## **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: | Farsi |
| Name of health center | Pay Hasar |
| Health Center Type: please select one (H3, CHC, SHC, SHC) | SHC |
| Building ownership (private or governmental) | Governmental |
| Number of clinic personnel | 5 |
| Number of patients visited in clinic (daily basis) | 150 |
| Number of hospitalized patients (the max capacity) | 0 |
| Name of surveyor(s) | Eng Ismael Fajad, Layeq Zalal, Barktullah Samim |
| DATE of survey | 18-August-2024 |

## **WORK DESCRIPTION تشریح کار**

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| **SCOPE OF INTERVENTION**  **عرصه حمایت** | | All three components 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 SHC: Please collect the GPS related HCF building جی پی اس نقاط کلیدی: لطفا جی پی کلنیک مربوطه را بگیرید: | | | |
| GPS | 33° 53' 59.553"N | | 63° 11' 48.814"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:** Health facility services are a fundamental right for every individual. However, communities located in the catchment area of Pay Hasar faced difficulties due to the far distance from the center of Farsi district.  Healthcare Facility was constructed 12 years ago by the government  The healthcare facility (HCF) is staffed by a nurse(male), a midwife doctor, a vaccinator (male), a nutrition consultant (female), and a cleaner, totaling 5 personnel.  The healthcare facility is located in the Pay Hasar Valley, 25 kilometers away from Farsi district. This facility serves the people living in this area. The clinic can serve about 150 outpatients on a daily basis, with 50 males and 100 females.  The main challenge facing this health center is the lack of clean water inside the clinic building and sanitation services, which leads to the spread of diseases. Currently, the water of the clinic is supply from the hand pump which is located in the clinic area.  Therefore, the ActionAid office technical team had a technical survey during the observation and technical survey the main problems found in this Sub Health Center (SHC)are as follows:  Lack of any water source for this clinic(the existing bore well with depth of 40m protected by 3inch PVC causing pipe that we can't install submersible pump in it because the minimum outside diameter of submersible pump in Afghanistan market is 4inch, we can't install any submersible pump to this bore well so need to construct a new bore well with depth of 40m inside the clinic  -Lack of wash floor drain in (pharmacy room, clinic hall and corridor)  -Absence of hand washing facilities (sinks) in (OPD room,vaccination room, emergency ward, pharmacy room and clinic hall) and clinic area.  -Need to new water Tanks for main clinic building and male & female toilets (the existing water tank volume is not enough with low quality need to change) and insulation storage tanks  -Need to provide garbage containers inside the Clinic building  -Need to create a ramp and stair for the entrance gate of existing male and female toilets  -need to repairing the entrance ramp and stairs of main building  -Absence of electricity system for the clinic (all rooms of clinic is without electricity)  -Some part of the building ( OPD room, vaccination room, emergency ward, new mix bath & toilet for delivery room and Hall) have no water supply system and sewerage system  -Existed Waste management is not functional because the smoke of burning wastes is harmful to staff and patients (direction is from west to east) also the sharp pit , placenta pip and incinerator pit is full need to reconstruction there is no any boundary fence around waste management area so it causes spread of clinical disease  -The delivery room has no bath and toilet adjacent to it.  -The exiting mix bath and toilet need installation complete set of head shower and a stand WC. **Water source**For drinking purposes, Currently, the water for this health center is being transferred from a bore well with hand pump inside the clinic by using buckets which is only sufficient for drinking by the staff of this Sub Health Center (SHC).The existing bore well protected by 3inch PVC causing pipe that we can't install submersible pump in it because the minimum outside diameter of submersible pump in Afghanistan market is 4inch, we can't install any submersible pump to this bore well so need to construct a new bore well with depth of 40m inside the clinicThe sub-health center's biggest issue is the lack of water, severely impacting operations and the well-being of staff and patients.**Water Storage and Distribution** *Water tank* one metallic water tank with low quality (inside the tank is full of rust) installed at Pay Hasar clinic with a capacity of 1000 liters, the existing water tank volume is not enough, it is rusted inside and the quality is very for now it is not useable.  Also the existing male and female toilets need extra water tank due to different in elevation from clinic main building *Hand washing* Absence of hand washing sink inside the hall and clinic area in total there are 14 sink in the drawing which 7 of them are permanently installed and we need to install 7 remained hand  washing sinks in the clinic which is highlighted in drawing one Handwashing tap-station in the clinic area will construct. Bathroom There is one bathroom inside the clinic building that needs to be repaired and become useable for staff of clinic, existing bath does not has bath fixtures such as a shower or floor drain. There is no any bath for delivery room. Kitchen The kitchen consists of a single room that works functionally does not need any repairing. Latrines & toilets There are six single toilets for outpatient in this clinic (three for male patients and three for female patients) this toilet works functionally, the only problem is there is not a ramp and railing in the entrance door of this toilets and absence stand WC for disabled patients  Also there is one mix toilet & bath inside the building for clinic staff need to upgrading Septic Tank: The Healthcare Facility (SHC) has a stone masonry septic tank with dimensions (4.9x3.5). Although the stone masonry work has been completed, this septic tank needs evacuation and cleaning.  Also need an absorption well for existing septic tank.  The existing male and female’s toilets is 70 m far from the exiting septic tank with high deferent elevation so the sewerage system can’t supply the waste to this septic tank so need to construct one septic tank for these toilets Waste management The following process and system for solid waste collection and disposal are in place at the Pay Hasar Healthcare Center: 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 waste. Incineration The incinerator structure has many cracks and the direction of structure is from west to east the smoke of burning wastes is harmful to staff and patients also the incinerator pit is full need to reconstruction there is no any boundary fence around waste management area so it causes spread of clinical disease. However, the incinerator is not functioning properly. The surface is not sealed, allowing rainwater to enter the pit. Sharp pits The existing sharp waste pit is constructed locally does not has any RCC cover also the capacity of this pit is not enough it is almost full Organic waste pit: The existing organic sharp pit constructed locally does not has any RCC cover also the capacity of this pit is not enough. |

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| **Technical solution in compliance with MoPH/WHO standards**  **راه حل تخنیکی مطابق ستندرد های وزارت صحت عامه وسازمان صحی جهان** | Water source **Quantity Perspective:** The Pay Hasar Sub Health Center (SHC) faces significant challenges due to a lack of water. To address this issue, ActionAid plans to dig a bore well with a depth of 40 meters and a diameter of 12 inches. Additionally, a stone valve box will be constructed on top of the bore well to provide protection and control.  **Borehole Design and Justification:** The bore well will be designed to ensure a sustainable and reliable water supply. Based on ActionAid's technical observations from dug wells in this area, it has been identified that the region contains a productive pure aquifer layer located between 15 and 40 meters below ground. This assessment informs our borehole design and expected yield:   * **Depth and Diameter:** The bore well will reach a depth of 40 meters with a diameter of 12 inches, sufficient to fully penetrate the aquifer layer and ensure a consistent water flow. * **Sanitary Seal:** A sanitary seal, extending at least 2 meters below the ground surface, will be implemented using cement grout to prevent contaminants from entering the well. * **Casing and Screen:** The well will be cased with high-quality PVC casing to support the well structure and prevent collapse * **Pumping Test Conditions:** To determine the well’s capacity and ensure its efficiency, a pumping test will be conducted under the following conditions: * **Duration:** The pumping test will be conducted over a 24-hour period to assess the well’s performance and sustainability. * **Discharge Rate:** The test will start at a low discharge rate, gradually increasing to determine the optimal yield without over-extracting the aquifer. * **Water Level Monitoring:** Continuous monitoring of the water levels during the test will help in understanding the aquifer’s recharge rate and the well’s impact on the water table.   **Expected Yield:** Given the favorable conditions of the aquifer layer between 15 and 40 meters underground, we anticipate that the bore well will yield approximately 3000 to 4,000 liters per hour. This yield is expected to meet the daily water requirements of the health center By incorporating these design features and conducting thorough testing, we aim to secure a clean, safe, and sustainable water source for the Pay Hasar Sub Health Center, ultimately improving the health and well-being of the community it serves.  Quality Perspective: ActionAid is committed to ensuring that the water from the bore-well meets the highest standards of quality. As part of this effort, water quality testing will be conducted during the drilling 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 | None Detected | Not Offensive | 25C° - 30C° | 0/100ml | 6.5 to 8.5 | 1000 ppm | 10µg/l | | Lab Result |  |  |  |  |  |  |  |  |  Water storage and distributionWater tank (water availability)  |  |  | | --- | --- | | **WHO suggested minimum water quantities in health care facilities** | | | Use | 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 of Pay Hasar Health Care Center** | | | | | Type of user | # of user | Consumption norm (Liters /day) | Total daily demand | | Outpatients | 150 | 5 | 750 | | clinic personnel | 5 | 110 | 550 | | Total daily water need | | | 1300 | | Required water for 48 hours to avoid any shortage | | | 2600 |   To ensure an uninterrupted water supply for at least 48 hours, it's imperative to have adequate water storage capacity. Based on our calculations, we recommend the installation of two water tanks with a storage capacity of 1500 liters and 1000 also one 500liters with stand for new sun water boiler. The water tank should be factory-made from high-density polyethylene, ensuring durability, lightness, and ease of handling. Its perfectly smooth inner surface should allow for easy cleaning with traditional detergents. The tank should be supplied with a top screwed lid and includes all necessary accessories and fittings.The water tank is planned to be connected to the existing and new water supply system inside the building and toilet.Solar 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 Pay Hasar SHC building. Therefore, the solar will be installed there. And the solar will be protected by a fixed lockable frame.  Submersible pump: We need the PEDROLLO product the submersible model: 4SR1.5/17because it is a suitable pump for our system Its flow rate is 2.3 m3/hour. the well probe should be installed in the system to prevent the pump from running dry.  Total required pipe: only 75-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 FRECON IP65 1.5kw 220Vmade 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 Water Supply Network within the Pay Hasar SHC: To establish a new water supply system in the Pay Hasar Health Care Facility (HCF) 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 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 75 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. Hand washing sink The installation of handwashing sinks within healthcare facilities 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 install a total of 7 new ceramic handwashing sinks in key sections of the building, and one handwashing facility station will construct in the Pay Hasar SHC and the other existing hand washing sink shall be conned to the building water supply system and sewerage.  Septic Tank,  ActionAid plans to rehabilitate the existing septic tank and construct a new septic tank for existing male and female toilets.  Existing septic tank plans is with the following measures:   * evacuation and cleaning of the existing septic tank * Connection sewerage system to septic tank * Excavation of an absorption well for the existing septic tank   New septic tank:  The existing male and female’s toilets is 70 m far from the exiting septic tank with high deferent elevation so the sewerage system can’t supply the waste to this septic tank, ActionAid plans to construct a new septic tank with the following specifications and measures:  Volume and Dimensions: The septic tank will have a volume of 12 cubic meters, with dimensions of 4.7 meters in length, 2.7 meters in width, and 2.1 meters in depth.  Construction Materials: The tank's walls will be built using stone masonry, and it will be divided into two sections by an internal stone masonry wall.  Durability Enhancements: The walls will be plastered with anti-moisture powder (Pudlo powder) to enhance durability and prevent leaks.  Cover and Accessibility: An RCC (Reinforced Cement Concrete) slab with two manholes will securely cover the septic tank, allowing for maintenance access.  Liquid Waste Management: A dedicated pit will be constructed to drain liquid waste from the septic tank.  Ventilation and Plumbing: A vent pipe and sewerage plumbing will be installed according to the related technical drawings to ensure proper ventilation and waste management.  These measures will ensure the septic tank's functionality, durability, and ease of maintenance.  Toilets and latrines  At the Pay Hasar sub health center There are six single toilets for outpatient at the clinic, three for male and three for female and one toilet for clinic staff inside the clinic problems of exciting toilets are as fallows  For the delivery room there is not any bath & toilet so we planned to construct one mix Bath & toilet adjoining to the delivery room also we upgrade the existing mix toilet & bath.  Additionally, the facilities will be designed to accommodate People with Disabilities (PWDs), incorporating railings to the toilet stairs to enhance accessibility and safety.  This upgrade aims to improve sanitation, hygiene, and accessibility at the Pay Hasar SHC, providing a more hygienic and inclusive environment for all users.  In terms of infrastructure, the water supply for these toilets will be connected from new water tank, ensuring consistent access to water. Furthermore, the sewer pipes will be connected to a septic tank to 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.  following actions are planned for upgrading the existing and new toilets.   * For new and existing mix bath & toilet Plumbing work such connection of water closet to main sewer and connection of cold-water pipes to pipe network should be done. * Installation railings, ramps for people with disabilities in entrance door of existing male and female toilets. * Installation stand WC in existing male and female for disabled people  Waste managementAccording to WHO’s 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 Pay Hasar Health Care Center. The planned construction includes the following:Incinerator Construction: The incinerator will be constructed with reinforced cement concrete (RCC), and its pit will be made of brick masonry, adhering to the specified drawings.Waste Disposal Pits: New pits will be constructed for the secure disposal of organic waste (such as placental waste) and hazardous waste (such as sharp objects). These pits will feature RCC rings, and the top slabs will be constructed with RCC caps to seal the pits effectively.Incineration Area Security: The incineration area will be secured by erecting a fence with galvanized iron (GI) pipe poles and gates to prevent unauthorized. These measures will ensure a safe, secure, and hygienic environment for waste management at the Pay Hasar Health Care Center. |
|  | 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 feature of work are recommended and approved by the Action Aid superintendent and AAA budget holder. |

## Period of workمدت زمان کار

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| **Start Dateتاریخ شروع** |  |
| **End Dateتاریخ ختم** |  |

## Summary of BoQ

## Signatoriesامضا کننده گان

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| ActionAidاکشن اید | | | DopH and HCF 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 |  |  |  |  |  |