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# ENHANCED PARCEL BASED DEEDS SYSTEM DRAFT SYSTEM REQUIREMENTS SPECIFICATIONS - REGISTRATION COMPONENT

EGYPT FINANCIAL SERVICES PROJECT
TECHNICAL REPORT #93

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**Version History**

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# Executive Summary

Existing process for the deeds recordation in Egypt is manual and paper based. Secondly, business workflows themselves are not optimized and fail to meet growing needs of real property market and involved actors.  This and other factors results in inefficient procedures, long delays with registration, lack of ownership information and unsecured rights.

The Egypt Financial Services Project is going to support and finance development of the modern computerized deeds recordation system so that all processes can be improved and speed up. At the same time, the re-engineering of the existing business process model is done in accordance with current law. This implies that all changes that will be introduced together with system implementation are not going against the law and may only affect internal Real Estate Publicity Department regulation and instructions.

To provide solid basis for the development of such system, the system requirements specifications document is developed. The document focuses on both functional and non-functional requirements for the Enhanced Parcel Based Deeds System (EPBDS). The intended auditory of this document are system analysts, software architects and software developers. The SRS covers all necessary topics in order to start development or customization of the modern computerized deeds recordation system.

The expected objectives of the EPBDS development and implementation are the following:

1. The EPBDS will automate deeds recordation procedures in Model Registration Office (MRO) in Mokattam district of Cairo city.
2. The EPBDS will be the sole source for the information on all land and real estate ownership rights and interests in Mokattam area.
3. The EPBDS will support the security of ownership rights and interest for all land and real estate registered in the system.
4. The system will provide strong integration with cadastre component called Integrated Cadastre Registry System (ICRS) and implemented at ESA Cairo provincial office.
5. The EPBDS will contain required functionality so that it can be used for implementation in other deeds recordation offices of Egypt.
6. The EPBDS will cover all operation work of the Model Registration Office including automation of registration operations, provision of the extracts from the registry for the governmental authorities and population, provision of various reports on activity of the offices including staff productivity, registry contents, and financial on collected fees for the provided services.
7. The EPBDS will provide creation of all paper documents generated during day-to-day activity.

Aforementioned objectives should be implemented by following specific technical functionalities:

- Rule-based configurable workflows[1] to automate everyday activities of improved deeds registration office;
- Configurable user management for defining user access rights to the modules, operations and data;
- Cashiering and point of sale functionality for automatic registration fees calculation and management;

[1] *Rule-based workflow is a workflow driven by business rules configured in the system.*

- Scanning of all submitted documents and outgoing documents generated from within the system;
- Automatic or semi-automatic Generation of all outgoing paper documents that are required by law including but not limited to Green Contracts and financial receipts;
- Extensive reporting meaning various reports on registry content, staff productivity and status of the registration process;
- Web-based remote access to consult of status of registration and get access to the recorded deeds.
- Authorized users will be provided with all necessary information related to the property and its associated rights, which includes browsing of registry content and viewing copies of scanned images;
- Seamless workflow integration with Integrated Cadastre Registry System that will provide GIS/Cadastre service and will maintain property index map with unique property identifiers.
- Open application programming interfaces (API) through the implementation of Service Oriented Architecture for integration with external systems such as notarization or title registration system, being developed by MSAD;

The document has the following content:

1. *Chapter 1 "Overview"* – Chapter provides description of current document, list of parties involved into the project and other service information.
2. *Chapter 2 "Requirements specification"* – This section, the core of the document, provides complete coverage on all functional and non-functional requirements for the anticipated EPBDS.
3. *Chapter 3 "Design Constrains"* – it describes constraints, grouped into three areas covering software, hardware and user interfacing.
4. *Chapter 5 "Annexes"* – contains all related appendixes, diagrams and schemas.

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# 1 OVERVIEW

## 1.1 PURPOSE OF THIS DOCUMENT

This System Requirements Specification (SRS) focuses on the Enhanced Parcel Based Deeds System (EPBDS) requirements – both functional and non-functional. This document is developed for system analysts, software architects and software developers. The SRS covers all necessary topics in order to start development or customization of the modern computerized deeds recordation system.

## 1.2 DEFINITIONS, ACRONYMS AND ABBREVIATIONS

This section provides the definitions of all acronyms and abbreviations used in the document.

| | |
|---|---|
| API | Application Programming Interface |
| AS | Application Server |
| CIF | Cadastre Information Form |
| RTID | Registration Transaction Identifier |
| DBMS | Database Management System |
| EFS | Egypt Financial Services Project |
| EPBDS | Enhanced Parcel Based Deeds System |
| EPO | ESA Province Office |
| ESA | Egyptian Survey Authority |
| GIS | Geographic Information System |
| GOE | Government of Egypt |
| ICRS | Integrated Cadastre Registry System |
| ISIS | Image and Scanner Interface Specification |
| KRA | Key Results Area |
| LAN | Local Area Network |
| MoJ | Ministry of Justice |
| MRO | Model Registration Office |
| MRO | Model Registration Office |
| MSAD | Ministry of State for Administrative Development |
| PID | Property Identifier |
| REPD | Real Estate Publicity Department |
| RO | Deeds Registration Office under current system |
| SDK | Software Development Kit, a set of development tools that allows a software developer to create applications for a certain software package |
| TWAIN | Technology Without An Interesting Name, *scanning standard* |
| USAID | United States Agency for International Development, *agency financing the development of EPBDS* |
| UDN | Unique Deed Number |

## 1.3 GLOSSARY OF TERMS

This section provides the definitions of all terms used in the document

| | |
|---|---|
| Annotations | 1. Matter added to Registry which does not have legal impact, only declarative. Used by registration staff for adding comments to the objects of the special interest in the Registry.<br>2. A vector object that is placed on the scanned document image to hide sensitive information. |
| Applicant | Any person, organization representative, or lawyer providing in person documents for the registration. |
| Blue Contract | A copy of Green Contract, which is prepared by Main REPD office after Green Contract is assigned with publicity number. |
| Cadastre | A map showing results of a survey. Cadastres can support land registration, parcel identification, planning, taxation, utilities and services. A Juridical Cadastre establishes the legal titles to land, the Fiscal Cadastre deals with land taxation. |
| Deed | A document, being written evidence of a legal transaction, which has been signed, sealed and delivered to testify to the agreement of the parties concerned. |
| Deed Recordation | Registration of title deeds. |
| Definitive Level | The Registry, repository where to all being registered objects come after commitment by the Registrar of Title. |
| Easement | A right to use the land of another for a specific purpose, such as for a right-of-way or utilities; an incorporeal interest in land. |
| Geographic Information System | Graphic land information, usually with multi purpose layers or data, such as roads, services, parcels, resource tenures, uses, planning zones and so on. |
| Green Contract | A final deed that is prepared by the registration office. In some cases term “Blue Contract” or “Final Contract” may be used. |
| Immovable Property | Land and attachments defined in Civil Law. |
| Map | A graphic representation of the earth’s surface or some part thereof. |
| Mutation Form | A document prepared by ESA EPO that contains surveying details and parcel diagram for the property. A copy of Mutation form without parcel diagram is called CIF and is delivered to the owner. |
| Property | Land, building, apartment, usually capable of being sold, with its own title. |
| Registration of Transactions | The process of recording a transaction (usually a transfer, lease, mortgage or subdivision) in the EPBDS. |
| Registry Abstracts | Extracts from the Registry on registered entities – properties, parties, rights and encumbrances. |
| Requirement | Describes a condition or capability to which a system must conform; either derived directly from user needs, or stated in a contract, standard, specification, or other formally imposed document. |
| Strata Unit | A 3-D real estate unit within the building – e.g. apartment, office, shop etc. |

| | |
|---|---|
| Subdivision | A tract of land divided by the owner, known as the sub divider, into blocks, building lots, and streets according to regulations. |
| Temporary Layer | Temporary repository of being registered objects before commitment by the Registrar of Titles when they come to the Definitive Level. |
| Transfer (noun) | The document which conveys or transfers property. |
| Transfer (verb) | The act of conveying or transferring property. |
| Use Case | Describes a sequence of actions a system performs that yields an observable result of value to a particular actor. |
| Versioning | Method of updating the Registry by creating new copy (version) of the object and by archiving previous copy. |
| Workflow | The procedure that defines movement of documents and/or tasks through a work process. |

## 1.4 SCOPE

For clarity sake, we refer to the system defined by these specifications as the *Enhanced Parcel Based Deeds System* – the *EPBDS*. The EPBDS will provide all required tools and procedures to automate current deeds recordation process in the REPD office.

It is expected that the EPBDS system will meet the following requirements:

8. The EPBDS will facilitate and support improved deeds recordation procedures in Model Registration Office (MRO) in Mokattam district of Cairo city.
9. The EPBDS will be the sole source for the information on all land and real estate ownership rights and interests in designated area.
10. The EPBDS will be the system that facilitates the support for the security of ownership rights and interest for all land and real estate registered in the system.
11. The EPBDS will simplify and automate the procedures for deeds recordation.
12. The EPBDS will provide strong integration with cadastre component called Integrated Cadastre Registry System (ICRS) and implemented at ESA Cairo provincial office.
13. The EPBDS will contain required functionality so that it can be used for implementation in other deeds recordation offices of Egypt.
14. The EPBDS will provide a set of technical processes and procedures that complies with the real property laws of Egypt, for the registration of rights and interest in real estate units in Egypt.
15. The EPBDS will cover all operation work of the Model Registration Office including automation of registration operations, provision of the extracts from the registry for the governmental authorities and population, provision of various reports on activity of the offices including staff productivity, registry contents, and financial on collected fees for the provided services.
16. The EPBDS will be flexible to reflect any changes in organization structures of MRO and customizable for any changes in legal and organization environment.
17. The EPBDS will provide creation of all paper documents generated during day-to-day activity.

## 1.5 DOCUMENT OVERVIEW

This document focuses primarily on system requirements for the software component of the deeds registration system. Chapters are the following:

5. *Chapter 1 "Overview"* – Chapter provides description of current document, list of parties involved into the project and other service information.
6. *Chapter 2 "Requirements specification"* – This section, the core of the document, provides complete coverage on all functional and non-functional requirements for the anticipated EPBDS.
7. *Chapter 3 "Design Constrains"* – it describes constraints, grouped into three areas covering software, hardware and user interfacing.
8. *Chapter 5 "Annexes"* – contains all related appendixes, diagrams and schemas.

## 1.6 KEY STAKEHOLDERS

The EFS project's key stakeholders are:

1. Real Estate Publicity Department (REPD)
2. Egyptian Survey Authority (ESA)
3. Ministry of State for Administrative Development (MSAD)
4. Ministry of Justice (MoJ)
5. Egypt Financial Services Project (EFS)

## 1.7 POINTS OF CONTACT

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## 1.8 RELATED DOCUMENTS

1. "Required legal measures to modify and implement a parcel-based deed system", Egypt Financial Services Project, October 2006
2. "Recommendations to expedite mortgage registration under Sigueal El-Shaksi", Egypt Financial Services Project, May 2006
3. "Business Process Reengineering for the EPBDS", Egypt Financial Services Project, November 2006
4. "Inception Report by Task 2 Team – Registration", Egypt Financial Services Project, May 2005
5. "Business Process Reengineering" DRAFT report, EFS Project, October 2005.
6. "Business Area Analysis" DRAFT report, EFS Project, October 2005.
7. "Bottlenecks and Recommendations for ESA Cadastral Management System", QSIT, November 2004.
8. "Assessment and Procurement Report for Training Development Laboratory and Model Registry Offices", Egypt Financial Services Project, November 2005.

# 2 REQUIREMENTS SPECIFICATIONS

The following chapter contains functional requirements for the anticipated Enhanced Parcel Based Deeds System.

## 2.1 INTRODUCTION

Requirements fall into one of the three following categories:

1. *MAN-Mandatory* – Essential feature; system cannot be commissioned if feature is not available in the final release.
2. *REQ-Required* – Individual features are not essential, but together they impact the system's viability.
3. *DES-Desired* – Optional feature; one or more of these features could be omitted without affecting the system viability, but availability of DES-functions affects the system usability.

Each REQ and DES requirement is verifiable and cannot be omitted in the acceptance test plan at system commissioning.

### 2.1.1 OBJECTIVES

The EPBDS System to be developed/customized must be a parcel-based deeds recordation system under which all transaction on real property will be registered through the registration of corresponding deeds documents. The implementation of the EPBDS system has the following general objectives:

1. The EPBDS will facilitate and support deeds registration process with conformance to current Egypt law.
1. The ETSR will facilitate security of ownership rights and interest for all land and real estates registered in the system.
2. The EPBDS will simplify the procedures for land and real estate transactions or any other related matters for all involved stakeholders.
3. The EPBDS must have open program interfaces, be transparent, and easily accessible[2] for all parties such as notaries, bankers, real estate brokers, surveyors, and municipal and state property managers.
4. The implemented EPBDS must contain the necessary functionality such that it can be used as a model for implementation in the rest of Egypt.

The specific objectives of the EPBDS System are:

5. To provide a set of technical processes and procedures, that complies with the real property law of Egypt, for the registration of real property deeds in Mokattam Registration office.
6. To provide tools and technologies that will allow easy access to immovable property information.
7. To create the capability for the production of standard products and services necessary to support a functioning land market.
8. To provide the administrators of immovable property in Egypt with the capability to effectively manage the land and buildings in the territory.

[2] Subject for authorization – each type of users can have different access rights and privileges.

9. To provide timely updating of deeds records simultaneously to ensure a homogeneous set of records for the registration and cadastral data.
10. To provide tools and procedures that guarantee consistency between registration and cadastre systems.

Aforementioned objectives should be derived on technical basis which assumes the following specific technical objectives:

- Provide rule-based configurable workflows[3] to automate everyday activities of improved deeds registration office;
- Configurable user management for defining user access rights to the modules, operations and data;
- Provide functionality for automatic registration fee calculation and collection in different tender types – cash, check, debit/credit cards, deposit account;
- Provide functionality for scanning all incoming documents submitted, and outgoing documents generated from within the system;
- Generate during registration all outgoing paper documents required by law including but not limited to financial receipts and Green Contracts;
- Generate various reports on registry content, staff productivity and status of the registration process;
- Automatic regular scheduled backups of registration data;
- Provide authorized users with all necessary information related to the property and its associated rights, which includes browsing of registry content and viewing copies of scanned images;
- Open application programming interfaces (API) for integration with external systems such as notarization or title system, being developed by MSAD;

### 2.1.2 DELIVERABLES

Implementation of the system includes, but is not limited to, the following goods and services:

- Acquire, implement, and configure an Enhanced Parcel Based Deeds System in Mokattam Registration Office.
- Customize software according to the local changing needs in Egypt.
- Integrate with Integrated Cadastre Registry System (ICRS) to be installed at ESA Cairo Provincial Office.
- Deliver all operational documentation (user and administrator guides and on-line help) and training material in Arabic.
- Provide comprehensive training, such that the system can be operated and maintained effectively by local staff.
- Provide technical assistance in the operation of the system and in the definition of its working procedures.
- Manage and coordinate the activities during the implementation of the system.

### 2.1.3 EBPDS USERS

The various user groups that will work with the EPBDS are the following:

1. *Staff of the Model Registration Office* – users directly working with EPBDS modules according to assigned roles. Registration clerks will be responsible for the recordation of deeds according to predefined workflows. System Administrative staff

[3] *Rule-based workflow is a workflow driven by business rules configured in the system.*

will be in charge of the system maintenance which includes regular backups of the data, upgrading the system with new releases of the application, technical support of the registration process, system management of the applications.

2. *Guests* – public users, who will come to the MRO and use web access search module. These users will be totally unfamiliar with the system and will require support from local staff. For this aim a special person will be assigned (Public Support Clerk) to provide all necessary support for those unfamiliar with the system and procedures.
3. *External Staff* – authorized staff of other governmental agencies/organizations that will use web access on regular basis in order to fulfill their daily tasks. These users are mainly representatives of ESA EPO offices, notaries and tax authority employees.
4. *External Systems* – the EPBDS will have close integration with ESA cadastral system and this implies communication through the use of web services or similar appropriate interfaces to perform data/request exchange. Other possible external applications besides cadastral system that might need to be interfaced with EPBDS could be financial accounting, taxation, appraisal and local governments' applications.

### 2.1.4 ASSUMPTIONS

The following assumptions have been made when these requirements were being prepared:

1. Expected number of transactions, to be registered in Mokattam MRO, will not exceed 25 a day. First year of office operation may have doubled number of transactions – up to 50 per day – which mostly depends on citizens' response after publicity campaign will be conducted by EFS.
2. Expected number of all properties in Mokattam area is about 100,000. Majority of the parcels will be identified on the property index map and assigned with Property Identifiers.
3. Number of pages of all documents provided for the registration is up to 50 pages per transaction. Most of the documents will be on A4 paper but some of them may be on A3 paper sheets.
4. No existing data from legacy systems is planned to be loaded into EPBDS.
5. MRO will have on-line connection to the ESA Cairo Provincial Office for the integration with ICRS system.
6. EPBDS will obtain reference to the property objects from the ICRS in the EPO. EPBDS does not create property objects and does not generate PID numbers for the cadastral objects.

## 2.2 MOKATTAM MODEL REGISTRATION OFFICE

The EPBDS will be installed in Mokattam Improved Registration office. Proposed layout for Mokattam registration office can be found in "*Mokattam Registration Office Proposed Layout*" annex. The general layout of MRO will include the following functional areas:

1. *Public Area* - open for visitors to:
    a. provide documents for the registration to the Registration clerk,
    b. pay registration fees at the Cashier window, and
    c. collect registered or rejected documents from Delivery Window.
2. *Staff Area* – are when actual registration and scanning is done. This area is not allowed for the visitors to come in.
3. *Archives* - storage room with paper archives;

4. *Notary section* - will be adjoining to Public Area;
5. *ESA support* – space where EPO Representatives will be located to support registration for those transactions that will require ESA survey.

The following is a list of basic staffing needs for the Model Registration Offices. For details about each role please see section “User Roles and Groups”. Staffing needs are identified with assumption that Mokattam office will process about 50 new registrations per day.

During the first several month of office operation, it is anticipated that a lot of user will come to register deeds after extensive publicity campaign will be done.

*Table 1 Minimal Staffing needs for the Mokattam MRO*

| Role | Description | Required |
|---|---|---|
| Public Support Clerk | The clerk to answers questions from visiting public users and to assists in preparation of applications forms. This position includes support to visitors working with public access terminals. | 1 |
| Delivery Clerk | The clerk responsible for the delivery of documents. Will have a separate telephone line so that the applicant can call and clarify status of the transaction. | 1 |
| Registration Clerk | Receives and makes an initial review of applications. Initiates transactions in the system. | 2 |
| Cashier Clerk | Operator of the cashiering module who accepts fees. | 1 |
| Scanning Clerk | Scans incoming/outgoing documents. | 2 |
| Technical Investigator | Checks transaction validity, drafts Green Contract. | 2 |
| Senior Technical Investigator | Finally verifies transaction and printed Green Contract. Resolves conflicts and problems with submitted registrations. | 2 |
| REPD Main Office Representative | Conducts final review and approval of Final Contract. | 1 |
| EPO Representative | Forwards requests to ESA EPO and assists Technical Investigators in resolving survey-related issues. | 2 |
| Head of Office | Manages the registration office. Resolves serious cases. | 1 |
| System Administrator | Provides hardware/software support to office. | 1 |
| Secretary | Assists Head of Office | 1 |
| Search/Archive Clerk | Manages documents in archive and conducting search transaction when certified copy is required. | 1 |
| Notary | On-site notarization support, normally for all types of transfer agreements. | 1 |
| Notary assistant | Notary’s assistant. | 1 |
| Messenger | Delivers documents to Main REPD office and back. Can deliver documents to other agencies when required. | 1 |
| | **Total:** | **21** |

## 2.3 SYSTEM ARCHITECTURE OVERVIEW

The EPBDS must be implemented as three-tier system:

- **1st tier** – Database Management System (DBMS). IBM DB2 is selected as target DBMS for the EPBDS.
- **2nd tier** - the EPBDS application server. Application Server (AS) will serve as middleware between clients and DBMS and will have data access, business rules, workflow engine, reporting engine modules etc.
- **3rd tier** – various EPBDS registration clients, including scanning and cashiering clients.

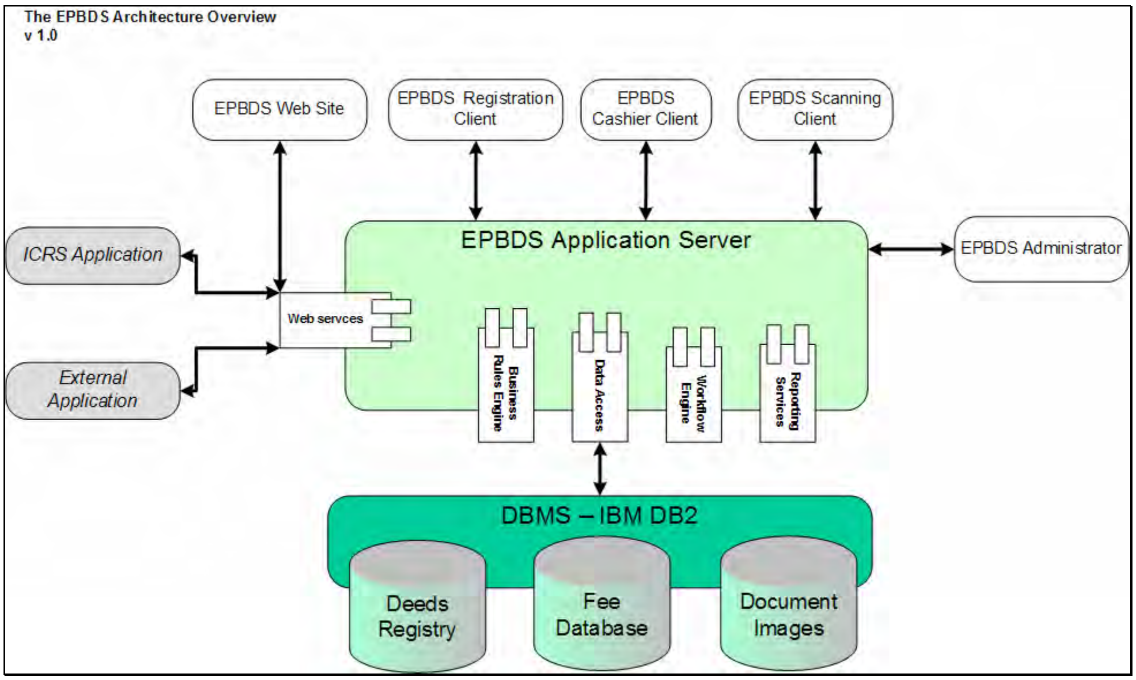



*Figure 1 Proposed system architecture of the EPBDS system*

### DBMS

For security, performance and usability reasons, at least three separate databases, residing on the same DBMS instance, are recommended for the EPBDS:

1. *Deeds Registry* – database which keeps all registration data about recorded deeds, parties and their rights on property.
2. *Fee Database* – database with financial data, it includes configured fee schedule for automatic calculation of the registration fee, chart of accounts, information about collected fees and printed invoices.
3. *Digital Documents* – database with images of the documents in digital form – scanned images or digital documents created in office applications. It keeps all digital documents including their versions for the paper documents updated with manual corrections. It is recommended to store images separately on files system (not as BLOB objects in DBMS) to simplify database backup and performance. However, all security, integrity and performance requirements must be met.

Separation of the registration, financial and digital documents databases simplifies backup and database maintenance.

**Application server**

The application server will balance workload, control access and security policy. The application server also includes workflow and business rules engines. The following key parts of the application server are recognized:

- Data Access
- Workflow Engine
- Reporting Engine
- Business Rules Engine
- Web services

**The EPBDS Registration Clients**

This is an application, which will serve the following needs:

- initiating transactions;
- tracing transactions;
- data entry and verification;
- document preparation and printing.

**The EPBDS Cashier Client**

This client provides the following functionality – automatic calculation of registration fees based on the type and parameters of the registration transaction, collecting registration fees in different tender types, and printing receipts.

The Cashier client is used by Cashier Clerks. Considering the special importance of this application working with financial information, the registration staff does not have access to the Cashiering system registration clients. Audit of financial operations in Cashier Client is also separated from general EPBDS audit.

**The EPBDS Scanning Client**

Scanning of all incoming/outgoing documents will be done with the help of this client application. The module is operated by the Scanning Clerk. The scanning client also allows attaching existing digital documents (Word, Excel, etc.) to the transaction record.

**The EPBDS Administrator**

This application provides centralized configuration, administration and audit of the EPBDS system. All configuration settings are server centered. The application can be accessed only by users with Administrative privileges.

**The EPBDS Web services**

The EPBDS web services will be used for integration and communication with other systems. It is anticipated that at least two systems will be integrated with the EPBDS at the first turn –

1. Integrated Cadastre Registry System - ESA office
2. Prohibited from Registration System - REPD Main office, and
3. Notarization System – Ministry of Justice.

**The EPBDS Web Access**

The EPBDS Web Access module provides access to the Registry information for the external users. Web Access provides functionality to:

11. view transaction status;
12. search and browse registered deeds records;
13. generate and print certain types of reports, and
14. view[4] scanned images or attached digital documents.

[4] Subject to access right and system settings

## 2.4 DEEDS RECORDATION REQUIREMENTS

### 2.4.1 DEEDS RECORDATION PRINCIPLES

The proposed EPBDS should be workflow-driven and parcel based system. The following core principles must be supported by the system.

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.4.1.1** | The EPBDS should be a parcel based deeds recordation system where all registered deeds should be referenced to the corresponding property through the property identifier (PID). | MAN | This implies close integration with ESA offices in order to obtain and validate property identifiers. |
| **2.4.1.2** | Each deed will be registered under unique number generated by the EPBDS System called a *Unique Deed Number (UDN).* | MAN | The UDN consists of the registration office code and unique sequential number. By using unique codes for the offices one can ensure that numbers will be unique throughout the entire country. |
| **2.4.1.3** | Each transaction will be registered under unique number generated by the EPBDS System called a *Registration Transaction Identifier (RTID).* | MAN | |
| **2.4.1.4** | The property identifier should be assigned or changed only by ESA. | MAN | All property units are first formed in the ESA ICRS system and have PID number assigned. |
| **2.4.1.5** | All newly generated Final Contracts should have PID number. | MAN | |
| **2.4.1.6** | Any technical and internal changes on objects in the registry (such as corrections of misprints) should be done by using special system transaction with corresponding workflow. | MAN | The result of a correction in the Registry is auditable and traceable by the EPBDS. |
| **2.4.1.7** | Number generation rules for all objects created within the EPBDS must be configured in the system. | REQ | |
| **2.4.1.8** | Documents can be submitted at the front counter in person or by an authorized representative. The system will maintain a connection between all documents submitted with each transaction, as the transactional documents make their way through the system. | MAN | All related documents are uniquely identified with sequential numbers assigned by the System. |
| **2.4.1.9** | Entering information on the person lodging the registration, especially name, contact info, and personal ID data, is mandatory. | MAN | Lookup tables containing customer mailing address information for frequent customers should be in place to facilitate efficient and standardized data entry. |

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.4.1.10** | At the time of application, when the registration is lodged into the system, a sequential document number is assigned to the lodged application. | MAN | When the application is lodged on the system, it creates a new transaction with a unique number. |
| **2.4.1.11** | Finalization of the registration cannot take place until the information has been validated by an authorized person (Technical Investigator). | MAN | After the application is registered, an authorized person makes the validation of the changes after a review. Transfer of the registration data from the temporary layer to the permanent level (the Registry) can be done only with the approval by the Technical Investigator. |
| **2.4.1.12** | When accepted application is rejected, the EPBDS must generate a rejection letter with the stated reason(s) for the rejection. | MAN | A rejection letter together with all logged documents is returned to the applicant. Transaction cannot be registered at all. |
| **2.4.1.13** | If a registration is postponed, the EPBDS must generate a pending letter with stating the reason of postponement and further actions required, and send it to the applicant's mailing address. | MAN | This is opposite to a rejection of registration. With a pending registration, after the applicant provides the required documents, the registration may continue from the stage where it was stopped if problem resolved. |
| **2.4.1.14** | For expired transactions, EPBDS must automatically generate notices and send them to staff subscribers. Notification can be based on an internal EPBDS messaging/notification system or on standard emails. | DES | For example, if a transaction is staying on the certain stage longer than allowed, the Technical Investigator should receive notification and decide on an action. |
| **2.4.1.15** | The EPBDS must support configuration of notification rules for the specific object for the generation of a warning when something is due. | DES | This includes a warning on a transaction in registration when a prescribed duration is overdue, modification of registered right/encumbrance, lodging registration against property of special interest, etc. |
| **2.4.1.16** | The EPBDS must generate registry extracts for authorized users. | MAN | It must be possible to print register abstracts or extracts from the Registry directly out of the system. The system must offer several filter options, to allow the suppression of unneeded information e.g. mortgages or archived registrations. |
| **2.4.1.17** | Modification of objects in the definitive level (in the Registry) is done by versioning. | MAN | Any modification of the objects in the Registry must create a new version of the object. Objects that ever come to the definitive level are never removed from the system. |
| **2.4.1.18** | The system cannot block registration even when there are legal obstacles preventing the registration. | MAN | The system must generate warning notices; decision-making on approval or rejection of registration is always made by the Registrar. |

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.4.1.19** | The System should support a procedure for the withdrawal (cancellation) of pending registration. | MAN | This can be supported only for transactions that have not been committed. Only Technical Investigators are allowed to withdraw the registration. Cancelled transactions are not removed from the System but archived with status *Cancelled*. |
| **2.4.1.20** | The EPBDS should have all required tools/scripts to load scanned deeds into the database. | MAN | Before system will start to operate, the Property Index Map will be created by the designated contractor(s) under EFS project. These deeds will be delivered as database with scanned images and basic indexed data and should be loaded into the EPBDS system. |

### 2.4.2 USER ROLES AND GROUPS

As the EPBDS will be a workflow-based system, it is required that access to data, modules, workflows and their stages must be limited by predefined user groups and/or particular user roles. The following roles must be preconfigured for the EPBDS:

*Table 2 The EPBDS user roles and groups*

| No. | Role Name | Group Name | Role Description | Required |
|---|---|---|---|---|
| **2.4.2.1** | Registration Clerk | Registration Clerks | The user who accepts documents for registration from the applicant. This person conducts preliminary investigation of application and indexes basic information about transaction and applicant. This user also prints Acceptance Receipt with list of the submitted documents. | MAN |
| **2.4.2.2** | Cashier Clerk | Cashiers | This user collects the fees for registration and prints cashier receipts. The fee value is calculated automatically depending on pre-configured rules and information entered y Registration Clerk. | MAN |
| **2.4.2.3** | Scanning Clerk | Scanning Clerks | The user scans and stores (1) incoming documents submitted by applicant for the registration and (2) outgoing paper documents (Blue Deed) created during the registration. | MAN |
| **2.4.2.4** | Technical Investigator | Technical Investigator | Responsible for initial verification and complete indexing of legal particulars of transaction. Technical Investigators will also draft Green Contracts before they are finally reviewed and printed by Senior Technical Investigators. | MAN |
| **2.4.2.5** | Senior Technical Investigator | Technical Investigator | The user, legally educated and trained, who makes a decision on registration – do or not register transaction – and prints new Green Deed documents. These users also prepare rejection and pending letters. | MAN |
| **2.4.2.6** | EPO Representative | Cadastre Engineers | When a transaction requires interaction with the cadastre system this user sends a request to the Cadastral Office and then processes response received back from the Cadastral Office. Response from Cadastre usually will be PID numbers and exact property details. | MAN |
| **2.4.2.7** | Registrar | Registrars | Head of registration office. Can view and print reports. Registrar also resolves issues when the Technical Investigator is not able to do it himself. | MAN |
| **2.4.2.8** | Delivery Clerk | Delivery Clerks | The user responsible for delivering final deed documents to the applicant. Delivery clerk also prints Delivery Receipt which is signed by applicant upon delivery. | MAN |
| **2.4.2.9** | Reporting Clerk | Reporting Clerks | The user who can view and print reports. Reports can be grouped by category with separate access rights for each category. | REQ |
| **2.4.2.10** | System Administrator | System Administration | The user who manages system – defines user roles and access rights, dictionaries, configures workflows, defines specifics of each registration matter, and defines working/nonworking days in the calendar. | MAN |
| **2.4.2.11** | Search Clerk | Archive Operators | The person in charge of managing archive of paper documents, participates in registration process providing the documents from the archive on registration staff's demand, makes photocopies of paper originals stored in the Archive. | REQ |

| No. | Role Name | Group Name | Role Description | Required |
|---|---|---|---|---|
| **2.4.2.12** | Public Support Clerk | Public Access Clerks | The clerk to answers questions from visiting public users and to assists in preparation of applications forms. This position includes support to visitors working with public access terminals. | |
| **2.4.2.13** | Public Access Guest | Web Access Guest users | The visitors to the Registration Office and access registry through the public access in order to search for properties or check status of pending or/and registered transaction. Normally these are applicants or owners. | MAN |

A graphical representation of a typical system configuration in a property registration office is provided in the following figure:

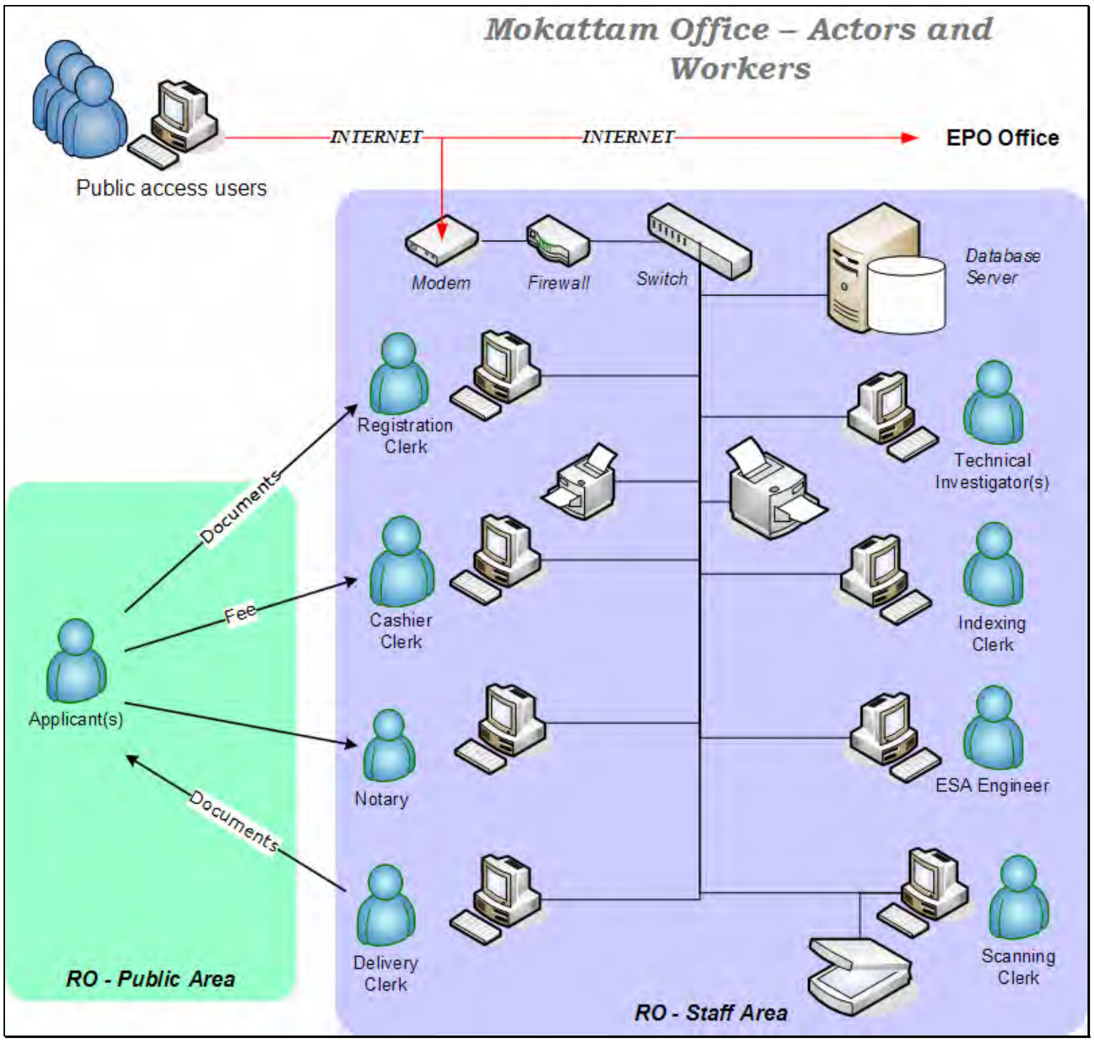



*Figure 2 Typical users of the EPBDS system*

Please note that registry staff should not have direct access to the Internet. Internet access will be configured only to allow remote access to the registry web-site.

### 2.4.3 SYSTEM GENERATED DOCUMENTS

One of the goals of the EPBDS proposed solution is to reduce the amount of manual paperwork required to do registration: to automate data collection and prepare all outgoing documents. It is expected that with the implementation of the EPBDS system, the current various registration or process registration books will no be longer used, which corresponds to the latest trends in modern societies where digital documenting shows significant advantages over the old manual processes.

The 'Documents to be generated by the EPBDS System' table contains short descriptions of the documents that will be automatically generated by the system during the registration process. A detailed description and layout of these documents will be finalized with the client after the installation of the beta release of the system.

Example of the layouts of some documents generated by the system can be found in 'Samples of Documents to be used/ generated by the EPBDS' section. In addition to these documents the system will be able to generate various service reports - for details please see the '*Reporting'* section*.*

*Table 3 Documents to be generated by the EPBDS System*

| No. | Document Description | Required | Comment |
|---|---|---|---|
| **2.4.3.1** | The EPBDS must generate an ***Acceptance Receipt*** for each application filed by a customer. The Application Receipt will be signed by the Reception Clerk and Applicant, and will confirm the submission of documents by the applicant. | MAN | The Application Receipt contains information about the transaction, including a list of documents provided by the Applicant, property PID and the name of the Reception Clerk who has lodged the transaction into the system.<br>The Reception Clerk gives one copy of the Application Receipt to the Applicant and puts the second copy in the Application Receipt Folder. |
| **2.4.3.2** | The EPBDS must print one copy of a ***Cashier Receipt***, which will confirm the payment from the Applicant. | MAN | The receipt will have a receipt number, the transaction number, as well as the date and time that the application was accepted, the total amount due, the total payment received, tender type for the payment that was received and the Cashier Clerk name. |
| **2.4.3.3** | The EPBDS must print a ***Rejection Letter*** if the registration was rejected. The Rejection Letter is signed by the authorized person (normally the Senior Technical Investigator), and contains rejection reasons. | MAN | The Rejection Letter may have one or more rejection reasons. The reason(s) may be selected from the list or entered manually. |

| No. | Document Description | Required | Comment |
|---|---|---|---|
| **2.4.3.4** | The EPBDS must print a ***Pending Letter*** if the registration was postponed. The Pending Letter is signed by the authorized person (normally the Senior Technical Investigator), and contains rejection reasons and further required actions. | MAN | The Postponement Letter may have one or more rejection reasons. The reason(s) may be selected from the list or entered manually.<br>A list of the most common rejection reasons is preconfigured in the System.<br>The Postponement Letter also defines what actions are required from applicant to continue registration. |
| **2.4.3.5** | The EPBDS must print a ***Green Deed***. It is a document that is generated each time when ownership is changed and contains all particulars about transaction, property and rights. | MAN | Please note that this document will be printed on special paper whish has predefined areas for text position. |
| **2.4.3.6** | On completion of a transaction, EPBDS must print a ***Delivery Receipt***, which confirms the delivery of documents back to the applicant. The Delivery Receipt has to be signed by the Delivery Clerk and by the Applicant. | MAN | The Delivery Receipt contains information about the transaction registered, a list of all delivered documents, property URID, date and name of the clerk who carried out the delivery.<br>The copy of the Delivery Receipt is stored in a Delivery Receipt Folder. |

## 2.5 EPBDS WORKFLOWS

This section provides description of the most used workflows to be preconfigured in the system. These workflows are slightly different from current ones, which are used in reality, and are designed as a result of business process reengineering conducted by EFS Task 2 team. The figure "Proposed system architecture of the EPBDS system" outlines general process for the registration of Green Contract.

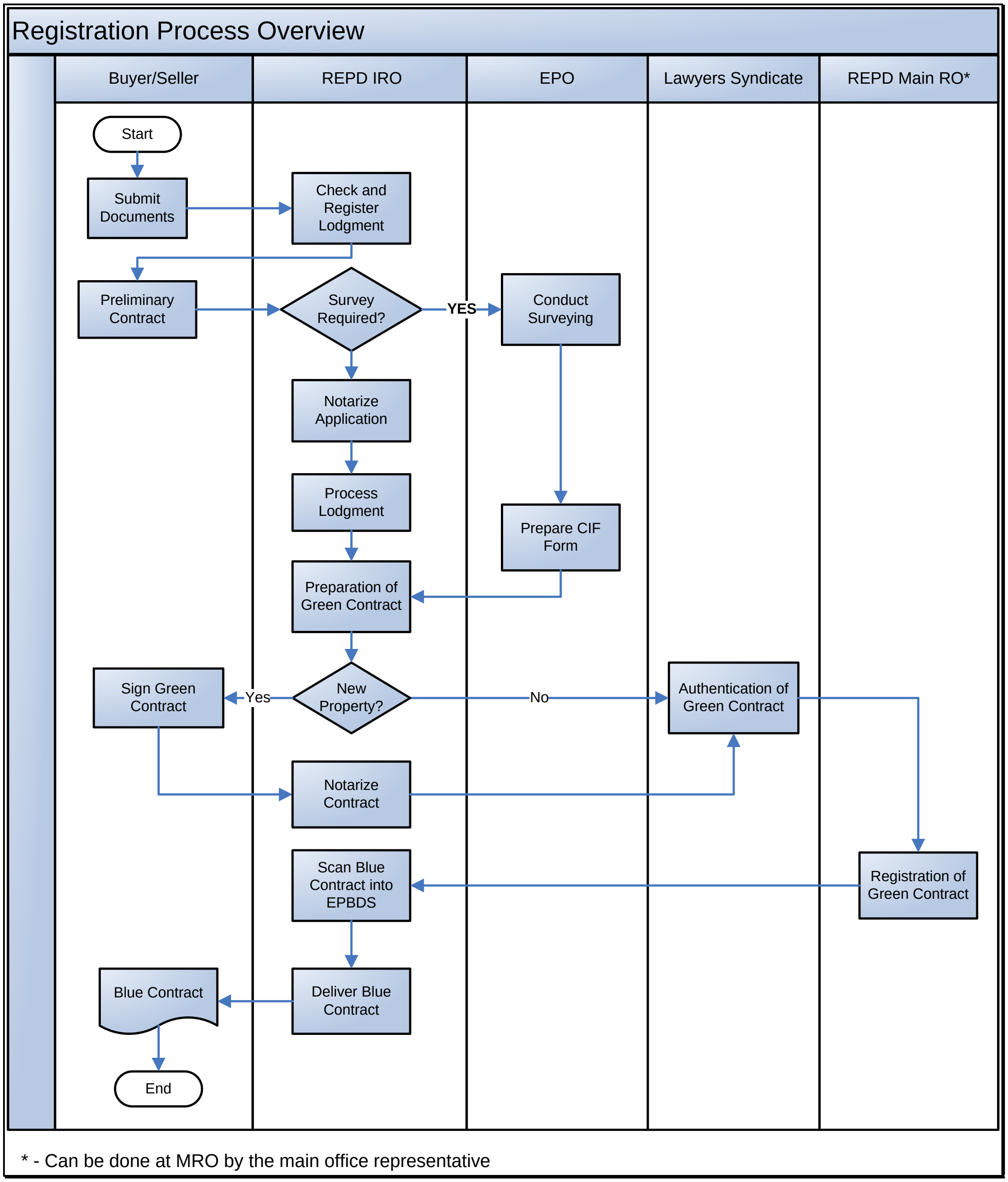



*Figure 3 Registration Workflow Overview*

The following workflows must be preconfigured in the system:

| # | Workflow Name | Description |
|---|---|---|
| 1. | New Deed | Workflow that describes procedures used to issue new deed which occurs after transfer of ownership (any type – be will, sale, sale of part of the parcel) or a mortgage registration. This workflow results in the issuing of new Green Contract. |
| 2. | Encumbrance Registration | Process when any encumbrance against property or any other third party right is registered. Green contract is not re-issued but is amended. |
| 3. | First Registration | Workflow that is used for the creation of first deed for a property if property is not yet registered under the deeds system. |
| 4. | Delivery | Sub-workflow for “New Deed”, “Encumbrance Registration” and “First Registration” workflows. |
| 5. | Certified Search | Workflow for the acquisition of the certified copy of the document, recorded at the MRO. |
| 6. | Terminal Search | Workflow that describes steps for the conducting search from the web- access terminal. May result in printing of non-certified copy. |

Please note that these are most common workflows that are going to be implemented – more workflows may be finally used at the MRO so that system should fully support customization of preconfigured workflows and creation/configuration of new workflows.

The following assumption has been made when registration workflow was designed. These assumptions are related only to workflows in the Mokattam MRO and will not affect other offices’ business processes:

1. All lodgments will have attached standard application form that will describe particulars about transaction. The application form will contain PID number (unique property identifier generated by ESA) so that all registered deeds will be linked to the property.
2. At least one notary will be present in each improved registration office on daily basis to notarize preliminary contracts.
3. At least one EPO Representative will be present in the office to investigate cases when ESA interaction is required and to forward requests to ESA.
4. Application should involve one legal transaction on one property at the same time. The only two exceptions are: one legal transaction on one property that is to be subdivided, one legal transaction on two or more properties that are to be merged into one property or an easement on several properties.
5. Application must contain clear property identifying information in case PID doesn't exit, otherwise application is rejected. In some cases EPO Representative can be involved to help identify PID.
6. It is expected that Green Contract will be signed by parties only if transaction requires of new survey and creation of new Mutation/CIF forms.
7. If applicant will claim that one of the documents, required for the registration of new transaction, is already recorded in the RO, in such case he will need to get certified copy first and then submit all required document. In other words, applications with incomplete document sets will not be accepted.

> Note: Under new procedures in improved registration office it will be possible to obtain certified copy the next day maximum.

8. Documents between MRO and Main REPD offices will be delivered by special messenger only – applicant will be not allowed to deliver these documents on his own.
9. Green Contract will not be sent anymore to the Lawyers Syndicate for authentication – this process will be done at the REPD main office. Representative of Lawyers Syndicate will be assigned (or come on regular basis) to REPD main office to authenticate Green Contract. The purpose of this change is to reduce number of steps and ensure that paper copies of documents will circulate only between MRO and Main REPD office.
10. EPBDS will be integrated with the Notarization System.
11. EPBDS will be integrated with the Prohibited from Transaction System.
12. Technical Investigator from the Main REPD office will be assigned to the Mokattam Registration Office to finalize transaction on site and avoid sending documents for review to the Main Office. The final documents will be sent to the REPD main office only for archiving.
13. Encumbrances will be lodged for the registration at the Mokattam MRO but actual registration will be done at the Main REPD office since alteration of Final (Green) Contract is required and this document is stored in Main Office only.

If any of these assumptions will be changed by the REPD at the time of system development, the workflows should be reviewed and adjusted by the system vendor/developer to meet latest requirements.

### 2.5.1 NEW DEED WORKFLOW

Involved parties come to the MRO with all required documents, receive application form and complete it. The Public Support Clerk can assist in the preparation of application form – this, for example, will include the identification of property PID number if person does not know it. Once complete document set is ready, parties submit documents to the Registration Clerk.

The Registration Clerk first conducts basic check of lodgment - this includes check of completeness of application form and check of documents attributes (presence of dates and signatures, documents condition, number of pages etc.).

> Note: Application can be accepted only if ***all*** required documents are submitted. If applicant claims that MRO already has copy of required document, this copy should be first acquired through Search Workflow and should be added to the rest of required documents.

If all required documents are present, the Registration Clerk checks the system to see if there are any obstacles (for example pending transactions) that can ban registration of transaction. In case if any obstacles are identified, the Registration Clerk rejects application and writes rejection note in special area on the application form with clarifying reason and stating possible actions to resolve problem. If no obstacles are found, the Registration Clerk enters transaction details into the system and, based on the entered details, the system will automatically calculate fee value to be paid.

> Note: If transaction will require for ESA participation, the corresponding fee will be calculated and included automatically into the total fee statement. The same is applied for the notary's fee – it will be included into total fee and redistributed later.

Once all details are entered, the Registration Clerk will print 2 copes of Acceptance Receipt, signs it and handles first copy to the applicant. Second copy is put into special folder. All required documents are taken from applicant and put on special shelf to be later picked up by the Notary.

Upon reception of the Acceptance Receipt, the applicant (one of the parties) goes to the Cashier Clerk to pay fee.

The Cashier Clerk opens system and based on information stated on Acceptance Receipt finds required transaction record. After fee is paid, the Cashier Clerk prints Cashier Receipt and gives to the Applicant. Transaction is forwarded to the next stage - Notarization.

After fee is paid, parties go to the Notary to notarize application. The Acceptance Receipt is presented to the Notary so that he can pull out transaction from the system and see that is was actually reviewed by registration clerk and fee is paid. If transaction is identified, Notary gets documents from the shelf and review application form.

Once Notary authenticates persons, they sign application in presence of notary and he notarizes the application. All documents are put back to the shelf. Applicants leave the office.

After notarization all documents are scanned by Scanning clerk and basic indexing is done for each document, which includes entering information about document type and date of document. When scanning is completed, documents are sent to Technical Investigator who will do a quick check and will ensure that all documents were scanned. Then he will check property information and pending transactions.

> Note: This verification in most cases will be quick and should not usually result in any rejections because, as it is proposed, initial ownership checks will be done by Registration Clerk in very beginning and he should/will have the same technical skills as Technical Investigator to be able immediately warn parties in case if any problem is identified.

In case if problem is found, a pending letter will be issued to notify applicants about problems identified with request to come and fix problem. If no problems are found, transaction is send to Indexing Stage.

Alternatively, depending on circumstances, transaction can be forwarded to ESA. This, in most cases, will be related to cases when property mutation occurs (merge or subdivision) or where PID was not identified at earlier stage and resolution from ESA is required. In such case the transaction is redirected to the EPO Representative, sitting in the RO office, and he will check all prerequisites and send electronic request (with attached scanned documents if required) to the ESA EPO to prepare new mutation form or take other action. Once data will be received back from ESA EPO, transaction will proceed further.

At Indexing stage Technical Investigator will enter all required information from documents and also property data, if any was produced for particular transaction. When all required data are entered, Technical Investigator will invoke a special wizard to draft Green Contract. Drafted Green contract will be stored in the system for later printing.

When drafting of Green Contract is completed, transaction is forwarded to the Senior Technical Investigator who will review transaction details and, after validation of electronic copy, will print Green Contract. If surveying was done, Senior Technical Investigator will ensure that ESA response was positive and no obstacles are existing from surveying point of view to proceed with transaction.

> Note: If transaction was resulted in property mutation, the Technical Investigator will notify applicants that they should come to sign green contract. Then parties will come, sign green contract and it will be notarized. For details see “Figure 5 New Deed with Survey workflow overview”

All required documents, including printed Green Contract, will be delivered to the REPD Main Office. It is proposed to have authentication of Green Contract at the REPD site which means that a representative of Lawyers Syndicate will be assigned to the REPD (or will come on daily basis) to authenticate documents.

> Note: This procedure is highly recommended for implementation in order to reduce number of steps and have Green Contract’s circulation only between local and main REPD offices only. In worse case scenario documents will be still delivered to the Lawyers Syndicate by special RO courier but should be processed immediately.

Once documents are processed at the Main REPD office (checked, assigned with publicity number), the photocopies will be created (a Blue Contract) and sent to the corresponding places as it is now, but one laminated copy and one non-laminated copy will be sent back to the RO for delivery.

*End of the first stage. Next workflow is “Delivery”.*

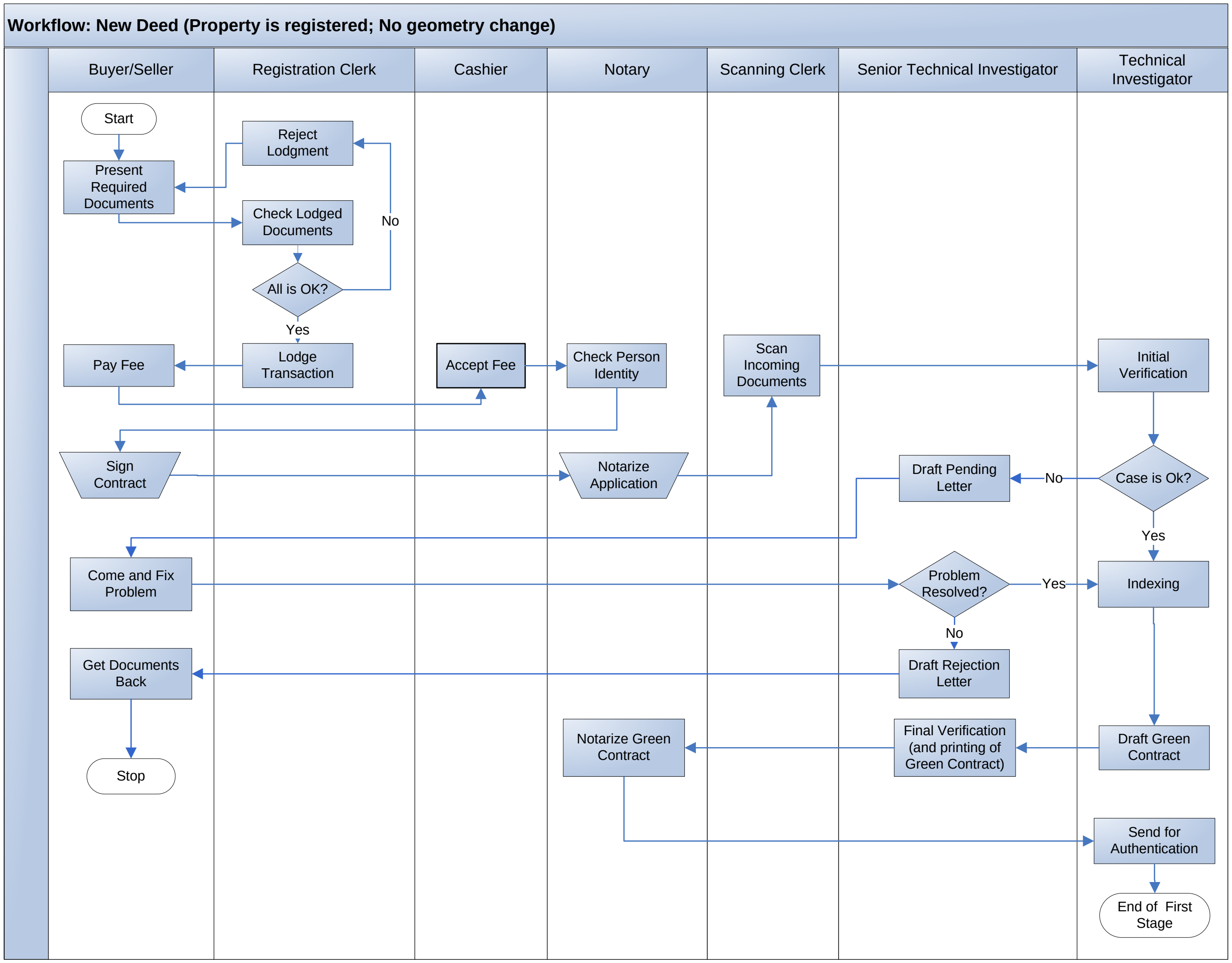



*Figure 4 New Deed Workflow Overview*

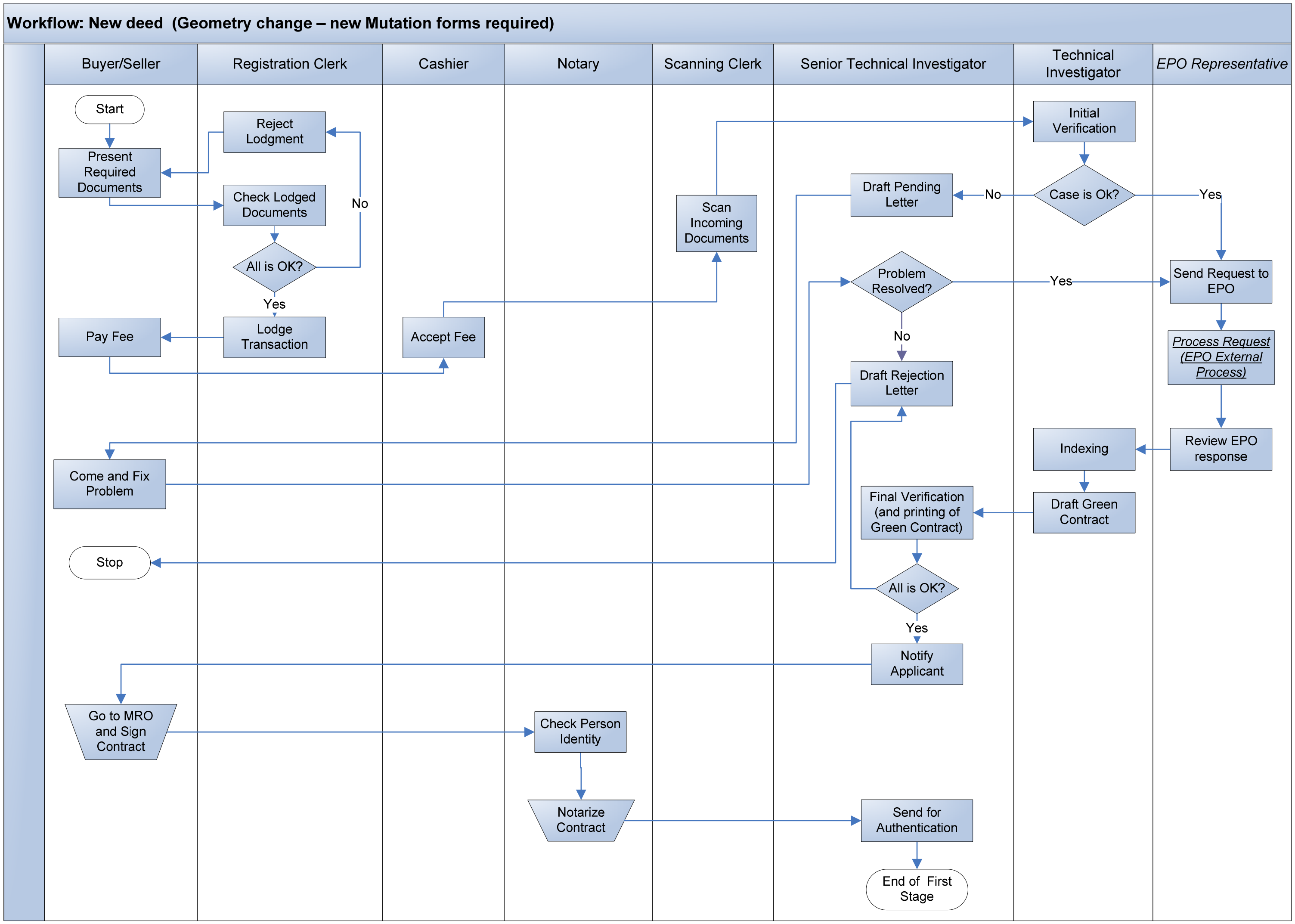



*Figure 5 New Deed with Survey workflow overview*

### 2.5.2 ENCUMBRANCE REGISTRATION WORKFLOW

The applicant comes to the MRO with all required documents, receives application form and completes it. The Public Support Clerk can assist in the preparation of application form – this, for example, will include the identification of property PID number if person does not know it. Once complete document set is ready, parties submit documents to the Registration Clerk.

The Registration Clerk first conducts basic check of lodgment - this includes check of completeness of application form and check of document attributes (presence of dates and signatures, documents condition, number of pages etc.).

If all required document are present, the Registration Clerk checks the system to see if there are any obstacles (for example pending transactions) that can ban registration of transaction. In case if any obstacles are identified, the Registration Clerk rejects application and writes rejection note in special area on the application form with clarifying reason and stating possible actions to resolve problem. If no obstacles are found, the Registration Clerk enters transaction details into the system and, based on the entered details, the system will automatically calculate fee value to be paid.

Once all details are entered, the Registration Clerk will print 2 copes of Acceptance Receipt, signs it and handles first copy to the applicant. Second copy is put into special folder. All required documents are taken from applicant and put on special shelf to be later picked up by the Notary.

Upon reception of the Acceptance Receipt, the applicant (one of the parties) goes to the Cashier Clerk to pay fee. The Cashier Clerk opens system and based on information stated on Acceptance Receipt finds required transaction record. After fee is paid, the Cashier Clerk prints Cashier Receipt and gives to the Applicant. Transaction is forwarded to the scanning stage.

All submitted documents are scanned by Scanning clerk and basic indexing is done for each document, which includes entering information about document type and date of document. When scanning is completed, documents are sent to Technical Investigator who will do a quick check and will ensure that all documents were scanned. Then he will check property information and pending transactions.

> Note: This verification in most cases will be quick and should not usually result in any rejections because, as it is proposed, initial ownership checks will be done by Registration Clerk in very beginning and he should/will have the same technical skill as Technical Investigator to be able immediately warn parties in case if any problem is identified.

In case if problem is found, a pending letter will be issued to notify applicants about problems identified with request to come and fix problem. If no problems are found, transaction is send to Indexing Stage.

At Indexing stage Technical Investigator will enter all required information from documents. No changes to Green Contact are applied. After indexing is completed, all required documents are sent to Senior Technical Investigator for review.

The Senior Technical Investigator who will review transaction details and collect documents for delivery to the Main REPD Office where original Final Contract is stored.

In Main REPD Office the original copy of the Final Contract will be updated and after then new Blue Contract will be created. Then documents are sent back to the MRO.

Once documents will be received back from REPD main office, the next workflow – "Delivery" – is executed.

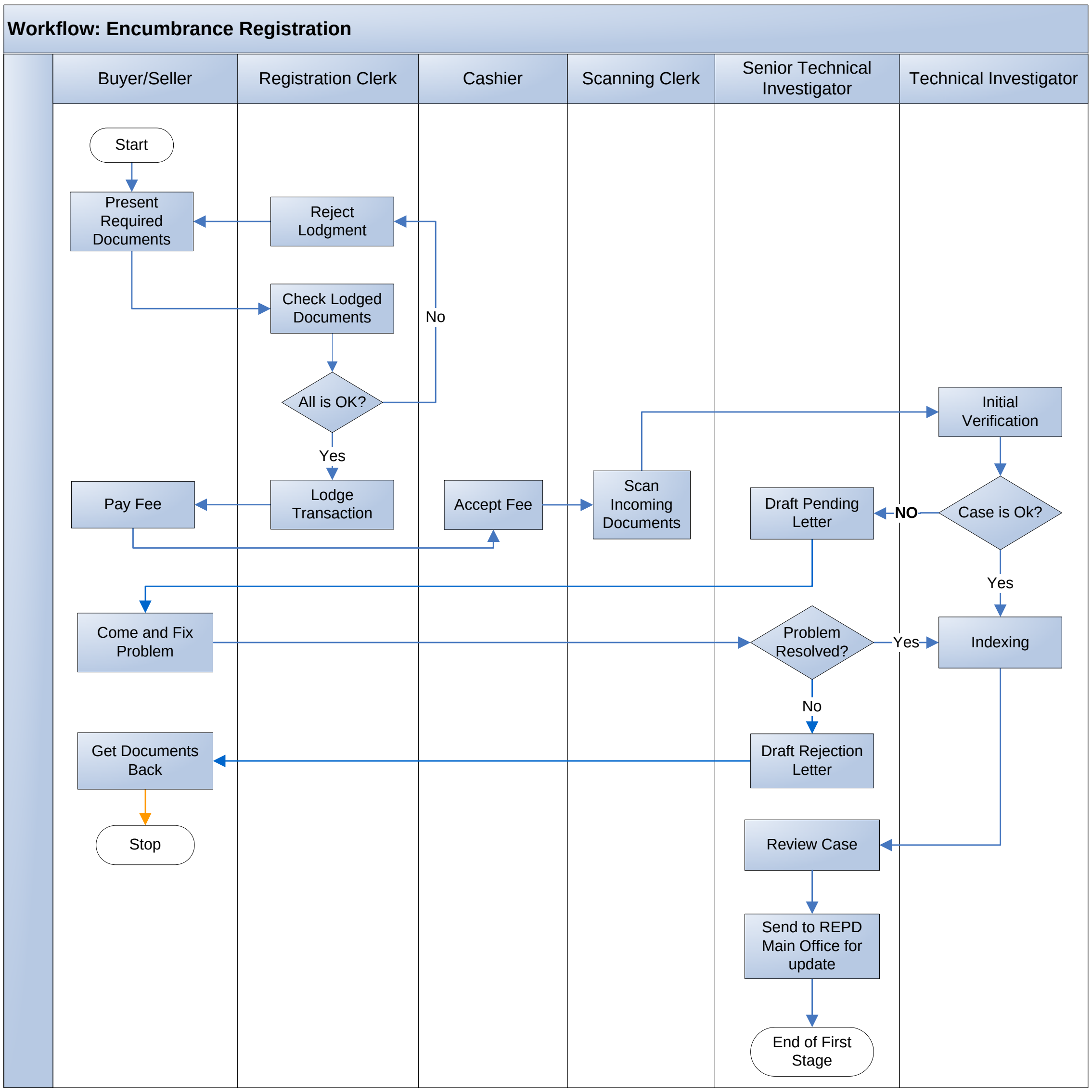



*Figure 6 Encumbrance Registration Workflow*

### 2.5.3 FIRST REGISTRATION WORKFLOW

The Applicant comes to the MRO with required documents (if any), receives application form and completes it. The Public Support Clerk can assist in the preparation of application form – this, for example, will include the identification of property PID number if person does not know it – it may happen that property is already drawn on the Property Index Map. Once application is completed, it is submitted to the Registration Clerk.

The Registration Clerk first conducts basic check of lodgment - this includes check of completeness of application form and check of document attributes (presence of dates and signatures, documents condition, number of pages etc.) if any additional documents were submitted.

If all required document are present, the Registration Clerk checks the system to see if there are any obstacles (for example pending transactions) that can ban registration of transaction – for example this property can be already registered under other owner. In case if any obstacles are identified, the Registration Clerk rejects application and writes rejection note in special area on the application form with clarifying reason and stating possible actions to resolve problem. If no obstacles are found, the Registration Clerk enters transaction details into the system and, based on the entered details, the system will automatically calculate fee value to be paid.

Once all details are entered, the Registration Clerk will print 2 copes of Acceptance Receipt, signs it and handles first copy to the applicant. Second copy is put into special folder. All required documents are taken from applicant and put on special shelf to be later picked up by the Notary.

Upon reception of the Acceptance Receipt, the applicant goes to the Cashier Clerk to pay fee. The Cashier Clerk opens system and based on information stated on Acceptance Receipt finds required transaction record. After fee is paid, the Cashier Clerk prints Cashier Receipt and gives to the Applicant. Transaction is forwarded to the next stage - Notarization.

After fee is paid, applicant goes to the Notary to notarize application – this implies that Notary will confirm person identity. The Acceptance Receipt is presented to the Notary so that he can pull out transaction from the system and see that is was actually reviewed by registration clerk and fee is paid. If transaction is identified, Notary gets documents from the shelf and review applications.

After Notary authenticates applicant, he signs application in presence of notary and he notarizes the application. All documents are put back to the shelf. Applicant leaves the office.

After notarization all documents are scanned by Scanning clerk and basic indexing is done for each document, which includes entering information about document type and date of document. When scanning is completed, documents are sent to Technical Investigator who will do a quick check and will ensure that all documents were scanned. Then he will check property information and pending transactions.

Technical Investigator will check if property has Mutation Form created. If yes, transaction proceeds to the Indexing stage.

If Mutation Form for property does not exist, transition will be forwarded to the EPO representative to request surveying. Once surveying is done and Mutation form is created, Senior Technical Investigator will request applicant to do advertisement in newspaper.

At the same time preparation of Green Contract will be done but it will not be printed until applicant brings proofs of advertisements. At Indexing stage Technical Investigator will enter all required information from documents and also ESA data, if any was produce for particular transaction. Once all required data are entered, Technical Investigator will invoke a special system interface to draft Green Contract. Drafted Green contract will be stored in the system for later printing.

When advertisement is completed, applicant brings copies of newspaper and presents them to the Senior Technical Investigator.

The Senior Technical Investigator will review transaction details and, after validation of electronic copy, will print Green Contract.

All required documents, including printed Green Contract, will be delivered to the REPD Main Office. It is proposed to have authentication of Green Contract at the REPD site which means that a representative of Lawyers Syndicate will be assigned to the REPD (or will come on daily basis) to authenticate documents.

Once documents are processed at the Main REPD office (checked, assigned with publicity number), the photocopies will be created (a Blue Contract) and sent to the corresponding places as it is now, but one laminated copy and one non-laminated copy will be sent back to the RO for delivery.

*End of the first stage. Next workflow is “Delivery”.*

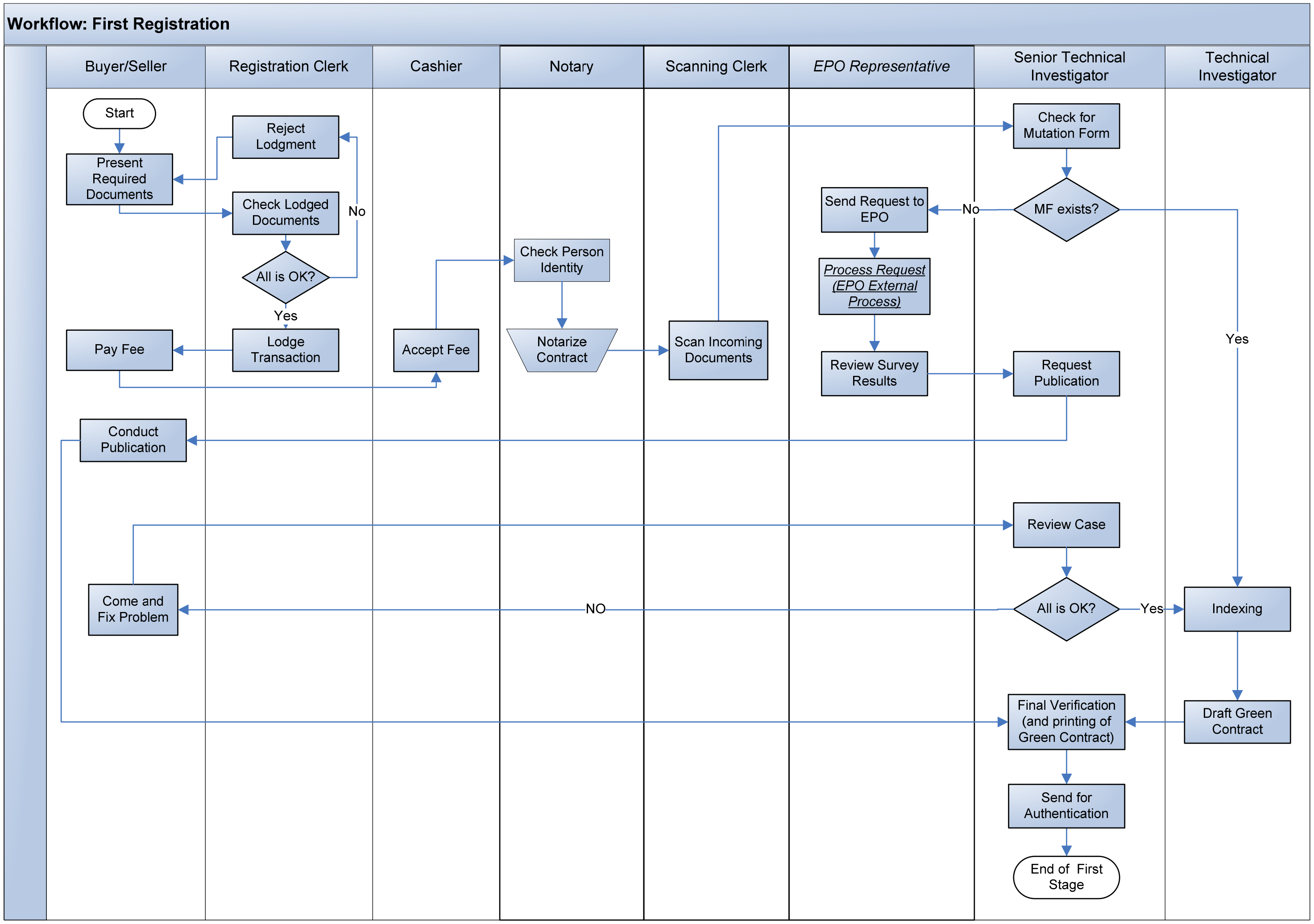



*Figure 7 First Registration Workflow*

### 2.5.4 DELIVERY SUB-WORKFLOW

*Delivery workflow describes steps that are done after documents are registered in the Main REPD office. This workflow is used any time when documents are delivered from Main REPD office.*

Before final or updated Green Contract is delivered to the applicant, it should be finally reviewed by the Senior Technical Investigator who will finally ensure that transaction is valid and registration is legal. In case if any problems are identified and transaction is rejected by the Senior Technical Investigator, EPO will be notified that transaction is void and corresponding Rejection Letter will be send to the Applicant. If no problems are identified, the non-laminated copy of Blue Contract will be sent to the scanning stage.

The Green Contract is scanned by the Scanning Clerk and put non-laminated copy in the Archive.

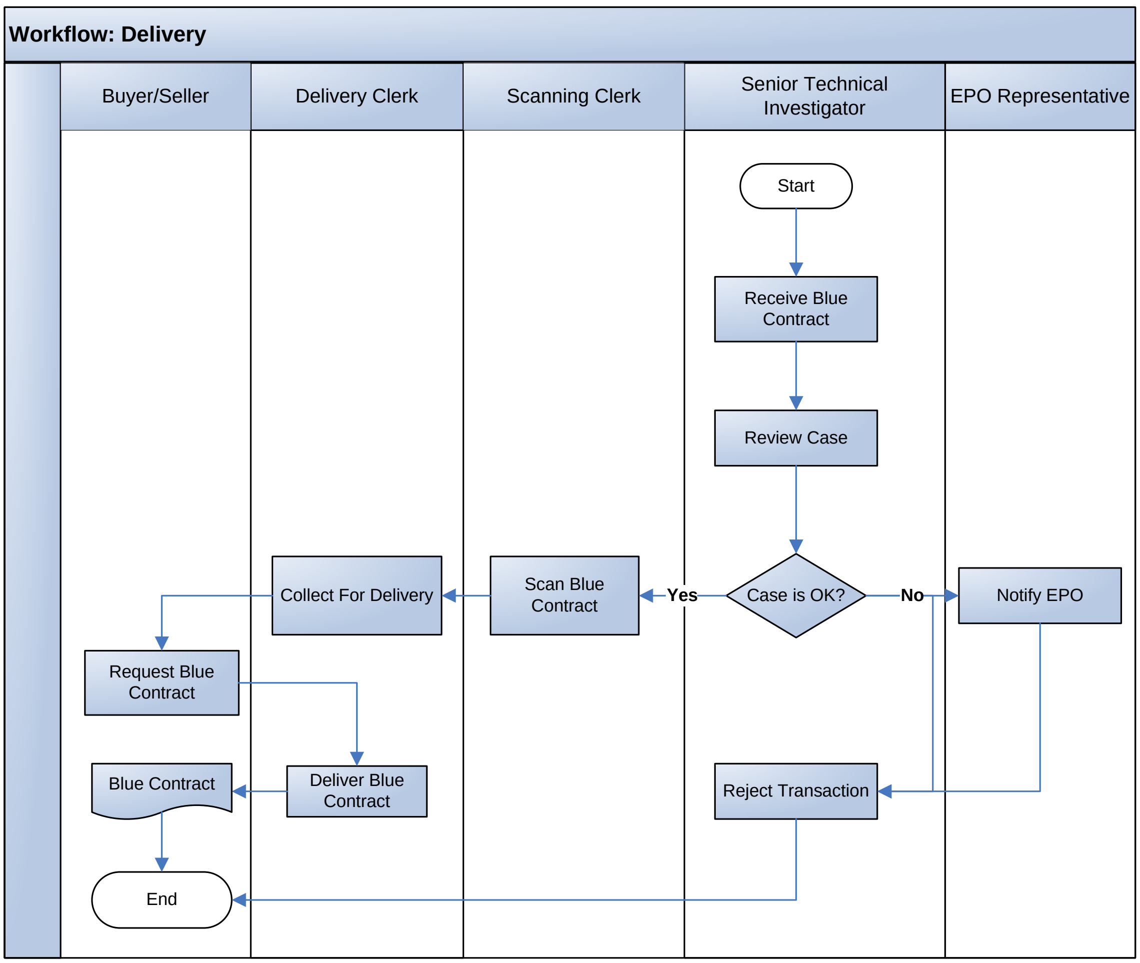



*Figure 8 Delivery Workflow*

After Blue Contract is scanned, laminated copy will be collected for delivery. At certain stage applicant will come and present copy of Acceptance Receipt to get laminated copy of Blue Contract. The special Delivery Letter will be printed from the system and signed by the person to confirm receiving of Blue Contract.

*End of Procedure.*

### 2.5.5 CERTIFIED SEARCH WORKFLOW

*Certified Search workflow is used when person want to get copy of scanned or paper documents stored in the MRO. Certification also implies that copy will be signed by Technical investigator to indicate that this document was really prepared by the MRO.*

Person comes to the registration office and completes special application form that will stipulate what kind of search is required.

Public Support Clerk will register request in the system and fee will be calculated based on provided details. Acceptance Letter will be printed to show search details and fee amount.

Person presents Acceptance Letter to the Cashier Clerk and pays fee. Cashier Clerk accepts fee and prints Cashier Receipt. Transaction is forwarded to the next stage.

Search Clerk performs search in the system based on information provided by the applicant and if documents are found, prints them. If documents are not found in the system, special Search Result Letter will be generated to indicate that search was done but nothing is found.

Printed copies are delivered to the Technical Investigator who signs them. Then documents are collected for delivery.

The applicant comes to the registration office and presents Acceptance Receipt. Public Support clerk finds certified copies or search result letter and gives them to the applicant.

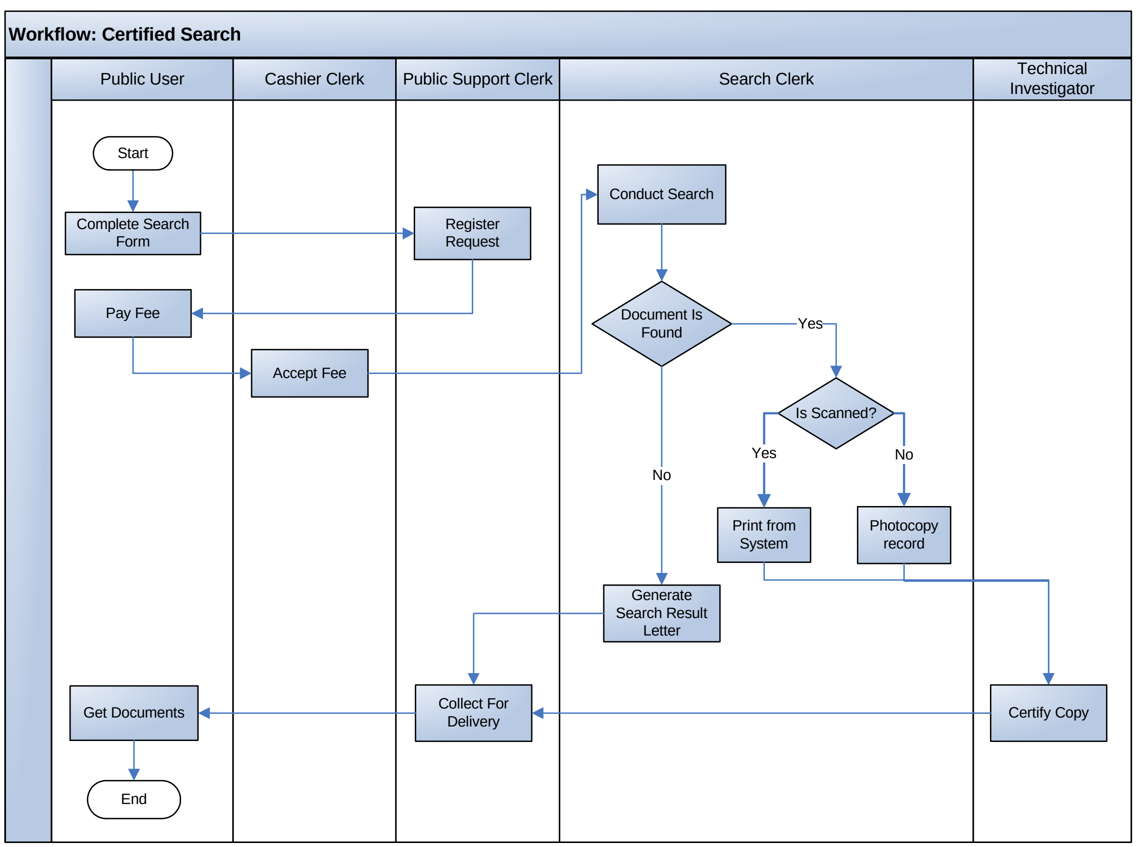



*Figure 9 Certified Search Workflow*

### 2.5.6 TERMINAL SEARCH WORKFLOW

*This workflow is used when public user uses special search terminals, installed in the public area of the MRO. It is anticipated that some of the basic searches will be possible to run free of charge. As the enhancement, applicant will be able to print search results immediately without certification and will pay smaller fee comparing to Certified Search.*

Any user can come to the MRO and access for free public access terminal to conduct basic searches. Such searches will include the following:

- Search by transaction number – to see status of registration
- Search by PID – to see basic information about deeds registered for property
- Search by Party Name – to see all deeds where specified party is mentioned

The user goes to the terminal and opens public access web site. Then the user selects required type of search and specifies search criteria. Based on provided information, system conducts search and displays results.

In case if users wants to get copy of search result (report or copy of scanned image), he prints documents to the special printer that is controlled by Public Access Clerk. Then applicant goes to the Public Access Clerk and asks for copies.

Public Access Clerk identifies printed copies, calculates number of pages and gives fee statement.

The user goes to the Cashier Clerk and pays fee.  Cashier Clerk accepts fee and prints Cashier Receipt. After fee is paid, user presents Cashier Receipt to the Public Support Clerk and gets printed copies.

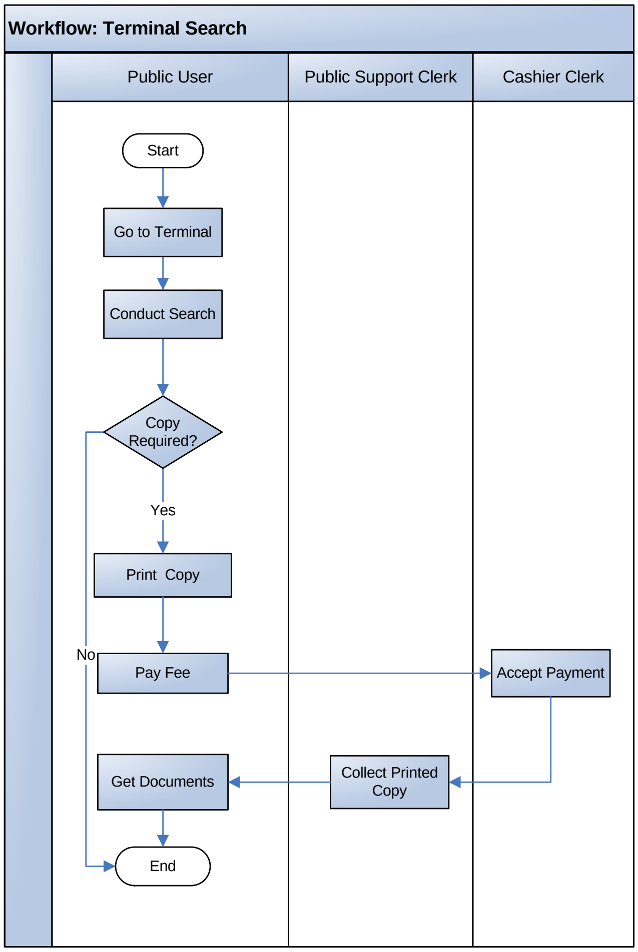



*Figure 10 Terminal Search Workflow*

## 2.6 System Use Cases

The primary use cases to be supported by the EPBDS are as follows:

- Lodge Transaction;
- Accept Fee;
- Notarize Contact;
- Scan Documents;
- Initial Verification;
- Prepare Pending/Rejection letter;
- Indexing;
- Draft Green Contract;
- Final Verification;
- Conduct Search;
- Delivery of Documents.

The following sections provide descriptions of use cases in details.

### 2.6.1 Lodge Transaction

| EPBDS | |
|---|---|
| **Use Case** | Lodge Transaction |
| **Level** | Proposed |
| **Summary** | Initiating registration of the new transaction in the system and moving the transaction to the cashiering stage for payment. |
| **Actor** | Registration Clerk |
| **Estimated Duration** | Up to 15 minutes |
| **Preconditions** | EPBDS Registration module is activated.<br>Applicant has provided all required documents. |
| **Post Conditions** | Transaction with transaction number assigned in temporary level.<br>Invoice for the transaction created in the cashiering sub-system. |

| Primary Scenario | |
|---|---|
| **Actor** | **System** |
| 1. Start Reception Module.<br>2. Select *Lodgment* method. | 3. Show form for entering information about applicant. |
| 4. Enter information regarding applicant or select applicant from a list of existing applicants. | 5. Store applicant information. |
| 6. Select type of transaction. | 7. Show list of required documents.<br>8. Show list of transaction parameters to complete. |
| 9. Enter transaction data and basic information about documents provided by Applicant. | 10. Save information into temporary layer. |
| 11. Click Search button to see property details based on PID number. | 12. Display list of transaction already recorded or being pending for the specified property. |
| 13. Check if any pending transactions can make an obstacle for registration. | |

| | |
|---|---|
| 14. Open Prohibited from registration module to see if property is restricted from registration. | 15. Search for property based on PID or property description.<br>16. Display result for matching records. |
| 17. Check if transaction will require surveying.<br>18. If #17 is true, flag the transaction as “Surveying Required” | 19. Set flag “Surveying required” to TRUE. |
| 20. Continue lodgment.<br>21. Run *Create Invoice* command. | 22. Create Invoice in the Cashiering sub-system,<br>23. Show Invoice No. created in the Cashiering sub-system. |
| 24. Click the *Print* button to print 2 copies of the Acceptance Receipt. | 25. Prints 2 copies of Acceptance Receipt. |
| 26. Sign both copies of Acceptance Receipt; Applicant does the same.<br>27. Give one copy to the Applicant. Second copy is attached to lodgment file. | 28. Store final information on transaction. |
| 29. Click *Finish*. | 30. Assign Transaction with RTID number.<br>31. Send transaction to the Cashiering stage for the payment. |

**Secondary Scenarios**

1. At step 4 the Clerk can select the person from the Person sub-registry – this is possible if the person is already registered in the system.
2. At step 9 the Clerk ensures that all required documents are provided. If not, then he will reject lodgment, write corresponding notice in application form and sign it.
3. At steps 13 or 14 the Clerk can reject registration of transaction if registry content will indicate that transaction cannot be recorded. For example, this may happen is another transfer is pending for registration or court order, which prohibits any transactions, is registered.

**Exception Scenarios**

1. If person does not know property PID or such does not exist, verification is done based on property address or owner name. For First Registrations entering of PID is not required.
2. At any time the Reception Clerk can stop the lodgment process and save the results. In the workflow the transaction stays at the Submit Application stage.
3. At any time the Reception Clerk can cancel the lodgment without saving the results. Information on the new transaction is removed from the System; the invoice, if created, is voided in the cashiering sub-system.

**Notes and Definitions**

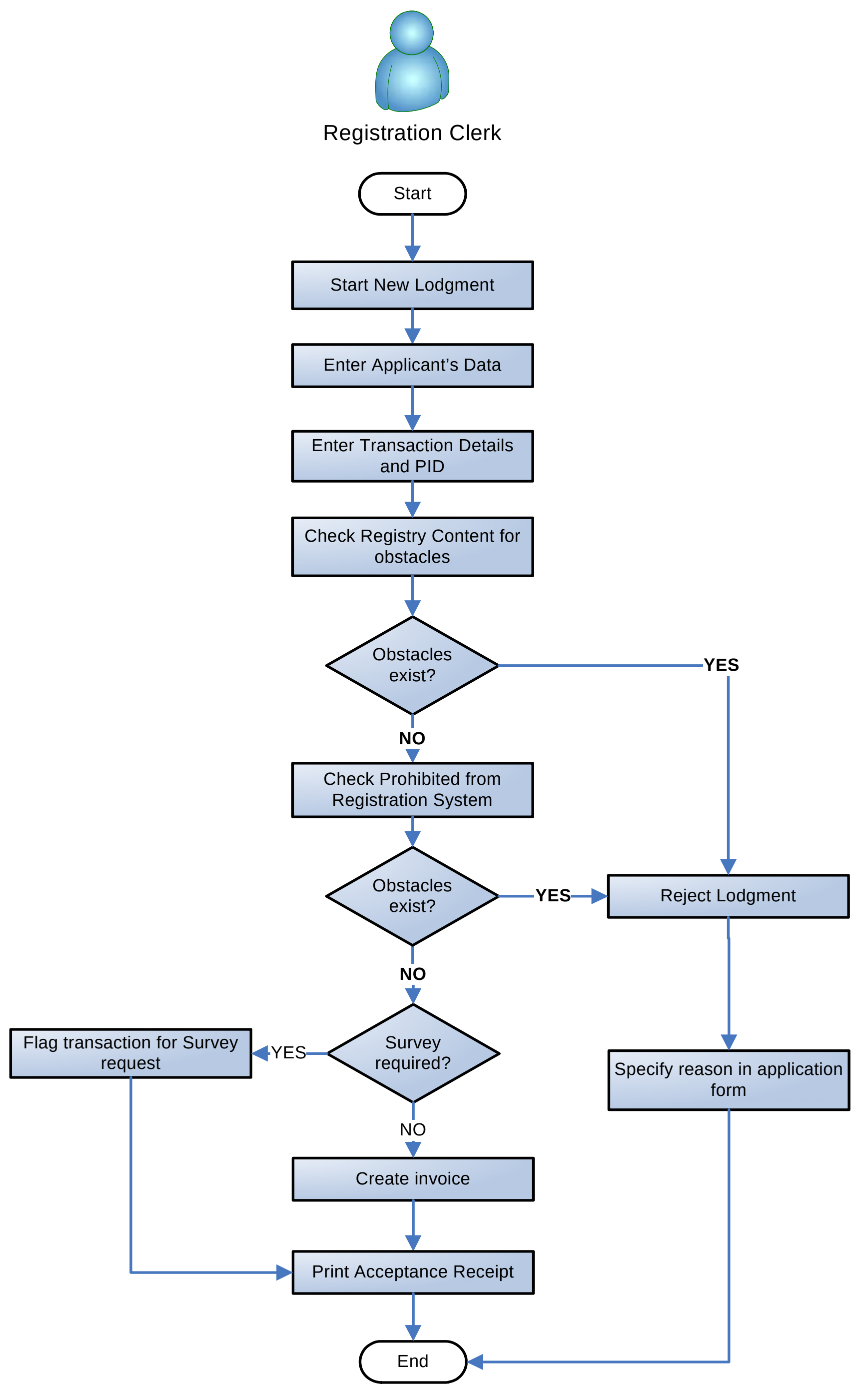



*Figure 11 Use case: Lodge Transaction*

### 2.6.2 ACCEPT FEE

| **EPBDS** | | |
|---|---|---|
| **Use Case** | Collect the fee | |
| **Level** | Proposed | |
| **Summary** | Select the invoice from the list of pending invoices and collect payment from the Applicant. | |
| **Actor** | Cashiering Clerk | |
| **Estimated Duration** | Up to 5 minutes | |
| **Preconditions** | The EPBDS Cashiering module is activated.<br>A pending invoice is created from the Registration module.<br>Cash Register is opened for processing payments. | |
| **Post Conditions** | The invoice is paid.<br>The cashiering receipt is printed. | |
| **Primary Scenario** | | |
| **Actor** | | **System** |
| 1. Enter invoice number from the Acceptance Letter. Click search button. | | 2. Display invoice. |
| 3. Select an invoice from the list of pending invoices. | | 4. Shows the POS screen with selected invoice details – a list of transactions with parameters and the amount to be paid. |
| 5. Check is invoice is valid.<br>6. Accept payments from the applicant in any payment type – cash, checks, debit/credit cards.<br>7. Enter payment details on computer. | | 8. Print Cashiering Receipt.<br>9. Clear the POS screen. |
| 10. Commit Payment. | | 11. Move transaction to the next stage. |
| 12. Give printed Cashiering Receipt to Applicant. | | |
| | | |
| **Secondary Scenarios** | | |
| **Exception Scenarios**<br>1. If invoice is expired, transaction will be rejected.<br>2. If the Cashiering Clerk voids an invoice in the cashiering sub-system, the corresponding transaction is automatically cancelled in the EPBDS. | | |
| **Notes and Definitions**<br>N/A | | |

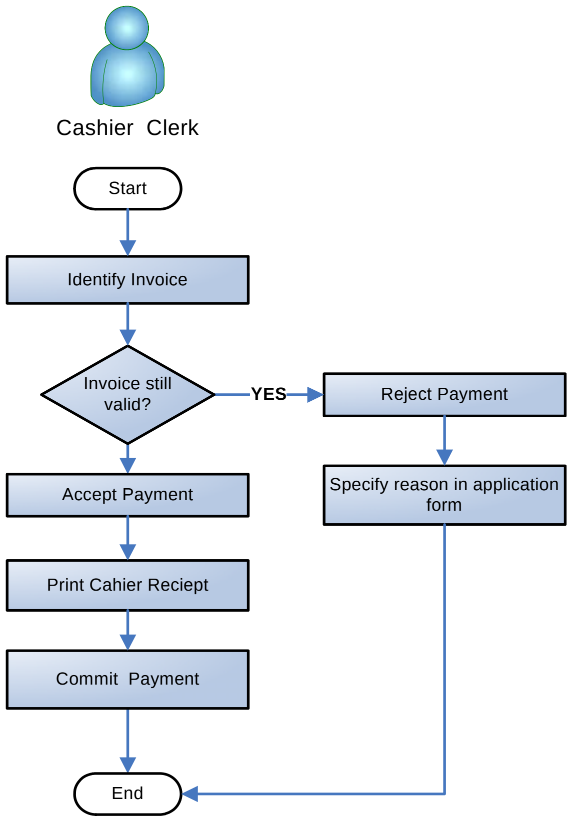



*Figure 12 Accept Payment Use Cases*

### 2.6.3 NOTARIZE CONTRACT

| EPBDS | | |
|---|---|---|
| **Use Case** | Notarize Contract | |
| **Level** | Proposed | |
| **Summary** | Check parties' personality and notarize application | |
| **Actor** | Notary | |
| **Estimated Duration** | Up to 15 minutes | |
| **Preconditions** | The EPBDS Registration module is activated.<br>Fee is paid.<br>All parties are present. | |
| **Post Conditions** | The application is notarized. | |
| **Primary Scenario** | | |
| **Actor** | | **System** |
| 1. Open list of transactions that are pending for notarization. | | 2. Display list of transactions. |
| 3. Enter transaction number from Acceptance Letter. | | 4. Open transaction details. |
| 5. Check Application.<br>6. Check person identification documents.<br>7. Notarize application after parties sign contract. | | |
| 8. Enter notarization details – date, time, notary name etc.<br>9. Save details. | | 10. Notarization details are saved in the system. |
| 11. Send transaction to the next stage. | | |
| | | |
| **Secondary Scenarios**<br>1. If power of attorney is presented, the Notary will check POA validity in the notarization system client. | | |
| **Exception Scenarios**<br>1. If one of the party's identities is not confirmed, notarization is rejected. | | |
| **Notes and Definitions**<br>N/A | | |

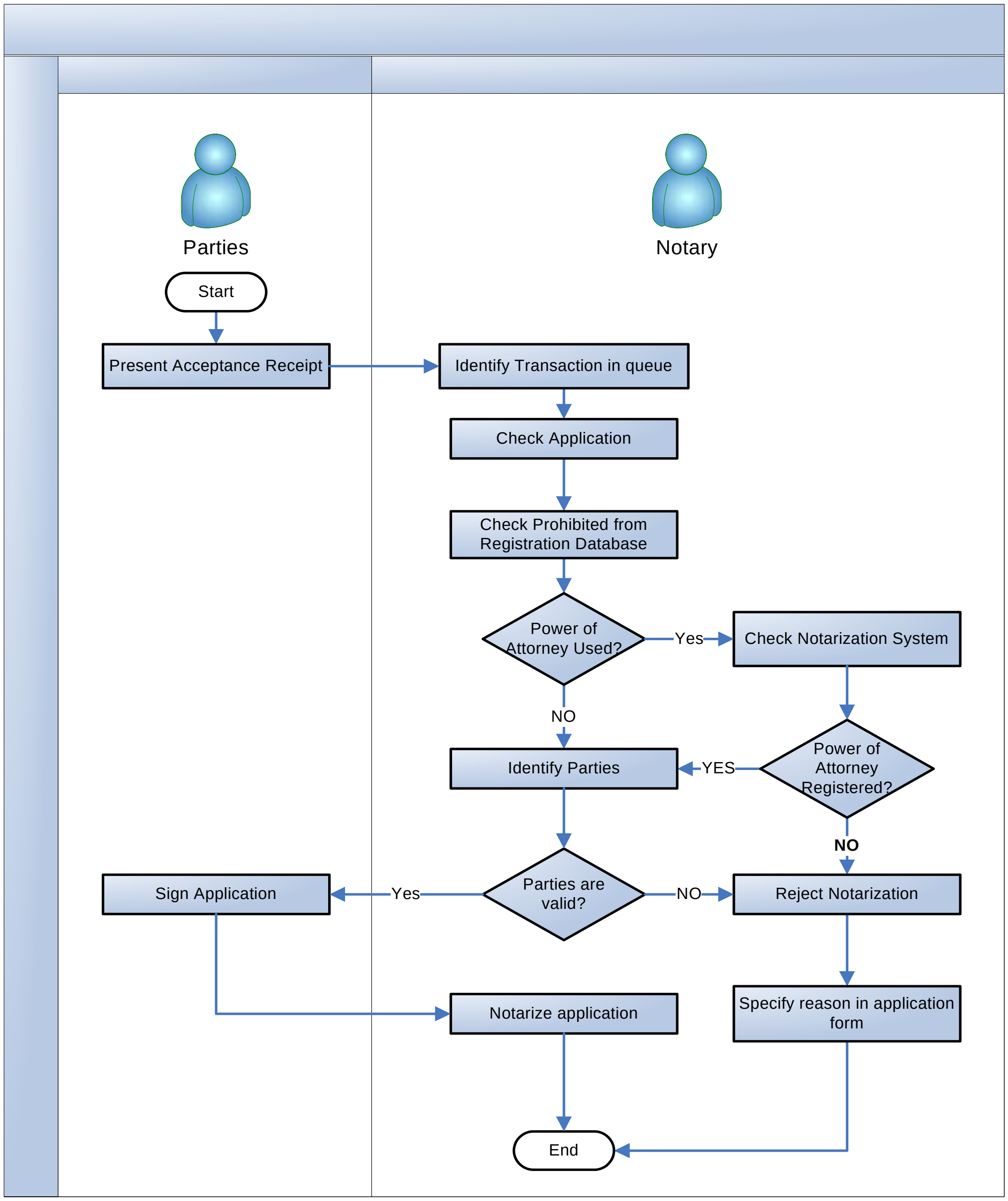



*Figure 13 Notarize Application*

### 2.6.4 SCAN DOCUMENTS

| EPBDS | |
|---|---|
| **Use Case** | Scan Incoming/Outgoing Documents |
| **Level** | Proposed |
| **Summary** | Scan/Index Documents related to the current transaction. |
| **Actor** | Scanning Clerk |
| **Estimated Duration** | Up to 15 minutes per transaction |
| **Preconditions** | EPBDS Scanning module is activated.<br>The transaction is at Scanning Documents stage.<br>The task list in the scanning system contains a list of documents to scan. |
| **Post Conditions** | All documents from the task list have been scanned and committed to the Document Imaging database.<br>The transaction has moved to the next stage in the workflow. |

**Primary Scenario**

| Actor | System |
|---|---|
| 1. Select a transaction that is at the Scan Documents stage in the registration queue. | 2. Displays a list of documents to scan at this stage. |
| 3. Scan the documents and attach them to the current document. Attach digital documents, if any, to the current document. | 4. Show list of scanned pages. |
| 5. Select a document from the task list.<br>6. Add scanned pages to this document. | 7. Group selected pages under selected document. |
| 8. Index each document with additional attributes, if needed. | |
| 9. Put vector notes to hide signatures and privacy data | 10. Hide signatures by using annotations. |
| 11. Commit the documents. | 12. Digitally sign all images.<br>13. Commit all documents to the Document Images Database. |
| 14. Close Scanning Module. | 15. Move the transaction to the next stage in the workflow. |

**Secondary Scenarios**

N/A

**Exception Scenarios**

N/A

**Notes and Definitions**

All input and output documents are linked to the transaction.

During the processing of scanned pages, the Clerk will review each page and will put vector annotations on top of:

1. Personal identification data
2. Officials seals and signatures

This is required for protecting privacy when copies of documents will be requested by public users or other authorities.

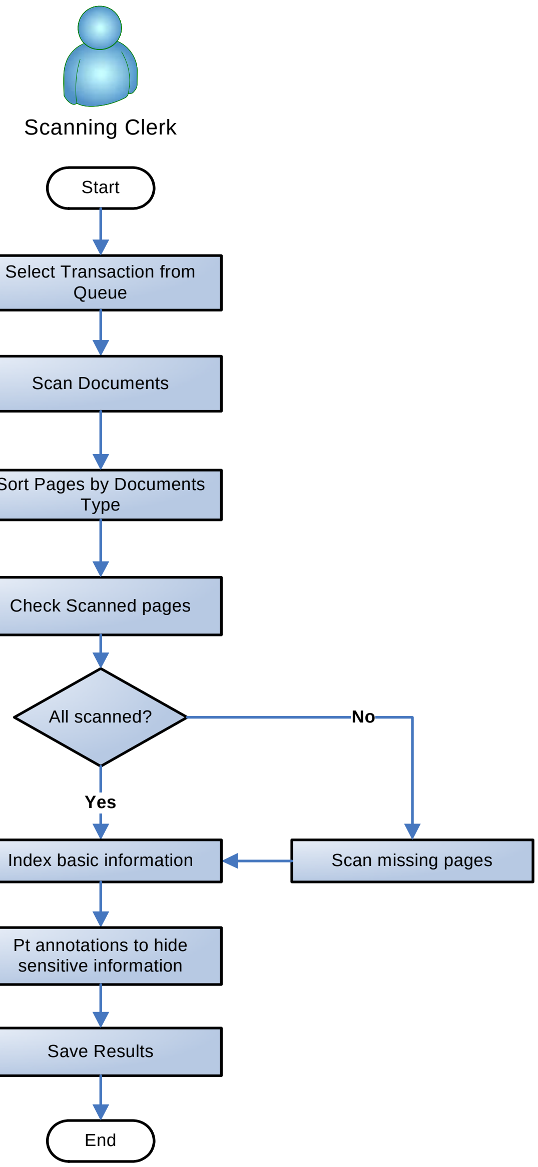



*Figure 14 Scanning Use Case*

### 2.6.5 INITIAL VERIFICATION

<table>
<tr><th colspan="2">EPBDS</th></tr>
<tr><td>Use Case</td><td>Initial Verification</td></tr>
<tr><td>Level</td><td>Proposed</td></tr>
<tr><td>Summary</td><td>Verification of the registration before entering the registration details.</td></tr>
<tr><td>Actor</td><td>Technical Investigator</td></tr>
<tr><td>Estimated Duration</td><td>Up to 15 minutes per transaction</td></tr>
<tr><td>Preconditions</td><td>The EPBDS Registration module is activated.<br>The transaction is at the Initial Verification stage.<br>Supporting documents, provided for registration, are delivered to the Technical Investigator.</td></tr>
<tr><td>Post Conditions</td><td>The transaction is sent to the Indexing stage in workflow or to EPO Representative for review.</td></tr>
<tr><th colspan="2">Primary Scenario</th></tr>
<tr><th>Actor</th><th>System</th></tr>
<tr><td>1. Select a transaction that is at the Initial Verification stage in the registration queue.</td><td>2. Open Transaction details.<br>3. Display list of documents registered for this property.</td></tr>
<tr><td>4. Review submitted documents for the selected transaction.<br>5. Review list of transactions associated with this property.</td><td></td></tr>
<tr><td>6. Enter comments if needed.<br>7. Clicks Finish.</td><td>8. Send the transaction to the next stage.</td></tr>
<tr><td></td><td></td></tr>
<tr><td colspan="2">Secondary Scenarios<br>1. Where there are objections to registration, the Technical Investigator prints a Pending Letter with reasons for rejection.<br>2. Signs Pending Letter.<br>3. Transaction is sent to Pending stage.</td></tr>
<tr><td colspan="2">Exception Scenarios<br>1. If transaction registers ESA work to be done, transaction is forwarded to the EPO Representative for review and further processing.</td></tr>
<tr><td colspan="2">Notes and Definitions<br>The Technical Investigator reviews the registration matter and either approves the registration or rejects it. If rejected, a Pending Letter with listed reasons for rejection is printed and signed. Then applicant is notified and should come to the registration office to fix problem.</td></tr>
</table>

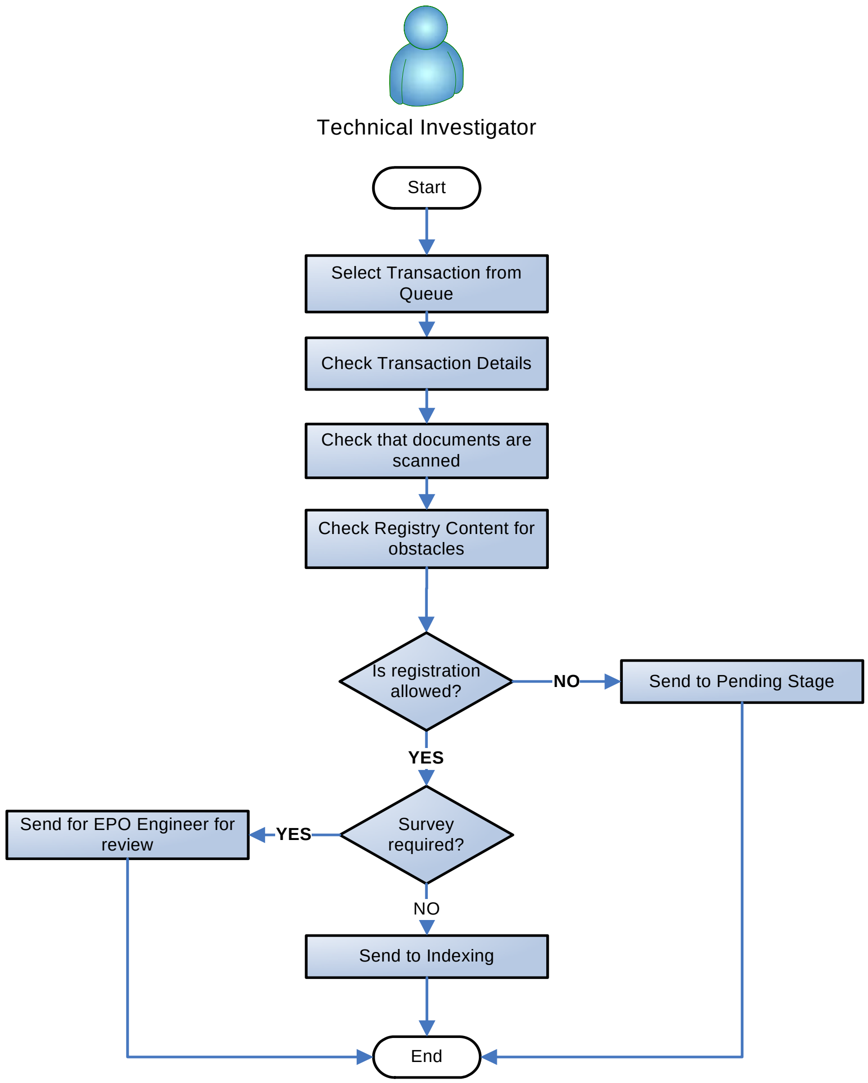



*Figure 15 Initial Verification Use Case*

### 2.6.6 Prepare Pending/Rejection Letter

| EPBDS | |
|---|---|
| **Use Case** | Prepare Pending/Rejection Letter |
| **Level** | Proposed |
| **Summary** | Prepare, Print and Sign Pending/Rejection Letter |
| **Actor** | Senior Technical Investigator |
| **Estimated Duration** | Up to 10 minutes per transaction |
| **Preconditions** | The EPBDS Registration module is activated.<br>The transaction is at the Pending stage. |
| **Post Conditions** | Printed hardcopy of Pending/Rejection Letter. |

**Primary Scenario**

| Actor | System |
|---|---|
| 1. Open the sub-module to draft a Letter. | 2. Highlights the selected transaction. |
| 3. Review transaction details to ensure that rejection reason is correct. | |
| 4. View a list of predefined rejection reasons. | 5. Shows a list of predefined rejection reasons. |
| 6. Select one or more reasons from the list or type a new reason.<br>7. Type in expected further steps – what is expected from the applicant. | |
| 8. Click *Print*. | 9. Print out the Letter. |
| 10. Sign and Seal the Letter. | |
| 11. Click *Finish*. | 12. Move the transaction to next stage. |
| 13. Collect the letter for handing to the Delivery Clerk. | |
| | |

**Secondary Scenarios**

N/A

**Exception Scenarios**

N/A

**Notes and Definitions**

The Pending Letter indicates that a problem with registration exists but can be fixed. This means that the applicant should come and clarify details or fix problem.

The Rejection Letter is prepared in case when registration is not possible at all – in such case registration will be cancelled, documents will be returned to the applicant but fee will be not refunded.

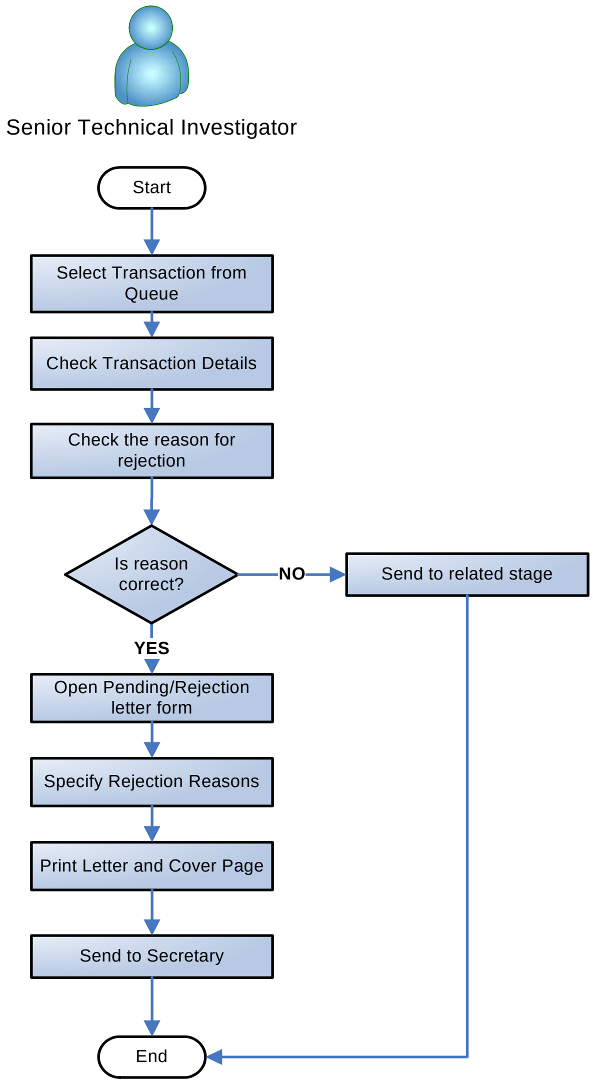



*Figure 16 Prepare Pending/Rejection Letter Use Case*

### 2.6.7 INDEXING

<table>
<tr><th colspan="2">EPBDS</th></tr>
<tr><td>Use Case</td><td>Indexing</td></tr>
<tr><td>Level</td><td>Proposed</td></tr>
<tr><td>Summary</td><td>Entering registration details for transactions that have passed verification.</td></tr>
<tr><td>Actor</td><td>Technical Investigator</td></tr>
<tr><td>Estimated Duration</td><td>Up to 5-10 minutes per transaction</td></tr>
<tr><td>Preconditions</td><td>EPBDS Registration module is activated.<br>The transaction is at the Indexing stage.</td></tr>
<tr><td>Post Conditions</td><td>The transaction is sent to the Draft Green Contract stage.</td></tr>
<tr><th colspan="2">Primary Scenario</th></tr>
<tr><td>Actor</td><td>System</td></tr>
<tr><td>1. Select a transaction that is at the Indexing stage in the registration queue.</td><td>2. Highlights the transaction in the registration queue.<br>3. Runs the Indexing module.</td></tr>
<tr><td>4. Enter the registration matter details – duration of registered right, schedule, etc.<br>5. Enters the party details – National ID, name, address.<br>6. Enter/edit property details.<br>7. If required, select and link to corresponding active encumbrance (the transaction requires a related encumbrance e.g. the cancellation of a mortgage requires a registered mortgage).<br>8. Click Finish.</td><td>9. Stores the entered information in the temporary layer.</td></tr>
<tr><td></td><td>10. The transaction is sent to the Draft Green Contract stage.</td></tr>
<tr><td></td><td></td></tr>
<tr><td colspan="2">Secondary Scenarios<br>1. At step 6, if surveying was done, the Technical Investigator will import ESA response and review/update property details (PID, area, etc)<br>2. If the Senior Technical Investigator does not consider the reasons of rejections to be well grounded, he sends the transaction back to Indexing stage.</td></tr>
<tr><td colspan="2">Exception Scenarios<br>1. Where there are problems with information, the Indexing Clerk can forward transaction to the Senior Technical Investigator for review. The Technical Investigator clerk is not allowed to reject a registration at this stage - it is the responsibility of the Senior Technical Investigator to review the reasons defined by Technical Investigator and take required actions.<br>2. The Technical Investigator can close the Indexing module and save entered data without sending the transaction to the next stage by registration workflow.</td></tr>
<tr><td colspan="2">Notes and Definitions<br>N/A</td></tr>
</table>

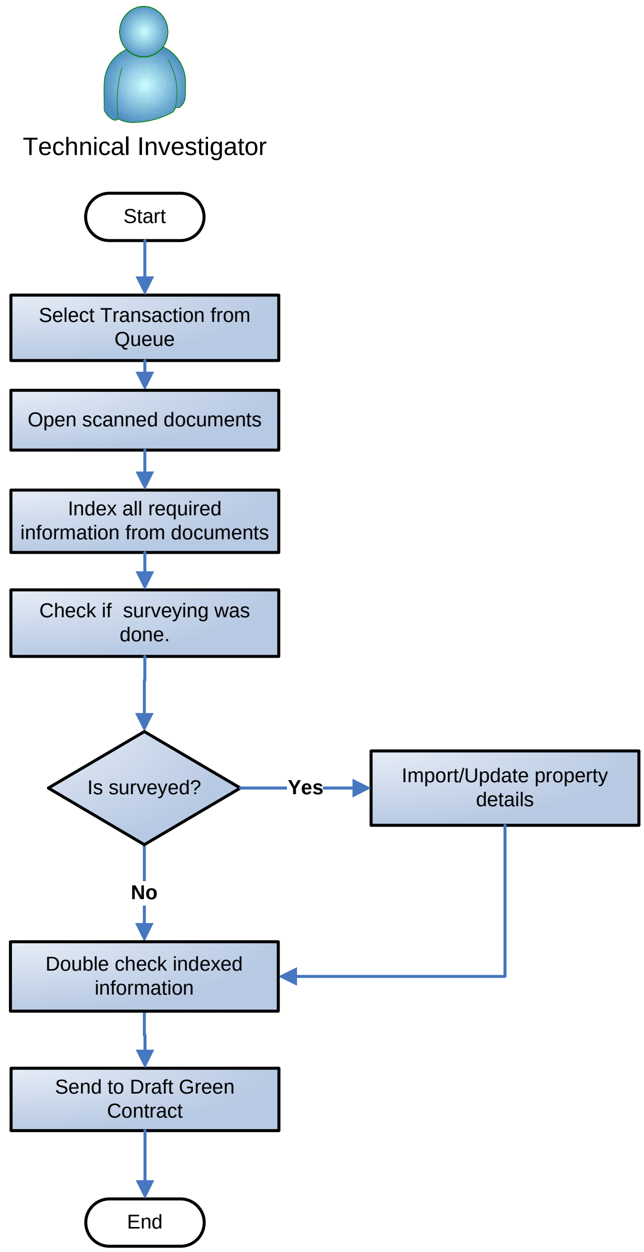



*Figure 17 Indexing Use Case*

### 2.6.8 DRAFT GREEN CONTRACT

| EPBDS | | |
|---|---|---|
| **Use Case** | Prepare Green Contract | |
| **Level** | Proposed | |
| **Summary** | Prepare and Save Green Contract | |
| **Actor** | Technical Investigator | |
| **Estimated Duration** | Up to 15 minutes per transaction | |
| **Preconditions** | The EPBDS Registration module is activated.<br>The transaction is at the Draft Green Contract stage. | |
| **Post Conditions** | Electronic copy of Green Contract. | |
| **Primary Scenario** | | |
| **Actor** | **System** | |
| 1. Open the sub-module to draft a Green Contract. | 2. Highlights the selected transaction. | |
| 3. Click Generate Green Contract button. | 4. All information from the system is inserted into template for editing. | |
| 5. Edit Text.<br>6. Click Save. | 7. Draft of Green contract is saved in the system.<br>8. Move the transaction to next stage. | |
| | | |
| **Secondary Scenarios**<br>N/A | | |
| **Exception Scenarios**<br>N/A | | |
| **Notes and Definitions**<br>N/A | | |

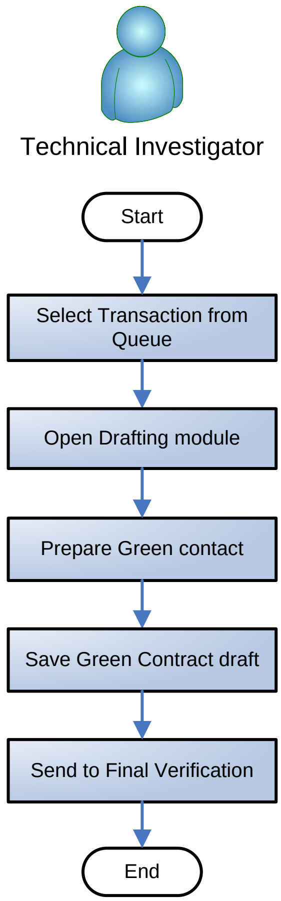



*Figure 18 Draft Green Contract Use Case*

### 2.6.9 FINAL VERIFICATION

| EPBDS | |
|---|---|
| **Use Case** | Final Verification |
| **Level** | Proposed |
| **Summary** | Registration matter is reviewed, Green Contract is printed. |
| **Actor** | Senior Technical Investigator. |
| **Estimated Duration** | Up to 15 minutes per transaction |
| **Preconditions** | EPBDS Registration module is activated.<br>All information is indexed and draft of Green Contract is prepared. |
| **Post Conditions** | The transaction is transferred to the Send for Authentication. |

| Primary Scenario | |
|---|---|
| **Actor** | **System** |
| 1. Select the transaction from the registration queue. | 2. Highlights the transaction in the registration queue.<br>3. Runs Final Verification module. |
| 4. Review/update the details if needed.<br>5. Review/update the draft of Green Contract if needed.<br>6. If surveying was required, ensure that it was done.<br>7. Check for scanned documents to be present in the system. | 8. Copies the transaction data from the temporary layer to the Registry. |
| 9. Click *Print* to print Green Contract. | 10. Assign Green Deed with UDN number.<br>11. Prints Green Contract.<br>12. Opens a question window to confirm the printing. |
| 13. Check printed *Green Contract.* | |
| 14. Confirm successful printing or re-print if any printing problems occurred.<br>15. Click *Finish.* | |
| | |

**Secondary Scenarios**

1. At step 6, if transaction required for surveying, the Senior Technical Investigator contacts applicant (by phone or mail) and request all parties to come and sign contact.
2. Instead of saving the transaction the Senior Technical Investigator can reject the transaction and print a Rejection or Pending Letter with listed reasons for rejection.

**Exception Scenarios**

N/A

**Notes and Definitions**

During the final verification the Senior Technical Investigator can make corrections in the details of the transaction entered by the Technical Investigator.

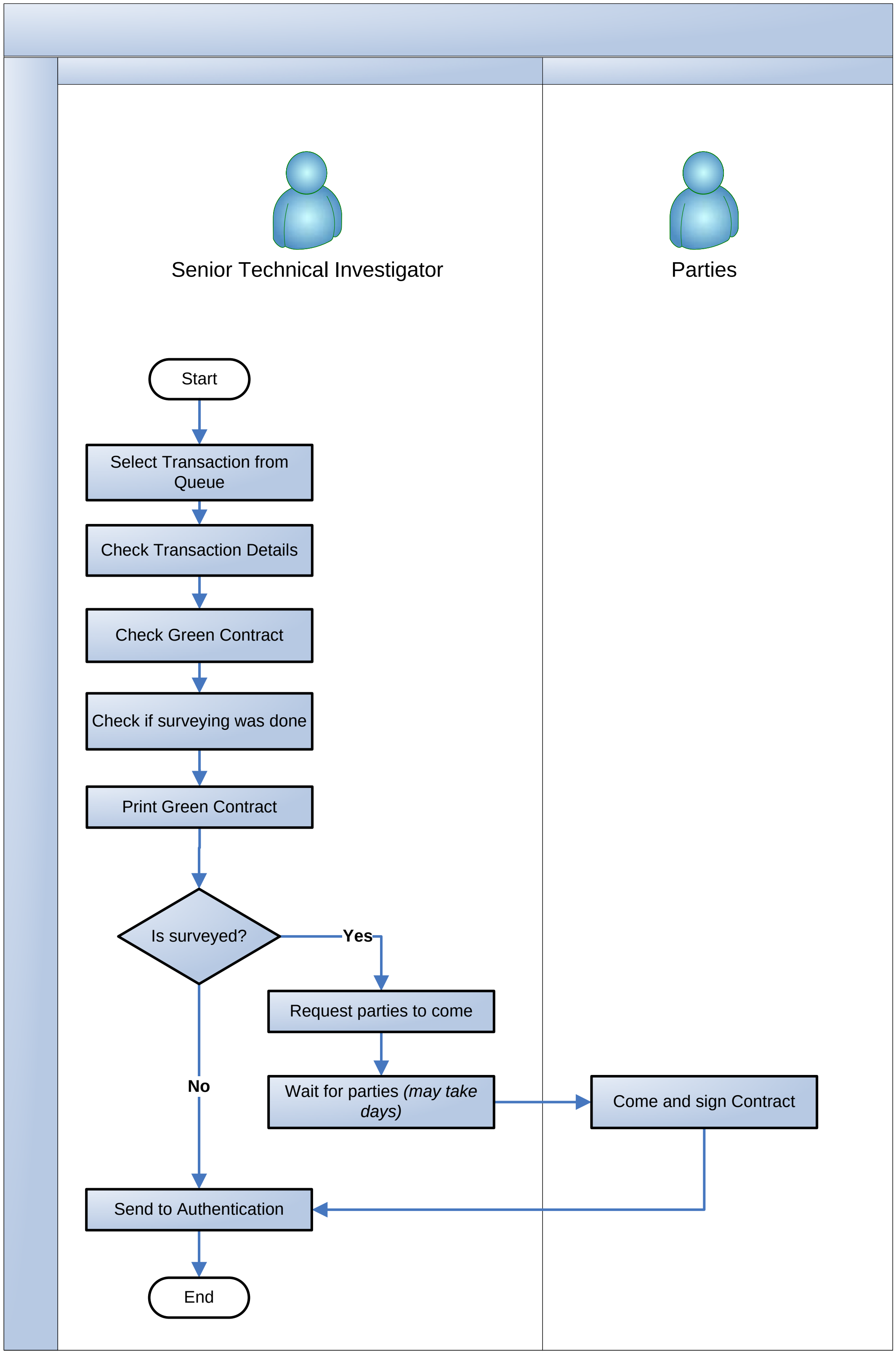



*Figure 19 Final Verification Use Case*

### 2.6.10 CONDUCT SEARCH

| EPBDS | |
|---|---|
| **Use Case** | Prepare Search Copy |
| **Level** | Proposed |
| **Summary** | Find and print a copy of a digital or hard copy document. The copy is signed and sealed (stamped) by the Technical Investigator. |
| **Actor** | Search Clerk |
| **Estimated Duration** | Up to 15 minutes per transaction |
| **Preconditions** | EPBDS Registration module is activated.<br>The transaction is at Conduct Search stage. |
| **Post Conditions** | The copy is printed.<br>The transaction arrives at the Delivery stage. |
| **Primary Scenario** | |
| **Actor** | **System** |
| 1. Select the transaction at the Conduct Search stage in the registration queue. | 2. Highlights the selected transaction.<br>3. Opens the corresponding sub module. |
| 4. Check with the application form what should be found. | 5. Runs the Registry Browser. |
| 6. Start *Registry Browser* and find a copy of the document. | 7. Shows a copy of the document. |
| 8. Hit *Print* copy of the document. | 9. Prints a copy of the document. |
| 10. Click *Finish*. | 11. Moves the transaction to the Certify Search Stage. |
| 12. Collect documents for handing to the Technical Investigator for the certification. | |
| | |
| **Secondary Scenarios**<br>1. If an extract from a hard-copy book or document is requested and this page is not yet scanned, after step 6, the Search Clerk finds the proper book/document in the archive and makes the copy by photocopier. | |
| **Exception Scenarios**<br>1. If document is not found, the corresponding Search Result letter will be prepared to indicate that no copies were found. | |
| **Notes and Definitions** | |

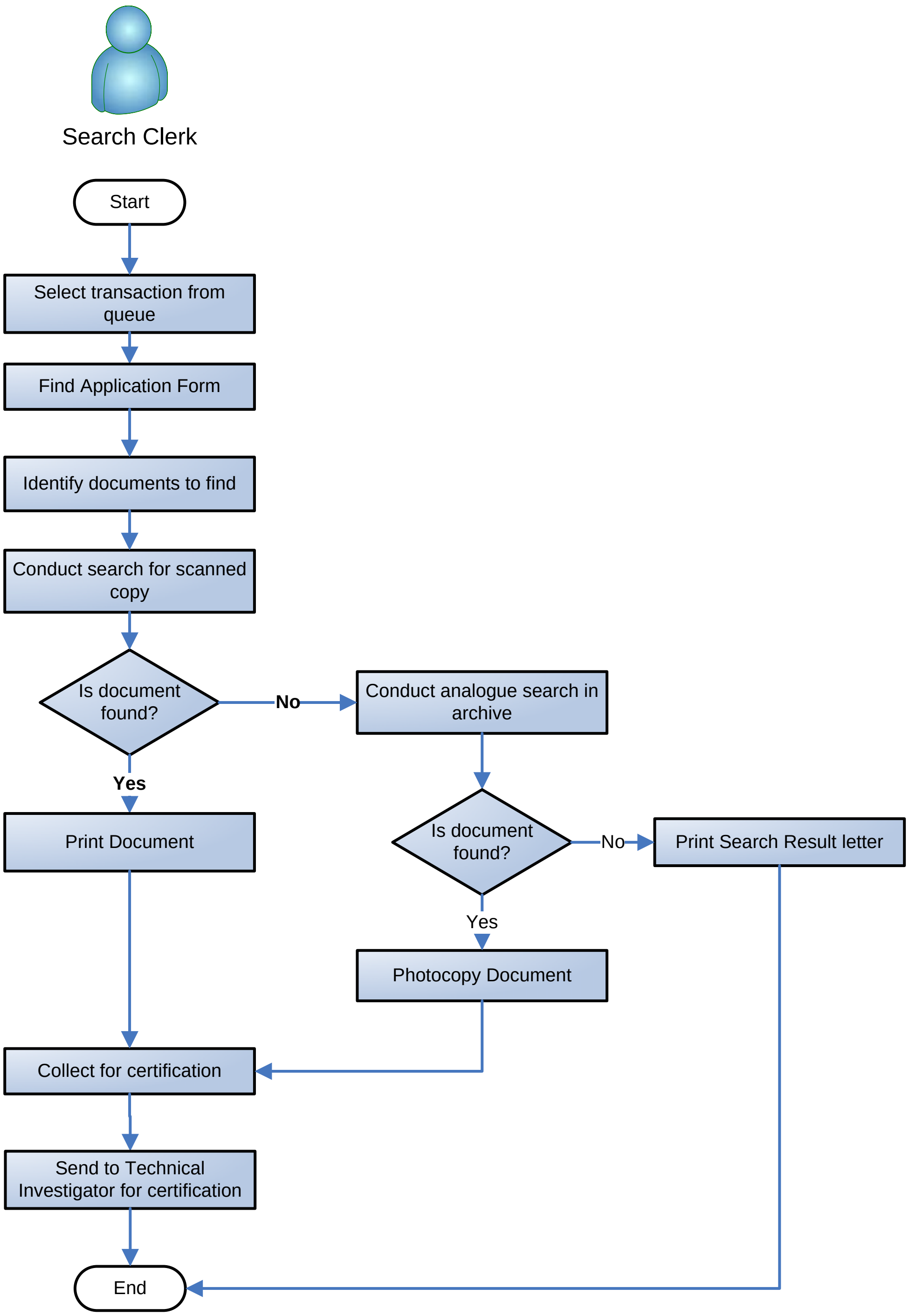



*Figure 20 Conduct Search Use Case*

### 2.6.11 DELIVERY OF DOCUMENTS

| EPBDS | | |
|---|---|---|
| **Use Case** | Delivery of documents. | |
| **Level** | Proposed | |
| **Summary** | Deliver to the Applicant supporting and outgoing documents created during the registration or as a result of a certification or search process. | |
| **Actor** | Delivery Clerk | |
| **Estimated Duration** | Up to 5 minutes per transaction | |
| **Preconditions** | EPBDS Registration module is activated.<br>Documents are collected.<br>The transaction is at the Delivery stage. | |
| **Post Conditions** | Processing of the transaction is finished.<br>The transaction arrives at the *End* stage in the workflow. | |
| **Primary Scenario** | | |
| **Actor** | **System** | |
| 1. Get Acceptance Receipt from the Applicant to identify number of transaction.<br>2. Select the transaction from the registration list at Delivery stage. | 3. Highlights the transaction on the screen. | |
| 4. Start the *Delivery* module | 5. Opens a window with the transaction details – transaction name, transaction no. and list of outgoing documents to be delivered. | |
| 6. Edit Applicants data if necessary.<br>7. Click the *Print Delivery Receipt* button to print the document. | 8. Prints out the *Delivery Receipt* with a list of delivered documents. | |
| 9. Sign the *Delivery Receipt*; the Applicant does the same.<br>10. Give the outgoing documents to the Applicant.<br>11. File Delivery receipts into the Delivery Receipts Folder.<br>12. Click *Finish*. | 13. Sends the transaction to the final stage in the workflow; the execution of the workflow is finished. The transaction is ended. | |
| | | |
| **Secondary Scenarios**<br>1. Delivery may be stopped if any documents are not collected or ready.<br>2. At step 12 automatic notification will be sent to ESA EPO office to confirm successful conclusion of transaction. | | |
| **Exception Scenarios**<br>1. At any step the Delivery Clerk can stop the procedure and save the results. In the workflow the transaction stays at the Submit Application stage.<br>2. At step 6 the Delivery Clerk can edit applicant data if other (but authorized) person picked up documents. | | |
| **Notes and Definitions**<br>N/A | | |

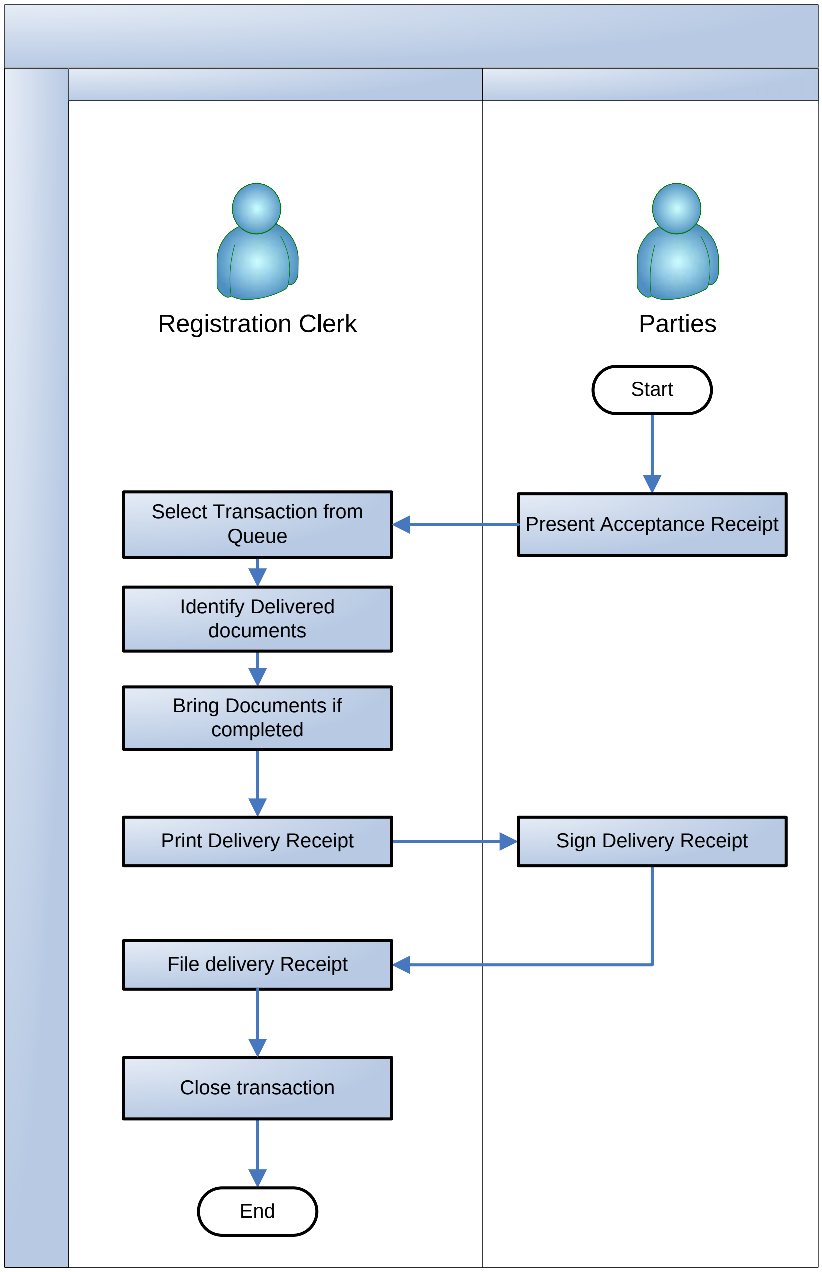



*Figure 21 Delivery of Documents Use Case*

# 2.7 SYSTEM FUNCTIONAL REQUIREMENTS

## 2.7.1 USER INTERFACE REQUIREMENTS

Section contains typical requirements for the system GUI, accessibility and usability.

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.1.1** | The system should fully support the Arabic language. | MAN | This includes the GUI, system generated documents and reports, on-line help and user manuals. |
| **2.7.1.2** | The system should have user-friendly interface. | MAN | Easy to use windows. Command line interface should be not used for clerks. |
| **2.7.1.3** | The EPBDS must provide online help in all end-user modules. | MAN | |
| **2.7.1.4** | The online help in the EPBDS should be context-sensitive. | REQ | Help content depends on from what module the help function is initiated. |
| **2.7.1.5** | Error messages produced by the EPBDS must be meaningful, so that they can be appropriately acted upon by the users who are likely to see them. | REQ | Error messages should contain two parts: (1) error description, (2) recommendation to address the issue. |
| **2.7.1.6** | Where the EPBDS includes the use of windows, it must allow users to move, re-size and modify their appearance where appropriate. | MAN | Modifications to the windows must be stored in user profiles between sessions. |
| **2.7.1.7** | The EPBDS must support use of default values for data entry where desirable. These defaults should include:<br>• user-definable values (through the use of dictionaries);<br>• values same as the previous item;<br>• values derived from context, e.g. date, and file reference, user identifier; as appropriate. | MAN | Using defaults increases of the performance of the users working with the System. |
| **2.7.1.8** | Frequently executed EPBDS operations must be designed so that they can be accessed with a small number of interactions (e.g. less mouse clicks or key presses). | MAN | Increases the performance of the users working with the System. |
| **2.7.1.9** | The system should support mouse-less work. | DES | Most of the operation in the system must be accessible by using keyboard shortcuts. |
| **2.7.1.10** | The EPBDS should follow “Microsoft Official Guidelines for User Interface Developers and Designers”. | DES | http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dnwue/html/ch14a.asp |
| **2.7.1.11** | The system should highlight required fields. | MAN | The User should not be able to finalize the entire operation without completing the required fields. |
| **2.7.1.12** | The EPBDS must support the validation of text, logic, and numeric fields when applicable. | MAN | This implies the use of validation tables, lists, logical algorithms, value ranges, etc. |

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.1.13** | The EPBDS should disable menus, controls, and fields that are not authorized for the user. | MAN | |

### 2.7.2 CASHIERING AND FEE COLLECTION

The Cashiering sub-system can be used as an integrated part of the EPBDS or as a standalone system to calculate and collect fees.

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.2.1** | The EPBDS must have a cashiering module to provide fee collection management. | MAN | The Cashiering module may be a part of EPBDS or separate software integrated with the EPBDS. |
| **2.7.2.2** | The EPBDS must provide standard POS functionality for work with a cash drawer. | MAN | This includes open day, close day, commissioning of cash drawer content, reconciliation. |
| **2.7.2.3** | The EPBDS must allow for configuring the fee schedule expressed by formulas based on certain business rules. | MAN | Formulas can include integer, float, look up, currency, Boolean, date/time, and text arguments that can be used in fee calculation. |
| **2.7.2.4** | The EPBDS must define the distribution of calculated fees by defined accounts. | MAN | The automatic calculation of the fee must include managing the calculated amount by accounts defined in the chart of accounts. |
| **2.7.2.5** | Depending on preconfigured rules, the EPBDS must automatically calculate the registration fee. | MAN | The calculated fee is a defined type of transaction and parameters of transaction. |
| **2.7.2.6** | The EPBDS must support automatic fee calculation for transactions with variable parameters. | DES | i.e. the “Union” transaction with a variable number of source properties, each with a different area. |
| **2.7.2.7** | Versioning of fee schedules must be supported. | DES | When the fee schedule is changed, the previous version of the fee schedule must be archived automatically. |
| **2.7.2.8** | The system must generate a receipt at the time the payment is accepted. | MAN | A unique number is assigned to the receipt. |
| **2.7.2.9** | The system must provide functionality to re-print a receipt if required. | MAN | The reprinted receipt must be clearly different from that printed upon commitment of payment. |
| **2.7.2.10** | The EPBDS must have a refunding function. | MAN | If a document is rejected and registration is not further pursued by the client. |
| **2.7.2.11** | The EPBDS must support concurrent work with several cash registers. | MAN | Different cash registers can serve different registrations in the registration office. |
| **2.7.2.12** | The following tender types must be supported: checks, cash, debit or credit cards, customer deposit account. | MAN | Use of each tender type must be configurable. |
| **2.7.2.13** | The EPBDS should support deposit accounts. | REQ | Use of deposit accounts for the customers must be configurable. |
| **2.7.2.14** | The EPBDS must have functionality to generate receipt barcodes. | MAN | The content of barcode must be configurable. |

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.2.15** | The EPBDS must work on standard cashiering hardware. | DES | This includes cash drawer, receipt printer, display screen, barcode scanner. |
| **2.7.2.16** | The EPBDS must support provide a credit line for “most valuable customers”. | DES | The credit limit is configurable for each customer separately. |
| **2.7.2.17** | The EPBDS must have a function to imprint application forms with payment information. | DES | Imprinting provides an additional control that shows that the application has passed through the cashier. |
| **2.7.2.18** | The EPBDS must export the General Ledger in standard exchange formats. | MAN | As CSV or XML. |
| **2.7.2.19** | The system must have open API to all POS functions. | MAN | The cashiering sub-system must have a documented API for all POS functions. |
| **2.7.2.20** | The minimum list of POS reports that must be provided includes:<br>• Account Total;<br>• Chart of Accounts and Fee Schedule;<br>• List of Customers;<br>• Customer Transactions;<br>• Session Details;<br>• Reconciliations; | MAN | Users should have the functionality to extend the POS system with their own reports. |
| **2.7.2.21** | Partial payments must be supported | DES | The system must print partially paid invoices. |
| **2.7.2.22** | The EPBDS must provide the ability for printing of fee collection reports. | MAN | Collected Fees report must show fee by users, day, accounts, and transaction groups. |

### 2.7.3 DATA ENTRY

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.3.1** | The system should support and enforce validation rules where appropriate. | MAN | |
| **2.7.3.2** | The system should provide all required shortcuts to simplify navigation between fields in forms. | REQ | For example, in data entry forms all navigation between fields, menus and checkboxes must be keyboard based to reduce number of times when mouse use is needed. |
| **2.7.3.3** | The system should support dictionaries for most common values to facilitate data entry. | MAN | |
| **2.7.3.4** | The EPBDS must implement data entry functions (indexing of required information) through the use of standard Windows forms with controls such as text fields, dropdown menus, checkboxes, etc. | MAN | Information to be entered for each transaction includes transaction details, party details, and property details. |
| **2.7.3.5** | The EPBDS should support OCR to facilitate data entry from scanned/electronic documents. | DES | OCR support depends on the availability of commercial OCR software for the Arabic language.<br>This requires additional licensing. |
| **2.7.3.6** | The System should provide a multi- | MAN | |

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| | window interface to match the scanned copy of the document with what is being indexed. | | |

### 2.7.4 Document Imaging

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.4.1** | The EPBDS must provide the ability to scan/process all required paper documents and link them to the property and/or transaction. | MAN | Scanned documents are stored in the Documents Images database. |
| **2.7.4.2** | The EPBDS must provide functionality to auto-rotate pages. | MAN | On/Off setting in the system |
| **2.7.4.3** | The EPBDS must provide functionality to automatically identify and remove blank pages. | MAN | On/Off setting in the system |
| **2.7.4.4** | The User must have the ability to adjust the brightness and contrast of the images. | MAN | Applicable for color and grayscale images. |
| **2.7.4.5** | The EPBDS must provide functionality to do automatic or manual rotation/orientation of scanned pages. | MAN | |
| **2.7.4.6** | The EPBDS must provide functionality to manually crop scanned pages. | REQ | Cropped area is removed from image file. |
| **2.7.4.7** | The EPBDS must support automatic de-skew of scanned pages. | MAN | Automatic alignment of the pages for the documents rotated during scanning. |
| **2.7.4.8** | The EPBDS must support automatic de-speckle of scanned pages. | DES | Automatic removal of “dust” from the scanned pages. |
| **2.7.4.9** | The EPBDS should provide the option to imprint the transaction number and/or time/date stamp on each document page. | REQ | |
| **2.7.4.10** | The EPBDS should support annotation. Annotation will be a mask either to hide sensitive information or comment (note). Annotations should be vector objects. | MAN | Depends on image format. |
| **2.7.4.11** | Annotations must be traceable to the author, and stored as an overlay to the original image (i.e., the original image is not modified). | MAN | Depends on image format. |
| **2.7.4.12** | The EPBDS must provide functionality to fill-in the selected document area with a specified color. | REQ | |
| **2.7.4.13** | The EPBDS must support scanning devices compliant with the TWAIN standard. | MAN | |
| **2.7.4.14** | The EPBDS should support scanning devices compliant with the ISIS standard. | DES | |
| **2.7.4.15** | The EPBDS must support the storing and reading of bi-tonal images in TIFF v6 image format with Group IV facsimile compression. | MAN | |

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.4.16** | The EPBDS must support the storing and reading of color images in TIFF v6 image format with LZW compression. | MAN | |
| **2.7.4.17** | The EPBDS should provide the option to store scanned document as multi-page TIFF. | DES | |
| **2.7.4.18** | The EPBDS should provide the option to store scanned document as multipage PDF. | DES | |
| **2.7.4.19** | The EPBDS should support the storing and reading of color images in JPM file format. | DES | |
| **2.7.4.20** | The EPBDS must option to set up default format and compression parameters to be used for storing scanned document copies. | MAN | |
| **2.7.4.21** | The EPBDS should support several scanning profiles. | REQ | The scanner profile keeps the scanner setting specific to particular document type. |
| **2.7.4.22** | Images (pages) should be sorted and grouped under the documents they belong to. | MAN | |
| **2.7.4.23** | The EPBDS must allow the User to export/import selected documents pages. | DES | |
| **2.7.4.24** | The EPBDS must allow the User to print selected documents pages. | MAN | |
| **2.7.4.25** | The EPBDS should support attachments. | REQ | An attachment is any electronic file stored within the document object together with its scanned pages. |
| **2.7.4.26** | The EPBDS must support document versioning. | MAN | The EPBDS should be capable of managing versions of an electronic document as separate but related entities by maintaining the link between them. |
| **2.7.4.27** | The EPBDS should allow the creation of a new version only from the last document version. | MAN | |
| **2.7.4.28** | The EPBDS should be able to restrict users (groups) to viewing:<br>• only the latest version of a document;<br>• all or selected versions of a document; | MAN | This choice will be made at configuration time by the Administrator. |

### 2.7.5 Search and Retrieval

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.5.1** | The EPBDS must provide easy to use search, based on ad-hoc queries. | MAN | |
| **2.7.5.2** | The EPBDS should provide the ability for the Administrator to customize search fields. | DES | Implies to add or hide certain filed from the search screens. |

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.5.3** | The EPBDS must utilize a browsing mechanism that provides graphical or other display browsing techniques for easy navigation in search results returned to the user. | MAN | For example, search results will be grouped by pages so that users can navigate early between pages. |
| **2.7.5.4** | The EPBDS should allow users to refine (or narrow) searches. | REQ | |
| **2.7.5.5** | The system must restrict user access to certain search types based on administrator's settings. | MAN | |
| **2.7.5.6** | The EPBDS must provide for "wild card" searching that allows for forward, backward and embedded expansion. | MAN | |
| **2.7.5.7** | The EPBDS should provide word proximity searching. | DES | User can specify that a word has to appear within a given distance of another word in the record to qualify as a hit. |
| **2.7.5.8** | The EPBDS must allow the full text of documents to be searchable. | DES | Depends on presence of OCR functionality. |
| **2.7.5.9** | System must provide hyperlinks in search results in order to allow quick navigation to related records. | MAN | For example, property description will contain list of all registered transactions and if user click on related transaction record, he should be able to see transaction details. |
| **2.7.5.10** | System must provide the ability to search for pending transactions based on transaction number, stage type, and applicant name. | MAN | |
| **2.7.5.11** | User must be able to search for property by use of property PID, property address, and property type etc. | MAN | |
| **2.7.5.12** | System must provide the ability to search for scanned documents copies based on document type, number, transaction number, date, etc. | MAN | |
| **2.7.5.13** | System must provide the ability to search for committed transaction details based on its number, type, invoice number, date parameters, property URID. | MAN | |

### 2.7.6 PRINTING

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.6.1** | The EPBDS must support printing trough standard Windows-based printer drivers. | MAN | |
| **2.7.6.2** | The Public Access module of the EPBDS must restrict image printing for certain group of users. | MAN | Configured by the Administrator. |
| **2.7.6.3** | The EPBDS must allow authorized users to print reports. | MAN | |
| **2.7.6.4** | The EPBDS must allow authorized users to print list of pending transaction with their attributes. | REQ | |

| | | | |
|---|---|---|---|
| **2.7.6.5** | The EPBDS must allow Administrators to print system dictionaries. | MAN | |
| **2.7.6.6** | The EPBDS should allow Administrators to print system administrative settings. | DES | |

### 2.7.7 WEB ACCESS

| | | | |
|---|---|---|---|
| **2.7.7.1** | The EPBDS must have a web access module to provide search and browsing functionality. | MAN | A web site will be established at the MRO to allow remote consultation about status of transaction. |
| **2.7.7.2** | The EPBDS web site at least should contain the following main section:<br>• General Information<br>• Search Section<br>• Instruction on procedures | MAN | |
| **2.7.7.3** | The EPBDS web site should have an application form(s) in PDF format ready for download. | MAN | |
| **2.7.7.4** | The EPBDS web access module must support restricted viewing of images. | MAN | Image viewing will be available for authorized users. No image viewing will be available for Internet public users. |
| **2.7.7.5** | The EPBDS must restrict user access to viewing/printing images based on their group settings. This includes:<br>• restrict image viewing/printing,<br>• restrict image viewing/ printing without annotations, | REQ | Public users can view and images only with annotations. Privacy information should be not available for public access. |
| **2.7.7.6** | The EPBDS must provide the ability for users to search and print extract for status of pending transaction, Search by:<br>• Number of deed<br>• Type of deed<br>• Creation date of deed<br>• Property Number (PID) | MAN | In other words, user should be able to consult system about status of his registration. |
| **2.7.7.7** | The EPBDS should provide the ability for users to search and print property information. Search by:<br>• Property Number (PID)<br>• Governorate<br>• Property type<br>• Property address | MAN | Restricted functionality – not all information can be printed.<br>For public users some searches and their results can be limited or prohibited. |
| **2.7.7.8** | The EPBDS should provide the ability for authorized users to search and print person information. Search by:<br>• Person Name<br>• Person Type<br>• Person's National ID | MAN | Restricted functionality – not all information can be printed.<br>For public users some searches their results will be limited or prohibited. |
| **2.7.7.9** | The EPBDS should provide the ability for authorized users to search and print committed transaction information. | REQ | |

| | | | |
|---|---|---|---|
| **2.7.7.10** | The EPBDS must provide the ability for users to search and print extract for status of pending transaction, search by:<br>• Number of transaction<br>• Date of transaction<br>• Property Number (PID)<br>• Deed type | MAN | This is to provide users with information what is current status of their registration. |

### 2.7.8 INTEGRATION WITH OTHER SYSTEMS

Integration between EPBDS and other will be based on Service-Oriented Architecture (SOA). Systems will communicate with each other over the high-speed Internet or WAN connection to exchange information.

During daily activities, the EPBDS needs to interact with the ICRS when information on cadastral objects is required. The EPBDS will also provide notifications to the ICRS in certain cases – for example, when property is registered and a new unique registration number is assigned.

Communication with other system is expected as well.

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.8.1** | The EPBDS must provide functionality to integrate with the ICRS system on workflow level. | MAN | During the registration when registration matter changes cadastral objects (subdivision, merging) or information on cadastral object required, EPBDS notifies/request cadastral system. |
| **2.7.8.2** | The EPBDS must provide web services for integration with other systems. | MAN | Information and document copied will be sent over the secure network connection and processed by web-services available from both sides. |
| **2.7.8.3** | For communication with the ICRS system, the EPBDS must support secured protocol. | MAN | Communication with cadastral system may go via Internet. SSL support and encryption for transmitted data are required. |
| **2.7.8.4** | Once a registered transaction requires notification to the cadastre system, the EPBDS should send an encrypted XML over the Internet to the cadastre office. | MAN | XML will be processed at the ICRS side and ESA will initiate corresponding workflows. |
| **2.7.8.5** | The EPBDS must be able to receive and decrypt responses from the cadastre office with updated data. | MAN | |
| **2.7.8.6** | EPBDS must provide an interface for ICRS to access the latest indexed information about the registered deeds. | MAN | This implies the implementation of a special module in the ICRS system to access and browse registration information. |
| **2.7.8.7** | EPBDS must provide and interface for ICRS to access latest imagery information about registered deeds. | REQ | This implies the implementation of a special module in ICRS system to access and browse imagery information. |
| **2.7.8.8** | The EPBDS must be able to connect to ICRS to acquire cadastre | MAN | For example, Registration Clerk can send requested to the ICRS to |

| | | | |
|---|---|---|---|
| | information about property. | | ensure that PID supplied by the applicant is valid (exists). |
| **2.7.8.9** | The EPBDS must notify MSAD title registration system in case if property ownership is changed. | MAN | |
| **2.7.8.10** | The EPBDS must be integrated with Notarization system so that clerks can consult on status of power of attorney. | REQ | May depend on availability of proper interfaces from the side of notarization system. |
| **2.7.8.11** | The EPBDS must be integrated with Prohibited from Registration System so that clerks can consult if property is arrested or prohibited from registration. | REQ | May depend on availability of proper interfaces from the side of Prohibited from Registration System. |

### 2.7.9 REPORTING

EPBDS must provide a set of predefined reports - these are mostly tracking reports, content reports, staff productivity reports etc. Key reports included into the table below.

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.9.1** | All reports must be generated in PDF (version 4.0 or higher) format. | MAN | PDF is “standard de facto” format for document exchange. |
| **2.7.9.2** | The EPBDS must allow reports to be generated for screen display, for printing, and for both display and printing. | MAN | |
| **2.7.9.3** | The EPBDS must provide the ability to generate reports from the predefined templates. | MAN | |
| **2.7.9.4** | Each report must contain data and time of printing, name of office where printed. | MAN | Name of user, who printed report, is an optional parameter. |
| **2.7.9.5** | The EPBDS must allow Administrators to schedule periodic reports and one-off reports. | MAN | |
| **2.7.9.6** | The EPBDS must allow for setting up delivery of generated periodic reports to the specified e-mail address. | REQ | This implies integration with mail server and its availability. |
| **2.7.9.7** | The EPBDS should allow Administrators to restrict users’ access to report groups. | MAN | |
| **2.7.9.8** | The EPBDS must provide the ability to print registry content report. | MAN | This report must include, at a minimum, reporting based on selected:<br>• number and types of properties,<br>• number and types of parties,<br>• number and type of deeds, and<br>• number and types of scanned documents. |
| **2.7.9.9** | The EPBDS must allow Administrators to enquire on and produce reports on the audit trail for specified transaction. | MAN | Including date and time when transaction entered and exited each stage in workflow, who processed transaction and each stage etc. |

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.9.10** | The EPBDS should allow registered property transfers report for the specified period.<br>This report will be used to notify taxation authority about transfers registered during period. | MAN | It at least includes:<br>• Date of transfer<br>• Date and time of registration<br>• Property PID<br>• Transferor name and ID<br>• Transferee name and ID<br>• Consideration value |
| **2.7.9.11** | The EPBDS should allow generating staff list report. | MAN | List of users registered in the system, including their login, name and group membership. |
| **2.7.9.12** | The EPBDS should allow generating staff activity report for the specified period. | MAN | Report shows all transactions processed by users over specified period. |
| **2.7.9.13** | The EPBDS should allow generating report with list of pending transactions with their ageing, grouped by transaction type. | MAN | |
| **2.7.9.14** | The EPBDS must allow generating Committed transaction report for the specified period, grouped by transaction type. | MAN | |
| **2.7.9.15** | The EPBDS must allow generating Detailed Committed transactions report for the specified period. | MAN | This report is used as analogue to the registration book. It contains detailed description of the registered transactions, sorted in chronological order. |
| **2.7.9.16** | The EPBDS must allow generating Detailed EPBDS-ICRS Communication report for the specified period. | MAN | This report will show statistics and details for the transactions submitted to ICRS from MRO. |

### 2.7.10 General Administration

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.10.1** | The application must offer the possibility to define a multi-level authorization concept on functions, user groups, and individual users. | MAN | The authorization concept must also apply on interfaces to foreign (external) systems. |
| **2.7.10.2** | The register information must be managed in a centralized storage. | MAN | In order to avoid data redundancy and double data capture. |
| **2.7.10.3** | The application must guarantee data integrity. | MAN | Implies use of transaction based processing. |
| **2.7.10.4** | The EPBDS must allow Administrators, in a controlled manner and without undue effort, to retrieve, display and re-configure systems parameters and choices made at configuration time and to re-allocate functions to user roles. | MAN | |

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.10.5** | Administrator must be able to configure list of transactions supported by the system. This includes associating them with corresponding workflow or delete/disable transaction. | MAN | |
| **2.7.10.6** | Administrator must be able to create, change and delete dictionaries that are used for facilitating data entry, retrieval and displaying. | MAN | |
| **2.7.10.7** | Administrator must be able to set up and manage image storage parameters i.e. specifies place where scanned files are stored. | MAN | |
| **2.7.10.8** | The EPBDS must provide recovery and rollback facilities in the case of system failure or update error, and must notify Administrators of the results. | MAN | |
| **2.7.10.9** | The EPBDS must monitor available storage space, and notify Administrators when action is needed because available space is at a low level or because it needs other administrative attention. | DES | May be an Operating System function. |
| **2.7.10.10** | The EPBDS should monitor error rates occurring on storage media, and report to the Administrator any medium or device on which the error rate is exceeding a parameter set at configuration time. | MAN | |
| **2.7.10.11** | The EPBDS should provide centralized storage, configurable by Administrators, for documents templates (reports and letters). | MAN | Documents to be stored centrally are as follows – reports, letters/receipts forms, graphical logos. |
| **2.7.10.12** | The EPBDS should provide Administrator with functionality to restrict number of connections to the application server. | REQ | |
| **2.7.10.13** | The EPBDS system should have license management based on client connections. | REQ | |
| **2.7.10.14** | The EPBDS should provide tools for monitoring and logging user actions. | MAN | |
| **2.7.10.15** | The EPBDS should provide tools to configure the calendar with working and non-working days. | REQ | |
| **2.7.10.16** | Administrator should be able to manage users and groups. | MAN | For details see section "*Access and Security*" |

### 2.7.11 WORKFLOW MANAGEMENT

The Workflow Management Coalition (WfMC) – an international association for developing workflow standards and inter-working of different workflow systems – defines workflow as

> *The automation of a business process, in whole or part, during which documents, information or tasks are passed from one participant to another for action, according to a set of procedural rules.*

In this definition, a “participant” can be a user, a work group (i.e. a team), or a software application.

Workflow technologies transfer electronic objects between participants under the automated control of a program. In the context of the EPBDS, workflow is used to move transactions between users and departments during a registration. Workflows will be mainly used for:

1. automating routine procedures in order to reduce number of errors and save processing time;
2. improve security policy so that a user can access only certain stages of workflow based on access and security policy;
3. checking and approval of transactions before registration;
4. routing records or files in a controlled way from one user to another for specific actions e.g. check document, index document etc.

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.11.1** | The EPBDS workflow engine must provide workflows, which consist of a number of steps and stages, each step being movement of a transaction record from one stage to another for action. | MAN | For example scanning is one stage and data entry is subsequent stage. |
| **2.7.11.2** | The EPBDS should not practically limit the number of stages in each workflow. | MAN | |
| **2.7.11.3** | The EPBDS workflow must provide a function to alert a user about the transaction that have been sent to the user’s electronic “tray” for attention and specify the action required. | DES | Alerts are generated only when specific transaction is assigned to the user. |
| **2.7.11.4** | The EPBDS workflow must allow the use of e-mail or internal messaging system for a user to notify other users of records requiring their attention. | REQ | Using e-mail implies integration with mail server. |
| **2.7.11.5** | The EPBDS workflow engine must allow preconfigured workflows to be defined and maintained by the Administrator. | MAN | In process of system use, changes to the legislation, regulations or registration instructions require modifying workflows implemented. |
| **2.7.11.6** | The EPBDS workflow engine must prevent preconfigured workflows from being changed by users other than the Administrator, or by approved users authorized by the Administrator. | MAN | Access to this functionality is matter of System User management. |
| **2.7.11.7** | The EPBDS workflow engine must record changes, applied to preconfigured workflows, in the system audit trail. | REQ | Modification of the workflow is tracked in audit trail as well as all other system modification functions. |
| **2.7.11.8** | The EPBDS workflow engine must record the progress of a transaction through a workflow so that users can determine the status of a transaction in the process. | MAN | Tracking information on progressing information through workflow must contain the following information: date/time come-in/come-out to/from stage, duration of stay at stage, name of user processed transaction at each stage, |

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.11.9** | The EPBDS workflow engine should manage the transactions in queues, which can be accessed by users. | MAN | Each user should see only stages he has access rights to. |
| **2.7.11.10** | The EPBDS must provide possibility to filter list of transaction in transaction queue. | MAN | By date, number range, transaction type, status, user name and dates. |
| **2.7.11.11** | The EPBDS workflow engine must allow participants to view queues of work assigned to them and select items to be worked on. | MAN | Access to the transactions in the workflow is configured during workflow definition. |
| **2.7.11.12** | The EPBDS workflow engine should provide conditional flows depending on user input or system data. | REQ | This implies use of rule-based workflow engine and communication with Application Server, processing business logic. |
| **2.7.11.13** | The EPBDS workflow engine should allow users to stop a workflow (i.e. to suspend it) temporarily in order to be able to attend to other work. | MAN | “Interrupted” flow stays at the stage where it was interrupted. |
| **2.7.11.14** | The EPBDS workflow engine must recognize as “participants” both individuals and work groups. | MAN | Matter of user management. |
| **2.7.11.15** | Where the participant is a work group, The EPBDS workflow engine should include a facility to distribute incoming items to group members in rotation, or on a member’s completion of the current task, to balance team members’ workloads. | DES | Automatic work balancing might become very important for big registration offices. |
| **2.7.11.16** | The EPBDS workflow engine should include the ability to prioritize items in queues. | REQ | The priority is defined manually or by the duration based on how long the transaction stays at one stage. |
| **2.7.11.17** | The EPBDS workflow engine should be able to associate time limits with individual stages and/or process in each flow, and report items that are overdue according to these limits. | MAN | Reporting on overdue transactions should be based on the application server messaging system. |
| **2.7.11.18** | Each workflow stage must be represented either by a single window with controls or as a wizard to facilitate task execution. | MAN | Exception is stages executed by application server modules – they are not requiring user involvement. |

### 2.7.12 ACCESS AND SECURITY

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.12.1** | The EPBDS should use Windows based authentication. | REQ | |
| **2.7.12.2** | The EPBDS should use Native authentication. | MAN | |
| **2.7.12.3** | The EPBDS must prohibit the use of the system without being properly logged in. | MAN | |
| **2.7.12.4** | The EPBDS must block a user account after five unsuccessful login attempts. | MAN | Blocking will be configured for period, defined by Administrator. |

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.12.5** | The EPBDS must allow the Administrator to set up the user profile access settings that determine to which the document classes and functions the user has access. The attributes of the profile will:<br>• prohibit access to the EPBDS without an accepted authentication mechanism (like password) attributed to the user profile;<br>• restrict user access to specific document classes;<br>• restrict user access to specific functions;<br>• deny access after a specified date;<br>• restrict access to specific transaction;<br>• allocate the user to a group or groups. | MAN | |
| **2.7.12.6** | The EPBDS must allow the Administrator to set up the group access settings that determine to which the objects and functions the group has access. The attributes of the profile will:<br>• restrict group access to certain workflow stages.<br>• restrict group access to specific document classes;<br>• restrict user access to specific functions;<br>• restrict access to specific transaction etc. | MAN | |
| **2.7.12.7** | The EPBDS must support nested groups. | DES | It implies that one group one may be member of another. |
| **2.7.12.8** | The EPBDS must allow a user to be a member of more than one group. | MAN | |
| **2.7.12.9** | The EPBDS must allow only Administrators to set up user profiles and allocate users to groups. | MAN | |
| **2.7.12.10** | The EPBDS must allow changes to security attributes for groups or users (such as access rights, security level, privileges, password allocation and management) to be made only by Administrators. | MAN | |
| **2.7.12.11** | The EPBDS must log events in the audit trail when users making unauthorized attempts to access files, document classes or records. | REQ | |
| **2.7.12.12** | The EPBDS should notify the Administrator by e-mail about specified access events. | DES | |
| **2.7.12.13** | All user actions that resulted in the change of registry content must be recorded into the audit trail. | REQ | |
| **2.7.12.14** | The Administrator should be able to search audit trail for specified events. | REQ | |
| **2.7.12.15** | The Administrator should be able to print search results from audit trail. | REQ | |
| **2.7.12.16** | The authorization rules must also apply on interfaces to foreign (external) systems. | MAN | No application or external systems can access EPBDS application server without being authorized. |

### 2.7.13 Backup and Recovery

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.13.1** | The EPBDS must provide automated backup and recovery procedures that allow setting up regular full or incremental backups of entire registry database, cashiering database, imagery data and administrative settings. | MAN | Back up functionality may be implemented with use of third party tools. |
| **2.7.13.2** | The EPBDS must provide recovery and rollback facilities in the case of system failure or update error, and must notify Administrators of the results. | MAN | |
| **2.7.13.3** | The EPBDS must allow the Administrator to schedule backup routines by:<br>• specifying the frequency of backup,<br>• allocating storage media, system or location for the backup (e.g. offline storage, separate system, remote site). | MAN | |
| **2.7.13.4** | The EPBDS must allow only the Administrator to restore from EPBDS backups. The full integrity of the data must be maintained after the restore. | MAN | |
| **2.7.13.5** | The EPBDS must allow only the Administrator to roll-forward the EPBDS from a backup to a more recent state, while maintaining full integrity of the data. | MAN | |
| **2.7.13.6** | The EPBDS should be able to notify users whose updates may have been incompletely recovered, when they next use the system, that a potentially incomplete recovery has been executed. | DES | |
| **2.7.13.7** | The EPBDS must support offline replication to a cold site of indexed data based on a schedule. | REQ | |
| **2.7.13.8** | The EPBDS must support offline replication to a cold site of the image data based on a schedule. | MAN | |

### 2.7.14 Customization and Extension

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.14.1** | The EPBDS must provide a tool to create custom attributes for objects belonging to the registration data model. | REQ | For example from some stage registry will need to add some extra attributes to record for property object. |
| **2.7.14.2** | The EPBDS must provide a tool to create and edit custom report templates. | REQ | The EPBDS must provide the ability to register in the system new custom report templates. |
| **2.7.14.3** | The EPBDS must provide a tool to create and edit new workflows. | REQ | |
| **2.7.14.4** | The EPBDS must provide a tool to modify existing workflows. | MAN | Add stages, link stages, register stages modules. |
| **2.7.14.5** | The EPBDS must provide functionality to add new transactions and associate them with system workflows. | REQ | |

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.14.6** | The EPBDS must provide a tool to create custom business rules for workflows and associated objects. | REQ | |
| **2.7.14.7** | The EPBDS must provide a tool to modify existing business rules for workflows for workflows and associated objects. | MAN | |

### 2.7.15 DOCUMENTATION

| No. | Description | Required | Details/Comments |
|---|---|---|---|
| **2.7.15.1** | The EPBDS must have a User Guides for each end user module. | MAN | In Arabic. Microsoft Word Format. |
| **2.7.15.2** | The EPBDS must have an Administration Manual document. | MAN | In Arabic. Microsoft Word Format. |
| **2.7.15.3** | The EPBDS must have training materials on how to use all registration modules. The training material should include a set of graphics and pictures to attract the user's attention and facilitate the use of visual methods. | MAN | In Arabic. Microsoft Word Format and/or Microsoft PowerPoint. |
| **2.7.15.4** | The EPBDS must have a Data Design Document, including the explanation of how to customize and enhance data model with new objects and attributes. | MAN | In English. Adobe PDF format. |
| **2.7.15.5** | The EPBDS must have a document describing the system API and provide samples and a description on how to integrate EPBDS and other external systems. | MAN | In English. Adobe PDF format. |
| **2.7.15.6** | The EPBDS must provide a code sample and description on how to design, develop and implement new workflows. | MAN | In English. Adobe PDF format. |
| **2.7.15.7** | The EPBDS must provide a code sample and description on how to write custom modules for the workflow stages. | MAN | In English. Adobe PDF format. |
| **2.7.15.8** | The EPBDS must provide a code sample and instructions on how to write custom business rules for workflows and associated objects. | MAN | In English. Adobe PDF format. |
| **2.7.15.9** | The EPBDS must provide a code sample and instructions on how to create custom report, forms and letters templates. | | In English. Adobe PDF format. |

## 2.8 DATA REQUIREMENTS

Section describes how the software product will process and store the data elements and logical data groupings.

### 2.8.1 DATA CATALOGUE

Below is a minimal required list of attributes to be stored in the registry. These attributes does not cover system specific data (e.g. date/time when property was added in the registry or date/time of last modification) or data for workflow management and fee calculation.

It is responsibility of the developer to design database model in such form so that all required relationships between objects (1 to 1, 1 to many etc.) are supported and properly implemented.

*Table 4 Data Catalogue*

| No. | Attribute name | Mandatory | Details/Comments |
|---|---|---|---|
| **Property** | | | |
| **2.8.1.1** | Property Type | Y | Parcel , Strata unit |
| **2.8.1.2** | PID Number | Y | Unique property number of property unit, links to cadastre objects: parcel, strata unit |
| **2.8.1.3** | Use type | N | e.g. agricultural, industrial, housing etc. |
| **2.8.1.4** | Legal Area | Y | Unit area according to document |
| **2.8.1.5** | Area Unit Type | Y | Unit of area measurements |
| **2.8.1.6** | North boundary | N | |
| **2.8.1.7** | South boundary | N | |
| **2.8.1.8** | East boundary | N | |
| **2.8.1.9** | West boundary | N | |
| **2.8.1.10** | Property name | N | Name of property |
| **2.8.1.11** | Address | Y | Link to unit address |
| **2.8.1.12** | Property Status | Y | Active, Pending (created not registered), archived |
| **2.8.1.13** | Note | N | Any note or description |
| | | | |
| **Party (natural)** | | | |
| **2.8.1.14** | First name | Y | First name |
| **2.8.1.15** | Farther name | N | Second name |
| **2.8.1.16** | Grand Farther name | N | Third name |
| **2.8.1.17** | Family name | Y | Forth name |
| **2.8.1.18** | Date of birth | Y | Date of birth |
| **2.8.1.19** | Gender | Y | Gender |
| **2.8.1.20** | National Identification Number | N | National Identification Number |
| **2.8.1.21** | Citizenship | Y | Citizenship |
| **2.8.1.22** | Nationality | N | Nationality |
| **2.8.1.23** | Address ID | Y | Link to person’s contact address |
| **2.8.1.24** | Document ID | Y | Link to identification document |
| **2.8.1.25** | Deed ID | Y | Link to deed where person appears as party |

| No. | Attribute name | Mandatory | Details/Comments |
|---|---|---|---|
| | | | |
| **Party (juridical)** | | | |
| **2.8.1.26** | Name | Y | |
| **2.8.1.27** | Legal form | Y | |
| **2.8.1.28** | Identification Number | Y | |
| **2.8.1.29** | Address ID | Y | Link to person's contact address |
| **2.8.1.30** | Document ID | N | Link to identification document |
| **2.8.1.31** | Deed ID | Y | Link to deed where person appears as party |
| | | | |
| **Deed** | | | |
| **2.8.1.32** | Deed number | Y | Publicity deed number |
| **2.8.1.33** | Deed type | N | The description of the legal transaction |
| **2.8.1.34** | Date registered | Y | Date when ownership was registered |
| **2.8.1.35** | Date cancelled | Y | Date when ownership was cancelled(transferred to another owner) |
| **2.8.1.36** | Notary | N | Name of notary who authenticated application |
| **2.8.1.37** | Party ID | Y | Link to party |
| **2.8.1.38** | Real Estate Unit ID | Y | Link to Real Estate Unit object |
| **2.8.1.39** | Image ID | Y | Link to document images |
| | | | |
| **Supported Document** | | | |
| **2.8.1.40** | Document type | Y | transfer agreement, lease agreement, will etc. |
| **2.8.1.41** | Document number | Y | document number |
| **2.8.1.42** | Issue date | Y | date when document was issued |
| **2.8.1.43** | Issued by | N | name of authority which issues/approved document – for example it may be name of notary office |
| **2.8.1.44** | Primary | Y | flag to indicate is document primary in application or not. Primary document is document which proves(establishes) right |
| | | | |
| **Person Identification Document** | | | |
| **2.8.1.45** | Document type | Y | Passport or national ID card or driver license. |
| **2.8.1.46** | Document number | Y | |
| **2.8.1.47** | Issue date | Y | |
| **2.8.1.48** | Issued by | Y | Authority issued the document |
| | | | |
| **Property Address** | | | |
| **2.8.1.49** | Governorate name | Y | |
| **2.8.1.50** | City name | Y | |
| **2.8.1.51** | Area name | Y | |
| **2.8.1.52** | Street Address | N | Street name, building number, apartment number |

| No. | Attribute name | Mandatory | Details/Comments |
|---|---|---|---|
| **2.8.1.53** | ZIP | N | Postal code |
| **2.8.1.54** | Building Number | N | |
| **2.8.1.55** | Floor Number | N | Used for strata units only |
| **2.8.1.56** | Unit number | N | Used for strata units only |
| **2.8.1.57** | Description | N | For those who do not have address |
| | | | |
| **Party Address** | | | |
| **2.8.1.58** | Country | Y | |
| **2.8.1.59** | Governorate name | Y | |
| **2.8.1.60** | District Name | | |
| **2.8.1.61** | City  name | Y | |
| **2.8.1.62** | Area name | Y | |
| **2.8.1.63** | Street Address | Y | |
| **2.8.1.64** | ZIP | N | |
| **2.8.1.65** | Description | N | |
| **2.8.1.66** | Telephone | N | |
| **2.8.1.67** | Mobile | N | |
| **2.8.1.68** | Note | N | |

## 2.9 SOFTWARE REQUIREMENTS

### 2.9.1 SOFTWARE FUNCTIONALITY

Describe the software's required capabilities, e.g. databases, operating systems, and diagnostics.

| # | Description | Required | Details/Comments |
|---|---|---|---|
| **2.9.1.1** | The EPBDS Application server must provide open program interfaces for integration with external applications. | MAN | |
| **2.9.1.2** | The EPBDS must be compatible with Windows 2003 R2 Server. | MAN | |
| **2.9.1.3** | The EPBDS must be compatible with Windows XP Professional. | MAN | |
| **2.9.1.4** | The EPBDS must be compatible with Windows Vista. | DES | |
| **2.9.1.5** | The EPBDS must be implemented on IBM DB2 platform. | MAN | |

### 2.9.2 HARDWARE FUNCTIONALITY

| # | Description | Required | Details/Comments |
|---|---|---|---|
| **2.9.2.1** | The EPBDS Applications will be run on Intel compatible platform. | MAN | |
| **2.9.2.2** | The EPBDS must support POS printers through the ESC/POS protocol | MAN | Required for Cashiering applications |

# 3 DESIGN CONSTRAINTS

Constraints are grouped into three areas covering software, hardware and user interfacing.

## 3.1 SOFTWARE DESIGN CONSTRAINTS

| # | Description | Required | Details/Comments |
|---|---|---|---|
| **3.1.1.1** | The EPBDS must be compatible with Windows 2003 R2 Server. | MAN | |
| **3.1.1.2** | The EPBDS must be compatible with Windows XP Professional or Windows Vista. | MAN | |
| **3.1.1.3** | The EPBDS must be implemented on IBM DB2 Platform. | MAN | |

## 3.2 HARDWARE DESIGN CONSTRAINTS

### 3.2.1 HARDWARE REQUIREMENTS AND ENVMRONMENT

The list of hardware proposed for the MRO can be found in the *Hardware Equipment for the MRO*. Annex provides list of the equipment actual for consideration in this document – target servers, workstations and peripherals for functioning of the EPBDS system.

## 3.3 USER INTERFACE CONSTRAINTS

### 3.3.1 USER CHARACTERISTICS

For details see section "User Roles and Groups" above in the document.

# 4 ANNEXES

This section contains the following:

- Samples of documents to be generated from EPBDS system. Sample of standardized application form is provided as well;
- List of currently supported Deeds types;
- Layout of MRO with location of working spaces of the MRO staff;
- Hardware equipment for the EPBDS System;

## 4.1 SAMPLES OF DOCUMENTS TO BE USED/ GENERATED BY THE EPBDS

This section contains examples of documents that will be used or generated by the system.

Please note that all documents will be finally used only in Arabic and these examples are shown in English only for preview purposes only.

Text, shown in black is text of the template itself.

Text, shown in blue, is text that will be inserted automatically from the database and can be edited by the operator only in some limited cases (when green contract is drafted or if rejection reason should be detailed).

### 4.1.1 APPLICATION FORM

This form is completed by the applicant for each transaction. Number of pages will vary depending on type of transaction, number of properties or parties involved into transaction etc.

**APPLICATION FORM**
**for deed registration**

District: Mokattam
Governorate: Cairo

**A1 - Cover Page** *(all application)*

Date of Completion _____ /_____ /______ (Day/Month/Year)

**Transaction**

Type of Transaction: ☐ Sale ☐ First Registration
*(Please select only one. For other please provide transaction code)* ☐ Inheritance ☐ Mortgage
☐ Court Order ☐ Discharge of Mortgage
☐ Other: ____

**Property**

PID Number: ____
Type of Property: ☐ Parcel ☐ Unit
Street Address: ____
Block: ____
Estimated area: ____

For units only: Building #: ____ Floor: ____ Unit #: ____

Description of Property: ____

For official use only

☐ Accepted
☐ Rejected
☐ Surveying Required

Extra pages provided:
☐ A2, pages ________
☐ A3, pages ________
☐ A4, pages ________
☐ A5, pages ________
☐ A6, pages ________

**Primary Contact Person**

Name: ____
Contact Address: ____
Phone: ____
Comments: ____

Please note that depending on type of application you will need to complete extra pages of application form. Please consult the Public Support Clerk for exact instruction. Form to complete:

| | |
|---|---|
| A1, A2 | Completed by applicant for all application |
| A3 | Completed by applicant for all transactions to indicate source of right |
| A4 | Completed by applicant only if several units/parcels merged into one unit |
| A5 | Completed by applicant only if any special conditions exist |
| A6 | Completed by notary in case if application will require notarization |

**For official use only**

**Comments:** ____

PAGE ____ of ______ Registration Clerk ______________

Transaction Number ______________ Notary ______________



*Figure 22 Application Form – Page A1 – Cover Page*

**APPLICATION FORM**
**for the registration of deed**

**A2 – Parties Page** *(all applications)*

**Party**

Type of Party: ☐ Seller ☐ Buyer
☐ Mortgagor ☐ Mortgagee
☐ Other: ______

First Name: ______ Farther Name: ______
Grand Father Name: ______ Family Name: ______
Nationality: ______ Occupation: ______
Address: ______

National ID #: ______ ID Card/Passport #: ______
Issued by: ______ Issued date: ______

**Party**

Type of Party: ☐ Seller ☐ Buyer
☐ Mortgagor ☐ Mortgagee
☐ Other: ______

First Name: ______ Farther Name: ______
Grand Father Name: ______ Family Name: ______
Nationality: ______ Occupation: ______
Address: ______

National ID #: ______ ID Card/Passport #: ______
Issued by: ______ Issued date: ______

**Party**

Type of Party: ☐ Seller ☐ Buyer
☐ Mortgagor ☐ Mortgagee
☐ Other: ______

First Name: ______ Farther Name: ______
Grand Father Name: ______ Family Name: ______
Nationality: ______ Occupation: ______
Address: ______

National ID #: ______ ID Card/Passport #: ______
Issued by: ______ Issued date: ______

PAGE ____ of ______ Registration Clerk ______________

Transaction Number ______________ Notary ______________



*Figure 23 Application Form – Page A2 – Parties Page (Optional)*

**APPLICATION FORM**
**for the registration of deed**

**A3 – Documents/Source of right** *(completed for all transactions)*

Please indicate all supporting documents that are submitted with this application. For list of documents, required for each type of transaction, please check information board or ask for Public Support Clerk's assistance. The application will be accepted only in case if all required documents will be presented upon lodgement.

| **General questions:** | | |
|---|---|---|
| Has ESA conducted survey for you property? | ☐ Yes | ☐ No |
| Have you submitted all documents required for registration? | ☐ Yes | ☐ No |

| **Type of Documents Submitted** | |
|---|---|
| ☐ Registered Green Contract | ☐ Affidavit of Procession |
| ☐ Court Verdict of Order | ☐ Lease/Sublease Agreement |
| ☐ Mortgage Agreement | ☐ Power of Attorney |

| # | **Other Documents** |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |



PAGE ____ of ______ Registration Clerk ______________

Transaction Number ______________ Notary ______________

*Figure 24 Application Form – Page A3 – Documents/Source of Right (Optional)*

**APPLICATION FORM**
**for the registration of deed**

**A4 – Additional Properties** *(completed only for amalgamations or reallotments)*

**Property**

PID Number: ____________________

Type of Property: ☐ Parcel ☐ Unit

Street Address: ____________________

____________________

Block: ____________________

Estimated area: ____________________

For units only: Building #: __________ Floor: __________ Unit #: __________

**Property**

PID Number: ____________________

Type of Property: ☐ Parcel ☐ Unit

Street Address: ____________________

____________________

Block: ____________________

Estimated area: ____________________

For units only: Building #: __________ Floor: __________ Unit #: __________

**Property**

PID Number: ____________________

Type of Property: ☐ Parcel ☐ Unit

Street Address: ____________________

____________________

Block: ____________________

Estimated area: ____________________

For units only: Building #: __________ Floor: __________ Unit #: __________

**Property**

PID Number: ____________________

Type of Property: ☐ Parcel ☐ Unit

Street Address: ____________________

____________________

Block: ____________________

Estimated area: ____________________

For units only: Building #: __________ Floor: __________ Unit #: __________

*Please note, only registered properties with valid PID numbers can be amalgamated. All properties should belong to the same owner.*

PAGE ____ of ______ Registration Clerk ______________

Transaction Number ______________ Notary ______________



*Figure 25 Application Form – Page A4 – Additional Properties (Optional)*

**APPLICATION FORM**
**for the registration of deed**

**A5 – Special Conditions** *(completed for any transaction if required)*

| List of special conditions/clauses |
|---|
| |

PAGE ____ of ______ Registration Clerk ______________

Transaction Number ______________ Notary ______________

*Figure 26 Application Form – Page A5 – Special Conditions (Optional)*

**APPLICATION FORM**
**for the registration of deed**

**A6 – Notarization Page** *(all applications)*

| **List of parties for the transaction** | |
|---|---|
| Name | Signature |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

**Notary Authentication**

This is to certify that all parties' signatures for this application form were authenticated by the notary.

The date of authentication is _____ /_____ /______ (Day/Month/Year)

Name of the notary: ________________________________________

Signature of the Notary: ________________________________________

PAGE ____ of ______

Transaction Number ______________

*Figure 27 Application Form – Page A6 – Notarization*

### 4.1.2 ACCEPTANCE RECEIPT

Arab Republic of Egypt

**Acceptance Receipt**

| | | | |
|---|---|---|---|
| Deed type : | Transfer by Sale | Governorate: | Al Qahirah |
| Transaction №: | 12365487 | Registration Office: | Mokattam |
| Lodgment Date: | 12/06/2008 | Address | St. #9, Parcel 7503, Area S |
| | | Support phone: | 173-98-56 |

**Property**

Type: Apartment
Address: 123, No.9 St., Unit. 23
Mokattam, Cairo
PID: 3-4-5-2/8

**Applicant**

Name: Abdula Abdel Muctabar
National ID: 271509250205656
Contact Address: 4, Al Sudan St., app. 234
01346, Dokki, Giza,
Egypt
t. 012-4532345
Comments: -

**Documents**

The following documents were accepted for registration:

| № | Document | Document № | Date |
|---|---|---|---|
| 1. | Application Form | - | 12/06/2008 |
| 2. | Copy of Registered Final Contract | 49284726978 | 05/04/2004 |

Registration Clerk _______________ /Hassem Hameda/

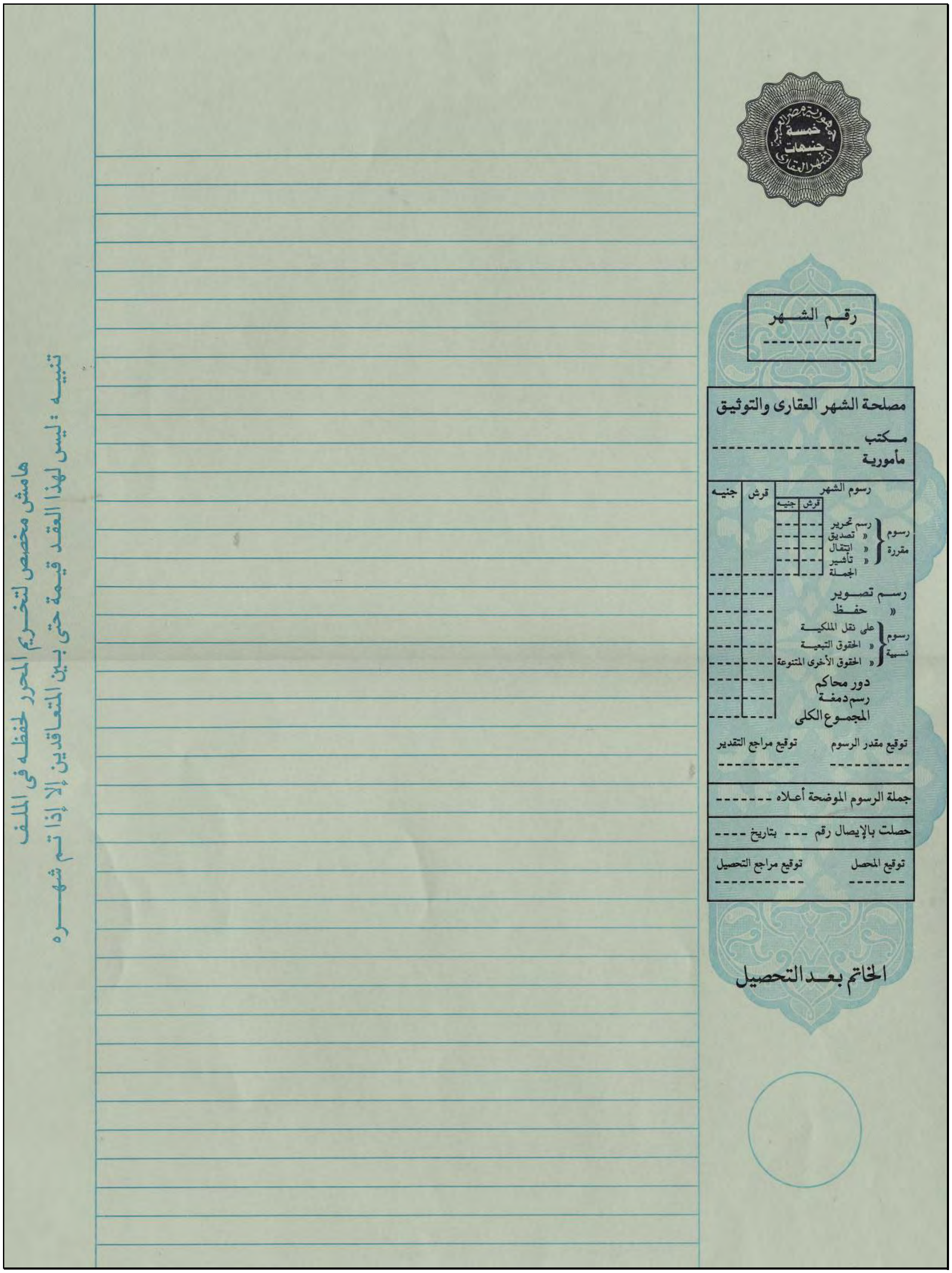
*This receipt is printed in two copies*



Acceptance Receipt № 12365487 Page 1 from 1
Printed on: 12/06/2008

*Figure 28 Example of Acceptance Receipt*

### 4.1.3 GREEN CONTRACT



تنبيه : ليس لهذا العقد قيمة حتى بين المتعاقدين إلا إذا تم شهره
هامش مخصص لتخريم المحرر لحفظه فى الملف

جمهورية مصر العربية
خمسة جنيهات
للشهر العقارى

رقم الشهر

مصلحة الشهر العقارى والتوثيق
مكتب
مأمورية

| جنيه | قرش | رسوم الشهر |
|---|---|---|
| | | رسوم مقررة: رسم تحرير / « تصديق / « انتقال / « تأشير / الجملة |
| | | رسم تصوير |
| | | « حفظ |
| | | رسوم نسبية: على نقل الملكية |
| | | « الحقوق التبعية |
| | | « الحقوق الأخرى المتنوعة |
| | | دور محاكم |
| | | رسم دمغة |
| | | المجموع الكلى |

توقيع مقدر الرسوم — توقيع مراجع التقدير

جملة الرسوم الموضحة أعلاه

حصلت بالإيصال رقم --- بتاريخ ----

توقيع المحصل — توقيع مراجع التحصيل

الخاتم بعد التحصيل

*Figure 29 Green Deed blank (A3 size)*

### 4.1.4 REJECTION LETTER

Arab Republic of Egypt

**Rejection Letter**

| | | | |
|---|---|---|---|
| Deed type : | Transfer by Sale | Governorate: | Al Qahirah |
| Transaction №: | 12365000 | Registration Office: | Mokattam |
| Delivery Date: | 24/06/2008 | Address | St. #9, Parcel 7503, Area S |
| | | Support phone: | 173-98-56 |

**Applicant**

| | |
|---|---|
| Name: | Mohamed Abdel Muctabar |
| National ID: | 276509250201787 |
| Contact Address: | 4, Al Sudan St., app. 234<br>01346, Dokki, Giza,<br>Egypt<br>t. 012-4532344 |
| Comments: | |

**Reasons**

This letter is to notify that your transaction is rejected because of the following reasons:

1. ESA survey indicates that actual size of your property is 2.24 hectares while you stated in your application that property area is 3.1 hectares.

In order to continue registration the following must be done:

2. Please visit our office to receive back all your submitted documents. No registration of this transfer is allowed.

Senior Technical Investigator _______________ /Ahmed Naser/



Rejection Letter № 12365000
Printed on: 24/06/2008

Page 1 from 1

*Figure 30 Rejection Letter Example*

### 4.1.5 PENDING LETTER

Arab Republic of Egypt

**Pending Letter**

| | | | |
|---|---|---|---|
| Deed type : | Transfer by Sale | Governorate: | Al Qahirah |
| Transaction №: | 12365999 | Registration Office: | Mokattam |
| Delivery Date: | 19/06/2008 | Address | St. #9, Parcel 7503, Area S |
| | | Support phone: | 173-98-56 |

**Applicant**

| | |
|---|---|
| Name: | Mohamed Abdel Muctabar |
| National ID: | 276509250201787 |
| Contact Address: | 4, Al Sudan St., app. 234<br>01346, Dokki, Giza,<br>Egypt<br>t. 012-4532344 |
| Comments: | |

**Reasons**

This letter is to notify that your transaction pending because of the following reasons:

1. Signature of Mr. Ibrahib Abdel Muctabar (co-owner) is missing on application form.

In order to continue registration the following must be done:

2. Kindly request to Mr. Ibrahib Abdel Muctabar to come and sign application as soon as possible.

Senior Technical Investigator _______________ /Ahmed Naser/



Pending Letter № 12365987
Printed on: 19/06/2008

Page 1 from 1

*Figure 31 Pending Letter Example*

### 4.1.6 DELIVERY RECEIPT

Arab Republic of Egypt

**Delivery Receipt**

| | | | |
|---|---|---|---|
| Deed type : | Transfer by Sale | Governorate: | Al Qahirah |
| Transaction №: | 12365999 | Registration Office: | Mokattam |
| Delivery Date: | 12/06/2008 | Address | St. #9, Parcel 7503, Area S |
| | | Support phone: | 173-98-56 |

**Applicant**

| | |
|---|---|
| Name: | Mohamed Abdel Muctabar |
| National ID: | 276509250201787 |
| Contact Address: | 4, Al Sudan St., app. 234<br>01346, Dokki, Giza,<br>Egypt<br>t. 012-4532344 |
| Comments: | Documents picked up by the son of the applicant. |

**Documents**

The following documents are delivered to the applicant:

| № | Document | Document № | Date |
|---|---|---|---|
| 1. | Final Contract Copy | 49284726978 | 24/06/2008 |

Registration Clerk _______________ /Hassem Hameda/

By signing this document I confirm delivery of the documents:

Applicant _______________



Delivery Receipt № 12365999
Printed on: 12/06/2008

Page 1 from 1

*Figure 32 Delivery Receipt Example*

## 4.2 CURRENT DEED TRANSACTIONS

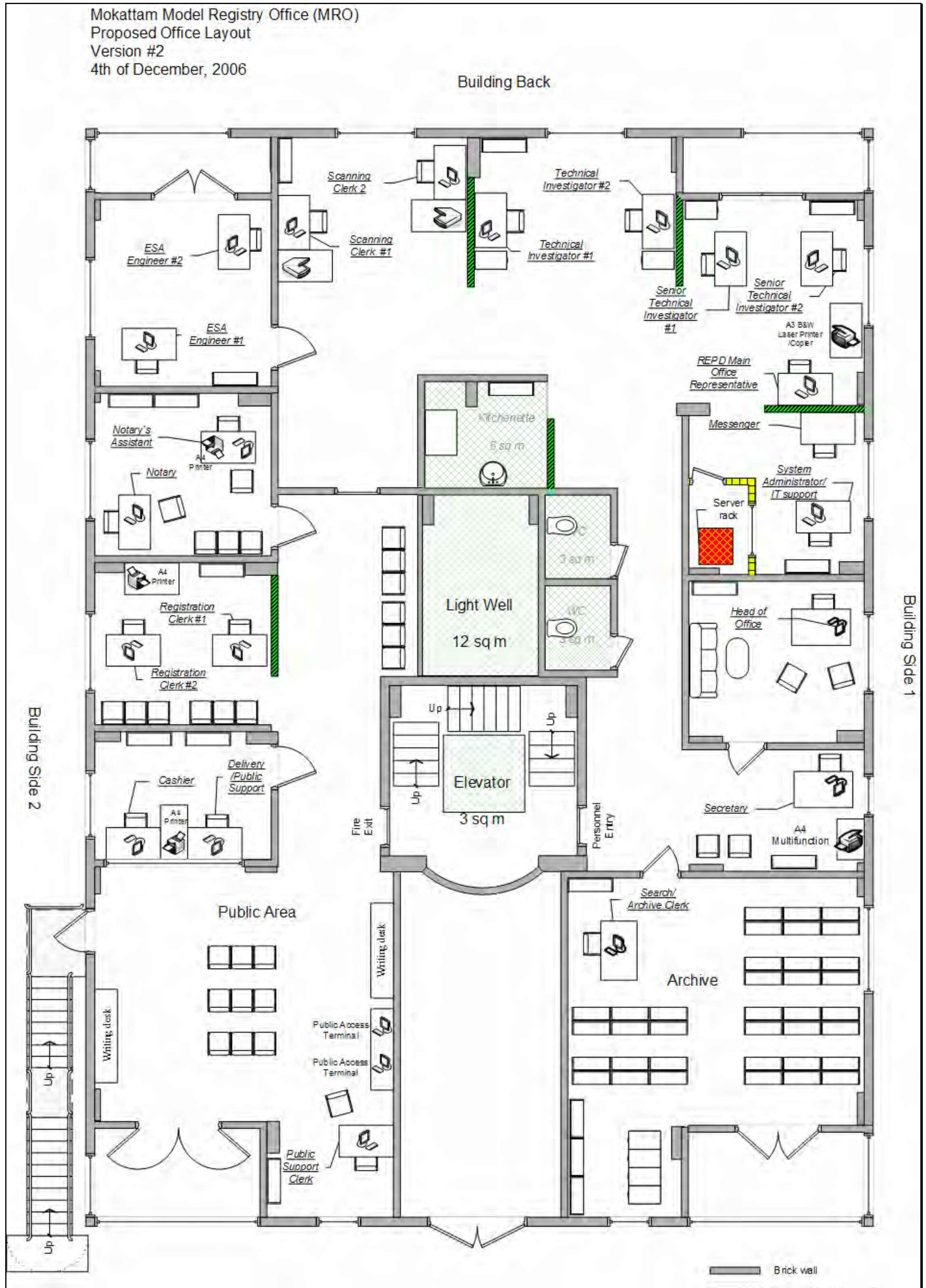
This section provides description of current deeds types to be recorded under EPBDS system.

*Table 5 Current Deed Types*

| No. | Current Deed Transaction | Explanation |
|---|---|---|
| 1. | Consent Sale | Transfer |
| 2. | Sale by keeping usufruct right | Transfer with reservation of right |
| 3. | Seha we Nafaz Prosecution | Court Case |
| 4. | Seha we Nafaz Verdict | Final Determination in Court Case |
| 5. | Gift | Transfer by Gift |
| 6. | Will | Transfer by Will |
| 7. | Formal Pledge List | Mortgage |
| 8. | Possession Pledge List | Mortgage |
| 9. | Formal Pledge List Renewal | Amendment of Mortgage |
| 10. | Possession Pledge List Renewal | Amendment of Mortgage |
| 11. | Consent Division | Subdivision |
| 12. | Juridical Division Prosecution | Final Determination in Court Case |
| 13. | Juridical Division Verdict | Court Case |
| 14. | Ownership Affirmation Prosecution | Court Case |
| 15. | Ownership Consolidation Verdict | Final Determination in Court Case |
| 16. | Expropriation Warning | Pending Eminent Domain Proceeding |
| 17. | Expropriation Prosecution | Pending Court Case for Eminent Domain, see Final Court Determination |
| 18. | Verdict for Holding an Auction | Court Order |
| 19. | Inheritance | Intestate Succession |
| 20. | Consent "Farz wa Tagneeb" (Partitioning and Separation) | Consent to Partition, consent to the subdivision of property normally by co-owners |
| 21. | Consent + division & Particularization | Allocation of the partitioned new real estate units to the owners |
| 22. | "Farz wa Tagneeb" Prosecution (Partitioning and Separation) | Court Case for partition |
| 23. | "Farz wa Tagneeb" Verdict (Partitioning and Separation) | Final Court Determination |
| 24. | Marginal notation | Annotation |
| 25. | Publication Amendment (major) | |
| 26. | Publication Amendment (minor) | |
| 27. | Completing a Deal (Concluding a Transaction) | |
| 28. | Particularization | Partitioning |
| 29. | Expropriation decision for public benefit (compensated) | Eminent Domain |
| 30. | Issuance of real estate certificate | Extract of title information or certified copy of the certificate of title. |
| 31. | Issuance of recent copy of a deed | Extract of deed information or certified copy of the deed. |

| No. | Current Deed Transaction | Explanation |
|---|---|---|
| 32. | Consent Sale with pledge | Supporting document for Deed apparently with mortgage back to seller to secure payment of purchase price. |
| 33. | Assignment Prosecution | This is related to rights in a court case. Parties can assign their rights and substitute parties. |
| 34. | Will registration | Transfer by will. |

## 4.3 MOKATTAM REGISTRATION OFFICE PROPOSED LAYOUT



# 4.4 HARDWARE EQUIPMENT FOR THE MRO

The following hardware (or similar) will be procured by EFS project for the Mokattam MRO for the system deployment and operation.

**Server Equipment**

| | | |
|---|---|---|
| Network Rack Server | CPU: 1x Pentium Xeon 3.4 GHz 800 FSB 2M<br>RAM: 4 x 1GB ECC Registered<br>HDD: 2 x 146 SAS 15K ppm Hot Swap<br>RAID: SAS 1<br>External SCSI Adapter: Ultra 320 68pin LVD<br>LAN: Dual 1 Gbps Ethernet adapter (copper)<br>Media: DVD<br>Redundant Power Supply<br>No OS Preinstalled | 1 |
| Database Rack Server | CPU: 2 x Dual Core Intel Xeon (Model 5150: 2.66GHz 2x2MB L2 Cache)<br>RAM: 6 x 1GB DDR2 ECC Registered<br>HDD: 6 x 146 Gb SAS 10K ppm Hot pluggable<br>RAID Controller for SAS RAID-5 support<br>Hot plug drive cage<br>LAN: Dual 1 Gbps Ethernet adapter (copper)<br>Media: 1 x DVD-+RW drive<br>External SCSI Adapter: Ultra 320 68pin LVD<br>Power: 2 x Power supply Hot plug<br>Server remote management software<br>Keyboard, Mouse<br>No OS Preinstalled | 1 |
| External tape storage | External VXA-2 SCSI Tape Drive;<br>80 GB native storage capacity<br>160 Gb compressed | 1 |

**Workstation Equipment**

| | | |
|---|---|---|
| General workstation | CPU: 1x Intel Core 2 Duo IV 2.13 GHz (Model E6400)<br>RAM: 3 x 512 Mb PC2-5300 SDRAM<br>HDD: 1 x 160 Gb SATA 7200 rpm<br>Video: 64 RAM (PCIe, DVI-I)<br>LAN: 1 x 1 Gbps Ethernet adapter<br>Media: DVD<br>Monitor: TFT 17" 1280x1024, Tco 99<br>USB Keyboard, USB Optical Wheel Mouse<br>Windows XP Professional | 18 |
| Public access workstation | CPU: 1x Intel Pentium 4 3.06 GHz 533 FSB<br>RAM: 2 x 512 Mb PC2-5300 SDRAM<br>HDD: 1 x 80 Gb SATA 7200 rpm<br>Video - Integrated, on board<br>LAN: 1 x 1 Gbps Ethernet adapter<br>Media: DVD-ROM<br>Monitor: TFT 17" 1280x1024, Tco 99<br>Keyboard, Mouse<br>Windows XP Professional | 2 |
| Scanning station | CPU: 1x Pentium IV 3.06 GHz HT<br>RAM: 2 x 1 Gb PC2-5300 SDRAM<br>HDD: 1 x 1600 Gb SATA 7200 rpm<br>Video 128 RAM<br>LAN: 1 x 1 Gbps Ethernet adapter<br>External SCSI Adapter: Ultra SCSI 68pin LVD<br>Media: DVD<br>Monitor: TFT 19" 1280x1024, Tco 99<br>USB Keyboard, USB Optical Wheel Mouse<br>Windows XP Professional | 2 |

## Peripherals

| | | |
|---|---|---|
| A3 flatbed duplex Scanner with ADF | Resolution: 600 x 1200 Optical,<br>Capacity: 30 ppm minimum<br>Connectivity: Ultra SCSI 68pin<br>1 year on site next day response | 2 |
| Copier | A3/A4 B&W copier<br>up to 20 ppm<br>Copy Resolution: 600 x 600 dpi | 1 |
| Multifunctional device | A4 laser 600 x 600 dpi black&white laser printer/copier/color scanner and fax<br>PORTS: USB<br>Speed: up to 20 ppm | 1 |
| Cashier Printer w/ cash drawer set | Receipt printing, slip imprinting,<br>RS-232 or bi-directional interfaces,<br>with cash drawer | 1 |
| A4 B&W Laser Printer | 1200 x 1200 dpi<br>up to 21 ppm (A4)<br>duplex support<br>Interfaces: USB, LAN ready<br>Capacity: 10000 pages per month | 3 |
| A3 B&W Laser Duplex Printer | 1200 x 1200 dpi<br>20 ppm<br>duplex printing<br>USB, LAN ready<br>Capacity: 65000 pages per month | 1 |
| Telephone | programmable buttons<br>fixed buttons: Intercom, Conference, Flash/Recall, Auto Answer/Mute, Redial, Hold, Transfer, Speakerphone | 6 |
| Telephone station | 3 Line x 8 Extension<br>Room-to-room intercom<br>Room Monitor<br>Conferencing | 1 |