

EMPNGANENI CLIMATE ADAPTATION IMPLEMENTATION PLAN

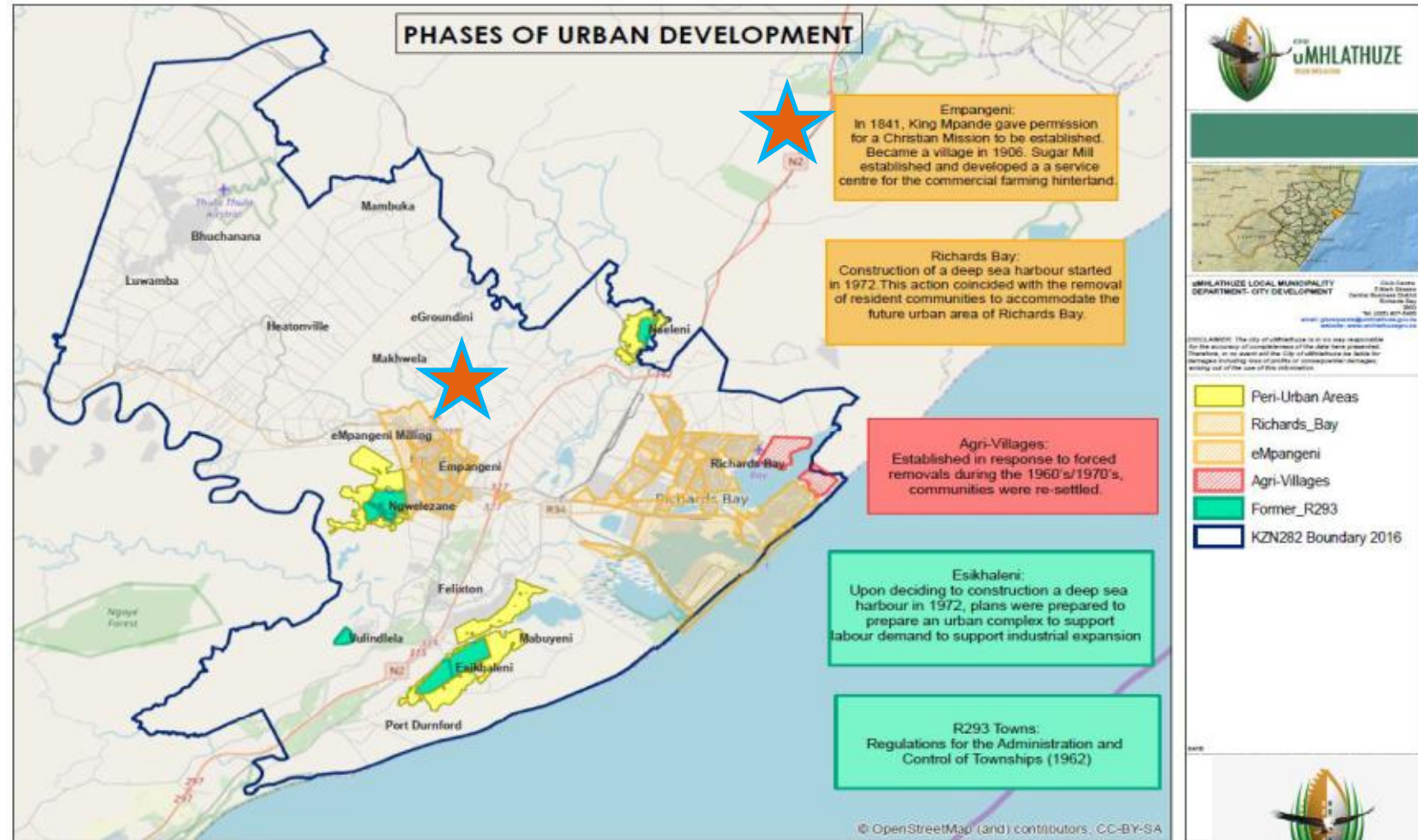
Shelter Academy 2019



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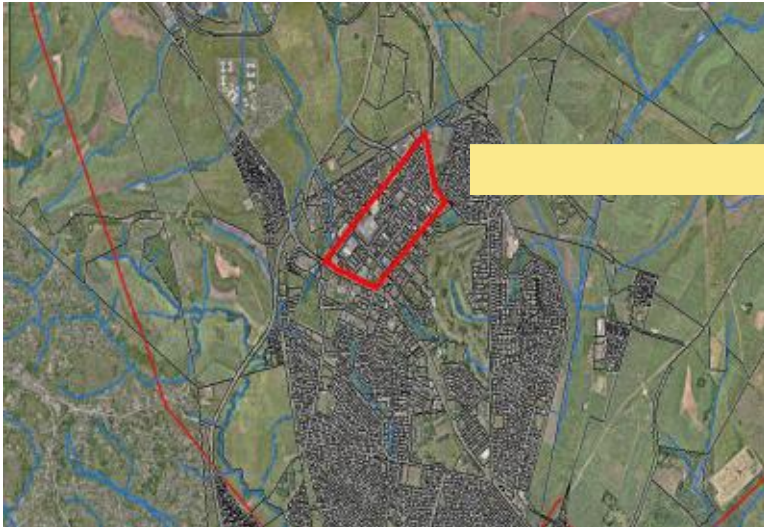
1.LOCALITY



2. Challenges

❑ Deteriorating hard infrastructure and Ecological infrastructure

- ❑ Riverine and wetland areas surrounding the CBD are low points which support gravity-fed sewer infrastructure.
- ❑ Sewer infrastructure (pump stations, manholes and the waste water treatment works) and storm water drains have deteriorated through lack of maintenance.
- ❑ New developments contribute to additional sewer volumes within the network.



2.Challenges Cont...

❑ Hardened Urban Form

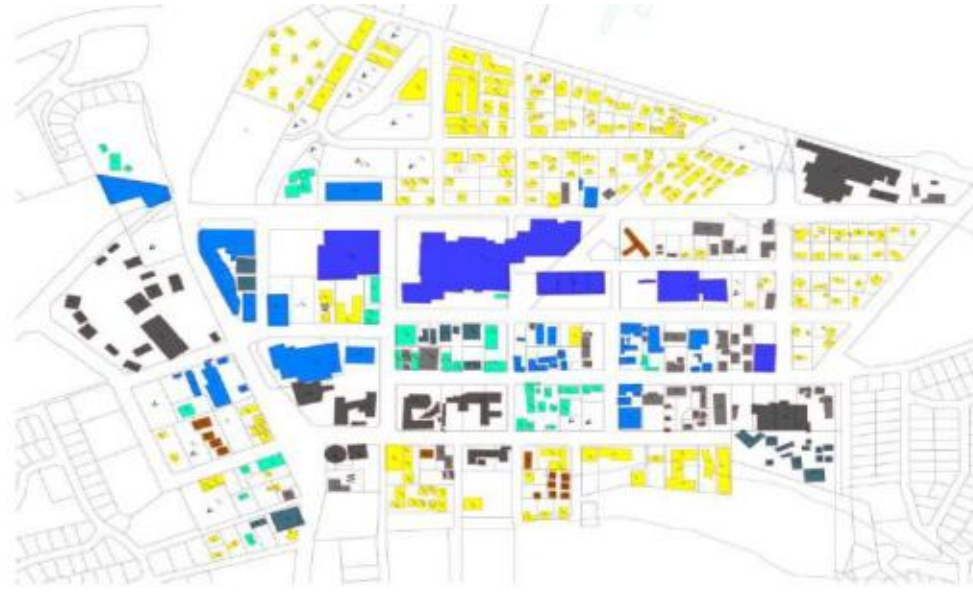
- ❑ The Lack of Open Spaces is evident and this contributes to the urban heat island effect in a warming climate.
- ❑ The above is exacerbated by the lack of landscaping and greening initiatives in the urban form.
- ❑ Old buildings methods/designs are often not very energy efficient.

❑ Building inefficiency

- ❑ Old buildings with associated heating are not energy efficient



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- Governmental buildings
- Offices
- Shopping centre
- Shops
- Commercial buildings
- Warehouse
- Detached Residential
- Attached Residential
- Flats and hotels

2. Challenges Cont...

- ☐ Lack collaboration on Climate Action
 - ☐ No systematic way of stakeholder engagement on climate action
 - ☐ Disintegrated activities across all stakeholders

3. Solutions

Challenges	Solutions
<p>1. Deteriorating hard infrastructure and Ecological infrastructure</p>  	<ul style="list-style-type: none"> Storm water management <ul style="list-style-type: none"> Maintenance and upgrading of storm water infrastructure Climate smart storm water systems Introduction of permeable paving  <p>Proposed Infrastructure Design</p>
<p>2. Hardened Urban Form</p>	<ul style="list-style-type: none"> Greening and Landscaping <ul style="list-style-type: none"> Landscaping and greening of streetscape Creation and greening of market and civic square Green buildings by-law  
<p>3. Building inefficiency</p>	<ul style="list-style-type: none"> Energy efficiency <ul style="list-style-type: none"> Installation of solar panels and off-grid solutions Retrofitting old buildings with LED lighting Building efficiency incentive policy to guide transformative elements 
<p>4. Lack of Collaborative action</p>	<ul style="list-style-type: none"> Partnerships with Civil society and the private sector Clear messaging to stakeholders Profiling climate action through annual calendar events 

4. Implementation Plan

Short Term actions (2019-2020)	Long Term actions (after 2020)
<ul style="list-style-type: none"> Stakeholder mobilisation 	Climate smart storm water systems
<ul style="list-style-type: none"> Annual climate action calendar events e.g. World Environment Day (On-going) 	Maintenance and upgrading of storm water infrastructure
<ul style="list-style-type: none"> Jetting of storm water drains 	Green building guidelines and by-law
<ul style="list-style-type: none"> Landscaping and greening of streetscape (on-going) 	Creation and greening of market and civic square
<ul style="list-style-type: none"> Retrofitting old buildings and streets with LED lighting (on-going) 	Introduction of permeable paving in the CBD
	Installation of solar panels and off-grid solutions
	Retrofitting old buildings and streets with LED lighting
	Building efficiency incentive policy to guide transformative elements

5. LESSONS LEARNT

- ❑ Climate actions need to be embedded in everyday activity of the municipal service delivery programme
- ❑ HOWEVER, climate actions also have the potential to transcend beyond work done just engineering or planning functions e.g. Paperless admin; SCM-procurement; Heritage work
- ❑ Requires meaningful partnerships and a leave no-one behind approach but your messaging to the citizens must be consistent
- ❑ One opportunity for community mobilisation is to infuse local culture and heritage (artifacts) in climate proofing actions
- ❑ Those implementing climate actions must continuously strive to pioneer change.