



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA



NATIONAL DEVELOPMENT PLAN
Our Future - make it work

Briefing to the Portfolio Committee on Water and Sanitation on the KZN Storm Damage and Key Interventions

Progress Update

23 August 2022



WATER IS LIFE - SANITATION IS DIGNITY

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1. Water and Sanitation Services Status
 - Status of water services in eThekweni
 - Progress with re-instatement projects
 - Status of Sanitation services in eThekweni
 - Operational status
 - Progress with re-instatement
 - Beach water quality`

2. Disaster Management Funding applications
 - Funding requirements
 - Funding applications

3. Conclusions and recommendations

Raw Water Supply to Durban Heights

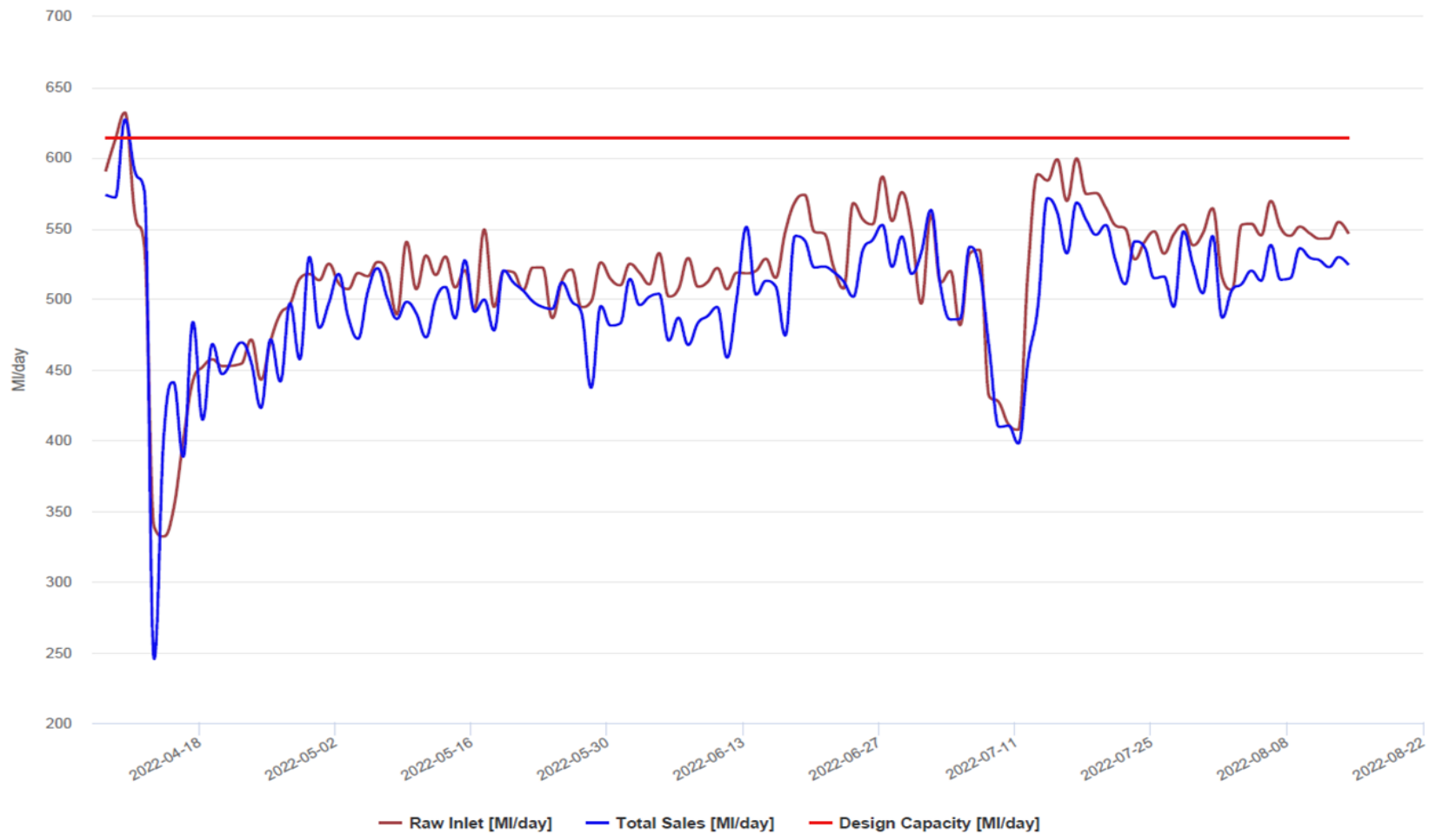
- Umgeni Water responsible for bulk water (aqueducts from Nagel Dam and Durban Heights WTW)
- Ethekwini responsible for some bulk (Tongaat WTWT) and all distribution infrastructure
- Raw water to Durban Height reduced from 600MI/d to 250MI/d due to aqueducts 1 & 2 wash-aways on 12/04/22
- Raw water supply augmented from Inanda Dam pump system
 - Initially 2 Shaft Pumps from Inanda Dam
 - 3 Shaft Pumps operational 24/7 from Inanda Dam
 - 4th shaft pump being repaired – 2 weeks
 - 5th pump to be refurbished – 8 weeks
 - Aqueduct 3 & 4 operational (repair on aqueduct 3 completed in early July)
- Raw water supply
 - 550MI/d (three pumps plus two aqueducts)
 - 590 MI/d (four pumps plus two aqueducts)

DURBAN HEIGHTS WTP BEFORE AND AFTER THE FLOODS



Waterworks Inlet and Sales
U2E909P01 - Durban Heights

2022-04-08 to 2022-08-14



www.umgeni.co.za

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OVERVIEW ON THE EXTENT OF WATER SUPPLY RESTORED & TEMPORARY REPAIRS

14 August 2022



INNER WEST REGION

Supply to this region has improved from **30% to 80%**

storm damages temporary and consequential repairs at 90% complete

Nagina, Dassenhoek, Thornwood, Desai

OUTER WEST REGION

Supply to this region has improved from **45% to 80%**

Zwelibomvu, Ngonyameni, Mangangeni, KwaXimba, Sthumba, Hammarsdale

storm damages temporary repairs and consequential at 100% complete

CENTRAL REGION

Supply to this region has improved from **45% to 70%**

storm damages temporary and consequential repairs at 100% complete

SOUTH REGION

Supply to this region has improved from **15% to 85%**

storm damages temporary and consequential repairs at 100% complete

NORTH REGION

Supply to this region has improved from **40% to 60%**

storm damages temporary and consequential repairs at 85% complete

Tongaat, Mamba ridge, Hambanathi, Ntuzuma

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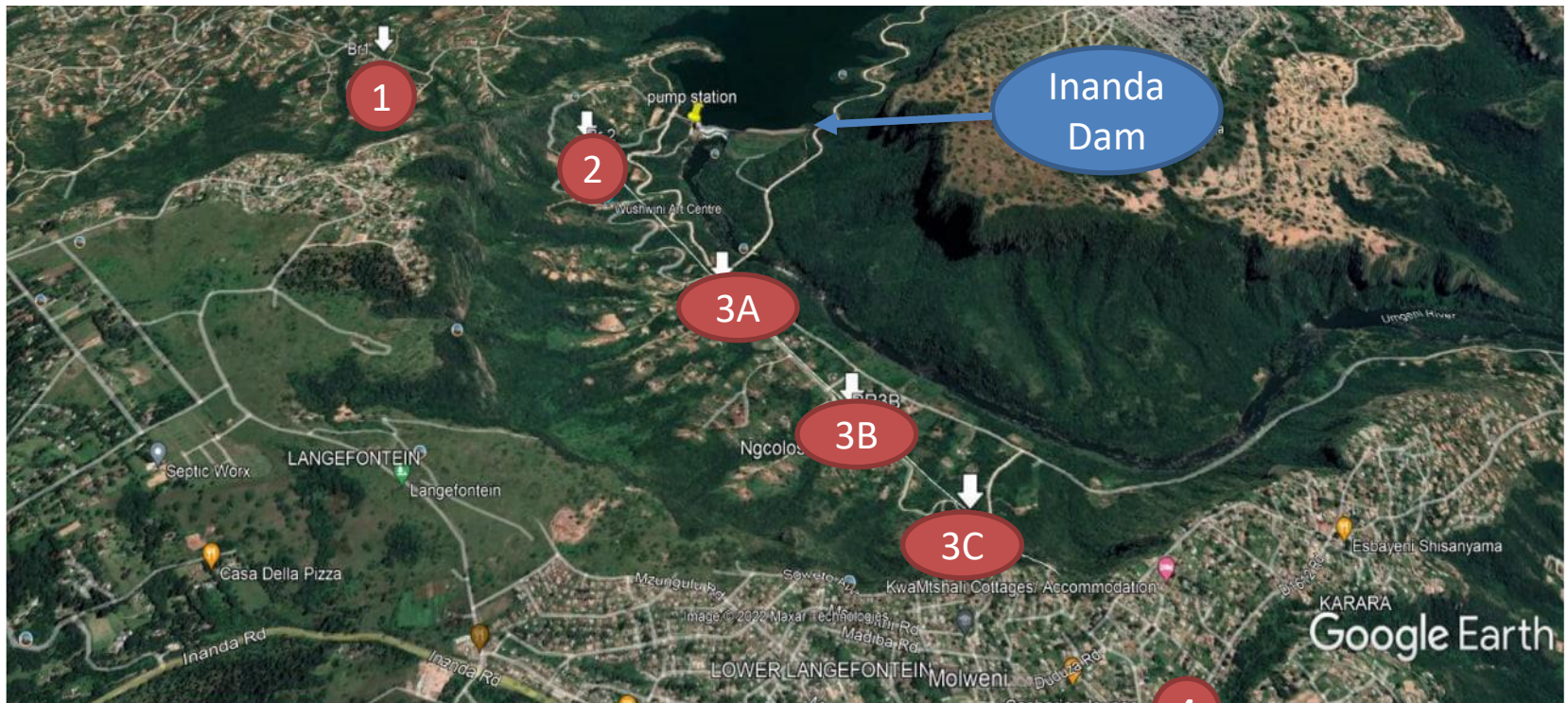


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Aqueduct Reinstatement Project

- There are 6 breaks / wash aways from Nagle Dam to Durban Heights WTW - Failure points are predominantly in the Molweni area.
- The breaks / wash-aways vary in length from ~20 m- ~170 m.
- Major site clearance of boulders is required.



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Scope of work site pictures



Site Location 1- Complete wash-away of aqueducts 1 & 2

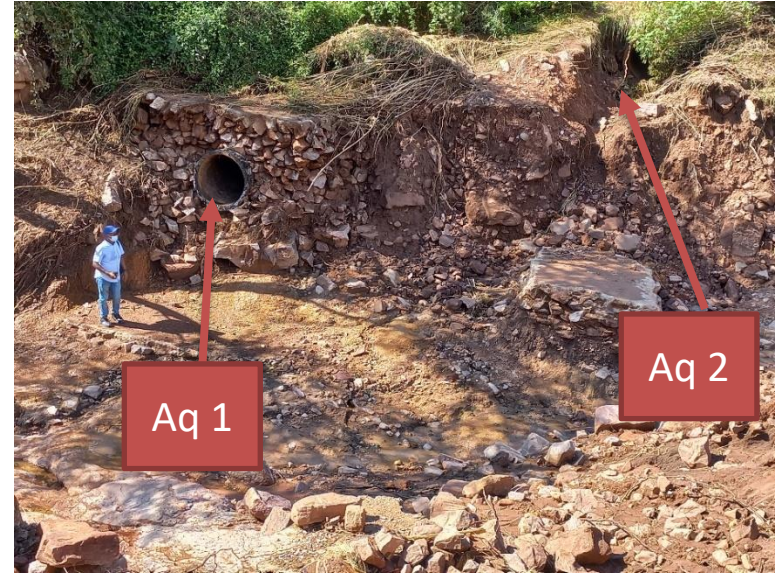


Site Location 2- damage to the foundation of the supports

Scope of work site pictures



Site Location 3A- wash-away of Aq 2



Site Location 3B- Complete wash-away of Aq 1 & 2



Aq 1 & 2

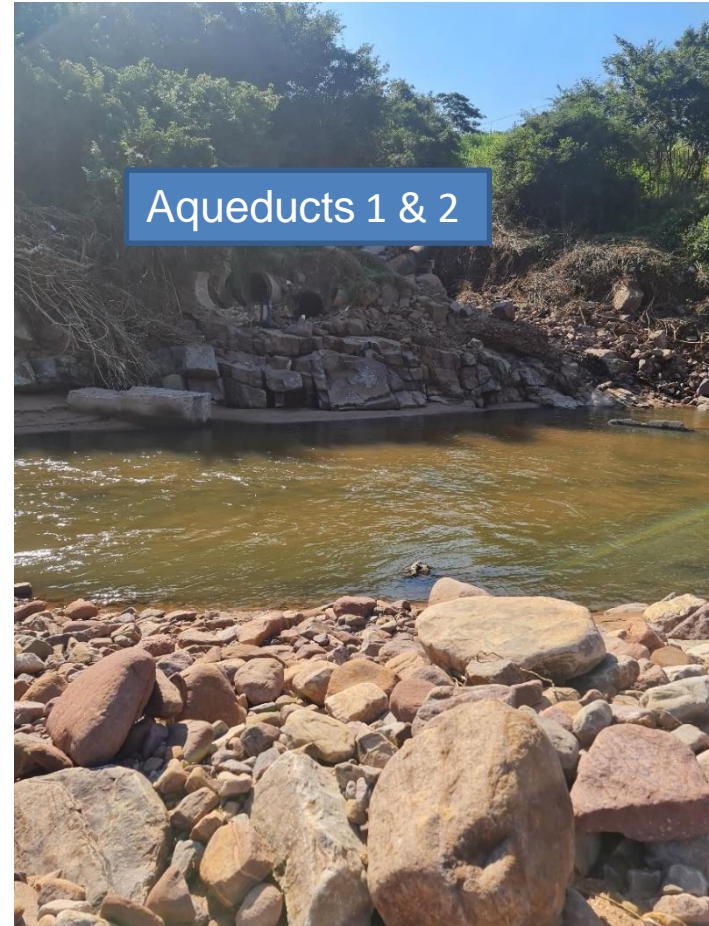


Site Location 3C- Complete wash-away of Aq 1 & 2

Scope of work site pictures



Site Location 4- Complete wash-away of Aq 1 & 2



Aqueduct Reinstatement Project

- Umgeni Water awarded the turn-key contract on 28/05/22
- Site established 20/06/22
- Design reviews conducted and final design to be submitted 12/08/22
- Pipe being exposed and removed
- Pipe manufacturing is currently underway. The 10 mm thick pipes undergoing the final inspection - delivery to site from the week of the 15/08/22
- Scanning of the aqueducts is underway to determine integrity of the aqueducts.
- 2 week interruption by the community due to unrest between wards 8 & 9 - Agreement signed between the two wards to ensure no further interruptions.
- Aq1 completion 22 Dec 22 and Aq2 completion 30 June 23
- Umgeni Water infrastructure insured and they proceeding with repairs with own funding before insurance claim evaluated
- Additional Work
 - Re-design of pipeline at Inanda Flats / KwaNgcolosi areas
 - Design begun to maximise Inanda Dam pump stations

Repairs and maintenance of the aqueducts 1 & 2 supplying Durban Heights



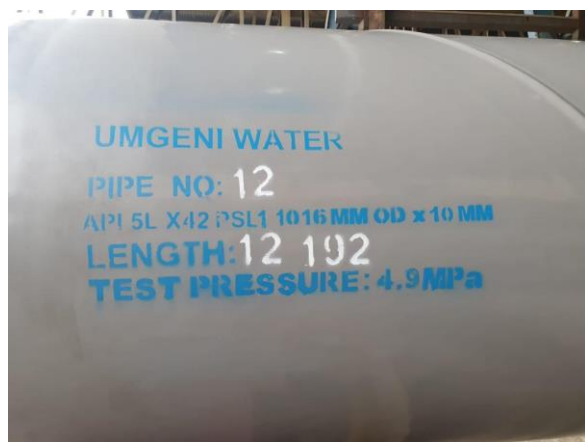
Site 3A Exposed



Site 3B Exposed



Site 4B Exposed



10 mm Pipe
Manufactured



Tongaat Water Treatment Plant

- Tongaat WTP Design capacity 21 ML/day, was producing 16ML/day
- Supplies Tongaat area, ward 61 and 62, which includes Burbreeze, Jan ross, Maidstone, Hambanathi, Emona, Metacalf, Mamba Ridge, Tongaat South and Belvedere areas.
- Access road, raw water pipeline and treatment plant severely damaged
- Interim supply measures
 - 20 water tankers are servicing the area
 - 48 static tanks installed as a point of water collection for the community
 - There are 14 boreholes donated by Gift of the Givers. Most of the water quality only suitable for other usages like washing, bathing and flushing toilets.
 - Donated water package plant utilised as a point of collection or filling point for tankers
 - Emergency pipelines have been installed providing 4 hours/day supply to some areas

Restoration of Tongaat Water Plant



- Access road reinstated 15/06
- Raw water line reinstated 15/06
- Contractor appointed after appeals delay 7/07
- Contractor established on site 13/07
- Head of works canal base poured and props in place for jacking
- Chemical room stabilization underway
- Clear water reservoir being cleared and cleaned
- Motors, pumps & valves removed for refurb / replacement
- Completion scheduled for beginning Oct 22

Influent to Waste Water Works



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Sewer Networks >300mm

Ethekwini Sanitation



SEWER PIPE REPAIRS (STEEL PIPES)

North Region

19
Projects

Estimated Cost
R 19.08 Million

Start Date 15 -June -2022

Progress Status
34%

Central Region

10
Projects

Estimated Cost
R 26.75 Million

Start Date 15 -June -2022

Progress Status
40%

West Region

9
Projects

Estimated Cost
R 29.95 Million

Start Date 15 -June -2022

Progress Status
8%

South Region

5
Projects

Estimated Cost
R 16.52 Million

Start Date 2022/2023

Progress Status
4%

DAILY PROGRESS - RETICULATION REPAIR WORK - WATER CONSTRUCTION

Location	No of Sewer Repairs	Jobs Completed	Jobs On Site	Jobs Not on Site	Overall Progress %
North	115	13	4	98	14.8%
Central	20	0	0	0	To be completed via Water Construction
South	42	11	6	25	40.5%
West	42	0	4	38	9.5%

PUMP STATIONS

MECH & ELEC - MINOR WORKS

Location	No. of Pumpstations	Total % Progress
North	18	44.44%
South	26	46.15%
Central	34	88.24%
West	19	57.89%



Beach Water Quality - Post Floods

Beach	April						May						June						July						August										
	04-Apr	05-Apr	06-Apr	07-Apr	19-Apr	20-Apr	21-Apr	03-May	04-May	05-May	06-May	16-May	17-May	18-May	19-May	06-Jun	07-Jun	08-Jun	09-Jun	21-Jun	22-Jun	23-Jun	24-Jun	04-Jul	05-Jul	06-Jul	12-Jul	18-Jul	19-Jul	20-Jul	21-Jul	01-Aug	04-Aug	05-Aug	08-Aug
Addington Beach			808	20						400	6300				400					3400							35		2750	0				10	
Amanzimtoti Beach Pipeline	80			808			808					100				1400					280					3500					10				
Bay of Plenty Beach			40	0						8080	530				800							900					580		800	0					23
Beach at Vetchs Pier			808	808						100	400				2700							3000					80		100	20					0
Country Club Beach			808							1300	2200				2900							1000					0		800						789
North Beach			50	0						8080	5000				4100							2800					170		400						31
South Beach			240	0						1300	6600				4800							3200					50		150						97
Umdloti Beach				70		60				40					1200								240				1300				4200				122
Umgababa Beach	10			130			70					150				30					120					0					80				
Umlhanga Rocks Main beach				808		10				80000					2300							370		310			100			1800				464	
Ushaka Beach			220	20						2900	6200				2500							2700					60		150						0
Warner baggies Beach	90			120			808					700				500						8080				180				170					
Wedge Beach			808	0						1300	3800				2200							3900					80		2800	20					52
Casuarina Beach Tongaat				40						120					150							240				800				50					
Thekwini Beach			808							700	1300				2900							1400					300		2100	40					41
Umdloti Beach tidal area				120						0					210							600		95			1700			10					
Umlhanga Rocks Granny's Pool beach			808		0					180					1400							280		700			120		1950					183	41
Umlhanga Rocks Lighthouse beach			808		330					90					400							330		310			150		1500						171
Umkomaas Beach	808			808			140					210				50						220				200				40					
Dunes Suncoast Beach			180	0						800	4800				2200							800					30		2400	40					10
Amanzimtoti Beach Main	80			808			808					150				350						180				2500				8080					
Anstey's Beach		120					808		2800				10				8080					1600			420		150				6131	0			

Open since July 1st for public use
Closed for swimming but are open for religious and spiritual rituals, dog walking and fishing
Closed

0	E Coli < 500 CfU/100ml
500	E Coli > 500 CfU/100ml

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Beach Water Quality - Post Floods

Beach	April						May						June						July						August										
	04-Apr	05-Apr	06-Apr	07-Apr	19-Apr	20-Apr	21-Apr	03-May	04-May	05-May	06-May	16-May	17-May	18-May	19-May	06-Jun	07-Jun	08-Jun	09-Jun	21-Jun	22-Jun	23-Jun	24-Jun	04-Jul	05-Jul	06-Jul	12-Jul	18-Jul	19-Jul	20-Jul	21-Jul	01-Aug	04-Aug	05-Aug	08-Aug
Ansteys Beach (Right side of Pipe)		70					808		230					8080			600					100		490				400				24438	24438		
Battery Beach			300		0						800	5400				3100						1300					330		2800	60					
Beach at Beachwood Mangrove				808		10				100		5400			600				80				490			8080				800					409.5
Beach at Central WWTW		20					808		40			5400		1200				290				300		8080			120					189			
Beach at Virginia Airport				808		0				600		5400			4300				350				4200			8080				1900					86
Beach south of Mgeni River mouth			480								100	2500				3900						100					70		2200						12033
Brighton Beach		100					808		700					100			2000					100		440				0				960	98		
Garvies Beach		60					808		80					100			790					1700		580				500				794			
Glenashley Beach				808		808				80					2500			540					700			2100				160					
Isipingo Beach		200					808		3200					1800			500						8080		8080			1700				4839	24198		
Karridene Beach	808							170						340					350		1300					0				60					
La Mercy Beach				60						1700					150											500				600					
Laguna Beach			480								1600	2150				3800						1300					30		600	40					5475
Reunion Beach		808					808		2200					100			6400					8080		8080			100				24438	24438			
Treasure Beach		200					808		470					400								8080		280		420		0				8664	0		
Umbogintwini Beach		190					808		8080					1400				5300					370		8080			700				265			
Umdloti South Beach				90		80				0					100							320			195		900			80					
Umlanga Rocks Bronze beach				808		40				180					100							1200		2200		340			4300						122
Umlaas Beach		808					808		8080					300			7900					500		8080			0					24438	86		
Warner Beach	808				808			808				430					350					300			8080					8080			161	48915	
Westbrook Beach				380						410					200							200			4600		8080			500					
Winkelspruit Beach	808				808			808					8080				8080					8080				260					230		7701	114.5	

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Closed for swimming but are open for religious and spiritual rituals, dog walking and fishing
Closed

0	E Coli < 500 Cfu/100ml
500	E Coli >500 Cfu/100ml

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Total repair and build back better costs

Flood damaged infrastructure	Sum of revised DWS/MISA Cost Estimates for short-term emergency repairs	Sum of revised DWS/MISA Cost Estimates for long-term "Building Back Better"
Ethekwini	R912,532,463	R3,389,068,857
Water Infrastructure	R305,920,000	R453,920,000
Sewer Infrastructure	R606,612,463	R2,935,148,857
Ilembe	R34,619,900	R1,752,041,113
Water Infrastructure	R23,463,400	R23,463,400
Sewer Infrastructure	R11,156,500	R1,728,577,713
King Cetswayo	R13,922,778	R13,922,778
Water Infrastructure	R9,964,767	R9,964,767
Sewer Infrastructure	R3,958,011	R3,958,011
Mhlathuze	R1,833,000	R1,833,000
Water Infrastructure	R450,000	R450,000
Sewer Infrastructure	R1,383,000	R1,383,000
Msunduzi	R450,581	R450,581
Water Infrastructure	R84,900	R84,900
Sewer Infrastructure	R365,681	R365,681
Ugu	R19,487,999	R629,113,103
Water Infrastructure	R5,495,000	R5,495,000
Sewer Infrastructure	R13,992,999	R623,618,103

Total repair and build back better costs

Flood damaged infrastructure	Sum of revised DWS/MISA Cost Estimates for short-term emergency repairs	Sum of revised DWS/MISA Cost Estimates for long-term "Building Back Better"
Umgungundlovu	R1,170,000	R1,170,000
Water Infrastructure	R1,170,000	R1,170,000
Sewer Infrastructure	R0	R0
Uthukela	R12,144,000	R12,144,000
Water Infrastructure	R12,144,000	R12,144,000
Sewer Infrastructure		
Amajuba	R3,900,000	R3,900,000
Water Infrastructure	R0	R0
Sewer Infrastructure	R3,900,000	R3,900,000
Umzinyathi	R12,169,900	R12,169,900
Water Infrastructure	R4,879,000	R4,879,000
Sewer Infrastructure	R7,290,900	R7,290,900
Zululand	R7,655,000	R7,655,000
Water Infrastructure	R5,305,000	R5,305,000
Sewer Infrastructure	R2,350,000	R2,350,000
Umkhanyakude	R5,000,000	R5,000,000
Water Infrastructure	R5,000,000	R5,000,000
Sewer Infrastructure	R0	R0

Total repair and build back better costs

Flood damaged infrastructure	Sum of revised DWS/MISA Cost Estimates for short-term emergency repairs	Sum of revised DWS/MISA Cost Estimates for long-term "Building Back Better"
Harry Gwala	R21,191,232	R21,191,232
Water Infrastructure	R21,191,232	R21,191,232
Sewer Infrastructure	R0	R0
Umgeni Water	R857,500,000.00	R857,500,000.00
Project management and implementation Support	R21,876,788	R140,268,000
Grand Total	R1,925,453,641	R6,847,427,564
Contingencies @15%	R288,818,046	R1,027,114,135
Total Budgeted Cost	R2,214,271,687	R7,734,273,699

Cost-estimates refined through assessments by DWS Engineers.
Upgrades will be subject to environmental and legislative approvals
i.e (EIA, WULA, Land and Servitude acquisition)

Disaster Funding

- DWS funded tankers to support Ethekwini, Ugu and Ilembe for 3 months (R65m) reprioritized from WSIG
- DWS not able to provide funds to Ethekwini in terms of grant frameworks
- WSAs infrastructure damage was consolidated and funding application for National Disaster Management Funding submitted to National Disaster Management Center and National Treasury on 3 May 2022
- Funding application includes costs of replacement with infrastructure as it was and costs of building back better, with upgraded infrastructure to meet needs
- Applications being coordinated through PDMC and NDMC
- MIG and WSIG grant reprioritization approved
 - King Cetshwayo (R13.2m MIG, R6.7m WSIG)
 - Zululand DMs (R25m WSIG)
 - Uthukela DM – (R15.3m MIG)
- Disaster funding approved
 - Msunduzi – R0.691m
 - Ilembe – R19.5m
- Disaster funding recommended currently awaiting National Treasury
 - Ethekwini – R182 m

Ethekwini Insurance Claims

Ethekwini Water and Sanitation Funding Requirements

DISASTER FUNDING AMOUNT	POSSIBLE PAYOUT FOR VALID CLAIMS	UNINSURED VARIANCE
1 025 831 924	292 097 619	733 734 305

- Over 600 sites have been identified and an Assessor has been appointed by the insurers. Electricity site verification is underway.
- Assessment may take 12 to 18 months
- In the interim Ethekwini has reprioritized its own internal budgets to respond to the most critical and urgent storm damages to restore critical services and infrastructure

eThekwini W&S Funding Requirement & Applications

CLASSIFICATION	FY2021/2022	2022/23 MTREF	TOTAL
Operating Budget	93 290 491	36 800 000	130 090 491
Capital Budget	209 948 560	685 792 873	895 741 433
Total	303 239 051	722 592 873	1 025 831 924

ETHEKWINI MUNICIPALITY	NDMC RESPONSE	GRANT FUNDING STATUS
Submission of emergency projects to be implemented within 6 months to the value of R180m, application submitted on the 21 July 2022.	eThekwini submission received for projects of the value of R185m, NDMC has submitted to National treasury as of the 27/07/2021	eThekwini Municipality awaiting approval from National Treasury in order to implement the projects within 6 months.
eThekwini Municipality has submitted the Reconstruction and Rehabilitation grant funding application for projects to be implemented within 12 months from receiving R&R Grant, submission to the value of R1 440 519 520 was submitted to the PDMC, the application included eThekwini Housing Retaining walls to the value of R94 265 000.	PDMC submitted eThekwini Grant funding to NDMC as of the 4/8/2022.	eThekwini awaiting feedback from NDMC regarding the submission.

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Conclusions and Recommendations

- Most of water services have been restored
- Sanitation services restoration behind
- Some improvements in beach water quality
- Significant delays with insurance claims – assessments may take 12 – 18 months
- Alternative processes need to be developed for assets covered by insurance
- DWS to support CoGTA in operationalising WAR rooms for each WSA
- Ongoing monitoring of restoration by DWS and CoGTA through WAR rooms



THANK YOU