## **GENERAL INFORMATION معلومات عمومی**

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| **FCDO – Driving Action for Wellbeing to Avert Mortality (DAWAM) Project**  **تلاش برای رفا و کاهش مرگ و میر** | |
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| **ADMINISTRATION OF SURVEY**  **مدیریت سروی** | |
| Name of province: | Herat |
| Name of district: | GULRAN |
| Name of health center | KHOGYANI BHC |
| Health Center Type: please select one (H3, CHC, BHC, SHC) | BHC |
| Building ownership (private or governmental) | Governmental |
| Number of clinic personnel | 9 |
| Number of patients visited in clinic (daily basis) | 100 |
| Number of hospitalized patients (the max capacity) | 0 |
| Name of surveyor(s) | Mustafa Musleh, Mokhtar Razaee and Atighullah koshki |
| DATE of survey | 29-JUL-2024 |

## **WORK DESCRIPTION تشریح کار**

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| **SCOPE OF INTERVENTION**  **عرصه حمایت** | | All three component require major maintenance. | |
| **PERIMETER PROTECTION** | | The provision and improvement of Water, Sanitation, and Hygiene (WASH) facilities play a pivotal role in safeguarding human health and overall well-being. These initiatives serve multifaceted purposes, ranging from the prevention of waterborne and diarrheal diseases to the control of vector-borne illnesses.  Additionally, they contribute to the enhancement of health and nutrition outcomes, mitigate the risk of epidemics, and foster dignity and safety among communities. Economically, investing in WASH facilities yields significant benefits, while also ensuring environmental protection and alignment with international sustainability and health standards.  To enhance the capacity of healthcare workers to uphold hygiene standards, ActionAid is committed to revitalizing and enhancing existing Water, Sanitation, and Hygiene (WASH) facilities in targeted healthcare facilities (HCFs). | |
| **CLINIC MAP نقشه کلینیک** | | | |
| GPS of BHC: Please collect the GPS related HCF building جی پی اس نقاط کلیدی: لطفا جی پی کلنیک مربوطه را بگیرید : | | | |
| GPS | 35.098016 N | | 61.68512 E |

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| **Please draw a freehand sketch of the SHC facility point out, main building – sanitation facilities, water source, waste disposal site)** |
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## **PROJECT FEASIBILITYامکان پذیری پروژه**

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| **PARAMETERS INSPECTION AND FINDINGS**  **بررسی پارامترها**  **و یافته ها** | **BACKGROUND INFORMATION:** The Basic Health center of KHOGYANI BHC was constructed 21 years ago in November 2003 by the Japanese ministry of foreign affairs. This BHC has a total of 9 employees, five males and four females. The male staff consists of a Doctor, a CHS, a guard, a Vaccinator and a cleaner. And the female’s staff consists a made wife, a vaccinator, two Nutritional consultants, and a cleaner.The clinic center consists of one concrete buildings. This health care center is located 38 kilometers West of GULRAN district and serves the entire population living in KHOGYANI and neighboring villages. This BHC can cover the daily treatment of 100 people, 20 male and 80 female outpatients on a daily basis.The main challenge facing this health care center is toilets has no proper facilities are available and do not have septic tank, electricity problems inside the building, lack of Hand Washing, and the problem of the sewage system inside the building, which leads to the spread of diseases. Currently, the required water is supplied from the salt well inside the clinic building and it is not sanitary.Therefore, the ActionAid office technical team conducted a technical survey. During the observations and technical survey, the WASH requirements of this clinic include the following components.  * In this health care center, the water supply network and the sewage network have problems and need to be repaired. * Hand washing facility is not existing in this BHC and needed to add one handwashing facilities, one handwashing near to main building. * There are sex toilets in this BHC for both males and female’s outpatient and two for staff, which are not standardized and use an unprotected dry pit storage. Moreover, needed to add more latrines. * Water reservoir is small and not enough to provide the all need in this BHC, and need to add two new reservoirs, one for the Clinic building and the second for the Delivery building. * All the sink and tap are has some problem and needed to repair and pharmacy room, SHC room and corridor doesn’t have any hand washing sinks * The internal plumbing in this Clinic need to build again. * The electrical system has same problem and need to repair (Electrical Cables, sockets, lamp holders etc...)  **Water source** For both clinical use and drinking purposes, the water supply at the KHOGYANI Basic Health clinic is provided by a bore well and the water of the bore well is Appropriate and without problems. The water quality and quantity from this bore well is suitable for use in the clinic. **Water Storage and Distribution** Water tankThe KHOQYANI BHC has two metallic water tank with a capacity of 1000 liters. The volume of the tank is not sufficient to meet the clinic's demand. To address the clinic's water needs, tow larger water storage unit with a capacity of at least 3000 and 2000 liters is necessary to provide enough water for clinical use.Hand washingThe KHOGYANI BHC does not have handwashing stations. To prevent the spread of diseases and provide a healthy environment for patients and outpatients, it is necessary to build standard handwashing stations.BathroomBathrooms are essential for any Basic Health Center (BHC), including the KHOGYANI Clinic, for several critical reasons. Proper sanitation and hygiene are crucial in a healthcare setting to prevent the spread of infections and maintain a clean environment. Additionally, bathrooms provide necessary comfort and privacy for patients. The clinic staff also require bathroom facilities to maintain their own hygiene and efficiency. Moreover, regulatory standards mandate the availability of such facilities to ensure legal operation and uphold the clinic’s reputation. Finally, access to bathrooms is a fundamental component of public health infrastructure, essential for proper waste management and disease prevention. Given these factors, KHOGYANI BHC has standard bathroom in delivery building it sufficient and adequate for delivery building the other one is in main building for staff it has unstandardized it sewage pipes need for repairing to ensure a safe, hygienic, and functional healthcare environment.LatrinesThere are currently six latrines at KHOGYANI BHC, 2 latrine for male staff, male patient & outpatient and 4 latrine for female but no proper toilet facilities are available.  * The latrines do not access to lighting system. * Doors and windows need repairing. * Garbage bins should be considered for toilets. * Latrines does not have a proper and protected septic tank. * The latrines are not equipped with facilities to accommodate persons with disabilities (PWDs).   **Waste Management**The following process and system for solid waste collection and disposal are in place at the KHOGYANI BHC.Waste collection and separation Although all types of solid waste are separately stored and collected, the available bins are of low quality and insufficient to handle the daily volume of disposed wastes. IncinerationThe incineration system in KHOGYANI Basic Health Center (BHC) does not have any problem; the only issue with this section is the absence of fences around it and a warning sign.Organic waste pit The organic waste pit of the KHOGYANI Basic Health Center (BHC) is built as a stand, it is active and does not need to be repaired. |
| **hoTechnical solution in compliance with MoPH/WHO standards**  **راه حل تخنیکی مطابق استندرد های وزارت صحت عامه وسازمان صحی جهانی** | **Water source**Quantity aspect Quantitatively, the current water source has good drainage. And in term of quality the water has good quality a suitable for use. Quality Perspective ActionAid is committed to ensuring that the water from the tap meets the highest standards of quality. As part of this effort, water quality testing will be conducted during the repairmen process to ensure compliance with the WHO water quality standards. The results of the water analysis will be documented and included in the table below.   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **PARAMETERS** | **TURBIDITY (NTU)** | **COLOR** | **ODOR** | **WATER TEMPERATURE** | **TTC (CFU/100ML)** | **PH** | **TDS** | **ARSENIC** | | **WHO** Guideline | <5 NTU | Not  Detected | Not Offensive | 25 to 30C° | 0/100ml | 6.5 to 8.5 | 1000 ppm | 10µg/l | | **Laboratory Results** |  |  |  |  |  |  |  |  |  **Water Storage and Distribution***Water Tank (water availability)*  |  |  | | --- | --- | | **WHO suggested minimum water quantities in Health care facilities** | | | **USAGE** | **GUIDELINE QUANTITY** | | Outpatients | 5 liters/consultation | | In patients | 40–60 liters/patient/day | | Operating theatre / maternity | 100 liters/intervention | | Dry or supplementary feeding center | 0.5–5 liters/consultation | | Wet supplementary feeding center | 15 liters/consultation | | Inpatient therapeutic feeding center | 30 liters/patient/day | | Cholera treatment center | 60 liters/patient/day | | Severe acute respiratory diseases isolation center | 100 liters/patient/day | | Viral hemorrhagic fever isolation center | 300–400 liters/patient/day |  |  |  |  |  | | --- | --- | --- | --- | | **TOTAL DAILY WATER DEMAND FOR ALI ABAD SUBHEALTH CENTER** | | | | | **TYPE OF USERS** | **NUMBER OF USERS** | **CONSUMPTION NORM**  (LIT /DAY) | **TOTAL DAILY DEMAND** | | Outpatients | 100 | 5 | 500 | | Patients | 0 | 100 | 0 | | Clinic staff | 9 | 110 | 990 | | Daily water demand | | | 1490 Liters | | 48 hours water demand | | | 2980 Liters | | Minimum volume of water required for 48 hrs. + Safety volume | | | **4000** Liters |  To ensure an uninterrupted water supply for at least 48 hours, it is imperative to have adequate water storage capacity. Based on our calculations, there is enough water during the day to supply the system and avoid any shortages. It is recommended to connect the existing water source will be connected to solar water boiler, provide two reservoir of at least 3000 and 2000 liter for main building and delivery building to meet the necessary demand for main building and laboratory building to connect water supply network.The water tanks should be factory-made from high-density, five-layer polyethylene, ensuring durability, lightness, and ease of handling. Their perfectly smooth inner surface allows for easy cleaning with specific detergents. The water tanks should be supplied with a top screwed lid, include all necessary accessories and fittings, and should be connected to the new water supply network inside the building, hand washing taps and toilets.**Solar Water supply System** Install the solar panels on the healthcare center’s rooftop, ensuring they are tightly secured against wind and theft. Position them for optimal sunlight and proper tilt. Although relocation is possible, consistent sunlight exposure is crucial for efficient energy production.  Fortunately, as far as there is enough space available on the roof KHOGYANI BHC building. Therefore, the solar will be installed there. In addition, a fixed lockable frame will protect the solar.  Submersible pump: We need the PEDROLLO product the submersible model: **PEDROLLO 4SR1.5/17 1HP 0.75Kw 220V** because it is a suitable pump for our system Its flow rate is **2.2 m3/hour**. The well probe should be installed in the system to prevent the pump from running dry.  Total required pipe: **only 51-m** pipe is needed from the well to the water tank.  Metallic box for protecting Inverter: To protect the Inverter, it needs to be installed in a metallic box that could be a safe place for the inverter.  **Solar Panels**: Solar sizing calculation indicates that we should use **4** numbers of PVs **PROPSOLAR 270W Poly crystalline 37.9V 9.22A** for running the system. (For more details please have a look at the attached solar sizing calculation in PDF file).  **Inverter**: The Controller **PV580-2S-1.5 Made in China** is designed for this system and can control the fluctuation of the electrons and prevent the pump from most breakdown.  Note: If the specified brand of solar panels or any other listed accessories are unavailable, the supplier must obtain written approval from the AAA WASH Specialist or an authorized technical team member for an alternative and changes. This ensures that any substitute meets the project's technical requirements and maintains quality standards.  **Remember!**  **Each solar pump item needs to be supplied by a registered customs license seller with the following standard certifications:**  **FCC C009911 Standard, ISO 0991:2000 Standard, UL Standard, TUV Standard** **Solar Power System:** To establish a new water supply system in the KHOGYANI Basic Health Center (BHC) and install the necessary plumbing, it is imperative to penetrate the walls and floors to connect the cold and hot water pipes to the hand-washing sinks, tap-station, and toilets. The new bore-well will be integrated into this water supply system, and a float switch will be installed in the water tank to ensure efficient water distribution throughout the facility. High-quality plumbing work (inside the building and outside the building) will be carried out using durable PE pipes with a diameter of **0.5** inch and a pressure rating of PN **10** bar, ensuring reliability and longevity.  Moreover, to guarantee the longevity and reliability of the system, the pipes will be buried at a depth of at least 80 cm below ground level. For sections of the pipe that are exposed to the air, they will be covered with glass wool and plastic sheeting to provide additional protection. This strategic placement not only protects the pipes from external damage but also helps maintain consistent water flow, particularly during colder seasons when the risk of freezing is heightened.  With a total length of **51** meters, these PE pipes will be connected to the water tanks and distribution network, facilitating uninterrupted water supply to the existing and newly established system. By preventing leakages and minimizing water wastage, this comprehensive approach not only enhances the functionality of the system but also promotes sustainability and responsible resource management. **Water distribution within the KHOGYANI Basic Health center (BHC)**To optimize the distribution system and accommodate the addition of new facilities, it is imperative to add proper reservoirs and extend it to the BHC building, Delivery building, toilets and handwashing sinks. This will ensure efficient water distribution throughout the facility. To achieve this, we will utilize PPR pipes with a diameter of at least 1 inch, rated at PN 25-bar.To guarantee the longevity and reliability of the system, the pipes will be buried at a depth of at least 60 cm from the ground level. This strategic placement not only protects the pipes from external damage but also helps maintain consistent water flow, particularly during colder seasons when the risk of freezing is heightened.With a total length of 51 meters, these PPR pipes will seamlessly integrate with the existing distribution network, facilitating an uninterrupted water supply to the newly established amenities. By preventing leakages and minimizing water wastage, this comprehensive approach enhances the functionality of the system and promotes sustainability and responsible resource management.**Hand washing sinks**The installation of handwashing sinks within Basic health center is paramount for effective infection control, adherence to hygiene standards, and the enhancement of overall health outcomes. By ensuring that healthcare workers, patients, and visitors have easy access to handwashing facilities, the spread of infections can be significantly reduced, thereby supporting compliance with protocols and minimizing health risks. This initiative ultimately results in lower infection rates, heightened staff productivity, improved patient care, and an overall safer environment within the healthcare setting.Moreover, the presence of handwashing sinks fosters hygiene awareness, contributing to broader public health initiatives and promoting a culture of cleanliness and wellness. To address this critical need, ActionAid has outlined plans to construct a standard handwashing sink consist of 4 wash taps in key section of the BHC, and installation of hand wash sinks in the CHS room, corridors, pharmacy room in the main building.Additionally, the four existing handwashing sinks will be connected to the main water supply network and sewerage system. Mirrors including soap shelves will also be supplied and fixed to the walls.**Toilets and Latrines**At the KHOGYANI Basic Health center (BHC), there are currently six septic pit latrines on the clinic premises, which present several significant issues. These issues include the absence of hand-washing facilities, non-washable surfaces, and do not have any pit. To address these problems, ActionAid has devised a comprehensive plan to upgrade the existing latrines into fully equipped toilets.For the delivery room, there is currently no bath or toilet, so it is planned to construct a single bathroom and toilet adjoining the delivery room. The existing toilets at the clinic site are sufficient for the patients and outpatients, but it is necessary to construct one additional toilets for male patients. These will be equipped with flush tanks and adjacent hand-washing sinks to ensure proper hygiene.Additionally, an extra toilet with facilities will be constructed to accommodate People with Disabilities (PWDs), incorporating railings on the toilet stairs to enhance accessibility and safety. This upgrade aims to improve sanitation, hygiene, and accessibility at the KHOGYANI BHC, providing a more hygienic and inclusive environment for all users.In terms of infrastructure, the water supply for these toilets will be connected from a 3000 lit reservoir located to the roof of the main clinic building, ensuring consistent access to water. Furthermore, the sewer pipes will be connected to a sock away pit to transfer and manage waste effectively. All construction and plumbing work will adhere closely to the specifications outlined in the relevant drawings, ensuring the durability and functionality of the new facilities.The following actions are planned for upgrading the existing latrines and installing new toiletsFlush tanks should be installed in each toilet and latrine.The latrines should be connected to the water supply network.The internal wall surfaces and floors should be covered with tiles and ceramics.In the latrine for individuals with disabilities, a western toilet should be installed, and the other four latrines should be equipped with flush tanks.Hot and cold-water plumbing should be considered during the rehabilitation.Trash bins should be mounted in each latrine and toilet.**Waste management**According to WHO requirements, the perimeter of healthcare facilities must be protected not only against clinical hazardous waste but also from domestic waste generated within these facilities. To achieve optimal hygienic conditions, ActionAid plans to construct a standard solid waste management system at the KHOGYANI Basic Health center (BHC). The planned construction includes the following:*Incinerator repair*The incineration system in KHOGYANI Basic Health Center (BHC) does not have any problem; the only issue with this section is the absence of fences around it and a warning sign.*Incineration Area Security*The incineration structure will be secured by erecting a galvanized fence, pipes, and a gate to prevent unauthorized access. These measures will ensure a safe, secure, and hygienic environment for waste management. *Waste bin* A large plastic trash need near the clinic's exit door, with small trash cans placed in every room and hallway. |
| Note: | An allocation of 3% of the total cost has been designated for miscellaneous and unexpected expenses. Contractors may claim overspend only when changes in the definable features of work are recommended and approved by the ActionAid superintendent and the AAA budget holder. |

### **Period of workمدت زمان کار**

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| **STARTING DATEتاریخ شروع** |  |
| **FINISHING DATEتاریخ ختم** |  |

### **Summary of Bill of Quantities**

## Signatoriesامضا کننده گان

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| --- | --- | --- | --- | --- | --- |
| ActionAid  اکشن اید | | | DopH and SHC agents  نماینده ریاست صحت عامه ومرکزصحی | | |
| Name and position  نام و وظیفه | Date  تاریخ | Signature  امضا | Name and position  نام و وظیفه | Date  تاریخ | Signature  امضا |
| Project Coordinator  کوردیناتور پروژه |  |  |  |  |  |
| WASH Specialist  متخصص واش |  |  |  |  |  |
| Program Manager  مدیر پروگرام |  |  |  |  |  |