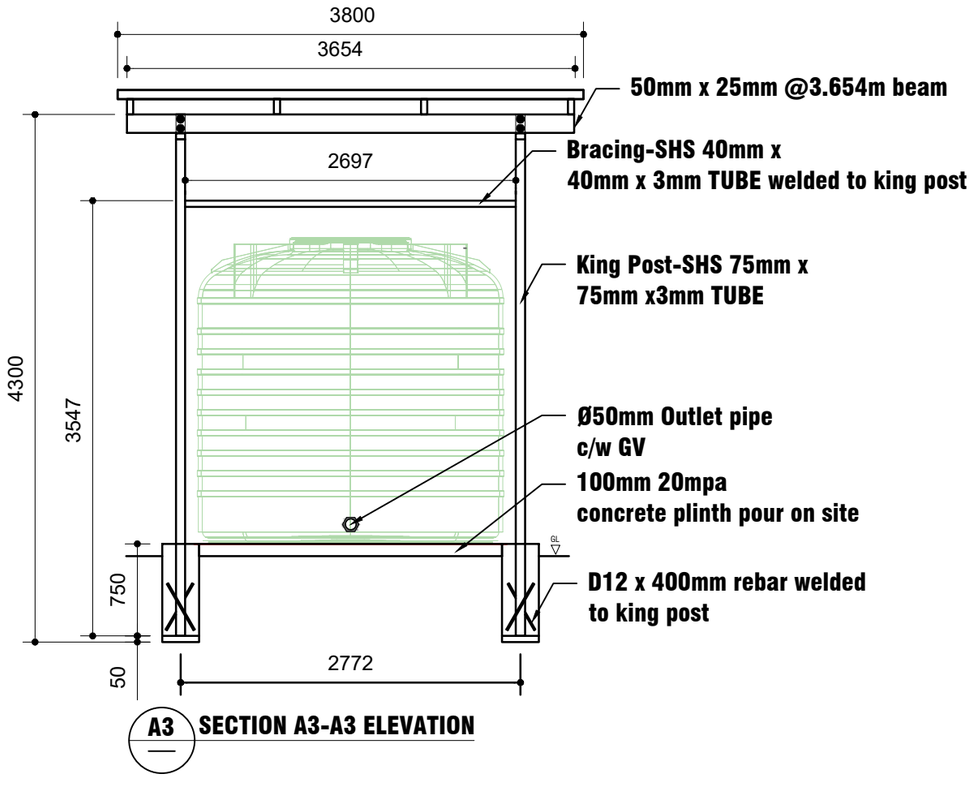


B2 SECTION B2-B2

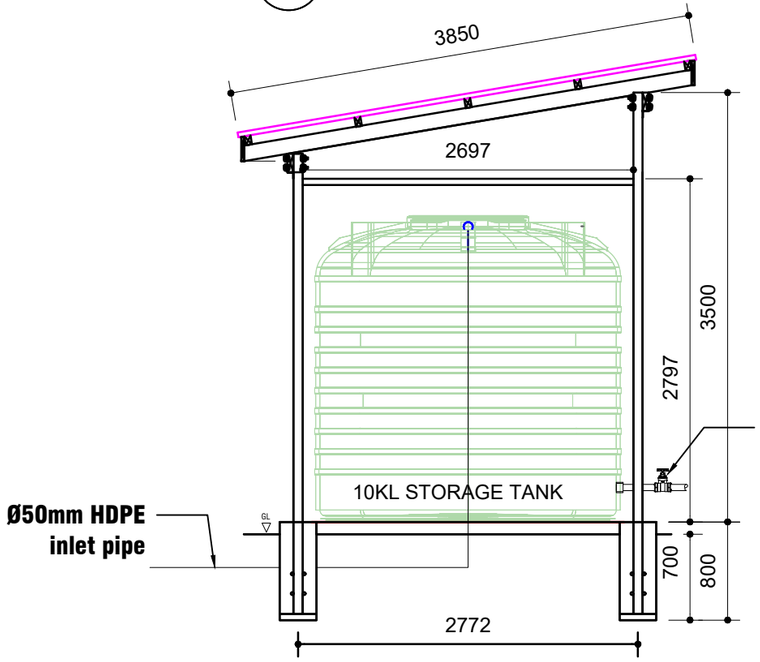
					Issued Stamp	Notes:	Drawn	BT	Client	TINA PROJECT OFFICE
					CONSTRUCTION DRAWING	ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED MATERIALS CERTIFICATIONS CAN BE SUPPLIED ON SPECIFICATION	CBS Project No	CBSPII -WP2	Project	COMMUNITY BENEFIT SHARING PROJECT II - HABUSI GRAVITY FED WATER SUPPLY SYSTEM
A	HABUSI WATER SUPPLY PROJECT	BT	FKapini	03/02/2025			Revision No	A	Drawing Title	DISTRIBUTION STORAGE WATER TANK FOUNDATION LAYOUT PLAN - BREAK TANK
No	Revision Note: * indicates signatures on original issue of drawing or last revision of drawing	CBSP Water Specialist	CBSPII PM	Date	This Drawing shall not be used for Construction unless Signed and Sealed For Construction		Scale	1:30	Drawing No	H-02



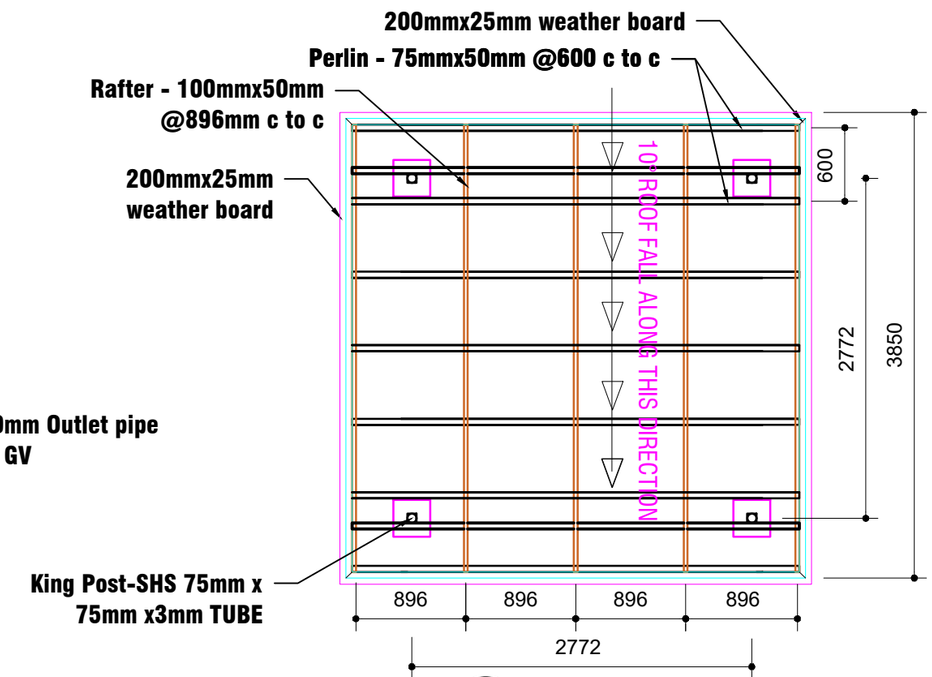
A1 SECTION A1-A1 ELEVATION



A3 SECTION A3-A3 ELEVATION

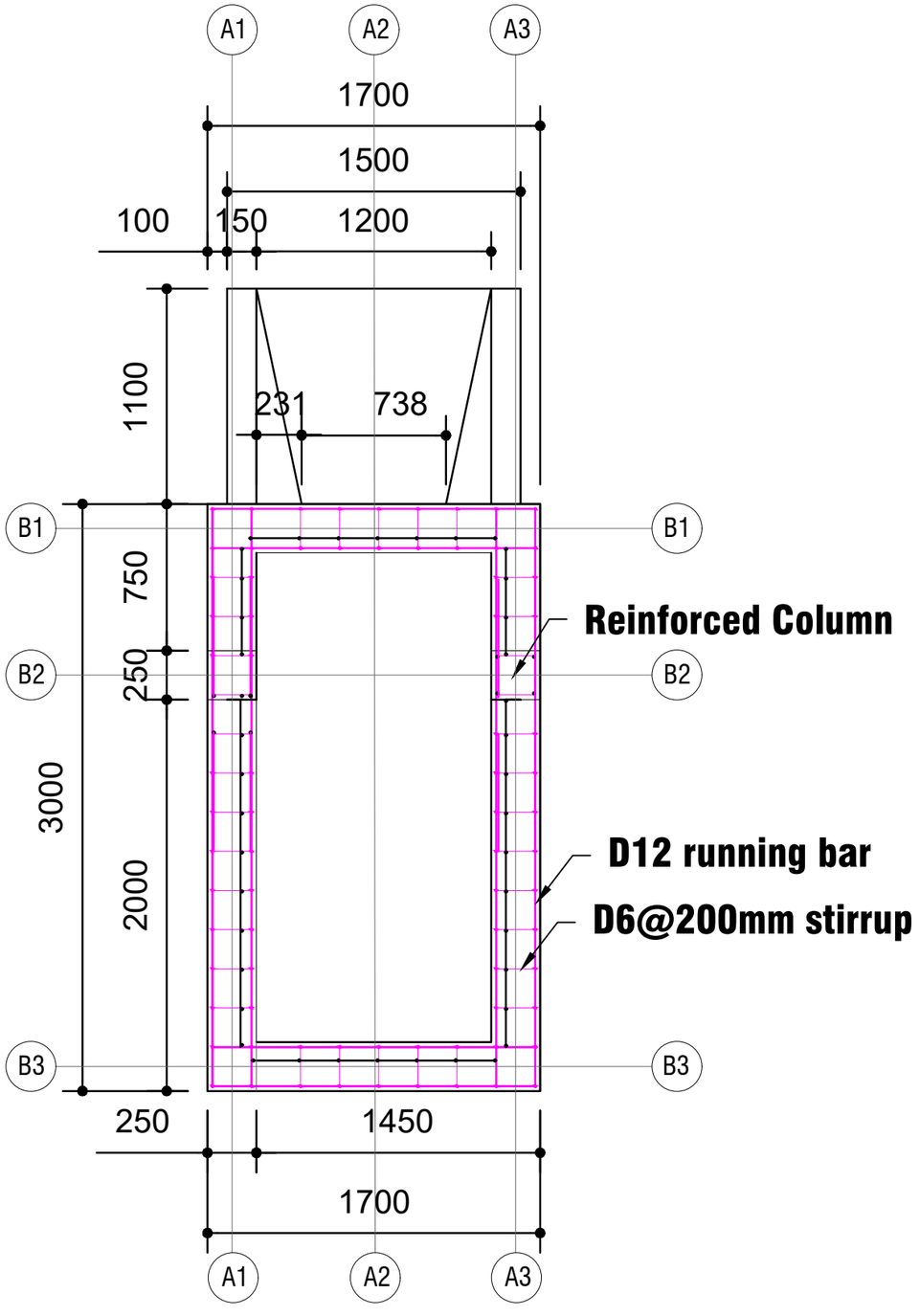


B3 SECTION B3-B3 ELEVATION

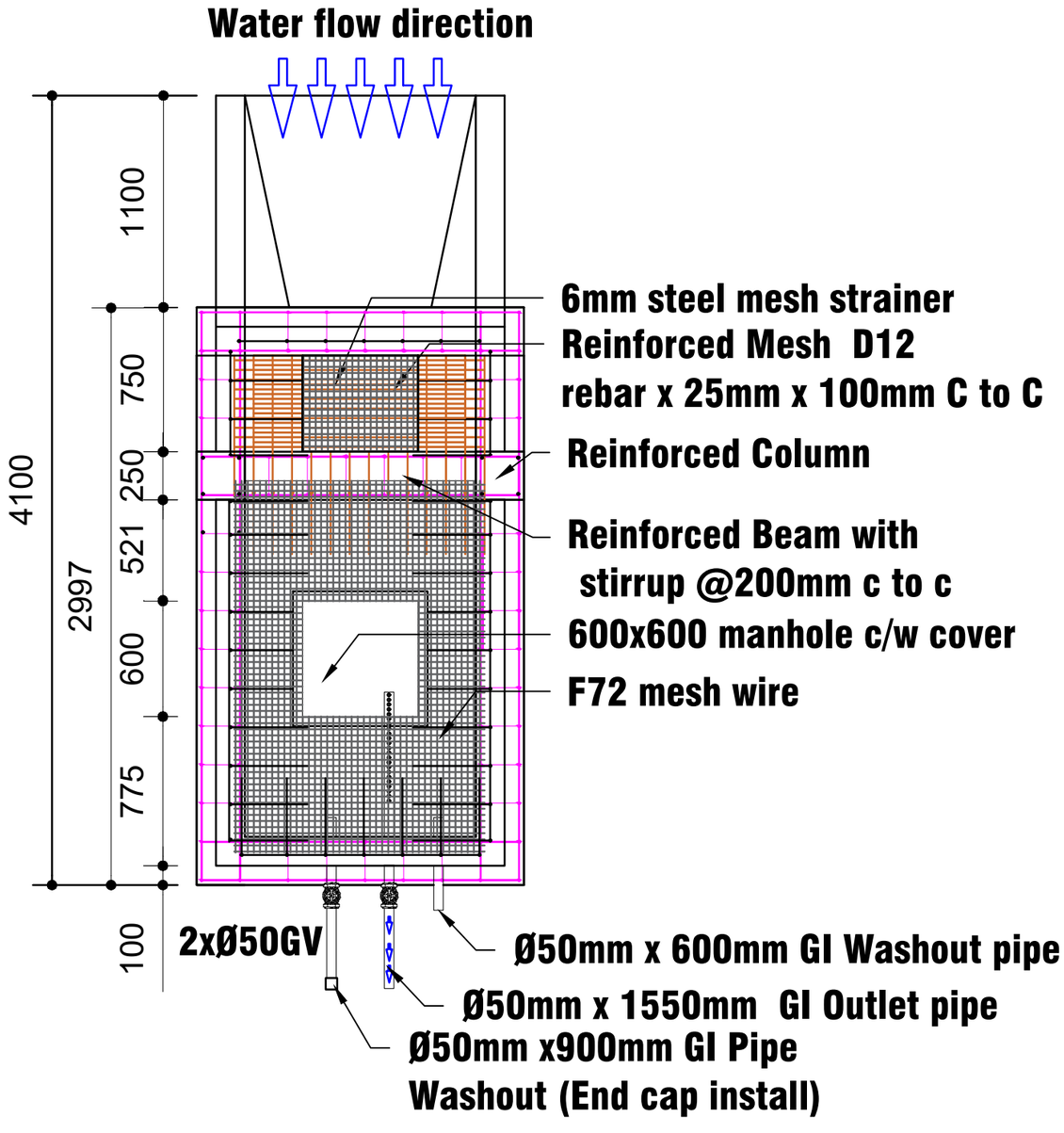


P3 ROOF LAYOUT PLAN STRUCTURE

					Issued Stamp	Notes:	Drawn	BTALU	Client	TINA PROJECT OFFICE
					CONSTRUCTION DRAWING	ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED MATERIALS CERTIFICATIONS CAN BE SUPPLIED ON SPECIFICATION	CBS Project No	CBSPII -WP2	Project	COMMUNITY BENEFIT SHARING PROJECT II - HABUSI GRAVITY FED WATER SUPPLY SYSTEM
A	HABUSI WATER SUPPLY PROJECT	BT	FKapini	03/02/2025			Revision No	A	Drawing Title	DISTRIBUTION WATER STORAGE TANK SHED & CONCRETE SLAB
No	Revision Note: * indicates signatures on original issue of drawing or last revision of drawing	CBSP Water Specialist	CBSPII PM	Date	This Drawing shall not be used for Construction unless Signed and Sealed For Construction		Scale	1:30	Drawing No	H-03



P6 E01 DAM FOUNDATION LAYOUT PLAN



E01 DAM STRUCTURAL LAYOUT PLAN

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	CBSP Water Specialist	CBSPII PM	Date
A	HABUSI WATER SUPPLY PROJECT		BT	FKapini	03/02/2025

TINA RIVER HYDRO DEVELOPMENT PROJECT

Issued Stamp

CONSTRUCTION DRAWING

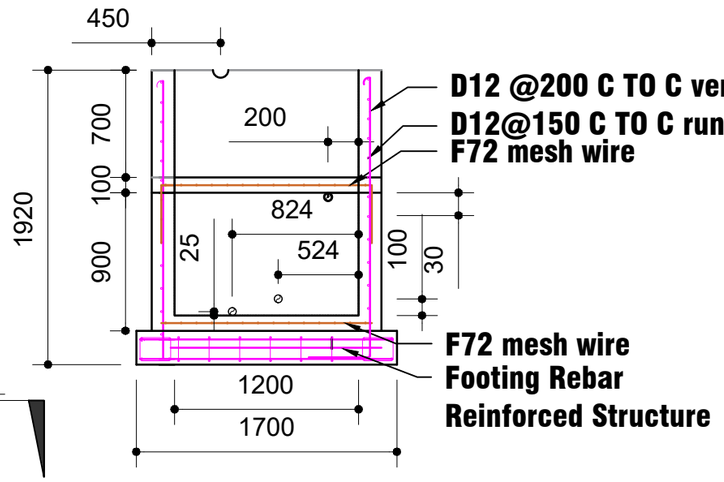
This Drawing shall not be used for Construction unless Signed and Sealed For Construction

Notes:

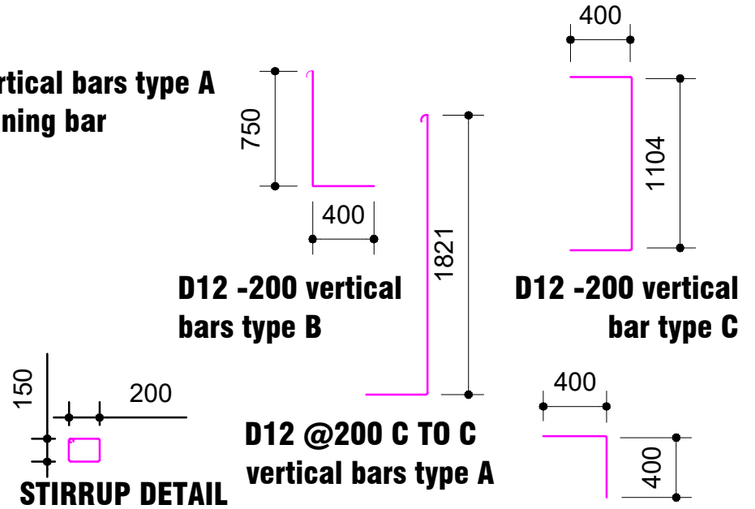
ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED MATERIALS CERTIFICATIONS CAN BE SUPPLIED ON SPECIFICATION

Drawn	BTALU	Client	TINA PROJECT OFFICE
CBS Project No	CBSPII -WP2	Project	COMMUNITY BENEFIT SHARING PROJECT II - HABUSI GRAVITY FED WATER SUPPLY SYSTEM
Revision No	A	Drawing Title	DAM FOUNDATION & STRUCTURAL LAYOUT PLAN
Scale	1:30	Drawing No	H-04

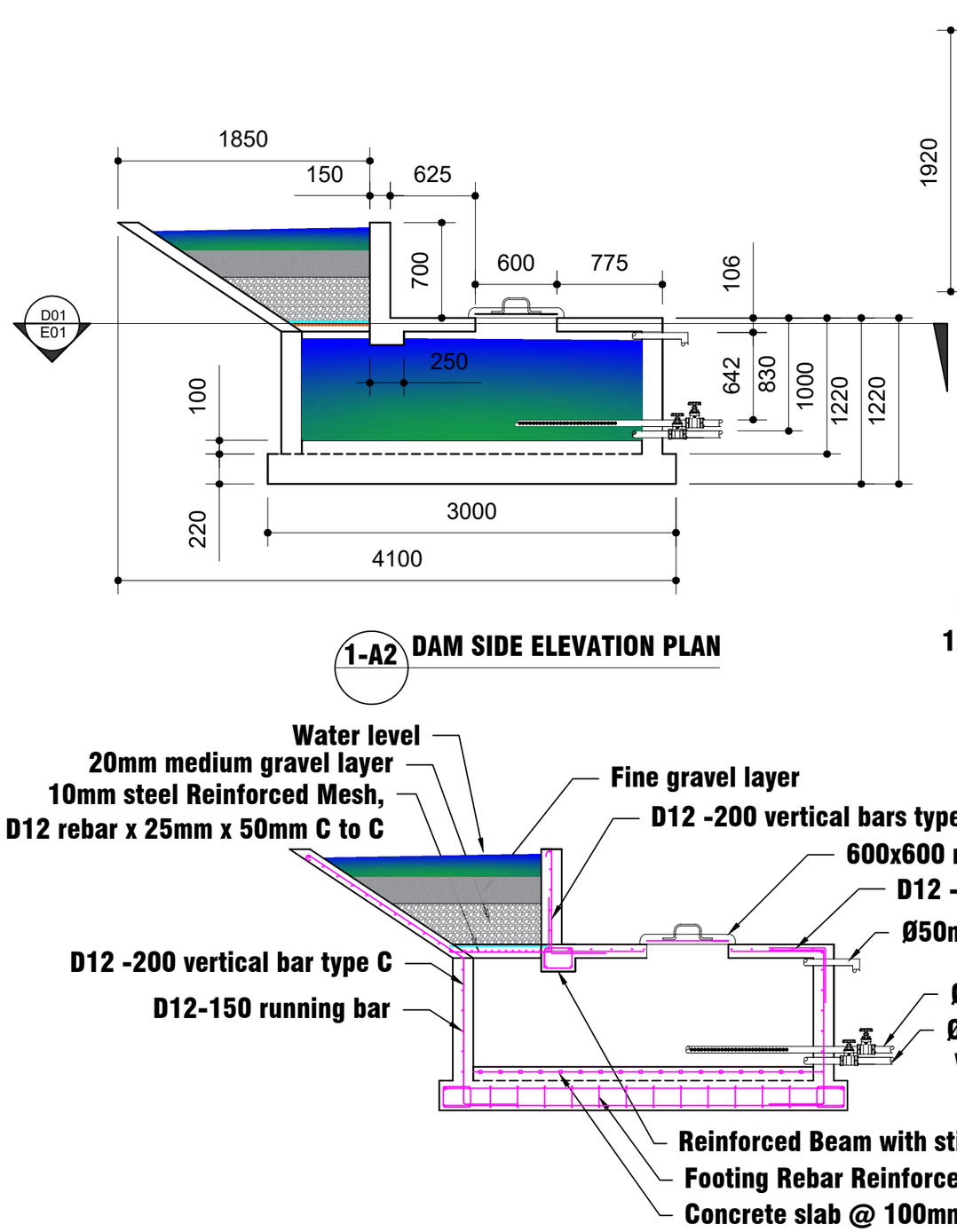
1-A2 DAM SIDE ELEVATION PLAN



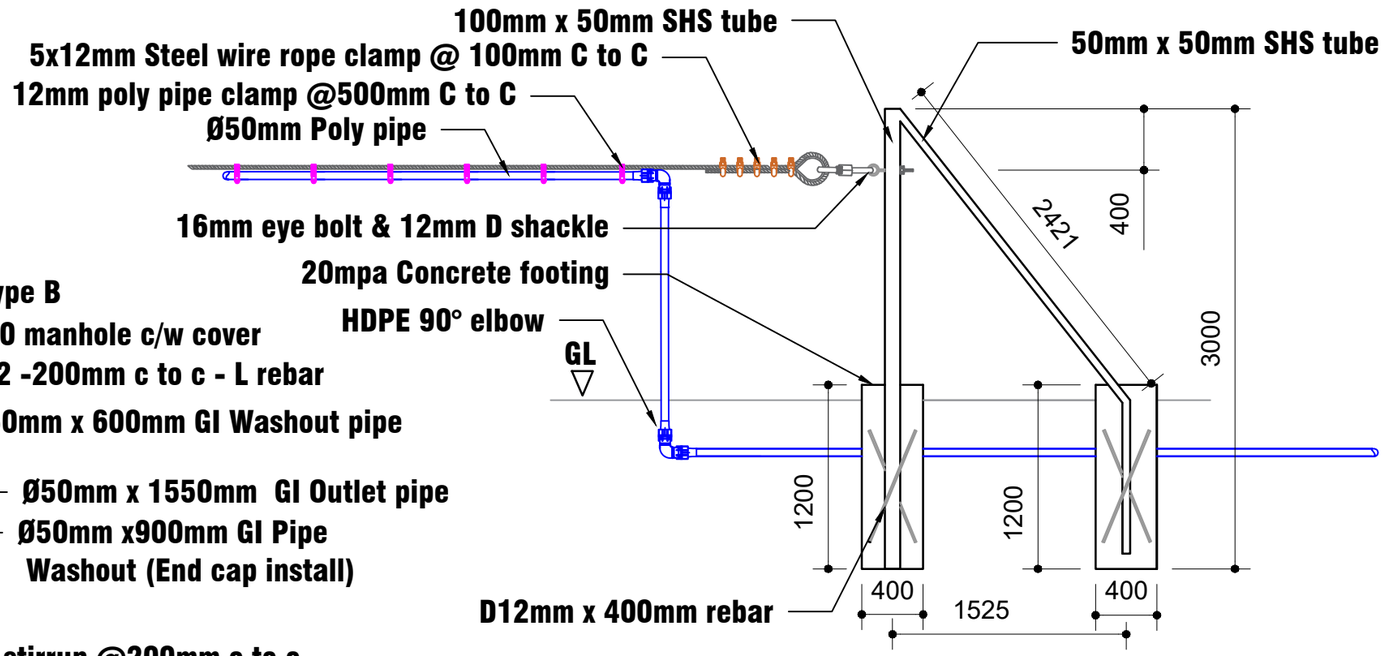
B3 DAM FRONT ELEVATION



P05 REBAR DETAIL



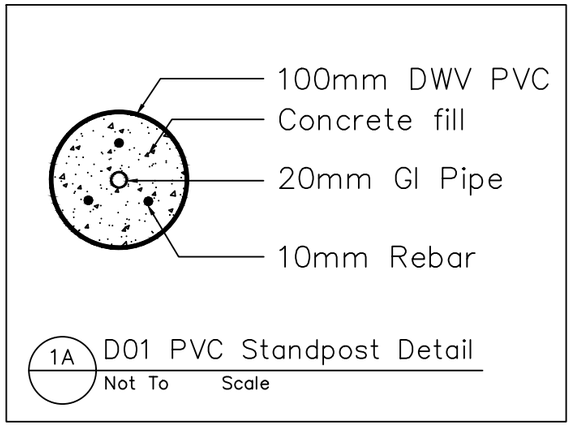
2-A2 DAM STRUCTURAL DETAILS

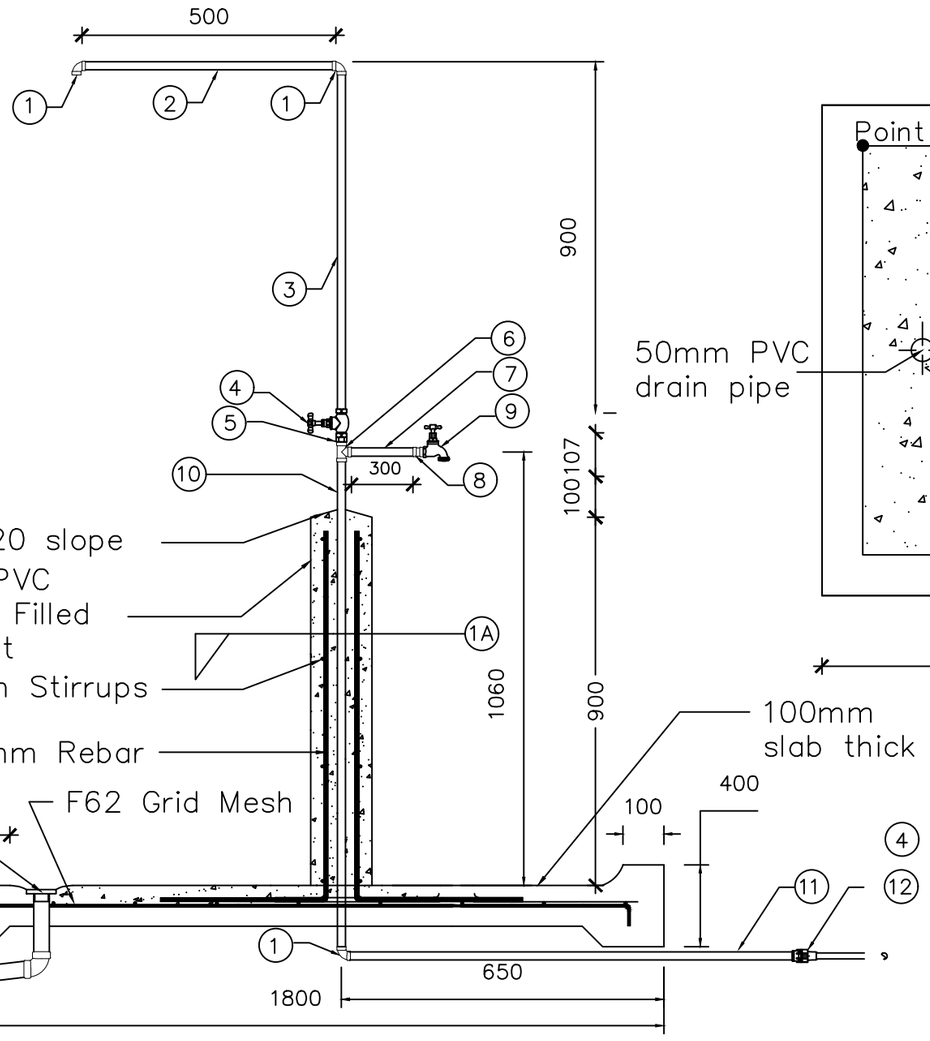


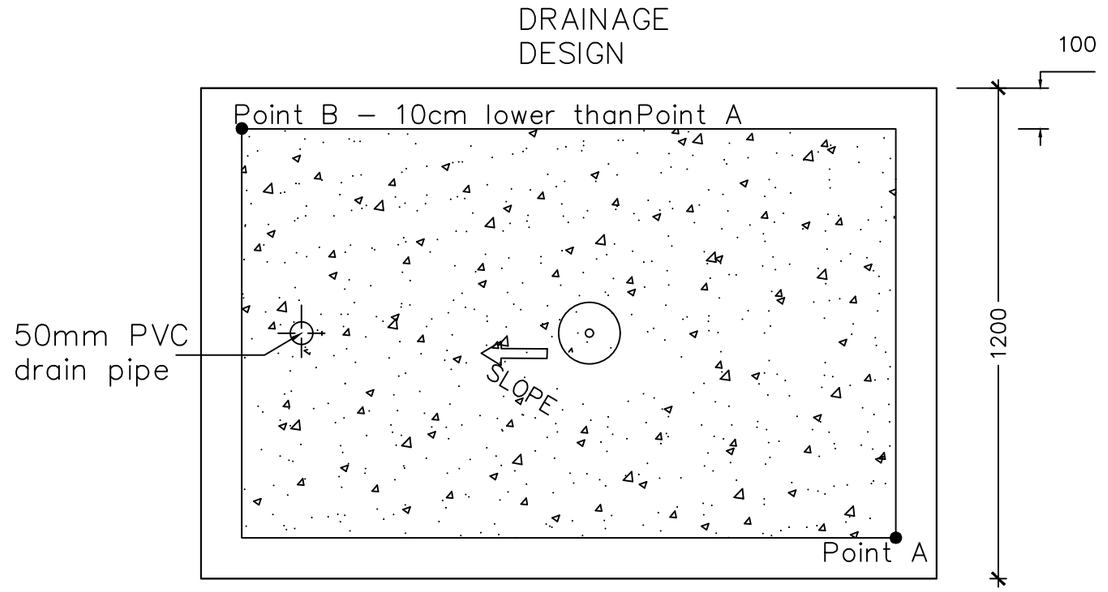
P07 OVERHEAD PIPELINE STRUCTURAL DESIGN FOR HABUSI RIVER CROSSING

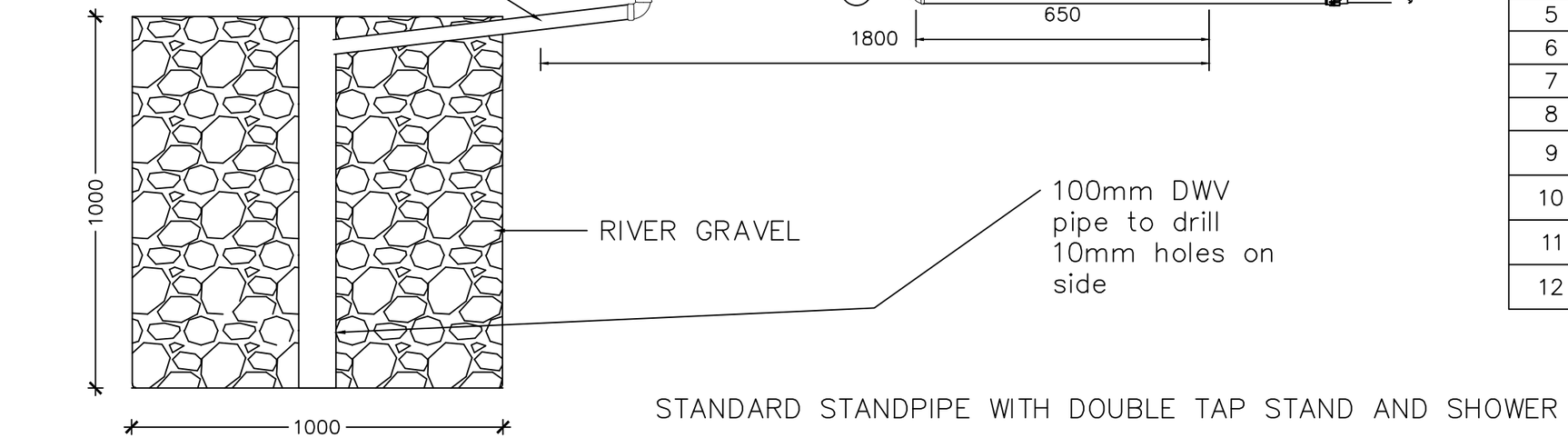
					TINA RIVER HYDRO DEVELOPMENT PROJECT	Issued Stamp	Notes:	Drawn	BTALU
						CONSTRUCTION DRAWING	ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED MATERIALS CERTIFICATIONS CAN BE SUPPLIED ON SPECIFICATION	CBS Project No	CBSPII -WP2
A	HABUSI WATER SUPPLY PROJECT	BT	FKapini	03/02/2025		This Drawing shall not be used for Construction unless Signed and Sealed For Construction		Revision No	A
No	Revision Note: * indicates signatures on original issue of drawing or last revision of drawing	CBSP Water Specialist	CBSPII PM	Date				Scale	1:40

Client	TINA PROJECT OFFICE		
Project	COMMUNITY BENEFIT SHARING PROJECT II - HABUSI GRAVITY FED WATER SUPPLY SYSTEM		
Drawing Title	DAM STRUCTURAL DETAILS AND REBAR SCHEDULES		
Drawing No	H-05		









STANDARD STANDPIPE WITH DOUBLE TAP STAND AND SHOWER

WASTE WATER SOAK PIT

Material List

No#	Description	No. Pieces
1	20mm GI elbow	3
2	20mmx500mm GI pipe	1
3	20mmx900mm GI pipe	1
4	20mm brass stop cock	1
5	20mm GI nipple	1
6	20mm GI tee	1
7	20mmx300mm GI pipe	1
8	20mm GI socket	2
9	20mm longneck hose bib tap	1
10	20mmx1230mmx GI Pipe	1
11	20mmx1060mmx GI Pipe	1
12	20mmx1” poly R/female adaptor	1

Galvanized pipes & fittings to conform to AS/NZS 4792–2006

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing			
A	STANDARD STAND PIPE DESIGN		BT	FKapini	04/02/2025
			CBSP Water Specialist	CBSPII PM	Date

TINA RIVER HYDRO DEVELOPMENT PROJECT

Issued Stamp

CONSTRUCTION DRAWING

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Notes:

ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED MATERIALS CERTIFICATIONS CAN BE SUPPLIED ON SPECIFICATION

Drawn	BT	Client	TINA PROJECT OFFICE
CBS Project No	CBSPII	Project	COMMUNITY BENEFIT SHARING PROJECT II WATER SUPPLY PROJECT
Revision No	A	Drawing Title	STANDARD SINGLE TAP STAND (RWASH DESIGN)
Scale	1:15	Drawing No	STD-SP01

CODE OF ENVIRONMENTAL AND SOCIAL PRACTICE FOR SMALL INFRASTRUCTURE

This Code of Environmental and Social Practice (CoESP) has been developed to manage the risks associated with the construction of the gravity fed water supply system proposed for Habusi, Namopila, Komureo and nearby riverside communities. These communities are located 300m across the river from the Tina River Hydro Development Project power station site. The combined population of the communities total up to 114 and the demand for water is 11.4KL.

The water supply aims to improve the access to clean and safe water for the communities with the construction of dam, installation of 10KL tank and water supply network through the village where the community members can access water from strategically located standpipes.

All civil works supported under the Project are required to comply with the CoESP and this will be specified in the contractor(s) agreements.

The CoESP provides the guidance for the environmental and social risk management of the civil works during the implementation of the Project. The potential environmental and social impacts, mitigation measures, and responsibilities during the planning / design and construction stages are outlined.

This CoESP should be read in conjunction with the following Project documents:

- Environmental and Social Management Framework (ESMF)
- Stakeholder Engagement Plan (SEP)
- Operations Manual

Monitoring and Compliance

The planning and design stages of the CoESP will be followed by the PMU and compliance monitored by the World Bank E&S Risk Management Team.

The construction and installation stages of the CoESP will be followed by the contractor(s) and compliance monitored by the PMU.

Reporting

Six-monthly reports will need to be prepared by the PMU and provided to the World Bank. The semi-annual environmental and social monitoring reports to the World Bank will include: (i) the status of the implementation of mitigation measures; (ii) the findings of monitoring programs; (iii) stakeholder engagement activities; (iv) grievances log; and (v) any incidents/accidents with adverse impacts and the actions taken to address it and prevent reoccurrence.

Incidents/accidents must be initially reported within 24 hours for serious/ severe incidents (major injuries, fatalities, environmental or social harm). Minor accidents/ incidents may be reflected in regular reporting. The PMU will investigate incidents and accidents and provide inputs into investigative reporting, and corrective action plans in accordance with the World Bank Environmental and Social Incident Reporting Toolkit (ESIRT).

Monthly reports shall be prepared by the contractor(s) and submitted to the PMU for review. The reports will include information on: (i) the implementation of Health and Safety and Waste Management plans; (ii) any health and safety or environmental incidents; and (iii) information on any grievances received and how they were resolved.

Planning and Design Stage				
Risks and Impacts	**Mitigation Measures**	**Monitoring - Verification**	**Monitoring - Frequency**	**Responsibilities**
Siting of infrastructure results in physical or economic displacement, or restriction of access to natural resources	The acquisition of private land is not permitted. Undertake consultation to ensure proposed site would not result in physical or economic displacement, or restriction of access to natural resources and can be utilized for Project activities. See also Section Error! Reference source not found. of ESMF	Results of consultation.	During detail design period – prior to works commencing – once	PMU
Source water for water supply not sustainable resulting in unusable infrastructure.	Source water from sustainable sources (e.g., creeks that flow year-round)	Results of review by water engineer consultant	During detail design period – prior to works commencing – once	PMU
Location of water supply outlets (e.g., taps, boreholes) not freely accessible to community members, including vulnerable people	Consultation with community in accordance with the SEP to ensure proposed water supply outlet sites can be freely accessed by community members, including vulnerable people.	Results of consultation.	During detail design period – prior to works commencing – once	PMU

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	**Mitigation Measures**	**Monitoring - Verification**	**Monitoring - Frequency**	**Responsibilities**
Air quality, noise, and vibration generated from civil works	The contractor(s) is responsible for compliance with all relevant national legislation and international standards with respect to noise and vibration and ambient air quality. <u>Noise and vibration:</u> The contractor(s) undertaking works shall implement the following at a	Designated stockpile areas approved; dust plumes; complaints register; vehicle	Weekly inspections throughout construction period.	Contractor(s)

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	**Mitigation Measures**	**Monitoring - Verification**	**Monitoring - Frequency**	**Responsibilities**
	minimum: • Plan activities in consultation with communities so that noisiest activities are restricted to being undertaken during periods that will result in least disturbance. • Noise levels should be maintained within the national permissible limits/standards. • If necessary, use temporary noise-control methods such as fences, barriers or deflectors (such as muffling devices for combustion engines) and select equipment with lower sound power levels where possible. • Minimize transportation of demolition waste and construction materials through community areas during regular working time • Maintain a buffer zone (such as open spaces, row of trees or vegetated areas) between the project site and surrounding areas, if possible, to lessen the impact of noise. • Noise impacts should not exceed 55 dB(A) for residential; institutional, or educational receptors during the daytime (07:00 – 22:00) and 45 dB(A) during the Night-time (22:00 – 07:00) and for industrial or commercial receptors should not exceed 70 dB(A) at anytime or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site). • Given the small scale of subprojects, modification of noise levels in response to community concerns is likely sufficient and noise monitoring unnecessary. <u>Air Quality:</u> The contractor(s) undertaking works shall implement dust suppression measures (e.g., covering of material stockpiles, etc.) as required. At a minimum the following is required: • Materials used shall be covered and secured properly during	and plant maintenance records.		

<table>
<tr><th colspan="5">Renovation / Refurbishment / Installation Stage</th></tr>
<tr><th>Risks and Impacts</th><th>Mitigation Measures</th><th>Monitoring - Verification</th><th>Monitoring - Frequency</th><th>Responsibilities</th></tr>
<tr><td></td><td>transportation to prevent scattering of soil, sand, materials, or generating dust.
• Keep stockpiles of aggregate materials covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals.
• Minimize dust from exposed work sites and stockpiles by applying water on the ground regularly.
• No burning of site clearance debris (trees, undergrowth) or construction waste materials
• Hydrocarbons shall not be used as a method of dust control.
• Immediately re-vegetate and/or stabilize exposed areas (if required).
• Mask must be available for workers during dust generating activities.
• Ambient air quality should not exceed relevant national air quality guidelines/standards or the current WHO Ambient Air Quality Guidelines (below), albeit visual monitoring for dust is likely sufficient given the small scale of subprojects
<table>
<tr><th colspan="3">WHO Ambient Air Quality Guidelines</th></tr>
<tr><th></th><th>Averaging Period</th><th>Guideline value in □g/m3</th></tr>
<tr><td>Particulate Matter PM_{10}</td><td>1-year
24-hour</td><td>20
50</td></tr>
<tr><td>Particulate Matter $PM_{2.5}$</td><td>1-year
24-hour</td><td>10
25</td></tr>
</table>
</td><td></td><td></td><td></td></tr>
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Renovation / Refurbishment / Installation Stage				
Risks and Impacts	**Mitigation Measures**	**Monitoring - Verification**	**Monitoring - Frequency**	**Responsibilities**
Soil erosion and uncontrolled sediment causing negative impacts to surface or groundwater.	The contractor(s) undertaking works shall implement the following at a minimum: • Implement suitable project design (e.g., establish appropriate erosion and sediment control measures) to minimize soil erosion and identify and protect receiving water courses and bodies. • Scheduling to avoid heavy rainfall periods; and • Use mulch, grasses or compacted soil to stabilize exposed areas promptly. • Minimise cleared areas. • Avoid clearing sloped areas where practicable.	On-site sediment control measures; records of water quality monitoring (visual); revegetation.	Weekly inspections throughout construction period.	Contractor(s)
Resource efficiency issues, including materials supply and extraction of raw materials.	The contractor(s) undertaking works shall at a minimum: • Estimate the quantities of raw materials needed for the minor civil works. • Source raw materials and construction materials locally and from licenced/permitted facilities only. • Use recycled or renewable building materials (e.g., timber) where possible.	Contract for local materials.	Prior to works commencing and then throughout construction as required	Contractor(s)
Impacts on local communities from traffic obstruction, congestion, and traffic and road safety.	The contractor(s) undertaking works shall implement the following at a minimum: • Construction and establishment of haul roads shall be kept to a minimum. • Communicate traffic management plans – including traffic volumes, schedules, road closures and community safety measures – to project stakeholders and local communities. • Minimise the extent of traffic and construction impacts on	Traffic management plan included in the Contractor(s) H&S Management Plan; traffic control measures	Weekly inspections throughout construction period.	Contractor(s)

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	**Mitigation Measures**	**Monitoring - Verification**	**Monitoring - Frequency**	**Responsibilities**
	adjacent villages and other residential areas where possible. • All traffic signs used for the warning or direction of traffic at road works sites shall comply with appropriate traffic regulations. Homemade signs shall not be used. • Implement dust suppression measures.	implemented; signage and barriers installed as required; complaints register.		
Damage to cultural heritage.	The contractor(s) shall have a Chance Finds Procedure in place prior to any physical works beginning. Chance Finds Procedure is available in Annex B of the ESMF.	Chance-Finds Procedure in place; complaints register.	Prior to works commencing and then maintained throughout construction.	Contractor(s)
Disturbance of UXO results in OHS and community safety risks	Discuss UXO potential with community and have the site cleared prior to ground disturbance activities if warranted. Should a UXO be discovered one works have commenced, the contractor is to immediately cordon off the area, arrange the evacuation of nearby residences and inform the police of the find. Currently, all UXO finds are reported to the police who arrange the pickup, transport, storage and ultimate disposal of the finds.	Records of community consultation regarding UXO potential, UXO clearance and disposal	Prior to works commencing and then throughout construction.	Contractor(s)
Land and/or water pollution from waste generated by demolition debris, construction materials, and/or workers (solid, hazardous, and wastewater)	The contractor(s) undertaking works shall implement the following at a minimum: • Follow the Project WMP and develop site-specific WMP is required. • The WMP must include the principles of the Waste Hierarchy (Reduce, Reuse, Recycle, Residual Disposal) as outlined in the National Waste Management and Pollution Control Strategy 2017-2026. The following methods for waste reduction and	Contractor's WMP; sanitation facilities maintained onsite; waste and recycling records; worker training records.	Weekly inspections throughout construction period.	Contractor(s)

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	**Mitigation Measures**	**Monitoring - Verification**	**Monitoring - Frequency**	**Responsibilities**
	recycling should be utilized: ○ Minimise waste production by reusing existing structures; initially remove materials by hand e.g., wooden floorboards, to avoid damage and excess waste; separating materials (metal, timber etc.) and storing them in neat piles to avoid cross contamination; ensuring safe and dry storage of salvaged items; placing clear signage on all waste separation and collection areas. ○ Recyclable materials such as packaging material etc., shall be segregated and collected on-site from other waste sources for reuse or recycle (sale). ○ Remove scrap metal, such as roofing materials and iron rebar from concrete, for reuse off-site or metal recycling where practicable. Steel off-cuts can be recovered and sold as scrap metal. ○ Timber can be resold for utilisation as fuel (non-treated) or for repairing houses in villages or outer island communities (treated). ○ On-site and off-site transportation of waste should be conducted to prevent or minimize spills, releases, and exposures to employees and the public. • Use litter bins, containers and waste collection facilities at all places during works. • Store solid waste temporarily on site in a designated place prior to off-site transportation and disposal through a licenced waste collector. • Dispose of waste only at designated place identified and approved by local authority. It is prohibited for the contractor(s) to dispose of any debris or construction material/paint in environmentally sensitive areas (including watercourses). • Provide adequate portable sanitation facilities serving all workers			

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	**Mitigation Measures**	**Monitoring - Verification**	**Monitoring - Frequency**	**Responsibilities**
	at all construction sites. • Ensure onsite worker sanitation facilities be properly operated and maintained to collect and dispose of wastewater. • Minimize hazardous waste generation by ensuring hazardous waste is not co-mingled with non-hazardous waste. Collect, transport and disposal of hazardous waste to licenced/permitted hazardous waste sites only following good international industry practice (GIIP) for the waste being handled. • Design training for staff in the segregation of wastes.			
Land and/or water pollution from use and storage of hazardous substances e.g. minor spills from fuel, oils, lubricants.	The contractor(s) undertaking works shall implement the following at a minimum in accordance with relevant Solomon Islands laws and GIIP such as the IFC EHS Guideline: Hazardous Materials Management: • Using impervious surfaces for refuelling areas and other fluid transfer areas. • Ensure that refuelling and maintenance facilities are not located, or that activities do not take place, within 30 m of a watercourse, or in ecologically sensitive areas. If a 30m limit is impracticable then a lesser limit may be adopted provided approval is obtained. On no account shall the limit be less than 10 m. • Providing adequate secondary containment for fuel storage tanks and for the temporary storage of other fluids such as lubricating oils and hydraulic fluids. If the secondary containment used is bunding, then the area should also be lined and covered. • Ensure that vehicles and plant are not stored within 30 m of a watercourse, or in ecologically sensitive areas, overnight or when not in use. • Regular checks for leaking oil or fuel from machinery undertaken. Any leaks are promptly repaired and/or parts replaced within two days as part of maintenance of vehicles and equipment. • Training workers on the correct transfer and handling of fuels	Secured storage areas and secondary containment; spill kit and worker training records; records of safety briefings; vehicle and plant maintenance records.	Weekly inspections throughout construction period.	Contractor(s)

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	**Mitigation Measures**	**Monitoring - Verification**	**Monitoring - Frequency**	**Responsibilities**
	and chemicals and the response to spills. • Spill kit, appropriate to the hazardous materials being used, to be kept on-site and workers to be trained in its deployment.			
Loss of vegetation cover / trees	• Minimise area to be cleared. • Store topsoil from excavated area for vegetation. planting/reinstatement at the end of construction. • Only cut trees and remove vegetation in areas specified in the design. • Keep the area of vegetation removal minimal. Avoid loading the pipes, timbers, construction tools on vegetated areas. Place them on barren soil. • Restore vegetation cover on barren soil at the end of construction. • Plant native trees to compensate for trees logged for timber used in the sub-project or create vegetation cover. • Refill excavated areas and cover with top soil for vegetation cover to regenerate.	Revegetation with native species	Weekly inspections throughout construction period.	Contractor(s)
Occupational Health and Safety (OHS) risks for workers from civil works.	The contractor(s) undertaking works shall comply with all national and good practice regulations and GIIP regarding workers' safety, such as OHS section of the IFC EHS Guidelines on Construction and Decommissioning, and implement the following at a minimum: • Complete different levels of risk assessment, i.e. from whole Job Safety Analysis down to the personal level, to identify any potential hazards, rank the risks, and identify ways to eliminate, control or minimize the hazards. Develop and follow a site-specific health and safety (H&S) management plan that is compliant with the ESMF and World Bank Environment and Health and Safety Guidelines (EHSGs). H&S management plan(s) must be submitted to the E&S Officer for approval prior to any physical works commencing.	Contractors Health and Safety plan(s); Emergency Action Plan; workers allocated and wearing PPE; first aid kits in vehicles and at work sites; worker training records; complaints record;	Weekly inspections throughout construction period.	Contractor(s)

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	**Mitigation Measures**	**Monitoring - Verification**	**Monitoring - Frequency**	**Responsibilities**
	• Appoint a health and safety officer at site, who will have the authority to issue directives for the purpose of maintaining the health and safety of all personnel authorized to enter and or work on the site. • Prepare and implement a simple action plan to cope with risk and emergency (e.g., fire, storm surge, cyclone, COVID-19 outbreak). • Have or receive minimum required training on occupational safety regulations and use of PPE. • Undertake training of staff to meet standards for the proper operation and use of equipment. • Training of workers in lifting and materials handling techniques in renovation / refurbishing projects, including the placement of weight limits above which mechanical assists or two-person lifts are necessary. • Training and use of temporary fall prevention devices, such as rails or other barriers able to support a weight of 200 pounds, when working at heights equal or greater than two meters (e.g., on scaffolding). • Use of control zones and safety monitoring systems to warn workers of their proximity to fall hazard zones, as well as securing, marking, and labelling covers for openings in floors, roofs, or walking surfaces. • Take protective measures to prevent accidents such as: o implementing good house-keeping practices, such as the sorting and placing loose construction materials or demolition debris in established areas away from foot paths. o Locating electrical cords and ropes in common areas and marked corridors. o Planning and segregating the location of vehicle traffic, machine operation, and walking areas, and controlling	accident/ incidents register.		

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	**Mitigation Measures**	**Monitoring - Verification**	**Monitoring - Frequency**	**Responsibilities**
	vehicle traffic through the use of one-way traffic routes, establishment of speed limits, and on-site trained flag-people wearing high-visibility vests or outer clothing covering to direct traffic. o Ensuring moving equipment is outfitted with audible back-up alarms. • Use of temporary fall protection measures in scaffolds and out edges of elevated work surfaces, such as handrails and toe boards to prevent materials from being dislodged. Provide PPE and other safety measures as appropriate during works such as safety glasses with side shields, face shields, hard hats, hi-vis vests and safety shoes with non-slip soles, first aid kits, restricted access zones, warning signs, overhead protection against falling debris. • Refer any grievances received by the community or local businesses to the GRM point-of-contact. • Provide project workers with accessible means to raise workplace concerns (refer to Project LMP). • Provide safe access routes along slope or slippery areas for workers.			
Health and safety risks for community from civil works.	The contractor(s) undertaking works shall implement the following at a minimum: • Develop and follow a site-specific health and safety (H&S) management plan that is compliant with the ESMF and World Bank Environment and Health and Safety Guidelines (EHSGs) and which includes health and safety measures for the community. H&S management plan(s) must be submitted to the E&S Officer for approval prior to any physical works commencing. • A Traffic Management Plan must be included in the H&S Management Plan.	Contractor's Health and Safety plan which includes a Traffic Management Plan; signage and traffic control measures; site barriers such as fencing; records	Weekly inspections throughout construction period.	Contractor(s)

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	**Mitigation Measures**	**Monitoring - Verification**	**Monitoring - Frequency**	**Responsibilities**

	• Comply with all national and good practice regulations regarding workers' safety and the ESMF.
	• Take protective measures to prevent accidents such as:
	  ○ Barriers to prevent unauthorised access to worksites.
	  ○ Implementing good house-keeping practices to eliminate the hazard where possible, such as the sorting and placing loose construction materials or demolition debris in established areas away from foot paths.
	  ○ Planning and segregating the location of vehicle traffic, machine operation, and walking areas, and controlling vehicle traffic through the use of one-way traffic routes, establishment of speed limits, and on-site trained flag-people wearing high-visibility vests or outer clothing covering to direct traffic.
	  ○ Ensuring moving equipment is outfitted with audible back-up alarms.
	• Provide safe access routes and other safety measures as appropriate during works such first aid kits, restricted access zones, warning signs, covering openings to small confined spaces, overhead protection against falling debris and barricaded exclusion areas for drop zones (e.g. when working at heights), lighting system to protect community against construction risks.
	• Communicate risks and community safety mitigation measures to project stakeholders and communities.
	• Grievance mechanism (GRM) developed and operational in accordance with the Project SEP.
		of consultations; complaints records; accident/ incidents register.		

Increase in sexual exploitation and abuse/ harassment (SEA/H)	The Contractor(s) should at a minimum: • Comply with all relevant national laws and legislations. • Include SEA/H requirements in the site-specific H&S management	Contractor's Health and Safety Management plan	Weekly inspections throughout	Contractor(s)

Renovation / Refurbishment / Installation Stage				
Risks and Impacts	**Mitigation Measures**	**Monitoring - Verification**	**Monitoring - Frequency**	**Responsibilities**
related to project workforce	plan including aspects relating to preventing GBV and SEA/H and zero tolerance for these behaviours. • Ensure that workers are well briefed on the GBV and SEA/H requirements in the H&S management plan. • Provide separate facilities for female and male workers.	which includes SEA/H requirements; Agreed Code of Ethics and Professional Conduct; worker training records; complaints record.	construction period.	
Workers are underaged.	Child labour for persons under 18 years of age and forced labour and absolutely prohibited in the project.	Records of workers by age; complaints record.	Weekly inspections throughout construction period.	Contractor(s)

CHANCE FINDS PROCEDURE

This subproject is for the construction of the gravity fed water supply system which aims to improve access to clean and safe water for the Habusi, Namopila, Komureo and nearby riverside communities. These communities are located 300m across the river from the Tina River Hydro Development Project power station site. The combined population of the communities total up to 114 and the demand for water is 11.4KL.

Cultural heritage encompasses tangible and intangible heritage which may be recognized and valued at a local, regional, national or global level. Tangible cultural heritage, which includes movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Tangible cultural heritage may be located in urban or rural settings and may be above or below land or under the water. Intangible cultural heritage, which includes practices, representations, expressions, knowledge, skills— as well as the instruments, objects, artefacts and cultural spaces associated therewith— that communities and groups recognize as part of their cultural heritage, as transmitted from generation to generation and constantly recreated by them in response to their environment, their interaction with nature and their history.

The list of negative activity attributes which would make an activity ineligible for support includes any activity that would adversely impact cultural heritage assets. In the event that during minor civil works sites of cultural value are found, the following procedures for identification, protection from theft, and treatment of discovered artefacts should be followed and included in standard bidding documents.

Chance find procedures will be used as follows:

(a) Stop the earthworks, construction or land clearing activities in the area of the chance find.
(b) Delineate the discovered site or area.
(c) Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and/or the relevant ministries take over.
(d) Notify the supervisory Engineer who in turn will notify the responsible local authorities and the relevant ministries, which are the Ministry of Traditional Governance Peace and Ecclesiastical Affairs and the Ministry of Culture and Tourism.
(e) Responsible local authorities and/or the relevant ministries would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures.
(f) Decisions on how to handle the finding shall be taken by the responsible local authorities and/or the relevant ministries.
(g) Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the relevant Ministry; and
(h) Construction work could resume only after permission is given from the responsible local authorities and the relevant ministries concerning safeguard of the heritage.

UXO Chance find will include the following procedures:

a) Stop the earthworks, construction or land clearing activities in the area of the chance find.
b) Do not make any attempt to get near, touch or remove the UXO.
c) Delineate the discovered site or area.
d) Secure the site to prevent any unauthorised access and ensure security guard shall be present until the responsible local authorities take over.
e) Notify the supervisory Engineer who in turn will notify the Explosive Ordnance Disposal Department (EODD) of the Royal Solomon Islands Police Force (RSIPF) on their police toll-free line, 999 or 677 + 23666 or 677 +7495215.
f) The EOD team would be in charge of removal of the UXO.
g) Construction work could resume only after confirmation of clearance from the EOD team

These procedures must be referred to as standard provisions in construction contracts. During project supervision, the Site Engineer shall monitor the above regulations relating to the treatment of any chance find encountered are observed.

Relevant findings will be recorded in World Bank Supervision Reports and Implementation Completion Reports will assess the overall effectiveness of the project's cultural heritage mitigation, management, and activities.

WASTE MANAGEMENT PLAN FOR CONTRACTORS

This subproject is for the construction of the gravity fed water supply system which aims to improve access to clean and safe water for the Habusi, Namopila, Komureo and nearby riverside communities. These communities are located 300m across the river from the Tina River Hydro Development Project power station site. The combined population of the communities total up to 114 and the demand for water is 11.4KL.

Scope

The objective of this waste management pan (WMP) is to provide guidance to contractors on the management of Project-generated waste. If waste types will be generated that are not covered by this plan or if the proposed management strategy for waste types differs from this WMP, then contractors are to prepare a WMP for these waste streams and provide to PMU for review and approval.

Wastes, if not managed responsibly, have the potential to contaminate land, groundwater and/or surface water, which can adversely impact flora, fauna and human health.

Wastes will be generated by the Project through construction of subprojects. Subproject types are expected to include buildings (e.g., accommodation, markets, storage sheds, classrooms, health clinics), water supply (e.g., piped water supply systems, storage tanks, boreholes) and maintenance of small roads and bridges.

Waste Management Hierarchy

Waste should be managed according to the following hierarchy:

- Avoid – avoid generation of waste (e.g., purchase products with no packaging materials)
- Reduce – reduce generation of waste (e.g., purchase product in bulk to reduce packaging materials)
- Reuse – reuse waste products (e.g., reuse packaging materials)
- Recycle – recycle waste products (e.g., recycle packaging materials)

Waste Register

The following table provides guidance on the management of each waste type that is expected to be generated by the Project. The guidance includes:

- Classification
- Waste generating process
- Opportunities for minimisation
- Handling requirements
- Disposal method in order of preference. It is acknowledged that some works will be undertaken in remote areas with limited municipal waste management areas (WMA) and therefore some options are provided for disposal to ensure this WMP remains practical, and the safe disposal of hazardous waste is prioritised.

All waste that require storage and/or transport prior to disposal should also be clearly labelled and care taken not to mix non-hazardous waste with hazardous waste.

All generated waste that cannot be recycled, buried or gifted to community and are required to be taken to municipal waste management area shall be taken to the Ranadi Landfill for disposal.

Waste Type	Classification	Waste Generating Process	Opportunities for Minimisation	Handling Requirements	Disposal Method (in order of preference)
Ash from burn pits- non-restricted	Non-hazardous	Residual matter from burning of non-restricted waste	Minimisation of waste in general before requirement for incineration	Avoid contact or ingestion. Wear standard PPE, leather gloves and dust mask when handling this waste. Cease ash handling activities during high wind conditions.	1. Bury
Clearing and grubbing waste	Non-hazardous	Excess soil, rock, and vegetative material produced from the clearing	Only clear area required for safe operation. Only grub when necessary.	Wear standard PPE and leather gloves	1. Use for rehabilitation. 2. Gift to community for building materials and fuel
Domestic – food waste	Non-hazardous	Kitchen scraps, food leftovers	Training of catering staff to cook only what is required.		1. Burn pit 2. Bury
Domestic - other	Non-hazardous	General rubbish from domestic bins in offices and accommodation	Print double sided		1. Burn pit
Electrical goods waste	Non-hazardous	Electrical parts, fittings, cable, electrodes.			1. Reuse where parts where possible 2. Take to municipal WMA
Empty containers (non-hazardous)	Non-hazardous	Generated from containerized products. Includes only containers that did not contain materials that would be hazardous wastes if discarded, or that have been emptied and cleaned of such contents.	Use returnable containers whenever possible.	Consult labelling of original material stored in the drum/barrel/container. Avoid physical contact with container residues.	1. Reuse 2. Gift to community (clean very well first) 3. Tale to recycling facility 4. Take to municipal WMA

Waste Type	Classification	Waste Generating Process	Opportunities for Minimisation	Handling Requirements	Disposal Method (in order of preference)
Fill Material	Non-hazardous	Excess spoil material generated during construction activities.	Ensure Project design is followed to minimise Project footprint.		1. Reuse 2. Gift to community 3. Spoil dump
Concrete	Non-hazardous	Non-combustible waste generated during construction activities. I.e., concrete.	Reuse/recycle to the maximum extent practicable.	Wear standard PPE and leather gloves.	1. Reuse as fill Material 2. Take to municipal WM 3. Bury
Glass	Non-hazardous	Produced from glass containers and construction waste.		Wear standard PPE and leather gloves	1. Take to municipal WMA
Paper and cardboard	Non-hazardous	Paper and cardboard produced from packaging materials		Wear standard PPE and leather gloves	1. Burn pit 2. Bury
Plastic and insulation	Non-hazardous	Plastic and insulation used for construction and shipment of materials. Consumables and domestic products from packaging materials.	Order materials in bulk to decrease packaging materials.	Wear standard PPE and leather gloves	1. Take to municipal WMA

Waste Type	Classification	Waste Generating Process	Opportunities for Minimisation	Handling Requirements	Disposal Method (in order of preference)
Scrap metal	Non-hazardous	Generated from construction activities.		Wear standard PPE and leather gloves when handling this waste. Scrap metals should be cut to size and sorted prior to conveyance to the WMA. Any contaminated scrap metal should be thoroughly decontaminated and landfilled.	1. Reuse 2. Take to recycling facility 3. Take to municipal WMA
Tyres	Non-hazardous	Used tyres from vehicles on site.	Avoid driving practices that promote wear and tear of tyres, regular wheel alignments on vehicles	Wear standard PPE and potentially supplemented with leather gloves when handling this waste.	1. Reuse 2. Take to recycling facility 3. Take to municipal WMA
Wood scrap	Non-hazardous	Wood waste, insulation, and other combustible waste from packaging and/or construction activities.	Reuse/recycle wood to the maximum extent practicable. Order materials in bulk to decrease packaging materials.	Wear standard PPE and leather gloves	1. Reuse 2. Gift to community 3. Burn pit
Empty gas cylinders	Hazardous	Empty pressurized gas tanks i.e.. from welding activities.	N/A	Wear standard PPE and leather gloves Secure and store in the designated area away from naked flames	1. Return to supplier for refilling 2. Take to recycling facility 3. Take to municipal WMA

Waste Type	Classification	Waste Generating Process	Opportunities for Minimisation	Handling Requirements	Disposal Method (in order of preference)
Empty containers (hazardous)	Hazardous	Generated from containerized products used that contained materials that would be hazardous wastes if discarded that have not been emptied and cleaned of such contents.	Use returnable containers whenever possible.	Consult labelling and MSDS of original material stored in the drum/barrel/container. Avoid physical contact with container residues.	1. Return to supplier for refilling 2. Take to recycling facility 3. Take to municipal WMA *Do not gift to community*
Filters	Hazardous	Spent engine oil filters used for vehicles.		Avoid skin contact with or ingestion of oil. Wear standard PPE, and potentially supplemented with disposable coveralls, chemically resistant gloves, and/or activated breathing protection device when handling this waste. Drain free liquids.	1. Take to recycling facility 2. Take to municipal WMA
Miscellaneous Restricted	Hazardous	Restricted waste not represented in any other category.			1. Take to municipal WMA

Waste Type	Classification	Waste Generating Process	Opportunities for Minimisation	Handling Requirements	Disposal Method (in order of preference)
Spent Batteries	Hazardous	Lead-acid electrical storage batteries and disposable dry cells used in various fields and plant operations, including vehicles and construction equipment.	Use rechargeable batteries where possible	Avoid skin contact or ingestion of acid. Avoid acid fumes. Wear standard PPE, potentially supplemented with acid/caustic resistant gloves, acid/caustic resistant apron, and/or face shield when handling this waste. Do not damage or crack batteries. Neutralising materials should be readily on hand in the event of an accident or spillage at place of work.	1. Take to recycling facility 2. Take to municipal WMA
Waste Oils	Hazardous	Oil waste from maintenance and operations of construction equipment and vehicles.	Review processes to evaluate the effectiveness of current materials used to ensure maximum efficiency is obtained prior to changing oils and lubes. Ensure equipment arrives fully serviced.	Avoid skin contact or ingestion. Wear standard PPE, and potentially supplemented with disposable coveralls, chemically resistant gloves, and/or activated carbon-equipped breathing protection device when handling this waste.	1. Take to recycling facility 2. Take to municipal WMA
Oily rags and used absorbent materials	Hazardous	Oily rags from maintenance and operations of construction equipment and vehicles; used absorbent materials used for cleaning up spills		Avoid skin contact or ingestion. Wear standard PPE, and potentially supplemented with disposable coveralls, chemically resistant gloves, and/or activated carbon-equipped breathing protection device when handling this waste.	1. Take to municipal WMA

Waste Type	Classification	Waste Generating Process	Opportunities for Minimisation	Handling Requirements	Disposal Method (in order of preference)
Soil contaminated with restricted waste	Hazardous	Soil that have been collected from the location of a spill of restricted substance	Minimise spills	Avoid skin contact or ingestion. Wear standard PPE, and potentially supplemented with disposable coveralls, chemically resistant gloves, and/or activated carbon-equipped breathing protection device when handling this waste.	1. Take to municipal WMA
Unused, spent, expired and contaminated solvents, paints, chemicals and additives	Hazardous	Chemical compounds and products used for maintenance and facility construction.	Personnel to ensure that the materials are fully used before generating as a waste.	Avoid skin contact with or ingestion. Wear standard PPE, and potentially supplemented with disposable coveralls, chemically resistant gloves, and/or activated carbon-equipped breathing protection device when handling this waste.	1. Take to municipal WMA