Departement van Waterwese en Bosbou
Department of Water Affairs and Forestry

VECTORISATION PROCEDURES

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DOC TYPE	PROCEDURES

1. INTRODUCTION

The purpose of this document is to provide operational vectorisation personnel with guidelines for fulfilling vectorisation requests on the Vtrak system in the Department.

A copy of the flowchart depicting the vectorisation procedure is attached as Appendix 1 for easy reference.

The forms associated with operational procedures for vectorisation requests are attached as Appendix 2.

2. USER SUBMITS VECTORISATION REQUIREMENT

A brief outline is given of the way in which a vectorisation requirement is initiated, before it is registered for processing by the Image Capture section.

The "Procedures fir submitting Vectorisation Requests" outlines the method for initiating vectorisation requests by means of submitting a Vectorisation Request (VR) form. This request is usually accompanied by a Scanning Request (SR) form which is submitted in accordance with the "Procedures for submitting Scanning Requests".

A vectorisation requirement may form part of an existing GIS project or it may be a project of its own. Prior to initiating a vectorisation request, the user completes and registers a GIS/Task Request form with the Projects Manager and obtains a Project/Task number. The user also completes a VR form and submits it to the User Data Coordinator for approval. The scope of all vectorisation requirements must be discussed with the User Data Coordinator or the Head of Image Capture before any VR is accepted or commenced, to ensure that the best options are explored to suit the requirement.

If the feasibility of the vectorisation request has not been established, then a representative sample of the source data is initially chosen in consultation with the Head of Image Capture and a pilot study is registered and approved by means of a separate VR. The user and Image Capture Section Liaise for the duration of the pilot project, so that the most suitable methods can be established to obtain the required results. Should the pilot project highlight acceptable results, the initial vectorisation request can be re-initiated by the user.

3. REGISTER VECTORISATION REQUEST

On approval of the VR, the Head of Image Capture registers the request in the VR Log Book and allocates a Vtrak Reference number. The Vtrak reference number is recorded on the VR form.

4. PERFORM INITIAL ADMINISTRATIVE FUNCTIONS

The Head of Image Capture places all the source material for the accompanying SR, or the source data on magnetic media and supplied output media for the VR in the scanning/vectorisation filing cabinet, marked with the Scan/Vtrak Ref#.

The VR form is placed in the "New Vtrak Requests" file.

5. COMMENCE VTRAK REQUIEST

The Vtrak operator gets vectorisation requests from the "New Vtrak Requests" file. If the source digital data is to be obtained from an accompanying SR, then the SR is fulfilled in accordance with the "Operational Procedures fir Scanning Requests", in conjunction with fulfilling the VR. If the source digital data is supplied directly by the user on magnetic media, then the operator collects the appropriate source data from the filing system.

6. VECTORISATION OPERATOR AND HEAD OF IMAGE CAPTURE DISCUSS VR

The vectorisation operator discusses the scope of the VR with the Head of Image Capture. If required, the user may be consulted at this stage if any uncertainties remain.

7. MAINTAIN CURRENT VR's FILE

The vectorisation operator places the VR form in the "Current Vtrak Requests" file, which can be referred to at any time to establish the status of a current VR.

8. SELECT SOURCE DATA

If the digital source data is to be obtained from an associated SR, then the Vtrak operator must ensure that the relevant source data is in the "image" directory of the appropriate Vtrak system. The Vtrak operator liaises with the scanning operator in this regard.

If the raster source data is supplied by the user on magnetic media, the Vtrak operator must read the data into the "image" directory of the appropriate Vtrak system.

The source data is selected in the order of priority requested by the user.

9. IMPORT RASTER DATA

The Vtrak operator starts a Vtrak "Import Raster" session and structures the raster source data into a Vtrak raster dataset.

10. ENSURE SUCCESSFUL IMPORT OF DATA

The Vtrak operator checks the successful import of the raster dataset by checking the names of datasets in the Vtrak database.

11. RECORD IMPORT RASTER DATA

The operator records the data of import on the "Vectorised" form for the Vtrak reference number.

12. PERFORM VTRAK LINE FILLOWING

The operator starts a Vtrak line following session by choosing the "VRAK" menu option.

The first session is initiated by the operator entering the raster database name, after which a vector dataset name must be typed in. A good convention is to enter a vector name with a "_V" appended to the raster dataset name. The appropriate startup file must be chosen. When the first session commences the operator is asked whether or not control points must be measured. Whether or not the actual geographical control point values are entered, it is essential that control points are indeed captured for positioning the captured vector data in the earth's surface. The appropriate actions must be taken to successfully capture the raster data.

The Vtrak line following sessions following the first session, require only the raster dataset and vector dataset name for the session to commence.

The operator should refer to the Vtrak manuals for guidance and techniques to perform effective vectorisation.

13. RECORD START AND END DATES FOR VECTRISATION

The operator records the start date for the first Vtrak session and the end date of vectorisation of the dataset on the "Vectorised" form for the Vtrak reference number.

14. EVALUATE VECTORISED DATA

During the vectorisation process or after a section of vectorisation has been done, the results are evaluated to decide whether or not they are acceptable.

15. REVIEW UNSATISFACTORY RESULTS

If the vectorisation results are not satisfactory, or if it seems to be an inefficient method of data capture, a different approach is taken depending on the severity of the problem. The operator can pursue other options, or the operator can consult the Head of Image Capture, or the user may have to be consulted.

15.1. PURSUE OTHER OPTIONS

Certain parameters can be adjusted. Whereafter the vectorisation or scanning and vectorisation process is repeated from the stage where different options will be pursued.

15.2. REGISTER SPECIFIC SOURCE/VR NOT FEASIBLE

It may be found that satisfactory results cannot be obtained for a particular source dataset or for the entire VR. The results and explanation must be recorded on the "Vectorised" form. Vectorisation can be continued for other source data of the VR, or the entire VR is registered as unfeasible.

16. EXPORT VECTOR DATA

The operator selects the relevant option of the Vtrak system to export the vector dataset to the vector format requested on the VR form.

This operation is performed at suitable intervals.

17. ENSURE SUCCESSFUL EXPORT OF DATA

The Vtrak operator ensures that the relevant vector format data files are in the Vtrak "export" directory.

18. RECORD EXPORT VECTOR DATA

The operator records the file name and date of export on the "Vectorised" form for the Vtrak reference number.

19. ARC/INFO VECTOR DATA REQUIRED

19.1. PLACE VECTOR DATA IN PROJECT/TASK WORKSPACE

The Vtrak operator or the Head of Image Capture places the Arc/Info export vector format in the "raw" directory of the associated project/task workspace.

19.2. RECORD DATE DISPATCHED FOR ARC/INFO EDITING

The date of dispatch for post-process editing is recorded on the "Vectorised" form.

19.3. PERFORM ARC/INFO EDITING PROCESS

The Arc/Info editing operator performs post-processing, editing and checking of the vector data. The Head of Image Capture liaises with the Editing Section during this process to ensure that the best results are obtained at the various stages of the entire capturing and editing process.

19.4. RECORD COMPLETION DATE FOR ARC/INFO EDITING

Once satisfactory results are available, the date of completion of editing is recorded on the "Vectorised" form.

20. OUTPUT

It is the responsibility of the Head of Image Capture that the final data is dispatched to the user in the manner normally applied for supplying Arc/Info vector format data, as appropriate for the VR.

The requested vector data is output onto the required output medium.

This operation is performed at suitable intervals.

21. RECORD DATA PLACED ON OUTPUT MEDIUM

The operator records the relevant information about the data placed on the output medium on the "Data supplied to user" form. This form will be signed by the user when the data is supplied.

22. FILE OUTPUT MEDIUM

Once data has been written to the output medium, the output medium must be placed in the filing system for dispatch to the user as it becomes available or in batches.

23. IF REQUIRED, RETAIN DATA FOR DWAF

If the vector digital data must be retained for purposes of the Department, then the appropriate data is archived or loaded into the Corporate Database in consultation with the Data Manager. Record is maintained according to the procedures adopted by the Data Manger.

24. REPEAT VECTORISATION PROCESS FOR ALL SOURCE MATERIAL

The Vectrisation process should be done for all source material to fulfil all the requirements of the VR.

25. FINALISE VR

When all the requirements for the VR have been attended to, the administrative functions for the VR must be finalised.

25.1. ENSURE ALL INFORMATION RECORDED

All the information relevant to the VR, such as all vectorisation which has been done, what data has been placed on output media, as well as information on data retained for purposes of the Department, must be up to date.

A short report for internal user if the Image Capture section should be made.

If the VR is for a pilot study, then a report is compiled on the results of the pilot study. The user and Head of Image Capture should sign acceptance of the methods and results produced by the pilot study. Should the pilot project highlight an acceptable result, then the user re-initiates the original vectorisation request which will be done in accordance with the results of the pilot study.

25.2. DISPATCH OUTPUT AND GET USER ACCEPTANCE

All the output data should be dispatched and the user should sign for acceptance of this data. The user signs that the VR has been acceptably completed.

25.3. FILE VR FORMS

The VR form for the Vtrak ref# must be signed and dated, whereafter it is placed with all supporting documentation in the “Completed Vtrak Requests” file.

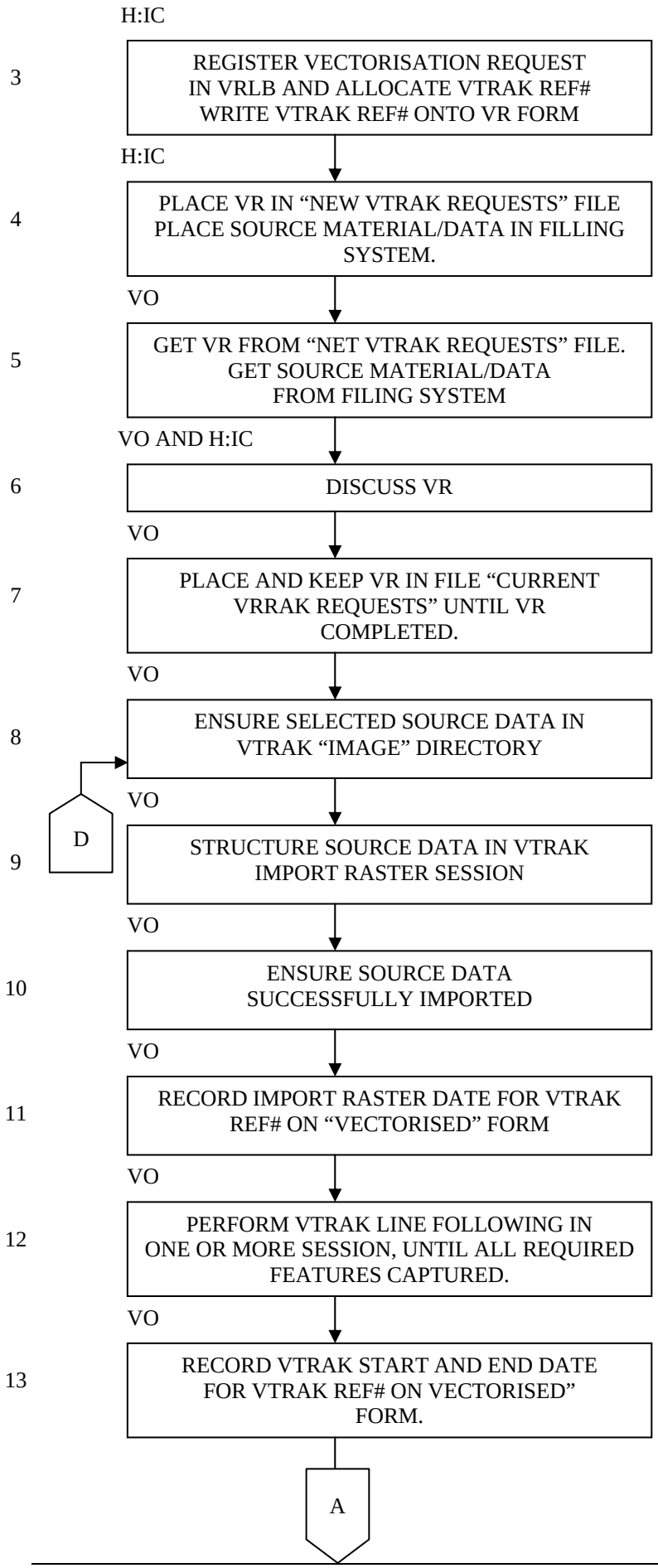
25.4. RECORD VR COMPLETED

Register and record the date that the VR has been completed in the VR Log Book.

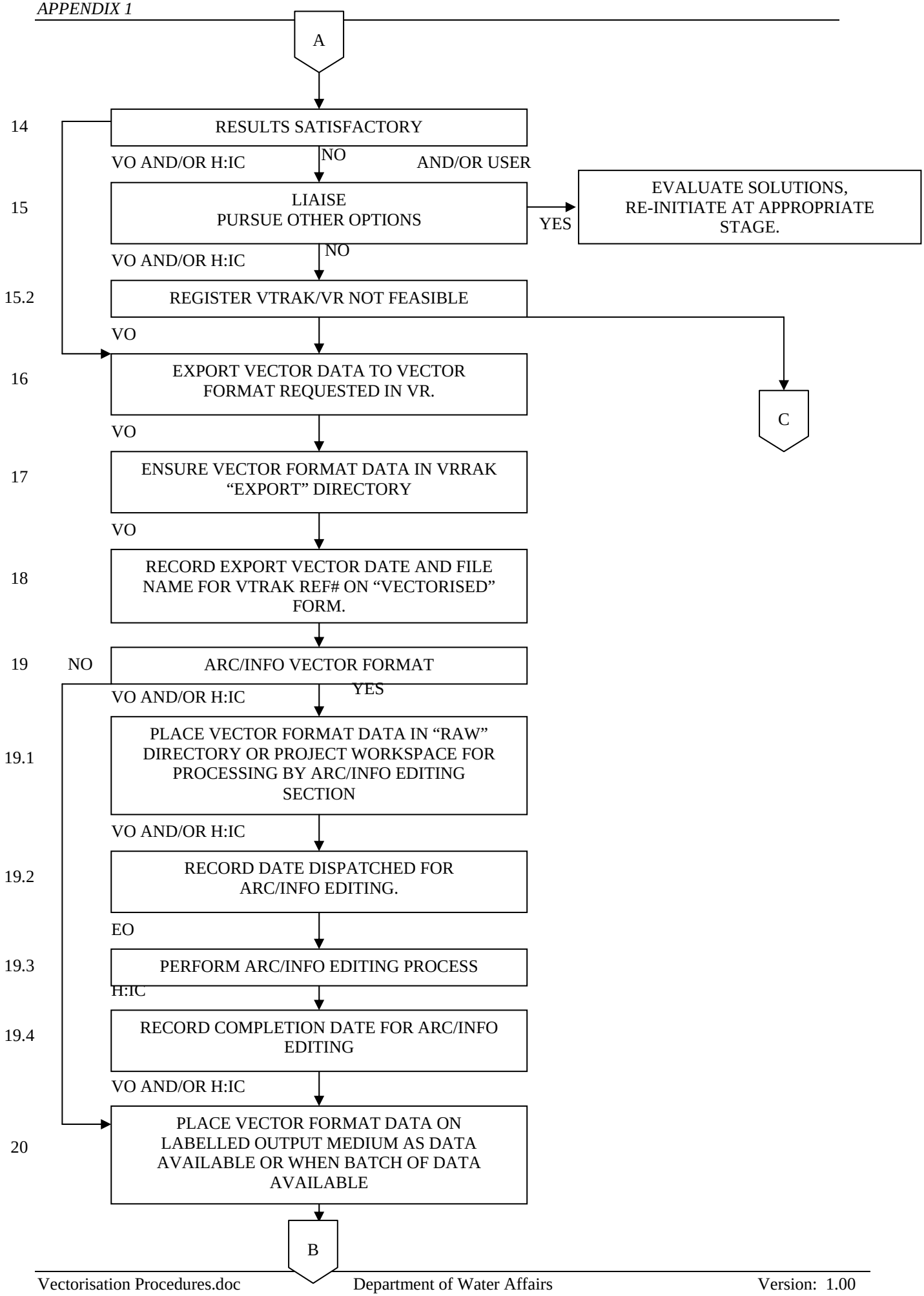
25.5. REGISTER COMPLETION OF PROJECT/TASK# WITH PROJECTS MANGER

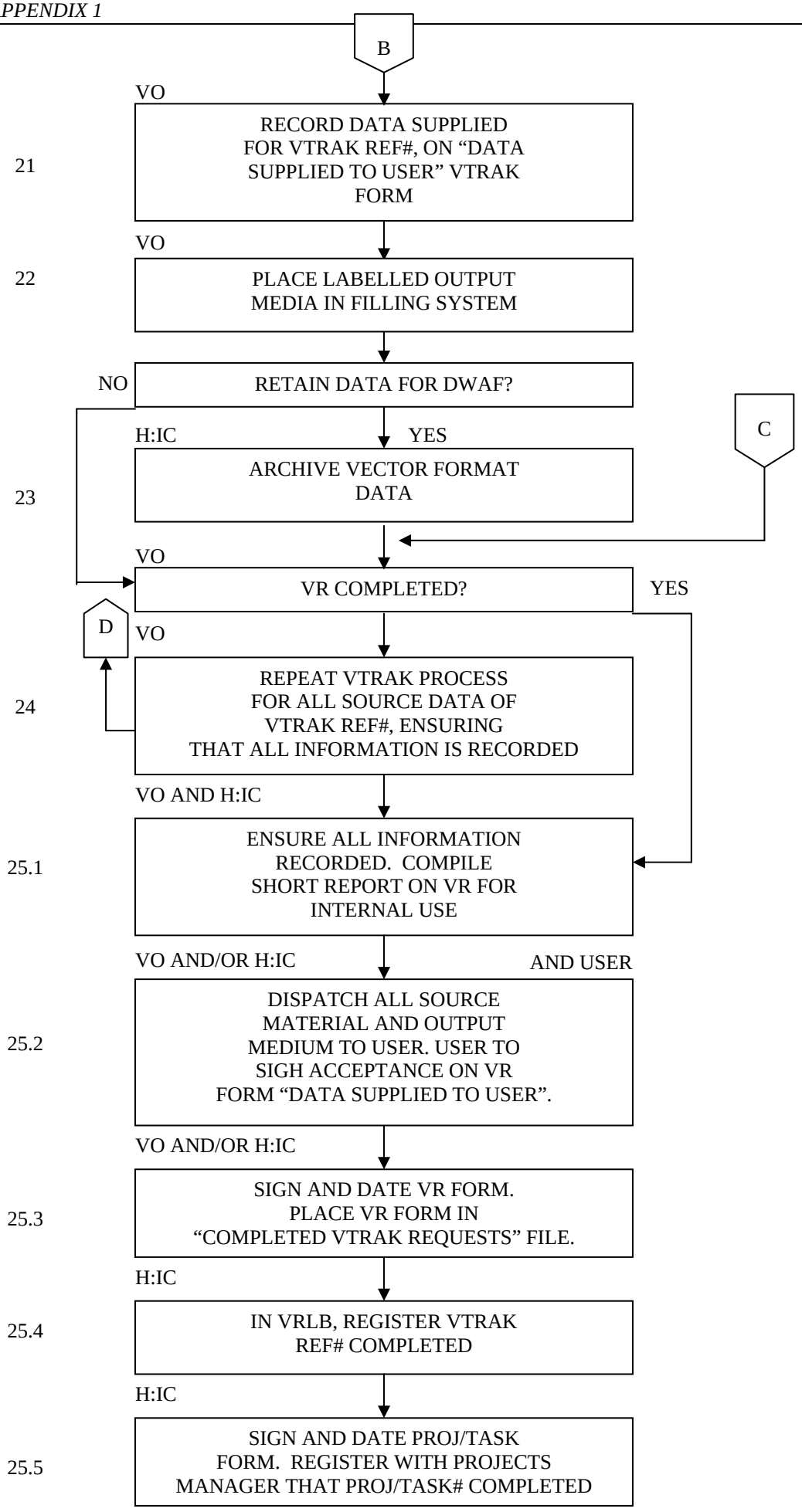
The Head of Image Capture must register completion of the project or task with the Projects Manger.

APPENDIX 1: OPERATIONAL PROCEDURES FOR VICTORISATION REQUESTS



VR	=	VECTORISATION REQUEST
VRLB	=	VR LOG BOOK
VO	=	VECTORISATION OPERATO
EO	=	ARC/INFO EDITING OPERATOR
H:IC	=	HEAD: IMAGE CAPTURE


A
14
RESULTS SATISFACTORY
VO AND/OR H:IC
NO
AND/OR USER
15
LIAISE
PURSUE OTHER OPTIONS
YES
EVALUATE SOLUTIONS,
RE-INITIATE AT APPROPRIATE
STAGE.
VO AND/OR H:IC
NO
15.2
REGISTER VTRAK/VR NOT FEASIBLE
VO
16
EXPORT VECTOR DATA TO VECTOR
FORMAT REQUESTED IN VR.
C
VO
17
ENSURE VECTOR FORMAT DATA IN VRRAK
"EXPORT" DIRECTORY
VO
18
RECORD EXPORT VECTOR DATE AND FILE
NAME FOR VTRAK REF# ON "VECTORISED"
FORM.
19
NO
ARC/INFO VECTOR FORMAT
YES
VO AND/OR H:IC
19.1
PLACE VECTOR FORMAT DATA IN "RAW"
DIRECTORY OR PROJECT WORKSPACE FOR
PROCESSING BY ARC/INFO EDITING
SECTION
VO AND/OR H:IC
19.2
RECORD DATE DISPATCHED FOR
ARC/INFO EDITING.
EO
19.3
PERFORM ARC/INFO EDITING PROCESS
H:IC
19.4
RECORD COMPLETION DATE FOR ARC/INFO
EDITING
VO AND/OR H:IC
20
PLACE VECTOR FORMAT DATA ON
LABELLED OUTPUT MEDIUM AS DATA
AVAILABLE OR WHEN BATCH OF DATA
AVAILABLE
B


B
VO
RECORD DATA SUPPLIED FOR VTRAK REF#, ON "DATA SUPPLIED TO USER" VTRAK FORM
21
VO
PLACE LABELLED OUTPUT MEDIA IN FILLING SYSTEM
22
RETAIN DATA FOR DWAF?
NO
H:IC
YES
C
ARCHIVE VECTOR FORMAT DATA
23
VO
VR COMPLETED?
YES
D
VO
REPEAT VTRAK PROCESS FOR ALL SOURCE DATA OF VTRAK REF#, ENSURING THAT ALL INFORMATION IS RECORDED
24
VO AND H:IC
ENSURE ALL INFORMATION RECORDED. COMPILE SHORT REPORT ON VR FOR INTERNAL USE
25.1
VO AND/OR H:IC
AND USER
DISPATCH ALL SOURCE MATERIAL AND OUTPUT MEDIUM TO USER. USER TO SIGH ACCEPTANCE ON VR FORM "DATA SUPPLIED TO USER".
25.2
VO AND/OR H:IC
SIGN AND DATE VR FORM. PLACE VR FORM IN "COMPLETED VTRAK REQUESTS" FILE.
25.3
H:IC
IN VRLB, REGISTER VTRAK REF# COMPLETED
25.4
H:IC
SIGN AND DATE PROJ/TASK FORM. REGISTER WITH PROJECTS MANAGER THAT PROJ/TASK# COMPLETED
25.5

APPENDIX 2: OPERATIONAL PROCEDURES FOR VECTORISATIOPN REQUESTS

VTRAK REQUEST

NOTE:
1. It is assumed that all vectorisation tasks performed on data scanned inhouse.
2. This form must be filled in as completely as possible.
3. Please complete one form for each source/vectorisation type.
4. A Vtrak Requesst will only be commenced after approval.

APPROVAL

DATE …… VTRAK# ……..
SIGNED …… SCAN# ……..

APPROVED | YES | NO |

SOURCE

Ensure that all control points are effectively indicated over the full extend of the source document, with a minimum of 4 control points for which the geographical position of each is known.
The user MUST fill in exactly which features be captured, by name and by representation on source document, and give a classification for each.

CONTROL POINTS	**GEOGRAPHICAL POSITION**
……	……
……	……
……	……
……	……

FEATURE NAME eg. Main contour	**REPRESENTATIVE** Thick line	**CLASSIFICATION** Indicator contour line
……	……	……
……	……	……
……	……	……
……	……	……

Comments: ……..
……..

OUTPUT

Output format:	ASCII IFF	SIF	DXF	ARC/INFO	
Output format:	Stiffy	Exabyte 2.3	Cartridge Tape 150	Cartridge Tape 525	Other
Output format:	WAGIS pathname				
Magnetic media supplied	Yes	No			

Comments: ……..

USER

USER …….. DATE …….
COMPANY …….. DATE REQUIRED …….
TEL. …….. PROJECT NAME ……..…
SIGNED …….. PROJECT/TASK# …….

VECTORISED (FOR OFFICE USE)		VTRAK# ………..……. Scan# ………….…..……
DOC# ……………………………….	VTRAK START DATE: ……………………….....	EXPORT DATE: ………………….……………...
INPORT DATE: …………………….	VTRAK END DATE: …………………………….	FILE NAME: ……………………………………….
FORMAT: ……………………….….	ARC/INFO: EDIT STTART DATE: …………….	ARC/INFO: EDIT END DATE: …………………….
DOC# ……………………………….	VTRAK START DATE: ……………………….....	EXPORT DATE: ………………….……………...
INPORT DATE: …………………….	VTRAK END DATE: …………………………….	FILE NAME: ……………………………………….
FORMAT: ……………………….….	ARC/INFO: EDIT STTART DATE: …………….	ARC/INFO: EDIT END DATE: …………………….
DOC# ……………………………….	VTRAK START DATE: ……………………….....	EXPORT DATE: ………………….……………...
INPORT DATE: …………………….	VTRAK END DATE: …………………………….	FILE NAME: ……………………………………….
FORMAT: ……………………….….	ARC/INFO: EDIT STTART DATE: …………….	ARC/INFO: EDIT END DATE: …………………….
DOC# ……………………………….	VTRAK START DATE: ……………………….....	EXPORT DATE: ………………….……………...
INPORT DATE: …………………….	VTRAK END DATE: …………………………….	FILE NAME: ……………………………………….
FORMAT: ……………………….….	ARC/INFO: EDIT STTART DATE: …………….	ARC/INFO: EDIT END DATE: …………………….
DOC# ……………………………….	VTRAK START DATE: ……………………….....	EXPORT DATE: ………………….……………...
INPORT DATE: …………………….	VTRAK END DATE: …………………………….	FILE NAME: ……………………………………….
FORMAT: ……………………….….	ARC/INFO: EDIT STTART DATE: …………….	ARC/INFO: EDIT END DATE: …………………….
DOC# ……………………………….	VTRAK START DATE: ……………………….....	EXPORT DATE: ………………….……………...
INPORT DATE: …………………….	VTRAK END DATE: …………………………….	FILE NAME: ……………………………………….
FORMAT: ……………………….….	ARC/INFO: EDIT STTART DATE: …………….	ARC/INFO: EDIT END DATE: …………………….
DOC# ……………………………….	VTRAK START DATE: ……………………….....	EXPORT DATE: ………………….……………...
INPORT DATE: …………………….	VTRAK END DATE: …………………………….	FILE NAME: ……………………………………….
FORMAT: ……………………….….	ARC/INFO: EDIT STTART DATE: …………….	ARC/INFO: EDIT END DATE: …………………….
Comments: ……… ……		

DATA SUPPLIED TO USER	Project/Task# ………….…….	Scan# ……………..…….
Format …………………………………..Mag. Media/Workshace ……………………………………………..Date ……………………		
DOC#………………………………	FILE NAME ………………………………………....	FEATURE TYPE ……………………………….…
DOC#………………………………	FILE NAME ………………………………………....	FEATURE TYPE ……………………………….…
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VTRAK MAINTENANCE LOG BOOK

A Maintenance Log Book is maintained to record and monitor corrective maintenance call-outs by a service engineer and upgrades performed for the Vtrak software and hardware (namely, button box).

MAINTENANCE

1. Maintenance is performed by Decca Contractors.
2. Corrective Maintenance is performed when problems are encountered with the Vtrak system that require attention from a service engineer.
3. Upgrade Maintenance is performed when Vtrak software or hardware is updated with a newer version.
4. Decca Contractors can be contacted as follows

Decca Contractors, Pretoria	Phone (012) 665-0060
Dale Dutton	Fax (012) 665-0008
Decca Contractors, Cape Town	Phone (021) 704-1600
Richard van Rooyen	Fax (021) 704-1610

UPGRADE MAINTENANCE

SERVICE DATE		REF #	
ARRIVAL TIME		DEPARTMENT TIME	
UPGRADE FROM VERSION		TO VERSION	

NB ATTACH ALL SUPPORTING DOCUMENTATION TO THIS FORM

ENSURE THAT SUPPORTING DOCUMENT HIGHLIGHTS THE DIFFERENCES BETWEEN THE PREVIOUS AND NEW VERSION

COMMENT ON PROBLEMS ENCOUNTERED DURING UPGRADE & HOW THEY WERE OVERCOME

UPGRADE SUCCESSFULLY COMPLETE		DATE	
HAS DOCUMENTATION BEEN UPDATED		DATE	

ENGINEER NAME		NAME OF DWAF REPRESENTATIVE	
SIGNATURE		SIGNATURE	

CORRECTIVE MAINTENANCE

		REF #	
REPORTED BY		REPORTING DATE	
SIGNATURE		REPORTING TIME	

PROBLEM

SERVICE DATE			
ARRIVAL TIME		DEPARTMENT TIME	

COMMENTS

ENGINEER NAME			NAME OF DWAF REPRESENTATIVE		
SIGNATURE			SIGNATURE		
PROBLEM SOLVED	YES	NO	IF NOT, WHEN?		

NOTE: If there are multiple service calls for one reported problem, Then a new form should be used for each service call by the Engineer. For the first service call of a reported problem, The last digit of the REF# is 0, after which the last digit is increased for each subsequent service call by the engineer.

END OF DOCUMENT