

REQUEST FOR EXPRESSION OF INTEREST
(Consultancy Services – Firm’s Selection)

Country:	Pakistan
Name of Program:	Punjab Affordable Housing Program (PAHP)
Loan No. / Credit No.:	7043 - PK
Assignment Title:	Consultancy Services - Detailed Planning, Architectural Design and Resident Construction Supervision (Site-1, Faisalabad).
Reference No.	PK-URBAN UNIT, PUNJAB 466702-CS-CQS

1. The Government of Punjab has received Credit No. 7043 - PK from the International Development Association (IDA) towards the cost of the Punjab Affordable Housing Program (PAHP). The Program is being implemented through a Program Management & Implementation Unit (PMIU) under the Housing Urban Development and Public Health Engineering (HUD&PHE) Department with Urban Sector Planning & Management Service (Pvt.) Ltd. (The Urban Unit - Government of Punjab) and PHATA (Punjab Housing and Town Planning Agency) as co-implementing agencies. The PMIU-PAHP intends to hire Consultancy Services for Detailed Planning, Architectural Design and Resident Construction Supervision for Site-1, Faisalabad.

2. The consultancy services ("the Services") for conducting detailed Planning, Architectural Design and Resident Construction Supervision, ensuring full consistency with the TOR referred at Sr.No#3 below;

3. The detailed Terms of Reference (TORs) and Shortlisting Criteria for the firm can be found at: <https://urbanunit.gov.pk/pahp> or [https://phata.punjab.gov.pk/phata_ads_or https://pahp.gop.pk/procurements.html](https://phata.punjab.gov.pk/phata_ads_or_https://pahp.gop.pk/procurements.html)

4. The PMIU – PAHP invites reputed Architectural & Planning firms to express their interest in providing the said services. Interested firms should provide information demonstrating that they have the required qualifications and relevant experience to perform the services. The EoI needs to include the following information for shortlisting of firms as per detail given in the criteria.

- Firm(s)/joint venture(s) name, address, copy of the Registration Certificate with relevant professional bodies of the Government, supported by latest / updated renewal, country of operations (if the firm is registered and operating in several countries), Memorandum / Article of Association / Partnership Deed or Joint Venture Agreement (if applicable) **(Letter of incorporation would be required).**
- Registration with the relevant tax authorities for applicable taxes for National (Pakistani) firms (active tax payer).

- At-least ten (10) years of experience & past performance of firm(s) / joint ventures in preparing town / urban planning, architectural work, engineering design and resident construction supervision.
- Participation in national / international design competition for affordable housing.
- History of litigation (if any) in courts or any arbitration proceedings.
- Affidavit confirming that: (a) applicant firm(s)/joint venture(s) have never been blacklisted by any government department/ agency/ international financial institution. (If ever blacklisted, then provide the case history and status of the firm regarding this decision). (b) All the information provided by the applicant firm/joint venture is correct.
- The Firms / JV should demonstrate sufficient HR / managerial capacity and technical expertise in the areas covered in the TORs. *Quality Management Systems' Certifications for the firm will be an added advantage.*

5. The attention of interested Consultants is drawn to Section III, paragraphs, 3.14, 3.16, and 3.17 of the World Bank's "Procurement Regulations for IPF Borrowers" July 2016 (revised 2020), setting forth the World Bank's policy on conflict of interest. (<https://www.worldbank.org/en/projects-operations/products-and-services/brief/procurement-new-framework>)

6. Consultants may associate with other firms to enhance their qualifications, but should indicate clearly whether the association is in the form of a joint venture and/or a sub-consultancy, In the case of a joint venture, all the partners in the joint venture shall be jointly and severally liable for the entire contract, if selected.

7. The Consultants will be selected to conduct Services in accordance with the Consultant's Qualification Based Selection (CQS) method set out in the World Bank Procurement Regulations 2020.

8. Further information can be obtained at the address given below during office hours (9:00 am to 5:00 pm) on all working days till the submission of EOI.

9. Expressions of interest must be delivered in a written form to the address below on or before **January 24, 2025, by 1100 hours.**

Program Director
Program Management and Implementation Unit (PMIU)
608 - Shaheen Complex, Egerton Road, Lahore
Ph: 042-99205318 Ext: 268 Fax: 042-99205323 <https://pahp.gop.pk/procurements.html>
Email Address: rni.pahp@punjab.gov.pk

1 Qualification Criteria

Shortlisting of Consultants will be based on the criteria given below regarding applicant's Mandatory Documents, General and Relevant Experience & Managerial Capabilities as demonstrated by the Applicant's responses. EOI Applications will be evaluated based on the following criteria:

1. Eligibility Criteria

The firm and JV partners (if any) are required to submit the following mandatory documents for shortlisting:

- Firm(s)/joint venture(s) name, address, copy of the Registration Certificate with relevant professional bodies of the Government, supported by latest / updated renewal, country of operations (if the firm is registered and operating in several countries), Memorandum / Article of Association / Partnership Deed or Joint Venture Agreement (if applicable) **(Letter of incorporation would be required).**
- Registration with the relevant tax authorities for applicable taxes for National (Pakistani) firms (active tax payer).
- At-least ten (10) years of experience & past performance of firm(s) / joint ventures in preparing town / urban planning, architectural work, engineering design and resident construction supervision.
- Participation in national / international design competition for affordable housing.
- History of litigation (if any) in courts or any arbitration proceedings.
- Affidavit confirming that: (a) applicant firm(s)/joint venture(s) have never been blacklisted by any government department/ agency/ international financial institution. (If ever blacklisted, then provide the case history and status of the firm regarding this decision). (b) All the information provided by the applicant firm/joint venture is correct.
- The Firms / JV should demonstrate sufficient HR / managerial capacity and technical expertise in the areas covered in the TORs. *Quality Management Systems' Certifications for the firm will be an added advantage.*

2. Relevant Experience of firm

i. Urban / Town Planning Work Experience:

For town planning scope, the firm/ Consortium shall be evaluated based on the following:

No.	Category	Maximum Score	Criteria
1.	Projects of neighbourhoods/housing schemes/layout/physical planning in Pakistan with minimum area of 50 Kanals, completed in last 10 years.	10	Min 4 assignments = 6 Any additional assignment = 1 mark per assignment (maximum 4)
2.	Similar nature work of town planning of low-cost housing projects in Pakistan with minimum area of 20 Kanals, completed in last 10 years.	5	Min 2 assignments = 3 marks Any additional assignment = 1 mark per assignment (maximum 2)

3.	International experience in projects of similar nature with minimum area of 50 Kanals or equivalent area, completed in last 10 years.	5	Min 2 assignments = 3 marks Any additional assignment = 1 mark per assignment (maximum 2)
Total		20	

ii. Architectural Work Experience:

No.	Category	Maximum Score	Criteria
1.	Relevant projects in architectural design of large-scale/multistorey residential buildings with minimum covered area of 10,000 sq. ft., completed in last 10 years.	10	Min 4 assignments = 6; Any additional assignment = 1 mark per assignment (maximum 4)
2.	Relevant projects in urban designs of residential neighbourhoods/housing schemes with minimum area of 10 Kanals, completed in last 10 years.	6	Min 2 assignments = 4 marks Any additional assignment = 1 mark per assignment (maximum 2)
3.	Experience in similar design projects of low-cost housing in compliance with green design principles for climate resilience and sustainability, completed in last 10 years.	8	Min 2 assignments = 4 marks Any additional assignment = 1 mark per assignment (maximum 4)
4.	International experience in projects of affordable/low-cost housing, completed in last 10 years.	6	Min 2 assignments = 4 marks Any additional assignment = 1 mark per assignment (maximum 2)
Total		30	

iii. Detailed Engineering Work Experience:

For engineering design scope, the firm/ relevant JV partner shall be evaluated based on the following:

No.	Category	Maximum Score	Criteria
1.	Relevant experience in engineering design (structure and MEP) of large-scale residential	6	Min 3 assignments = 3

	buildings in Pakistan with minimum covered area of 10,000 sq. ft., completed in last 10 years.		Any additional assignment = 1 mark per assignment (maximum 3)
2.	Relevant experience in engineering designs of infrastructure development (roads, water supply, sewerage, drainage, wastewater treatment, rainwater harvesting, solar system, etc. with a minimum of 50 Kanals, completed in last 10 years.	6	Min 2 assignments = 4 Any additional assignment = 1 mark per assignment (maximum 2)
3.	International experience in projects of similar nature in affordable/low-cost housing, completed in last 10 years.	3	Min 2 assignments = 3 marks
	Total	15	

iv. Resident Construction Supervision Experience:

For resident construction supervision scope, the firm/ relevant JV partner shall be evaluated based on the following:

No.	Category	Maximum Score	Criteria
1.	Resident Construction Supervision of Projects of similar nature of large-scale buildings in Pakistan with minimum covered area of 100,000 sq. ft. or more completed in last 10 years	8	Min 3 assignments = 5 Any additional assignment = 1 mark per assignment (maximum 3)
2.	Resident Construction Supervision of Infrastructure Development Projects of housing schemes with minimum area 100 Kanals/scheme completed in last 10 years.	8	Min 3 assignments = 5 Any additional assignment = 1 mark per assignment (maximum 3)
3.	International experience of Resident Construction Supervision of projects of similar nature.	4	Min 2 assignments = 4 marks
	Total	20	

v. Innovative Approaches

No.	Category	Maximum Score	Criteria
1.	Participation in national/international design competition for Affordable Housing	10	1 st position: 5 marks 2 nd and 3 rd position: 3 marks Honourable mentions: 2 marks (Maximum:2 competitions)

2.	Relevant experience on donor/ multilateral funded projects, completed in last 10 years.	5	Min 2 assignments = 3 marks Any additional assignment = 1 mark per assignment (maximum 2)
	Total	15	

Note: Minimum qualifying marks would be 65.

Punjab Affordable Housing Program

Detailed Planning, Architectural Design and Resident Construction Supervision

(Site 1: Faisalabad)

Terms of Reference

Program Management & Implementation Unit (PMIU)

Punjab Affordable Housing Program (PAHP)

Punjab Affordable Housing Program

Detailed Planning, Architectural Design and Resident Construction Supervision

(Site 1: Faisalabad)

Terms of Reference

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3 Background

The Punjab Affordable Housing Program (PAHP) is a World Bank funded hybrid program comprising the two instruments - Program for Results (PforR) and Investment Project Financing (IPF) - with a total cost of USD 250 million over 5 years (2022-2027). The Program Development Objective is to support the Government of Punjab in strengthening its housing institutions and systems, enhancing the quantity & quality of affordable housing supply. The Program is being implemented by the Urban Unit, and Punjab Housing & Town Planning Agency (PHATA) through the Program Management & Implementation Unit (PMIU), with the Housing, Urban Development & Public Health Engineering Department (HUD&PHED) bearing the overall responsibility of the program.

4 Objectives

The main objectives of this consultancy are to provide comprehensive services, including detailed planning, architectural, structural, and all associated engineering designs (pavements, plumbing, water supply, sewerage, drainage, wastewater treatment, mechanical, and electrical), resident construction supervision, and oversight of land and infrastructure development and housing construction for affordable housing scheme.

5 Project Site

The site is located in Faisalabad, coordinates 31.392°N, 73.191°E, and encompasses four blocks with a total area of approximately 24.6 Kanals available for development. Strategically situated on Makuana Road, the site is an attractive location with excellent accessibility. Owned by PHATA, the land is free from litigation and encroachments.

Additionally, the site is well-equipped with basic infrastructure, including water supply, wastewater disposal, and road connectivity, making it highly suitable for development.

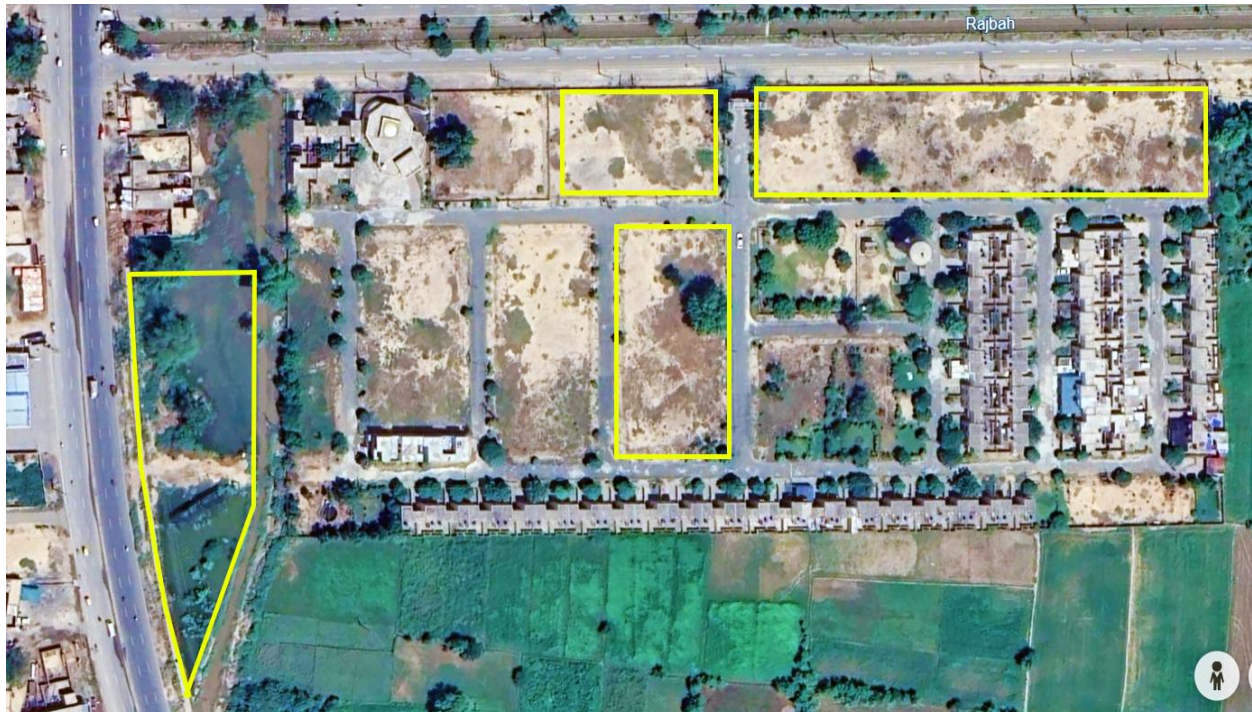


Figure 1: Site Location Map

6 Scope of Services

The scope of services is to be performed and successfully completed by the Consultant to the satisfaction of the Client and in accordance with the provisions of the Contract.

The Consultant shall provide professional and technical expertise for proper execution of required services, including but not necessarily limited to the following outputs in Phase A and B:

Phase A. Detailed Lay-out, Architectural and Engineering Design

Output 1. Inception Phase & Inception Report

1.1. Kickoff Workshop

Facilitation of a kickoff workshop with key stakeholders, to elaborate:

- (i) Project vision, objectives, principles, and targets.
- (ii) Planning methodology.

1.2. Inception Report

The report should not exceed 10-20 pages, including illustrations, tables, references, and any necessary annexes. Description of project vision, objectives, principles, and targets.

- (i) Description of planning, design, engineering & supervision methodology.
- (ii) Description of proposed key design features, including but not limited to:
 - Planning principles for climate resilience and density
 - Considerations for unit design options

- (iii) Methodology for compliance with PAHP Environmental and Social (E&S) Safeguard requirements and site-specific E&S Assessment.

1.3. *Baseline Sectoral Studies*

Incl. a summary (section of the main report) with 4-10 pages of text, plus tables and illustrations, etc.; the actual reports are to be annexed; any other material is to be annexed but only if considered relevant.

- (i) **Topographic survey**
- (ii) **Geotechnical investigations**
- (iii) **Hydrological studies**, incl. groundwaters (e.g., electrical resistivity survey)
- (iv) **Climatic study** (wind, precipitation, temperatures, solar, etc.)
- (v) **Traffic Impact Assessment** (prioritizing green and inclusive mobility)
- (vi) **Trunk infrastructure screening** and gap analysis (existing status vs project need), to connect the site to all critical infrastructures
- (vii) **Other items/sectors** deemed critical for project success.

The Consultant shall further consider and embed existing reports and materials, such as land records, preliminary social and environmental assessment, etc., provided by the Client.

1.4. *Base Map*

Capturing all relevant elements of baseline sectoral studies for the site. The basemap shall not be limited to the site boundary but also contain relevant information on surroundings (e.g., villages, canals, roads, other land uses), to inform the synergistic integration of site and surroundings.

Output 2. Feasibility and Conceptual

2.1. *Preliminary Feasibility of Housing Solutions*

4-10 pages of text, plus financial tables and illustrations, etc.; any other material is to be annexed only if considered relevant.

Development of Housing Prototypes

- (i) **Conceptual Architectural Designs:** Physical design and standards of multi-unit apartment buildings (G+3) with a minimum of 3 different prototypes for each level of road (see below), explained through text and figures (e.g., drawings, sketches, photos).
- (ii) **Preliminary Costing** of the price points for identified housing solutions/prototypes (incl. land, infrastructure, and housing, with adequate margins to ensure feasibility for all stakeholders involved, e.g., covering contingency, design and management, construction finance, and surplus).
- (iii) **Affordability Analysis** (supply-demand-match), cross tabulating supply (i.e., housing solutions//prototypes with price points in *columns*) with demand (i.e., affordable price points across target segments *in rows*): for which table cell is the respective housing solution affordable to the respective target segment – or what is the cost-affordability gap?

The Client may provide a template financial model. If so, the Consultant may propose amendments to the template, subject to approval by the Client, and shall make the necessary inputs, eventually.

Note: the baseline data from market sounding will be robust, while precision and technical depth of the programmatic housing solutions/prototypes may be preliminary at this stage. (Regarding the latter, it is critical to put all methodological components in place already so that the data for the demand-responsive supply and affordability check can be refined in each submission, progressively.)

2.2. Preliminary Planning Layout with Infrastructure Networks

The report should not exceed 4-10 pages, including illustrations, financial tables, illustrations, and any necessary annexes if considered relevant.

The Consultant shall prepare at least 3 housing scheme planning scenario satisfying the needs of the Client. These scenarios may be needed to identify a preferred combination of infrastructure development (network length, and standards/costs) and revenue including:

- (i) **Preliminary costing** (macro-level; with more details in later outputs), with:
 - Site mobilization cost, including:
 - Current site value, considering market values across the site
 - Off-site trunk infrastructure (gap) costs, as above
 - Social Safeguards costs
 - Environmental Safeguards costs
 - Site clearance and preparation cost (e.g., removal of existing structures and plants, if any; filling/grading of the site)
 - Infrastructure network development cost, including blue-green networks, ideally disaggregated by the road hierarchy
 - Public open spaces cost
 - Public amenities cost
 - Other hard cost, if any
 - Appropriate margins (e.g., contingency, design and management, financing costs), to cover all costs and risks not yet included and ensure feasibility for all stakeholders involved.

The Client may provide a template financial model. If so, the Consultant may propose amendments to the template, subject to approval by the Client, and shall make the necessary inputs, eventually.

2.3. Other Tasks/Items Identified Critical for Project Success

The Consultant or Client may identify other activities, to be amicably settled.

2.4. Deliverable: Report on Feasibility, Conceptual Designs, and Preliminary Costing

The report should not exceed 2-4 pages, including illustrations, financial tables, illustrations, and any necessary annexes if considered relevant.

- (i) Feasibility of vision, objectives, and targets
- (ii) Identification of key parameters, decisions, tools, strategies to achieve feasibility.
- (iii) Forward-looking outline of next steps

Output 3. Draft Concept Design & Draft Feasibility Report

The report should not exceed 4-10 pages, including illustrations, financial proforma, tables, and any necessary annexes if considered relevant.

Based on the previous **Error! Reference source not found.**, and feedback/further information received, the Consultant shall develop at least one (1) combined spatial-and-financial and combined site-and-housing scenario and optimize it iteratively for livability/sustainability/resilience, financial feasibility, and social affordability/inclusivity based on own findings as well as feedback by the Client, until it satisfies the Client. (Only if the optimized scenario does not satisfy the Client, the Consultant shall develop alternative scenarios until Client approval.)

3.1. *Introduction / Context*

Introduction/context may include the project concept and key results of the previous Output, drawing primarily from the executive summary and forward-looking conclusion.

3.2. *Concept Housing Development*

This item shall refine/detail the previous output Output 21

Preliminary Feasibility of Housing Solutions, considering all approved findings and feedback received. In addition, the Consultant shall ensure the applicability of green and sustainable building design and climate resilient construction materials and technologies for affordable housing. Incorporate appropriate design ideas and materials recommendations from the PAHP Design Competition proposals and those provided by the Client. Comply with social-inclusive and culture-responsive design protocols (to be provided by the Client).

3.3. *Concept Layout and Infrastructure Development*

Consultants are required to incorporate PAHP Planning Standards, recommendations from the PAHP Design Competition, and comply with social-inclusive, culture-responsive and climate-resilient planning and design protocols (provided by the Client).

- (i) **Concept distribution of public spaces** i.e., open spaces and amenities providing a public function, be they truly public or private.
- (ii) **Concept green-blue-social network**, synergistically integrating green-blue networks within streets and with other public spaces (e.g., social amenities).¹
 - Concept infrastructure sector plans, with standards varied by the road network hierarchy.² Sectors include but may not be limited to multi-modal mobility, stormwater / green-blue networks, water, sewage, electricity/streetlights, ICT, etc.³
 - Consolidated/Regular: status quo that PHATA / the market typically provides

¹ Generally, streets and other public functions should be developed with green-blue networks. (This helps minimizing additional land use allocations that would reduce the revenue. Only if required, e.g., to accommodate environmental requirements, additional areas may be mobilized. If so, these areas should avoid consuming higher value lands, by strategic location choice and/or road network adjustments.)

² Higher-level roads shall have relatively higher standard, and lower-level roads shall have relatively lower standards, with the option to upgrade (both but especially) the lower-level roads later (future-proved infrastructure development with planned phases).

³ These infrastructures should be accommodated within the right of ways and public spaces (green open spaces and amenities, be they truly public or private, as above), preferably. Only if needed, additional lands may be consumed — if so, ideally avoiding higher value lands, as before.

- Initial/Basic: more basic than the status quo but future-proofed (i.e., designed/ready for upgrading), considering national and international best practices such as, Khuda Ki Basti or World Bank Sites and Services projects.⁴

3.4. *Financial Planning / Feasibility*

Develop concept financial proforma: i.e., budgets with the following information, based on bill of quantities derived from the housing and site plans above:

- (i) **Full costs**, furthering **Error! Reference source not found.** with specific bill of quantity and unit costs, as per the design (e.g., infrastructure length and standards. The proforma shall also budget appropriate margins (contingency, design and management, financial interest, surplus) to ensure feasibility.
- (ii) **Revenues**, furthering **Error! Reference source not found.** with specific bill of quantity and unit revenue, as per the sketched design (e.g., proposed land use distribution and unit revenue)
- (iii) **Surplus/loss**, based on revenues less full costs.

Note: especially 3.2 Concept housing development, and 3.3 Concept layout and infrastructure development, are to be iteratively optimized, so that they fit together while achieving (spatial, social, environmental, financial, fiscal, etc.) project goals.

3.5. *Concept Development of Non-Residential Land Uses*

- (i) **Architectural prototyping of other land uses.** Develop a simple massing study of other land uses, particularly the commercial project components for cross subsidies and social amenities/other public functions
- (ii) **Financial analysis**, with costing and pricing of other land uses, revenues, and surplus/loss.

3.6. *Other Tasks/Items Identified Critical for Project Success*

The Consultant or Client may identify other activities, to be amicably settled. (Any bidder should include any additional task as an optional offer.)

Output 4. Final Concept Design & Feasibility Report

The Consultant will finalize the feasibility report, following the approval of the previous Output and incorporating feedback/further information received.

4.1. *Consolidated Introduction*

The introduction should not exceed 4-10 pages, including illustrations, tables, and any necessary annexes.

Consolidating introduction, forward-looking conclusion, and executive summary of the previous Output, clearly explaining the selected scenario.

⁴ E.g., for the lower network levels, such as lanes and ghallis, the initial network cost may be avoided through off-grid solutions, such as community water taps at the entrance to the lane/ghali from the next higher road, from which the community can later extend a local network.

4.2. *Final Concept Design for Building and Housing Development*

No specific page limit, but conciseness is requested, as per the previous Output.

Update / consolidate the preferred housing solutions (architectural and financial design as well as affordability/cost gap as per Output 3.2), *including but not limited to:*

Integrated Architectural, Financial, Social, and Environmental Design:

Developing variations of the preferred prototypes. Such variations may generally be developed by varying the size of each prototype.⁵

4.3. *Final Concept Layout and Infrastructure Development*

No specific page limit, but conciseness is requested, as per the previous Output.

Update / consolidate the preferred scenario from Output 3.33 *Concept Layout and Infrastructure Development* and incorporate feedback received, such as building in design elements from other scenarios and/or additional elements (e.g., from national or international cases/best practices identified). More generally, feedback received is to be tested for feasibility and, if feasible, incorporated.

4.4. *Consolidated Development of Non-Residential Land Uses*

Update / consolidate /detail the previous output, as may be needed.

Note: 4.2 and 4.3 (as well as 4.4 possibly) are to be iteratively optimized to fit each other while achieving project goals.

4.5. *Other Tasks/Items Identified Critical for Project Success*

The Consultant or Client may identify other activities to be added and amicably settled.

4.6. *Forward-Looking Conclusion*

The conclusion should not exceed 4-10 pages, including illustrations, financial tables, and any necessary annexes if considered relevant.

4.7. *Executive Summary*

The conclusion should not exceed 2-4 pages, including illustrations, financial tables etc.

Output 5. Draft Detailed Design & Draft Bidding Documents

Upon the approval of the previous Output 4 by the Client, the Consultant shall immediately proceed with the preparation of the detailed design and bidding documents of the project, which shall initially be submitted in draft form.

The Detail Design shall comprise detailed and fully coordinated Design Report, Backup Calculations, Bidding Drawings, Specifications and other Documents including but not limited to the following:

- (i) Preparation of architectural drawings, making structural calculations and preparing all structural, mechanical, sanitary, plumbing, drainage, electrical drawings, specifications, detailed cost

⁵ For example, flats may be varied by partitioning building into large (e.g., 600sqft for 3BR), medium (e.g., 450sqft for 2BR), and units (e.g., 300sqft for 1BR).

estimates or such other particulars as may be necessary for the preparation of bills of quantities and bidding documents.

- (ii) Architectural designs and details including 3D exterior elevation renderings
- (iii) Water Supply System
- (iv) Sewerage System and Wastewater Treatment
- (v) Storm Water Drainage
- (vi) Electrical Power Supply System with layouts
- (vii) Design of Buildings and Public Infrastructure
- (viii) Firefighting Works and System
- (ix) Landscaping, Parks and Green Spaces
- (x) Material Specifications and Design Calculations
- (xi) Preparation of Bidding Documents
- (xii) Miscellaneous and allied details

Output 6. Final Detailed Design & Final Bidding Documents

Following the approval of Detailed Design, the Consultant shall prepare and submit the Final Design and Bidding Documents incorporating the Client’s review/comments of the previous output and the final Bills of Quantities

- (i) Final Design and Bidding Documents
- (ii) Preparation and approval of PC-I Document
- (iii) Detailed Cost Estimate and assistance to obtain Technical Sanction
- (iv) Assistance to get relevant NOCs
- (v) Services during Bidding, Bid Evaluation and Award of Contract

Phase B. Resident Construction Supervision

The Consultant shall supervise, coordinate, manage, administer and timely deliver the Project’s construction from initiating to closing. This phase of the project is subdivided into Output 7 and 8.

Output 7. Detailed Resident Construction Supervision & Related Verification Reports

Details attached as Annex A.

Output 8. Services during Defects Liability Period & Final Report, upon Project Closing

Details attached as Annex A.

7 Timeline and Payment Schedule

The delivery timeline and payment schedule are outlined in the following tables for design and planning services versus construction supervision services, respectively.

Table 1: Phase A — Design & Planning Timeline & Payment Schedule

Deliverables (Outputs)	Timelines*	Payment**
Output 1: Inception Phase & Inception Report	2 weeks	20%

Deliverables (Outputs)	Timelines*	Payment**
Output 2: Feasibility and Conceptual ⁶		
Output 3: Concept Design & Draft Feasibility Report	4 weeks	25%
Output 4: Final Concept Design & Feasibility Report	8 weeks	
Output 5: Draft Detailed Design & Draft Bidding Documents	12 weeks	25%
Output 6: Final Detailed Design & Final Bidding Documents	16 weeks	20%
Output 7: Technical Assistance during construction supervision ⁷	-	10%
Subtotal	16 weeks	100%***

Table 2: Phase B – Construction Supervision Timeline & Payment Schedule

Deliverables (Outputs), & Progress	Timeline	Payment**
Output 7: Detailed Resident Construction Supervision & Related Verification Reports		
Milestone on Progress 0% (Upon contract award for construction firm)		5%
Milestone on Progress 20%*		15%
Milestone on Progress 40%*		15%
Milestone on Progress 60%*		20%
Milestone on Progress 80%*		20%
Milestone on Progress 100%		20%
Output 8: Services during Defects Liability Period & Final Report, upon Project Closing	Not before the end of DLP	5%
Subtotal of construction supervision fees		100%***
*Measured in % share of total construction budget spent.		
**Upon Client's approval of the Output.		
***As per contract terms, based on financial offer by the Consultant.		

8 Staffing and Team Composition

Key Personnel for Detailed Lay-out, Architectural and Engineering Design

Table 3: Key Personnel Required for Detailed Lay-out, Architectural and Engineering Design

Sr.	Staff	Marks	Mandatory Qualification with Experience
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⁶ Output 1 and 2 can run in parallel: i.e., sectoral studies can start immediately after contract signing.

⁷ The architect/design engineers shall assist the supervision staff to respond to RFIs and the approval of technical submittals.

No.			
1.	Team Lead		Master's or higher Degree in Architecture / City and Regional Planning with 15 years of relevant experience. Additional qualification in Project Management will be an added advantage. The individual must be registered with the relevant Professional Body.
2.	Urban Planner		Bachelor or higher Degree in Urban Planning with 10 years of relevant experience. The individual must be registered with the relevant Professional Body.
3.	Architect		Bachelor or higher Degree in Architecture with 10 years of relevant experience. The individual must be registered with the relevant Professional Body.
4.	Civil / Transportation Engineer		Bachelor or higher Degree in Civil/Transportation Engineering with 10 years of relevant experience. The individual must be registered with PEC.
5.	Structural Engineer		Bachelor or higher Degree in Civil/Structural Engineering with 10 years of relevant experience. The individual must be registered with PEC.
6.	Public Health Engineer		Bachelor or higher Degree in Civil/Public Health Engineering with 10 years of relevant experience. The individual must be registered with PEC.
7.	Electrical Engineer		Bachelor or higher Degree in Electrical Engineering with 10 years of relevant experience. The individual must be registered with PEC.
8.	Contracts Engineer		Bachelor or higher Degree in Civil/ Architectural Engineering with 10 years of relevant experience. The individual must be registered with PEC.
9.	Horticulture expert/landscape architect		Bachelor or higher in Architecture/Architectural Engineering or any relevant degree with 05 years of relevant experience. The individual must be registered with the relevant Professional Body.
10.	CAD Expert		Diploma of Associate Engineering with 10 years' relevant experience.
11.	Quantity Surveyors		Diploma of Associate Engineering with 10 years' relevant experience.

Key Personnels for Resident Construction Supervision

As detailed in Annex A.

9 Further Provisions

Reporting Requirements

The Consultants will be reporting to the Program Director, Program Management Implementation Unit (PMIU) for PAHP.

Timelines and Period of Contract

The duration of this assignment (post signing of agreement) is expected as in the Timeline and Payment Schedule above.

Client's Responsibilities

The Client will provide relevant documents (listed below) to the Consultants and will facilitate meetings with relevant stakeholders. The Consultants are to comply with all these documents/standards/protocols at all phases of the project.

- (i) PAHP Program Appraisal Document (PAD)
- (ii) PAHP Planning Standards
- (iii) Outcomes of the PAHP Design Competition
- (iv) Base work of housing prototypes
- (v) Design and planning guidelines
- (vi) Stakeholder Engagement Plan
- (vii) Site specific environmental and social assessment
- (viii) Environment and Social Systems Assessment
- (ix) Environment and Social Compliance Framework
- (x) Location plan
- (xi) Any other relevant document to the assignment

Technical Assistance

The Consultants shall render any required technical assistance to the Client during the execution of the project and shall resolve any issues emanating out of the physical planning, detailed design and resident construction supervision carried out by them. All such assistance shall be rendered to the contractor or the project supervisory Consultants on specific request of the Client.

Professional Liabilities of Consultants

The following will be the Professional Liabilities of the Consultant:

- (i) The Consultant selected and awarded a contract shall be liable for consequence of errors or omissions on the part of the Consultants.
- (ii) The extent of liability of the Consultant shall form part of the contract and such liability shall not be less than their remunerations nor shall it be more than twice the remunerations.
- (iii) The Client will demand insurance on behalf of the Consultant to cover the liability of the Consultant and necessary costs shall be borne by the Consultant.
- (iv) The Consultant shall be held liable for all losses or damage suffered by the procuring agency on account of any misconduct by the Consultant in performing the consulting services

Intellectual Property Rights

- (i) All documents, reports, designs, research work and all the deliverables prepared by the Consultants shall become and remain the property of the Client.
- (ii) Any future use of these documents and software by the Consultants shall not be made without permission of the Client.

Penalties

The Consultants will be subject to any penalties outlined in the contract agreement if they fail to meet the scheduled targets.

10 Procurement

Selection Method

The Consultant will be selected to conduct consultancy services in accordance with the Consultant's qualifications-based selection (CQS) method set out in the World Bank Procurement Regulations 2020.

Type of Contract

All payments to the Consultants shall be made in accordance with the provisions of the contract and shall be based on the following form of contracts:

Lumpsum form of contract: for physical planning / layout planning, architectural, engineering work, detailed designing and Resident Construction Supervision.

Documentation Requirements

The required documentation required but not limited to:

- (i) Inception Report
- (ii) Geo-technical Investigations
- (iii) Topographic Survey
- (iv) Hydrological Study Report
- (v) Electrical Resistivity Survey
- (vi) Environmental & Social Assessment Reports
- (vii) Preliminary Concept Paper
- (viii) Preliminary Design Report
- (ix) Environment & Social Management Plans
- (x) Physical Planning / Layout Planning
- (xi) Detailed Design of Infrastructure and Services
- (xii) Detailed Architectural Drawings
- (xiii) 3D Exterior Elevation renderings
- (xiv) Detailed Structural Design
- (xv) Detailed MEP Design
- (xvi) Detailed Design Report
- (xvii) PC-I Document
- (xviii) Detailed Cost Estimates and Technical Sanction
- (xix) Detailed Bill of Quantities and Bidding Documents
- (xx) Monthly Progress Report
- (xxi) As-Built Drawings
- (xxii) Operations & Maintenance Manuals
- (xxiii) Completion Report

12 Annex A: Detailed Scope of Services & Reporting Requirements

The Consultant shall be fully responsible for confidentiality, correctness and accuracy of the reports, documents, drawings, specifications and other deliverables prepared as part of the Services.

Phase A. Detailed Lay-out, Architectural and Engineering Design:

Output 1. Preliminary data collection, and project feasibility report

The Consultant shall collect relevant data and ascertain, in conjunction with the Client, any other third parties, the Project requirements. These shall include but not limited to the following:

- (i) Client's Project brief, and site data supplied by the Client, data collected by the Consultant from Authorities having jurisdiction.
- (ii) Project execution strategy.
- (iii) Budget and time schedule limitations.
- (iv) Site Information, such as:
 - Climatic and environmental data.
 - Boundary limits.
 - Location of nearby utilities structures (major).
 - Statement on general and specific codes and zoning requirements.
 - Any available data on the subsoil conditions in adjacent plots.
 - Extent of infrastructure.
 - Site constraints.

The Consultant shall contact appropriate Agencies, utility and service providers and other Authorities having jurisdiction, to obtain relevant data related to the Project and Project site, and to determine the location and capacity of public facilities and services.

Topographic Survey

Carry out a detailed Topographical Survey to determine and record the exact layout of Site and adjacent areas (roads, structures, etc.), physical features, site levels, location of existing roads, services (above and belowground), existing structures (if any) and all other pertinent information and conditions relevant to the Project site.

Geotechnical Investigations

Carry out a Geotechnical Investigation, by a specialized sub-contractor that is approved by the Client. The investigations shall provide detailed information on the nature of the sub-strata, superficial deposits, ground water, seismic analysis and recommendations on the foundation design required for the project. Site investigations shall be carried out in accordance with the latest relevant ASTM Standards. A minimum outline of Geotechnical investigation work will be approved by the Client.

Electrical Resistivity Survey (ERS)

ERS is required to be carried out at the above-mentioned project area to estimate the quality and quantity of the underground water and the configuration of the water bearing aquifer. Vertical Electrical Sounding (VES) shall be used to an estimated depth of about 300 meters by deploying appropriate arrays / electrode

configuration, with minimum number of probes are not less than 60.

Hydrological Study

The Consultant shall submit the detailed hydrologic study report for the project after successfully finishing / accomplishing the task. The following Hydrologic Criteria should also be mentioned in the design report: Design rainfall, Runoff calculation method(s), detention discharge and storage calculations, design storm recurrence intervals etc.

Traffic Impact Assessment

The Consultant will evaluate the likely consequences of the development with respect to transportation issues and will submit the Traffic Impact Assessment Report.

Environment & Social Management including Climate Studies

The Consultant shall consider and embed existing reports and materials related to Initial Environmental / Social Examination (IESE) / Environmental / Social Impact Assessment (ESIA) / Environmental / Social Management Plan (ESMP) according to the requirement of Environmental & Social Framework and Environment Protection Department for the execution of project.

Project Design Brief

The Consultant shall prepare a brief Report of the Project and establish standards for space requirements in compliance with planning standards and regulations. The Consultant may recommend variations to the planning regulations which are justified and add value to the planning for the project. Such variations would be subject to Client's/relevant Authority's approval.

The Consultant shall, in close collaboration with the Client, finalize the Project Design Brief with the objective of developing the Site and to include but not limited to the following:

- (i) Review of local municipality rules and regulations applying to the site and their application.
- (ii) Operational requirements, in collaboration with the Client.
- (iii) Facilities requirements and relations between them.
- (iv) Interfaces with existing or proposed facilities.
- (v) Extent of the infrastructure, landscape and external works.
- (vi) Review of all applicable local authority's regulatory requirements.

Output 2, 3, & 4. Concept Design and Feasibility Report

The Consultant shall develop the Concept Design and Feasibility Design Report. All designs will be subject to review and approval by the Client. This shall be deemed to include all relevant aspects of residential planning.

- (i) It is the responsibility of the Consultant to obtain all pertinent information and other data as shall be necessary and to carry out all surveys needed to perform the Services.
- (ii) The Consultant shall manage the program for the delivery of this phase taking into full consideration the Services to be provided by all other Consultants (if any).

Engineering Concept Design Report

Based on the approved feasibility and conceptual report, the Consultant shall prepare the Concept Design Report which will include the basic infrastructure design, engineering studies and design and appropriate site plans which take into account the Data Analysis. The studies shall form the basis for a Concept Design Report for the project. The report shall include but not limited to the following elements:

- (i) Conceptual site and landscape plans.
- (ii) Concept design of all infrastructure works like roads, sewerage, drainage, water supply, STP if

required, Electrical, Sui Gas, etc.

- (iii) Concept financials.

The Consultant must develop a Cost Estimate and Cash Flow based on the concept designs.

After the Client's written approval of the Concept Design, the Consultant shall, based upon the approved Concept Design, prepare a Preliminary Design that will define the area in terms of final space layout, construction materials, finishes, equipment and specialist's equipment. The Consultant shall:

- (i) Manage the program for the delivery of this task.
- (ii) Hold initial meetings to review the Design Infrastructure Development works documentation.
- (iii) Develop the approved exterior designs, taking into account the Client's design review comments and recommendations, including Authorities requirements.
- (iv) Hold discussions with relevant statutory authorities and departments.
- (v) Prepare general arrangement drawings for electrical, infrastructure, landscape plan, section covering all areas of design.
- (vi) Estimate loads and formulate concept/preliminary design philosophy for infrastructure including HV distribution.
- (vii) Make preliminary submissions of all available information to the relevant authorities.

The Consultant shall accommodate in the preliminary design any environmental considerations that may be required.

The Consultant shall update the Cost Estimate and accordingly shall prepare PC-I for the Project.

Preliminary Design, Layout & Drawings

The Preliminary Design drawings to appropriate scales will include the following:

- (i) Site plan showing access routes, parking areas, existing and proposed contours, plantings areas, and Project limit lines.

Infrastructure and Utilities

Preliminary design and drawings for infrastructure and utilities including Value Engineering exercises of alternative materials and design solutions of the following systems:

- (i) Site development, site survey and existing conditions
- (ii) General arrangement and layout drawings
- (iii) Water supply system
- (iv) Sewerage system & STP
- (v) Surface drainage system
- (vi) Power and low current distribution networks
- (vii) Roads, accesses, pathways etc.
- (viii) Storm water network
- (ix) Roads (L Sections, X Sections)
- (x) Road's lighting system
- (xi) Gate and access
- (xii) Any other drawings and systems as viewed necessary.

(xiii) Initial load and distribution calculations

The Consultant shall not proceed with the Preliminary Design unless the Architectural and Engineering Concepts are approved by the Client.

Outline Specifications

The Consultant shall submit outline/draft specifications for all components of the Project which will include materials specifications. The outline specifications will be submitted with the preliminary design report in a separate bound document.

Review of Layout Plan of the Scheme

The Consultant will review the detailed Layout Plan of the scheme as per the prevailing byelaws. The Consultant will collect the requirements of the Client and will prepare the plan accordingly to meet all the requirements. The Consultant may recommend the alternate requirements and may propose changes if these are more beneficial for the project, but Client will have the authority to accept or reject such proposals.

Output 5. Draft Detailed Design & Draft Bidding Documents

The Consultant shall immediately proceed with the preparation of the detailed design and tender documents of the project, which shall initially be submitted in draft form.

During preparation of this output:

- (i) The Consultant shall prepare detailed design documentation comprising location, assembly and component drawings, schedules, specifications, bills of quantities.
- (ii) The Consultant shall prepare comprehensive particular specifications covering all aspects of the work, noting the requirements of Client.
- (iii) All drawings shall be fully coordinated across the disciplines and shall be signed and checked accordingly by the Consultant.
- (iv) The Consultant shall obtain all required permits and shall consult with all services authorities, relevant governmental departments, and secure approval certificates and no objection certificates as required.
- (v) The Consultant shall prepare and submit weekly progress reports of design activities, comprising actual and planned status of completion.
- (vi) The Consultant shall prepare comprehensive conditions of particular applications for the construction contract keeping requirements of Client in view.
- (vii) The Consultant shall review the cost plan prepared and revise in line with the Detail Design drawings and specifications incorporating approximate quantities.

The detailed design shall comprise detailed and fully coordinated Bidding Drawings, Specifications and other Documents etc.

Draft Final Specifications

The Consultant shall prepare and submit, in previously approved formats, specifications for all project components. These shall include quality control/assurance requirements, product detail, technical specifications and execution and workmanship requirements.

Draft Bills of Quantities

The Consultant shall prepare and submit in previously approved formats and in accordance with the

previously approved method of measurement, Bills of Quantities for the Construction Contract.

Draft Tender and Contract Conditions

The Consultant shall advise the Client and review when requested the following draft Bidding and Contract Documents. These documents include but are not necessarily limited to:

- (i) Instructions to Bidders
- (ii) Form of Tender and Appendices to Tender
- (iii) Bill of Quantities (BOQs)
- (iv) General Conditions of Contract
- (v) Particular Conditions of Contract
- (vi) Terms of Reference (ToR)
- (vii) Special Stipulations
- (viii) Technical Specifications
- (ix) Drawings
- (x) Any other documents

Draft Cost Estimate(s)

The Consultant shall prepare and submit a Cost Estimate for the project, supported by fully priced Bills of Quantities. If the Cost Estimate exceeds the approved budget of the project, the Client shall have the right to instruct the Consultant to amend, without any additional fees, Design to ensure that the Design Cost Estimate does not exceed the Approved Budget, since Consultant has continuously updated the cost estimates throughout the previous Design Phases. Detail total cost analysis will include the following:

- (i) Construction costs including civil work.
- (ii) Land development costs include external preliminary services.
- (iii) Inflation cost to be catered for the duration of project.
- (iv) Project Contingency.
- (v) Consultant's additional cost in case of delay in construction of the project from original envisaged Program.
- (vi) Cost of any fees including demand notes for organization such as WAPDA, WASA etc.

The Consultant shall carry out a review of the specifications and drawings prepared to Confirm or otherwise conformance with the materials and products on which the Approved Budget is based. The Consultant shall also advise the Client of any nonconformance together with the estimated cost effect.

For Preliminary and Detail Design Phase, the Consultant shall submit 04 sets of each drawing (One original and 03 sets, all duly bound in hard shape) and required number of copies of other documents and PC-I. Soft copy of final Design and Drawings, in Original as well PDF format, shall be submitted in USB and Online data storage link. The Consultant shall place their endorsement (sign and stamp) on all plans, designs, drawings, estimates, reports, USB and Online data storage link and any other engineering data furnished by them.

Output 6. Final Detailed Design & Final Bidding Documents

Upon the approval of the draft engineering design and working drawings the Consultant shall prepare the final drawings and cost estimates after incorporating the comments of the Client and will get it approved from the competent forum / authority.

Following the approval of the Detailed Design, the Consultant shall prepare and submit the Final Design and Bidding Documents and during the construction incorporating the Client's review / comments and the final Bills of Quantities.

Final Design and Bidding Documents

Final Design and Tender Documents shall comprise but not limited to:

(i) **Volume 1 – Conditions of Contract**

- Instructions to Bidders
- Form of Agreement
- Form of Tender Bond
- Form of Performance Bond
- Form of Tender and Appendix to Tender
- Conditions of Contract comprising:
 - Part I - General Conditions of Contract
 - Part II - Conditions of Particular Application
 - Part III- Environment & Social Management Plans

The foregoing shall be bound by the Consultant into one document and provided with a printed cover. A copy of the Standard Conditions/Forms of Contract as specified by Punjab PPRA shall be used by the Consultant.

(ii) **Volume 2 – Specifications**

These documents (if more than one volume) shall be prepared by the Consultant; each shall be bound and provided with a printed cover.

(iii) **Volume 3 – Drawings**

Final drawings shall be prepared by the Consultant to size (A2/A1) and listing.

(iv) **Volume 4 – Bills of Quantities**

This document shall be prepared by the Consultant, bound and provided with printed cover by the Consultant.

(v) **Final Design Report**

The Consultant shall submit a Final Design Report summarizing all phases of the design.

Preparation and approval of PC-I Document

The Consultant shall prepare and submit the PC-1 document to the competent forum and provide support in addressing and resolving any objections raised during the review process.

Detailed Cost Estimate and assistance with Technical Sanction

The Consultant shall assist in getting the Technical Sanction and provide all the necessary backup data to the competent authority.

Assistance with relevant NOCs

The Consultant shall be assisting the Client in obtaining required NOCs from the line departments and relevant authorities.

Prequalification of Contractors

The Consultant shall make recommendations and assist the Client in selecting the preliminary list of contractors (for the various packages if applicable) to submit an expression of interest in bidding for the project. The Consultant shall prepare draft proposals for pre-qualification criteria and procedures, to be submitted, discussed and approved by the Client.

The Consultant shall undertake the pre-qualification of the contractors (for the various construction packages if applicable). The Consultant shall submit a comprehensive report to the Client recommending a short list of contractors to tender for the Project. The short listing of contractors shall be based on pre-determined criteria which shall be fully discussed and agreed in advance with the Client.

The Contractor Pre-qualification shall be based on the quantum of work and its commitments with regard to capacity and available technical and financial resources.

Services during Bidding Process

The Consultant shall review all Bidders' queries and prepare appropriate responses in consultation with the Client in a timely manner so as not to delay the bidding process, for the Client's approval before issuance to Bidders. All addenda will only be issued with the Client's approval. All correspondence with Bidders shall be copied to the Client.

The Consultant shall draft the contracts while considering the availability of land and propose and include clauses in the bidding documents to protect the interest of the Client from anticipated claims by the Contractors in this regard.

The Consultant shall, subject to the approval of the Client, prepare any addendum to the Bidding Documents if required. The addendum shall be issued to all Bidders for incorporation into their Bid Offer in a timely manner so as not to delay the program.

The Consultant shall attend pre-bid meetings and bid openings. The Consultant shall evaluate Bidders' technical and financial bids and shall prepare a Bid Evaluation Report with analysis and recommendations.

Award for Construction Contract

The Consultant shall:

- (i) Assist the Client in the discussions with the bidders throughout the process till Contract Award.
- (ii) Prepare the required number of "Approved for Construction" (AFC) drawings and other contract documents for the construction contract. The AFC drawings shall incorporate all revisions and addenda issued since issue of the tender.

Phase B. Resident Construction Supervision

This phase of the project is subdivided into two distinct phases: Output 7: Detailed Resident Construction Supervision & related Verification Reports, and Output 8: Services during Defects Liability Period & Final Completion Report, upon project closing. A detailed description of the tasks of each of the aforementioned phase is presented hereafter.

Output 7. Detailed Resident Construction Supervision & related Verification Reports

The Consultant shall be responsible for the construction of the Project from a qualitative & quantitative perspective, safety and logistical issues. All communication, coordination and management of issues related to time, cost and quality will be the responsibility of the Consultant. The Consultant will, as part of their professional diligence, be expected to identify and report on such items if their observations indicate that important issues affecting the success of the Project may have been overlooked. Final Authority over time and money will however be the responsibility of the Client. The Consultant shall supervise the project, make recommendations to the Client on contractual issues as and when requested, and perform quality control reviews as well as advise and assist on cost-related issues. Any input, assistance, collaboration or coordination that may be required by other Consultants, shall not absolve the Consultant from his obligations. For the avoidance of any doubt, the Consultant shall be ultimately responsible and shall owe as duty of care to both the Client and the contractor(s). Site supervision tasks will include but are not limited to the following activities:

- (i) Perform site supervision to include all aspects of on-site quality assurance / control of construction for all disciplines. The Consultant shall provide resident staff with relevant experience on a full-time/part-time (as required by the Client) basis throughout the duration of the construction period. The deployment of site staff by the Consultants will be determined in accordance with the signed Contract and require prior approval from the Client. The timelines for deploying different team members may be adjusted with the Client's consent.
- (ii) Approval of all materials, samples and equipment submissions.
- (iii) Approval of all shop drawings for all disciplines.
- (iv) Approval of all construction method statements.
- (v) Monitor the daily activities done by the contractor(s) and check the compliance of the contractor(s) with the contract technical specifications and conditions.
- (vi) Ensure community health and safety as per provision of the contract.
- (vii) Prompt response to the Letters and Notices from Contractor and Client.
- (viii) Follow, check, and require all types of tests of materials, work done, for any element, and then study the results and compare the data with the technical requirements of the contract.
- (ix) Verification of contractor's interim payment certificates (IPCs)
- (x) Recommendation and verification of variation orders (*if any*) Upon request, negotiate with the contractor on prices and variation orders and participate in analyzing the cost and time impact with the Client's representative.
- (xi) Promptly assist in examining and preparing recommendations on claims initiated by the contractor(s) for extensions of time, payment for extra work and other similar matters, and submit recommendations on these issues to the Client for approval.
- (xii) Keep full records of the daily and monthly reports showing, number of workers, work done, quantities, weather, accidents, laboratory tests, results and material delivered machinery, survey, soil investigation, payments, Equipment etc.
- (xiii) Attend and inspect all testing and commissioning activities.
- (xiv) Handover of the facility (substantially completed and completed) along with Punch List.
- (xv) Review and approval of operations and maintenance manuals prepared/submitted by the contractor.
- (xvi) Approval and submission of 'As Built Drawings' in the event the Contractor abandons the project, the Consultant shall ensure preparation and delivery of the same to the Client in timely manner.

- (xvii) Preparation of Final Account and study claims submitted by contractor and give recommendations as appropriate.
- (xviii) Approval by the Consultant, pertaining to materials, equipment and technical submittals etc. shall be subject to review by the Client, prior of its issue to the Contractor(s) / Supplier(s).
- (xix) Witness and certification/approval of factory testing of required equipment.
- (xx) The Consultants shall ensure progressive payments based on approved rates and final payment to the Contractor that the project executed by the Contractor has been completed in all respects.
- (xxi) The Consultant shall attend and make measurements and computation of quantities of the completed activities, or any activities which are about to be covered, and maintain permanent records of all such measurements as basis for progressive payments to the Contractor and keep the measurement documents and records in safe custody.
- (xxii) The Consultants will assist the Client in settlement of Audit Paras and Objections raised (if any) and prepare replies related to the Project and provide all the relevant documents/papers/letters etc. to support the replies and shall intimate the Client accordingly.
- (xxiii) The compliance of Safety, Health & Environmental shall be monitored by the Consultant.
- (xxiv) Preparation and submission of Revised PC-I.
- (xxv) Preparation and submission of Completion report / PC-IV, including 'lessons learnt'.
- (xxvi) Preparation of Final Account/Bill and verify claims by contractor and give recommendations as appropriate.
- (xxvii) Key supervision staff are given below:

Table 4: Key Personnel Required for Resident Construction Supervision

Sr. No.	Staff	Marks	Mandatory Qualification & Experience
1.	Project Manager / The Engineer		Bachelor or higher Degree in Civil Engineering with 15 years of relevant experience The individual must be registered as 'Professional Engineer' with PEC.
2.	Resident Engineer		Bachelor or higher Degree in Civil Engineering with 12 years of relevant experience. The individual must be registered as 'Professional Engineer' with PEC.
3.	Planning Engineer		Bachelor or higher Degree in Civil Engineering / Construction Management/Project Management/ Engineering Management with 8 years of relevant experience. The individual must be registered with PEC.
4.	Assistant Resident Engineer (Civil)		Bachelor or higher Degree in Civil Engineering with 08 years of relevant experience. The individual must be registered with PEC.
5.	Assistant Resident Engineer (MEP)		Bachelor or higher Degree in Mechanical/Electrical Engineering with 08 years of relevant experience. The individual must be registered with PEC.
6.	Contract Management Specialist		Bachelor or higher Degree in Civil/Mechanical/Electrical Engineering or any relevant discipline with 10 years of relevant experience.

			The individual must be registered with PEC.
7.	Public Health Engineer		Bachelor or higher Degree in Civil/ Public Health Engineering or any relevant discipline with 08 years of relevant experience. The individual must be registered with PEC.
8.	Electrical Inspectors		Diploma of Associate Engineering with 8 years' relevant experience.
9.	Material / Quality Control Engineer		Bachelor or higher Degree in Civil /Geo Technical Engineering with 08 years' relevant experience. The individual must be registered with PEC.
10.	Quantity Surveyor		Diploma of Associate Engineering with 12 years' relevant experience.
11.	Surveyor(s)		Diploma of Associate Engineering with 12 years' relevant experience
12.	Civil Inspectors		Diploma of Associate Engineering with 12 years' relevant experience

(xxviii) Prepare daily, fortnightly and monthly progress reports, indicating the progress made since the submission of the previous report and commenting on the progress to date in relation to the program and whether completion of the works is likely to be advanced or delayed. Pursuant to the relevant conditions of contract, the Consultants shall submit the following reports by the 06th day of each consecutive calendar month as a result of detailed supervision of the project. The Reports will outline in written and graphical form for the various phases and the order of performance of the works in sufficient detail so that the progress of the project can easily be evaluated.

Table 5: Details of Progress Reports

Sr. No.	Description of Report	No. of Copies	
		Soft*	Hard**

1.	<p>Monthly Physical and Financial Reports with commentary including but not limited to the following minimum items:</p> <ul style="list-style-type: none"> • Comparison of actual and planned progress (MS Project). • Anticipated risks, delays, causes of delays, their financial implications on the project and recommendations for remedies thereof. • Resources utilization. • Activity (ies) expenses, expenses' details and summary thereof. • Detailed item-wise (quantity and cost) comparison of PC-I, Agreement BOQ, actual achieved to date and likely to be done for completion of project. • Monthly reports pertaining to utilization of secured advance materials. • Monthly reports pertaining to recoveries of advance payments. • Quarterly reports pertaining to Cost to Complete. • Summaries of material testing • Any other relevant report may be asked for by the Client at any stage if deemed necessary. 	01	03
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*Soft copies of project planning, scheduling & tracking shall be provided in MS Project (latest version).

**Hard copy shall be in self-explanatory format duly signed and stamped by the Resident Engineer.

Output 8. Services during Defects Liability Period & Final Report, upon Project Closing

- (i) Perform periodic maintenance inspection visits during the defect liability period; visits will be conducted by the different disciplines' engineers.
- (ii) To assess defects and/or construction damage(s) and warranty status on systems.
- (iii) Prepare and submit visit reports with progress on attendance of Punch List.
- (iv) Check, recommend and certify the final payment certificate at the completion of the project for Client's approval.
- (v) Recommend the release of Retention Money at the end of DLP for Client's approval.
- (vi) Preparing a Final Completion Report in a format agreed upon with the Client. This will summarize all the relevant aspects of the Project implementation, and specific recommendations on routine maintenance, highlighting locations requiring special care and attention. A suitable selection of the project photographic records / evidence shall be reproduced and included in the Final Completion Report.