



DHAKA WASA

Technical Manual

Budget Management System Software for Dhaka WASA



is Intelligence



Submitted By,

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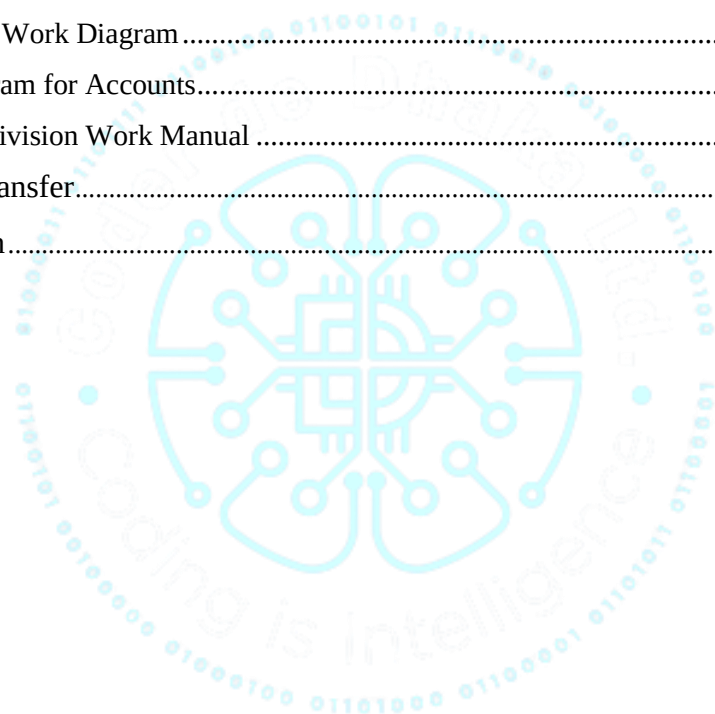
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Budget Management System Software for Dhaka WASA

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1.0 Introduction:

The Dhaka WASA Budget Management Software is a comprehensive tool designed specifically for the efficient management of budgets within Dhaka Water Supply and Sewerage Authority (WASA). This manual will guide you through the installation, setup, and usage of the software, ensuring you can effectively utilize its features to streamline budget management processes.

The Dhaka WASA Budget Management System Software is a powerful tool that revolutionizes the budget management processes of Dhaka WASA. By leveraging technology and automation, it enables Dhaka WASA to effectively allocate resources, monitor expenditures, and make informed decisions to meet the water supply and sewerage needs of the city. With this software, Dhaka WASA is well-equipped to ensure financial sustainability and deliver reliable services to the residents of Dhaka.

1.1 Purpose of Technical Manual:

The purpose of this technical manual is to provide detailed instructions and guidance on the installation, configuration, and usage of the Budget Management Software developed for Dhaka Water Supply and Sewerage Authority (WASA). It aims to assist system administrators, users, and IT personnel in understanding and effectively utilizing the software for budget management purposes.

2.0 Software Requirement

To capture the entire user specifications for the project and to completely detail all business processes that the system will inherit. Capturing this information can be carried through interviews, questionnaires and electronic bulletin boards or through Joint Application Development (JAD) workshops or sessions between Coder De Dhaka Ltd. and SACP PROJECT users. The main deliverable is the analysis ERD, detailed process flow (logical), a requirements document and the analysis evaluation document including sign-off.

The Analysis ERD's represented as many business rules as possible from the perspective of the user community.

The data process flow in the form of DFD's or flow-charts captures the main business tasks and transactions carried out within the organization. Specifically, what are the tasks? How are they carried out? Who performs them? What tasks precede other tasks?

The Requirements Document is the most critical aspect of the analysis phase since it aims to structure all the user requirements and business rules obtained during the analysis into a coherent and logical format. The main contents of a Requirement Document are a requirement list of all user requirements, organized into business functions, a report audit (all reports that are currently produced or new reports that the developed system will have to produce), process flows for all major business functions and transactions, business function hierarchy structure, business rules in the form of ERD's and finally the mapping of user requirements to the business functions in the developed business model.

The final part of the analysis phase is the 'Analysis Evaluation', this primarily focuses on the requirement document to ensure that all possible business data has been obtained and accounted for. That all the ERD's, DFD's, functional hierarchy structures and the Business Model are correct and have been signed off by the client.

The information obtained during the analysis phase and once signed-off by the client is then used as a blueprint for the system design and build. The following table shows the summary of this phase.

	Objective	Procedure	Input	Output
Initial Software Requirement Specification (SRS) Preparation				
	To define initial set of software requirements by performing requirement study visit and collection.	• Determine appropriate requirements provider by analyzing the criteria. • Perform requirement study with the appropriate requirements provider. • Observe and understand client's business process. • Record raw user requirements in the visit log. • Determine and document functional requirements & other software requirements from analyzing the visit • <u>Also Determine appropriate Hardware, OS, Database Server, Application Server, Storage System, Web Server, Network Architecture etc. for the assignment.</u>	List of criteria for distinguishing appropriate requirements provider	Initial requirement specification document
Prototype Development				
	To design and develop prototype and provide demonstration to client.	• Analyze identified requirements and design User Interface. • Review UI and develop final sets of UIS. • Provide demonstration to client and record feedback. • Record additional sets of Requirements.	Initial requirement specification document	Updated SRS (with confirmed prototype); Additional sets of requirements
Final Software Requirement Specification Preparation & Sign-Off				
	To prepare final SRS and Sign-off with client.	• Review updated SRS and finalize With client. • Sign-off SRS with client	Updated SRS	Signed-off SRS

3.0 Software Design:

The design phase is split into two main sections Database design and Application design. The database design involves the designing of tables and columns, referential integrity and check constraints on columns. The database design also involves de-normalization with the associated database transaction triggers to improve database efficiency and optimization. The work carried out during the database design phase results in a data model, which maintains a data dictionary for the final physical layout of the database. The data model is created from the logical information captured in the analysis phase and in particular the analysis ERD's, DFD's and Functional Hierarchy Diagrams.

The application design concentrates on the front-end side of the system, i.e., what the user will see and use during his/her daily tasks and routines. Screen (including functionality) and Report design consists of the main parts in the application design.

The screen design will involve text and field layout, screen navigation and functionality. The report design will concentrate on the report layout as well as the validating the output produced by the report when querying the database.

A Design Book will be created to show all the information associated with a screen or report. The design book enables unit testing, so that if the screen or report meets the specifications detailed in the design book then that application module is functioning correctly. The following table shows the summary of this phase.

	Objective	Procedure	Input	Output
Components Design, Review & Finalize				
	To design components according to SRS and finalized prototype.	• Analyze SRS and prototype, and design interface (input/output form) accordingly. • Review and finalize design.	SRS; Approved Prototype, Database Design Templates	Design Documents
Database Design, Review & Finalize				
	To design database following design documents and SRS.	• Analyze design documents and SRS, and develop UML diagrams accordingly. • Design data base access control system. • Review and finalize design.	Design Documents; SRS, Review Document	Database Design Documents, Review Log

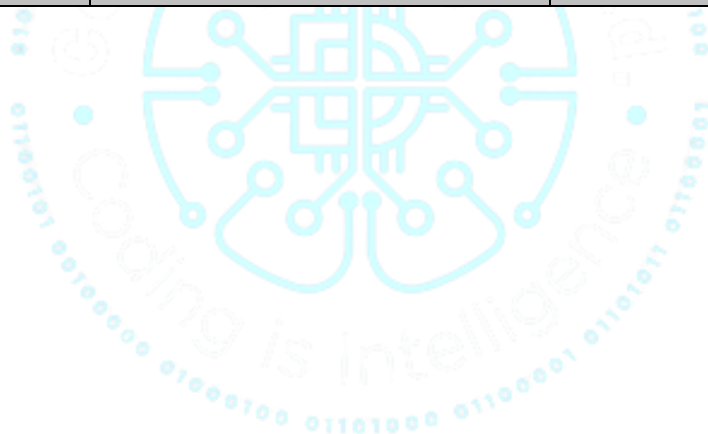
4.0 Development:

This stage involves the Generation of Data Definition Language (DDL) and Data Control Language (DCL) in the form SQL code and database trigger scripts, used to create the physical database and its structure. In addition, decisions need to be taken on the number of tablespaces, their size and the physical disk locations. The number of databases to be created also needs to be determined three at the minimum should be created one for development, testing and the other for live production.

Before building the application, a sample database needs to be created to test whether or not the application functions properly. After the database has been built the executable front-end application codes can be compiled and generated. The following table shows the summary of this phase.

	Objective	Procedure	Input	Output
Component Development				
	To develop components according to design Requirements.	Develop as per the design Requirements.	Baselined Design, SRS	Developed Component
Unit Test & Client Demo				
	To perform unit test and provide demo of tested component to client to minimize gap.	• Ensure that business logic is complete. • Verify whether component works as designed. • Identify unresolved issues. • Report errors. • Take necessary action – recheck/test component again. • Provide demonstration of the	Developed Component	Unit Tested Component; Client's feedback log, Unit Test Log

		tested component to client, record feedback and update accordingly.		
Component Integration & Testing				
	To integrate components and perform integration testing.	• Integrate software and hardware components. • Ensure design objectives are met and build for test.	Unit Tested Components	Integrated and Tested Components, Integration Test Log
Build for Test				
	To build testable version/environment for testing/QA.	• Prepare required environment and build for testing component for testing. • Prepare release notes for QA/Testing	Unit, Integration Tested Component	Build for Test Component; Release Notes



5.0 Setup Details

Module Key	Feature & Functionality/Process
User Setup	✓ Create User
	✓ User Access
	✓ User Menu Access
	✓ User Role
	✓ Role Setup
Units/ Branch Setup	✓ Create a New Branch
	✓ Branch Report
Administration Setup	✓ Cost Center Create
Work Details Setup	✓ New Ledger Head
Demand Setup	
Cost center Management	✓ Submission Section (Cost center) Record
	✓ Certification Section (Cost center) Record
	✓ Verification Section (Cost center) Record
	✓ Approve Section (Cost center) Record
Circle Setup	✓ Submission Section (Circle) Record
	✓ Certification Section (Circle) Record
	✓ Approve Section (Circle) Record
Accounts Setup	✓ Certification Section (Accounts) Record
	✓ Verification Section (Accounts) Record
	✓ Approve Section (Accounts) Record
	✓ Submission Section (Accounts) Record

❖ Extra Feature

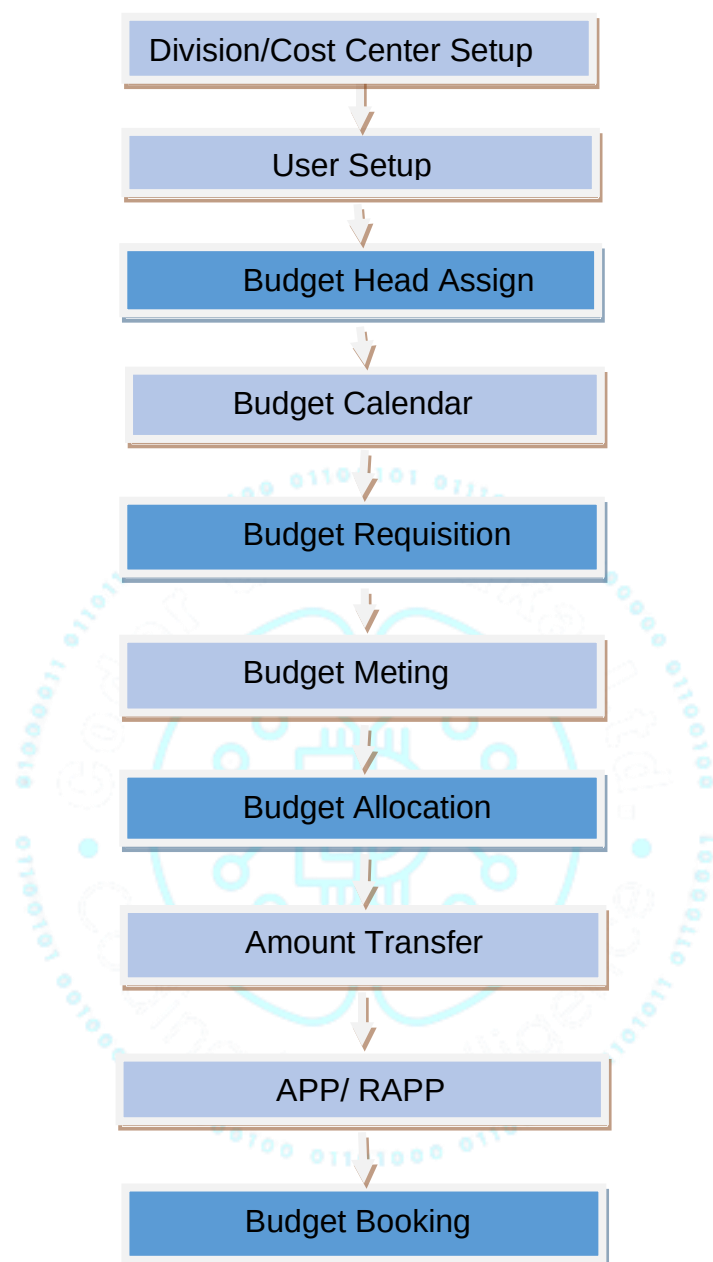
- ✓ Statement Setup
- ✓ Reverse Budget
- ✓ Budget Follow up
- ✓ Costs related complete information
- ✓ Upcoming Events Setup
- ✓ Budget Approve
- ✓ Notice Board
- ✓ Dashboard
- ✓ Current Operating Budget Report
- ✓ Current Expense Budget Report
- ✓ Variance Reports
- ✓ Burn Ratio Reports
- ✓ Planned Value (PV)
- ✓ Actual Cost (AC)
- ✓ Service Complain Entry
- ✓ Budget Increment per Annum
- ✓ Budget Decrease per Annum
- ✓ Live Work Status Update
- ✓ Multi-level Estimate Create

- ✓ Budget Adjustments
- ✓ Guidelines
- ✓ Fund Transfer
- ✓ Fund Restrictions
- ✓ Download select information into Excel
- ✓ Vouchers
- ✓ Recovery
- ✓ Multi-Level Bill Create
- ✓ Usage Requisition Create
- ✓ Methodologies used to calculate costs

Menu Setup:

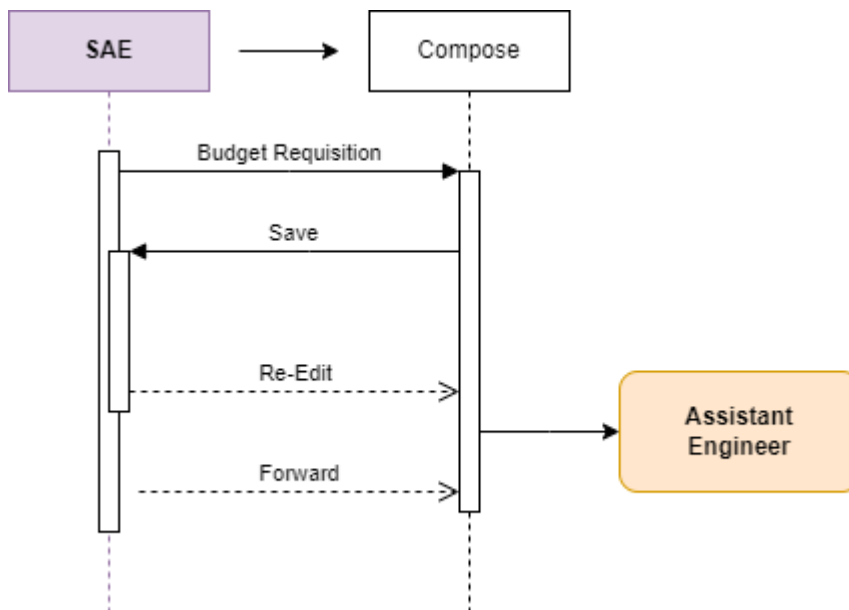
- User Setup
- Units/ Branch Setup
- Administration Setup
- Work Details Setup
- Work Details Setup
- Cost center Management
- Circle Setup
- Accounts Setup
- Statement Budget Setup
- Reverse Budget Setup
- Budget Follow up
- Costs related complete information
- Upcoming Events Setup
- Budget Approval
- Notice Board
- Dashboard

❖ Budget Stage Setup



6.0 Work Sequence for Budget Requisition:

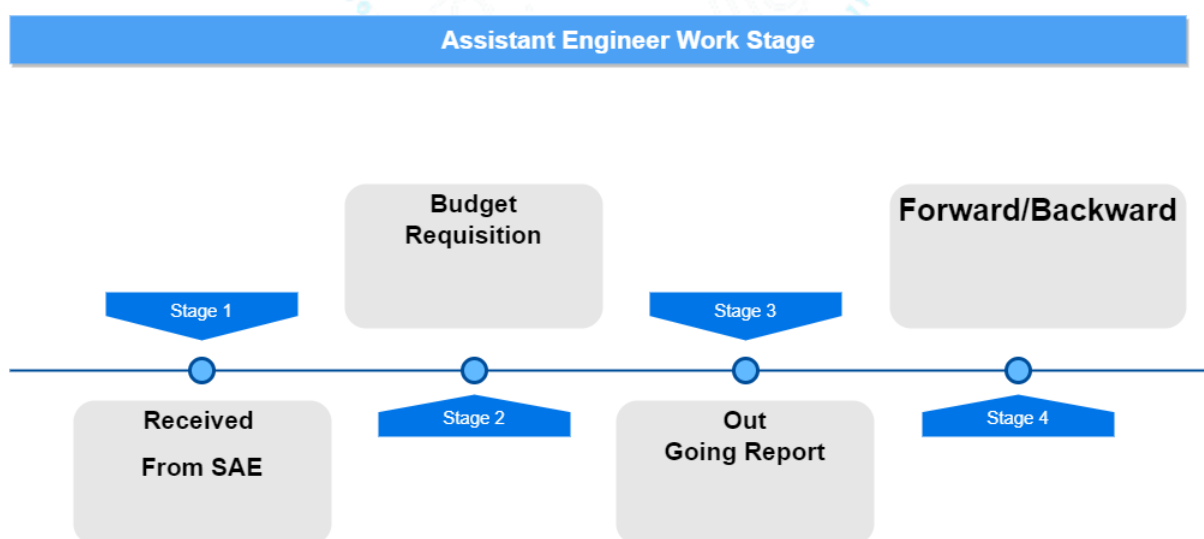
Work Stage Diagram for Sub-Assistant Engineer



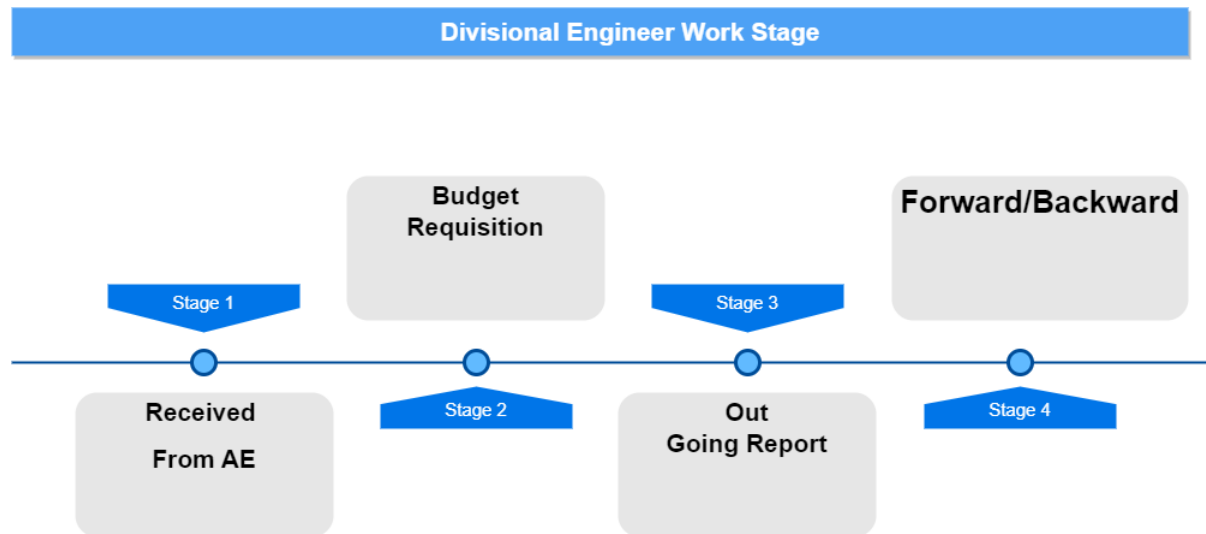
Details:

SAE compose the budget requisition and save it on his/her dashboard. Then re-edit the budget requisition and complete all the task. After complete all task then he/she forward the file to Assistant Engineer for check purpose.

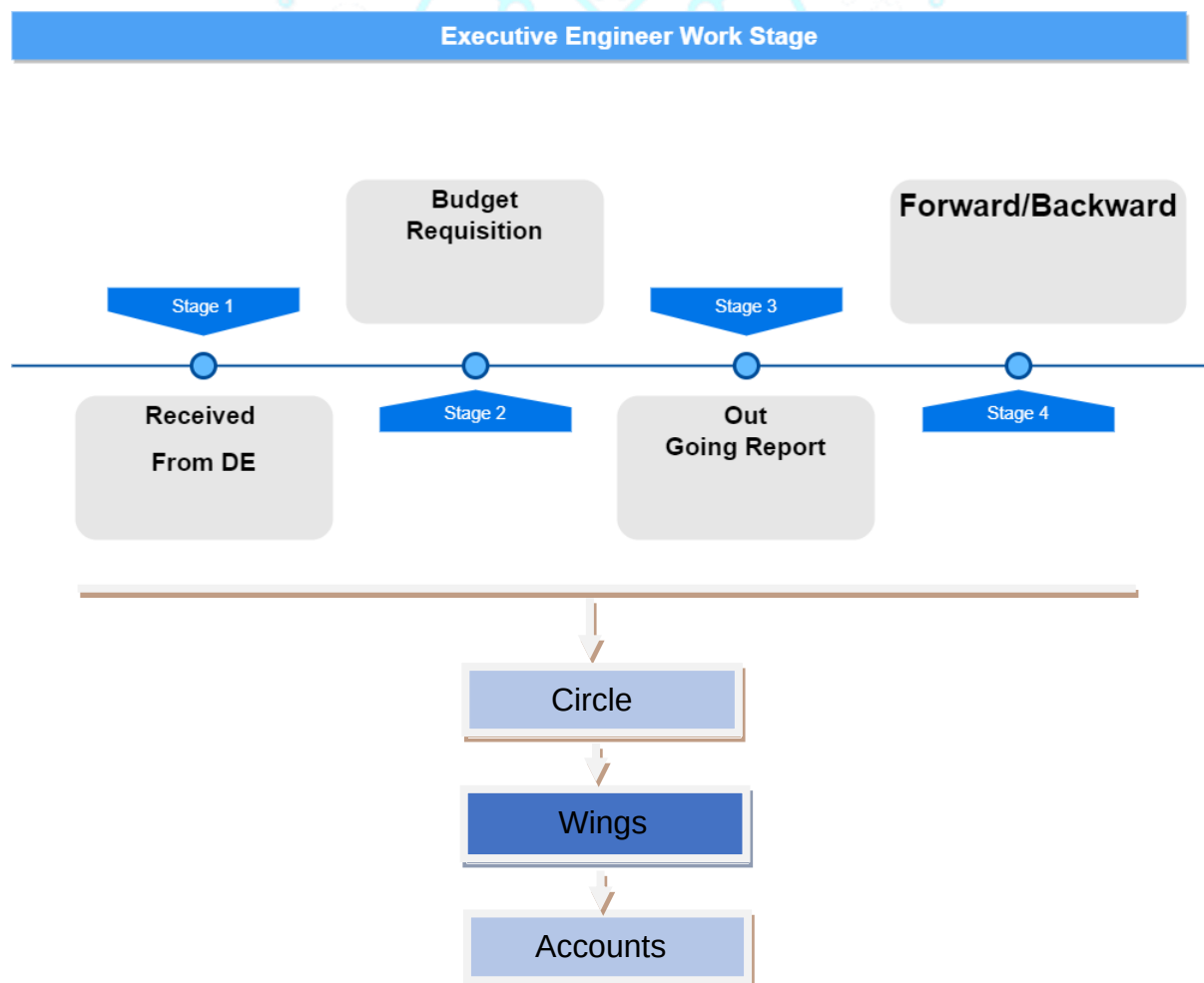
❖ Work Stage Diagram for Assistant Engineer:



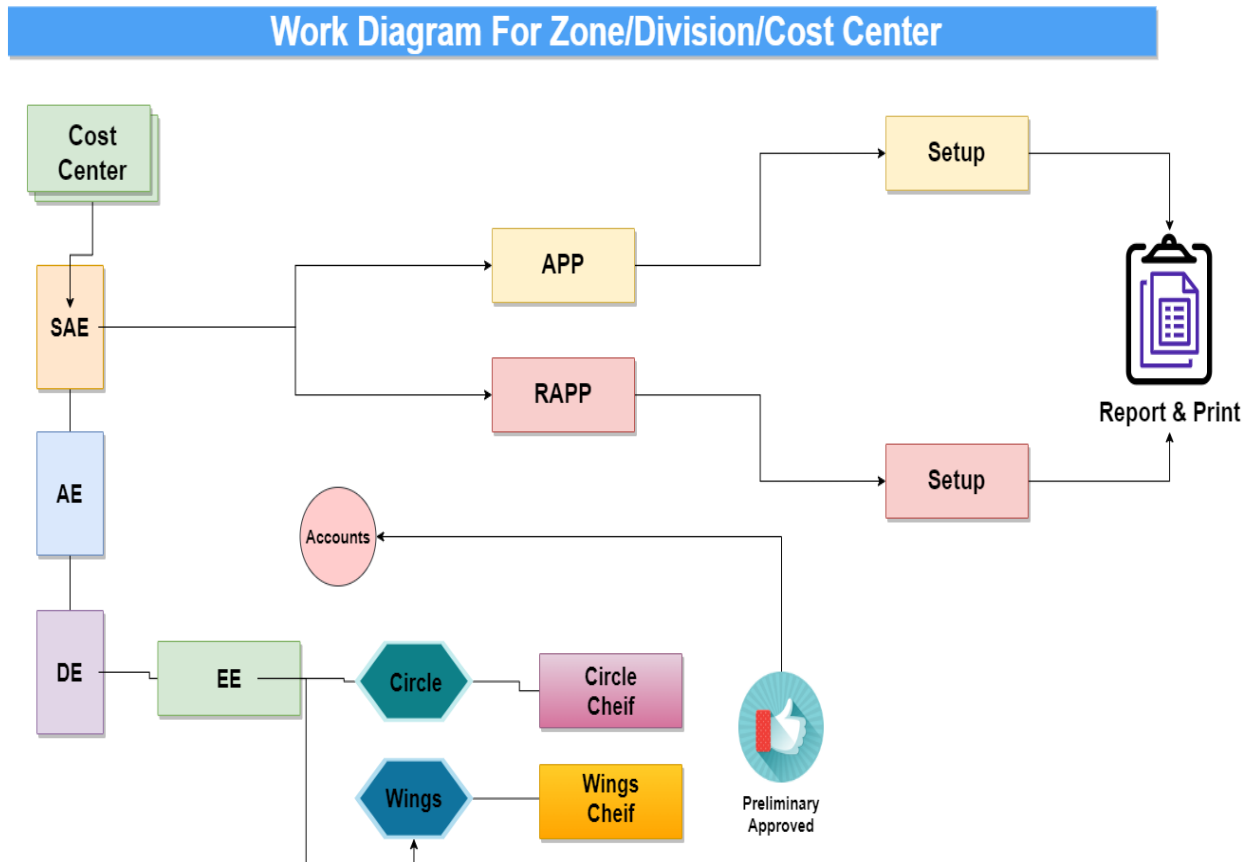
❖ **Work Stage Diagram for Divisional Engineer:**



❖ **Work Stage Diagram for Executive Engineer:**

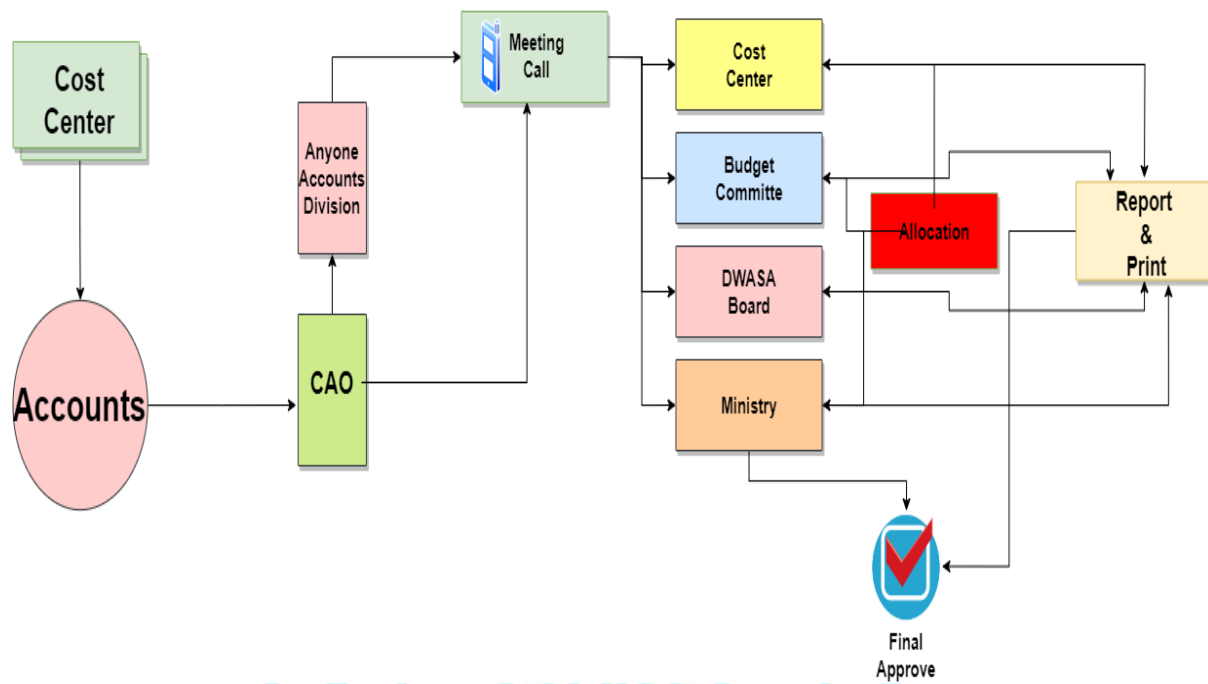


7.0 APP/RAPP Work Diagram for Zone/Division/Cost Center

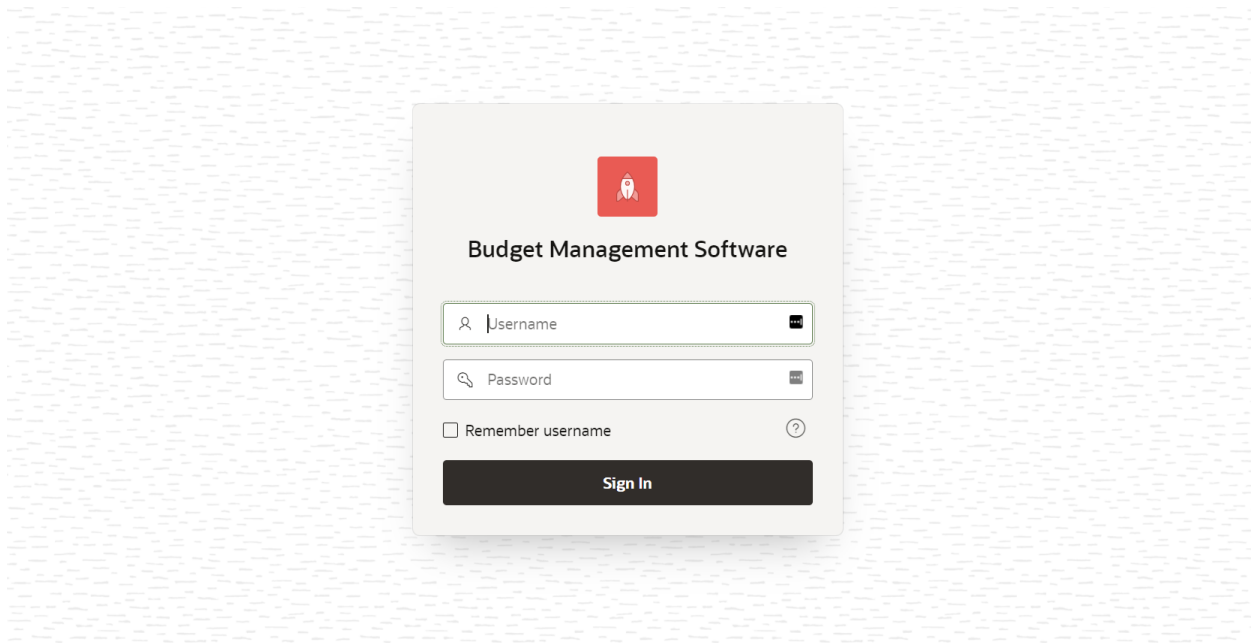


8.0 Work Diagram for Accounts

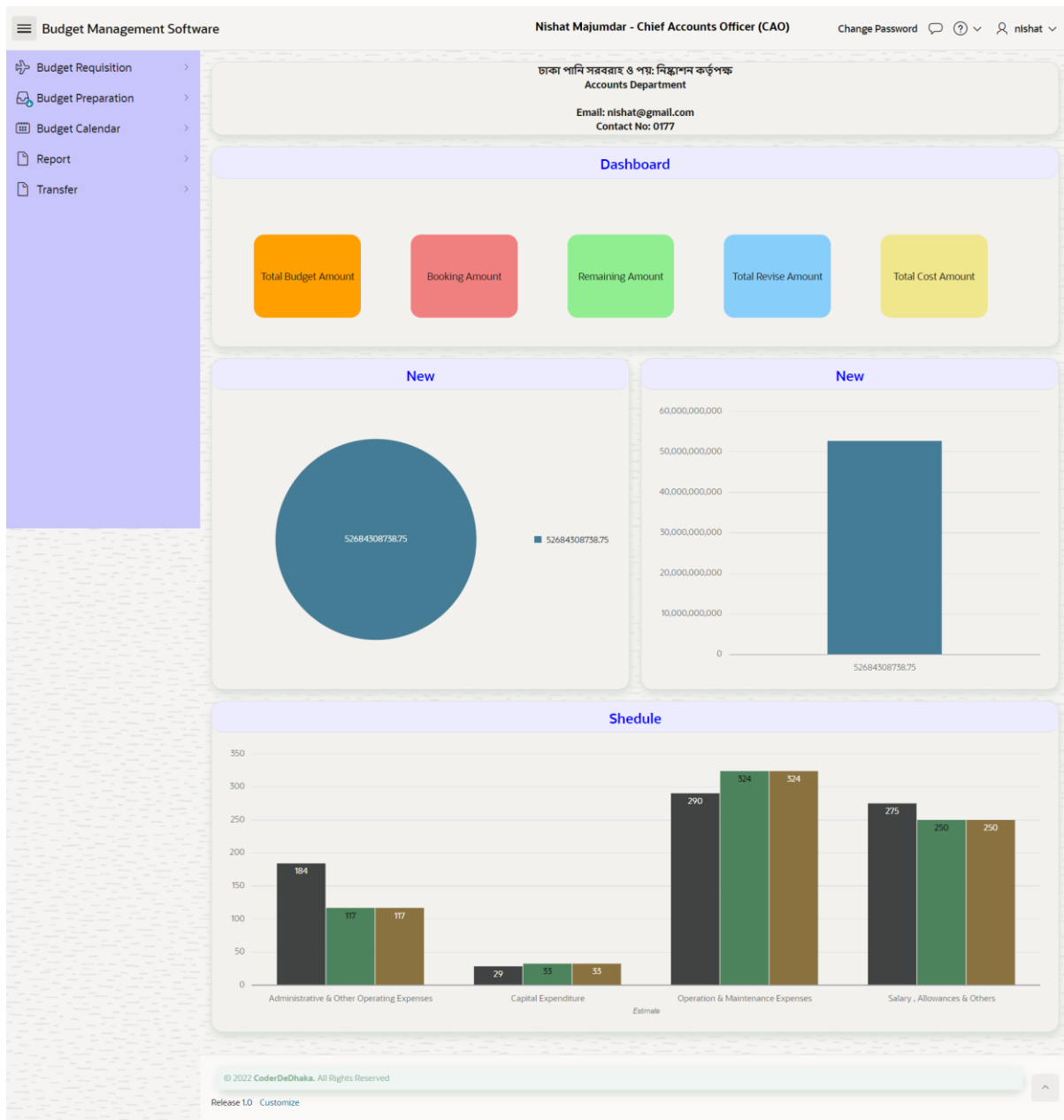
Work Diagram For Accounts



9.0 Accounts Division Work Manual:



- First login with user id and password.
- After that he/she will see the dashboard.



- Click on Budget Preparation.
- Click on Budget Demand.
- CAO can assign anyone from Accounts Division for a meeting call. In that case, if the user selects the Forward To button and clicks the Save button, the file will be forwarded.

Budget Management Software

Nishat Majumdar - Chief Accounts Officer (CAO)

Change Password

🔍 nishat

Budget Requisition

Budget Preparation

Budget Demand

Meeting

Allocation Edit

Budget Letter

Budget Calendar

Report

Transfer

Budget Demand List

Check	Memo No	Date	Cost Center Remarks	Accounts Remarks	Financial Year	Subject Name	Priority	Division	Estimated Amount	Revised Amount	Details
☒	3251	01/06/2023			2023-2024	২০২২-২৩ অর্থ-বছরের সংশোধিত এবং ২০২৩-২৪ অর্থ-বছরের প্রাক্কলিত রাজস্ব বাজেট প্রস্তাবনা প্রেরণ প্রসঙ্গে।	জরুরী	Revenue Zone Central Function	878,000.00	878,000.00	Detail
☒	789652	01/06/2023			2023-2024	২০২২-২৩ অর্থ-বছরের সংশোধিত এবং ২০২৩-২৪ অর্থ-বছরের প্রাক্কলিত রাজস্ব বাজেট প্রস্তাবনা প্রেরণ প্রসঙ্গে।	অতীব জরুরী	Revenue Zone-2	2,579,000.00	2,579,000.00	Detail
☒	3564	01/06/2023			2023-2024	২০২২-২৩ অর্থ-বছরের সংশোধিত এবং ২০২৩-২৪ অর্থ-বছরের প্রাক্কলিত রাজস্ব বাজেট প্রস্তাবনা প্রেরণ প্রসঙ্গে।	অতীব জরুরী	Revenue Zone-1	8,975,000.00	8,547,000.00	Detail
☒	5666	06/01/2023			2023-2024	২০২২-২৩ অর্থ-বছরের সংশোধিত এবং ২০২৩-২৪ অর্থ-বছরের প্রাক্কলিত রাজস্ব বাজেট প্রস্তাবনা প্রেরণ প্রসঙ্গে।	অতীব জরুরী	Commercial Manager	12,960,000.00	11,219,000.00	Detail
☒	555	01/06/2023	EE		2023-2024	২০২২-২৩ অর্থ-বছরের সংশোধিত এবং ২০২৩-২৪ অর্থ-বছরের প্রাক্কলিত রাজস্ব বাজেট প্রস্তাবনা প্রেরণ প্রসঙ্গে।	অতীব জরুরী	MODS Zone-1	561,412,000.00	585,382,000.00	Detail

Narration :

Action : Forward

Forward To : <--Select User-->

Save

Clear

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Release 1.0 Customize

- Click on budget demand
- Click on Meeting.
- Then click on Meeting Call Setup.

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Budget Management Software

Nishat Majumdar - Chief Accounts Officer (CAO)

Change Password

Meeting Call Setup

Meeting Date:

Priority:

Memo No:

Memo Date:

Subject:

Financial Year:

Chaired By:

Place:

Meeting With:

Status: ☐

Cost Center Name

Add Zone

ADDED ZONE LIST

A - Finance Wing - 1

- AD - একাউন্টস ডিপার্টমেন্ট

A-3 - CRO's Office - 2

A-2 - Commercial Manager - 2

A-4 - Revenue Zone Central Function - 2

A-5 - Revenue Zone-1 - রাজস্ব জোন-১২

A-14 - Revenue Zone-10 - রাজস্ব জোন-১০২

A-15 - Revenue Zone-11 - রাজস্ব জোন-১১২

A-6 - Revenue Zone-2 - রাজস্ব জোন-২২

A-7 - Revenue Zone-3 - রাজস্ব জোন-৩২

A-8 - Revenue Zone-4 - রাজস্ব জোন-৪২

A-9 - Revenue Zone-5 - রাজস্ব জোন-৫২

A-10 - Revenue Zone-6 - রাজস্ব জোন-৬২

A-11 - Revenue Zone-7 - রাজস্ব জোন-৭২

A-12 - Revenue Zone-8 - রাজস্ব জোন-৮২

A-13 - Revenue Zone-9 - রাজস্ব জোন-৯২

B - HR & Admin. Wing - 1

C - O&M Wing - 1

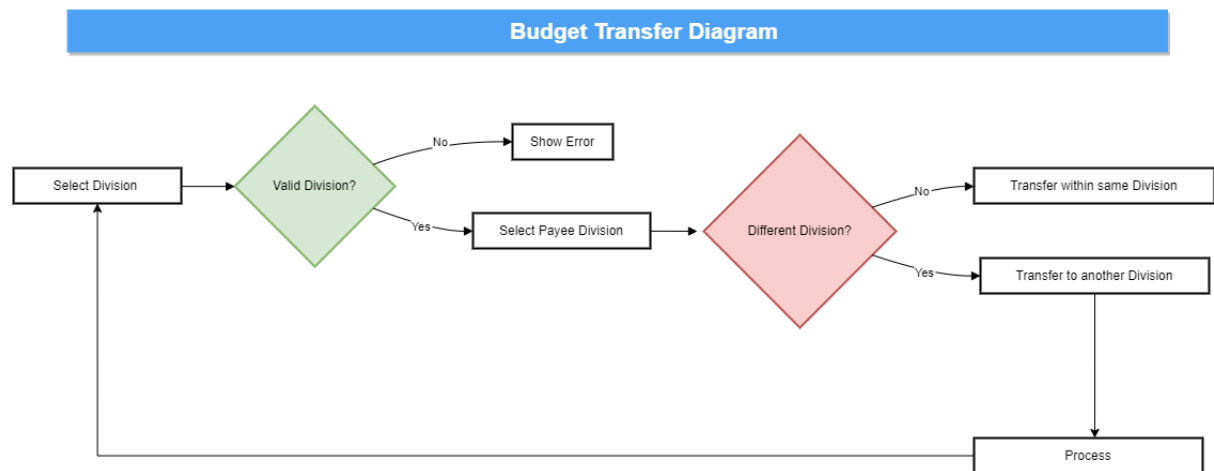
Cancel Clear Create

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Release 1.0 Customize

- If select Cost Center from Cost Center Name and click on add Division, it will appear in added Division List.
- After that, if click on the Create button, the meeting will be created.
- After that, the budget will be allocated to the Ministry for approval.

10.0 Budget Transfer



❖ Working Step:

Budget Management Software Nishat Majumdar - Chief Accounts Officer (CAO) Change Password ? ? nishat ▼

Head Wise

Transfer From

Budget Type: Financial Year: Cost Center Name: Head Name:

Deductible Amount:

New:

Transfer To

Financial Year: Cost Center Name: Head Name:

Added Amount:

ADD **Clear** **Create**

Report Print

Type : Estimated

Cost Center Name	Head Name	Approved Amount	Deducted Amount	Net Amount
Revenue Zone-1	Furniture maintenance	1.50	1.00	0.50
Transfer To				
Cost Center Name	Head Name	Approved Amount	Added Amount	Net Amount
Revenue Zone-1	Office maintenance	0.94	1.00	1.94

Cost Center Name	Head Name	Approved Amount	Deducted Amount	Net Amount
Secretariat-General Service	Automation and digitalization	1303.11	9.00	1,094.11
Transfer To				
Cost Center Name	Head Name	Approved Amount	Added Amount	Net Amount
Revenue Zone-5	Computer maintenance	0.00	5.00	0.00
Secretariat-General Service	Automation and digitalization	0.00	4.00	0.00

Cost Center Name	Head Name	Approved Amount	Deducted Amount	Net Amount
Secretariat-General Service	Automation and digitalization	1303.11	10.00	1,093.11
Transfer To				
Cost Center Name	Head Name	Approved Amount	Added Amount	Net Amount
Revenue Zone-5	Conveyance	5.81	1.00	6.81
Sewer (R&D) Circle	Over Time	4.00	1.00	5.00
P & D (E&M)	Office building maintenance	1.00	6.00	7.00
P & D (E&M)	Vehicle maintenance	2.25	2.00	4.25

Cost Center Name	Head Name	Approved Amount	Deducted Amount	Net Amount
Revenue Zone-1	Service Delivery Charge	54.00	10.00	44.00
Transfer To				
Cost Center Name	Head Name	Approved Amount	Added Amount	Net Amount
MODS Zone-1	Office maintenance	8.45	1.00	9.45
MODS Zone-1	Fuel for Generator	40.00	2.00	42.00
Revenue Zone-1	Special drive	5.22	2.00	7.22
Revenue Zone-1	Special drive	5.22	2.00	7.22
Revenue Zone-1	Special drive	5.22	2.04	7.22
Revenue Zone-1	Computer & Accessories	0.00	1.00	1.00

Type : Revised

Cost Center Name	Head Name	Approved Amount	Deducted Amount	Net Amount
Secretariat-General Service	DSL (Principal)	45,038.00	10.00	45,028.00
Transfer To				
Cost Center Name	Head Name	Approved Amount	Added Amount	Net Amount
SMWC Circle	Furniture maintenance	0.04	5.00	5.00
Sewer (R&D) Circle	Printing and stationery	2.20	1.00	3.20
Sewer (R&D) Circle	Telephone	0.68	4.00	4.68

Cost Center Name	Head Name	Approved Amount	Deducted Amount	Net Amount
Secretariat-General Service	Automation and digitalization	1,094.32	9.00	1,085.32
Transfer To				
Cost Center Name	Head Name	Approved Amount	Added Amount	Net Amount
Revenue Zone Central Function	Vehicle maintenance	0.00	4.00	0.00
SKWFP	Automation and digitalization	0.00	5.00	0.00

Cost Center Name	Head Name	Approved Amount	Deducted Amount	Net Amount
MODS Zone-1	Electricity (Power)	5,500.00	50.00	5,450.00
Transfer To				
Cost Center Name	Head Name	Approved Amount	Added Amount	Net Amount
Revenue Zone-1	Furniture maintenance	0.50	5.00	5.50
Revenue Zone-1	Office maintenance	0.88	45.00	45.88

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Release 1.0 Customize

- Click on Transfer in the left side menu bar.
- Click on Add & Deduction
- Select Division and Transfer.

11.0 Conclusion:

Summary In conclusion, this technical manual has provided a comprehensive guide to the Budget Management Software developed for Dhaka Water Supply and Sewerage Authority (WASA). The software offers a range of features and functionalities that enable efficient budget planning, tracking, and reporting. By implementing this software, Dhaka WASA can streamline its budgeting processes, enhance financial control, and make informed decisions based on accurate and real-time financial information.

Throughout this manual, we have covered various aspects of the software, including installation, user management, budget management, expense management, vendor management, asset management, reporting and analytics, security measures, and support and maintenance procedures. Each section provides detailed instructions and guidance to ensure successful implementation and utilization of the software.

