

# Erosion Prone Area

## Townsville City Local Government Area

### Erosion Prone Area Definition

1. Erosion prone areas are deemed to exist over all tidal water to the extent of Queensland Coastal Waters and on all land adjacent to tidal water.
2. Erosion prone areas include areas subject to inundation by the highest astronomical tides (HAT) by the year 2100 or at risk from sea erosion.
3. On land adjacent to tidal water the landward boundary of the erosion prone area shall be defined by whichever of the following methods gives the greater erosion prone area width:
  - a. a line measured 40 metres landward of the plan position of the present day HAT level except where approved revetments exist in which case the line is measured 10 metres landward of the upper seaward edge of the revetment, irrespective of the presence of outcropping bedrock;
  - b. a line located by the linear distance shown on Table 1 and measured, unless specified otherwise, inland from:
    - i. the seaward toe of the frontal dune (the seaward toe of the frontal dune is normally approximated by the seaward limit of terrestrial vegetation or, where this cannot be determined, the level of present day HAT); or
    - ii. a straight line drawn across the mouth of a waterway between the alignment of the seaward toe of the frontal dune on either side of the mouth
  - c. the plan position of the level of HAT plus 0.8 m vertical elevation.

Except:

- i. where the linear distance specified in 3b is less than 40 metres, in which case section 3a. does not apply and the erosion prone area width will be the greater of 3b and 3c; or
  - ii. where outcropping bedrock is present and no approved revetments exist, in which case the line is defined as being coincident with the most seaward bedrock outcrop at the plan position of present day HAT plus 0.8m; or
  - iii. in approved canals in which case the line of present day HAT applies, irrespective of the presence of approved revetments or outcropping bedrock.
4. Erosion prone areas defined in accordance with the above are deemed to exist throughout all the local government areas, irrespective of whether the entire local government area is depicted on erosion prone area plans for the area.

### Notes to clarify the definition

1. The specific location along the coast to which each erosion prone area linear distance applies (a segment) is shown in Table 1.
2. A map indicating the approximate location along the coast of each linear distance segment is attached.
3. Each erosion prone area segment is located on the coastline between 2 points defined by latitude and longitude. A projection of each point to the nearest actual coastline and continuing inland perpendicular to the coast defines the erosion prone area segment.
4. "Present day HAT" in the definition is always taken to be the present day level of HAT for the coastline as defined in the Queensland Tide Tables for that year or as defined by empirical methodology at the site.
5. The extent of the erosion prone area where it is defined by "HAT plus 0.8m" is the HAT coastline at the year 2100 and includes sea level rise to that time. It is determined by the area of land inundated to the level HAT of the nearest adjacent open coast or river tide gauge plus 0.8m vertical elevation. Site based HAT is not to be used as present day attenuation of inland HAT level due to flow constraints may not persist to 2100 with coastline response to sea level rise. For further explanation see the Coastal Hazard Technical Guide.
6. Where noted on Table 1 (and the map) the specified linear distance applies except where a revetment has been constructed and maintained to the approved design in which case the landward boundary of the erosion prone area is at the upper seaward edge of the revetment (A-line).
7. The approximate erosion prone area footprint is shown on Coastal Hazard Area Maps available on the Department of Environment and Heritage Protection website at [www.ehp.qld.gov.au](http://www.ehp.qld.gov.au). These footprints are indicative only and the definition in this plan prevails for any inconsistency between the two.
8. This erosion prone area plan may be updated from time to time and a new revision created. Please check with the Department of Environment and Heritage Protection or the local government that this copy is the current version prior to using the contained information in any way.

**Date of Erosion Prone Area Declaration: 8 July 2015**

**Date of Erosion Prone Area Amendment:**

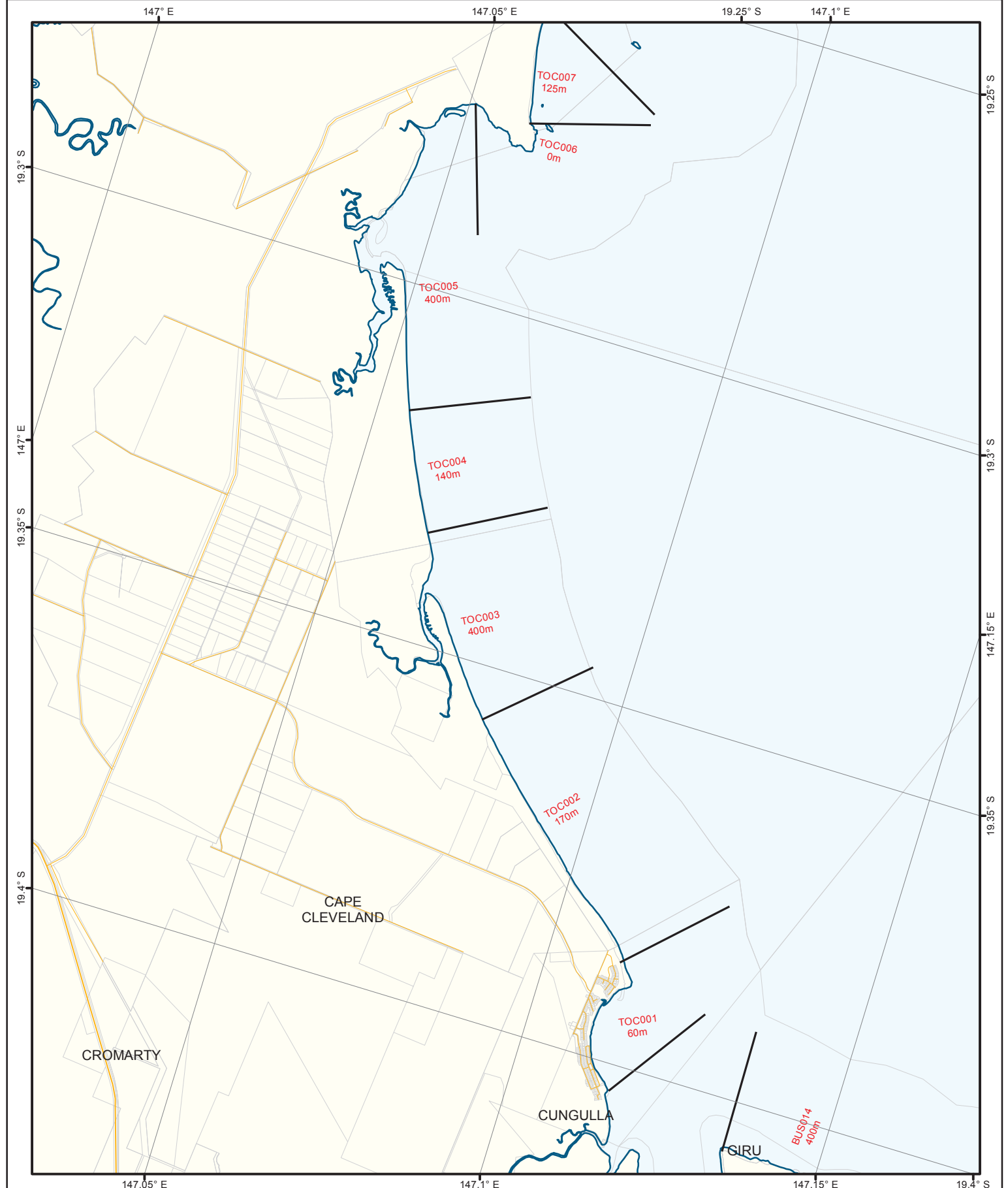
**Plan No:  
TOC3A**

TOC3A Table 1: Linear distances for the erosion prone area and the specific location of each segment

Erosion prone area segment number	Segment start latitude (degrees)	Segment start longitude (degrees)	Segment end latitude (degrees)	Segment end longitude (degrees)	Erosion prone area linear distance (Width in metres)
TOC001	147.11542	-19.40387	147.11128	-19.38555	60m
TOC002	147.11128	-19.38555	147.07971	-19.35771	170m
TOC003	147.07971	-19.35771	147.06317	-19.33405	400m
TOC004	147.06317	-19.33405	147.05487	-19.31789	140m
TOC005	147.05487	-19.31789	147.05083	-19.27254	400m
TOC006	147.05083	-19.27254	147.05969	-19.27305	0m
TOC007	147.05969	-19.27305	147.05789	-19.25632	125m
TOC008	147.05789	-19.25632	147.05420	-19.24786	0m
TOC009	147.05420	-19.24786	147.05115	-19.24407	125m
TOC010	147.05115	-19.24407	147.04752	-19.24046	0m
TOC011	147.04752	-19.24046	147.04303	-19.22975	125m
TOC012	147.04303	-19.22975	147.01502	-19.18428	0m
TOC013	147.01502	-19.18428	147.01502	-19.18552	125m
TOC014	147.01502	-19.18552	147.02164	-19.19957	0m
TOC015	147.02164	-19.19957	147.02069	-19.20249	95m
TOC016	147.02069	-19.20249	147.02171	-19.20659	0m
TOC017	147.02171	-19.20659	147.01407	-19.22257	95m
TOC018	147.01407	-19.22257	147.00800	-19.22625	400m
TOC019	147.00800	-19.22625	147.00381	-19.23854	0m
TOC020	147.00381	-19.23854	147.00314	-19.24386	95m
TOC021	147.00314	-19.24386	147.00192	-19.24927	0m
TOC022	147.00192	-19.24927	146.99788	-19.25316	95m
TOC023	146.99788	-19.25316	146.99581	-19.25870	400m
TOC024	146.99581	-19.25870	146.99223	-19.26323	95m
TOC025	146.99223	-19.26323	146.99174	-19.26397	0m
TOC026	146.99174	-19.26397	146.89829	-19.31867	45m
TOC027	146.89829	-19.31867	146.84817	-19.27432	400m
TOC028	146.84817	-19.27432	146.84266	-19.27278	45m
TOC029	146.84266	-19.27278	146.83785	-19.27128	110m
TOC030	146.83785	-19.27128	146.83523	-19.27061	400m
TOC031	146.82061	-19.25293	146.80604	-19.23928	20m landward of seawall (A line)
TOC032	146.80604	-19.23928	146.79975	-19.23969	0m
TOC033	146.79975	-19.23969	146.78901	-19.23874	110m
TOC034	146.78901	-19.23874	146.77434	-19.18973	140m
TOC035	146.77434	-19.18973	146.76357	-19.18483	0m
TOC036	146.76357	-19.18483	146.75433	-19.18240	Trans 400m to 0m
TOC037	146.75433	-19.18240	146.72790	-19.18176	400m
TOC038	146.72790	-19.18176	146.72514	-19.18165	110m
TOC039	146.72514	-19.18165	146.71369	-19.19256	0m
TOC040	146.71369	-19.19256	146.69099	-19.19430	400m
TOC041	146.69099	-19.19430	146.67734	-19.19020	130m
TOC042	146.67734	-19.19020	146.67082	-19.18754	55m

TOC043	146.67082	-19.18754	146.66716	-19.18587	130m
TOC044	146.66716	-19.18587	146.66386	-19.18527	400m
TOC045	146.66386	-19.18527	146.65829	-19.18179	130m
TOC046	146.65829	-19.18179	146.64839	-19.17626	400m
TOC047	146.64839	-19.17626	146.63009	-19.17096	130m
TOC048	146.63009	-19.17096	146.62018	-19.16585	140m
TOC049	146.62018	-19.16585	146.61668	-19.16360	400m
TOC050	146.61668	-19.16360	146.60355	-19.15284	140m
TOC051	146.60355	-19.15284	146.59503	-19.14797	400m
TOC052	146.59503	-19.14797	146.56987	-19.14527	130m
TOC053	146.56987	-19.14527	146.56360	-19.14300	400m
TOC054	146.56360	-19.14300	146.54827	-19.12694	140m
TOC055	146.54827	-19.12694	146.53193	-19.11336	400m
TOC056	146.53193	-19.11336	146.52085	-19.10512	130m
TOC057	146.52085	-19.10512	146.50289	-19.09918	400m
TOC058	146.50289	-19.09918	146.49283	-19.09604	130m
TOC059	146.49283	-19.09603	146.48865	-19.09359	400m
TOC060	146.48865	-19.09359	146.48500	-19.09031	130m
TOC061	146.48500	-19.09031	146.48030	-19.08591	140m
TOC062	146.48030	-19.08591	146.47183	-19.07716	400m
TOC063	146.47183	-19.07716	146.46706	-19.07547	75m Possible Bedrock
TOC064	146.46706	-19.07547	146.45996	-19.07514	0m
TOC065	146.45996	-19.07514	146.45264	-19.07266	140m
TOC066	146.45264	-19.07266	146.44982	-19.07015	400m
TOC067	146.44982	-19.07015	146.44727	-19.06715	140m
TOC068	146.44727	-19.06715	146.44560	-19.06516	400m
TOC069	146.44560	-19.06516	146.43862	-19.05616	140m
TOC070	146.43862	-19.05616	146.43494	-19.05086	400m
TOC071	146.43494	-19.05086	146.43085	-19.04444	140m
TOC072	146.43085	-19.04444	146.42798	-19.04068	80m
TOC073	146.42798	-19.04068	146.42444	-19.03586	140m
TOC074	146.42444	-19.03586	146.42078	-19.03115	400m
TOC075	146.42078	-19.03115	146.40769	-19.01363	140m
TOC076	146.40769	-19.01363	146.39917	-19.00281	400m
TOC077	146.39917	-19.00281	146.38119	-18.99837	130m
TOC078	146.38119	-18.99837	146.37549	-18.99286	140m
TOC079	146.37549	-18.99286	146.37195	-18.98903	400m
TOC080	146.37195	-18.98903	146.36416	-18.97066	140m
TOC081	146.36416	-18.97066	146.35076	-18.96063	400m
TOC082	146.35076	-18.96063	146.33315	-18.95202	130m
TOC083	146.33315	-18.95202	146.33208	-18.94934	400m
TOC084	146.33208	-18.94934	146.32950	-18.93864	140m
TOC085	146.32950	-18.93864	146.32774	-18.93541	400m
TOC086	146.32774	-18.93541	146.32392	-18.93026	130m
TOC087	146.32392	-18.93026	146.32175	-18.92869	400m
TOC088	146.83708	-19.18105	146.84216	-19.17813	115m
TOC089	146.83130	-19.17725	146.83708	-19.18105	0m
TOC090	146.82809	-19.17393	146.83130	-19.17725	75m Possible Bedrock
TOC091	146.79426	-19.14186	146.82809	-19.17393	400m
TOC092	146.79056	-19.13612	146.79426	-19.14186	75m Possible Bedrock
TOC093	146.78040	-19.13078	146.79056	-19.13612	130m Possible Bedrock
TOC094	146.80415	-19.11782	146.78040	-19.13078	0m

TOC095	146.80650	-19.11841	146.80415	-19.11782	75m Possible Bedrock
TOC096	146.82810	-19.11250	146.80650	-19.11841	0m
TOC097	146.82984	-19.11019	146.82810	-19.11250	75m Possible Bedrock
TOC098	146.84061	-19.11439	146.82984	-19.11019	0m
TOC099	146.86506	-19.11380	146.84061	-19.11439	125m Possible Bedrock
TOC100	146.86263	-19.10827	146.86506	-19.11380	0m
TOC101	146.86363	-19.10581	146.86263	-19.10827	75m Possible Bedrock
TOC102	146.86889	-19.11095	146.86363	-19.10581	0m
TOC103	146.87123	-19.11107	146.86889	-19.11095	75m Possible Bedrock
TOC104	146.87348	-19.11302	146.87123	-19.11107	0m
TOC105	146.87687	-19.11292	146.87348	-19.11302	75m Possible Bedrock
TOC106	146.87904	-19.12029	146.87687	-19.11292	0m
TOC107	146.87801	-19.12394	146.87904	-19.12029	115m
TOC108	146.87653	-19.12815	146.87801	-19.12394	0m
TOC109	146.87575	-19.12986	146.87653	-19.12815	75m Possible Bedrock
TOC110	146.86942	-19.14758	146.87575	-19.12986	0m
TOC111	146.86875	-19.14883	146.86942	-19.14758	115m
TOC112	146.86788	-19.15032	146.86875	-19.14883	0m
TOC113	146.85998	-19.15518	146.86788	-19.15032	115m
TOC114	146.85691	-19.16050	146.85998	-19.15518	0m
TOC115	146.85104	-19.16013	146.85691	-19.16050	10m
TOC116	146.84795	-19.16721	146.85104	-19.16013	125m
TOC117	146.84654	-19.17186	146.84795	-19.16721	130m Possible Bedrock
TOC118	146.84216	-19.17813	146.84654	-19.17186	0m







### Erosion Prone Area Linear Distances and their Locations for Townsville City Local Government Area

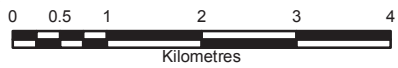
# TOC3A Map 1

**Note:**  
This map is a representation of the erosion prone area segment locations provided in Table 1 and should be used as a guide only.

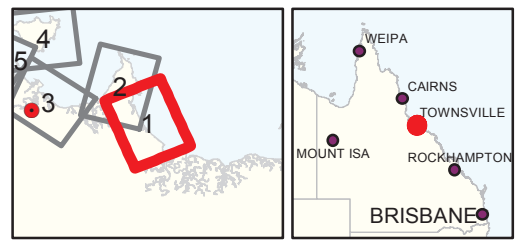
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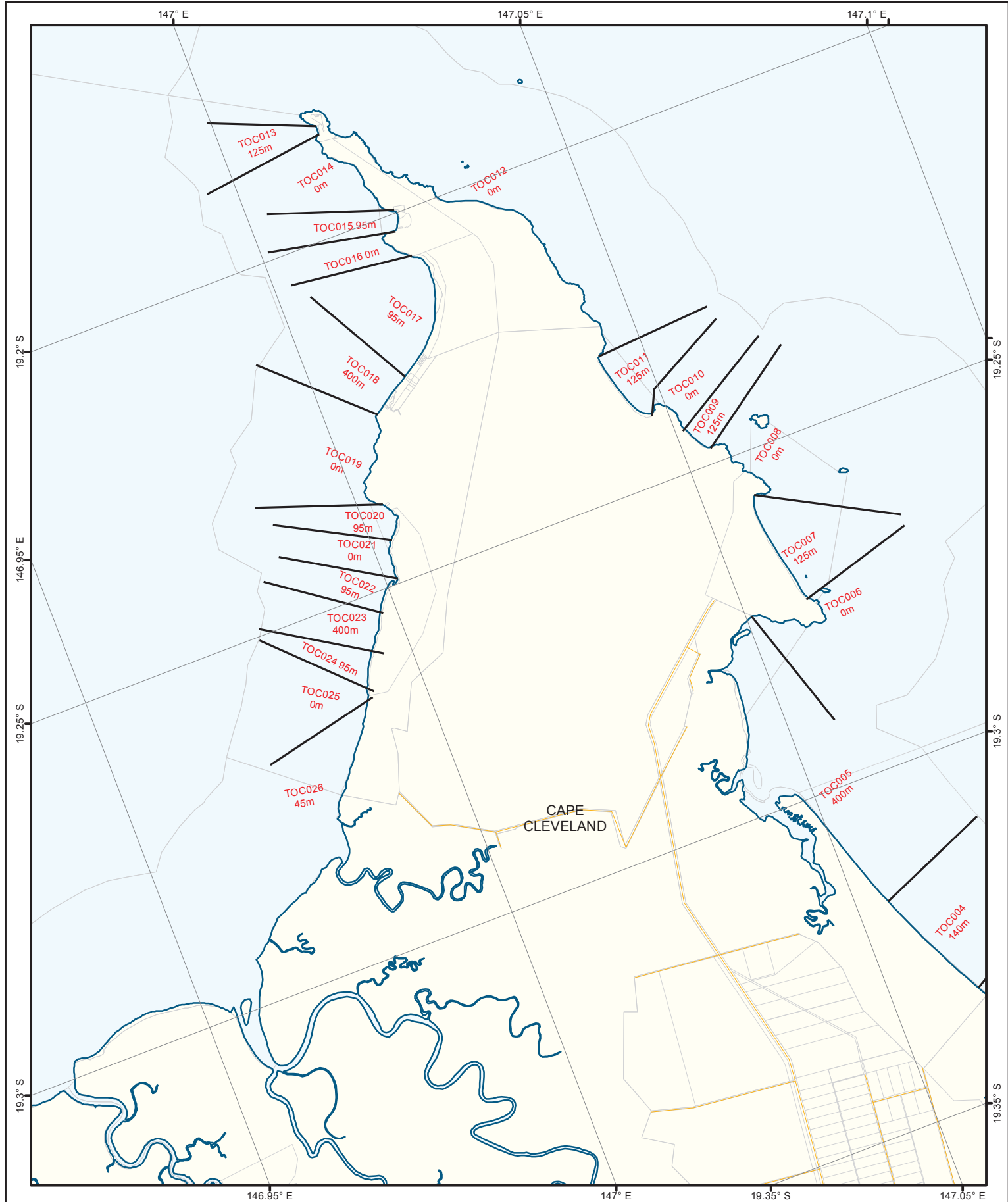
**TOC006** Segment number and linear distance for erosion prone area  
**100m**

-  Erosion Prone Area segment start/stop location
-  Roads
-  Queensland coast
-  Cadastral boundaries



Projection: Albers. Datum: GDA 1994.





### Erosion Prone Area Linear Distances and their Locations for Townsville City Local Government Area

### TOC3A Map 2

**Note:**  
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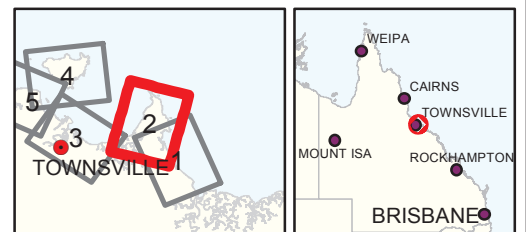
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**TOC006** Segment number and linear distance for erosion prone area

- Erosion Prone Area segment start/stop location
- Roads
- Queensland coast
- Cadastral boundaries



Projection: Albers. Datum: GDA 1994.





146.75° E

19.25° S

146.8° E

19.2° S

19.3° S

19.2° S

146.8° E

146.9° E

19.35° S

19.25° S

146.85° E

146.95° E

146.9° E

19.35° S

146.95° E

19.3° S

### Erosion Prone Area Linear Distances and their Locations for Townsville City Local Government Area

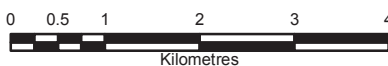
### TOC3A Map 3

**Note:**  
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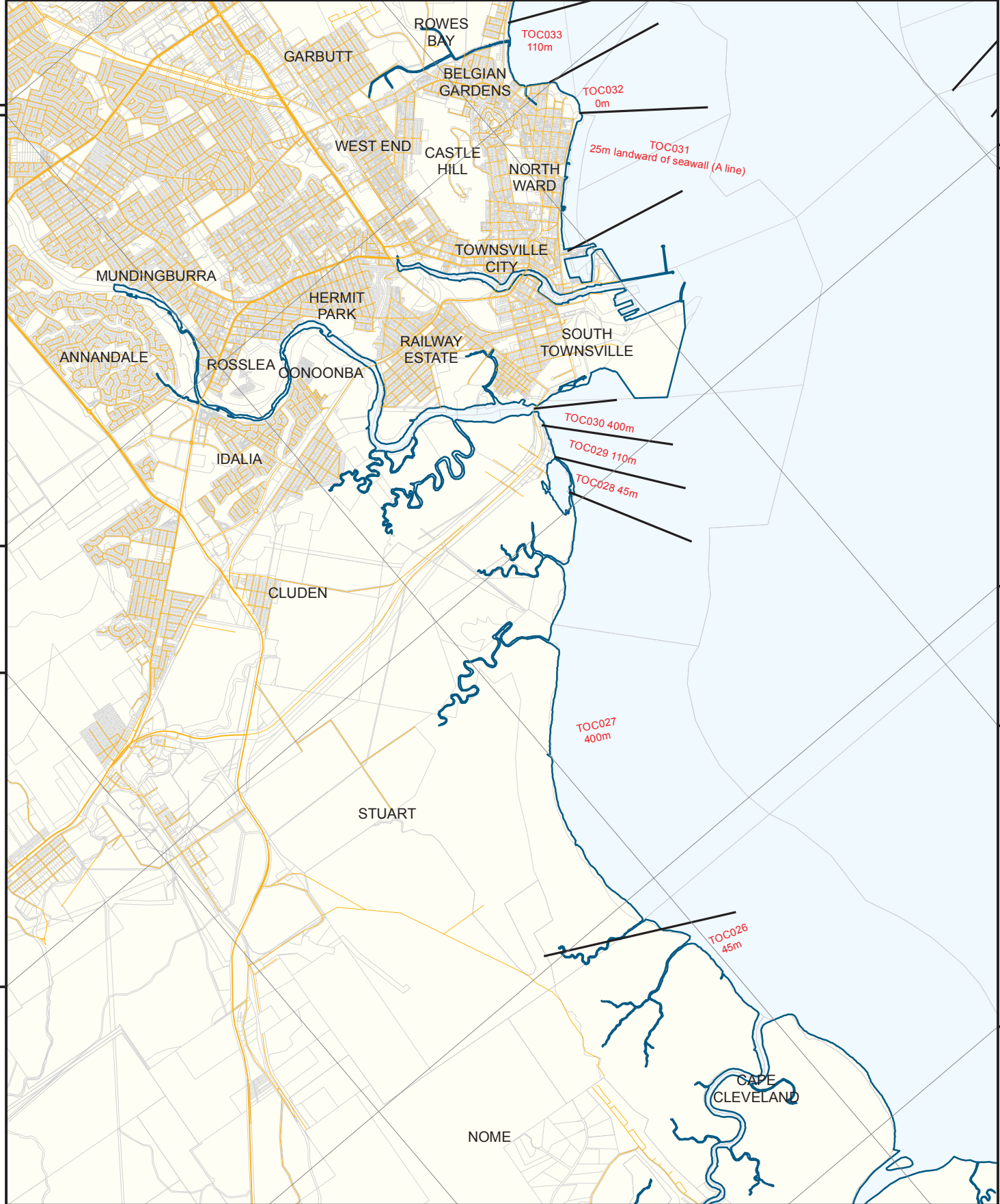
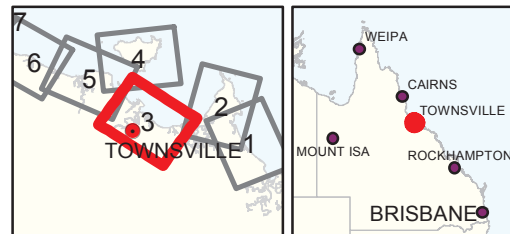
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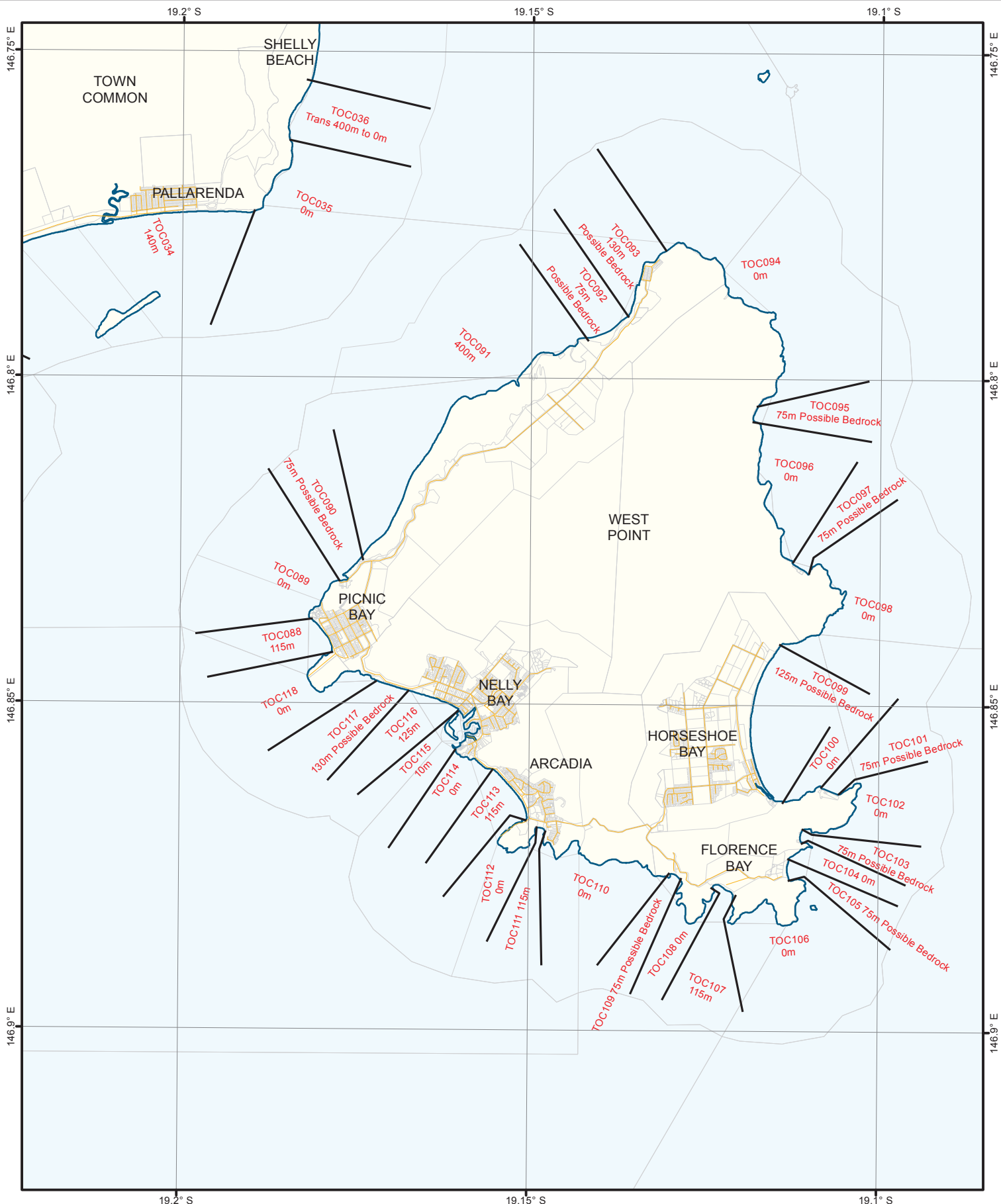
**ToC006** Segment number and linear distance for erosion prone area

- Erosion Prone Area segment start/stop location
- Roads
- Queensland coast
- Cadastral boundaries



Projection: Albers. Datum: GDA 1994.





### Erosion Prone Area Linear Distances and their Locations for Townsville City Local Government Area

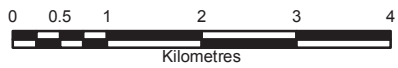
### TOC3A Map 4

**Note:**  
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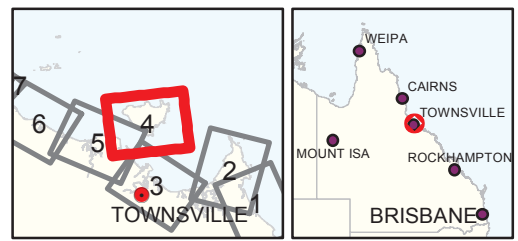
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**TOC006** Segment number and linear distance for erosion prone area

- Erosion Prone Area segment start/stop location
- Roads
- Queensland coast
- Cadastral boundaries



Projection: Albers. Datum: GDA 1994.

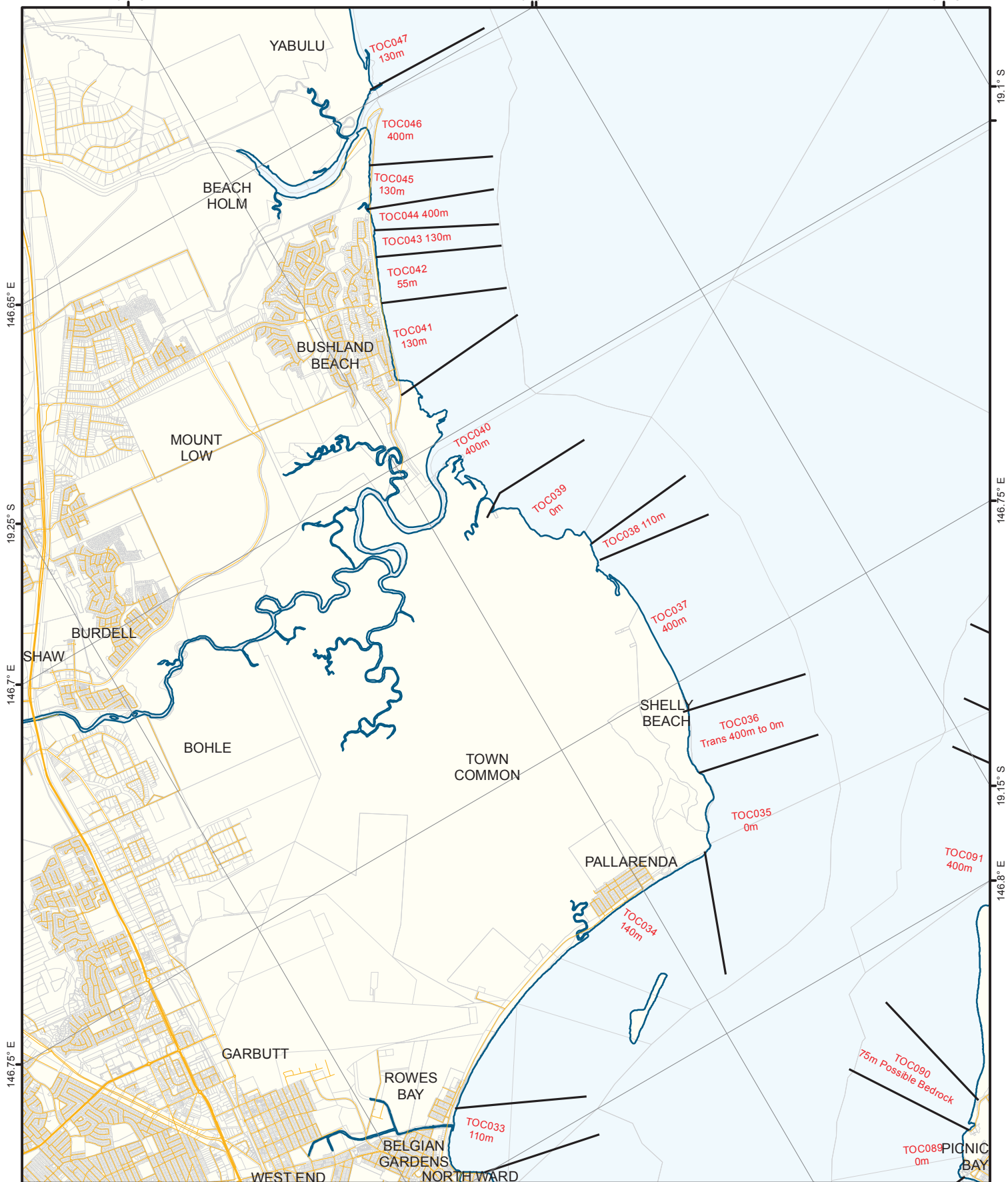




19.2° S

146.65° E

19.1° S



### Erosion Prone Area Linear Distances and their Locations for Townsville City Local Government Area

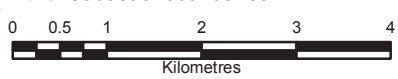
### TOC3A Map 5

**Note:**  
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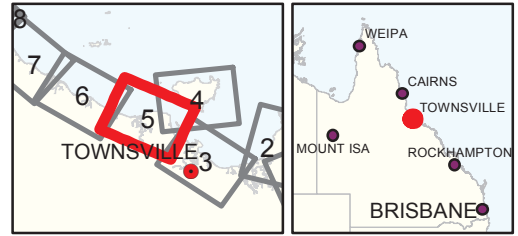
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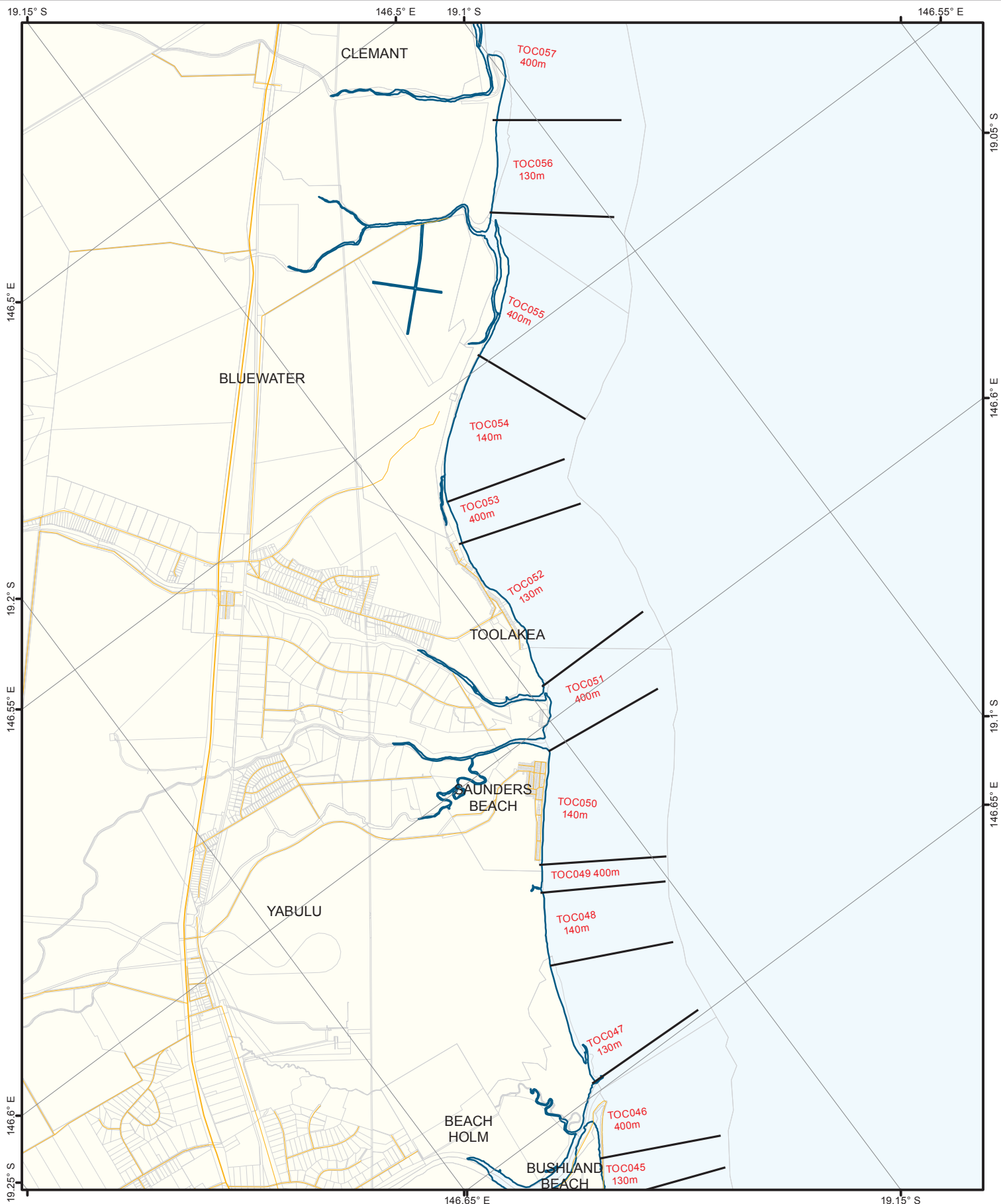
**TOC006** Segment number and linear distance for erosion prone area

- Erosion Prone Area segment start/stop location
- Roads
- Queensland coast
- Cadastral boundaries



Projection: Albers. Datum: GDA 1994.





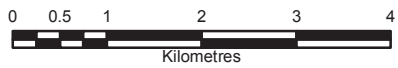
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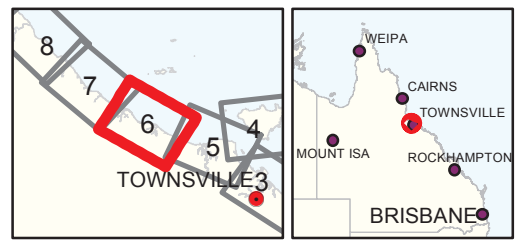
**ToC006** Segment number and linear distance for erosion prone area

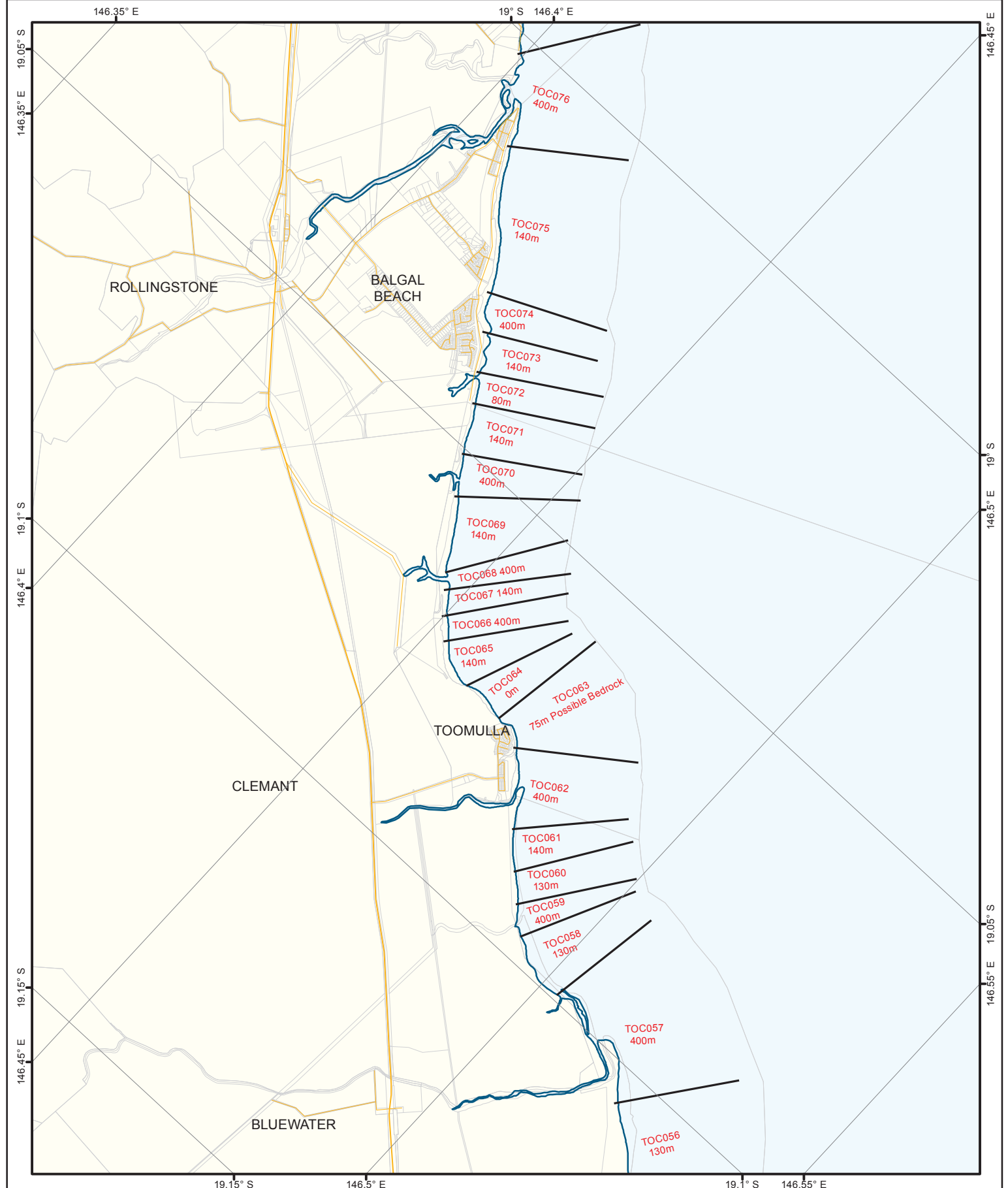
- Erosion Prone Area segment start/stop location
- Roads
- Queensland coast
- Cadastral boundaries



## TOC3A Map 6

Projection: Albers. Datum: GDA 1994.





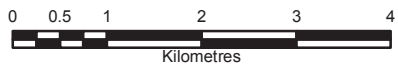
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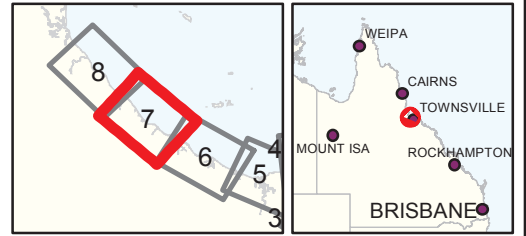
**ToC006** Segment number and linear distance for erosion prone area

- Erosion Prone Area segment start/stop location
- Roads
- Queensland coast
- Cadastral boundaries

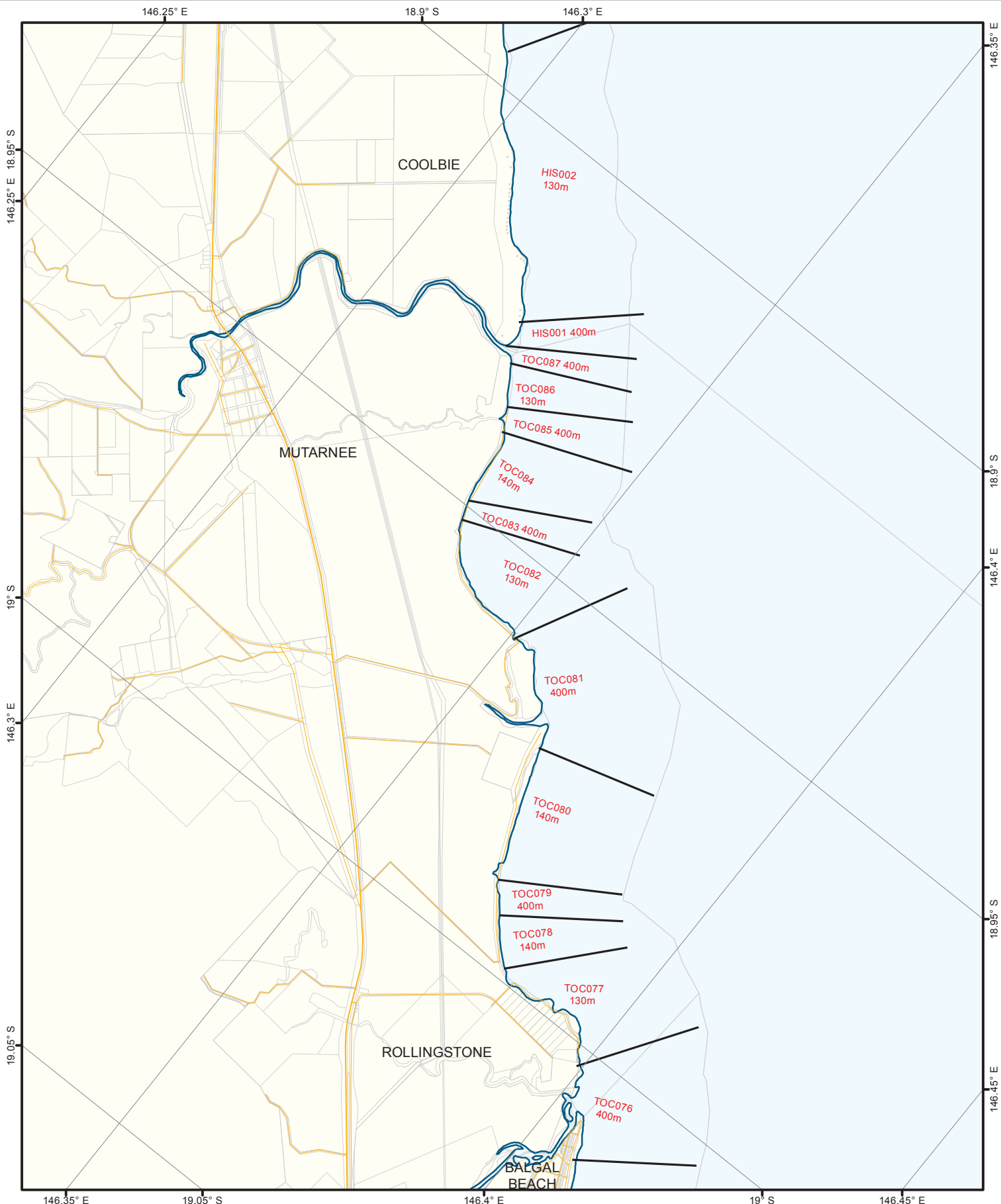


### TOC3A Map 7

Projection: Albers. Datum: GDA 1994.











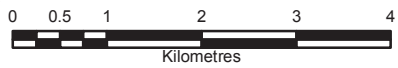
### Erosion Prone Area Linear Distances and their Locations for Townsville City Local Government Area

**Note:**  
This map is a representation of the erosion prone area segment locations provided in Table 1 and should be used as a guide only.

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**ToC006** Segment number and linear distance for erosion prone area

-  Erosion Prone Area segment start/stop location
-  Roads
-  Queensland coast
-  Cadastral boundaries



### TOC3A Map 8

Projection: Albers. Datum: GDA 1994.

