



**REPUBLIC OF KENYA**

**MINISTRY OF ICT, INNOVATION AND YOUTH AFFAIRS  
STATE DEPARTMENT OF ICT & INNOVATION**

**P. O. BOX 30025-00100  
NAIROBI**

**ADDENDUM FOR  
TENDER NO: MOICT/SDICT/ONT/011/2021-2022**

**TENDER FOR SUPPLY, INSTALLATION AND COMMISSIONING OF  
NETWORK INFRASTRUCTURE  
AT NAROK LEVEL IV COUNTY REFERRAL HOSPITAL, NAROK COUNTY**

**ISSUE DATE: 23<sup>RD</sup> AUGUST, 2021**

**TENDER CLOSING DATE: 8<sup>TH</sup> SEPTEMBER, 2021 AT 10.00 A.M**

## 1.0 INTRODUCTION

The Client (Ministry of ICT, Innovation and Youth Affairs, State Department of ICT & Innovation) organized a Pre-Tender Site Survey on 16<sup>th</sup> August 2021. The aim was to give the Bidders an opportunity to familiarize with the ground requirements, understand the Tender drawings and identify the omission, adjustments to be considered to ensure installed solution meets the expectation of the intended work. Having gone through the site survey the following issues were raised and addressed as below:

## 2.0 ISSUES AND CLARIFICATIONS

No.	ISSUES THAT CAME UP	CLARIFICATION
1.	<p>The following blocks were reorganized and new service points added:</p> <ul style="list-style-type: none"> <li>a. Casualty Block</li> <li>b. Renal/ICU</li> <li>c. Radiology</li> <li>d. Laboratory (Lab)</li> <li>e. Dental/ Health Records</li> <li>f. Maternity</li> </ul>	<p>The Bill of Materials, Price Schedule and network designs drawings have been amended to accordingly to reflect the new requirements as specified in section 3.0, 4.0 and 5.0 of this Addendum.</p>
2.	<p>The following blocks did not have data points indicated in the drawings:</p> <ul style="list-style-type: none"> <li>a. OPD</li> <li>b. Blood bank</li> <li>c. Laundry/ Biomed</li> <li>d. Health Records</li> <li>e. Morgue</li> </ul>	<p>The Bill of Materials, Price Schedule and network designs drawings have been amended to accordingly to reflect the new requirements as specified in section 3.0, 4.0 and 5.0 of this Addendum.</p>
3.	<p>The following blocks have existing LAN:</p> <ul style="list-style-type: none"> <li>a. Administration/ Public Health Block</li> <li>b. CCC</li> <li>c. Pediatrics &amp; Adolescent Center</li> </ul>	<p>There will be no new installation of the structured cabling Network in these Blocks but ports will be repaired and added where necessary.</p> <p>Optic Fiber cable shall be pulled to integrate with the new network</p> <p>The Bill of Materials, Price Schedule and network designs drawings have been amended to accordingly to reflect the new requirements as specified in section 3.0, 4.0 and 5.0 of this Addendum.</p>
4.	<p>The drawings of the following Blocks were missing from the Tender Document:</p> <ul style="list-style-type: none"> <li>a. Chest clinic Block</li> <li>b. Boardroom</li> <li>c. HR Container</li> </ul>	<p>The Bill of Materials, Price Schedule and network designs drawings have been amended to accordingly to reflect the new requirements as specified in section 3.0, 4.0 and 5.0 of this Addendum.</p>
5.	<p>There exists a network serving the Imaging CT-Scan, CHMT, Walter Reed Department. The existing active devices are not POE.</p>	<p>The Bill of Materials and Price Schedule have been amended to accordingly to reflect the new requirements as specified in section 3.0 and 4.0 of this Addendum.</p> <p>Optic Fiber cable shall be pulled to integrate with the new network</p>
6.	<p>The existing NOFBI link path will be affected by the on-going construction a new block. There is need to relocate the fiber.</p>	<p>The Bidder shall be required to lay an optic fiber cable from the nearest NOFBI Manhole or nearest NOFBI Node, terminate and configure at the Hospital MDF.</p>

		Specifications and General installation practice for NOFBI WAN Connectivity installation are as outlined as per section 2.2
7.	Specifications for Self-Cooling Cabinet in the tender were not clear.	The Specifications for Self-cooling Cabinet has been amended as per the section 2.1 of this addendum

## 2.1 SELF-COOLING CABINET WITH A POWER SOLUTION

The bidder shall provide a self-cooling cabinet that will include power system, Main Distribution Frame (MDF), Optical Distribution Frame (ODF), battery, environment monitoring and temperature control modules.

No	Technical Specifications	Compliance (Yes/No)	REFERENCE INFORMATION TO SUPPORT COMPLIANCE (Highlighted in the bid document)
<b>Requirements</b>			
1.	The solution shall provide efficient power consumption		
2.	It shall easily be deployed in rugged outdoor environments with a temperature range from 41°C to 53°C including high humidity		
3.	Power to the cabinet shall be switched off from within the cabinet. Proper power socket cables to be supplied with the cabinets. The bidder shall be required to provide a 6- Way <b>Power Distribution board</b>		
4.	It shall meet IP55 protection ratings, allowing for installation in adverse conditions such as close to salt water		
5.	Its door shall be installed with air conditioner		
6.	It shall support remote monitoring and alarms for easier Operations and Maintenance (O&M)		
7.	It shall monitor environmental and power parameters		
8.	The cabinet shall have at least 48V LED lamps with a protective circuit breaker		
9.	The cabinet shall have an AC Distribution Unit with an input Voltage range of 220VAC-240VAC		
10.	The cabinet shall have DC Distribution Unit with an output voltage range between 42-58VDC		
11.	The cooling system shall consist of air conditioners with a cooling capacity of at least 800W, forced air exhaust, heat exchanger and thermoelectric conditioner		
12.	It shall have automatic microclimate control system, security and fire alarms which can engage locally or remote control		
13.	It shall have advanced heat dissipation system to reduce power consumption and noise		
14.	The cabinet should be made of Galvanized steel		

15.	It shall have a fire extinguisher system		
16.	The cabinet shall be at least 38U 19 “ mounting racks, which can install 4pcs lead-acid batteries and telecommunication equipment		
17.	The cabinet shall have four 100AH each with 12VDC Lead-acid battery		
18.	The cabinet shall have Temperature sensor, door sensor, water sensor, smoke sensor among others		
19.	The cable inlets should be at the bottom of the cabinet		
20.	Doors should be equipped with a locking system		
21.	It should have a 2year Warranty		

## 2.2 NOFBI WAN CONNECTIVITY

Specifications and General installation practice. The scope of the project shall include:

- Physical OFC cabling and termination to the nearest Point of Presence NOFBI POP site
- Physical OFC cabling and termination to the aggregation point at the proposed Main Distribution Facility (MDF)

No	Technical Specifications	Bidders Technical Response	Reference to Support Response (Highlighted and provide page no. in the bid document)
<b>Requirements</b>			
1.	The primary media for backbone cabling will be Single mode fiber optic.		
2.	Fiber optic cable shall have a core/cladding diameter on nominal 850nm and 1300nm optical wavelength.		
3.	The fiber optic cable shall have a minimum of twenty-four (24) strands.		
4.	All strands must be terminated at each end of the fiber cable whether used or not.		
5.	The fiber ducts shall be buried at a minimum of 1.2M deep normal soil, 0.6M hard rock. Normal soil backfilling must be compacted to revert to normal state. Hard rock backfilling shall be by concreting of at least 0.2M.		
6.	110mm HDPE ducts shall be used for road crossing between the hand holes  40mm ducts shall be inside the 110mm HDPE duct with the cable inside		
7.	Where there is an existing NOFBI duct, the bidder shall reuse the spare duct by entering through the nearest man hole/hand hole.  Authority to use the spare duct shall be sought from MOICT		
8.	The bidder shall use the existing entry Manhole to the NOFBI POP site. OFC cable shall be dropped to the Man Hole as a slag of at least 30Meters.  Splicing to the existing OFC shall be done by MOICT		

	through the party maintaining the OFC. Formal request to be done to Ministry of ICT once OFC is in Man Hole.		
9.	Fiber optic WAN link shall be terminated at the identified NOFBI POP room as per the physical topology design.		
10.	All fiber interfaces for uplink must use relevant transceivers and must show LED before logical work start.		

### 3.0 PRICE SCHEDULE

#### Bill of Quantities/Schedule of Rates

Below is the amended proposed bill of quantities for guidance. The bidder shall provide final bill of quantity as per their proposed design.

#### 1. Narok Hospital

NO.	Description	Unit of Measurement	Qty	Unit Cost	Total Cost
1.	F/UTP Category 6A Outlets Module (Data points)	No	276		
2.	Flash Mount Faceplates – F/UTP Category 6A Double	No	138		
3.	F/UTP Category 6A Wall UTP-RJ45Patch cord (1M)	No	306		
4.	F/UTP Category 6A Wall UTP-RJ45Patch cord (3M)	No	276		
5.	F/UTP Category 6A Wall UTP-RJ45Patch cord (5M)	No	20		
6.	F/UTP Category 6A 24 PATCH PANEL 1 U568A/B	No	13		
7.	Cable managers 2U	No	13		
8.	Galvanized Metallic Trunking 150mm x50mm & accessories for installing 276 Data Points and access points	Lot	Lot		
9.	F/UTP Category 6A Pure Copper Ethernet Cable for installing 276 Data Points and access points	Lot	Lot		
10.	Fiber Patch Panel (at least 8 core)	No	11		
11.	24 core OFC Patch Panel	No	0		
12.	Fiber Cable 8 Core plus Ducts to interlink all the cabinets/switches	lot	Lot		
13.	Fiber Patch Cord 1M	No	32		
14.	1G SFP transceivers	No	32		
15.	18U Network Cabinet with a 4Way Horizontal Mount Power Distribution Unit (PDU)	No	11		
16.	38U Self-Cooling, maintenance free Network Cabinet with Horizontal Mount Power Distribution Unit (PDU)	No	1		
17.	Rack mountable UPS- 1.5 KVA	No	11		
18.	Decommissioning of Old Cables	No	Lot		
19.	Fiber Connectivity to NOFBI Manhole (NOFBI WAN CONNECTIVITY) Section 2.2	No	Lot		
20.	Distribution/Aggregation Switch	No	1		
21.	48 Port POE+ Switch with Stacking Modules	No	6		
22.	24 Port POE+ Switch with Stacking Modules	No	9		
23.	Wireless Access Point	No	30		
24.	Wireless Controller	No	1		
25.	Civil Works-Pulling, Termination, Labelling, Documentation and Testing of Horizontal and Backbone Cabling,	Lot	Lot		
26.	Installation of Active Devices, IP Schemes and Configuration.	Lot	Lot		
27.	Testing, Training and Handover	Lot	Lot		
28.	Provision of Project Implementation Committee transport services as specified in Section V no 17	Round Trip	5		
29.	Annual SLA Support for one Year	Year	1		
30.	SFP – single mode	No	2		
31.	Fiber Optic Pig tail -10M	No	2		
	<b>TOTAL</b>				

#### 4.0 BILL OF MATERIALS

**NOTE:** The bill of materials is just an estimate; the bidder is required to carry out a survey in order to get actual material required and provision for them in the quote. The client is not liable for any omission.

##### The Bill of Materials:

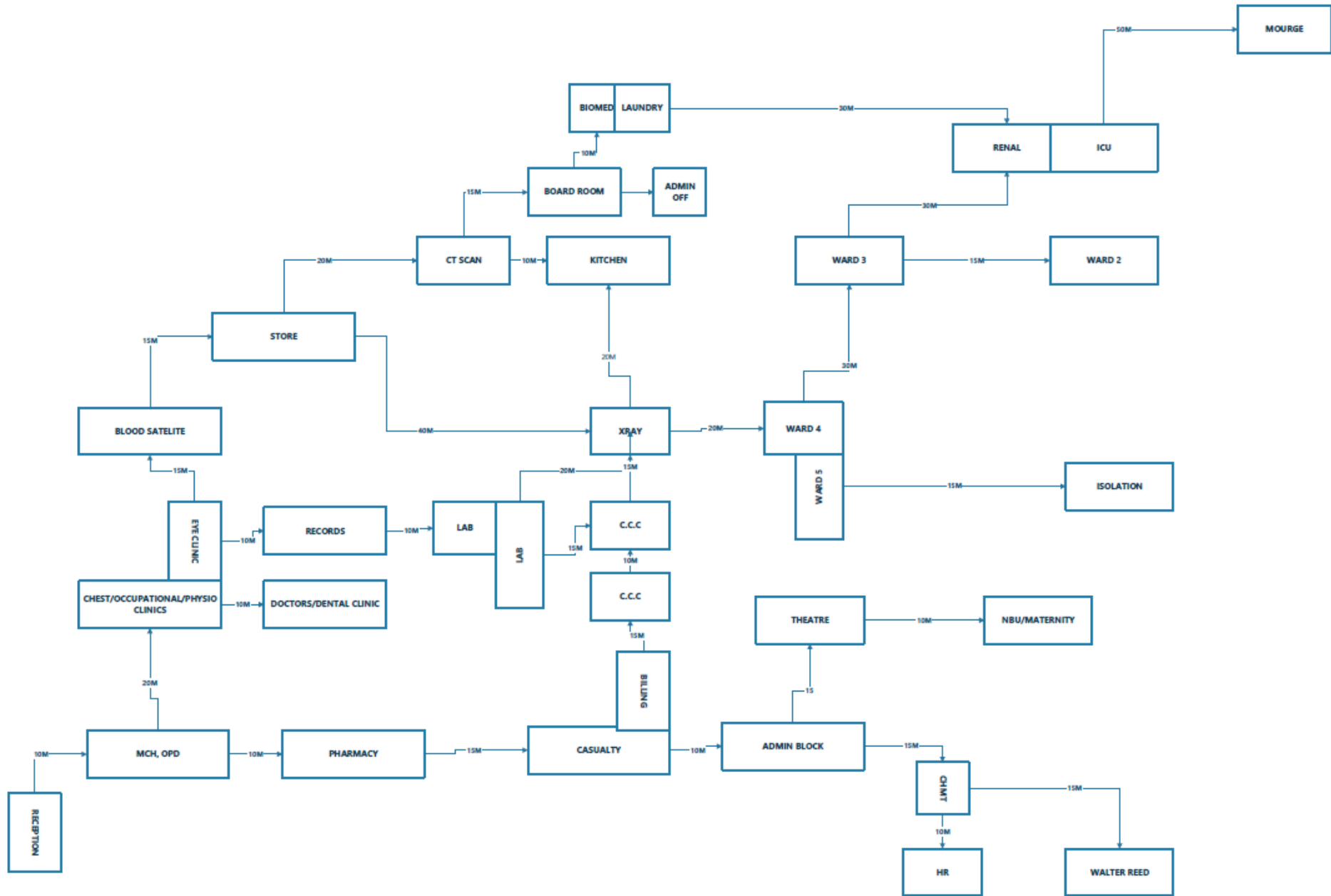
NO.	Description	Unit of Measurement	Qty
1.	F/UTP Category 6A Outlets Module (Data points)	No	276
2.	Flash Mount Faceplates – F/UTP Category 6A Double	No	138
3.	F/UTP Category 6A Wall UTP-RJ45Patch cord (1M)	No	306
4.	F/UTP Category 6A Wall UTP-RJ45Patch cord (3M)	No	276
5.	F/UTP Category 6A Wall UTP-RJ45Patch cord (5M)	No	20
6.	F/UTP Category 6A 24 PATCH PANEL 1 U568A/B	No	13
7.	Cable managers 2U	No	13
8.	Galvanized Metallic Trunking 150mm x50mm & accessories for installing 276 Data Points and access points	Lot	Lot
9.	F/UTP Category 6A Pure Copper Ethernet Cable for installing 276 Data Points and access points	Lot	Lot
10.	Fiber Patch Panel (at least 8 core)	No	11
11.	24 core OFC Patch Panel	No	0
12.	Fiber Cable 8 Core plus Ducts to interlink all the cabinets/switches	lot	Lot
13.	Fiber Patch Cord 1M	No	32
14.	1G SFP transceivers	No	32
15.	18U Network Cabinet with a 4Way Horizontal Mount Power Distribution Unit (PDU)	No	11
16.	38U Self-Cooling, maintenance free Network Cabinet with Horizontal Mount Power Distribution Unit (PDU)	No	1
17.	Rack mountable UPS- 1.5 KVA	No	11
18.	Decommissioning of Old Cables	No	Lot
19.	Fiber Connectivity to NOFBI Manhole (NOFBI WAN CONNECTIVITY) Section 2.2	No	Lot
20.	Distribution/Aggregation Switch	No	1
21.	48 Port POE+ Switch with Stacking Modules	No	6
22.	24 Port POE+ Switch with Stacking Modules	No	9
23.	Wireless Access Point	No	30
24.	Wireless Controller	No	1
25.	Civil Works-Pulling, Termination, Labelling, Documentation and Testing of Horizontal and Backbone Cabling,	Lot	Lot
26.	Installation of Active Devices, IP Schemes and Configuration.	Lot	Lot
27.	Testing, Training and Handover	Lot	Lot
28.	Provision of Project Implementation Committee transport services as specified in Section V no 17	Round Trip	5
29.	Annual SLA Support for one Year	Year	1
30.	SFP – single mode	No	2
31.	Fiber Optic Pig tail -10M	No	2
	<b>TOTAL</b>		

## **5.0 HOSPITAL BLOCKS WITH PROPOSED NETWORK DATAPOINTS**

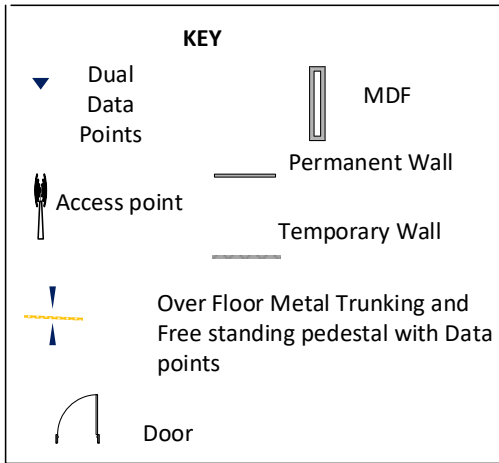
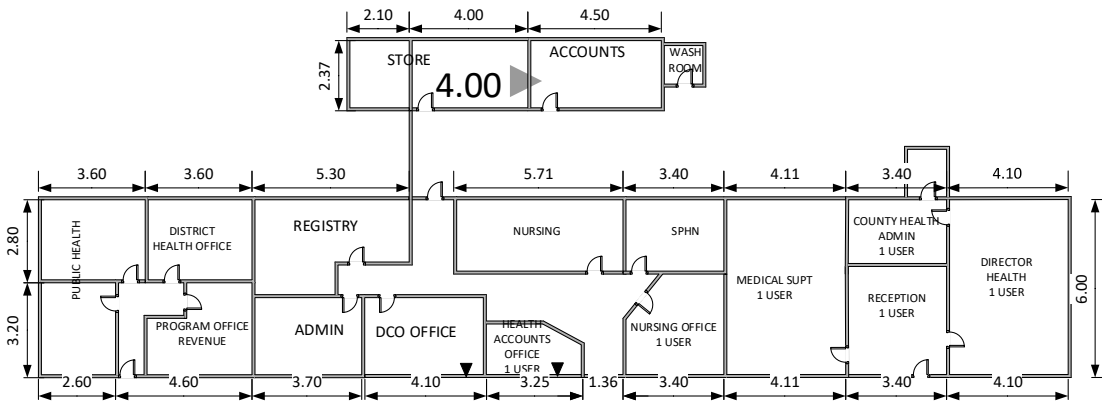
**NOTE:** The network drawing and position of datapoints is just proposal the final position will be determined during sign off of network design before implementation. The bidder is required to carry out a survey in order to get actual length and material required and provision for them in the quote. The client is not liable for any omission. The drawings are not to scale.

### **Hospital Blocks Overview**



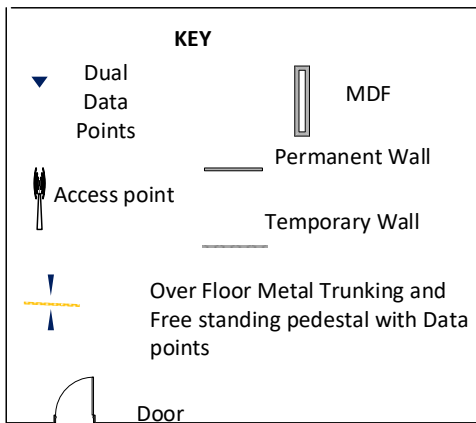
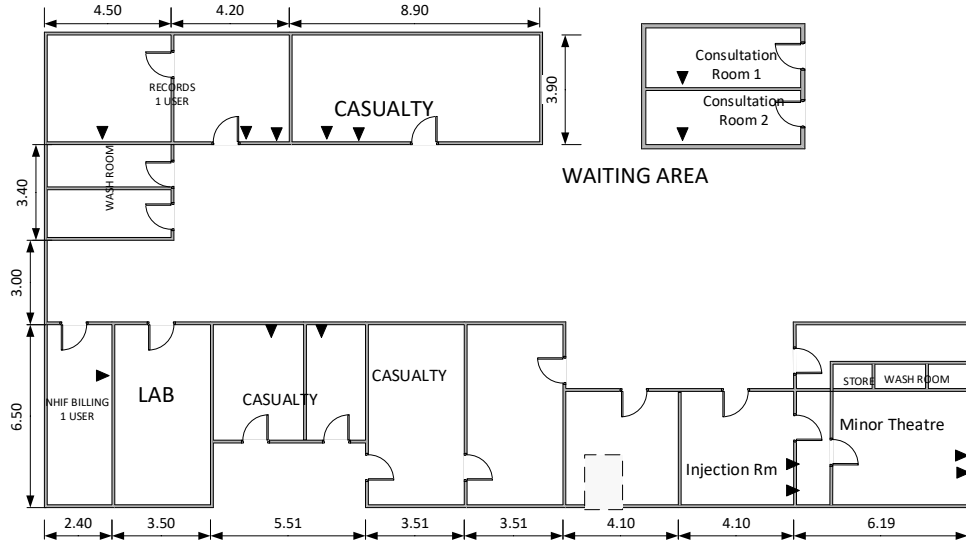


# NAROK COUNTY REFERRAL HOSPITAL ADMINISTRATION/PUBLIC HEALTH PROPOSED NETWORK LAYOUT



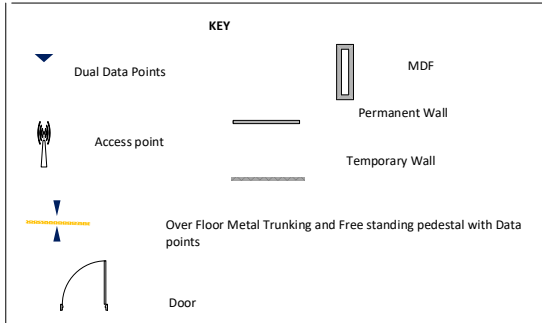
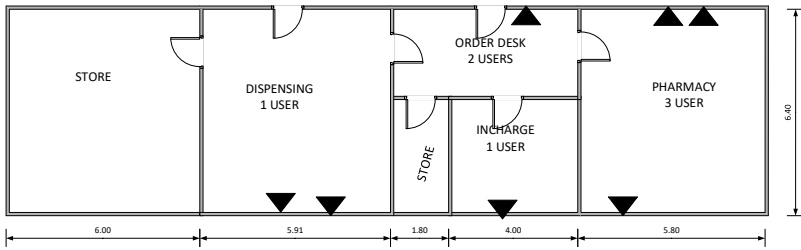
**Existing Data Points= 28**  
**Additional Data Points=4**

## NAROK COUNTY REFERRAL HOSPITAL CASUALTY PROPOSED NETWORK LAYOUT



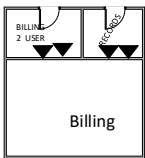
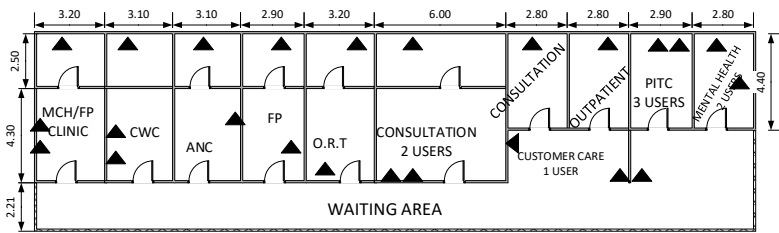
**Existing Data Points= 12**  
**Additional Data Points=28**

NAROK COUNTY REFERRAL HOSPITAL  
 PHARMACY  
 PROPOSED NETWORK LAYOUT

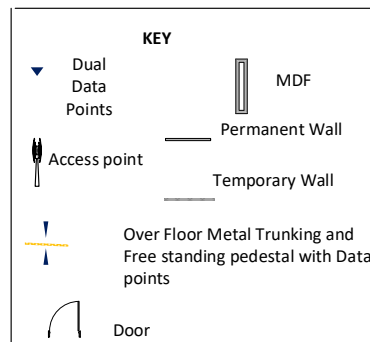


Data Points=14

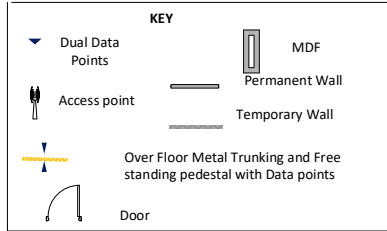
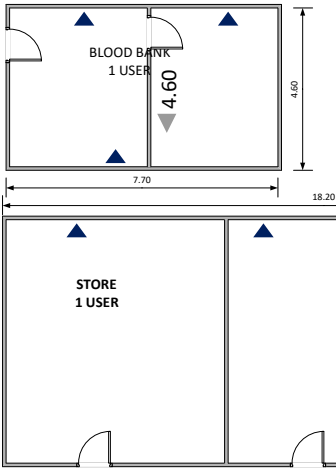
NAROK COUNTY REFERRAL HOSPITAL  
 OPD  
 PROPOSED NETWORK LAYOUT



Data Points=54

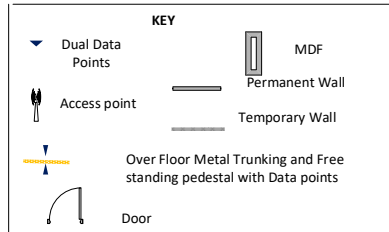
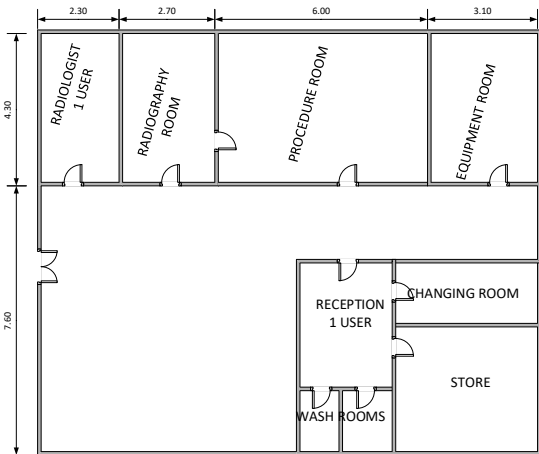


NAROK COUNTY REFERRAL HOSPITAL  
BLOOD BANK/NON PHARMACIUTICAL STORE  
PROPOSED NETWORK LAYOUT



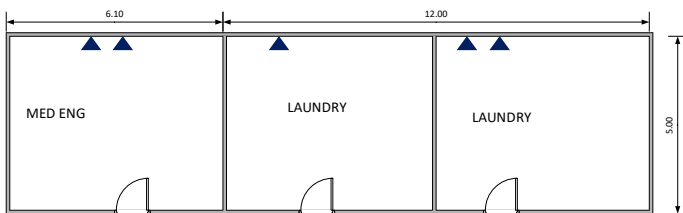
**Data Points=12**

NAROK COUNTY REFERRAL HOSPITAL  
CT SCAN  
PROPOSED NETWORK LAYOUT

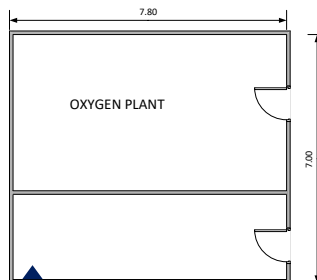


**Existing LAN  
Link to the Aggregation Switch**

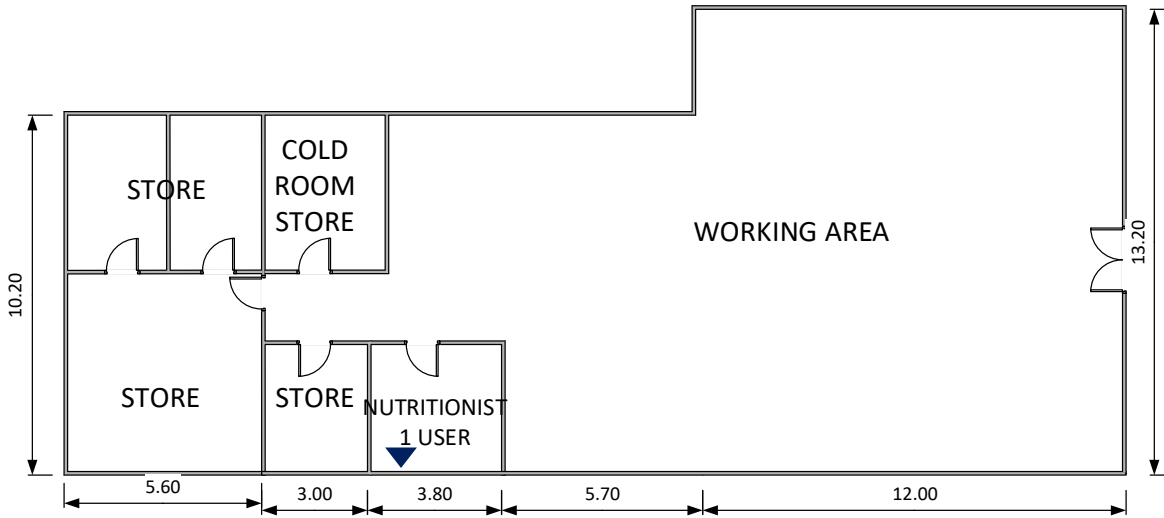
NAROK COUNTY REFERRAL HOSPITAL  
LAUNDRY/BIOMED/OXYGEN  
PROPOSED NETWORK LAYOUT



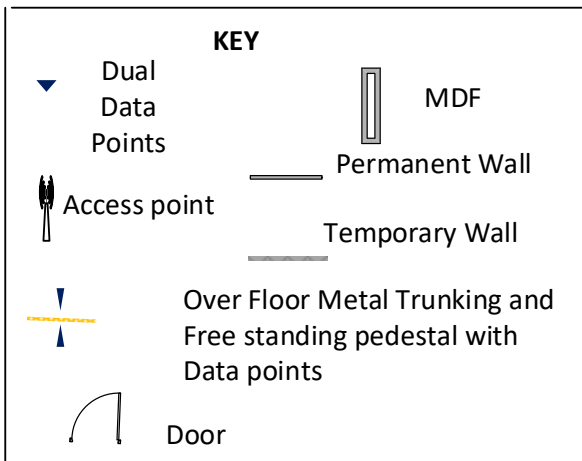
**Data Points=12**



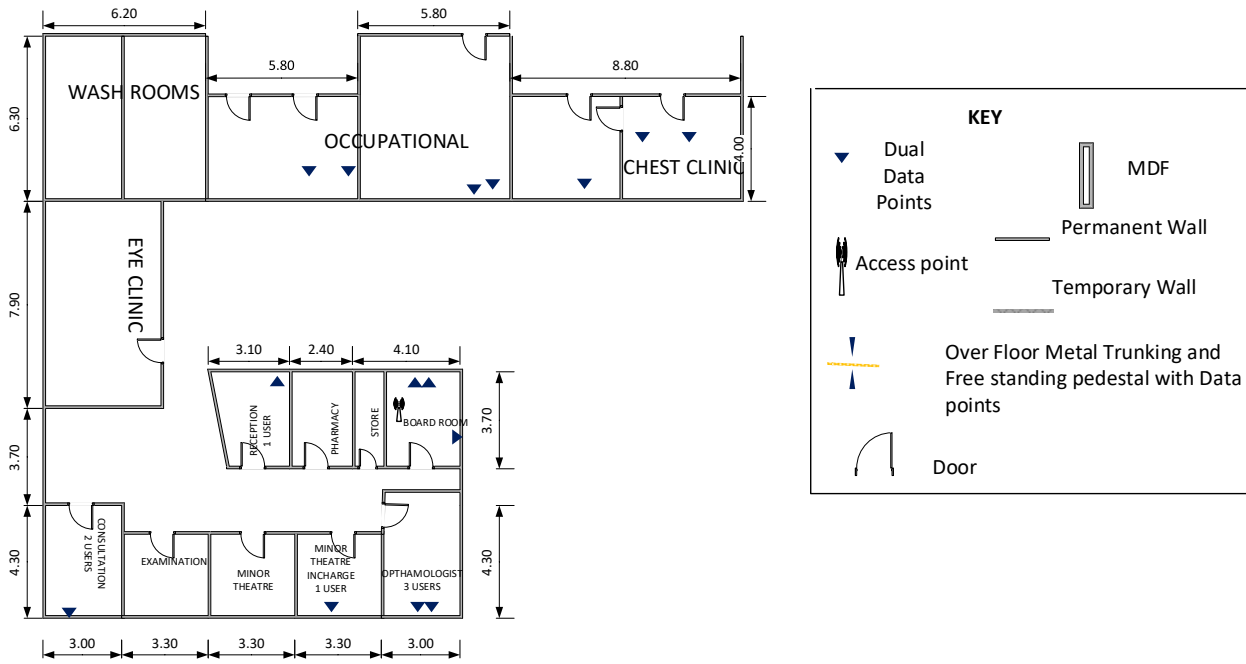
NAROK COUNTY REFERRAL HOSPITAL  
 KITCHEN  
 PROPOSED NETWORK LAYOUT



**Data Points=2**

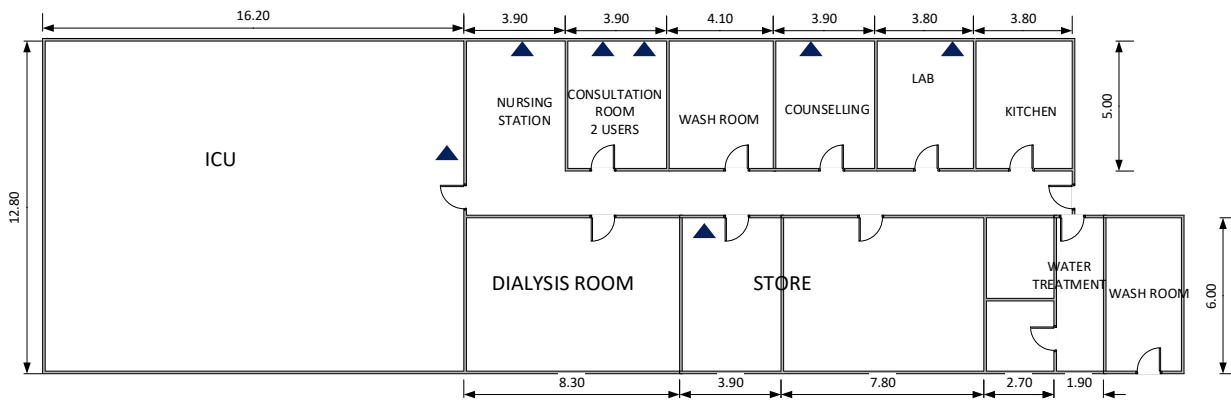


NAROK COUNTY REFERRAL HOSPITAL  
CHEST/EYE CLINIC  
PROPOSED NETWORK LAYOUT



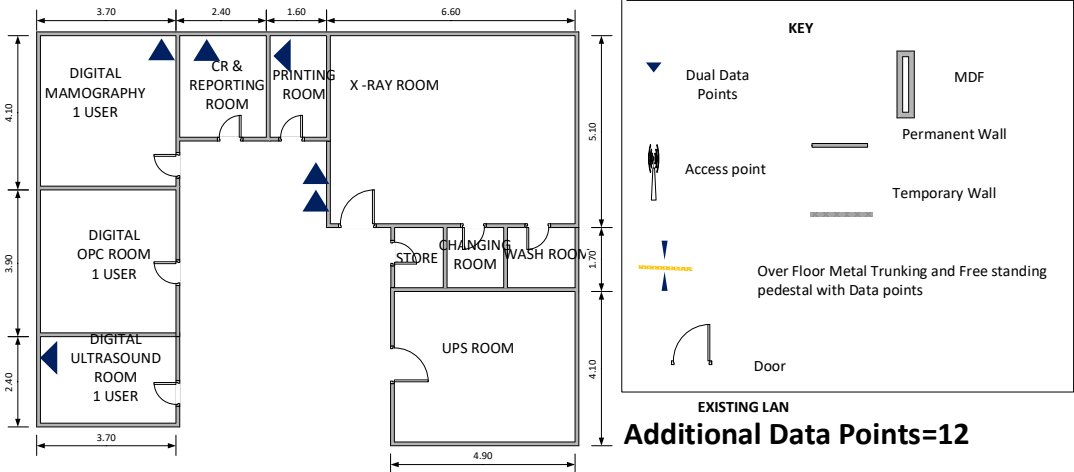
**Data Points=30**

NAROK COUNTY REFERRAL HOSPITAL  
RENAL/ICU  
PROPOSED NETWORK LAYOUT

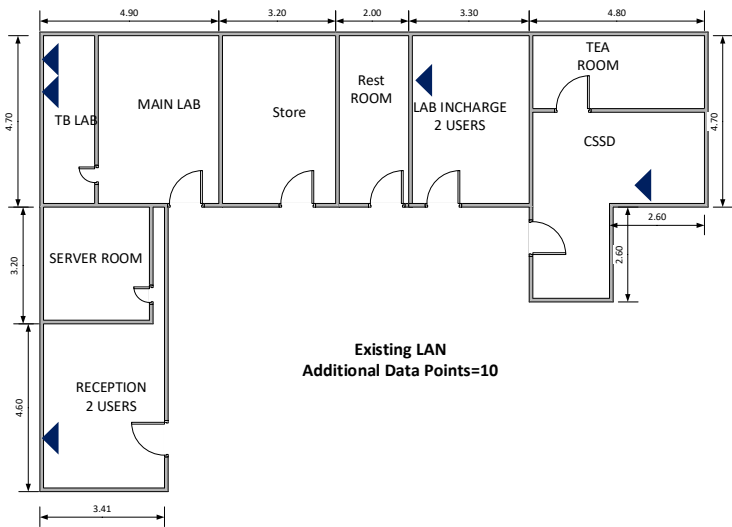


**Data Points=14**

NAROK COUNTY REFERRAL HOSPITAL  
RADIOLOGY  
PROPOSED NETWORK LAYOUT

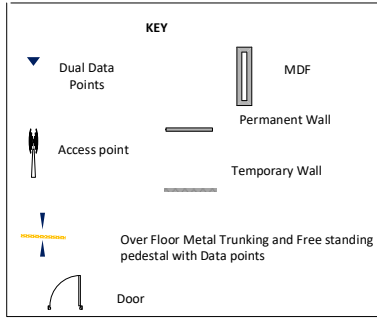
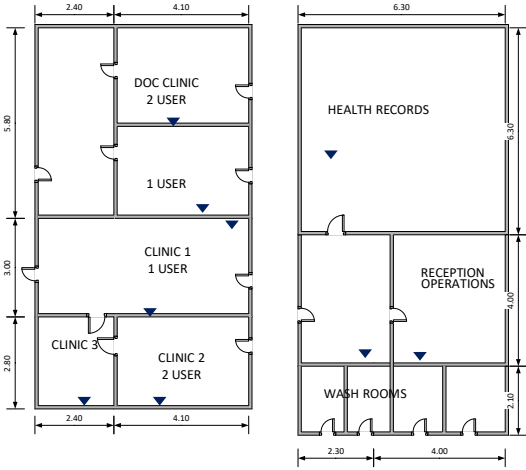


NAROK COUNTY REFERRAL HOSPITAL  
LAB/CSSD  
PROPOSED NETWORK LAYOUT



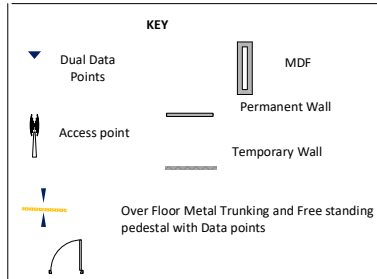
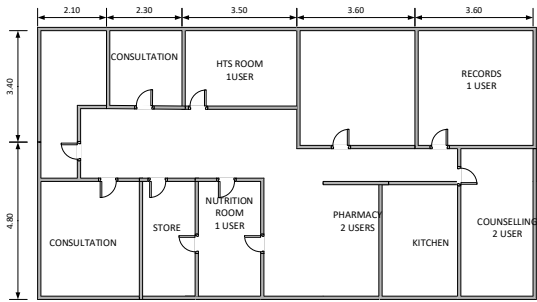


NAROK COUNTY REFERRAL HOSPITAL  
DENTAL/HEALTH RECORDS  
PROPOSED NETWORK LAYOUT



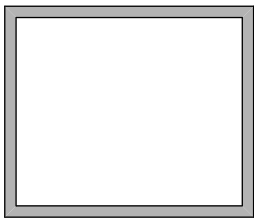
Existing LAN  
Additional Data Points=18

NAROK COUNTY REFERRAL HOSPITAL  
CCC  
PROPOSED NETWORK LAYOUT



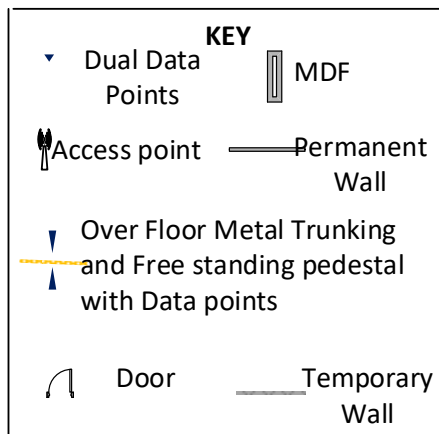
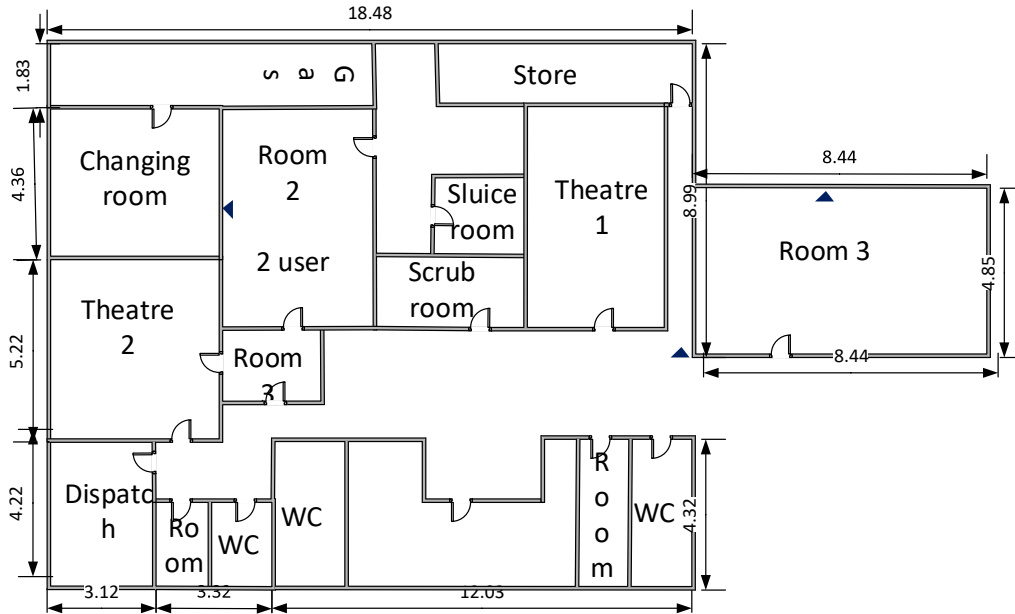
Existing LAN  
Link to the Aggregation Switch

NAROK COUNTY REFERRAL HOSPITAL  
Paed & Adolescents Clinic  
PROPOSED NETWORK LAYOUT



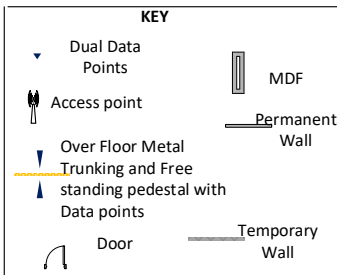
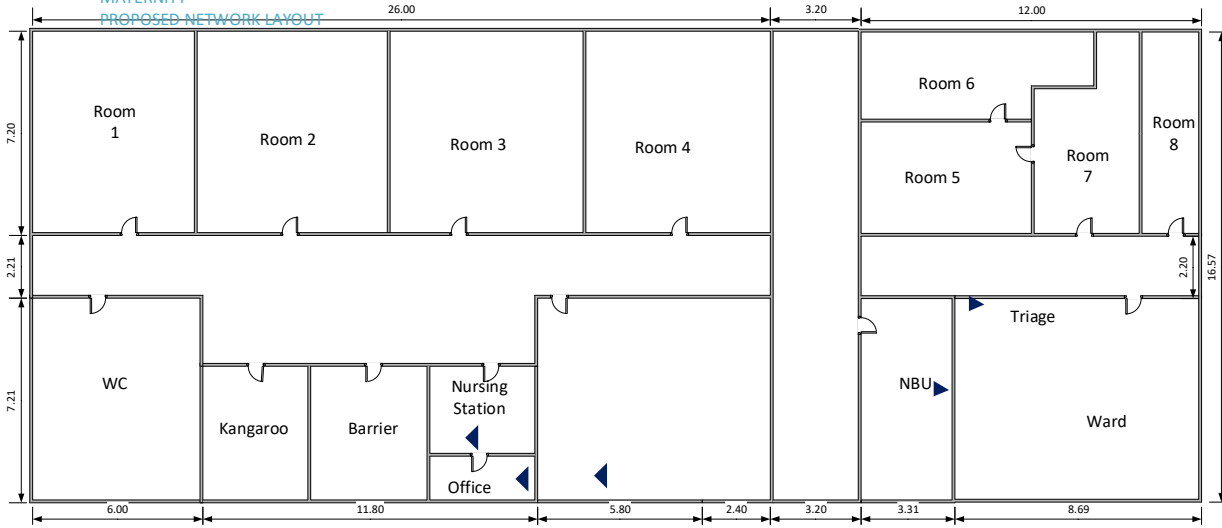
Link to Aggregation Switch

NAROK COUNTY REFERRAL HOSPITAL  
 THEATRE  
 PROPOSED NETWORK LAYOUT



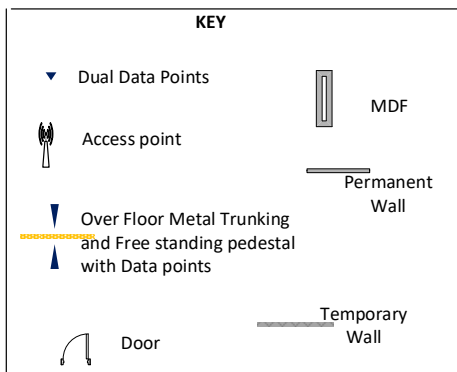
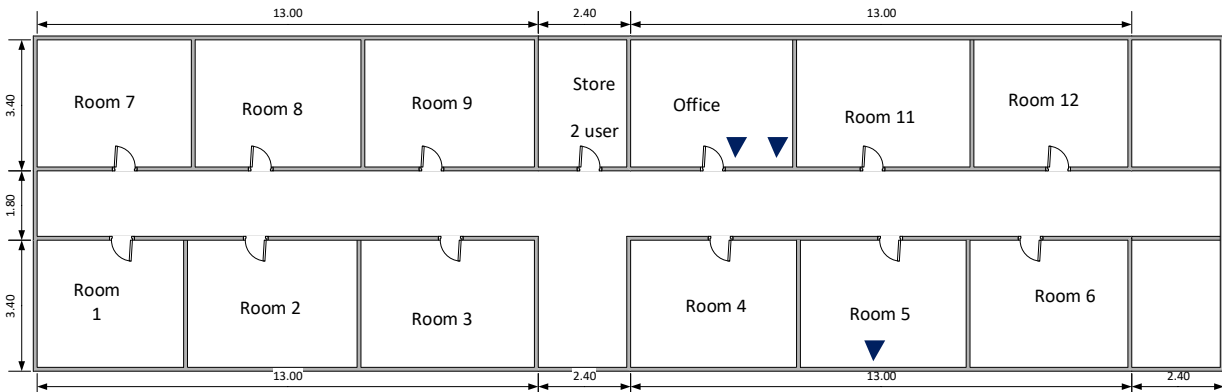
**Data Points=4**

NAROK COUNTY REFERRAL HOSPITAL  
MATERNITY  
PROPOSED NETWORK LAYOUT



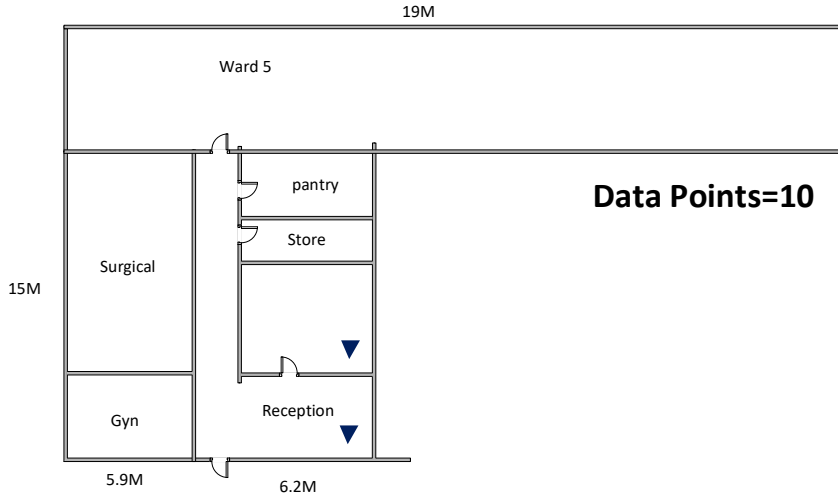
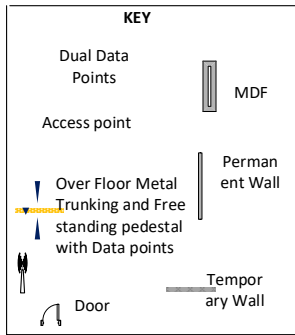
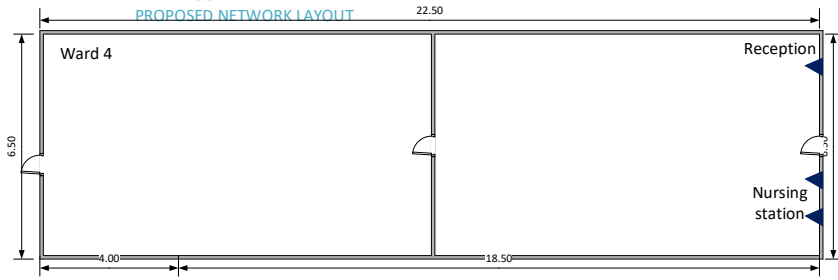
**Data Points=10**

NAROK COUNTY REFERRAL HOSPITAL  
AMENITY  
PROPOSED NETWORK LAYOUT

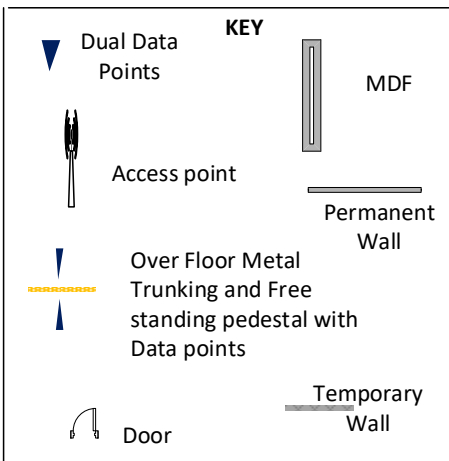
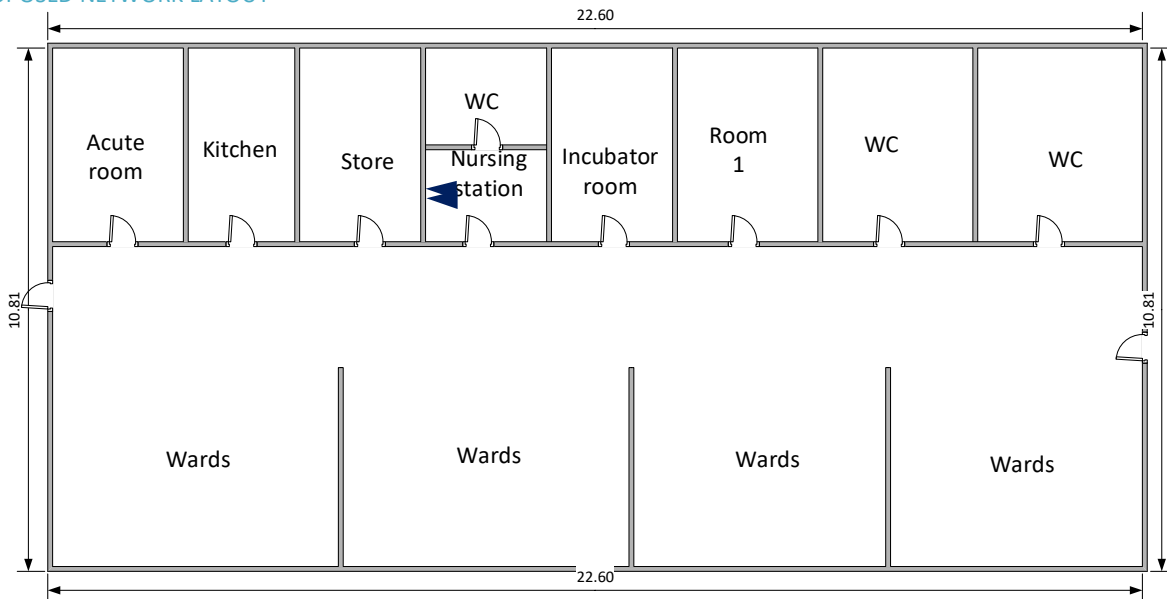


**Data Points=6**

NAROK COUNTY REFERRAL HOSPITAL  
WARD 4&5  
PROPOSED NETWORK LAYOUT

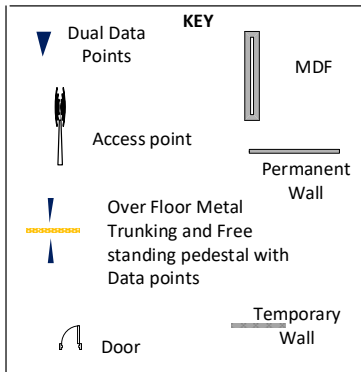
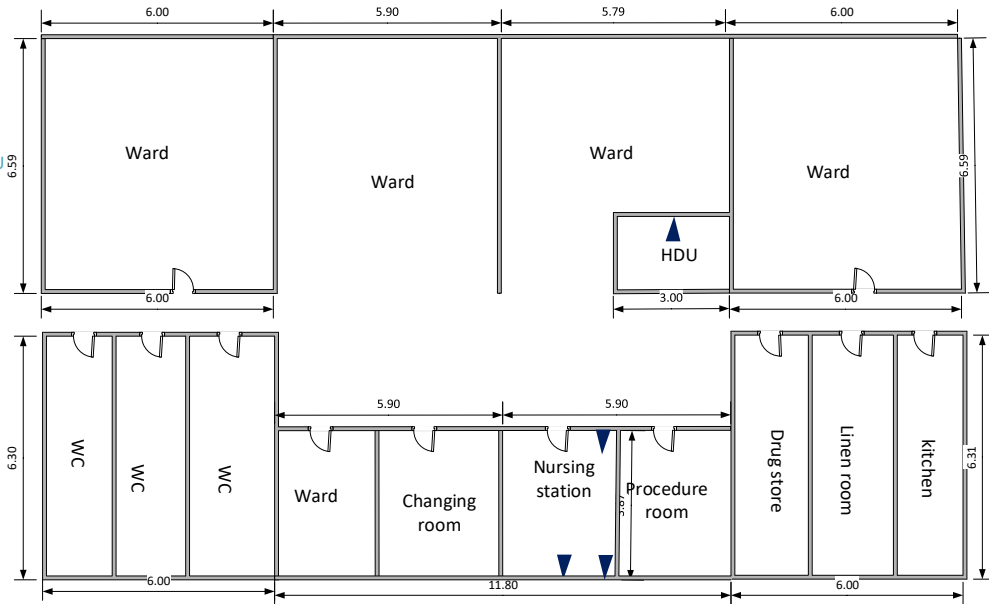


NAROK COUNTY REFERRAL HOSPITAL  
WARD 2(PAED)  
PROPOSED NETWORK LAYOUT



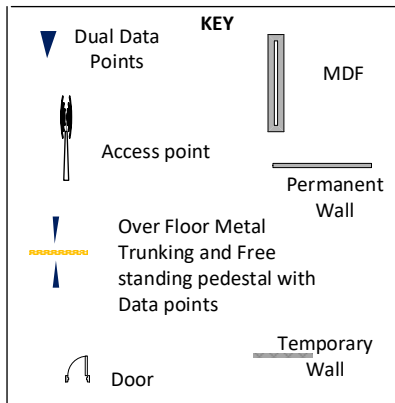
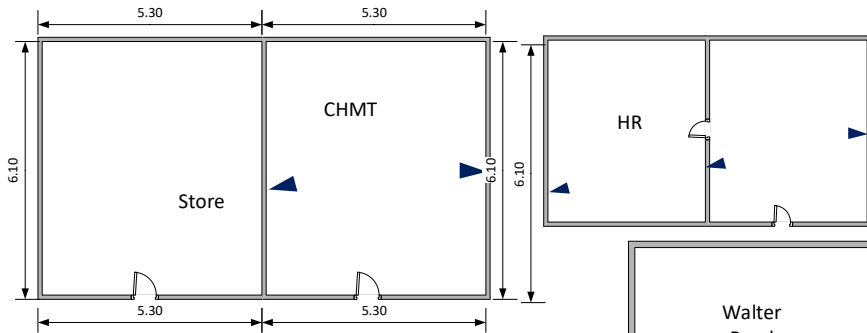
**Data Points=4**

NAROK COUNTY REFERRAL HOSPITAL  
WARD 3(MALE)  
PROPOSED NETWORK LAYOUT



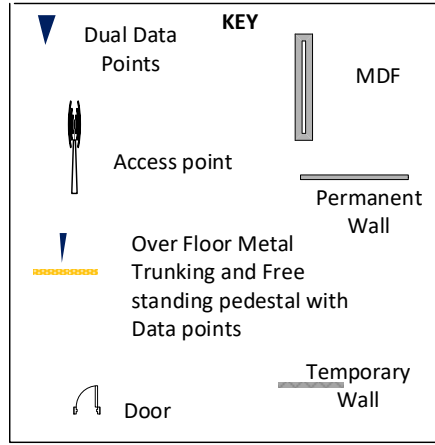
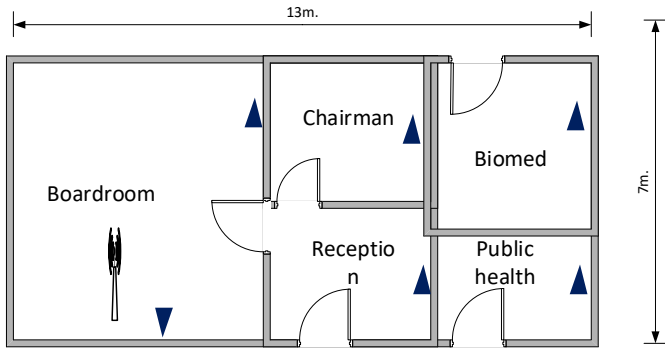
**Data Points=8**

NAROK COUNTY REFERRAL HOSPITAL  
CHMT/ HR  
PROPOSED NETWORK LAYOUT



**Existing LAN  
Additional Data Points=8**

NAROK COUNTY REFERRAL HOSPITAL  
BOARDROOM  
PROPOSED NETWORK LAYOUT



**Data Points=12**

NAROK COUNTY REFERRAL HOSPITAL  
Morgue  
PROPOSED NETWORK LAYOUT

