

SITE DEVELOPMENT PLAN
scale 1: 20000

PORTION 4 OF THE FARM
VAALBANKSPRUITDRIFT 334 IT



1287 Pretorius Street
Block B, Hadafields Complex
Halfeld, 0063
Tel: +27 (12) 342 2900
Fax: +27 (12) 342 9208
Postal Suite 146
Private Bag X15
Merib Park

SITE NAME:
VAALBANKSPRUITDRIF

BASE STATION NUMBER:
T9246

REV	DATE	BY	DESCRIPTION
A	22/11/2011	MY	FIRST ISSUE

NOTES:
OWNER: ARNOLDI BERNARD

STRICTLY COMPANY CONFIDENTIAL
PROPERTY DESCRIPTION:
PORTION 4 OF THE FARM VAALBANKSPRUITDRIF 334 IT

COORDINATES:
LAT : 26° 53' 06.20" S
LONG : 30° 01' 40.50" E

PROJECT:
NEW 9x9m TELECOMMUNICATION BASESTATION
WITH A 54m LATTICE MAST FOR MTN (PTY) LTD

ADDRESS:
VAALBANK SPRUIT DRIFT,
FAMILIE HOEK ROAD,
AMERSFOORT,
MPUMALANGA



414 Rustic Road
Silvertondale
0184
Tel: +27 (12) 804 1504/6
Fax: +27 (12) 804 7072
admin@infraplan.co.za
P.O. Box 32017
Tollundal
0134

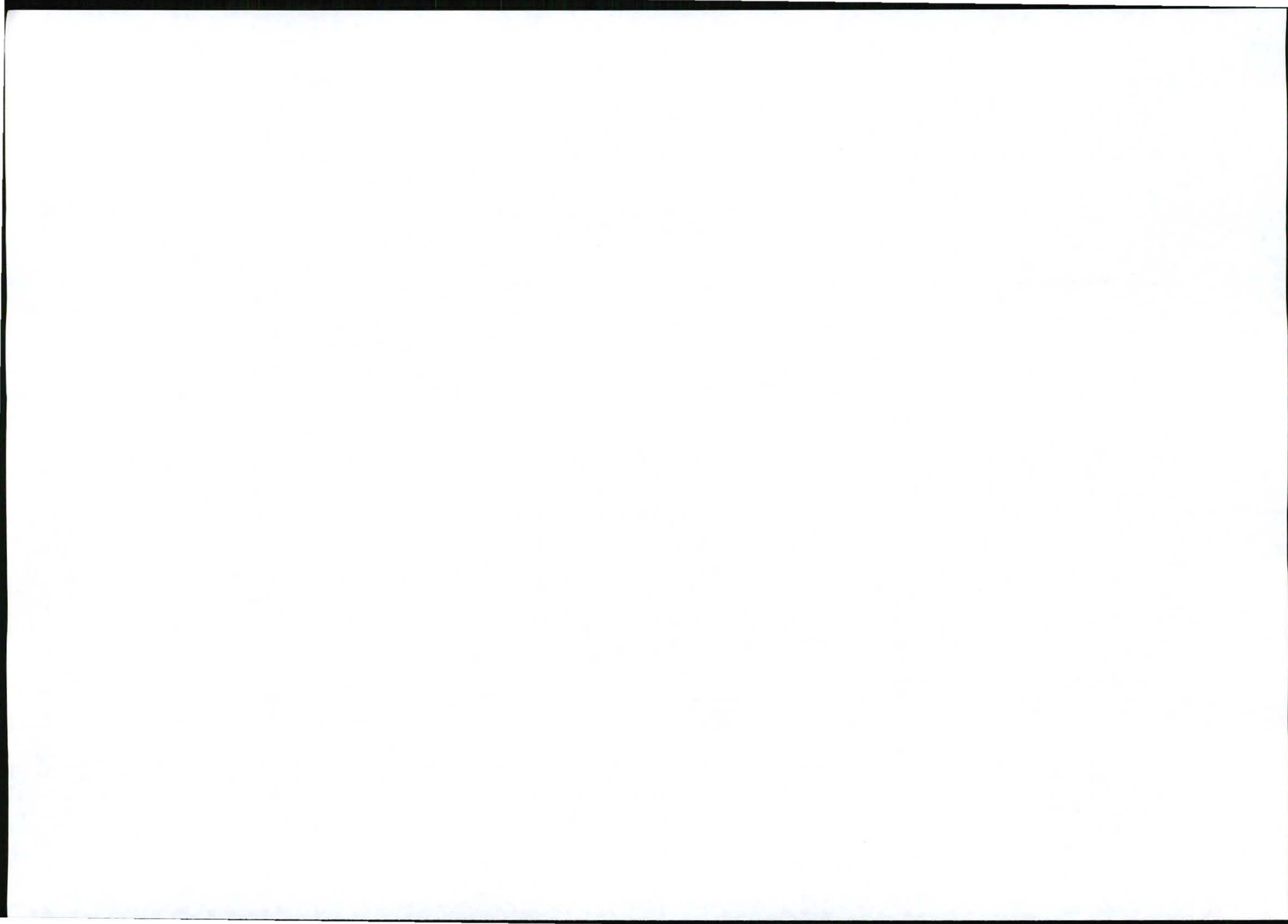
RFQ NO:
148744

PROJECT NUMBER:
116863

DRAWINGS MUST NOT BE SCALED. ONLY FIGURED DIMENSIONS TO BE USED. DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCEMENT OF WORK.
ALL WORK TO BE PERFORMED ACCORDING TO MTN BTS SITE INFRASTRUCTURE SPECIFICATION R011/001 ISSUE 1 REVISION 0 NOVEMBER 2007

DRAWN: MELISSA YOUNG
SCALE: 1:3000
DATE: 22/11/2011
REF. NO: 812/T9246

SITE PHOTOGRAPHS
SHEET 6 OF 9



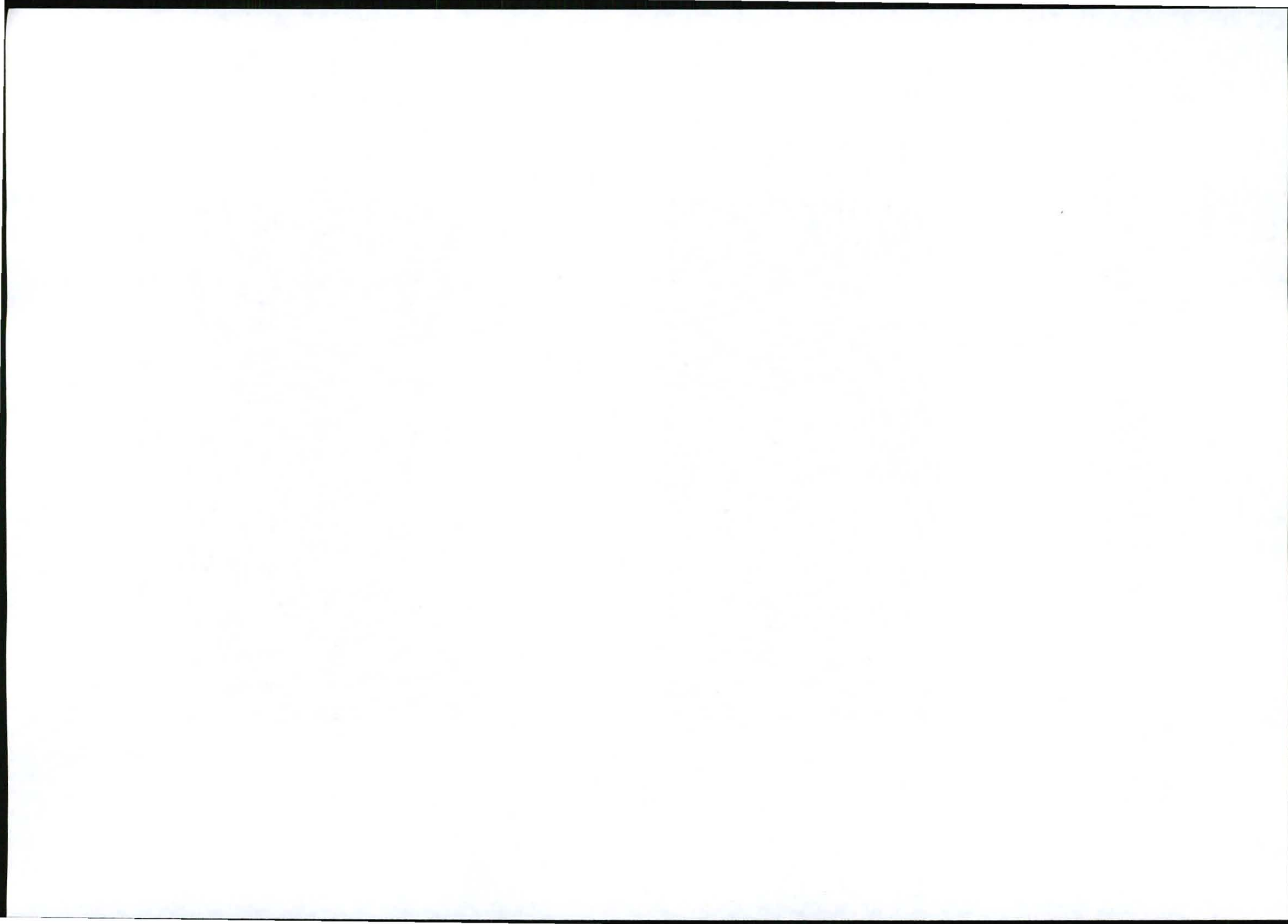
SITE PHOTOGRAPHS



1. Panoramic view from the site direction North



2. Panoramic view from the site direction North East



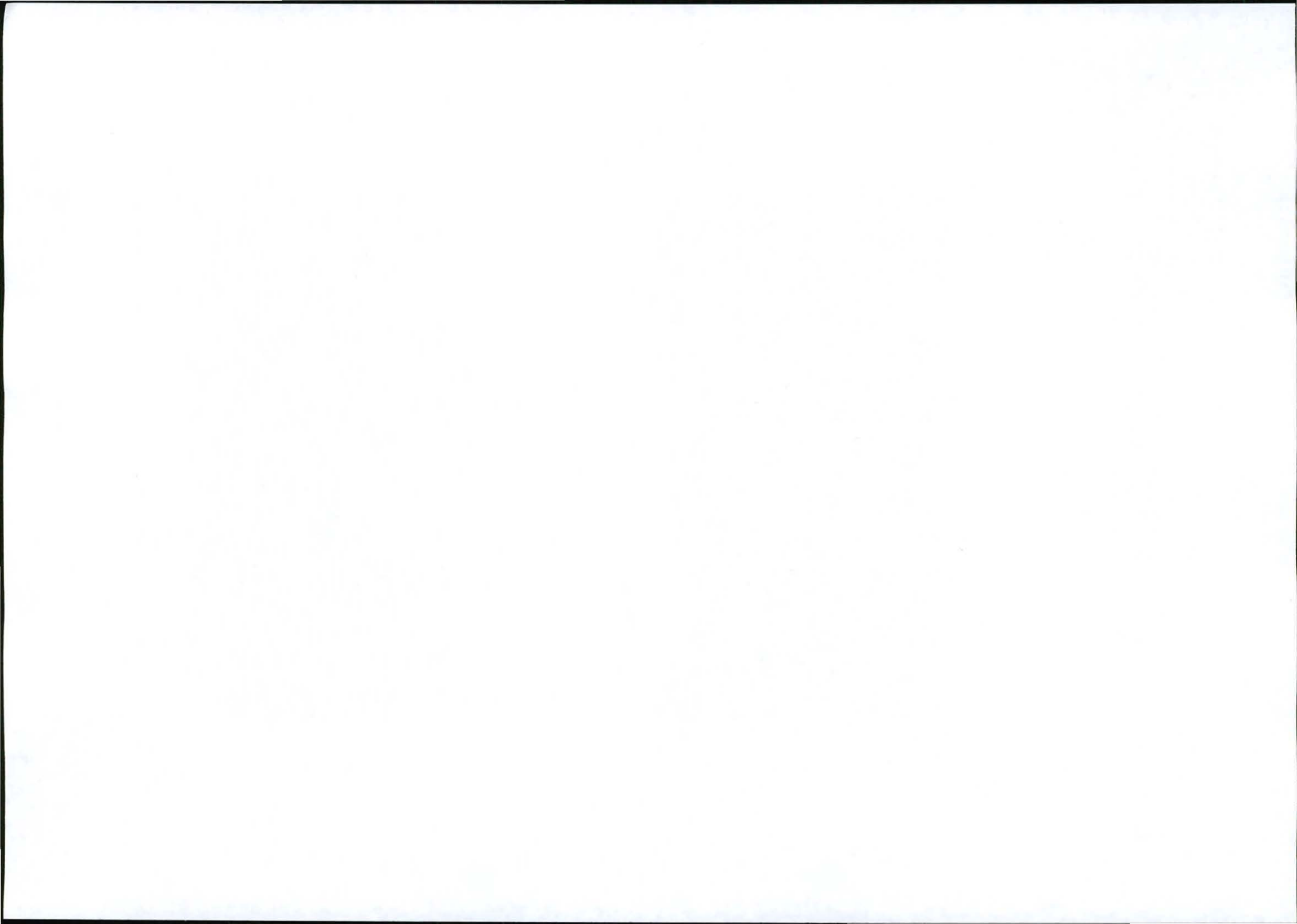
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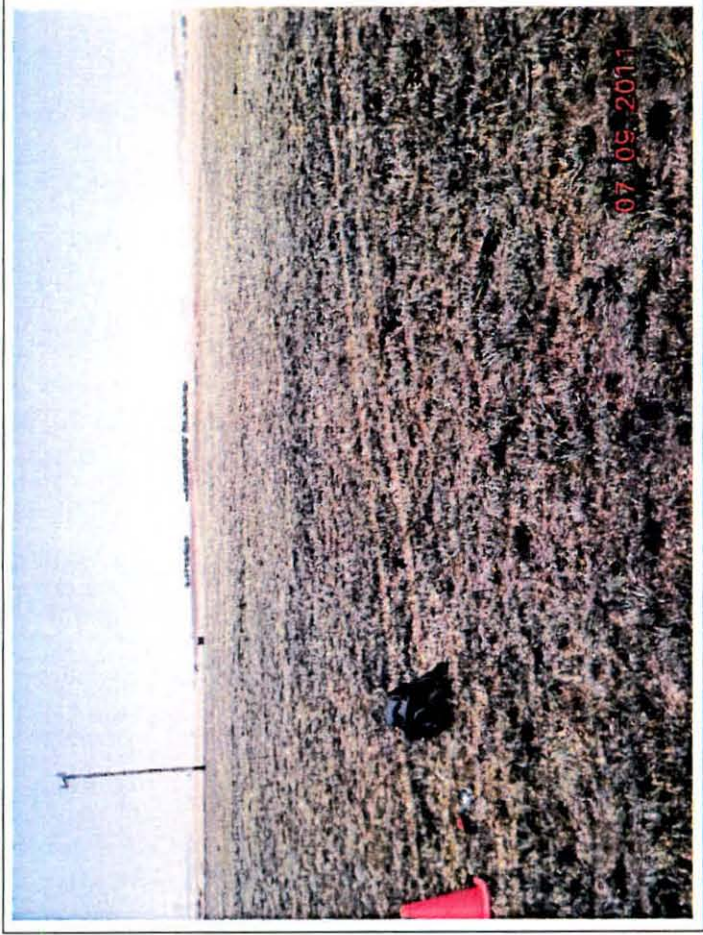
3. Panoramic view from the site direction East



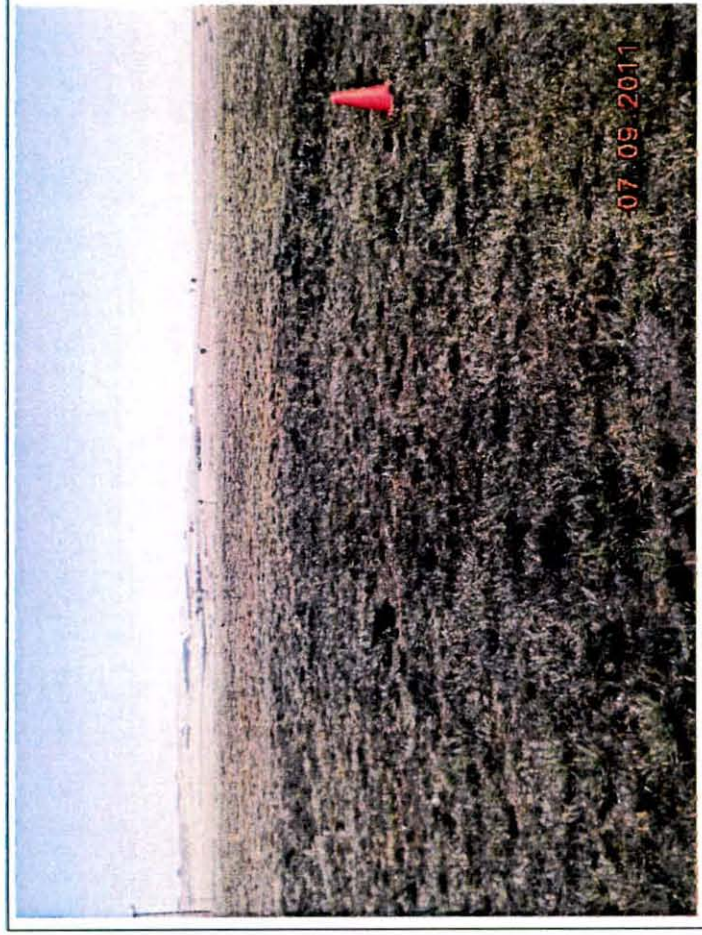
4. Panoramic view from the site direction South East



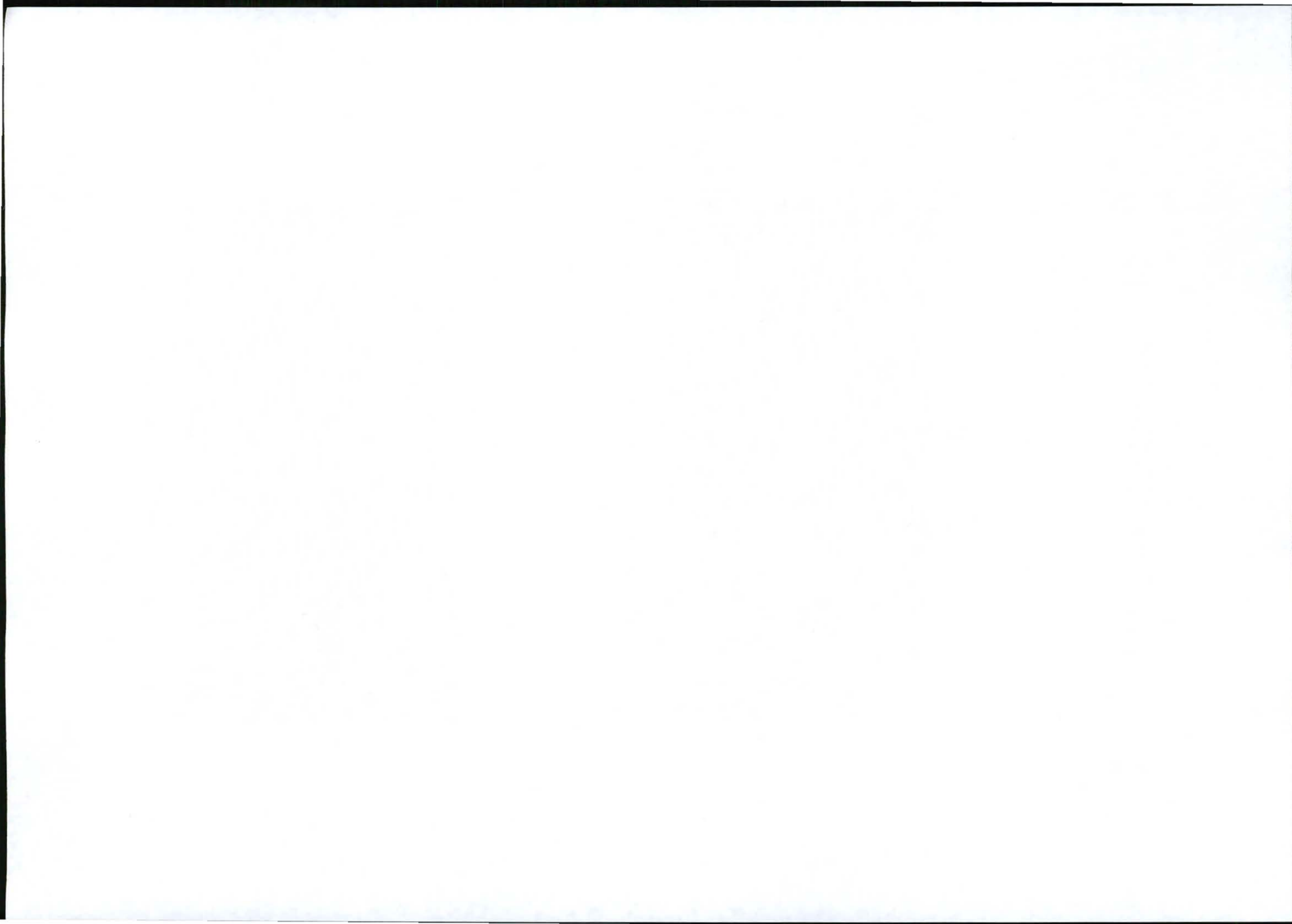
SITE PHOTOGRAPHS



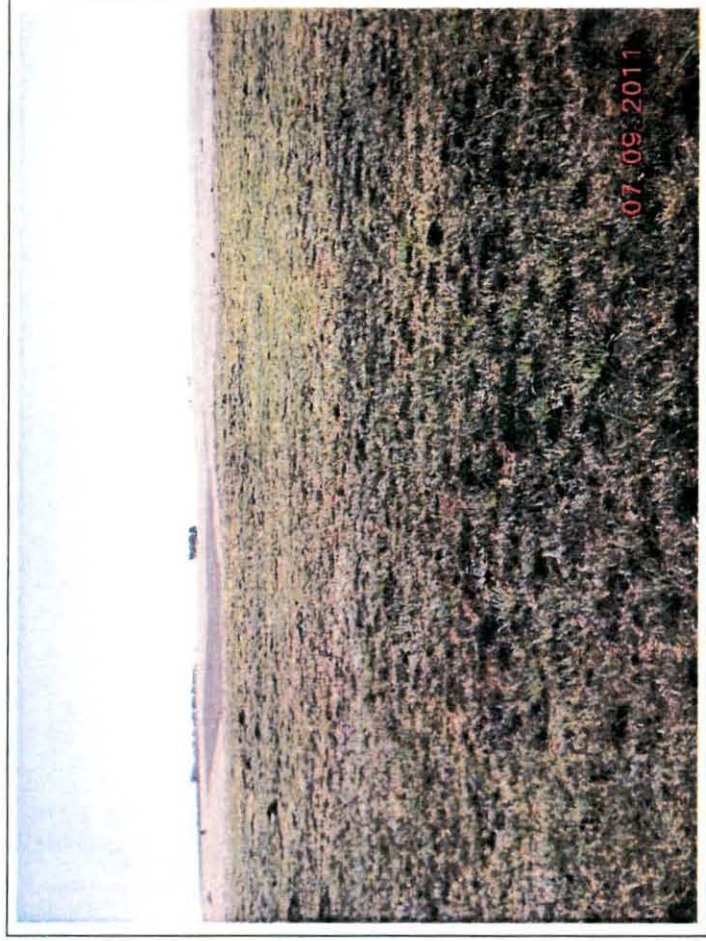
5. Panoramic view from the site direction South



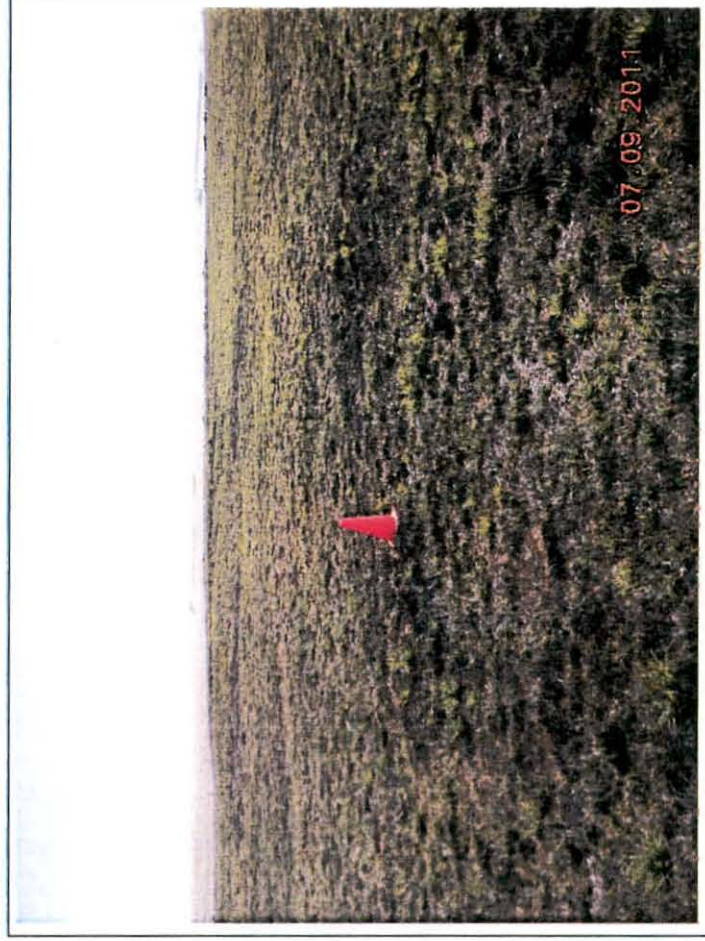
6. Panoramic view from the site direction South West



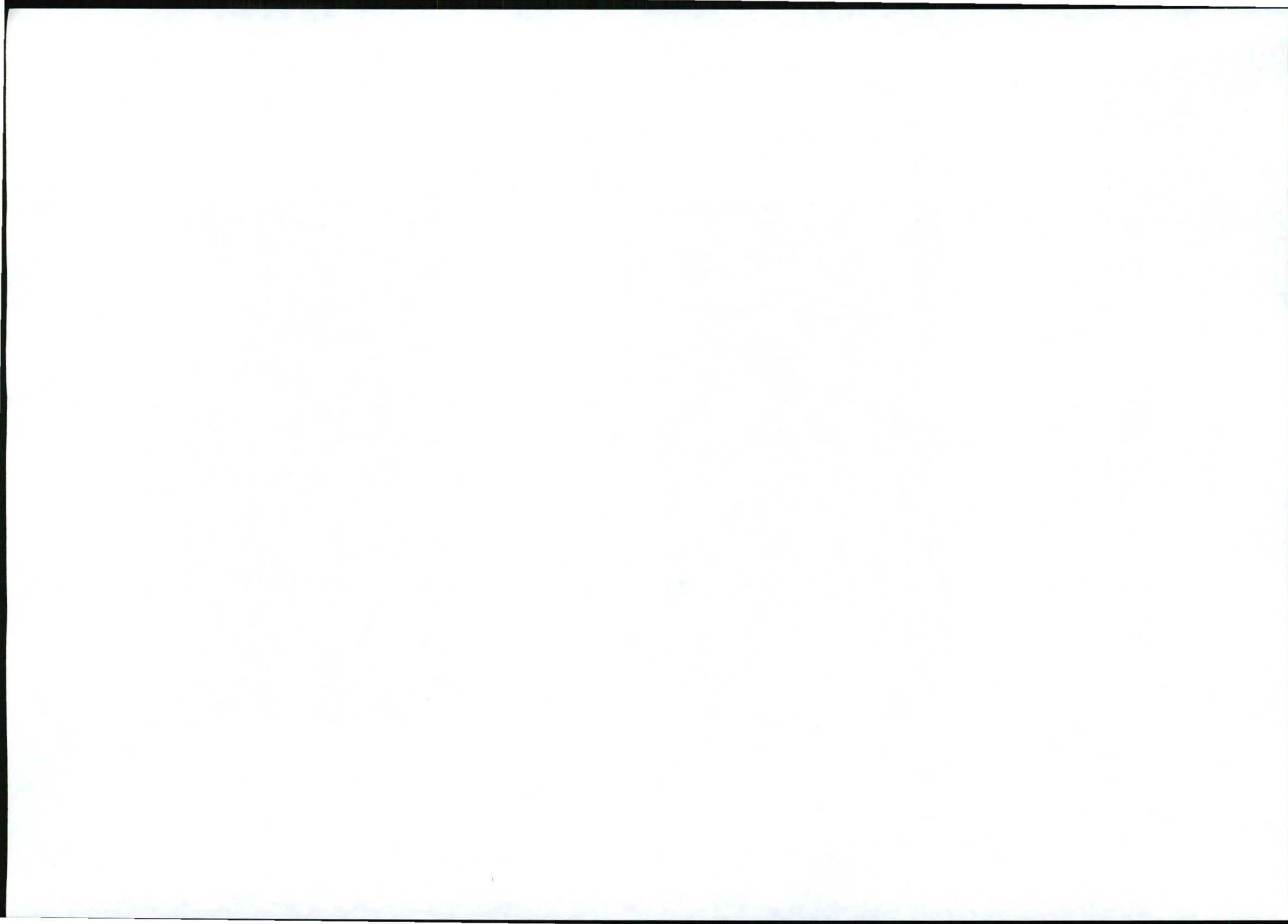
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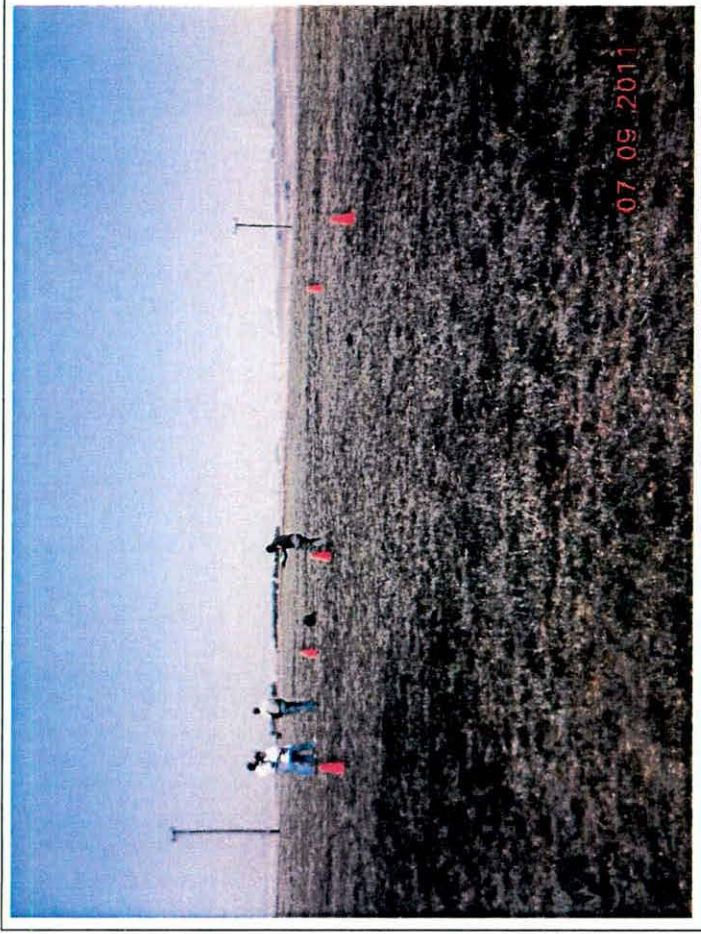
7. Panoramic view from the site direction West



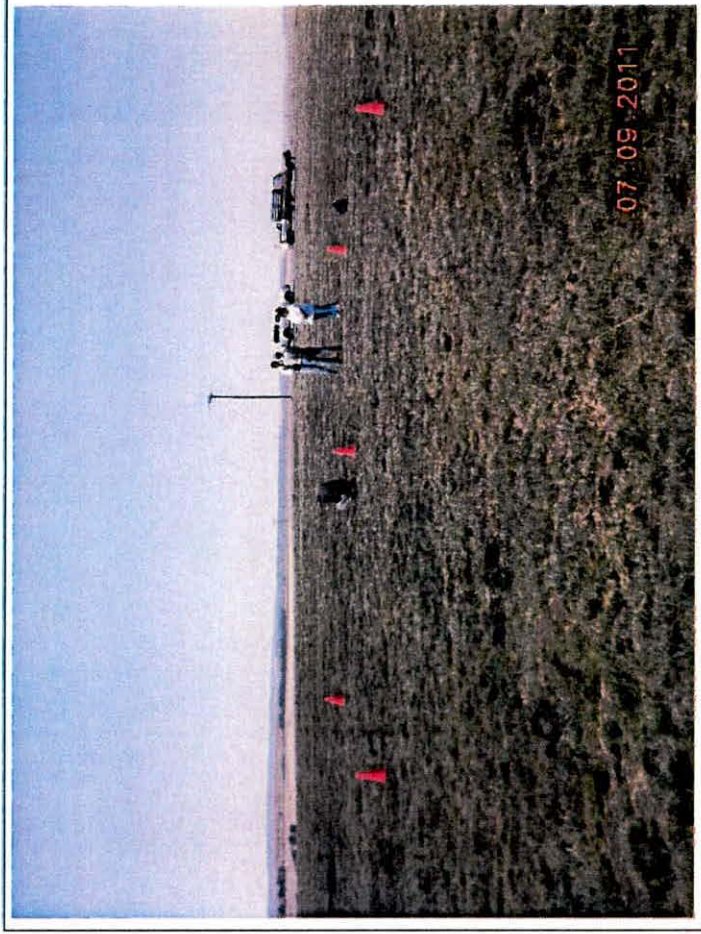
8. Panoramic view from the site direction North West



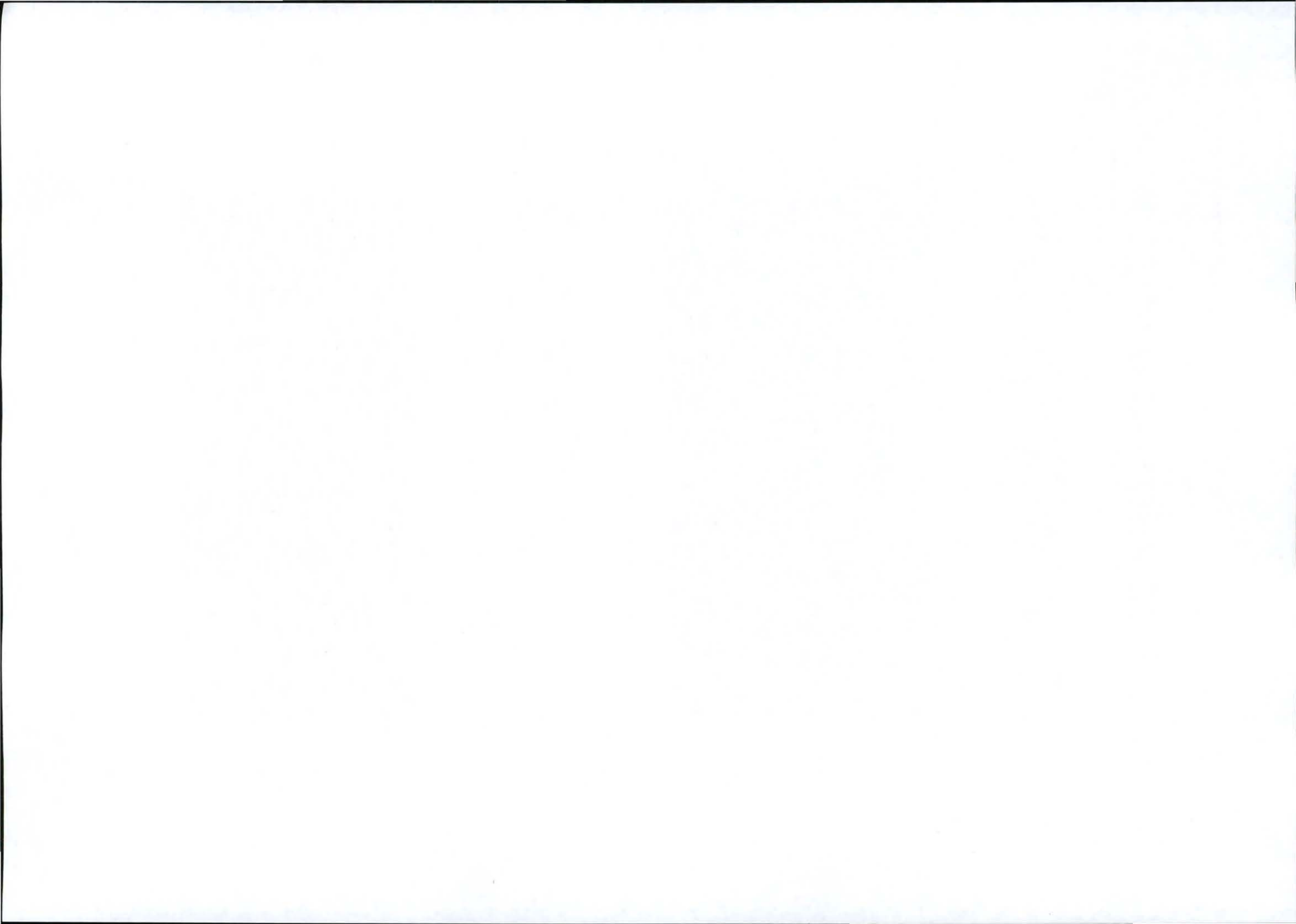
SITE PHOTOGRAPHS



9. View on basestation position direction South



10. View on base station position direction East



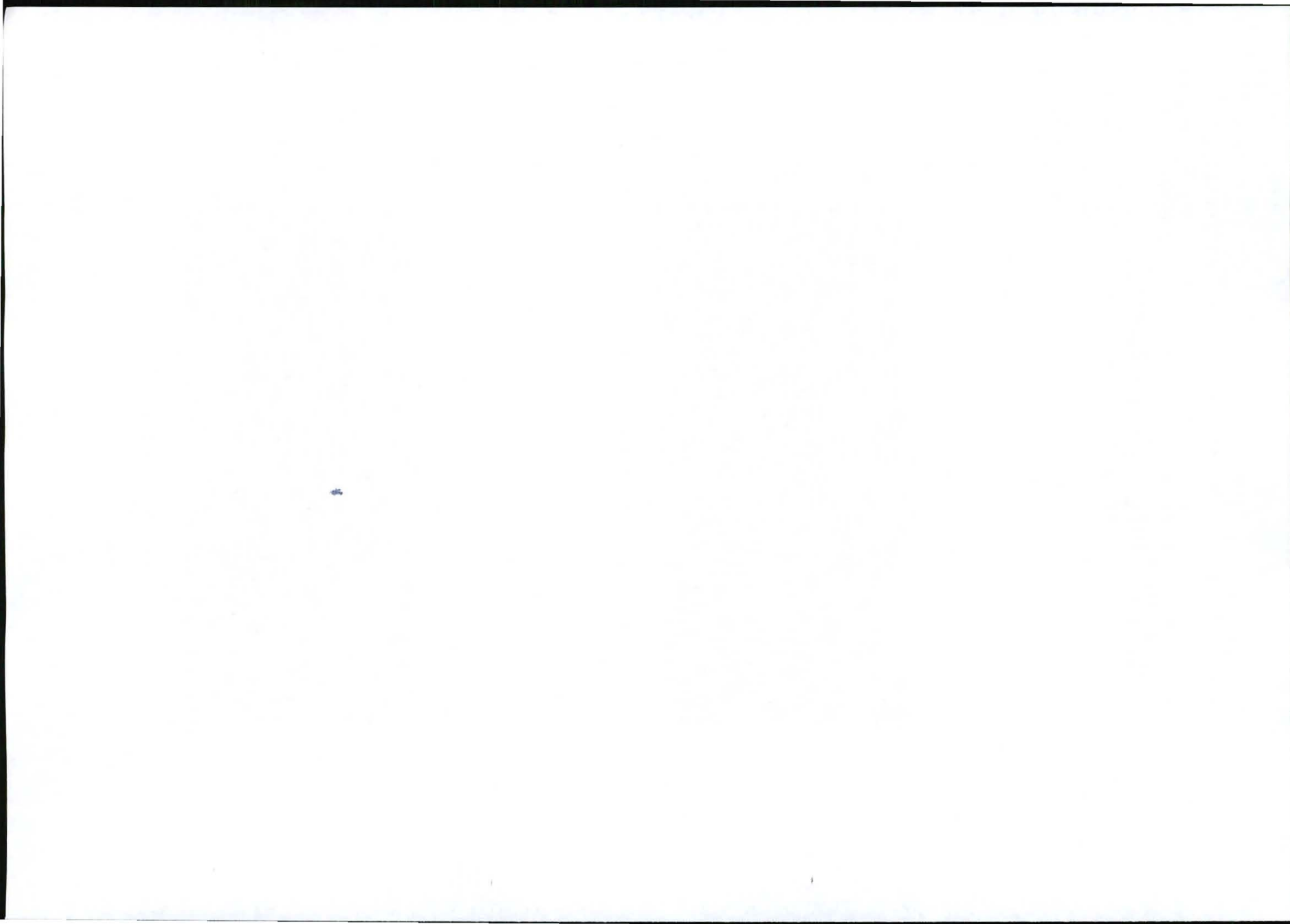
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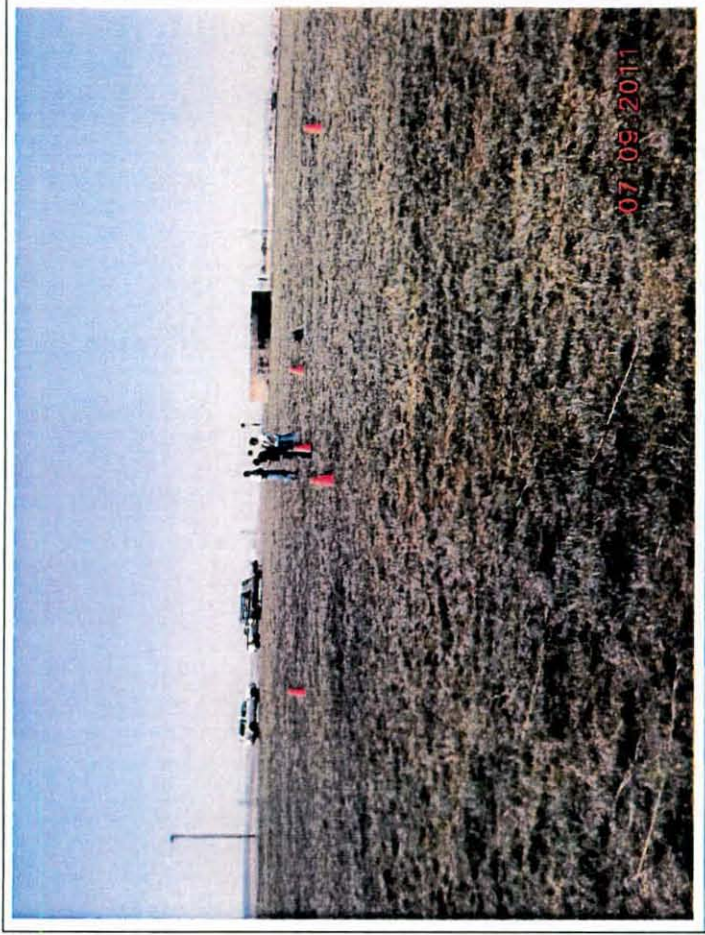
11. View on base station position direction North



12. View on base station position direction West



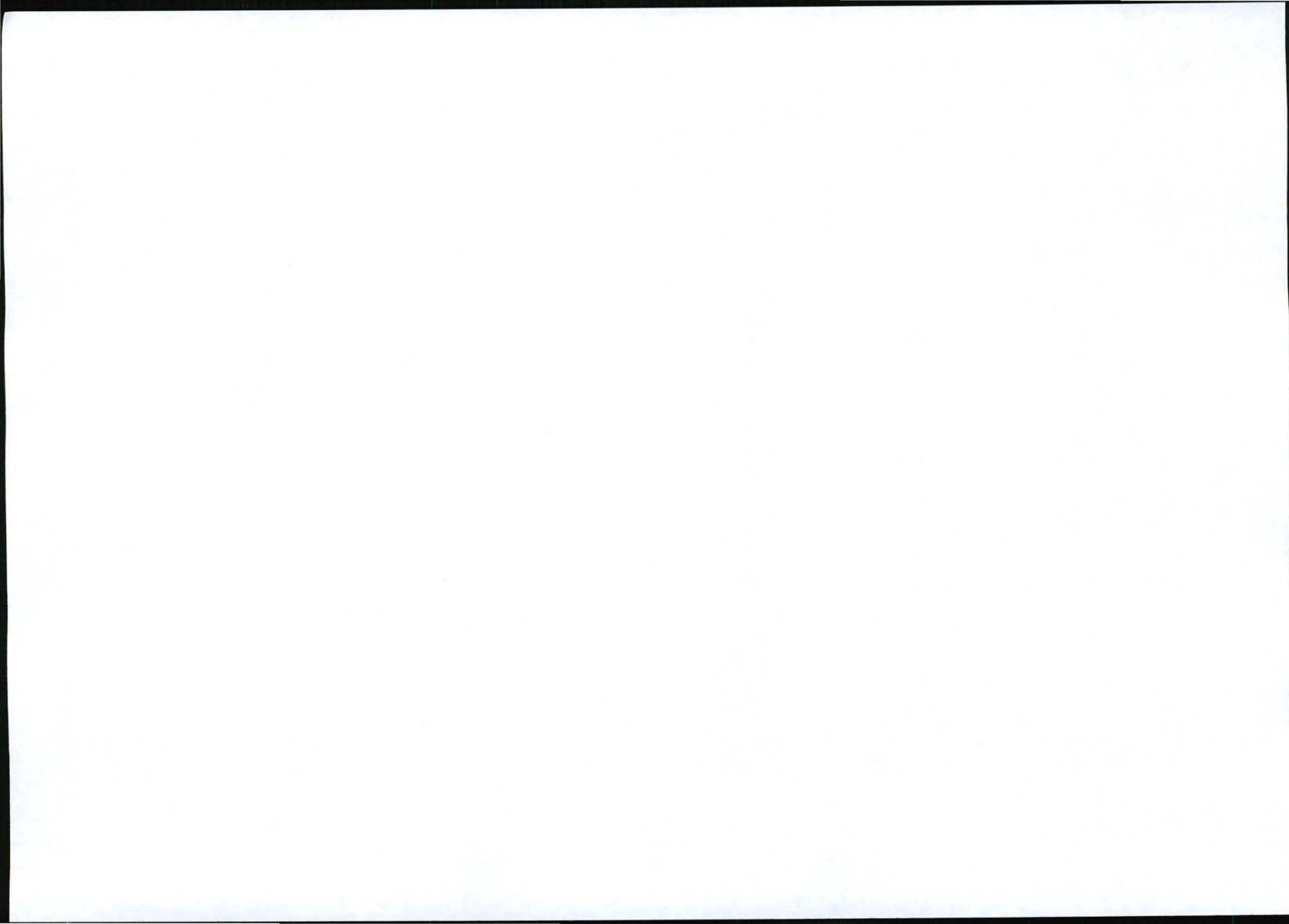
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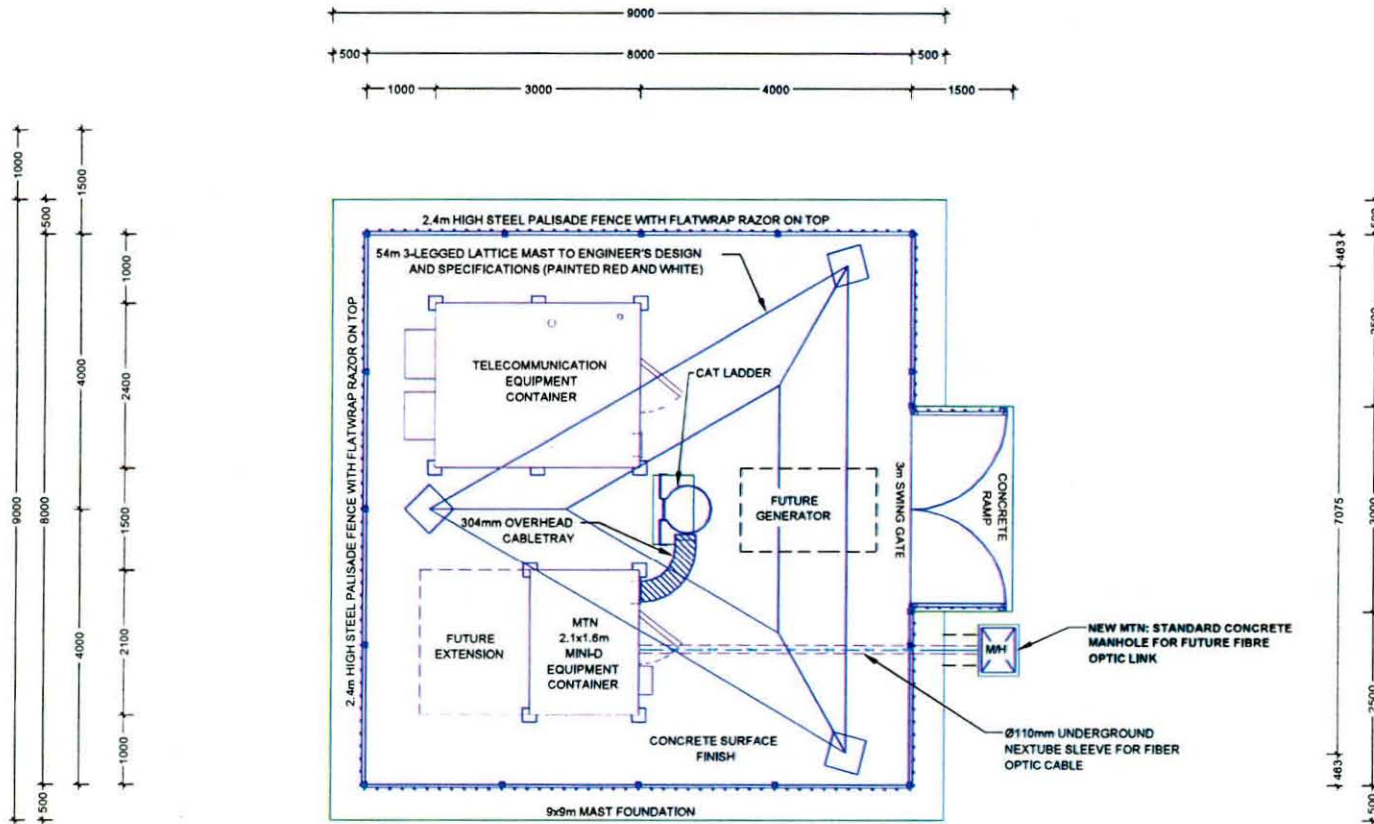


13. General view on site establishment area

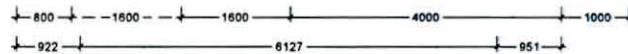


Appendix C: Facility Illustrations





PORTION 4 OF THE FARM
VAALBANKSPRUITDRIFT 334 IT



1287 Pretorius Street
Block B, Hodefields Complex
Harfield, 0083

Tel: +27 (12) 342 2900
Fax: +27 (12) 342 9208

Postnet Suite 146
Private Bag X15
Merlo Park

SITE NAME:
VAALBANKSPRUITDRIF

BASE STATION NUMBER:
T9246

REV	DATE	BY	DESCRIPTION
A	22/11/2011	MY	FIRST ISSUE

NOTES:
OWNER: ARNOLDI BERNARD

STRICTLY COMPANY CONFIDENTIAL
PROPERTY DESCRIPTION
PORTION 4 OF THE FARM VAALBANKSPRUITDRIF 334 IT

COORDINATES:
LAT: 28° 53' 06.20" S
LONG: 30° 01' 40.50" E

PROJECT:
NEW 9x9m TELECOMMUNICATION BASESTATION
WITH A 54m LATTICE MAST FOR MTN (PTY) LTD

ADDRESS:
VAALBANK SPRUIT DRIFT,
FAMILIE HOEK ROAD,
AMERSFOORT,
MPUMALANGA



414 Rustic Road
Silvertondale
0184

Tel: +27 (12) 804 1504/6
Fax: +27 (12) 804 7072
admin@infraplan.co.za

P.O. Box 32017
Tollundal
0134

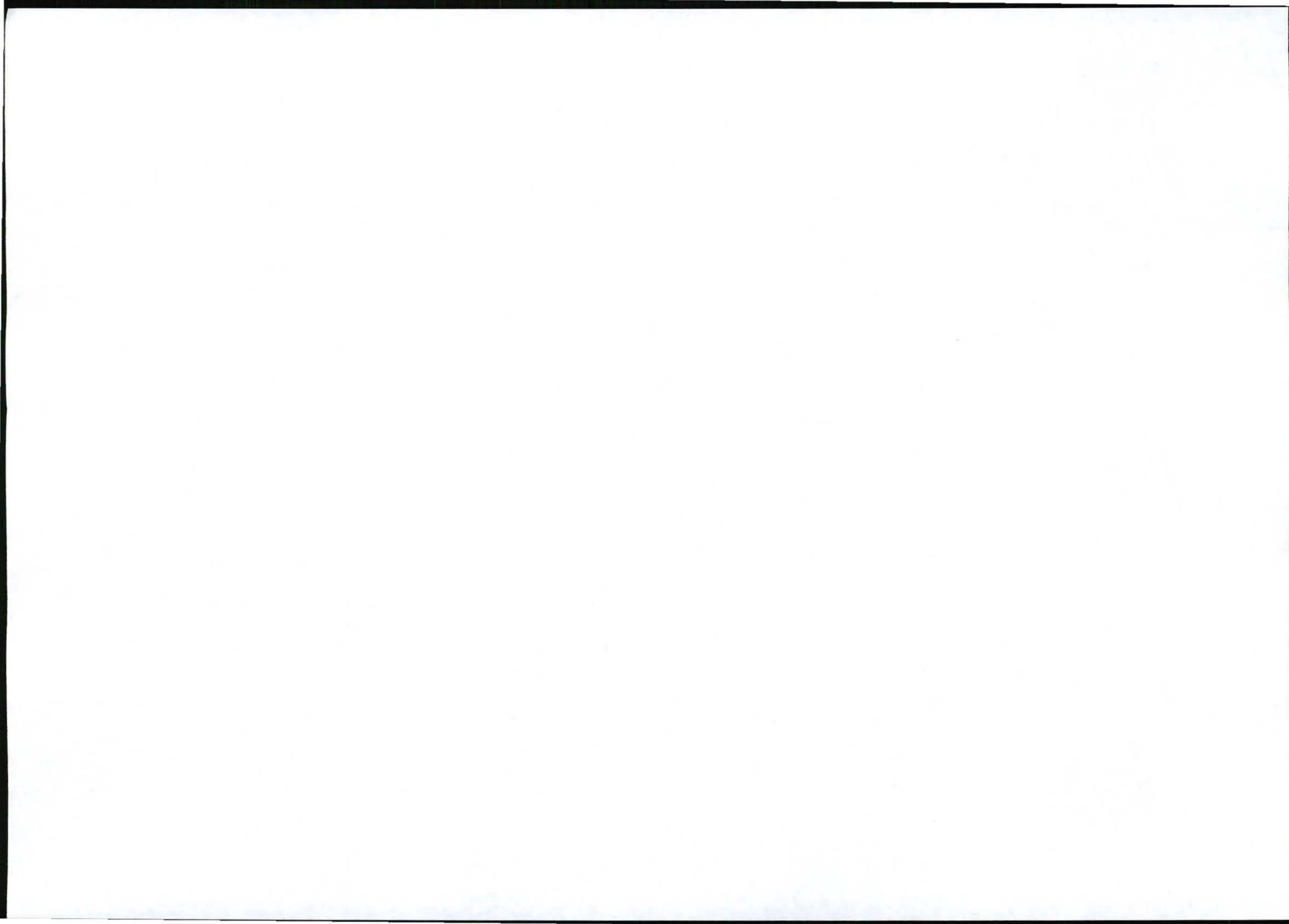
RFQ NO:
148744

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116863

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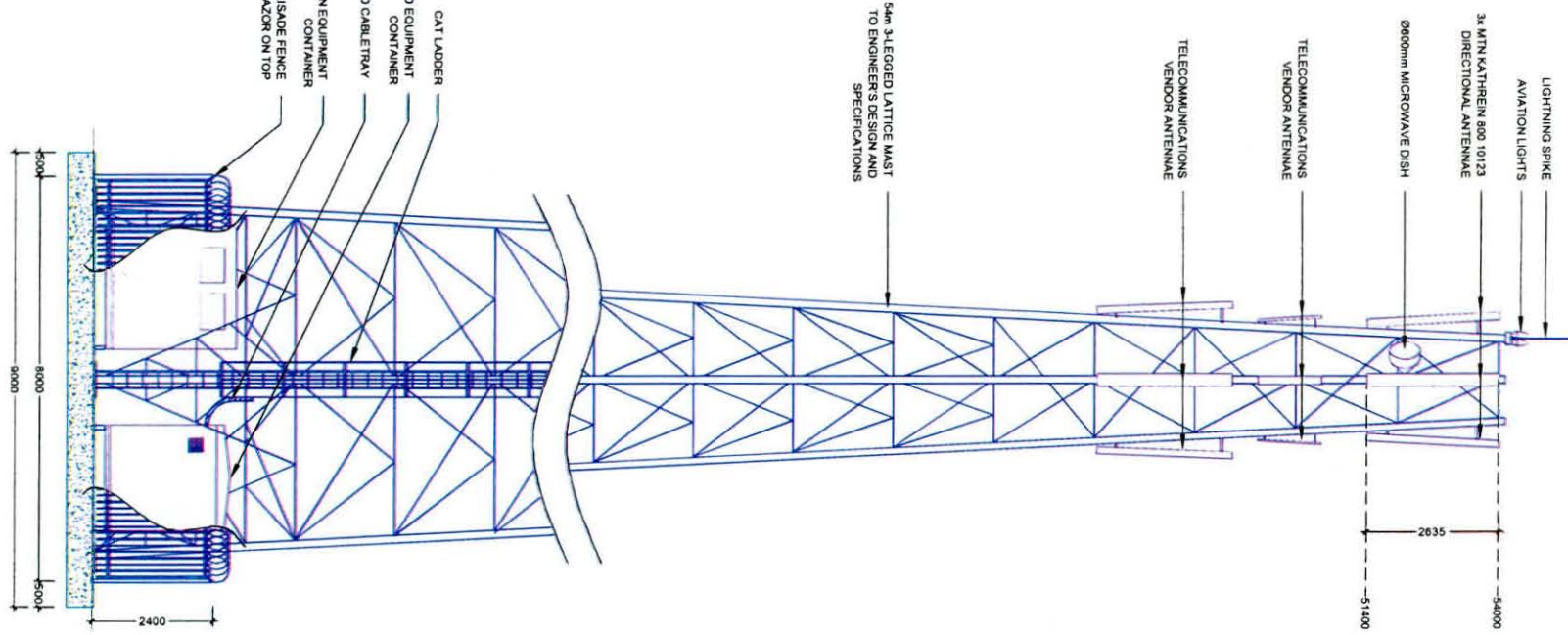
DRAWN: MELISSA YOUNG DATE: 22/11/2011
SCALE: 1:75 REF. NO: 812/T9246

SITE DETAIL
SHEET 7 OF 9



MTN ANTENNAE KEY

SECTOR	AZIMUTH	ANTENNA	HEIGHT - BOTTOM (m)	MECH. ELEC.	FEEDER TLT	FEEDER SIZE	FEEDER LENGTH (m)
1	0°	K800 10123	51.4			7/8"	± 56
2	120°	K800 10123	51.4			7/8"	± 56
3	240°	K800 10123	51.4			7/8"	± 56



1287 Pheasant Street
Block B, Macalister Complex
Meadow Park
Tel: +27 (12) 342 2908 Fax: +27 (12) 342 2908
P.O. Box 145
Private Bag 215

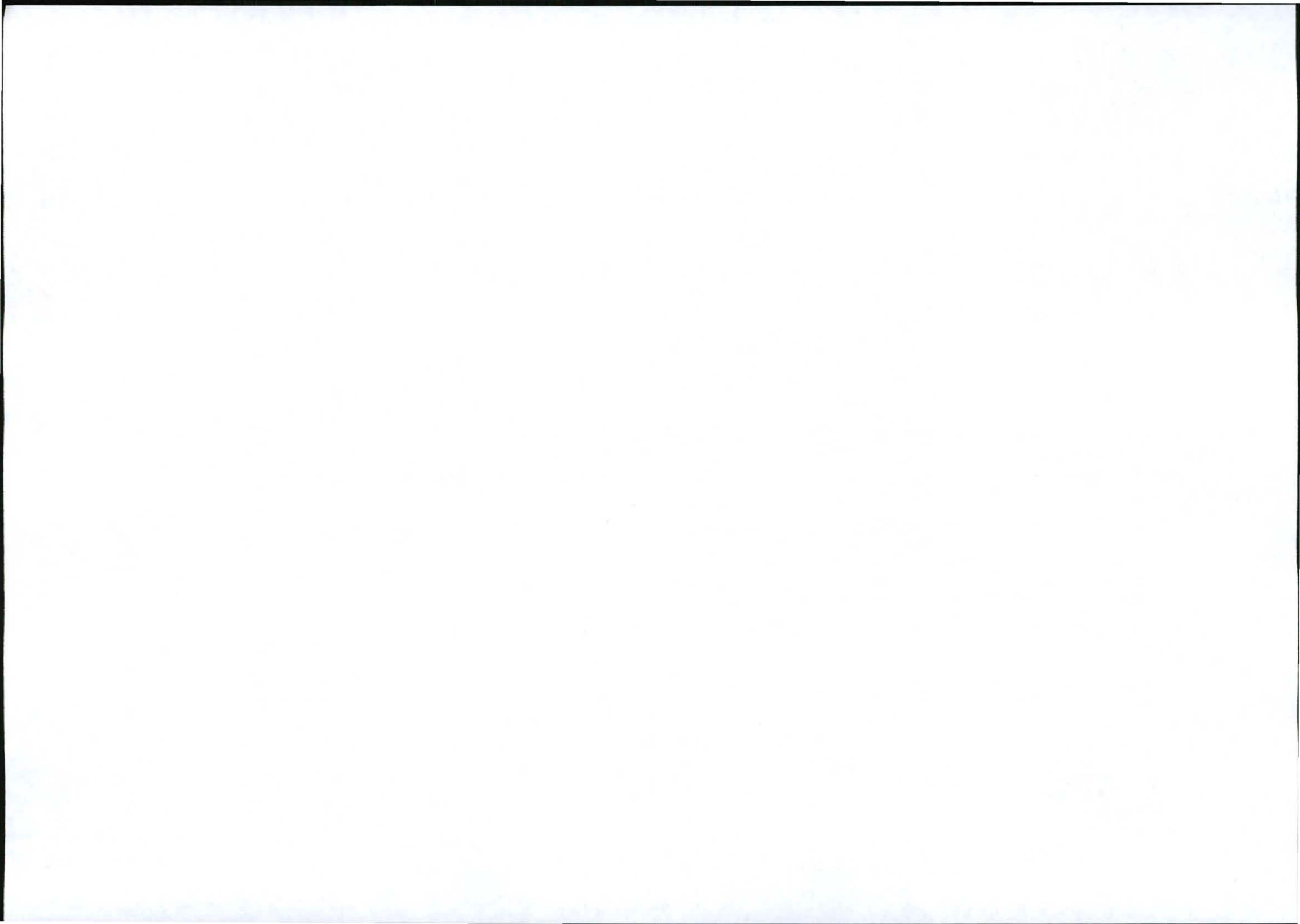
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Soweto
P.O. Box 2017
Tel: +27 (12) 904 15046 Fax: +27 (12) 904 7222
admin@ipsplan.co.za
0154

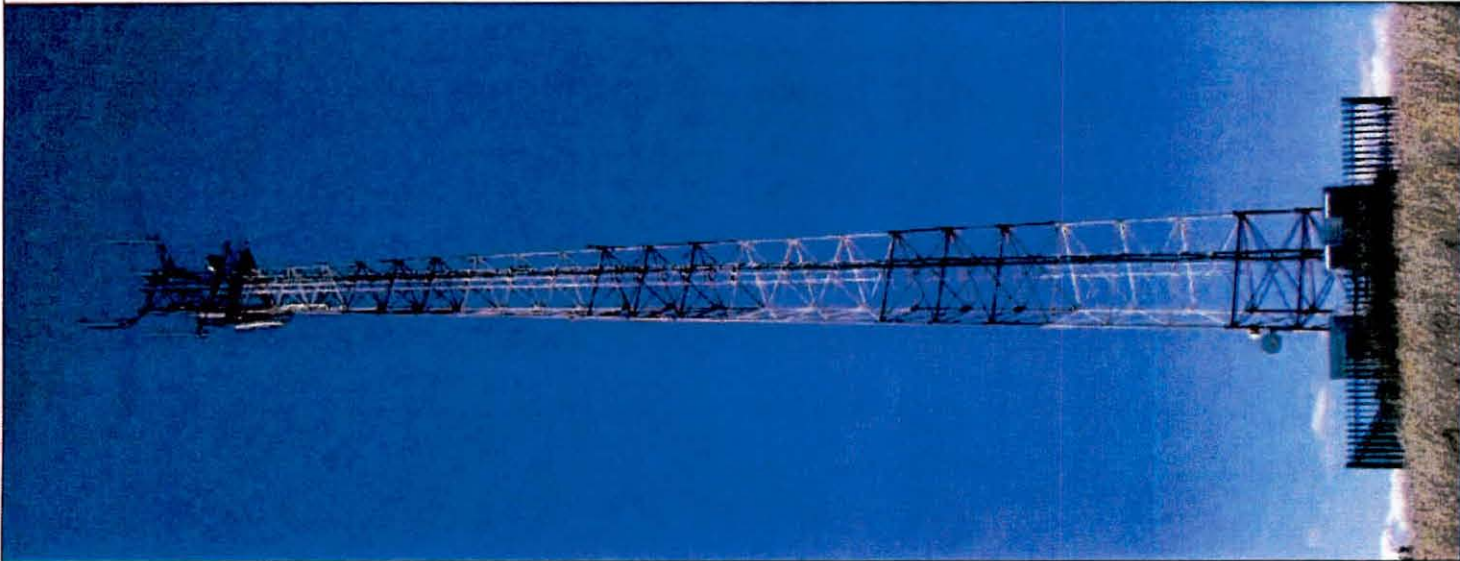
1287 Pheasant Street
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P.O. Box 145
Private Bag 215

118 Rude Road
Soweto
P.O. Box 2017
Tel: +27 (12) 904 15046 Fax: +27 (12) 904 7222
admin@ipsplan.co.za
0154

IPS
INFRASTRUCTURE
PLANNING SERVICES

MPUMALANGA
AMERSFOORT
FAMILIE HOEK ROAD,
VAALBANK SPRUIT DRIFT,
ADDRESS
PROJECT:
NEW 999m TELECOMMUNICATION BASE STATION
WITH A 54m LATTICE MAST FOR MTN (PTY) LTD
COORDINATES:
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OWNER: ARNOLD BERNARD
REV DATE BY DESCRIPTION
A 22/11/2011 MY FIRST ISSUE
BASE STATION NUMBER:
VAALBANKSPRUITDRIF
T9246
REV DATE BY DESCRIPTION
A 22/11/2011 MY FIRST ISSUE
DRAWN: MELISSA YOUNG
DATE: 22/11/2011
SCALE: 1: 100
REF. NO. 812/79246
WEST ELEVATION
SHEET 8 OF 9





TYPICAL 3-LEGGED LATTICE MAST
(PAINTED RED & WHITE)



1267 Pretorius Street
Block B, Hadeffelds Complex
Hatfield, 0083

Tel: +27 (12) 342 2000
Fax: +27 (12) 342 9208

Postal Suite 146
Private Bag X15
Mambo Park

SITE NAME:

VAALBANKSPRUITDRIF

BASE STATION NUMBER:

T9246

REV	DATE	BY	DESCRIPTION
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MPUMALANGA



414 Rustic Road
Silvertondele
0184

Tel: +27 (12) 804 1304/8
Fax: +27 (12) 804 7072
admin@infrazen.co.za

P.O. Box 32017
Tafelrand
0134

RFQ NO:
148744

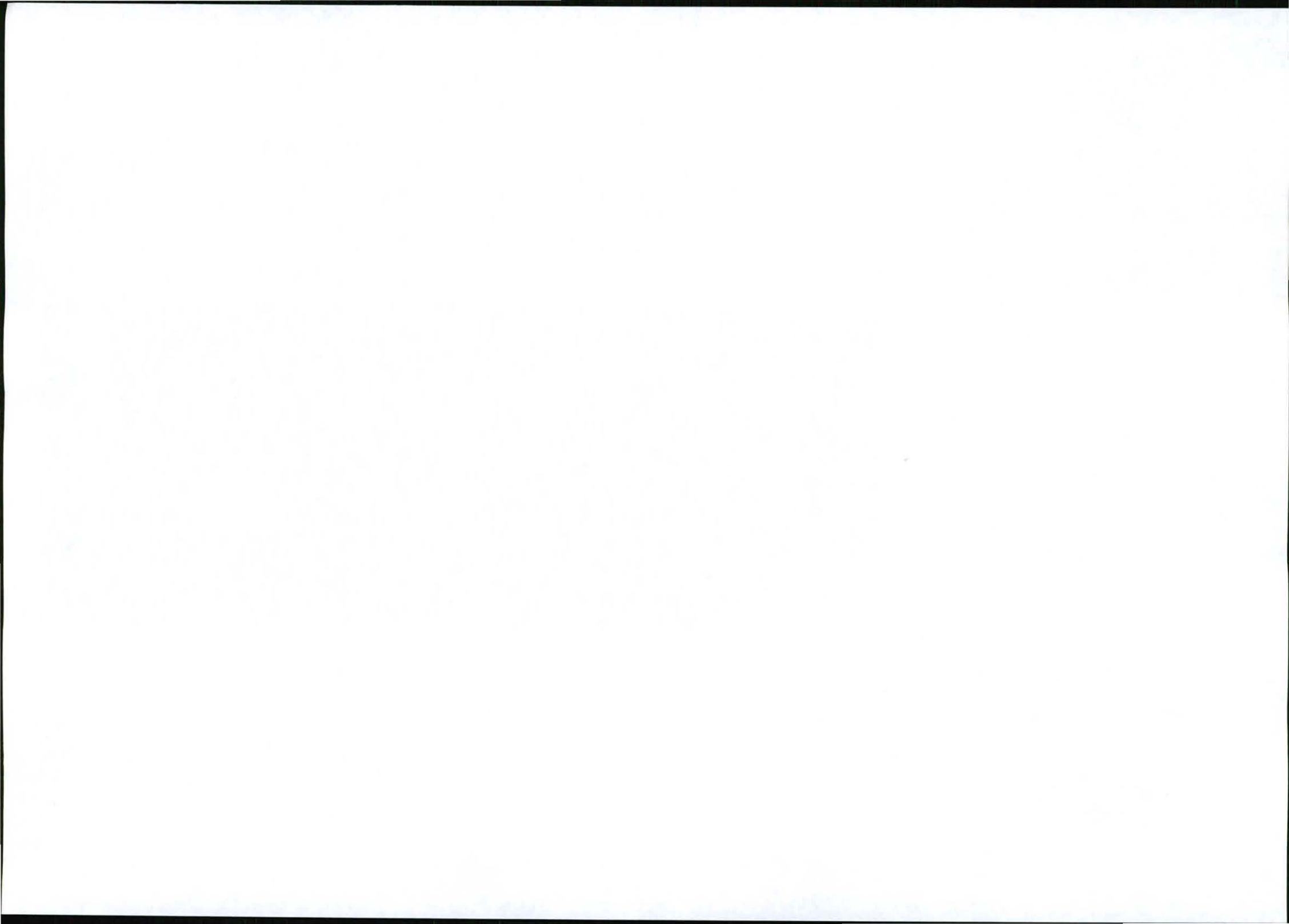
PROJECT NUMBER:
116863

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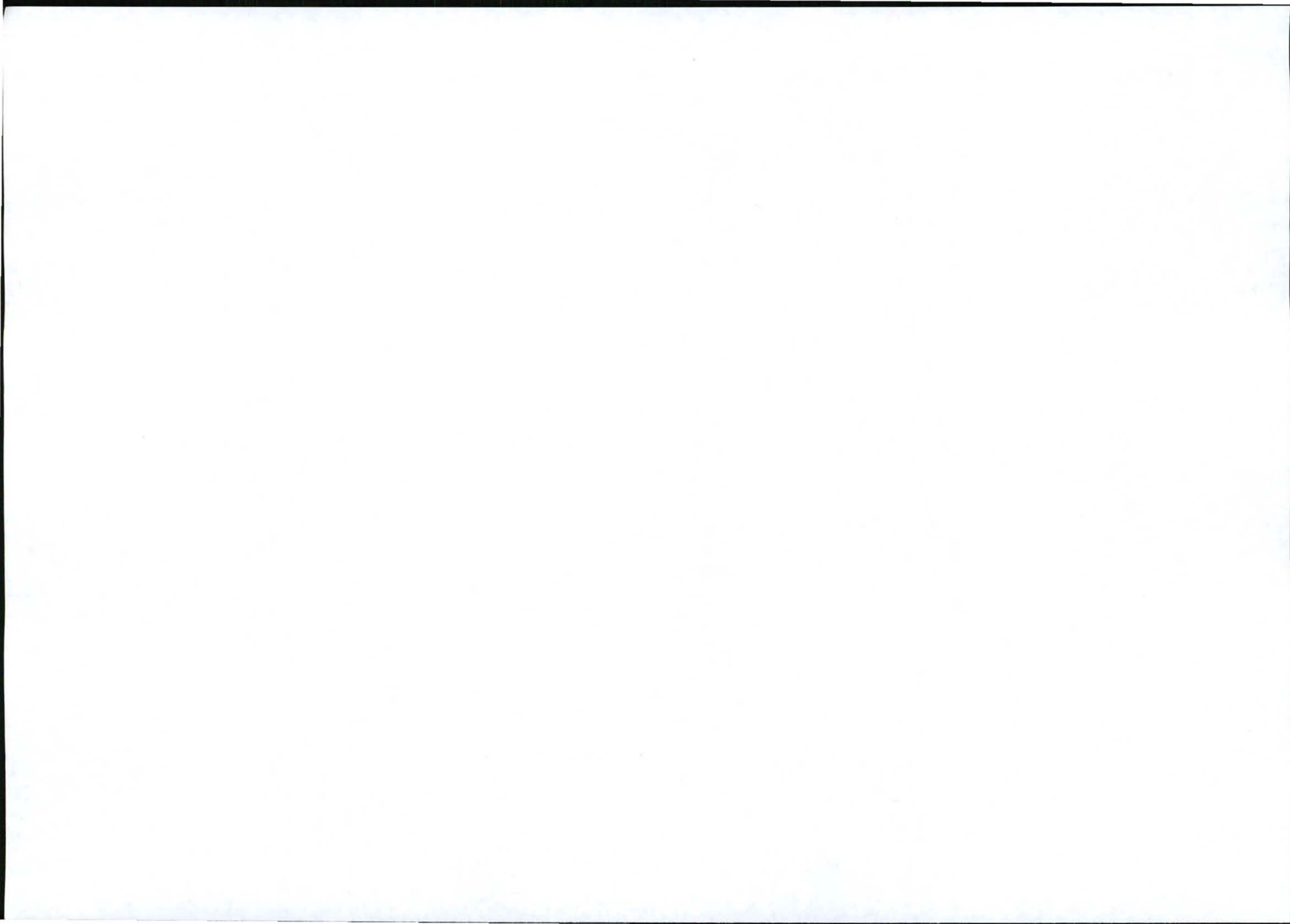
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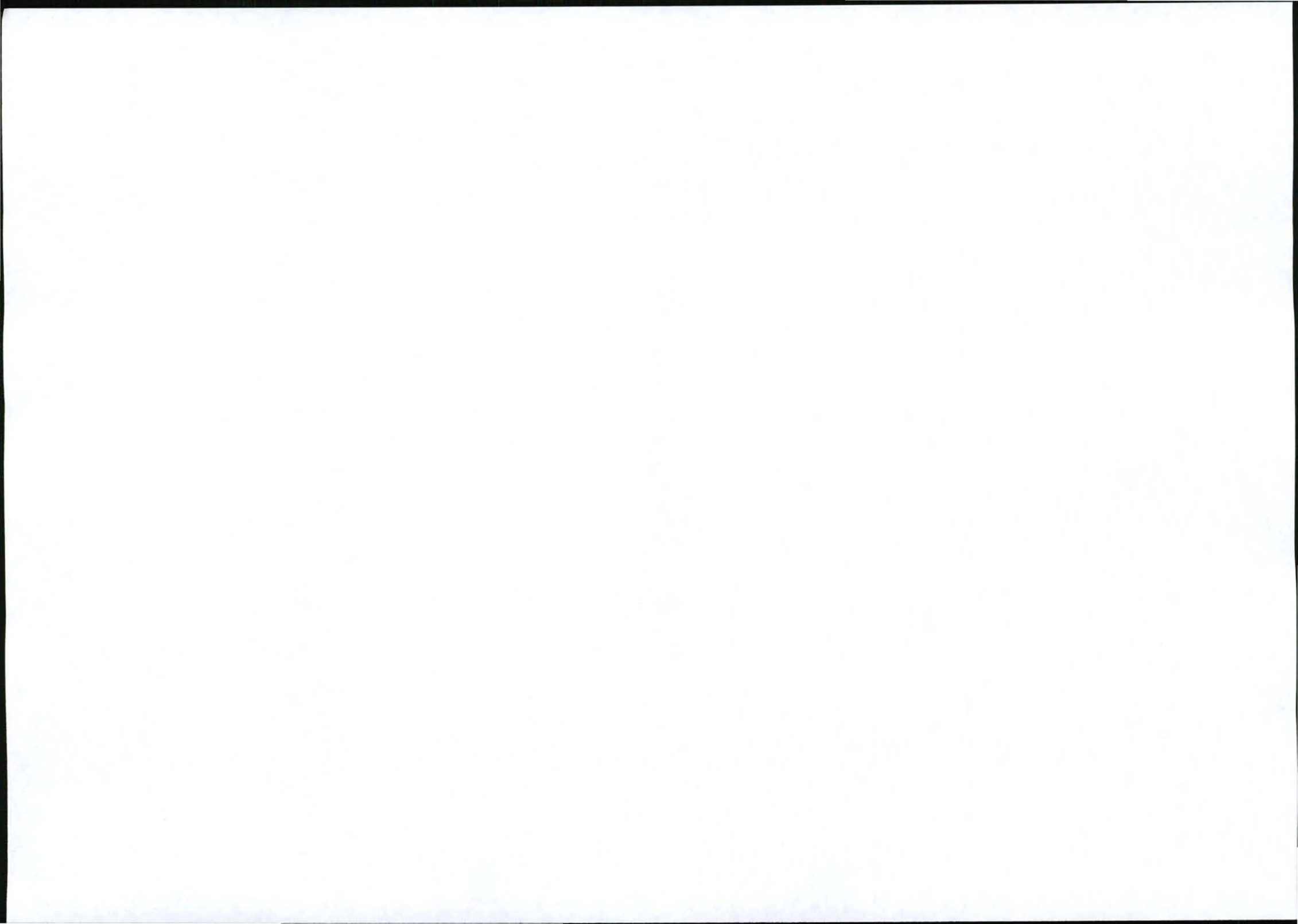
FACILITY ILLUSTRATION
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Appendix D: Specialist Reports – Not Applicable



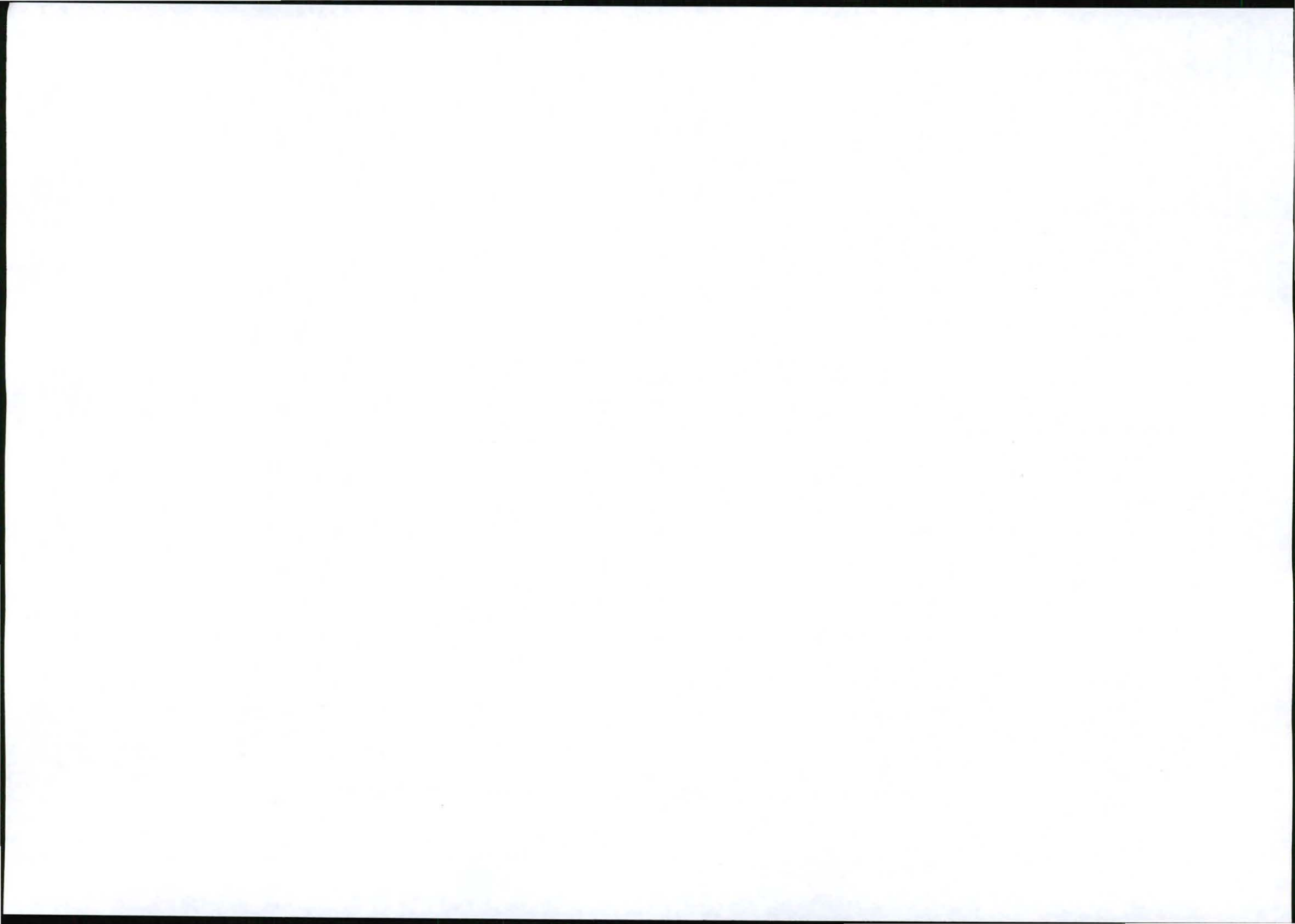
Appendix E: Comments and responses report



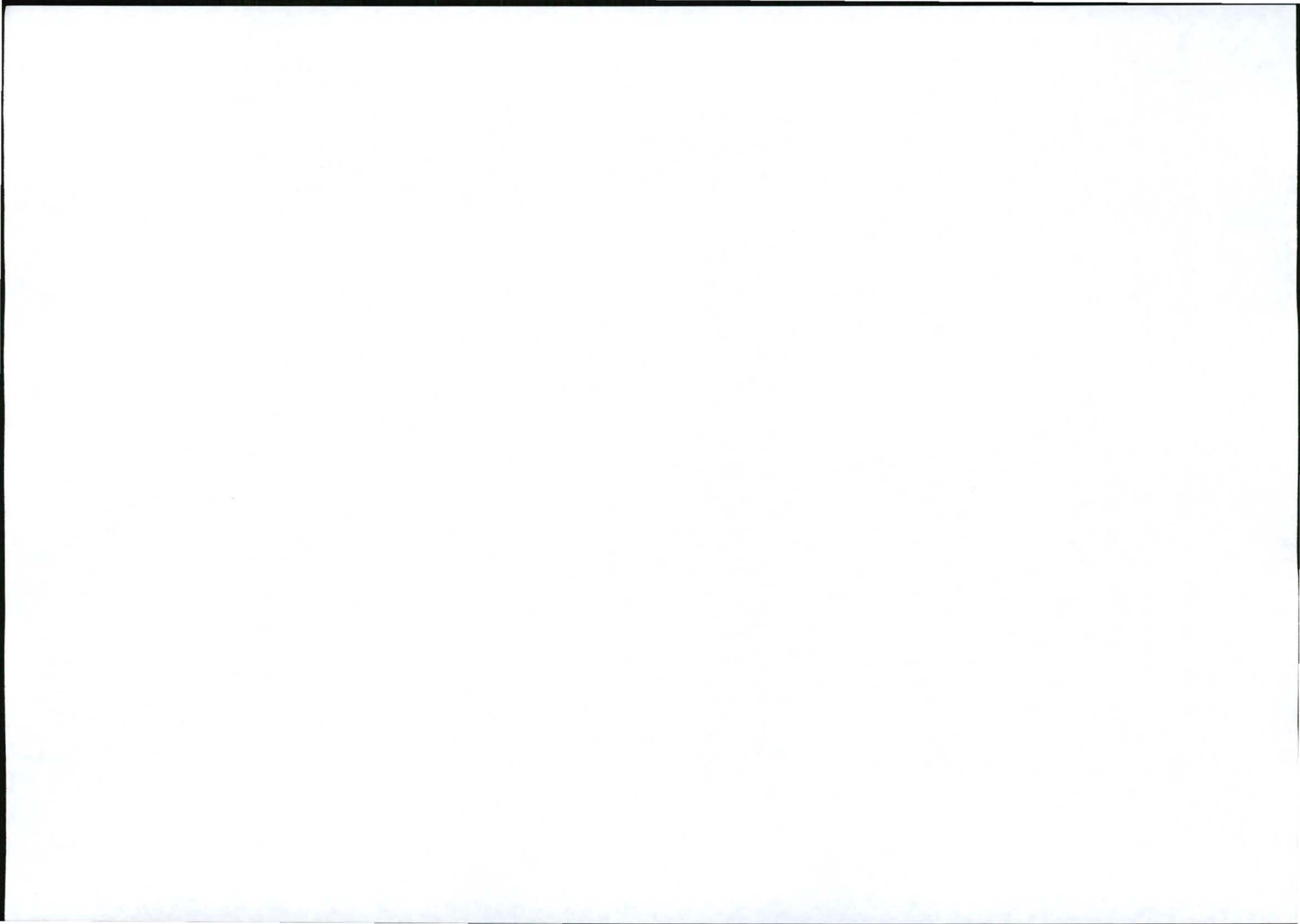
Interested & Affected Parties Register / Comments and Responses Report

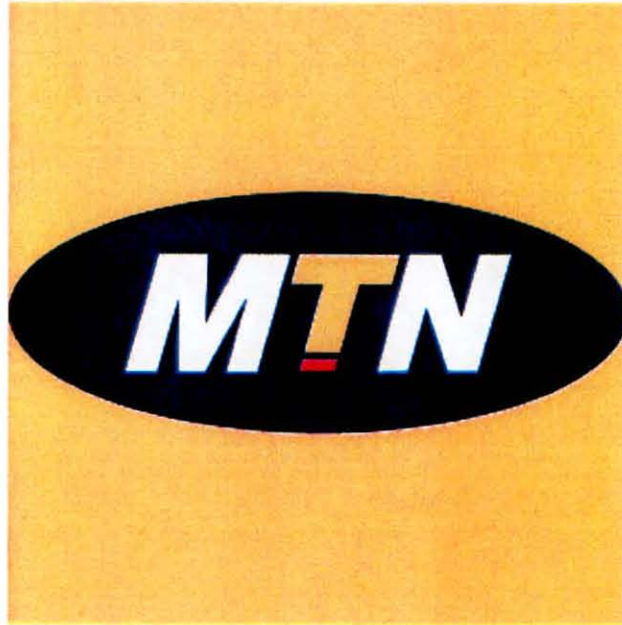
Site number: **T9246**
 Site Name: **VAALBANKSPRUITDRIF**
 EIA reference no.: **17/2/3GS-70**

Interested and Affected Parties Register						Comments and Responses Report		
No.	Date	Name	Address	Contact detail	Reacted to:	Record of Initial I&AP registration	Issues raised / Comments received	EAP Response
1	02/02/2012	The Municipal Manager	Pixley ka Seme Local Municipality, Private Bag X9011, Volksrust, 2470	Mr WJ Mngomezulu, Environmental Management Section, Fax: 0177353004/ 0866302209, Email: mayor@pixleykaseme.co.za	NA	Auto I&AP	No comments received	Sent Draft BAR
2	02/02/2012	The Ward Councillor	Pixley ka Seme Local Municipality, Private Bag X9011, Volksrust, 2470	Cir EM Madonsela, Ward 8, Fax: 0866302209	NA	Auto I&AP	No comments received	Sent Draft BAR
3	02/02/2012	The District Municipality	Gert Sibande District Municipality, PO Box 550, Secunda, 2302	Mr M Ngcobo, Environmental Management Section, Fax: 0176311607, Email: marinda.booth@gsibande.go.za	NA	Auto I&AP	No comments received	Sent Draft BAR
4	02/02/2012	SAHRA	South African Heritage Resources Agency, 111 Harrington str, Cape Town, 8000; PO Box 4637, Cape Town, 8000	Mr P Hine/Mrs Colette Scheermeyer, Tel: 0214624502, Fax: 0214624509, Email: phine@sahra.org.za	NA	Auto I&AP	No comments received	Sent Draft BAR
5	02/02/2012	SACAA	Private Bag x73, Halfway House 1685	Tel: (011) 545 1000 Fax: (011) 545 1451	NA	Auto I&AP	Required Day & Night Markings	Mast to be painted red & white with red lights on top.
7	26/10/2011	Bernard Arnoldi	104 Rockwood Crescent, Woodlands, 0072; PO Box 61, Woodlands, 0072	Tel: 0129974514 Cell: 0828883061	Lease Negotiations	Land Owner	Signed Lease	Sent Draft BAR



Appendix F: EMPR





Environmental Management Plan (EMPr)

(Compiled and Submitted in terms of the National Environmental Management Act (Act 107 of 1998))

Mobile Telephone Networks (Pty) Ltd

Project Reference Number:

17/2/3/GS-70

Portion 4 of the farm Vaalbankspruitdrift 334 IT

T9246

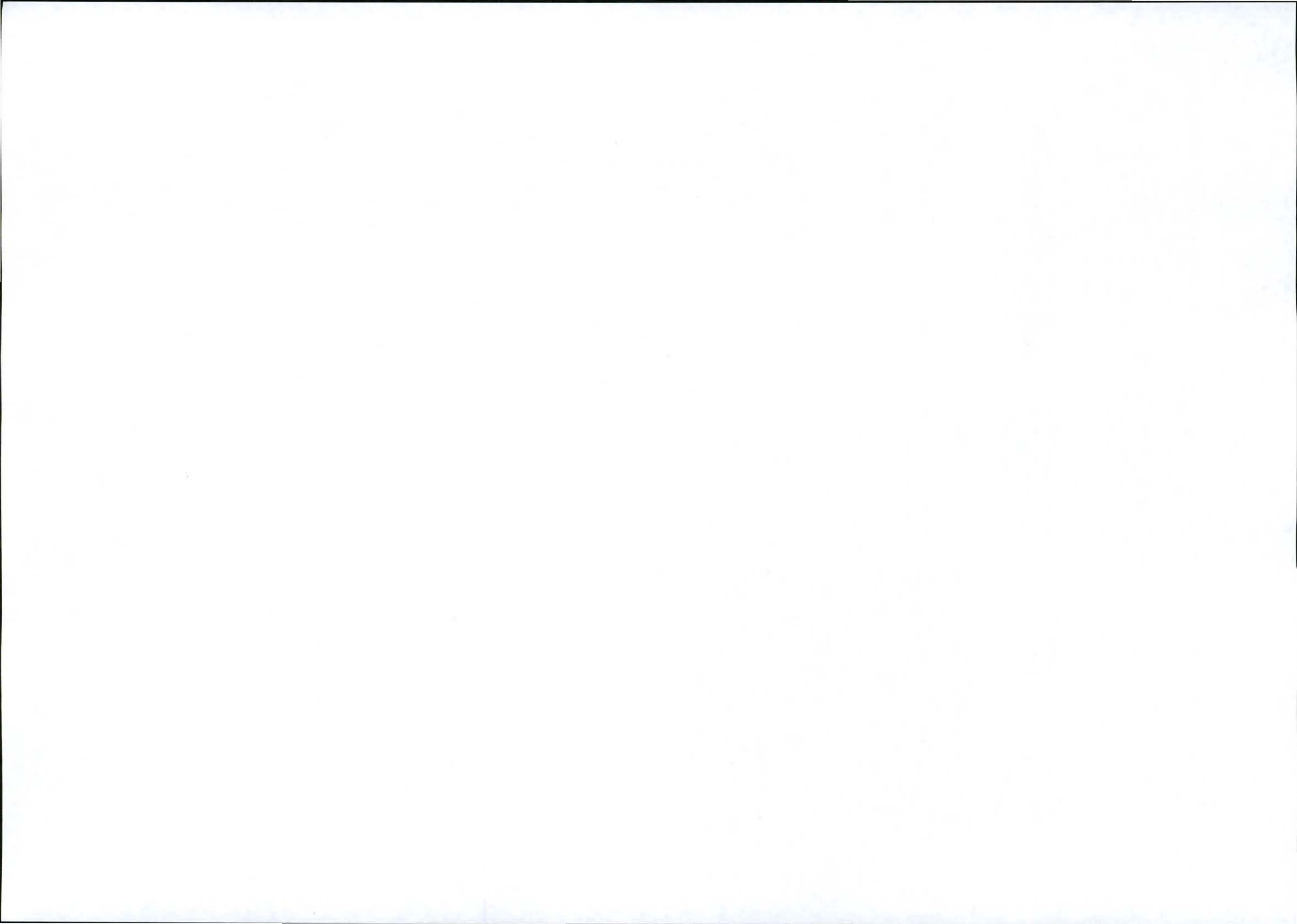
23 May 2012



DOCUMENT APPRAISAL

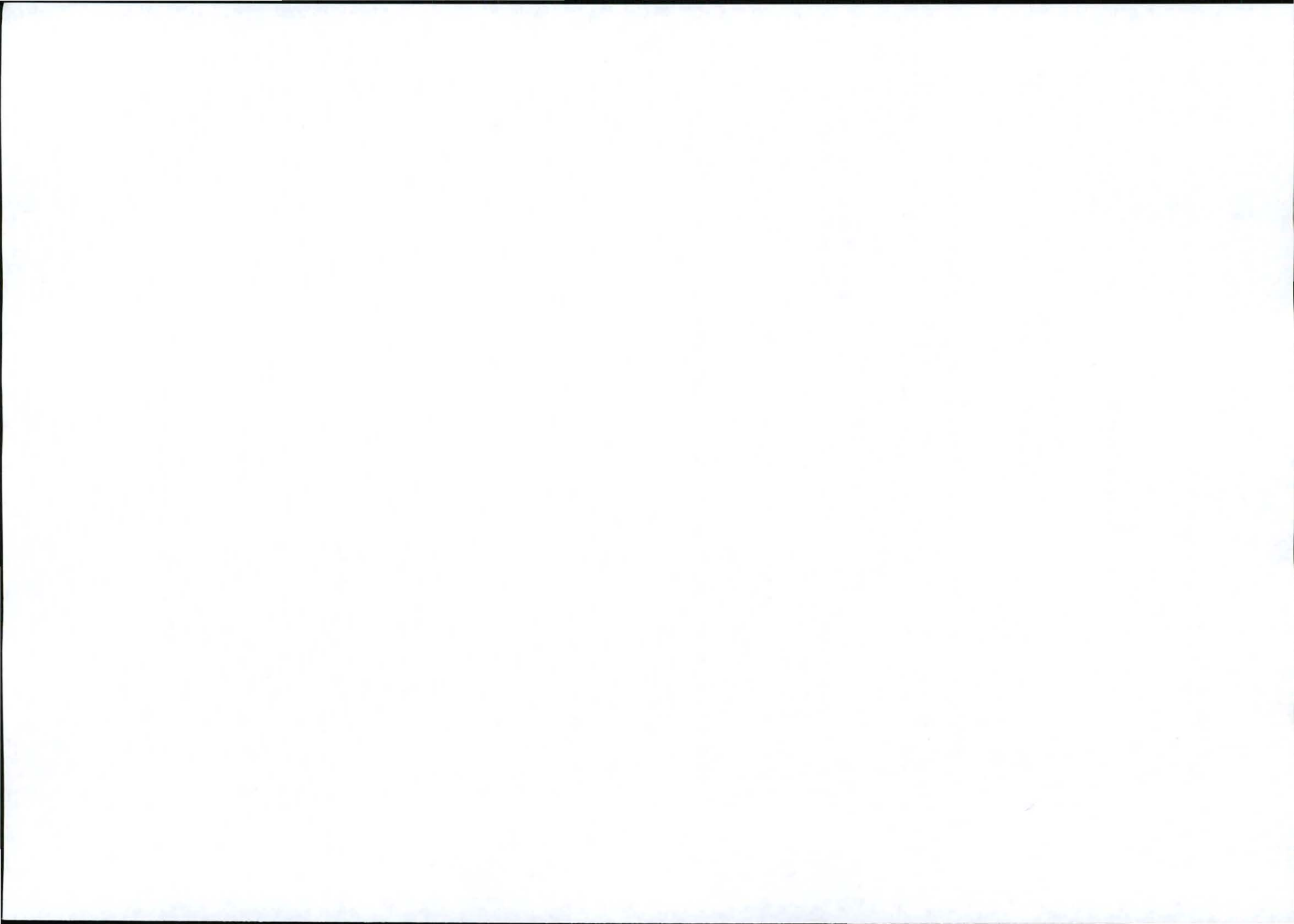
Reference No.	Responsible Person	Signature	Date
Stage of Document Final			
Document Completion			
Document Review			
Document Authorisation			

Department Reference Number: 17/2/3/GS-70

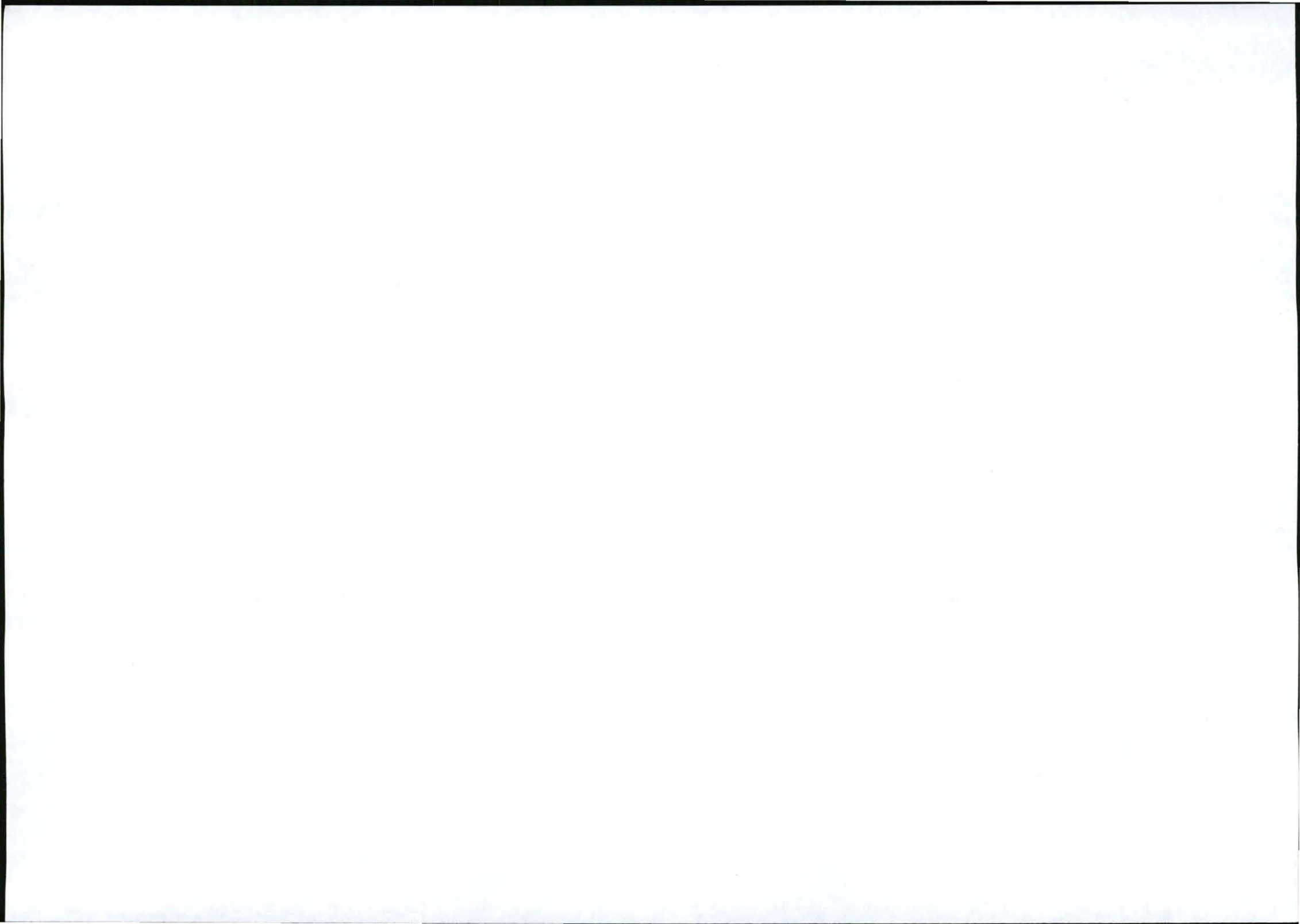


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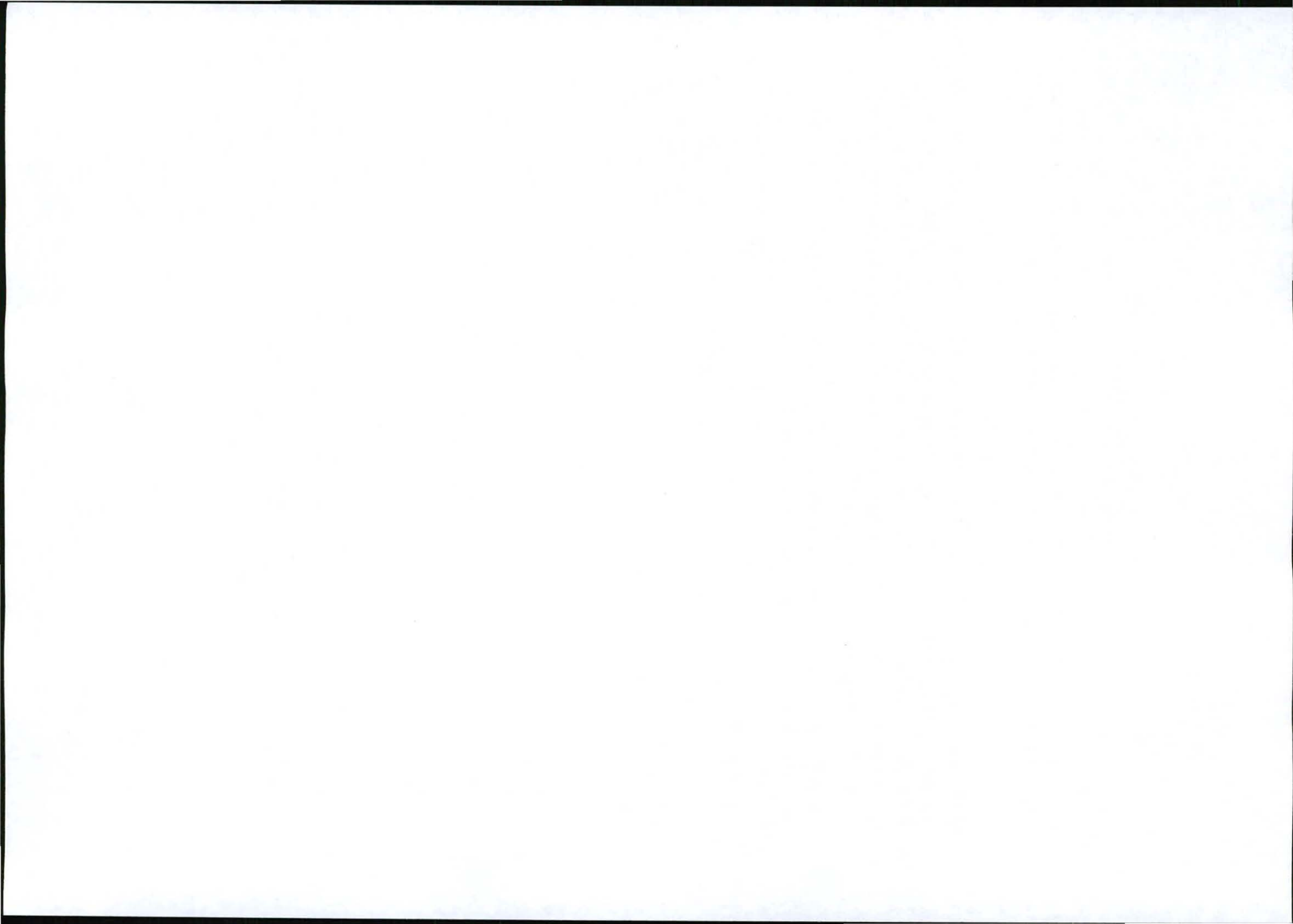


EXECUTIVE SUMMARY

The proponent, MTN (Pty) Ltd, intends **ESTABLISHMENT OF A MTN (PTY) LTD TELECOMMUNICATION MAST ON PORTION 4 OF THE FARM VAALBANKSPRUITDRIFT 334 IT**

The Department of **ECONOMIC DEVELOPMENT, ENVIRONMENT AND TOURISM** requested that an Environmental Management Program (EMPR) be prepared for the proposed project, which addresses all phases of the proposed project, for submission to them [for approval]. The scope of environmental management described in this EMPR pertains to the project as a whole and aims to integrate environmental planning, design, construction and operational activities on the site.

The EMPR has as its basis the recommendations listed in the Basic Assessment Report. It is important to note that the project and the implementation of environmental specifications is an ongoing process that is dynamic in nature. This EMPR forms part of the contractual obligation between the Contractor and the proponent, MTN (Pty) Ltd.



1 INTRODUCTION

1.1 Background and Brief Project Description

The proposed project involves **ESTABLISHMENT OF A 54M MTN (PTY) LTD TELECOMMUNICATION MAST PAINTED RED & WHITE ON PORTION 4 OF THE FARM VAALBANKSPRUITDRIFT 334 IT**

TORBIOUSE SOLUTIONS CC was appointed to compile the Environmental Management Program in respect of the proposed project.

1.1.1 Aims of the EMPR

The purpose of the EMPR is to set environmental targets for the Contractor and reasonable standards against which the Contractor's performance in this regard can be measured during construction. This document will form the basis for the environmental specifications that the Contractor is obliged to comply with during construction of the proposed project. This document will thus form a binding agreement between the Contractor and MTN (Pty) Ltd.

The EMPR addresses issues in order to ensure that all environmental aspects are carefully considered and monitored and adverse impacts managed. It is important to note that the development and implementation of environmental specifications is ongoing and the EMPR is typically dynamic in nature.

1.1.2 Contents of the EMPR

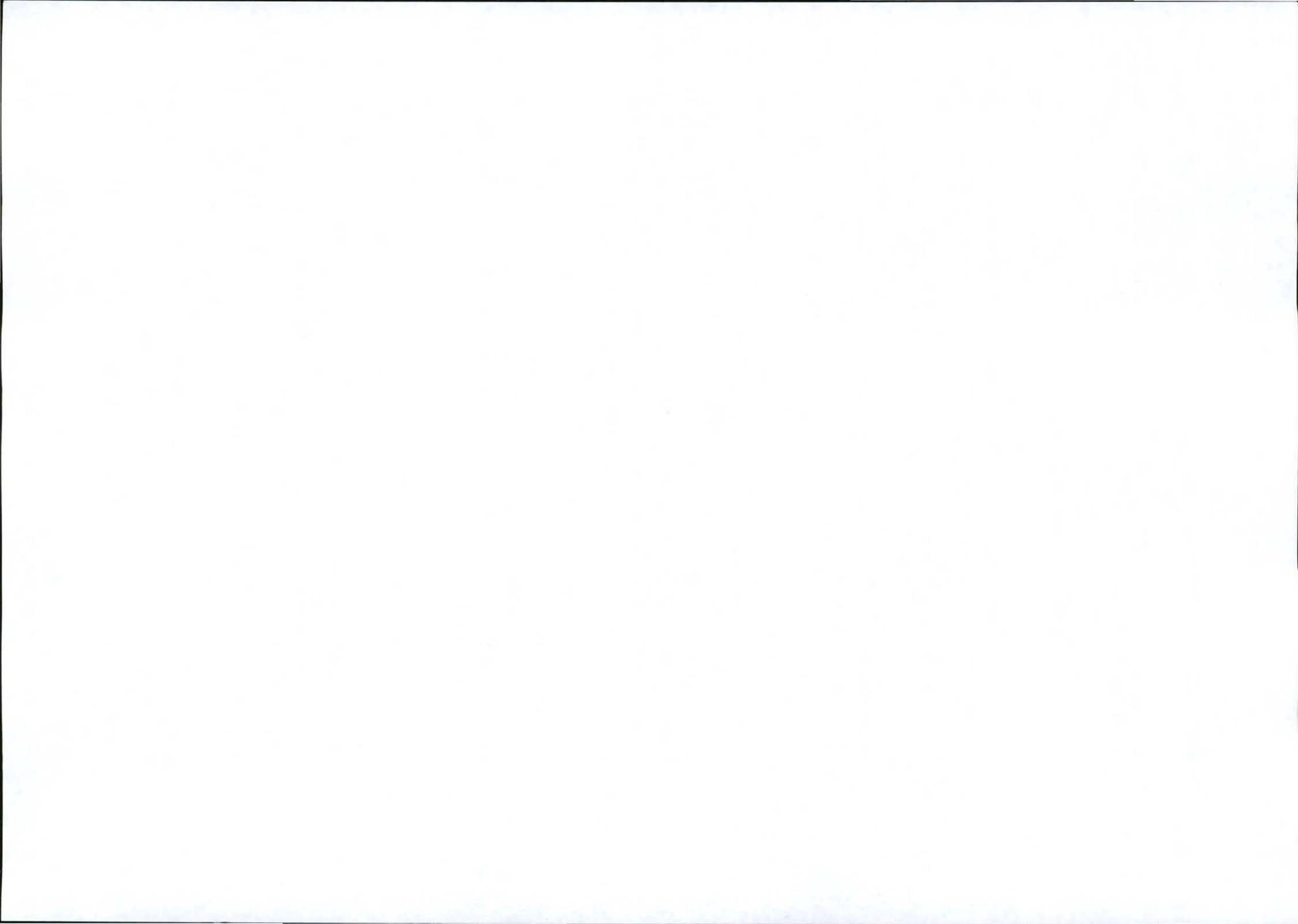
The EMPR consists of the following sections:

Chapter 1: Introduction: This section includes the project background, aims of this EMPR and describes the contents of this EMPR.

Chapter 2: Administration and regulation of environmental obligations: This section identifies the proposed mechanisms for monitoring compliance with the EMPR and reporting thereof.

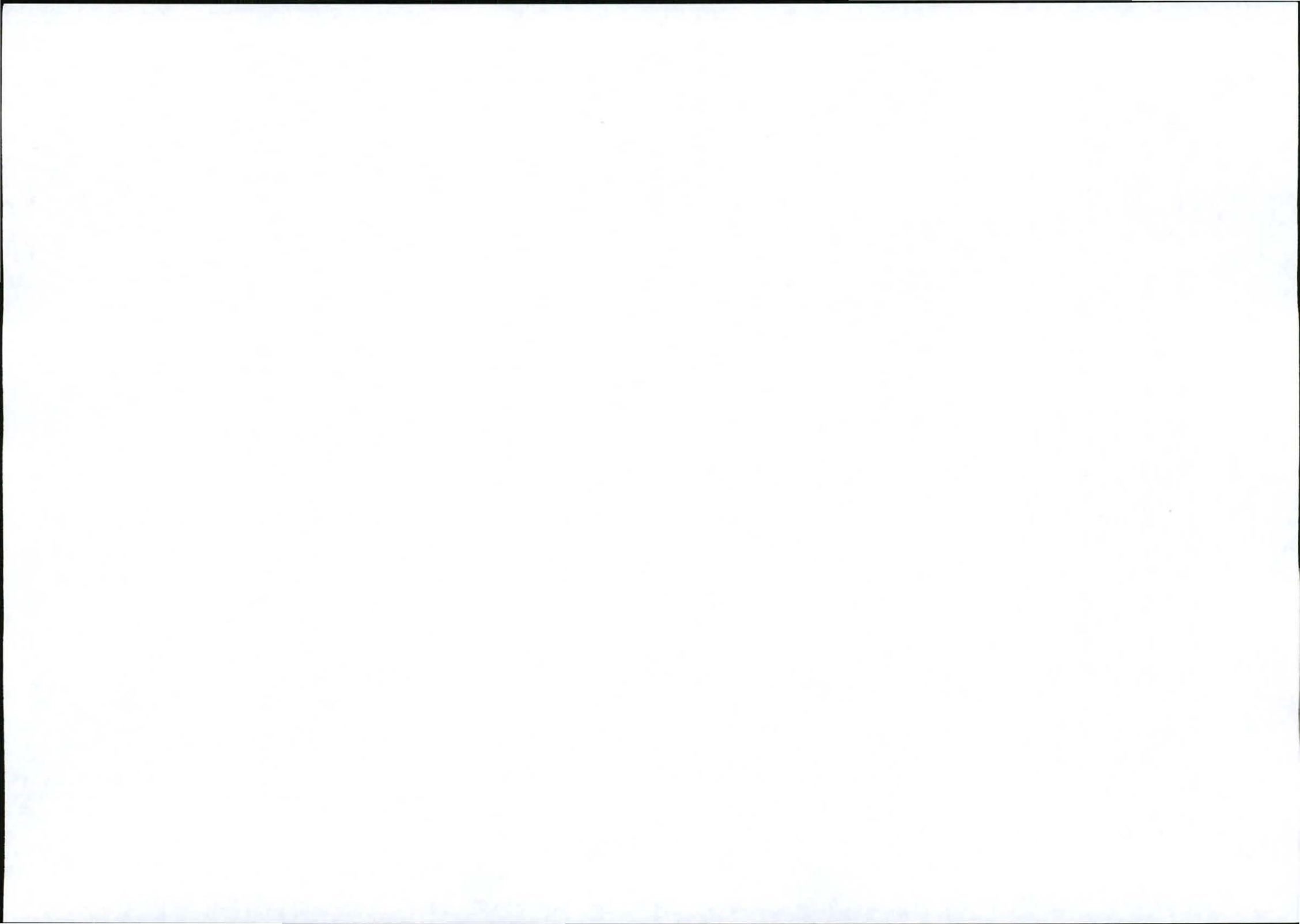
Chapter 3: Environmental Specifications: Construction Phase: This section includes environmental specifications relating to the construction phase of the project.

Chapter 4: Environmental Specifications: Operational Phase: This section includes environmental specifications relating to the operational phase of the project.



Chapter 5: Environmental Specifications: Decommissioning Phase: This section includes environmental specifications relating to the decommissioning of the site.

Chapter 6: Emergency Response Plan: This section provides a summary of responses to emergency situations



2 ADMINISTRATION AND REGULATION OF ENVIRONMENTAL OBLIGATIONS

2.1 Environmental Site Agent

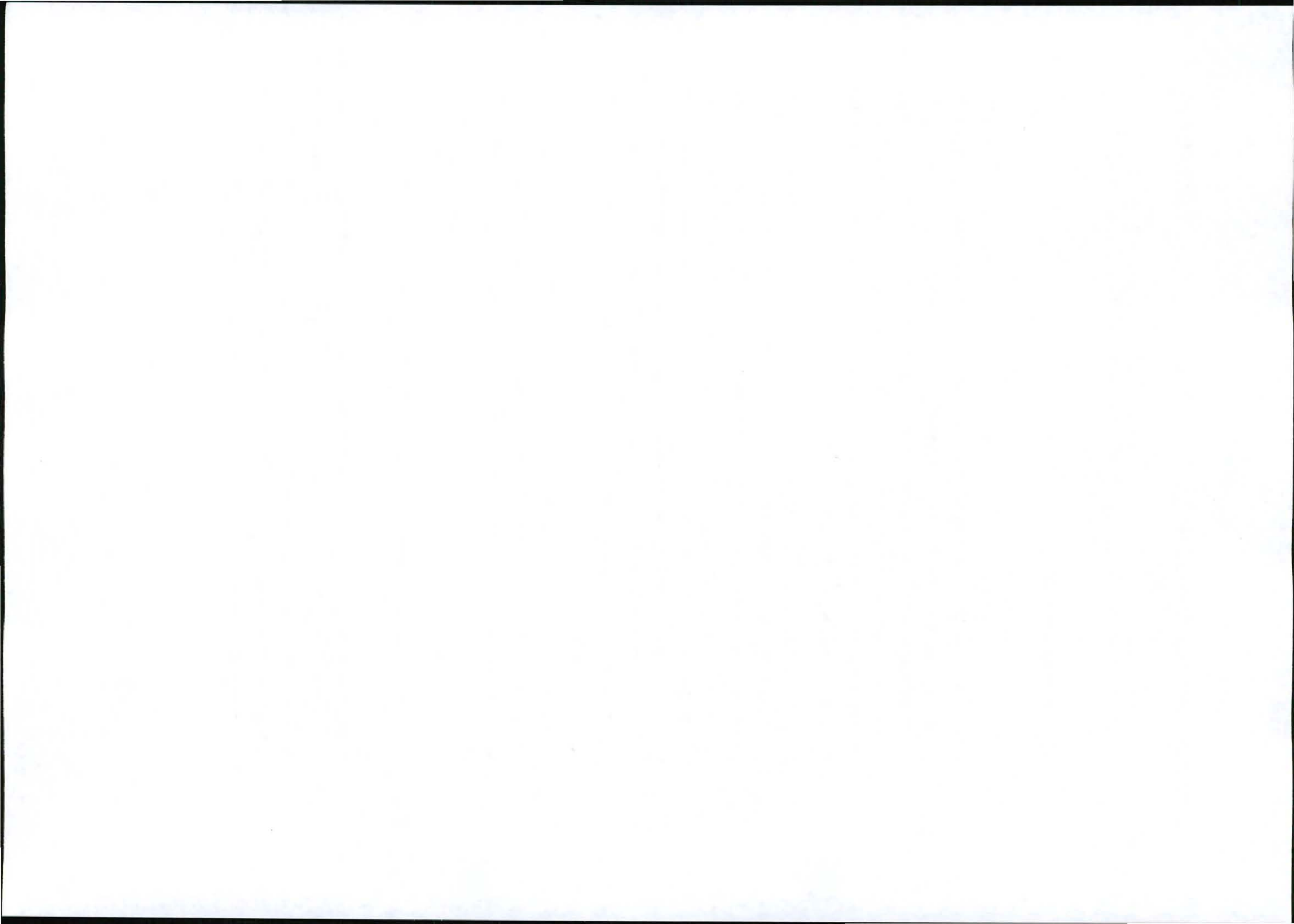
The Environmental Site Agent (ESA) is the person, appointed by the Contractor on behalf of the Applicant or the Environmental Consultant appointed on behalf of the Applicant, involved with the project and all projects within the operational region of the Contractor and who is responsible for the implementation of the environmental management plan. This person is therefore responsible for the environmental issues involved with the construction phase of the project. The ESA will be required to oversee a number of sites at any given time and is required to manage his/her time effectively to ensure that he/she fulfils his/her environmental obligations in respect of all sites.

The ESA must be a person with adequate environmental knowledge to understand and implement this management plan. It is required that the ESA reports to the Applicant (MTN (Pty) Ltd) irrespective of who appointed the ESA. The ESA has the authority to stop works if in his/her opinion there is a serious threat to or impact on the environment, caused directly from the construction operations. This authority is to be limited to emergency situations where consultation with the HOD Implementation and/or Property Supervisor and/or National Property Manager is not immediately available. In all such work stoppage situations, the ESA is to inform the HOD Implementation and/or Property Supervisor and/or National Property Manager of the reasons for the stoppage as soon as possible thereafter.

Upon failure by the Contractor and/or his employees to show adequate consideration to the environmental aspects of this EMPR, the ESA may recommend the suspension of works pending an investigation by the HOD Implementation and/or Property Supervisor and/or National Property Manager.

2.2 Environmental Awareness Training for Site Personnel

All Contractor teams involved in work on the project are to be briefed on their obligations towards environmental controls and methodologies in terms of this EMPR prior to the commencement of work. The briefing will take the form of an on site talk, when an RFQ (Request for Quotation) site survey is set up, and shall be demonstrated by the ESA. The education / awareness programme should be aimed at all levels of employees within the Contractor team. (See "Do's and Don'ts" summary sheet).



2.3 On Site Communication Procedure

2.3.1 Environmental Awareness Training for Site Personnel

The Site Instruction book entries will be used for the recording of general site instructions as they relate to the work taking place on site. It will also be used for the issuing of stop work orders for the purposes of immediately halting any particular activities of the Contractor in lieu of the environmental risk that they may pose.

2.3.2 Record Keeping

All records relating to the implementation of this EMPR must be kept on site; on the MTN Operating System and archived at an adequate archive facility where it is safe and can be retrieved easily. These records should be kept for two years and should at any time be available for scrutiny by any relevant authorities.

2.3.3 Photographs

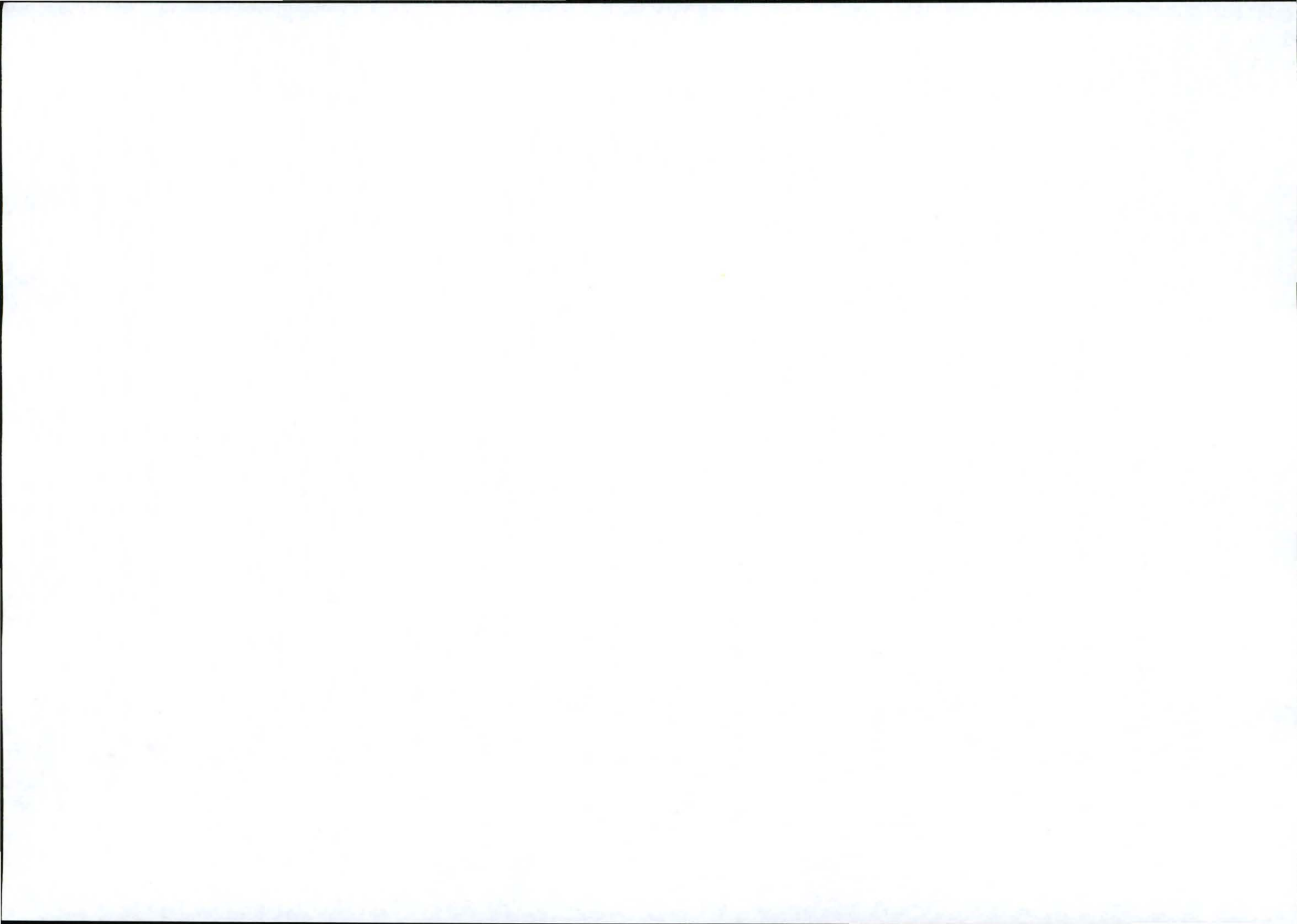
It is recommended that photographs are taken on the site prior to, during and immediately after construction as a visual reference. These photographs should be stored with other records related to this EMPR and on the MTN Operating System. If captured in digital format, hard copies must be kept with all other records relevant to the implementation of this EMPR. In particular, the Contractor and ESA are responsible for taking photographs of the environmental aspects of environmentally sensitive areas for use in rehabilitation processes.

2.3.4 Environmental Audit Report

An Environmental Audit Report is a report completed by the ESA and signed off by the HOD Implementation and/or the Property Supervisor and/or National Property Manager, and then sent to the relevant authorities, by the ESA, stating the completion of the project and compliance with the EMPR and conditions.

2.4 Basic Rules of Conduct

The following list represents the basic "Do's and Dont's" towards environmental awareness, which all participants in this project must consider whilst carrying out their tasks and duties. These are not exhaustive and serve as a quick reference aid. **NOTE: All new site personnel must attend an**



environmental awareness presentation. Please inform your foreman or manager if you have not attended such a presentation alternatively contact the ESA.

DO:

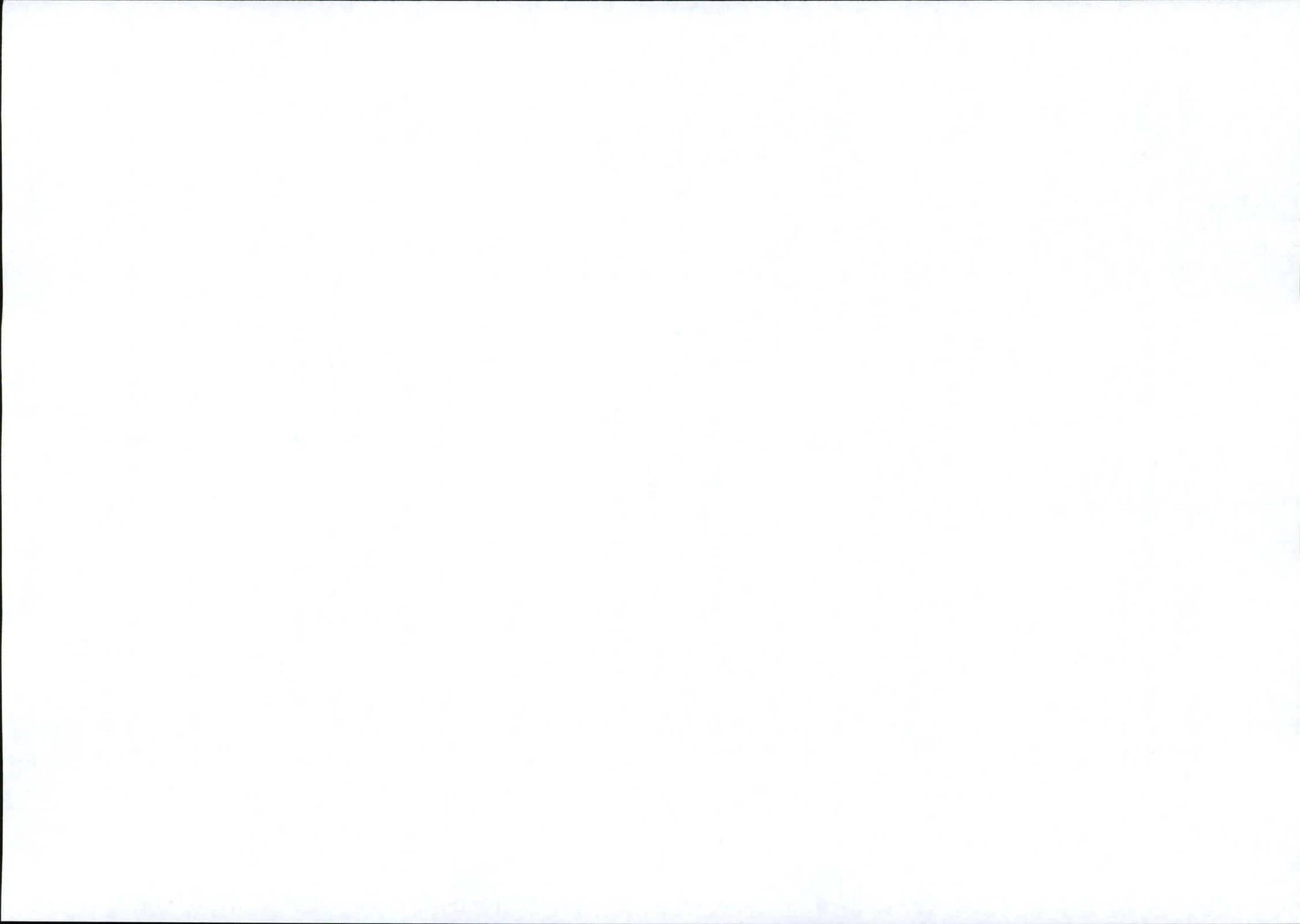
- ✓ Use the toilet facilities provided – report dirty or full facilities;
- ✓ Clear your work areas of litter and building rubbish at the end of each day – use the waste bins provided and ensure that litter will not blow away;
- ✓ Report all fuel or oil spills immediately and stop the spill continuing;
- ✓ Dispose of cigarettes and matches carefully. (Littering is an offence);
- ✓ Confine work and storage of equipment to the immediate work area and within the site boundary;
- ✓ Where possible use a drip tray under vehicles and machinery and empty drip trays after rain and throw away where instructed;
- ✓ Use all safety equipment and comply with all safety procedures;
- ✓ Ensure a working fire extinguisher is immediately at hand if any “HOT WORK” is undertaken e.g. welding, grinding, gas cutting etc;
- ✓ Try to avoid producing dust – wet dry ground and soil;

DONT:

- ✗ Make any fires;
- ✗ Enter any fenced off or marked area;
- ✗ Allow cement or cement bags to blow around;
- ✗ Allow waste, litter, oils or foreign materials into the stormwater channels;
- ✗ Litter or leave food laying around;
- ✗ Make loud noises around the site. Report or repair noisy vehicles
- ✗ Damage or cut down any trees or plants without permission.

2.5 Internal Review and Auditing

The Contractor and ESA shall establish an internal review procedure to monitor the progress and implementation of the EMPR during the construction phase. All audits will be signed off by the HOD Implementation and/or Property Supervisor and/or National Property Manager.



Where necessary, and upon the recommendation of the ESA and/or the Contractor, procedures that require modification will be changed to improve the efficiency of the EMPR. All modifications to the EMPR shall be approved by the Department before; if possible, any changes or adjustments to the EMPR are implemented. Any material changes or adjustments to the EMPR shall be registered accordingly on MTN's operating system.. Adjustment and update of the original EMPR document is not required when these *ad hoc* changes are made.

At the conclusion of the project an environmental audit report shall be compiled by the ESA, and signed off by HOD Implementation and/or Property Supervisor and/or National Property Manager and submitted to the Department by the ESA. This report shall be compiled by the ESA, in collaboration with the Contractor and/or the Environmental Consultant and/or the Applicant.. It shall, as a minimum, outline the implementation of the EMPR during the construction phase, and highlight any problems and issues that arose during the construction period to report, on a formal basis, the lessons learnt from this project.



3 ENVIRONMENTAL SPECIFICATIONS: CONSTRUCTION PHASE

3.1 Site Demarcation

The "site" refers to the total area where the contract will take place and any other area reasonably required by the Contractor to undertake the construction activities in order to fulfil the contract. Areas where construction is prohibited are referred to as 'no-go' areas. 'No-go' areas identified on site include all areas outside of the footprint of the base station as well as environmentally sensitive sites. The environmental sensitivity of the area should be ascertained and then the position and orientation of the BTS site as per the approved drawings should be pegged out. 'No-go' areas should be demarcated to prevent environmental degradation thereto. This responsibility rests with the ESA and/or the Contractor.

The Contractor shall be responsible for any clean-up and/or rehabilitation of all areas impacted outside the site and within the 'no-go' areas.

3.2 Construction Facilities

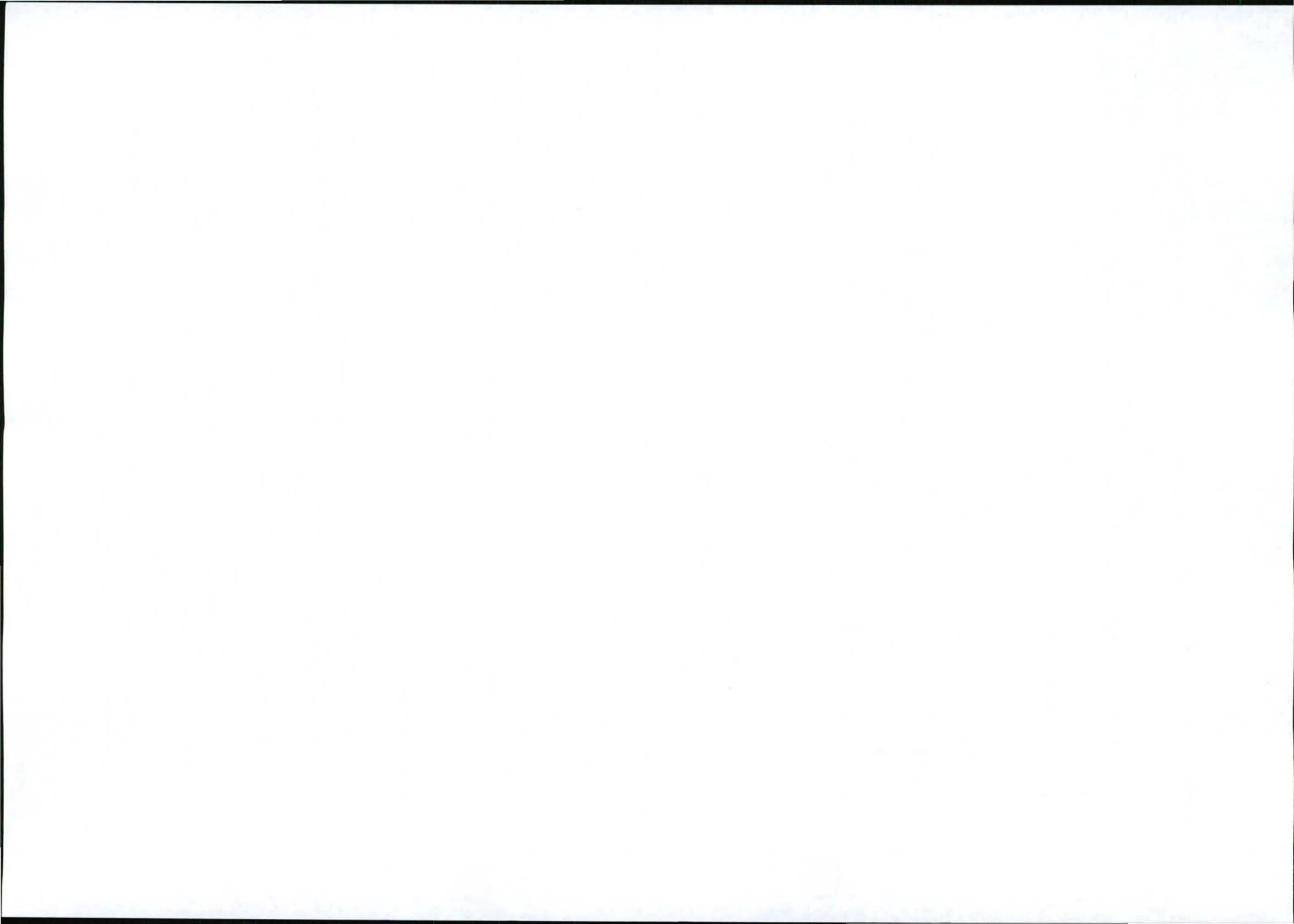
3.2.1 Construction Camp

Construction crews may not stay on site overnight unless special permission has been obtained from the landowner. In the event that the landowner has given such permission, the position of the construction camp shall be agreed by the ESA and Contractor.

3.2.2 Toilet Facilities

The Contractor shall provide suitable sanitary arrangements (chemical toilets), which shall be located within the construction camp and/or in the construction footprint (where applicable) of the BTS. The siting of toilets shall be done in consultation with the ESA to ensure ease of access. Where required, toilet/s shall be secured to prevent them blowing over.

The Contractor shall be responsible for ensuring that all ablution facilities are maintained in a clean and sanitary condition to the satisfaction of the ESA. The Contractor shall provide toilet paper. The Contractor shall appoint a suitable sub-contractor to empty toilets on a regular basis. The sub-contractor and Contractor shall ensure that there is no spillage when the chemical toilets are cleaned and that the contents are properly removed from site.



The Contractor shall be responsible for enforcing the use of these facilities. Performing ablutions outside of established toilet facilities is strictly prohibited.

3.2.3 Water Provision

The Contractor shall be responsible for ensuring that there is access to clean drinking water for all employees on site. The use of water in rivers, dams, ponds etc. as drinking water is strictly forbidden.

3.2.4 General Aesthetics

All construction areas must be kept neat and tidy at all times. Different materials and equipment must be kept in designated areas and storing/stockpiling shall be kept orderly.

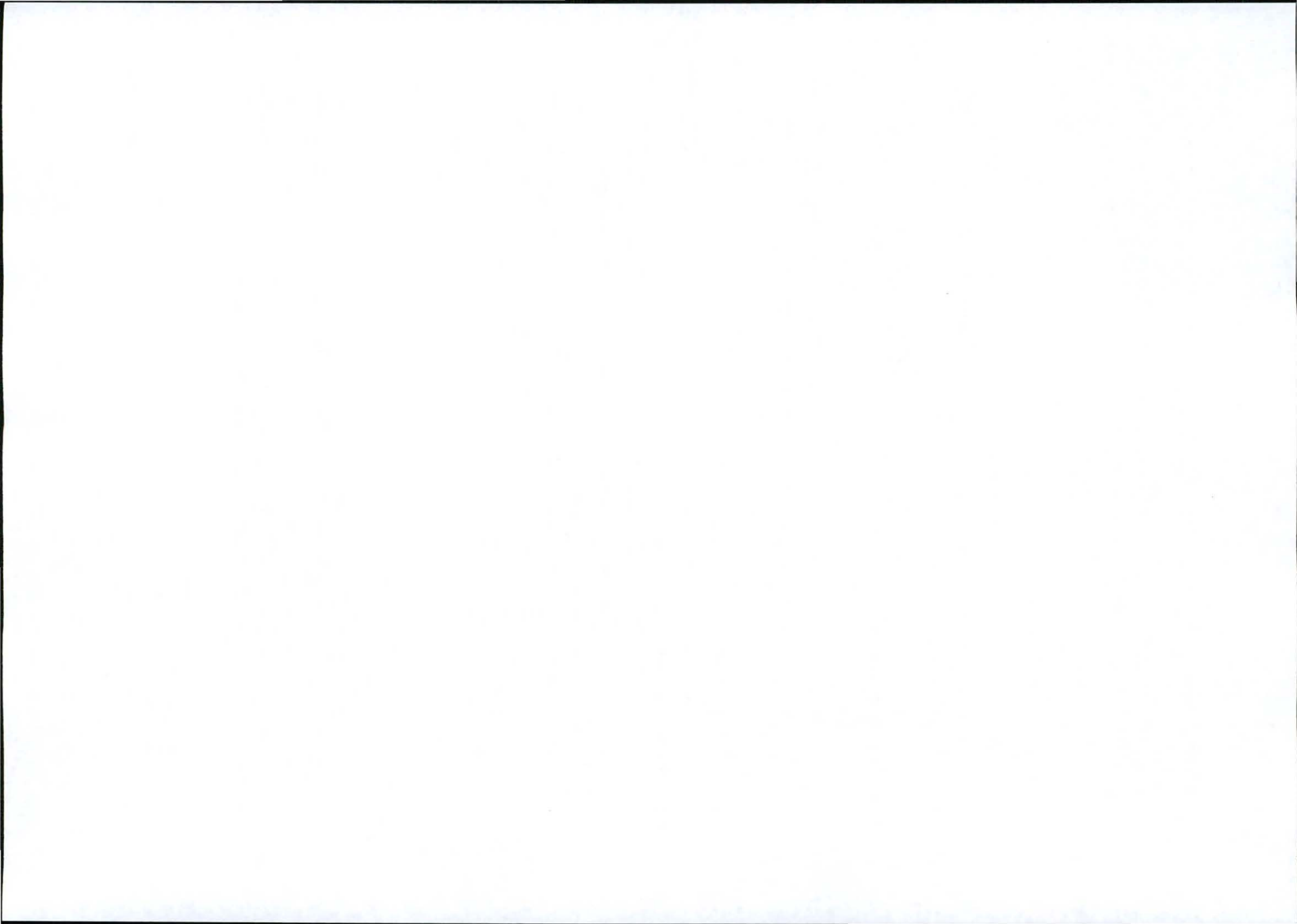
3.3 Site Clearing

3.3.1 Vegetation Clearing

Before clearing of vegetation, the Contractor shall ensure that all litter and non-organic material is removed from the area to be cleaned. All vegetation that may not be removed must be clearly identified and demarcated. Where the surrounding flora is required to be protected from traffic, the entire construction area should be fenced off with a temporary 1.8m fence. The fence should be removed upon completion of construction. This responsibility rests with the Contractor and the ESA. The use of herbicides is prohibited.

3.3.2 Site Access

All access to and from the BTS shall be on demarcated roads (where possible). The route for permanent access to the site shall be determined prior to construction, and shall be pegged out accordingly. Photographs shall be taken indicating the route detail. Rehabilitation of secondary roads must be conducted by the Contractor. No machinery may disturb any vegetation along side any road.



3.3.3 Trenching

All trenching must be completed in such a manner as to limit damage to the surrounding environment. If required in the authorisation, trenching is to be done by hand.

3.4 Materials Handling and Storage

3.4.1 Handling

The Contractor shall ensure that all suppliers and their delivery drivers are aware of procedures and restrictions in terms of this EMPR. The Contractor (and suppliers) shall ensure that all materials are appropriately secured to ensure safe passage between destinations. Loads shall have appropriate cover to prevent spillage from the vehicle during transit. The Contractor shall be responsible for any clean-up resulting from the failure by his employees or suppliers to properly secure transported materials. The Contractor shall ensure that delivery drivers are supervised during offloading.

3.4.2 Storage of Construction Materials

The Contractor shall ensure that areas for storage of construction materials are determined in consultation with the ESA and adequately demarcated. All construction materials including but not limited to building material shall be stored on such demarcated areas.

3.4.3 Storage of Equipment

Drip trays shall be provided for stationary plant (such as compressors, pumps, generators etc.) and for "parked" plant (e.g. mechanised equipment).

3.5 Refuelling and Maintenance

3.5.1 Refuelling

Where reasonably practicable, plant and vehicles shall be refuelled using suitable equipment (e.g. funnels) and the necessary drip trays.



3.5.2 Maintenance

All vehicles and equipment shall be kept in good working order and serviced regularly. Leaking equipment shall be removed from the site. All maintenance of equipment and vehicles shall be performed off site. No washing of plant and equipment shall be undertaken on site.

3.6 Accidental Leaks and Spills

The Contractor shall ensure that his employees are aware of the procedure to be followed for dealing with spills and leaks. Any accidental leak or spill of fuel, oil or any other hazardous substance must be reported immediately to the ESA to ensure that the best remediation method is quickly implemented.

In the event of a hydro-carbon spill, the source of the spillage shall be isolated and the spillage contained. The area shall be cordoned off and secured. The Contractor shall ensure that there is always a supply of absorbent material readily available to absorb / breakdown spills.

The Contractor shall be liable to arrange for professional service providers to clear the area affected by the spill, if required.

3.7 Waste Management

3.7.1 Solid Waste

Solid waste includes all construction waste (cement bags, tags, wrapping materials, cans, wire, nails, etc.) and surplus food, food packaging, organic waste etc. The Contractor shall be responsible for the establishment of a solid waste control and removal system that is acceptable to the ESA in order to prevent the spread of waste in, and beyond, the construction area. An integrated waste management approach shall be used, based on the principles of waste minimisation, reduction, reuse and recycling of materials. Containers for glass, paper, metals and plastics shall be provided, if sufficient solid waste is generated. The construction camp area (if applicable) is particularly suited for this purpose.

The Contractor shall provide vermin and weatherproof bins (with lids) of sufficient number and capacity to store solid waste produced on a daily basis. The lids shall be kept firmly on the bins at all times. Bins shall be located in areas where there is a concentration of labour and shall be easily



accessible. Bins shall be emptied regularly as required, preferably every second day. The general cleanliness of the site shall form part of the ESA inspections.

All solid waste may be temporarily stored on site in a demarcated area, which meets the satisfaction of the ESA. All solid waste shall be disposed of off site at a licensed landfill site. The stockpiling of construction rubble, cut vegetation or other material shall only be permitted in areas approved by the ESA. No waste material or litter shall be burnt or buried on site.

Erosion Control

The Contractor shall, as an ongoing exercise, provide erosion control to the satisfaction of the ESA. During construction, the Contractor shall protect areas susceptible to erosion by installing necessary temporary and permanent draining works as soon as possible.

Any runnels or erosion channels developed during the construction period shall be backfilled and compacted, and the areas restored to an acceptable condition (as determined by the ESA). Stabilisation of cleared areas to prevent and control erosion shall be actively managed.

During construction, the Contractor shall implement measures to prevent the migration of materials (fines) from the construction site into river courses, drainage lines, stormwater and sewerage systems.

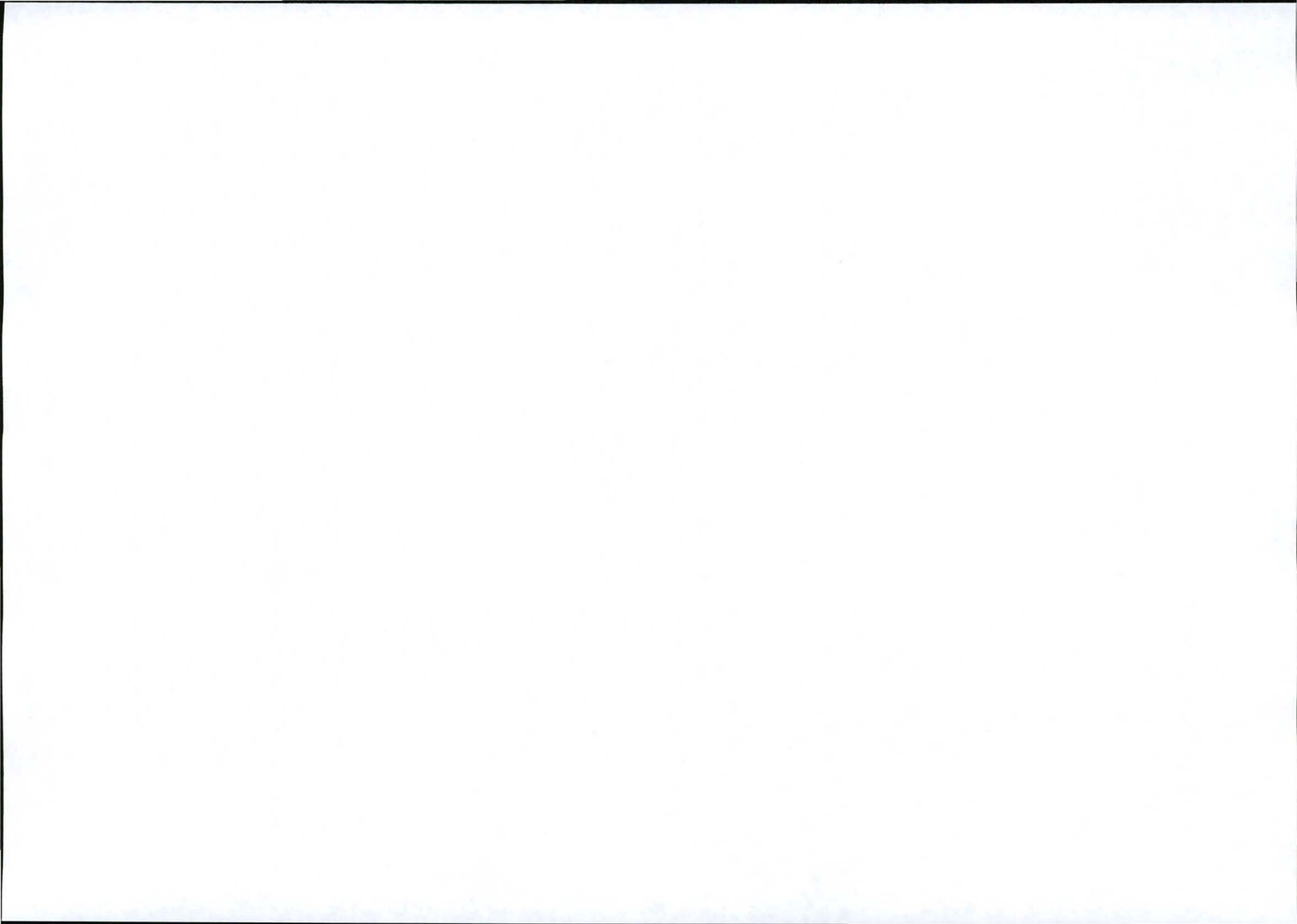
3.8 Fire Control

No fires shall be allowed on site. At least one 12.5kg type ABC (all purpose) fire extinguisher shall be kept on the construction site.

3.9 Protection of Natural Features, Flora and Fauna

3.9.1 Protection of Natural Features

The Contractor shall not deface, paint, damage or mark any natural features outside the site for any purpose unless agree beforehand with the ESA. The Contractor shall not permit his employees to make use of any natural water sources situated on or near the site for purposes of swimming, personal washing and/or the washing of machinery or clothes.



3.9.2 Protection of Flora

The removal, damage or disturbance of flora, fauna or avifauna is forbidden. The clearing of vegetation within the construction area shall be undertaken in accordance with that specified in section 3.3.1.

The Contractor shall be familiar with any Ordinances, Acts, By-laws and/or regulations pertaining to the protection of natural features, flora and fauna on site. Where applicable, the Contractor shall apply for the necessary permits prior to removing any plants listed in the relevant schedules promulgated in terms of the legislation.

3.9.3 Protection of Fauna

The Contractor shall ensure that no hunting, trapping, shooting, poisoning or other disturbance of any fauna takes place. The feeding of wild animals is prohibited. No domestic pets or livestock are permitted on site.

3.10 Protection of Heritage and Cultural Features

The Contractor shall not, without a permit issued by the relevant heritage resources authority, destroy, damage, excavate, alter, deface or otherwise disturb archaeological finds. Archaeological finds can take the form of buried walls, old bottles, porcelain fragments, earthenware fragments, accumulations of bone and ash dumps.

If any archaeological or paleontological artefacts and/or human burials or remains are uncovered during construction, work in the vicinity of the find shall cease. The Contractor shall immediately notify the HOD Implementation and/or Property Supervisor and/or National Property Manager, who shall contact the South African Heritage Resources Agency (SAHRA). The Contractor will be required to abide by the specifications as set out by SAHRA or the heritage specialist appointed to investigate the find or burial.

3.11 Dust Control

The Contractor shall ensure that the generation of dust is minimised and shall implement a dust control programme to maintain a safe working environment, minimise nuisance and protect damage to natural vegetation.



The Contractor shall ensure that all exposed soil and material stockpiles are adequately protected against the wind. Where possible, dust suppression shall take place by way of spraying.

3.12 Noise Control

The Contractor shall be familiar with and adhere to, any local by-laws and regulations regarding the generation of noise and hours of operation. Working hours shall be confined to the hours between [insert time as per EA/ROD] and [insert time as per EA/ROD]. The Contractor shall be held responsible for any complaints received from the department and/or public with respect to any contravention of agreed noise conditions.

3.13 Cement

Cement and concrete mixing directly on the ground shall not be allowed. Where possible, ready mix concrete shall be utilised in all site construction. Mixing of cement, if applicable, shall take place on impermeable surfaces to the satisfaction of the ESA.

Unused cement bags shall be stored out of the rain where they will not be affected by run-off. Used (empty) cement bags shall be collected and stored in weatherproof containers to prevent wind blown cement dust and water contamination. Used cement bags shall not be used for any other purpose and shall be disposed of on a regular basis via the solid waste management system.

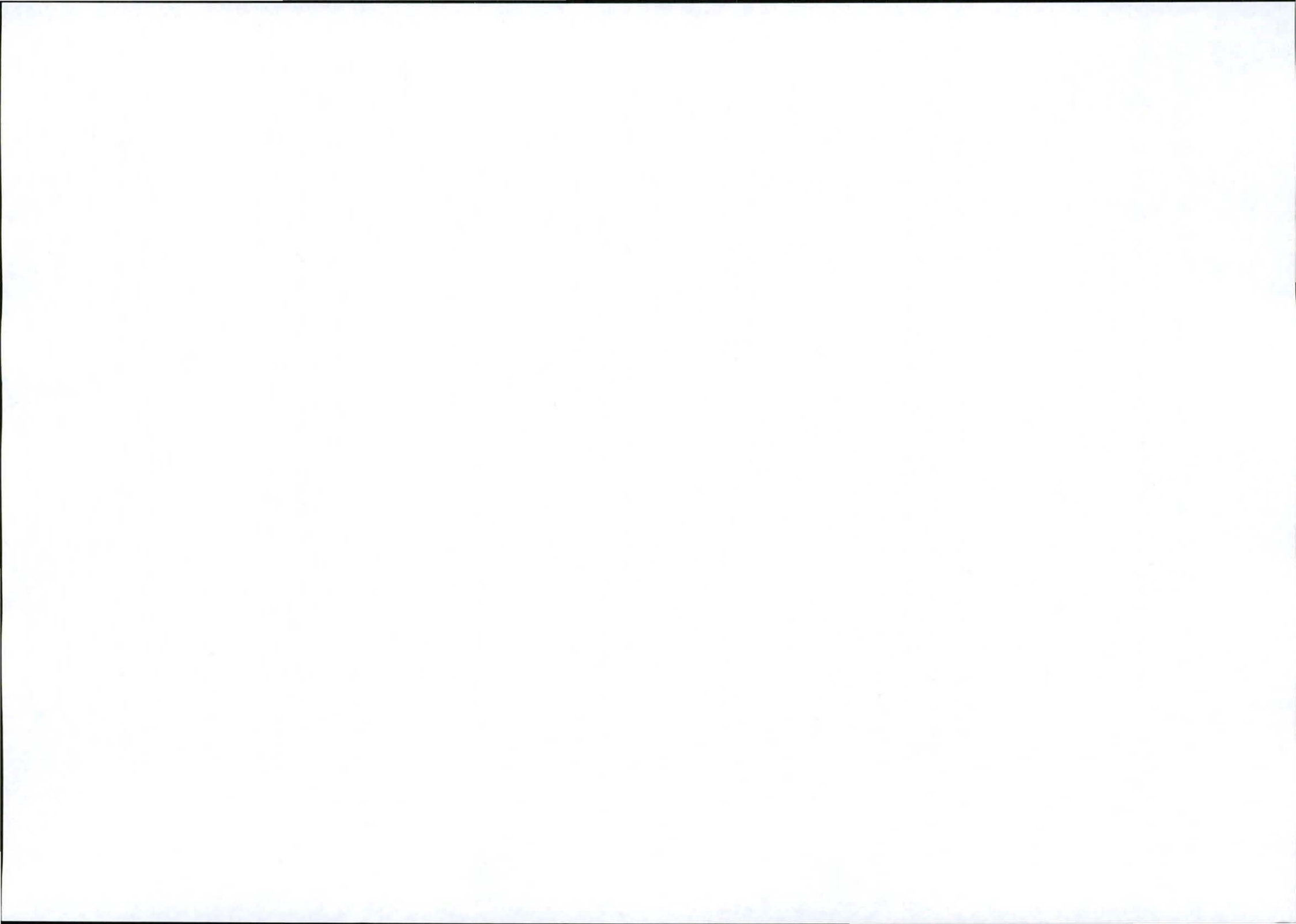
All excess concrete shall be removed from site on completion of concrete works and disposed of at a licensed landfill site. Washing of the excess concrete or washing of concrete pump trucks into the ground is prohibited.

3.14 Mast Colour

The mast shall be painted **RED & WHITE in accordance with that stated in ROD/EA and in accordance with Civil Aviation Authority requirements.**

3.15 Complaints Register

The ESA shall have accessible on the construction site a complaints register in terms of which all complaints received from interested and affected parties shall be recorded. The Complaints register shall be kept on site for the duration of construction activities and all complaints received shall be reported to the ESA.

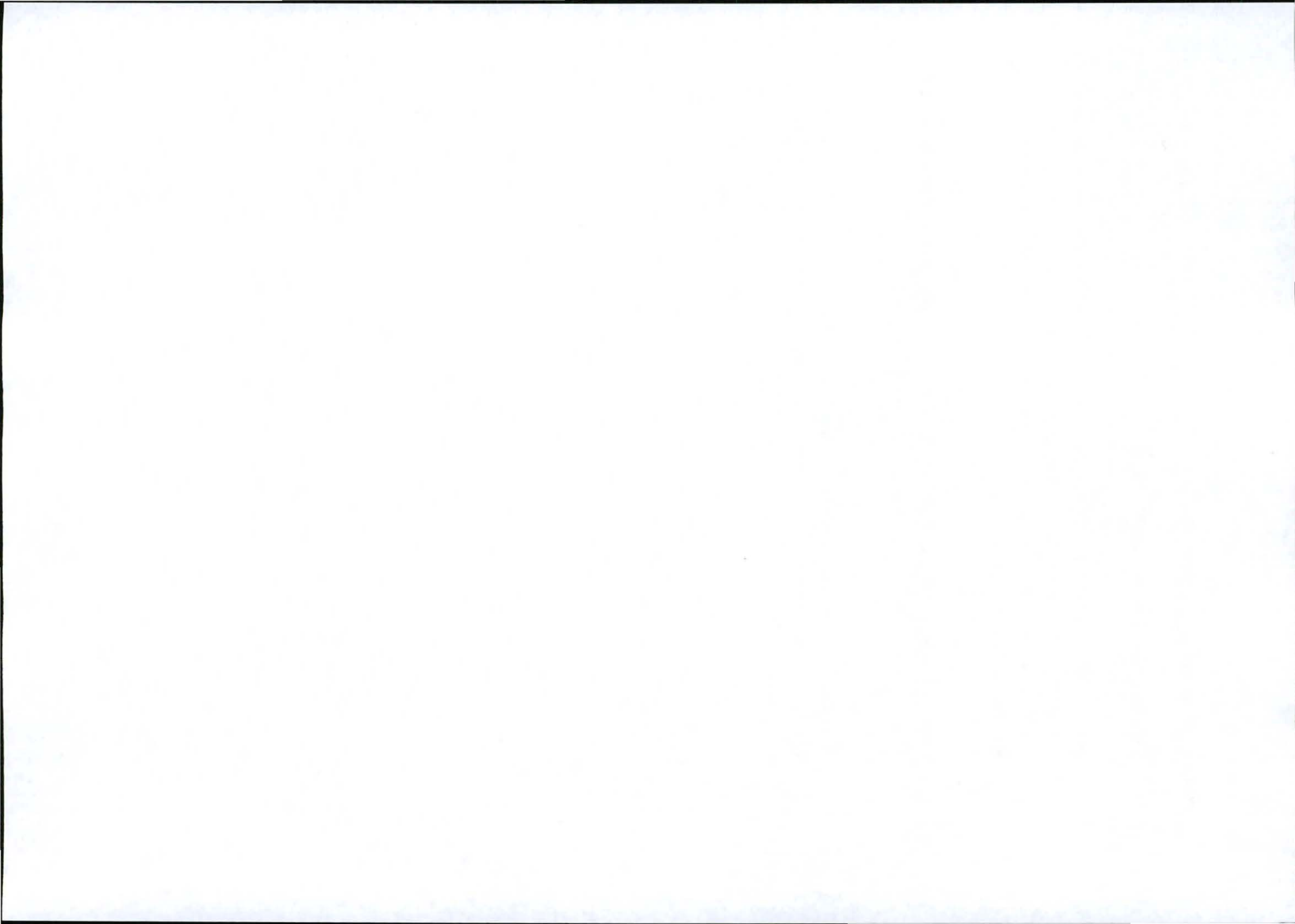


3.16 Site Rehabilitation and Landscaping

On completion of the project, the Contractor shall ensure that all structures, equipment, materials, waste, rubble, notice boards and temporary fences used during the construction operation are removed with minimum damage to the surrounding area. The Contractor shall clean and clear the site to the satisfaction of the ESA.

In the case of accidental spills of oils, the affected soils shall be dug out and removed from the site for disposal at a licensed hazardous waste site and replaced with fresh topsoil.

Rehabilitation shall especially focus on all scarred and open areas, in order to reduce visual impacts as a result of the construction phase. Stored topsoil, if applicable, shall be used for rehabilitation purposes.



4 ENVIRONMENTAL SPECIFICATIONS: OPERATIONAL PHASE

The following responsibilities will be met to prevent negative environmental impacts:

- Providing a budget for maintenance;
- Maintaining all approved infrastructure in good working order to effectively fulfill its intended purpose and to prevent negative environmental impacts;
- Not construct any additional buildings, infrastructure etc. contrary to the approved Environmental Authorization, without performing an environmental impact assessment to evaluate alternatives and environmental impacts;
- To immediately remedy any factors that contribute to negative environmental impacts;
- [Where the ROD requires this – insert this clause]To do an annual environmental audit and to have the results in writing available at the administration offices of MTN.

4.1.1 Maintenance

Procedure to be followed to ensure the high standards of appearance and quality are maintained on the BTS sites to ensure that environmental issues are adequately addressed and that BTS sites are effectively maintained.

1. All BTS sites must be maintained and cleaned as per the schedule set by the Field Maintenance Supervisor responsible;
2. The items that must be checked will be as per the list below and as reflected in detail in the Site Maintenance Report and Statement of Work reference documentation;
 - a. Fence and Gate: Secure and rust treat as necessary;
 - b. Signage: Check all signs as per the BTS Site Infrastructure Specification;
 - c. Terrain:
 - i. Clean and de-weed inside and outside the BTS site and clean a 1m perimeter area around the fence. In areas susceptible to soil erosion, cut weed perimeter in such a way as to protect soil from erosion;
 - ii. De-weed invasive vegetation in the surrounding area of the BTS site;
 - iii. Check for any rubble that could have accumulated from previous maintenance work or during the BTS site build and remove and dump and a registered waste disposal site.
 - d. Equipment Room: De-rust, wash walls and floor and dust interior;



- e. BTS Cabinet: Replace filter
 - f. Container: Replace blown fluorescent lights (discard used lights in safe manner to ensure no mercury exposure), clean roof and cut away branches hanging over the site;
 - g. Air Conditioner: Wash, dry and seal;
 - h. Mast Navigation Lights: Replace blown globes
 - i. Mast: Check foundation, bolts, bolt torque, cable tray, cage and contact specialist to remove nests;
 - j. Road: Check condition i.e. check for signs of soil erosion, potholes and general sturdiness;
 - k. Power Source: Check condition i.e. still safe and insulated;
 - l. Maintenance Waste: All waste generated from the maintenance work must be removed from the area and disposed of at an approved landfill.
3. Invasive vegetation can easily be recognized as it is found in the immediate vicinity surrounding the site, but does not grow in the natural environment in the surrounding area. Normally the seeds of invasive vegetation are brought in an area with sand used during BTS site construction. Every effort must be made to remove invasive vegetation before it produces seeds.
4. In non environmentally sensitive areas, MTN approved weed killers may be used, under controlled conditions, to minimize weed growth. Soil erosion must be considered and prevented prior to using any weed killers.
5. Problems or non-compliance, such as poor road maintenance or erosion, mast paint peeling and poor mast condition, must be reported immediately. The necessary corrective action must be implemented to rectify the situation.



5 ENVIRONMENTAL SPECIFICATIONS: DECOMMISSIONING PHASE

The objective to provide guidelines is to prevent structures being left to deteriorate. Therefore it is imperative that non-functional structures are removed as soon as possible and the area is rehabilitated. If non-functional structures are no longer required, it must be maintained as if it is in use to prevent the environmental degradation of the area.

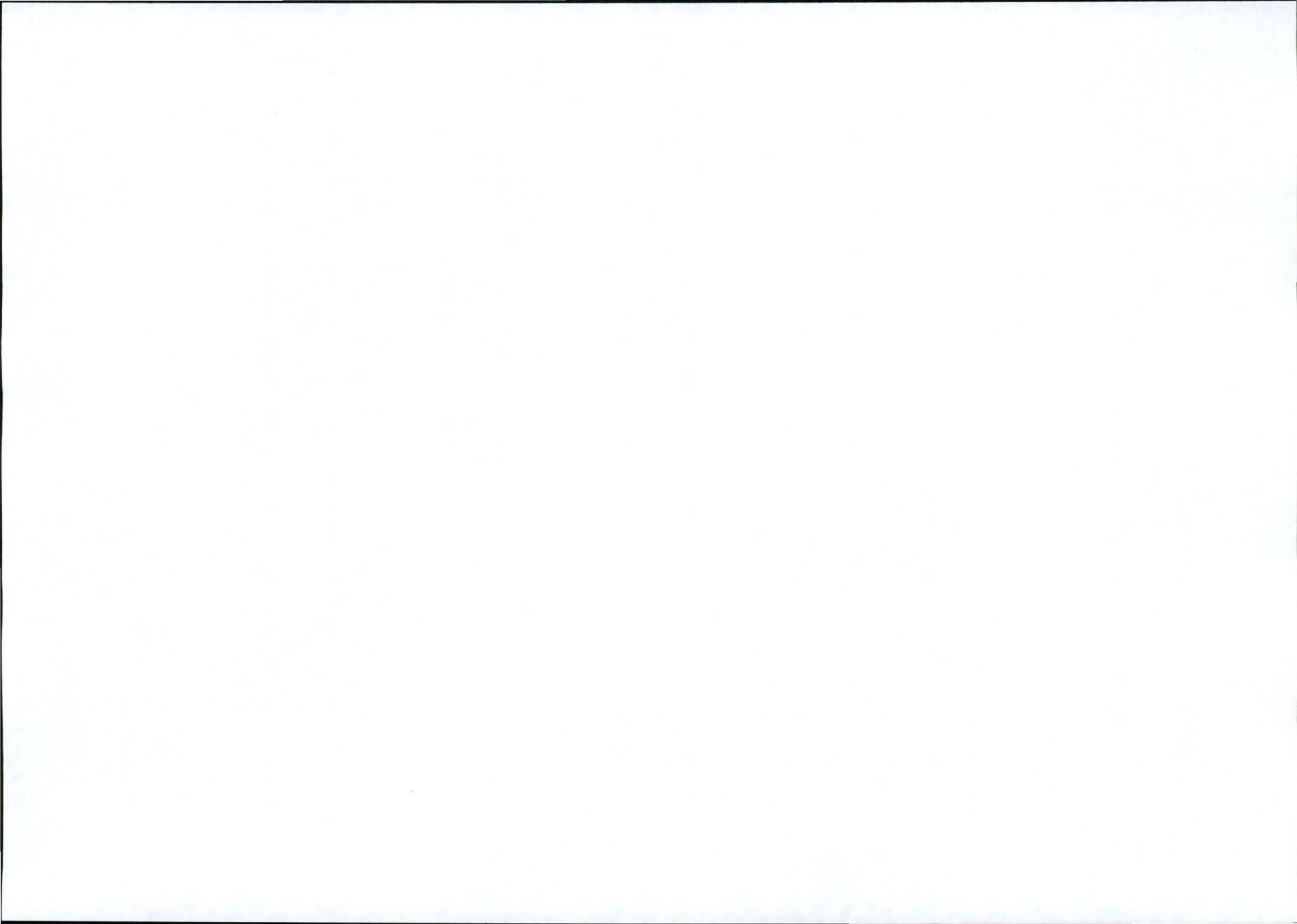
The Applicant will be responsible for the following:

- Removal of the construction building rubble to a suitable licensed disposal facility;
- Ensuring that suitable arrangements are made to protect the environment against long term negative impacts;
- Minimize negative visual impacts;
- Maintain the storm water channels in a working condition;
- Clean up contaminants of the environment;
- Prevent erosion through regular monitoring and rehabilitation of degraded areas.

5.1.1 Procedure

Procedure to be followed when decommissioning a BTS site.

1. A Work Authorisation must be issued by the Planning and Optimisation Division instructing the Implementation Division to decommission a particular site. In most cases, there will be a replacement BTS site issued at the same time. This may involve more than one BTS site to achieve the same coverage, largely depending on the site location and the Planning Engineer;
2. The BTS site will only be decommissioned once the replacement site has been activated (this is preferred, but not always possible), otherwise the replacement site must have at least been approved by the Property division and an instruction to proceed with the replacement BTS site build has been given to the Implementation Division;
3. When the site is decommissioned, the following areas should be considered as detailed further below:
 - a. Slab and concrete work;
 - b. Tower;
 - c. Antennas;
 - d. Feeder System;
 - e. Fencing and Guardrails;



- f. Container;
- g. Site Rehabilitation;
- h. Dumping
- i. Power connection to be disconnected

Slab and Concrete Work

4. All the concrete, cement and reinforcing on site must be removed and disposed of in a Registered dump by the Contractor. All land must be filled with landfill and compacted as necessary. (refer to owners requirements). If the landlord agrees, the concrete, cement and reinforcing can remain as is.
5. All stone or site fill must be removed and disposed of in an approved landfill by the Contractor.

Tower

6. The tower must be dismantled in a controlled manner and transported to the original tower manufacturer for inspection. The tower must be inspected for conformance to the current MTN specification. If the tower meets MTN's current tower specifications it must be packed for redistribution to another BTS site.
7. If the tower does not meet MTN's current tower specification it must be sent to the central warehouse or a location specified by the warehouse. The tower will then be retained until it can be removed (depreciated) from the asset register and sold as scrap metal.
8. All accessories associated with the tower such as booms, antenna poles, cat ladders, cables etc must be inspected and returned to the central warehouse for inspection, packaging and redistribution to another BTS site.
9. All antennas shall be returned to the warehouse for testing to ensure that they still meet the manufacturers specification. The central warehouse will identify whether they are on MTN's accepted antenna list. If so, they will be placed back in stock and redistributed to another BTS site.
10. If the antenna is not on MTN's current accepted antenna list, it will be sent to the central warehouse until it is removed from the asset register (depreciated) and scrapped.
11. Antenna brackets will be returned to the central warehouse for inspection and redistribution.

Feeder System

12. Connectors will be cut off the feeder cable, the open ends will be weather sealed, rolled and sent to the central warehouse for inspection, evaluation and redistribution.
13. The warehouse will dispose of unusable feeder cable according to the approved disposal procedure.



14. All feeder brackets and clamps must be packed and sent to the central warehouse for distribution.
15. Earthing materials must be returned to the central warehouse for redistribution or disposal. Waterproofing should be disposed of by the Contractor in an approved landfill.

Fencing and Guardrails

16. All fencing must be removed in a controlled manner for reuse. Concrete must be removed and dumped in an approved landfill by the Contractor.
17. Gates and access ways must be returned to the central warehouse for inspection and redistributed to another BTS site.
18. All electric fencing must be removed and returned to the central warehouse for inspection and redistribution.

Container

19. The container must be stripped of all equipment, returned to the manufacturer for inspection and refurbished if necessary. The container is then redistributed to another BTS site, preferably in the same region.
20. All other equipment must be sent to the Central Warehouse for evaluation and redistribution, if applicable.
21. All the equipment above must go through acceptance testing as per the acceptance procedure relating to that specific piece of equipment.

Site Rehabilitation

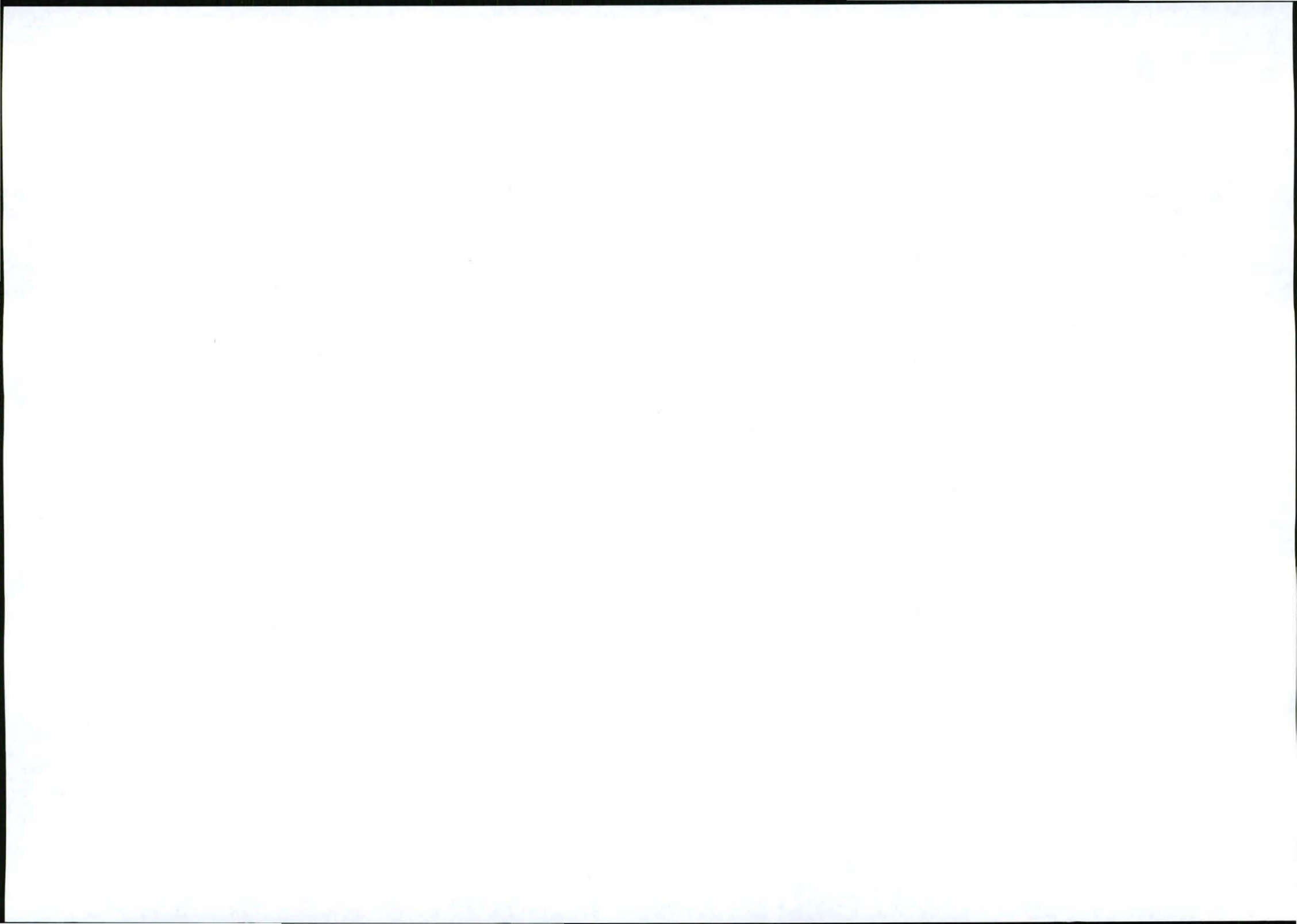
22. The BTS site, access roads and any trenches must be rehabilitated, conforming to ISO standards and to a level accepted by both the ESA and the landlord and must meet legal obligations that may be imposed or apply to that particular BTS site.

Dumping

23. No Contractor or Sub-contractor will dispose of any (dump) material or product without the approval from the responsible ESA.
24. All materials or products must be disposed of in the correct manner, in approved dumping site by the Contractor or Sub-Contractor. MTN must ensure that this procedure is followed for all sites decommissioned.

Records

Records of such decommissioning shall be kept electronically on the MTN Operating System.



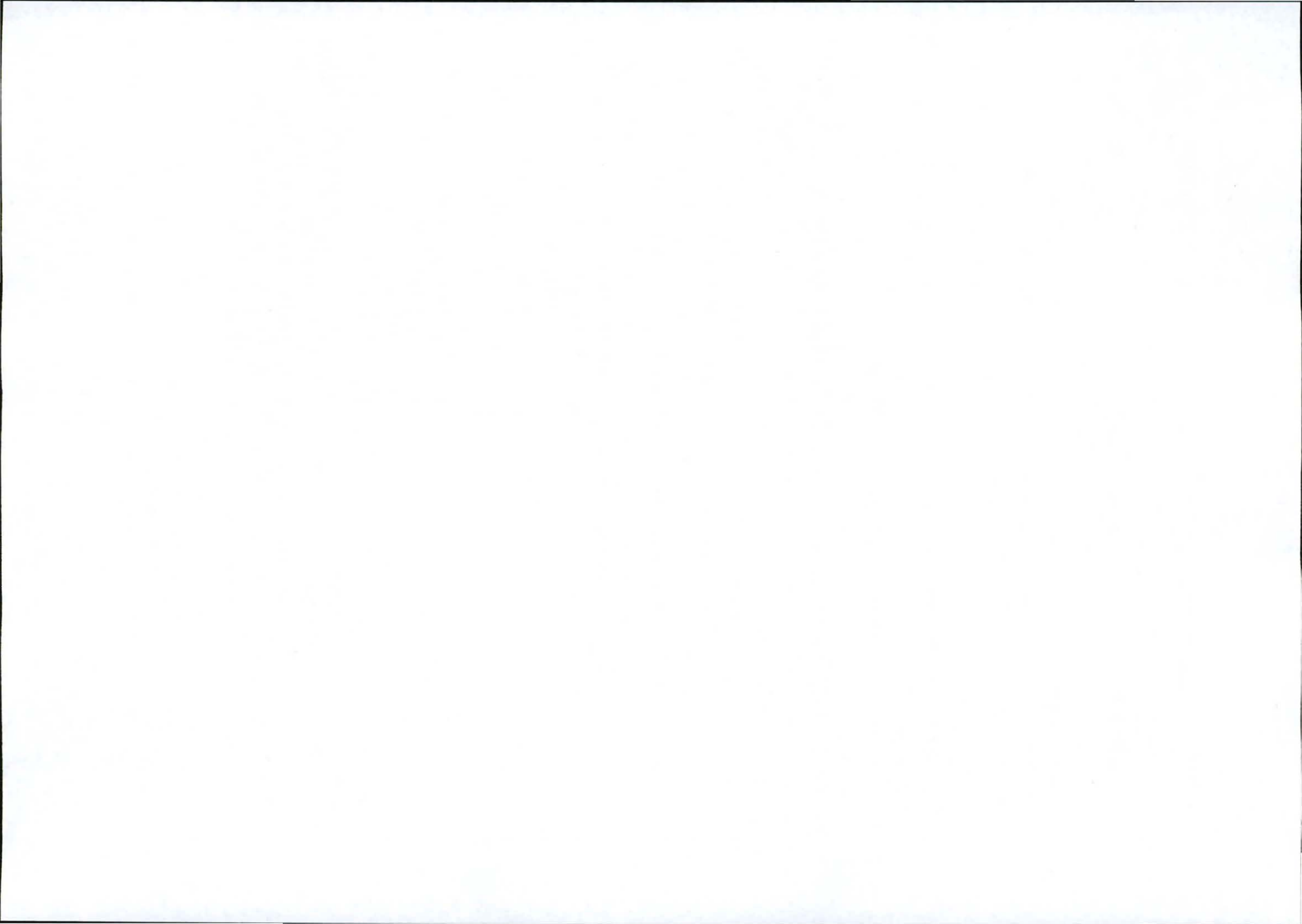
6 EMERGENCY RESPONSE PLAN

The objective of this section is to provide a brief summary of options available to the ESA. The details of the design will reside with the designers, but cognizance should be taken of the design philosophy and key aspects given in the guidelines to problem solving given below.

6.1 Typical remedial work options

The following table is provided to assist the Contractor and ESA with problem solving:

Observation or Event	Action by ESA	Action by Contractor
Spillage of diesel or hydrocarbons on soil	<p>Report to ESA and continue observations.</p> <p>Also check:</p> <ul style="list-style-type: none"> ➤ That the source causing the spillage is decommissioned, and that the affected area is isolated to prevent spreading of the hazardous substance 	<p>Action will be required asap by following the next steps:</p> <ul style="list-style-type: none"> ➤ Dig down into the soil to see how far down the pollution has penetrated; ➤ If penetration is less than 300mm: <ol style="list-style-type: none"> a. Turn the soil over to expose it to the air; b. Apply Mono Ammonium Phosphate (MAP) at a rate of 58gr/m² to the dug up soil c. Water enough to keep the soil moist ➤ If penetration is greater than 300mm: <ol style="list-style-type: none"> a. Remove the affected soil and spread in a layer not more than 300mm thick; b. Apply MAP at a rate of 50gr/m² c. Water enough to keep the soil moist ➤ Repeat the above steps every 6 weeks or until the soil is clean
General Surface Erosion	<p>Report to ESA and continue observations.</p> <p>Also check:</p> <ul style="list-style-type: none"> ➤ In respect of erosion of roads that all vehicular movement is restricted to the existing access routes to prevent criss-crossing of tracks through undisturbed areas. 	<p>Action will be required asap:</p> <ul style="list-style-type: none"> ➤ Implement erosion protection works at identified problem areas; ➤ Implement remedial works to be done at affected areas in order to restore the area to its previous or better status.



This EMPR has been assessed/reviewed and agreed with:

HOD – Implementation

Name: _____

Region: _____

Date: _____

SUPERVISOR – Property

Name: _____

Region: _____

Date: _____

Environmental Consultant (ESA)

Name: _____

Company: _____

Date: _____

HOD - Maintenance

Name: _____

Region: _____

Date: _____

