Government of Western Australia
Department of Transport
and Major Infrastructure

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Generic Photographic Monitoring Specification

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Prepared for Department of Transport and Major Infrastructure (DTMI)

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Version control

Version No.	Date	Prepared by	Revision or issue descriptions	Issues to
Draft	10/04/2025	M P Rogers & Associates	Combined Draft for DoT review.	DoT
0	14/05/2025	M P Rogers & Associates	Updated with Client comments and issued for Client use.	DoT
1	9/06/2025	DoT	Additional updates from internal review	DTMI

Amendment record

This guidelines document is reviewed to ensure its continuing relevance to the systems and process that it describes. A record of contextual revisions is listed in the following table.

Page No.	Context	Revision	Date

Contents

Formatting Key

[Throughout this template three text colours have been used to distinguish between the following items.]

1. Required content.
2. [Guidance notes for the user to be deleted prior to use.]
3. Example text to be edited by the user prior to use.

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Aim / Objectives

[The aim of photographic monitoring is to obtain visual records of the coast, which can allow observations of erosion and accretion cycles, trends and seasonal and interannual movements.

The collection of photographic monitoring data can be for a range of reasons depending on the aims of the monitoring, any developed CMAPs and the requirements of the LGA. The objectives and approach of photographic monitoring will need to be determined and may include:

- Collect a database of images: this would allow for a visual record of gradual changes and historical conditions to be obtained.
- Collect high frequency images: this could be done through a fixed camera and would allow for rapid changes to be captured.
- Collect seasonal images: this would allow for the seasonal change in shorelines to be captured in addition to a database of images being established.
- Collect images during a single storm event: this would capture coastline change caused by a single storm.

Once the objectives are established the following specification can be adjusted to suit the LGA's requirements.]

The aim of photographic monitoring is to obtain visual records of the coast, which can allow observations of erosion and accretion cycles, trends and seasonal and interannual movements. This is completed through repeated photographs with the same Field Of View (FOV). Photographic monitoring involves taking photographs of the coast with a specific FOV to visualise any changes occurring over a set period. The objectives of photographic monitoring are generally to:

- Capture repeatable photographs with the same FOV.
- Obtain visual indicators of the changes occurring on the coast.
- Observe erosion and accretion cycles and trends.
- Observe seasonal changes and movements.
- Provide visual evidence of changes.
- Identify risks and changes at strategic locations.

As part of these works, [Insert monitoring requirement, e.g. seasonal] monitoring images are required to be captured.

Extent

[Provide a map of the area including the locations of the monitoring points. Provide a table of the monitoring points that includes location, direction, description of the location and a general FOV.

The location of photographic monitoring points determined by an experienced coastal engineer and presented in a CMAP. If the LGA is selecting the monitoring points, previous points and the recommendations outlined in the Photo Monitoring Guidelines prepared by DoT (2012) should be considered, available on DoT's website. These locations should be selected to be representative of the shoreline and allow monitoring of changes to the LGA's coast. This specification does not include the selection of monitoring points.]

Along the LGA's coastline, there are XX photographic monitoring points that require regular capture. The location of these monitoring points is presented in the following figure. Further details of the monitoring points are provided in the table below.

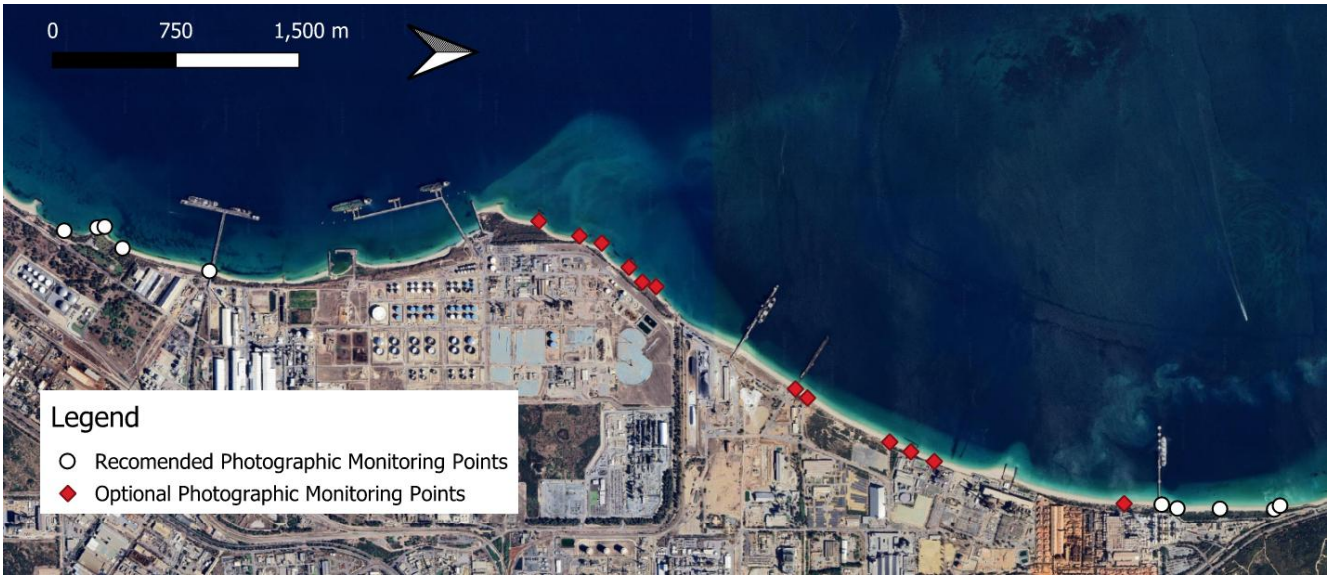

Figure 1 Location of the LGA's Photographic Monitoring Points. [Example from Kwinana CMAP]

Table 1 Details of the LGA's Photographic Monitoring Points. [Example from Kwinana CMAP]

Recommended Points					
Point	**Coordinates**		**Location description**	**Direction**	**FOV**
	Latitude	**Longitude**			
1	-32.2498	115.7566	Southern side of the deteriorated Boat Ramp.	South	RHS includes seawall and dune.
				North	RHS captures the edge of the wreck, LHS includes seawall and dune.
2	-32.248	115.7564	Southern side of the closed Boat Ramp at Wells Park.	Southeast	Captures the length of the seawall.
3	-32.2476	115.7564	Northeast side of the wreck.	Northeast	Captures the beach and vertical wall fronting Wells Park.
4	-32.2466	115.7578	End of access track.	South	LHS captures vegetation and beach.
				North	RHS captures vegetation and beach.
5	-32.2419	115.7593	Under jetty.	South	LHS captures vegetation and beach.
				North	Looks through fence and RHS captures vegetation.
6	-32.1897	115.7751	Just north of Alcoa jetty.	South	Captures underside of the jetty with LHS including vegetation edge.
				North	RHS captures vegetation.

7	-32.1889	115.7754	End of access track.	South	Captures jetty with LHS including vegetation edge.
				North	RHS captures vegetation along beach.
8	-32.1865	115.7754	End of access track.	South	LHS captures vegetation edge.
				North	RHS captures vegetation edge.
9	-32.1836	115.7755	South of Challenger Beach toilet block	South	LHS captures vegetation edge.
				North	RHS captures toilet block and revetment edge.
10	-32.1832	115.7753	Boat ramp at Challenger Beach	South	LHS captures vegetation edge.
				North	RHS captures revetment

Tasks

[The tasks outlined in this section detail the required components of the photographic monitoring.]

The following tasks are required to be completed by the LGA to conduct photographic monitoring of the LGA's coast.

1. Task 1 – Confirm monitoring points.
2. Task 2 – Conducting the photographic monitoring.
3. Task 3 – Review and storage of images.

Task 1 – Confirm Monitoring Points

[The photographic monitoring locations should be determined by an experienced coastal engineer and preferably detailed in a CMAP. If this has not occurred then locations should be based on previous monitoring images and the Photo Monitoring Guidelines prepared by DoT (2012), available on DoT's website. The location and timing of monitoring should be reviewed to confirm that images will capture the required outputs and align with objectives of the monitoring plan.]

The coastal manager is required to review the location(s) of photographic monitoring along the LGA's coastline. The monitoring points should be in a location positioned to capture [Insert monitoring requirement, e.g. seasonal, high frequency] monitoring images whereby locations should align with requirements outlined in the Photo Monitoring Guidelines prepared by DoT (2012), available on DoT's website. The review should be conducted once per monitoring season and before Task 2 is undertaken.

Task 2 – Conducting the Photographic Monitoring

[The photographic monitoring locations, previous images and approach should be reviewed before monitoring is undertaken to ensure that photographs are consistent. It is recommended that the approach used to take photographs be based on the method below or in the Photo Monitoring Guidelines prepared by DoT (2012), available on DoT's website.]

The LGA could consider using online programs or applications such as CoastSnap, Solocator or NACC's Photomon to assist with Photographic monitoring. Photomon allows for monitoring points to be added and images to be stored easily, the application also allows for guide photos to be overlaid to ensure the same field of view is captured each time. CoastSnap is similar to Photomon and allows for monitoring points to be added and images stored online. Solocator provides geolocated images that

allow for the position and direction to be aligned with the previous or baseline images. These programs have their own user manual and might require a subscription or payment to use.]

Photographic monitoring should be undertaken in-line with the method outlined below or in the photo monitoring guidelines prepared by DoT (2012), available on DoT's website. The monitoring points and their FOV are provided within this specification. The following key requirements and components should be considered when conducting photographic monitoring.

- Ensure the images are taken from the same location and with the same FOV as previous monitoring images.
- Provide comments based on observations during the inspection.

If the LGA has an account with NACC's Photomon / CoastSnap then this should be used to capture the photographic monitoring (if available, or use other methods approved by the LGA).

Task 3 – Review and Storage of Images

[While on site the images should be reviewed to ensure they capture the same FOV and whether any major changes can be observed. The images should also be stored in an identified location that can be easily recovered for future use.]

Once the images are captured these should be reviewed to confirm the same FOV and to identify any obvious changes. If large changes are identified these should be documented, reviewed and the relevant parties notified. The images should be clearly labelled and stored on a system that will allow for future access and use.

Methodology

[The photographic monitoring can be captured using different methods and applications that all have slightly different requirements and methods for capturing images. The following methodology is generic and will require modification by the LGA to align with their requirements and processes.]

The photographic monitoring is to be completed in-line with the methods proposed below or in the Photo Monitoring Guidelines prepared by the DoT (2012) available on DoT's website.

1. Review available information on monitoring locations including any previous monitoring images.
2. Confirm and comply with all WHS requirements.
3. Prepare equipment and observation recording sheet (e.g. Photomon app or other application).
4. Visit each monitoring point and undertake the following.
   - Locate the required position for the photograph,
   - Take the photographs ensuring the FOV is correct, and
   - Review noticeable changes, record observations and notify any required party of significant changes.
5. Label and save all images for future use.
6. Repeat steps 2, 3, 4 and 5 every [LGA to nominate monitoring frequency].
7. Provide images to appropriate parties for review.

It is important to consider that each LGA has their own requirements for accessing site and these may need to be completed as part of this work (e.g. SWMS, risk assessments and journey plans)

Equipment

[The photographic monitoring can be captured using different methods and applications that all have slightly different requirements and processes for capturing images. Generally, the following items and equipment are required. Noting that equipment may need to be changed and adapted to align with the LGA's requirements.

The equipment does not include any PPE, safety or travel requirements.

The LGA should update the following list with the preferred equipment to conduct their photographic monitoring.]

The equipment required to complete photographic monitoring is outlined below, noting that some items are broad to allow for interchangeability based on specific requirements and capabilities.

- Device to capture images (e.g. camera, GPS camera or smartphone with GPS. A GPS camera or smartphone with GPS would allow for more information to be readily captured).
- Device to find and record the required location of images (e.g. handheld GPS, GPS camera or smartphone with GPS capability).
- Device to review previous images and confirm FOV is consistent (e.g. smartphone, tablet or printout).
- Device to record observations (e.g. smartphone, tablet or paper sheet).
- Storage location for the images (e.g. hard drive, online system, cloud or other storage system).

The equipment required to conduct monitoring can largely be reduced by using an application such as Photomon that allows for previous images to be used as a guide with notes and observations to be recorded. This application also stores images to a database that is accessible online.

It is noted that safety and transport equipment has not been included and if the LGA requires this then it should be considered accordingly.

Costs and Personnel

[Photographic monitoring can be a relatively low-cost exercise completed by minimal staff members. The exact costs and personnel can be difficult to determine without confirming the extent and number of monitoring locations. In general, it should take less than one day to complete photographic monitoring along the LGA coastline, typically including travel requirements. It is noted that photographic monitoring could be conducted at the same time as other monitoring or general activities, reducing the direct cost.

The personnel required to conduct the photographic monitoring is dependent on the requirements of the LGA. It can be completed by one staff member, though safety requirements often require two or more staff members to conduct the monitoring.

The LGA is to consider their requirements, capabilities and extent of their monitoring before determining the costs and personnel required to conduct the monitoring.

The following outlines generic personnel requirements; the LGA should update this to match their own requirements.]

The photographic monitoring should be completed by XX staff member(s) in XX hours. It is expected that at each site approximately 15 minutes is required to capture the images and record any observations; some sites will require longer due to access restrictions. The travel between sites is

expected to be in-line with online map recommendations and will take approximately XX across XX kms. Parking time has been incorporated into the total time estimate.

(The actual timing and costs would be specific to the LGA and it is expected that these may need to be determined internally.)