

資料4 協議議事録 (M/D)

(2) 第1次現地調査 テクニカルノート

Technical Note
on the Preparatory Survey
for the Project for Improvement of Water Treatment Plant
and Water Distribution System in Faisalabad

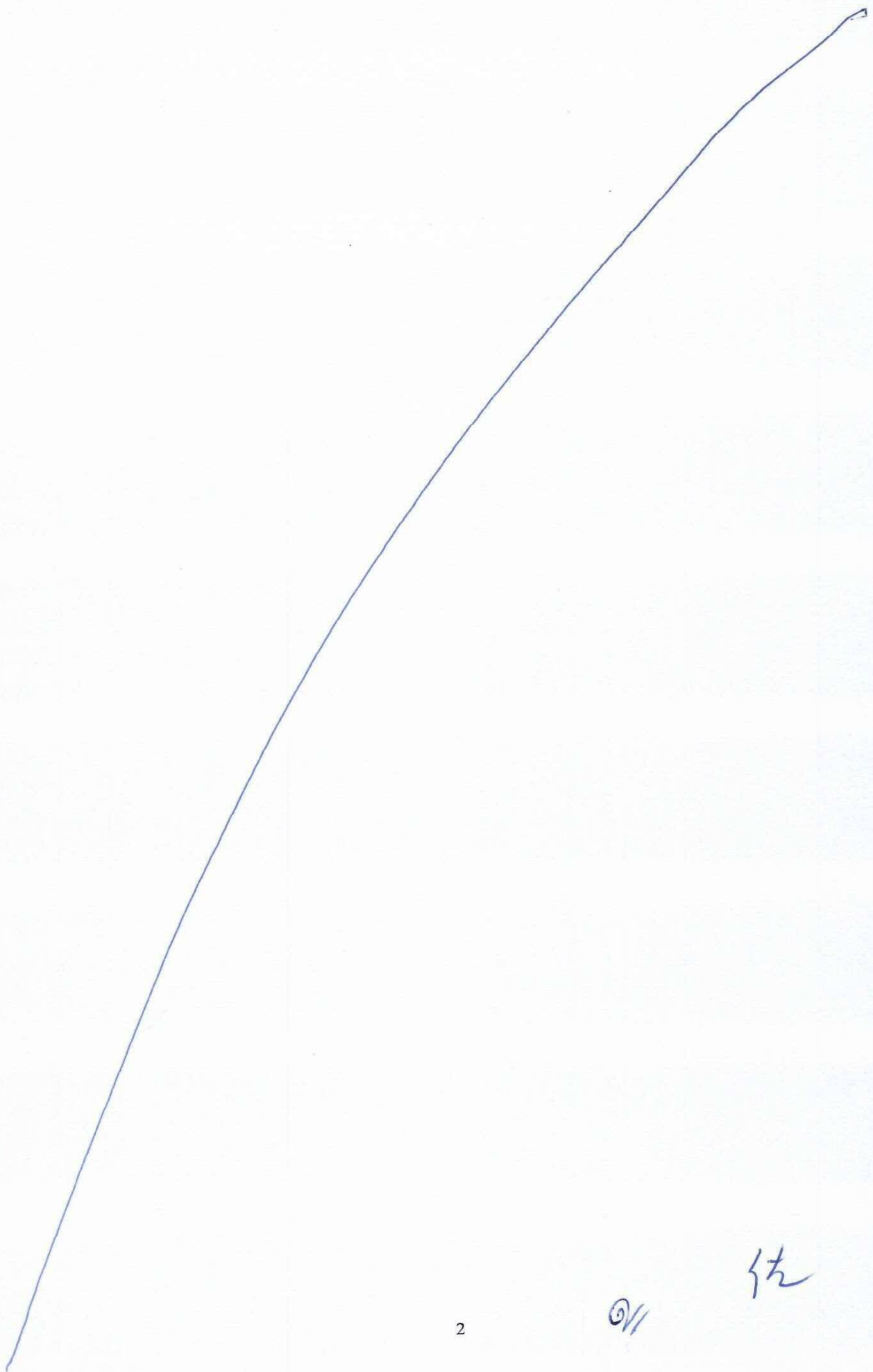
Faisalabad, 27th April, 2019



Mr. Ghulam Shabbir
Director (P&D) WASA-F
On behalf of
Managing Director
Water and Sanitation Agency,
Faisalabad



Dr. Nobuyuki Sato
Project Manager
JICA Preparatory Survey Team



The technical meeting was held on Saturday, 27th April, 2019 at the conference room of Water and Sanitation Agency, Faisalabad (hereinafter referred to as "WASA-F"). Dr. Nobuyuki Sato, Project Manager of JICA Preparatory Survey Team, explained a summary of First Working Period (23rd March 2019 to 8th May 2019) in Pakistan. The following items were confirmed by WASA-F and JICA Preparatory Survey Team.

(1) Name of Jhal Khanuana Water Treatment Plant

The Master Plan (hereinafter referred to as "M/P") project calls Jhal Khanuana (hereinafter referred to as "JK") Water Treatment Plant (hereinafter referred to as "WTP") as Old/Original JK WTP and Renewed JK WTP. There is also a WTP called as New JK WTP assisted by French Government. For avoiding the confusion, the name of the WTP was discussed. As a result, the WTP to be planned by JICA Preparatory Survey is called as Old JK WTP and the WTP assisted by French Government is called as New JK WTP. These names will be effective after July 2019.

(2) Design Population

According to M/P project, and reviewed by WASA-F and JICA Preparatory Survey Team, the projected water demand and the service connections are shown in Table 1 and Table 2. WASA-F and JICA Preparatory Survey Team confirmed the values presented in Table 1 and Table 2.

Table 1: Projected Water Demand and Service Connections

DMA	Year 2023		Year 2038	
	Connection (nos)	Demand (m ³ /d)	Connection (nos)	Demand (m ³ /d)
DMA I-1	920	2,380	2,010	4,190
DMA I-2	850	2,200	1,850	3,870
DMA II-1	1,140	2,950	2,350	4,910
DMA II-2	660	1,700	1,350	2,820
DMA II-3	710	1,840	1,460	3,050
DMA II-4	1,090	2,830	2,250	4,680
Total	5,370	13,900	11,270	23,520

Table 2: Major Index for Demand Projection

Item	Unit	Yr 2023	Yr 2038
Service ratio	%	60%	100%
Per-capita	L/day/person	133	145
Loss in Percentage Terms	%	45%	20%
Family Size	person/family	7.15	7.05

0/1
5/2

(3) Construction of new intake mouth at Rakh Brach Canal

JICA Preparatory Survey Team explained to WASA-F regarding the general plan of the intake mouth at Rakh Branch Canal. WASA-F and JICA Preparatory Survey Team discussed with Punjab Irrigation Department. WASA-F confirmed to issue the request letter to Punjab Irrigation Department regarding the permission of the intake construction after receiving the request letter from JICA Preparatory Survey Team. It is confirmed that Punjab Irrigation Department requires at least one month to review the application for the construction and issue the permission.

(4) Relocation of residents at project site

JICA Preparatory Survey Team requested WASA-F to ensure the vacation and dismantling of these official residences. The provision of official residences is subject to available resources/residences as policy of Public Departments. However, WASA management ensured that WASA will arrange the alternate residential arrangements to the extent of WASA officials before signing the Grant Agreement.

(5) Demolition of existing facilities and backfilling

The demolition is required for the existing facilities at three locations, which are Old JK WTP, a distribution center of AbudulahPur and Madina Town OHR No. 2. WASA-F is responsible for the demolition. The envisaged period from the tendering to the completion of the work is shown in Table 3. At the moment WASA-F has intension two separate bidding are applied.

Table 3: Envisaged period of completing demolition works

WTP /Distribution Center	Period of Tendering, evaluation and signing of contract (months)	Demolition work period (months)
Old JK WTP	3	4 to 6
Abdullah Pur & Madina Town No. 2	3	3 to 4

(6) Backfilling of existing Raw Water Reservoir C

JICA Preparatory Survey Team explained that demolition of the existing facilities and backfilling of Raw Water Reservoir C (see Figure 1) at Old JK WTP shall be completed within one year after E/N is signed according to the entire project schedule. In order to achieve the completion as scheduled, the Team will propose the suitable backfilling material and the requirement on compaction during the backfilling. If the proposal is accepted, the backfill material may be transferred from outside of Old JK WTP, or on-site material at Old JK WTP may be utilized. Based on the result of the geological

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survey, the Team will review the applicability of on-site material at Raw Water Reservoir A.

WASA-F understood that WASA-F has responsibility for the backfilling work as agreed by Minutes of Discussion on 29th March, 2019. WASA-F requested to shift the new facility at Raw Water Reservoir A instead of the Raw Water Reservoir C and vice versa, if technically and financially feasible.

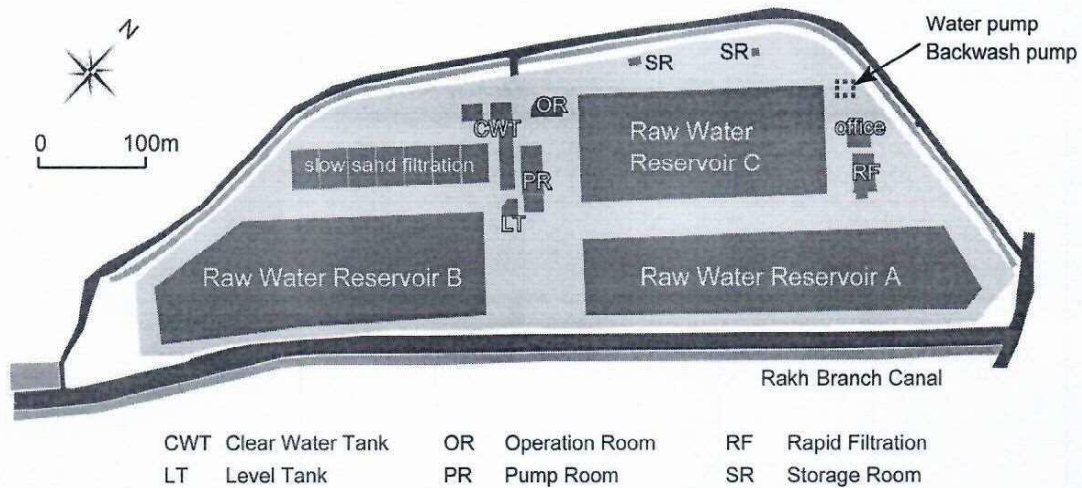


Figure 1 Layout of Old JK WTP

(7) Leakage from existing Raw Water Reservoir A

JICA Preparatory Survey Team informed the results of site investigation for leakage from existing Raw Water Reservoir A in Old JK WTP (see Figure 1). The observation by JICA Preparatory Survey Team is described as follows.

- i) It is observable that the leakage may not be reached at a critical level. The water may leak out from the crack, which might occur by the construction work of the underpass beside Raw Water Reservoir A. The crack is observable at length of 120 feet on the bank of the northeast corner at the reservoir.
- ii) The method of the repair work is to replace the riveting materials either only at the cracking area, or at the entire area of the northeast corner. WASA-F confirmed that (i) the repair work includes the responsibility of Pakistani Side, however, WASA-F requested JICA to provide technical assistance through the Consultant for the repair work during the execution of project, and (ii) JICA Preparatory Survey Team will review and propose the methodology for the repair work.

(8) Existing pipes, which are not be used after new pipes are installed

After installation of new pipes, some of the existing pipes in Project site will not be used. WASA-F has an intention to retrieve the existing pipes, which will not be used. Japanese side does not have responsibility to remove the existing pipes, which will not be used, at Project site.

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(9) Route of pipelines

The route of Transmission Main, Distribution Primary and Secondary Mains will be continuously discussed and determined with WASA-F through the local staff of JICA Preparatory Survey Team after Japanese members of the Team return back to Japan.

Regarding the discussion and determination process, the permission for installing pipelines in Right Of Way (ROW) of road shall be obtained from the responsible / managing agencies such as FDA, Communication and Works (C&W) Department, Town Municipal Authorities and other authorities but cost of road restoration will be included in installation of pipes for the project. JICA Preparatory Survey Team requested to WASA-F for obtaining the permissions from those authorities after receiving the request letter from JICA Preparatory Survey Team and WASA-F ensured accordingly.

(10) Permission for installing pipes at properties of a school, a college, and railway

Distribution Primary and Secondary Mains are planned to be installed partially in the property of (i) Faisalabad Grammar School (FGS), (ii) National Fertilizer College, Institute of Engineering for Fertilizer Research (NFC), and (iii) Pakistan Railways. However, WASA-F proposed the installation of water meter chamber in parking areas of Koh-i-Noor Plazas or in the off-set area of PSO petrol pump instead of NFC institution. JICA Preparatory Survey Team will request to WASA-F for submitting the request letters to them regarding the official permissions of installing pipes inside of those properties.

(11) Demarcation of electrical power connections from service lines

JICA preparatory survey team has discussed with FESCO regarding power connections for the project facilities. The informal confirmation through a discussion was made for the demarcation of electrical power connections from the service lines. JICA Preparatory Survey Team would like to have the official confirmation for the demarcation. WASA-F will be requested by JICA Preparatory Survey Team for the official confirmation from relevant companies/agencies.

(12) Design criteria for water works facilities and drinking water quality standards in Pakistan

JICA Preparatory Survey Team confirmed that WASA-F applies the criteria and standards of i) Technical and Service Delivery Standards for Water Supply and Sanitation Sectors, April 2008, Punjab Devolved Social Services Programme Govt. of the Punjab, ii) Pakistan National Standards for Drinking Water Quality, 2008, and iii) Guidelines for Drinking-water Quality 4th ed., 2011, WHO.

(13) Temporary stock yard for excavated soil, demolished structures, and new equipment

During the work, the contractor requires temporary stock yard for excavated soil, demolished structure, and new equipment. WASA-F will facilitate for the temporary stock yard at Old JK WTP, New JK

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WTP, OHR # 1 and green belt in front of OHR # 2 Madina Town.

(14) Dumping site for excavated or surplus soils

During the Project, the excavated or surplus soils at the construction site shall be transferred to the legal site for the dumping. WASA-F confirmed that the dumping site near Muhammad Wala at Jaranwala Road, Faisalabad is the suitable one.

(15) Procurement of water meters

WASA-F requested JICA to include the procurement of water meters in this Project and explained that the volumetric tariff rate will be applicable by installation of water meters. In addition, WASA-F has a strong intention for the financial improvement by an application of the metered rate and an analysis of the volume balance between the bulk meters and the water meters.

(16) New employment for O&M of old JK WTP

WASA-F understands the requirement for new employment and transfer of technology for the O&M of WTP.

(17) Project Implementation Unit

JICA Preparatory Survey Team proposed tentative PIU members, as indicated in Figure 2. WASA-F understands the necessity of establishment of PIU and will be included in the PC-I.

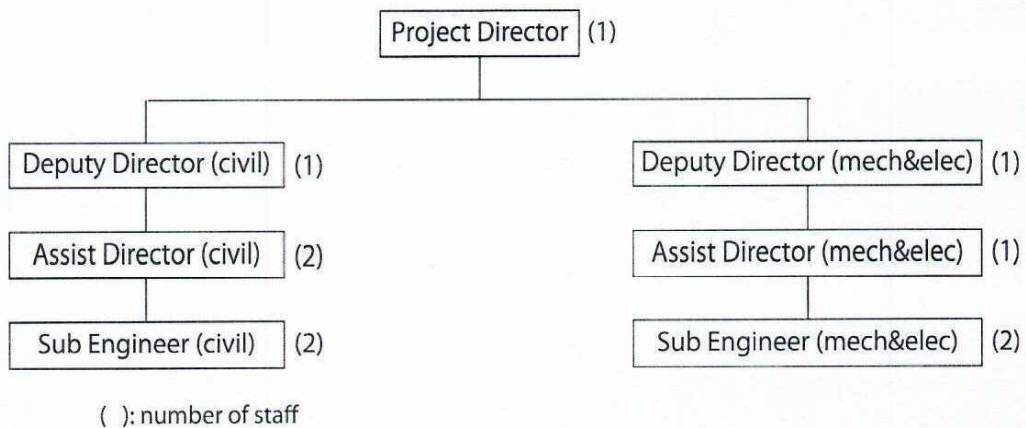


Figure 2: Tentative proposed PIU

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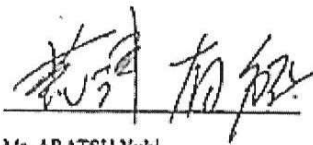
(3) 概略設計協議 (DOD) 調査 協議議事録 (M/D)

Minutes of Discussions
on the Preparatory Survey for the Project for
Improvement of Water Treatment Plant and Water Distribution System in
Faisalabad
(Explanation on Draft Preparatory Survey Report)

With reference to the minutes of discussions signed between the authorities concerned of the Government of Islamic Republic of Pakistan (hereinafter referred to as "Pakistan") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") on March 29th, 2019 and in response to the request from the Government of Pakistan dated on July 22nd, 2020, JICA and the Pakistani side held TV conference for the explanation of Draft Preparatory Survey Report (hereinafter referred to as "the Draft Report") for the Project for Improvement of Water Treatment Plant and Water Distribution System in Faisalabad (hereinafter referred to as "the Project").
As a result of the discussions, both sides agreed on the main items described in the attached sheets.

Lahore, September 16th, 2020

~~Tokyo, September 16th, 2020~~

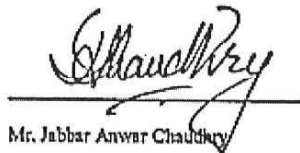


Mr. ARATSU Yuki

Leader

Preparatory Survey Team,

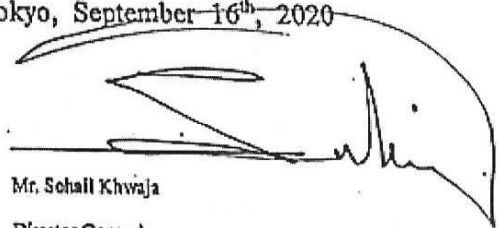
Japan International Cooperation Agency



Mr. Jabbar Anwar Chaudhry

Managing Director

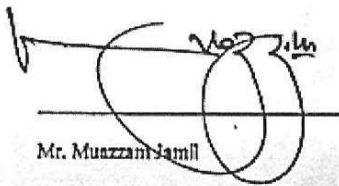
Water and Sanitation Agency, Faisalabad



Mr. Sohail Khwaja

Director General

Faisalabad Development Authority



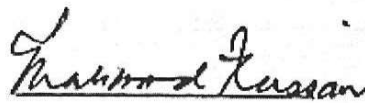
Mr. Muazzam Jamil

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Health Engineering Department,

Government of Punjab

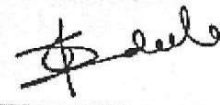


Mr. Mahmood Hassan

Member (Social Infrastructure)

Planning and Development Board,

Government of Punjab



Ms. Syeda Adeela Bokhari

Joint Secretary

Japan/NGO/INGO

Economic Affairs Division,

Government of Pakistan

ATTACHMENT

1. Objective of the Project

The objective of the Project is to upgrade the water supply system through renewal of the Old Jhal Khanuana Water Treatment Plant (hereinafter referred to as "Old JK WTP") and rehabilitation of the water transmission and distribution facilities for the water supply service area, thereby contributing to improvement of water supply system in Faisalabad City.

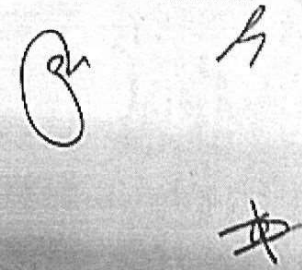
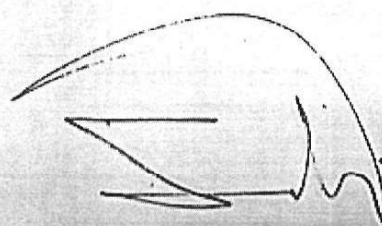
2. Title of the Project

Both sides confirmed that the title of the Project under Japanese Grant as "Improvement of Water Treatment Plant and Water Distribution System in Faisalabad", which will be implemented through the project "Construction of Distribution Centre, Rehabilitation of Old Jhal Khanuana Water Treatment Plant – GS#3585" as reflected in ADP 2020-2021 of Punjab Province.

3. Components of the Project

As a result of discussions, both sides confirmed that the components are as follows:

Category	Facility	Detail	Quantity
Construction	Intake (10 MGD)	Intake mouth, branch valve chamber	1
		Raw water pump station	1
	Water Treatment Plant (5 MGD) (Applicable to expansion up to a capacity of 10MGD)	Receiving and distribution tank	1
		Mixing tank	1
		Flocculation tank	
		Settling tank	
		Rapid sand filter	1
		Clear water reservoir	1
		Transmission pump station	1
		Waste water and sludge tank	1
		Sludge thickener	1
		Sludge extraction pump house	1
		Sludge drying bed	1
		Chlorination building	1
		Chemical building (including hypochlorite injection equipment)	1
	Administration building	1	
	Power receiving and transforming, and generator house	1	
	Electricity meter house	1	
	Distribution Center	Ground reservoir	2
		Overhead reservoir	2
Transmission and Distribution	Transmission main	4.1 km	



Category	Facility	Detail	Quantity
	Main (Applicable to transmit a capacity of 10MGD partially)	Distribution primary main	1.2 km
		Distribution secondary main	1.9 km
Soft component	O&M of water treatment plant		-
	O&M of transmission and distribution facilities		-

4. Contents of the Draft Report

After the explanation of the contents of the Draft Report by JICA side, the Pakistani side agreed to its contents. JICA will finalize the Preparatory Survey Report based on the confirmed items. The report will be sent to the Pakistani side around December, 2020.

5. Schedule of PC-I approval

The Pakistani side explained that WASA-F had already submitted Planning Commission- I (hereinafter referred to as "PC-I") to HUD&PHED at the end of July, 2020 and started necessary arrangement for approval of it. Both sides confirmed that the approval by HUD&PHED had been completed as of September 16th, 2020. Both sides agreed that PC-I shall be approved by Provincial Development Working Party (hereinafter referred to as "PDWP") and Central Development Working Party (hereinafter referred to as "CDWP") by the end of September and October, 2020 respectively because the approval of PC-I shall be confirmed two months before the cabinet approval by Government of Japan, which is expected to be December, 2020. Accordingly, JICA side strongly requested Government of Punjab to continue to take necessary actions as soon as possible such as holding PDWP and making arrangement with Central Government for CWDP. The Pakistani side agreed to it.

Tentative Schedule	2020						
	6	7	8	9	10	11	12
JICA Side							
Explanation of the draft Preparatory Survey Report				■			
Approval by Japanese Cabinet							▲
The Pakistani Side							
Development of PC-I (Final)		▲					
Approval by PDWP				▲			
Approval by CDWP					▲		

6. **Cost estimate**

Both sides confirmed that the cost estimate including the contingency explained by JICA side is provisional and will be examined further by the Government of Japan for its approval. The contingency would cover the additional cost against natural disaster, unexpected natural conditions, etc.

7. **Confidentiality of the cost estimate and technical specifications**

Both sides confirmed that the cost estimate and technical specifications of the Project shall never be disclosed to any third parties until all the contracts under the Project are concluded.

8. **Procedures and Basic Principles of Japanese Grant**

Both sides confirmed that the procedures and basic principles of Japanese Grant (hereinafter referred to as "the Grant") as described in the Minutes of Discussions signed on March 29th, 2019, shall be applied to the Project.

9. **Timeline for the project implementation**

JICA side explained to the Pakistani side that the expected timeline for the project implementation is as attached in Annex 1.

10. **Expected outcomes and indicators**

Both sides agreed that key indicators for expected outcomes are as follows. The Pakistani side will be responsible for the achievement of agreed key indicators targeted in year 2027 and shall monitor the progress based on those indicators.

[Quantitative indicators]

Indicator	Baseline Data (Year 2020)	Target (Year 2027) [3 years after completion of the new facilities]
Average production volume by Old JK WTP (m ³ /day) * ¹	6,800	14,800
Distribution pressure (m)	0-8 (Average: 1.7 * ²)	More than 25 * ³

*¹ Average of production volume by WTP without closing period of RBC approximately for 3 weeks per year

*² Average of maximum pressure at tap surveyed in 2019-20

*³ Measurement at flowmeter room of OHRs

[Qualitative effect]

- Improvement of living environment and public health for citizens, and contribution in promoting infection control measures by improving water supply services such as water supply hours
- Improvement of WASA-F's financial status by increasing number of customers and tariff revenue

11. Ex-Post Evaluation

JICA will conduct ex-post evaluation after three (3) years from the project completion in principle, with respect to five evaluation criteria (Relevance, Effectiveness, Efficiency, Impact, and Sustainability). The result of evaluation will be publicized. The Pakistani side will be required to monitor the Project and provide necessary support for the data collection.

12. Technical assistance ("Soft Component" of the Project)

Considering the sustainable operation and maintenance of the products and services granted through the Project, following technical assistance is planned under the Project. The Pakistani side agreed to deploy necessary number of counterparts who are appropriate and competent in terms of its purpose of the technical assistance as described in the Draft Report.

- O&M of water treatment plant
- O&M of transmission and distribution facilities

13. Undertakings of the Project

Both sides confirmed the undertakings of the Project as described in Annex 2. With regard to exemption of customs duties, internal taxes and other fiscal levies as stipulated in 1. (2) No.5 of Annex 2, both sides confirmed that such customs duties, internal taxes and other fiscal levies, which shall be clarified in the bid documents by WASA-F during the implementation stage of the Project.

The Pakistani side assured to take the necessary measures and coordination including allocation of the necessary budget which are preconditions of implementation of the Project. It is further agreed that the costs are indicative, i.e. at Outline Design level. More accurate costs will be calculated at the Detailed Design stage.

Both sides also confirmed that the Annex 2 will be used as an attachment of G/A.

Both sides confirmed that WASA-F shall take necessary measures to ensure and maintain the security of the Project site and the persons related to the implementation.