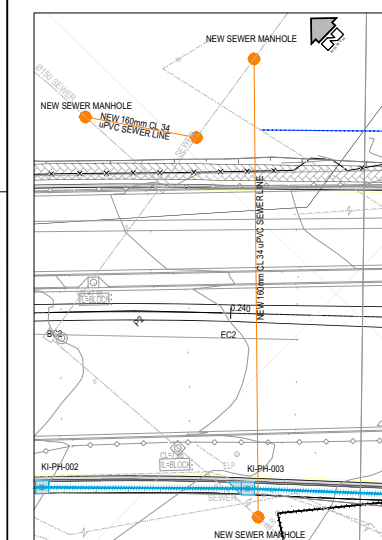
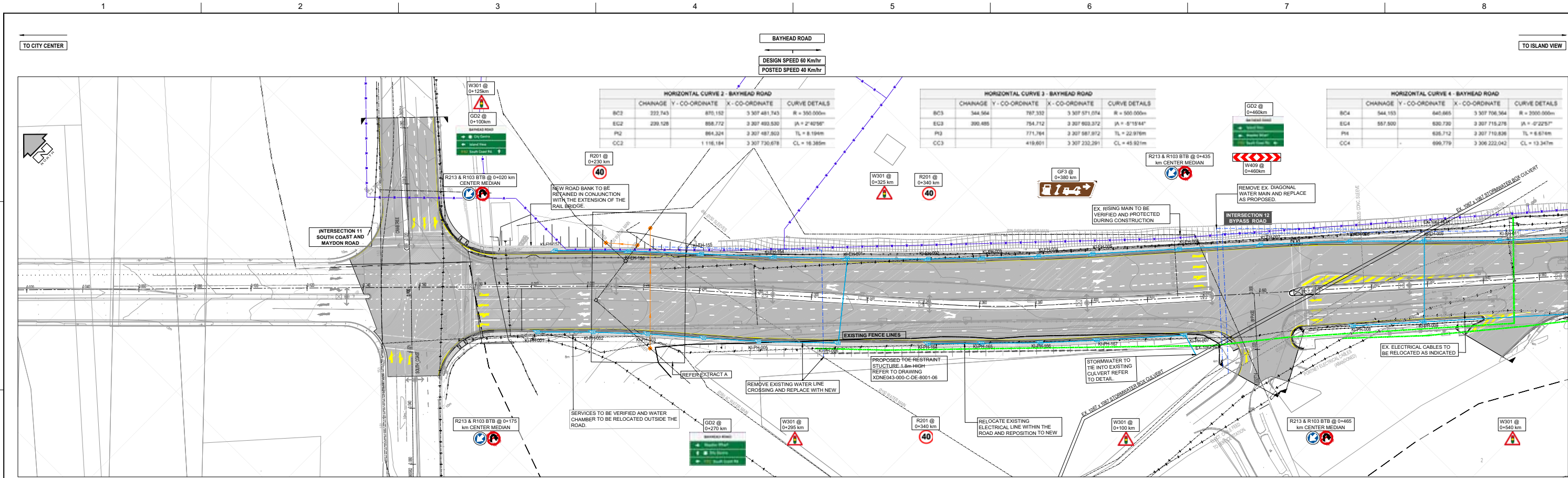
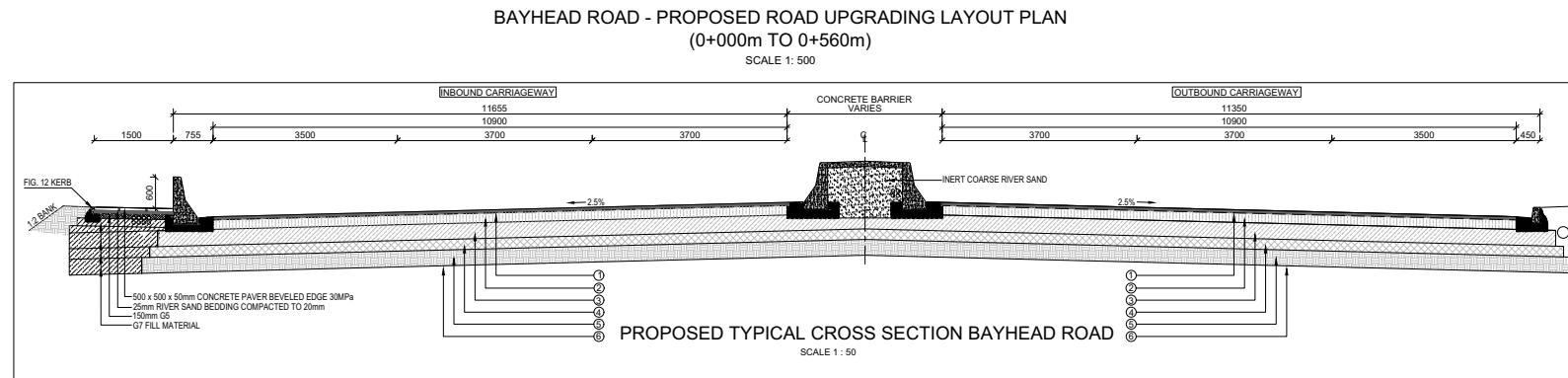


APPENDIX C: SITE LAYOUT DRAWINGS



LEGEND:

LIMIT OF CONSTRUCTION	
PROPOSED ROAD CENTER LINE	
PROPOSED CARRIAGEWAY	
PROPOSED ROAD EDGE	
PROPOSED KERB AND CHANNEL	
PROPOSED SIDEWALK 1.5m	
PROPOSED RAISED CENTER MEDIAN	
PROPOSED RAISED PEDESTRIAN BARRIER	
POINT OF INTERSECTION OF CURVE	
PROPOSED STORMWATER	
PROPOSED PEDESTRIAN SCOPE	
PROPOSED CRASH BARRIER	
PROPOSED SEWER RISING MAIN	
PROPOSED SEWER GRAVITY	
PROPOSED ELECTRICAL	
PROPOSED GUARDRAILS	
PORT BOUNDARY	
EX FENCE LINE STEEL	
EX FENCE LINE PRECAST	
EX SEWER	
EX STORMWATER	
EX WATER	
EX ELECTRICAL	
EX PETRONET LINE	
WSP LINES	
PROPOSED WATER LINES	
SERVICES REMOVED	



GUARDRAIL SCHEDULE

FROM KM	TO KM	LENGTH (m)	REMARKS
0+188	0+192	14	G-DE-8001-05 G
0+192	0+452	260	G-DE-8001-05 G
0+452	0+540	77	G-DE-8001-05 G
0+540	0+747	186	G-DE-8001-05 G
0+747	1+008	1150	G-DE-8001-05 G
1+008	2+113	205	G-DE-8001-05 G
2+113	2+233	120	G-DE-8001-05 G
2+233	2+456	175	G-DE-8001-05 G
2+456	2+907	579	G-DE-8001-05 G
2+907	3+017	59	G-DE-8001-05 G
3+017	3+305	96	G-DE-8001-05 G

LAYER No. DESCRIPTION

1	60mm NPS 14 AP MODIFIED ASPHALT WEARING COURSE
2	180mm EME ASPHALT BASE
3	300mm BSM1
4	200mm EQUIVALENT G5 (EXISTING)
5	300mm EQUIVALENT G7 (EXISTING)
6	EQUIVALENT G7 (INFINITE)

HORIZONTAL ALIGNMENT CURVE DATA BAYHEAD ROAD					
No.	Chainage	Y Co-ord	X Co-ord	Curve Details	
START	0.000	1527.8904	3307324.4776		
1	BC1	146.324	3307428.9199	R = 300.000m	
EC1	148.303	923.0965	3307429.4163	Δ = 0° 22' 41"	
PC1		923.0965	3307428.7204	TL = 0.966m	
CC1		712.2128	3307216.9437	CL = 1.989m	
2	BC2	222.743	870.1522	3307481.7433	R = 350.000m
EC2	238.128	858.7720	3307493.5288	Δ = 2° 40' 56"	
PC2		864.3241	3307487.5035	TL = 0.194m	
CC2		1116.1838	3307730.8778	Δ = 18.385m	
3	BC3	344.564	797.3321	3307571.0741	R = 500.000m
EC3	390.488	754.7119	3307603.3717	Δ = 5° 15' 44"	
PC3		771.7641	3307587.9724	TL = 22.976m	
CC3		419.6009	3307732.2913	CL = 45.921m	
4	BC4	544.153	645.6853	3307756.3636	R = 2000.000m
EC4	587.809	630.7298	3307719.2760	Δ = 0° 22' 37"	
PC4		635.7124	3307710.8364	TL = 0.674m	
CC4		-489.7766	3308222.0422	CL = 13.347m	
5	BC5	1227.404	120.5685	3308180.3521	R = 350.000m
EC5	1347.945	56.0120	3308254.8921	Δ = 19° 43' 58"	
PC5		85.1163	3308201.4265	TL = 62.874m	
CC5		363.4575	3308422.2489	CL = 120.541m	
6	BC6	2728.766	-404.2412	3309467.6302	R = 258.000m
EC6	3121.431	-842.8910	3308576.4121	Δ = -8° 13' 06"	
PC6		-721.7236	3309083.4192	TL = 245.697m	
CC6		-830.8366	3309344.2650	CL = 262.664m	
END	3005.572	-1016.7665	3309540.5355		

CONTROL POINT CO-ORDINATES (SYSTEM: WGS11)

NAME	Y - CO-ORDINATE	X - CO-ORDINATE	Z - CO-ORDINATE
B1	1566.716	3307230.875	12.008
B2	1013.918	3307306.176	12.745
B3	927.575	3307435.508	10.216
B4	736.712	3307574.148	5.578
B5	501.580	3307955.054	2.736
B6	309.194	3308024.300	2.736
B7	119.281	3308025.389	2.736
B8	-21.833	3308158.896	2.808
B9	-189.203	3308703.263	2.808
B10	-223.405	3308854.539	3.771
B11	-356.685	3309073.582	3.588
B12	-504.372	3309348.967	3.582
B13	-653.006	3309570.584	2.923
B14	-845.688	3309613.032	5.176

NOTES:
1) Survey based on Trig (WGS11) and all levels related to M.S.L.

PIPE AND BOX CULVERT SCHEDULE

ITEM NO.	SIZE (Ø mm)	CLASS	GRADE (1:1)	FLOW m³/s	LENGTH (m)
KU-PH-001 - KU-PH-002	450	1000	30.880	0.026	19.972
KU-PH-002 - KU-PH-003	450	1000	28.794	0.040	19.270
KU-PH-003 - KU-PH-004	450	1000	26.588	0.061	30.586
KU-PH-004 - KU-PH-005	450	1000	33.268	0.081	19.717
KU-PH-005 - KU-PH-006	450	1000	85.428	0.101	28.233
KU-PH-006 - KU-PH-007	450	1000	121.230	0.121	30.335
KU-PH-007 - KU-PH-008	450	1000	121.217	0.141	29.541
KU-PH-008 - KU-PH-009	450	1000	121.219	0.162	19.370
KU-PH-009 - KU-PH-010	450	1000	121.233	0.182	30.570
KU-PH-010 - KU-PH-011	450	1000	64.205	0.202	19.298
KU-PH-011 - KU-PH-012	600	1000	173.601	0.222	30.985
KU-PH-012 - KU-PH-013	600	1000	173.601	0.242	29.545
KU-PH-013 - KU-PH-014	600	1000	173.601	0.263	29.545
KU-PH-014 - KU-PH-015	600	1000	173.601	0.283	29.409
KU-PH-015 - KU-PH-016	600	1000	211.488	0.404	1.375
KU-PH-016 - KU-PH-017	450	1000	5.891	0.026	7.849
KU-PH-017 - KU-PH-018	450	1000	64.905	0.020	29.283
KU-PH-018 - KU-PH-019	450	1000	670.655	0.061	28.896
KU-PH-019 - KU-PH-020	450	1000	157.634	0.026	53.712
KU-PH-020 - KU-PH-021	450	1000	122.877	0.020	24.973
KU-PH-021 - KU-PH-022	450	1000	66.338	0.010	36.163
KU-PH-022 - KU-PH-023	450	1000	46.259	0.020	26.054
KU-PH-023 - KU-PH-024	450	1000	51.617	0.030	26.023
KU-PH-024 - KU-PH-025	450	1000	34.332	0.040	26.008

SIDEWALK - LEFT HAND SIDE OF ROAD

START CHAINAGE	END CHAINAGE	LENGTH (m)	REMARKS
0+188	0+747	559	G-DE-8001-03 G
0+747	0+933	175	G-DE-8001-03 G
0+933	1+176	231	G-DE-8001-03 G
1+176	1+785	602	G-DE-8001-03 G
1+785	2+408	618	G-DE-8001-03 G
2+408	3+105	696	G-DE-8001-03 G
3+105	3+305	71	G-DE-8001-03 G

SIDEWALK - RIGHT HAND SIDE OF ROAD

START CHAINAGE	END CHAINAGE	LENGTH (m)	REMARKS
0+188	0+192	10	G-DE-8001-03 G
0+192	1+028	21	G-DE-8001-03 G
1+028	2+233	120	G-DE-8001-03 G
2+233	3+023	26	G-DE-8001-03 G

INTERSECTING ROAD DATA

No.	CHAINAGE	Y - CO-ORDINATE	X - CO-ORDINATE	CURVE DETAILS
START	0.000	978.787	3307435.852	
END	63.711	873.253	3307389.135	
START	0.000	704.596	3307648.830	
END	32.774	728.647	3307672.930	
START	0.000	704.596	3307648.830	
END	32.774	728.647	3307672.930	
START	0.000	452.818	3309189.132	
END	36.938	454.812	3309171.842	
START	0.000	154.729	3308641.577	
END	26.788	187.022	3308624.295	
START	0.000	938.514	3309578.721	
END	87.581	867.451	3309660.808	

KERB AND CHANNEL SCHEDULE

FROM KM	TO KM	LENGTH (m)	REMARKS
0+188	0+192	14	G-DE-8001-06 G
0+192	0+452	260	G-DE-8001-06 G
0+452	0+540	77	G-DE-8001-06 G
0+540	0+747	186	G-DE-8001-06 G
0+747	1+008	1150	G-DE-8001-06 G
1+008	2+113	205	G-DE-8001-06 G
2+113	2+233	120	G-DE-8001-06 G
2+233	2+456	175	G-DE-8001-06 G
2+456	2+907	579	G-DE-8001-06 G
2+907	3+017	59	G-DE-8001-06 G
3+017	3+305	96	G-DE-8001-06 G

BARRIER AND CHANNEL SCHEDULE

FROM KM	TO KM	LENGTH (m)	REMARKS
0+188	0+192	12	G-DE-8001-05 G
0+192	0+452	260	G-DE-8001-05 G
0+452	0+540	77	G-DE-8001-05 G
0+540	0+747	186	G-DE-8001-05 G
0+747	1+008	1150	G-DE-8001-05 G
1+008	2+113	205	G-DE-8001-05 G
2+113	2+233	120	G-DE-8001-05 G
2+233	2+456	175	G-DE-8001-05 G
2+456	2+907	579	G-DE-8001-05 G
2+907	3+017	59	G-DE-8001-05 G
3+017	3+305	96	G-DE-8001-05 G

CONTRACTOR / CONSULTANT: TRANSPORT NATIONAL PORTS AUTHORITY

PROJECT / AREA / ASSET / SUBJECT/DRAWING TITLE: PORT OF DURBAN

FEASIBILITY & DETAILED DESIGN FOR THE UPGRADING OF BAYHEAD & LANGEBERG ROADS COMBINED CIVIL SERVICES LAYOUT PLAN SHEET 1 OF 9 (0+000m TO 0+560m)

REVISIONS: 1. ISSUED FOR APPROVAL PURPOSE ONLY

DATE: 17/11/2025

STATUS: FOR APPROVAL

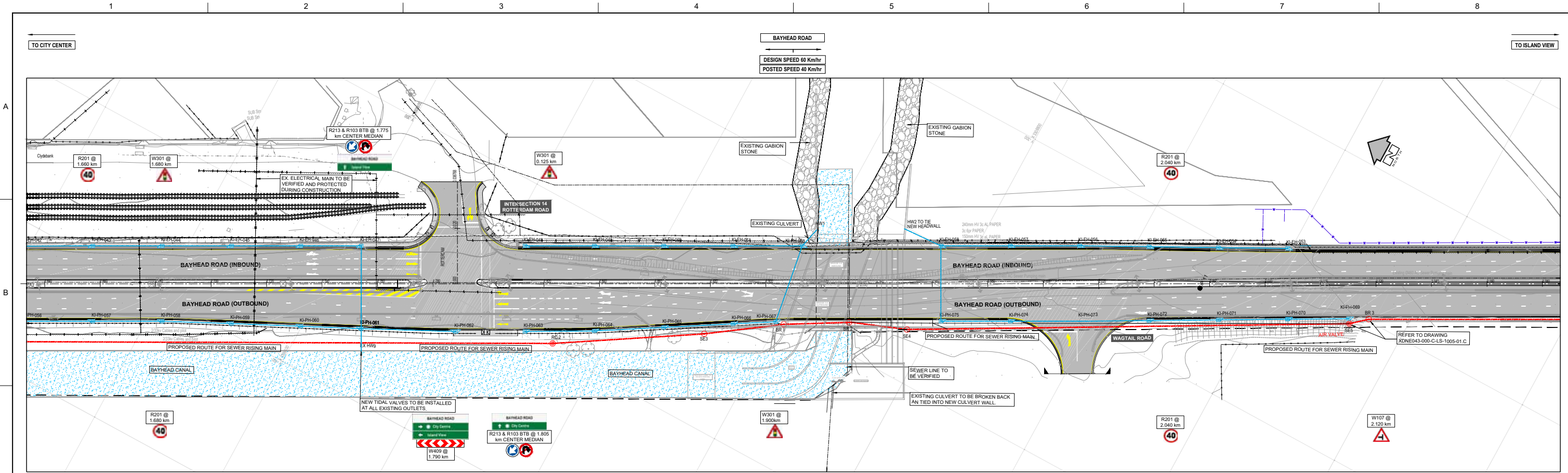
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REVISIONS: 1. ISSUED FOR APPROVAL PURPOSE ONLY

DATE: 17/11/2025

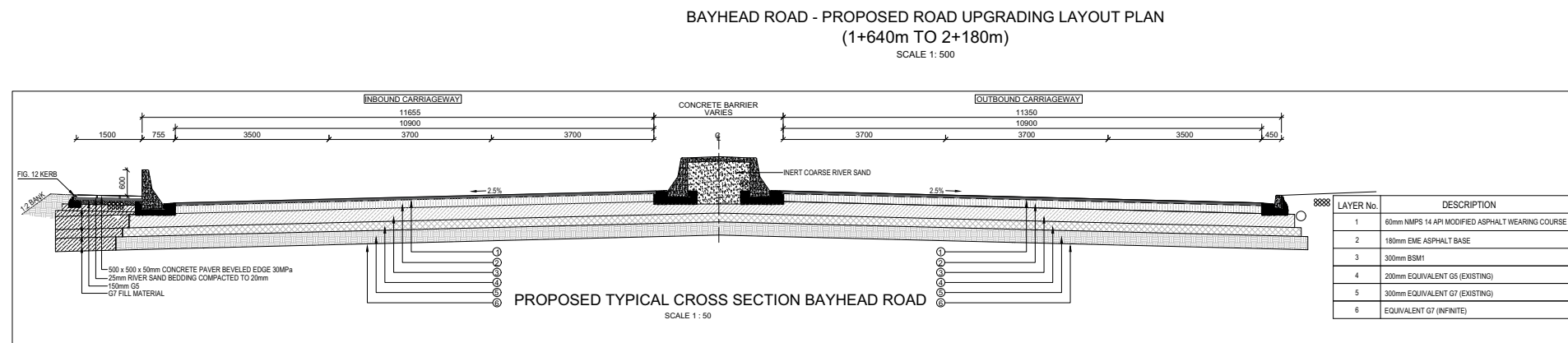
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CONSULTANT DRAWING NO.: XDNE043-000-C-LA-1002-01.C



LEGEND:	
LIMIT OF CONSTRUCTION	
PROPOSED ROAD CENTER LINE	
PROPOSED CARRIAGEWAY	
PROPOSED ROAD EDGE	
PROPOSED KERB AND CHANNEL	
PROPOSED SIDEWALK 1.5m	
PROPOSED RAISED CENTER MEDIAN	
PROPOSED PEDESTRIAN SCOPE	
PROPOSED SEWER RISING MAIN	
PROPOSED SEWER GRAVITY	
PROPOSED ELECTRICAL	
PROPOSED GUARDRAILS	
PORT BOUNDARY	
EX FENCE LINE STEEL	
EX FENCE LINE PRECAST	
EX SEWER	
EX STORMWATER	
EX WATER	
EX ELECTRICAL	
EX PETRON LINE	
WSP LINES	
PROPOSED WATER LINES	
SERVICES REMOVED	

HORIZONTAL ALIGNMENT CURVE DATA BAYHEAD ROAD				
No.	Change	Y Coord	X Coord	Curve Details
START	0.000	916.787	3 307 435.852	
END	63.711	873.253	3 307 386.135	
BAYHEAD ROAD - SOUTH COAST ROAD - RIGHT				
No.	Change	Y - CO-ORDINATE	X - CO-ORDINATE	CURVE DETAILS
START	0.000	704.598	3 307 448.630	
END	32.774	726.587	3 307 672.930	
BAYHEAD ROAD - BAYVIEW ROAD - LEFT				
No.	Change	Y - CO-ORDINATE	X - CO-ORDINATE	CURVE DETAILS
START	0.000	485.273	3 307 844.862	
END	53.322	449.799	3 307 805.072	
P233 - BELFAY ROAD - LEFT				
No.	Change	Y - CO-ORDINATE	X - CO-ORDINATE	CURVE DETAILS
START	0.000	166.298	3 308 129.090	
END	46.454	135.354	3 308 084.413	
P233 - ROTTERDAM ROAD - LEFT				
No.	Change	Y - CO-ORDINATE	X - CO-ORDINATE	CURVE DETAILS
START	0.000	154.729	3 308 641.977	
END	26.758	187.022	3 308 624.296	
BAYHEAD ROAD - TRAILERS WHARF - LEFT				
No.	Change	Y - CO-ORDINATE	X - CO-ORDINATE	CURVE DETAILS
START	0.000	452.618	3 309 189.132	
END	36.938	484.812	3 309 171.042	
BAYHEAD ROAD - TRAILERS WHARF - RIGHT				
No.	Change	Y - CO-ORDINATE	X - CO-ORDINATE	CURVE DETAILS
START	0.000	938.514	3 309 578.721	
END	87.581	907.451	3 309 660.808	
P233 - ROTTERDAM ROAD - RIGHT				
No.	Change	Y - CO-ORDINATE	X - CO-ORDINATE	CURVE DETAILS
START	0.000	154.729	3 308 641.977	
END	26.758	187.022	3 308 624.296	
BAYHEAD ROAD - TRAILERS WHARF - RIGHT				
No.	Change	Y - CO-ORDINATE	X - CO-ORDINATE	CURVE DETAILS
START	0.000	452.618	3 309 189.132	
END	36.938	484.812	3 309 171.042	
BAYHEAD ROAD - TRAILERS WHARF - LEFT				
No.	Change	Y - CO-ORDINATE	X - CO-ORDINATE	CURVE DETAILS
START	0.000	938.514	3 309 578.721	
END	87.581	907.451	3 309 660.808	



INTERSECTING ROAD DATA	
No.	Change
START	0.000
END	63.711
BAYHEAD ROAD - SOUTH COAST ROAD - RIGHT	
No.	Change
START	0.000
END	32.774
BAYHEAD ROAD - BAYVIEW ROAD - LEFT	
No.	Change
START	0.000
END	53.322
P233 - BELFAY ROAD - LEFT	
No.	Change
START	0.000
END	46.454
P233 - ROTTERDAM ROAD - LEFT	
No.	Change
START	0.000
END	26.758
BAYHEAD ROAD - TRAILERS WHARF - LEFT	
No.	Change
START	0.000
END	36.938
BAYHEAD ROAD - TRAILERS WHARF - RIGHT	
No.	Change
START	0.000
END	87.581
P233 - ROTTERDAM ROAD - RIGHT	
No.	Change
START	0.000
END	26.758
BAYHEAD ROAD - TRAILERS WHARF - RIGHT	
No.	Change
START	0.000
END	36.938

CL = 16.365m	No.	CHAINAGE	Y - CO-ORDINATE	X - CO-ORDINATE	CURVE DETAILS	
ST41	R = 500.000m	START	0.000	166.298	3.308 129.096	
ST17	LA = 5°15'44"	END	48.454	135.354	3.308 094.413	
ST24	TL = 22.976m					
ST13	CL = 45.921m	No.	CHAINAGE	Y - CO-ORDINATE	X - CO-ORDINATE	CURVE DETAILS
ST36	R = 2000.000m	START	0.000	154.729	3.308 641.977	
ST69	LA = 0°22'57"	END	26.768	187.622	3.308 624.396	
ST54	TL = 6.674m					
ST42	CL = 13.347m	No.	CHAINAGE	Y - CO-ORDINATE	X - CO-ORDINATE	CURVE DETAILS
ST21	R = 380.000m	START	0.000	482.618	2.309 189.132	
ST21	LA = 19°43'59"	END	30.638	484.812	3.309 171.642	
ST65	TL = 60.874m					
ST89	CL = 120.541m	No.	CHAINAGE	Y - CO-ORDINATE	X - CO-ORDINATE	CURVE DETAILS
ST02	R = 258.000m	START	0.000	-	938.514	3.309 578.721
ST31	LA = 89°12'09"	END	87.581	-	907.451	3.309 605.698
ST102	TL = 245.907m					
ST50	CL = 382.664m					
ST50						

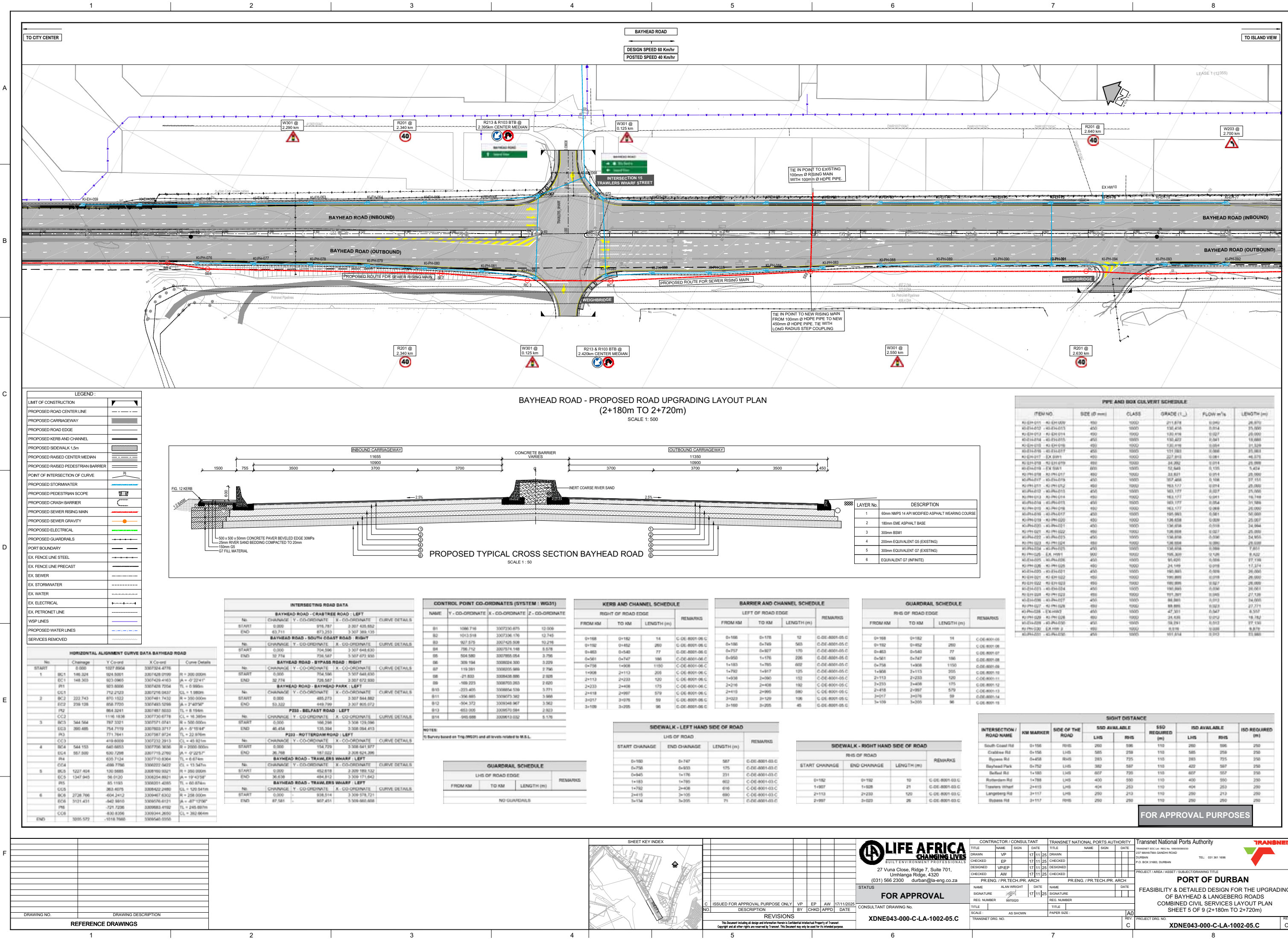
ST14	945.689	3309613.032	5.176
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NOTES:
1) Survey based on Trig (WGS84) and all levels related to M.S.L.

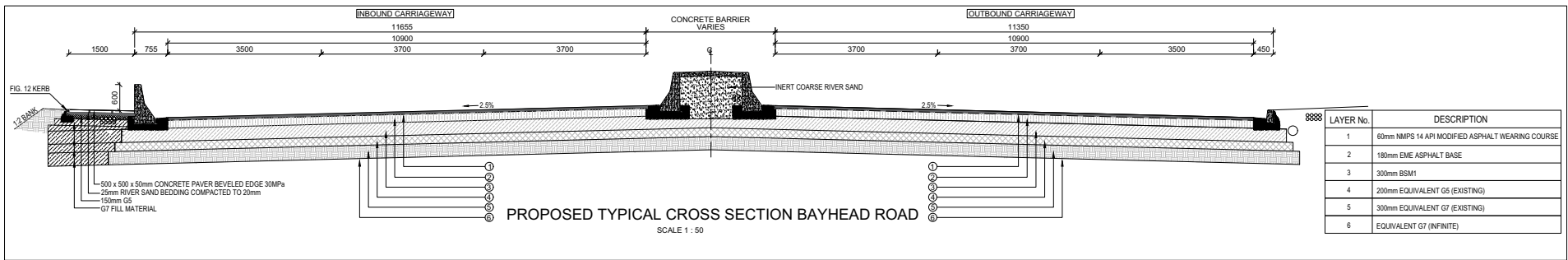
SIDEWALK - LEFT HAND SIDE OF ROAD			
LHS OF ROAD			REMARKS
START CHAINAGE	END CHAINAGE	LENGTH (m)	
D+180	D+747	567	G.CE-8001-03.C
D+756	D+933	175	C.CE-8001-03.C
D+945	E+176	231	C.CE-8001-03.C
E+183	E+785	602	C.CE-8001-03.C
E+792	2+408	616	C.CE-8001-03.C
2+415	3+105	690	C.CE-8001-03.C
3+134	3+205	71	C.CE-8001-03.C

SIDEWALK - RIGHT HAND SIDE OF ROAD			
RHS OF ROAD			REMARKS
START CHAINAGE	END CHAINAGE	LENGTH (m)	
D+182	D+182	19	C.CE-8001-03.C
E+907	E+928	21	C.CE-8001-03.C
2+113	2+233	120	C.CE-8001-03.C
2+997	3+023	26	C.CE-8001-03.C

QUADRAIL SCHEDULE			
LHS OF ROAD EDGE			REMARKS
FROM KM	TO KM	LENGTH (m)	
X - CO-ORDINATE			
NO GUARDRAILS			



BAYHEAD ROAD - PROPOSED ROAD UPGRADING LAYOUT PLAN
(2+180m TO 2+720m)
SCALE 1: 500



PROPOSED TYPICAL CROSS SECTION BAYHEAD ROAD
SCALE 1: 50

PIPE AND BOX CULVERT SCHEDULE					
ITEM NO.	SIZE (Ø mm)	CLASS	GRADE (1:)	FLOW m³/s	LENGTH (m)
KI-PH-015	450	1000	211.878	0.040	26.970
KI-PH-012	450	1000	130.438	0.014	35.000
KI-PH-013	450	1000	130.438	0.014	29.000
KI-PH-014	450	1000	130.438	0.014	19.000
KI-PH-015	450	1000	130.438	0.014	31.528
KI-PH-016	450	1000	131.083	0.006	35.000
KI-PH-017	450	1000	227.815	0.001	46.075
KI-PH-018	450	1000	214.292	0.014	31.000
KI-PH-019	450	1000	132.545	0.035	5.454
KI-PH-020	450	1000	33.821	0.014	39.000
KI-PH-021	450	1000	307.408	0.108	37.151
KI-PH-022	450	1000	163.177	0.014	29.000
KI-PH-023	450	1000	163.177	0.014	31.500
KI-PH-024	450	1000	163.177	0.014	16.148
KI-PH-025	450	1000	163.177	0.014	31.588
KI-PH-026	450	1000	163.177	0.009	29.000
KI-PH-027	450	1000	163.177	0.001	30.000
KI-PH-028	450	1000	136.658	0.009	29.007
KI-PH-029	450	1000	136.658	0.018	34.944
KI-PH-030	450	1000	136.658	0.027	35.000
KI-PH-031	450	1000	136.658	0.030	34.955
KI-PH-032	450	1000	136.658	0.006	29.000
KI-PH-033	450	1000	136.658	0.006	29.000
KI-PH-034	450	1000	136.658	0.006	29.000
KI-PH-035	450	1000	136.658	0.006	29.000
KI-PH-036	450	1000	136.658	0.006	29.000
KI-PH-037	450	1000	136.658	0.006	29.000
KI-PH-038	450	1000	136.658	0.006	29.000
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KI-PH-044	450	1000	136.658	0.006	29.000
KI-PH-045	450	1000	136.658	0.006	29.000
KI-PH-046	450	1000	136.658	0.006	29.000
KI-PH-047	450	1000	136.658	0.006	29.000
KI-PH-048	450	1000	136.658	0.006	29.000
KI-PH-049	450	1000	136.658	0.006	29.000
KI-PH-050	450	1000	136.658	0.006	29.000

LEGEND:	
LIMIT OF CONSTRUCTION	—
PROPOSED ROAD CENTER LINE	—
PROPOSED CARRIAGEWAY	—
PROPOSED ROAD EDGE	—
PROPOSED KERB AND CHANNEL	—
PROPOSED SIDEWALK 1.5m	—
PROPOSED RAISED CENTER MEDIAN	—
PROPOSED RAISED PEDESTRIAN BARRIER	—
POINT OF INTERSECTION OF CURVE	—
PROPOSED STORMWATER	—
PROPOSED PEDESTRIAN SCOPE	—
PROPOSED CRASH BARRIER	—
PROPOSED SEWER RISING MAIN	—
PROPOSED SEWER GRAVITY	—
PROPOSED ELECTRICAL	—
PROPOSED GUARDRAILS	—
PORT BOUNDARY	—
EX FENCE LINE STEEL	—
EX FENCE LINE PRECAST	—
EX SEWER	—
EX STORMWATER	—
EX WATER	—
EX ELECTRICAL	—
EX PETRONET LINE	—
WSP LINES	—
PROPOSED WATER LINES	—
SERVICES REMOVED	—

HORIZONTAL ALIGNMENT CURVE DATA BAYHEAD ROAD				
No.	Change	Y Co-Ord	X Co-Ord	Curve Details
START	0.000	1027.8904	3307324.4735	R = 200.000m
BC1	146.324	923.0965	3307429.4163	JA = 0° 22' 41"
EC1	146.303	923.0965	3307429.4163	TL = 0.990m
PC1	923.0965	3307429.4163	3307429.4163	CL = 0.990m
BC2	222.743	712.2423	3307216.9437	R = 1.980m
EC2	222.743	712.2423	3307216.9437	JA = 0° 40' 50"
PC2	712.2423	3307216.9437	3307216.9437	TL = 8.194m
BC3	544.594	864.3241	3307487.6033	CL = 16.380m
EC3	544.594	864.3241	3307487.6033	R = 500.000m
PC3	864.3241	3307487.6033	3307487.6033	JA = 5° 19' 14"
BC4	712.2423	3307216.9437	3307216.9437	TL = 22.976m
EC4	712.2423	3307216.9437	3307216.9437	CL = 45.921m
PC4	3307216.9437	3307216.9437	3307216.9437	R = 2000.000m
BC5	544.594	864.3241	3307487.6033	JA = 0° 22' 41"
EC5	544.594	864.3241	3307487.6033	TL = 6.674m
PC5	864.3241	3307487.6033	3307487.6033	CL = 13.347m
BC6	1227.404	120.9685	3308190.3521	R = 300.000m
EC6	1227.404	120.9685	3308190.3521	JA = 19° 43' 38"
PC6	120.9685	3308190.3521	3308190.3521	TL = 65.814m
BC7	363.4078	3308422.2480	3308422.2480	CL = 129.841m
EC7	363.4078	3308422.2480	3308422.2480	R = 258.000m
PC7	3308422.2480	3308422.2480	3308422.2480	JA = 87° 17' 00"
BC8	2728.766	-604.2412	3309467.4302	TL = 245.897m
EC8	2728.766	-604.2412	3309467.4302	CL = 392.064m
PC8	-604.2412	3309467.4302	3309467.4302	CL = 392.064m
END	3309467.4302	-1016.7960	3309467.4302	

INTERSECTING ROAD DATA				
No.	Change	Y Co-Ord	X Co-Ord	Curve Details
START	0.000	916.787	3307435.852	
END	63.711	873.253	3307368.135	
BC1	146.324	923.0965	3307429.4163	
EC1	146.303	923.0965	3307429.4163	
PC1	923.0965	3307429.4163	3307429.4163	
BC2	222.743	712.2423	3307216.9437	
EC2	222.743	712.2423	3307216.9437	
PC2	712.2423	3307216.9437	3307216.9437	
BC3	544.594	864.3241	3307487.6033	
EC3	544.594	864.3241	3307487.6033	
PC3	864.3241	3307487.6033	3307487.6033	
BC4	712.2423	3307216.9437	3307216.9437	
EC4	712.2423	3307216.9437	3307216.9437	
PC4	3307216.9437	3307216.9437	3307216.9437	
BC5	544.594	864.3241	3307487.6033	
EC5	544.594	864.3241	3307487.6033	
PC5	864.3241	3307487.6033	3307487.6033	
BC6	1227.404	120.9685	3308190.3521	
EC6	1227.404	120.9685	3308190.3521	
PC6	120.9685	3308190.3521	3308190.3521	
BC7	363.4078	3308422.2480	3308422.2480	
EC7	363.4078	3308422.2480	3308422.2480	
PC7	3308422.2480	3308422.2480	3308422.2480	
BC8	2728.766	-604.2412	3309467.4302	
EC8	2728.766	-604.2412	3309467.4302	
PC8	-604.2412	3309467.4302	3309467.4302	
END	3309467.4302	-1016.7960	3309467.4302	

CONTROL POINT CO-ORDINATES (SYSTEM: WG31)				
NAME	Y - CO-ORDINATE	X - CO-ORDINATE	Z - CO-ORDINATE	
B1	1066.716	3307330.875	12.008	
B2	1043.918	3307336.170	12.745	
B3	927.575	3307425.508	10.218	
B4	758.752	3307574.148	5.578	
B5	504.580	3307855.054	3.756	
B6	305.194	3308024.300	3.229	
B7	119.381	3308025.989	2.796	
B8	-21.833	3308438.986	2.928	
B9	-169.223	3308703.263	2.620	
B10	-223.405	3308954.509	3.771	
B11	-356.885	3309073.362	3.966	
B12	-504.372	3309148.967	3.562	
B13	-653.005	3309270.584	2.923	
B14	-945.688	3309613.032	5.178	

KERB AND CHANNEL SCHEDULE				
FROM KM	TO KM	LENGTH (m)	REMARKS	
0+188	0+182	14	C-DE-8001-05.C	
0+182	0+452	260	C-DE-8001-05.C	
0+452	0+542	77	C-DE-8001-05.C	
0+542	0+747	186	C-DE-8001-05.C	
0+747	1+176	326	C-DE-8001-05.C	
1+176	1+908	1150	C-DE-8001-05.C	
1+908	2+113	205	C-DE-8001-05.C	
2+113	2+233	120	C-DE-8001-05.C	
2+233	2+408	175	C-DE-8001-05.C	
2+408	2+997	579	C-DE-8001-05.C	
2+997	3+076	59	C-DE-8001-05.C	
3+076	3+205	96	C-DE-8001-05.C	

BARRIER AND CHANNEL SCHEDULE				
FROM KM	TO KM	LENGTH (m)	REMARKS	
0+188	0+176	12	C-DE-8001-05.C	
0+176	0+749	563	C-DE-8001-05.C	
0+749	0+907	158	C-DE-8001-05.C	
0+907	1+176	269	C-DE-8001-05.C	
1+176	1+765	602	C-DE-8001-05.C	
1+765	1+917	125	C-DE-8001-05.C	
1+917	2+090	152	C-DE-8001-05.C	
2+090	2+408	192	C-DE-8001-05.C	
2+408	2+995	580	C-DE-8001-05.C	
2+995	3+129	106	C-DE-8001-05.C	
3+129	3+205	45	C-DE-8001-05.C	

GUARDRAIL SCHEDULE				
FROM KM	TO KM	LENGTH (m)	REMARKS	
0+188	0+182	14	C-DE-8001-05.C	
0+182	0+452	260	C-DE-8001-05.C	
0+452	0+542	77	C-DE-8001-05.C	
0+542	0+747	186	C-DE-8001-05.C	
0+747	1+176	326	C-DE-8001-05.C	
1+176	1+908	1150	C-DE-8001-05.C	
1+908	2+113	205	C-DE-8001-05.C	
2+113	2+233	120	C-DE-8001-05.C	
2+233	2+408	175	C-DE-8001-05.C	
2+408	2+997	579	C-DE-8001-05.C	
2+997	3+076	59	C-DE-8001-05.C	
3+076	3+205	96	C-DE-8001-05.C	

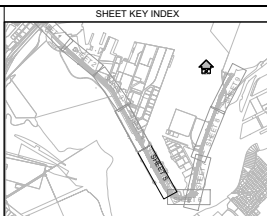
SIDEWALK - LEFT HAND SIDE OF ROAD				
START CHAINAGE	END CHAINAGE	LENGTH (m)	REMARKS	
0+188	0+747	560	C-DE-8001-03.C	
0+747	0+933	175	C-DE-8001-03.C	
0+933	1+176	231	C-DE-8001-03.C	
1+176	1+765	602	C-DE-8001-03.C	
1+765	2+408	616	C-DE-8001-03.C	
2+408	3+105	690	C-DE-8001-03.C	
3+105	3+205	75	C-DE-8001-03.C	

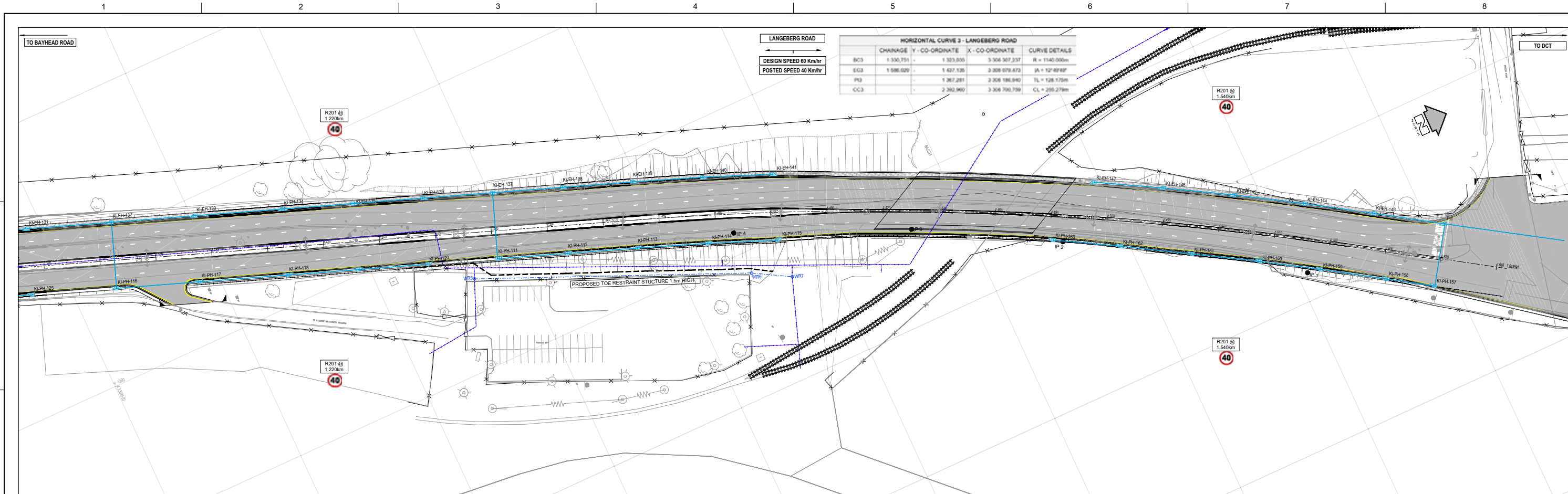
SIDEWALK - RIGHT HAND SIDE OF ROAD				
START CHAINAGE	END CHAINAGE	LENGTH (m)	REMARKS	
0+182	0+182	10	C-DE-8001-03.C	
1+907	1+908	21	C-DE-8001-03.C	
2+113	2+233	120	C-DE-8001-03.C	
2+997	3+023	26	C-DE-8001-03.C	

SIGHT DISTANCE						
INTERSECTION / ROAD NAME	KM MARKER	SIDE OF THE ROAD	SSD AVAILABLE (m)	SSD REQUIRED (m)	ISD AVAILABLE (m)	ISD REQUIRED (m)
South Coast Rd	0+155	RHS	250	596	110	250
Crofters Rd	0+156	LHS	565	250	110	585
Bypass Rd	0+458	RHS	565	250	110	585
Bayhead Rd	0+752	LHS	567	110	422	567
Belhead Rd	1+180	LHS	607	110	607	557
Rotterdam Rd	1+788	LHS	400	590	110	400
Trawlers Wharf	2+415	LHS	404	253	110	404
Langeberg Rd	3+117	LHS	250	213	110	213
Bypass Rd	3+117	RHS	250	250	110	250

FOR APPROVAL PURPOSES

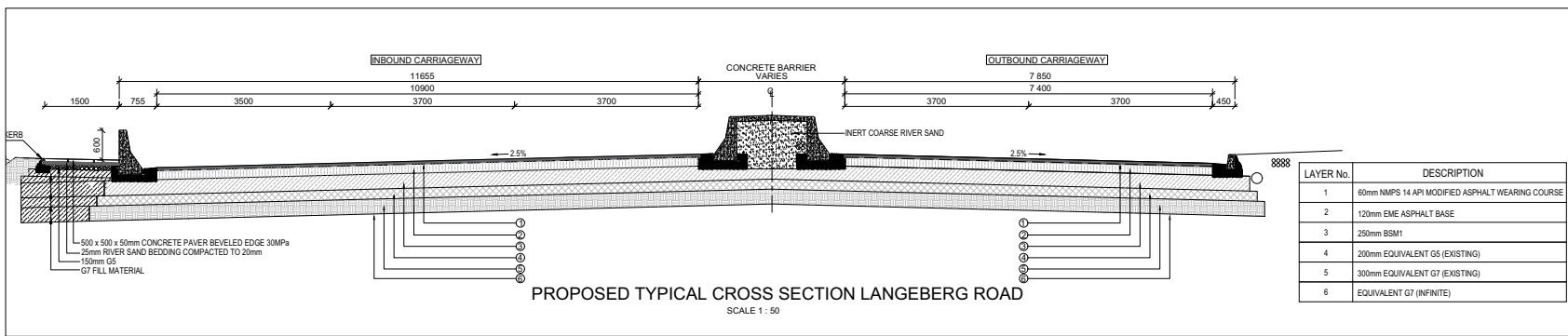
REFERENCE DRAWINGS	
DRAWING NO.	DRAWING DESCRIPTION
1	
2	
3	
4	
5	
6	
7	
8	





LANGEBERG ROAD - PROPOSED ROAD UPGRADING LAYOUT PLAN
(1+120m TO 1+643m)
SCALE 1: 500

LEGEND	
LIMIT OF CONSTRUCTION	
PROPOSED ROAD CENTER LINE	
PROPOSED CARRIAGEWAY	
PROPOSED ROAD EDGE	
PROPOSED KERB AND CHANNEL	
PROPOSED SIDEWALK 1.5m	
PROPOSED RAISED CENTER MEDIAN	
PROPOSED RAISED PEDESTRIAN BARRIER	
POINT OF INTERSECTION OF CURVE	
PROPOSED STORMWATER	
PROPOSED PEDESTRIAN SCOPE	
PROPOSED CRASH BARRIER	
PROPOSED SEWER RISING MAIN	
PROPOSED SEWER GRAVITY	
PROPOSED ELECTRICAL	
PROPOSED GUARDRAILS	
PORT BOUNDARY	
EX. FENCE LINE STEEL	
EX. FENCE LINE PRECAST	
EX. SEWER	
EX. STORMWATER	
EX. WATER	
EX. ELECTRICAL	
EX. PETRONET LINE	
WSP LINES	
PROPOSED WATER LINES	
SERVICES REMOVED	



PROPOSED TYPICAL CROSS SECTION LANGEBERG ROAD
SCALE 1: 50

SIDEWALK - LEFT HAND SIDE OF ROAD			
FROM KM	TO KM	LENGTH (m)	REMARKS
0+000	0+130	130	C-DE-8001-03 C
0+130	0+230	100	C-DE-8001-03 C
0+230	0+300	70	C-DE-8001-03 C
0+300	0+500	200	C-DE-8001-03 C
0+500	0+600	100	C-DE-8001-03 C
0+600	0+700	100	C-DE-8001-03 C
0+700	0+800	100	C-DE-8001-03 C
0+800	0+900	100	C-DE-8001-03 C
0+900	0+950	50	C-DE-8001-03 C
0+950	1+000	50	C-DE-8001-03 C
1+000	1+050	50	C-DE-8001-03 C

SIDEWALK - RIGHT HAND SIDE OF ROAD			
START CHAINAGE	END CHAINAGE	LENGTH (m)	REMARKS
1+050	1+070	20	C-DE-8001-03 C

CONTROL POINT CO-ORDINATES (SYSTEM : WG31)			
NAME	Y - CO-ORDINATE	X - CO-ORDINATE	Z - CO-ORDINATE
B1	1086.716	3307230.875	12.006
B2	1013.518	3307336.176	12.745
B3	927.575	3307405.508	10.216
B4	796.712	3307514.118	5.578
B5	604.080	3307615.084	2.796
B6	309.184	3308024.300	2.220
B7	119.281	3308205.889	2.750
B8	-21.823	3308406.886	2.828
B9	-168.325	3308703.585	2.620
B10	-223.400	3308854.530	3.771
B11	-356.885	3309073.382	3.988
B12	-504.372	3309248.967	3.962
B13	-653.005	3309570.884	2.803
B14	-945.688	3309813.032	5.178

BARRIER AND CHANNEL SCHEDULE			
LEFT OF ROAD EDGE			
FROM KM	TO KM	LENGTH (m)	REMARKS
0+000	0+130	130	C-DE-8001-05 C
0+130	0+230	100	C-DE-8001-05 C
0+230	0+300	70	C-DE-8001-05 C
0+300	0+500	200	C-DE-8001-05 C
0+500	0+600	100	C-DE-8001-05 C
0+600	0+700	100	C-DE-8001-05 C
0+700	0+800	100	C-DE-8001-05 C
0+800	0+900	100	C-DE-8001-05 C
0+900	0+950	50	C-DE-8001-05 C
0+950	1+000	50	C-DE-8001-05 C
1+000	1+050	50	C-DE-8001-05 C

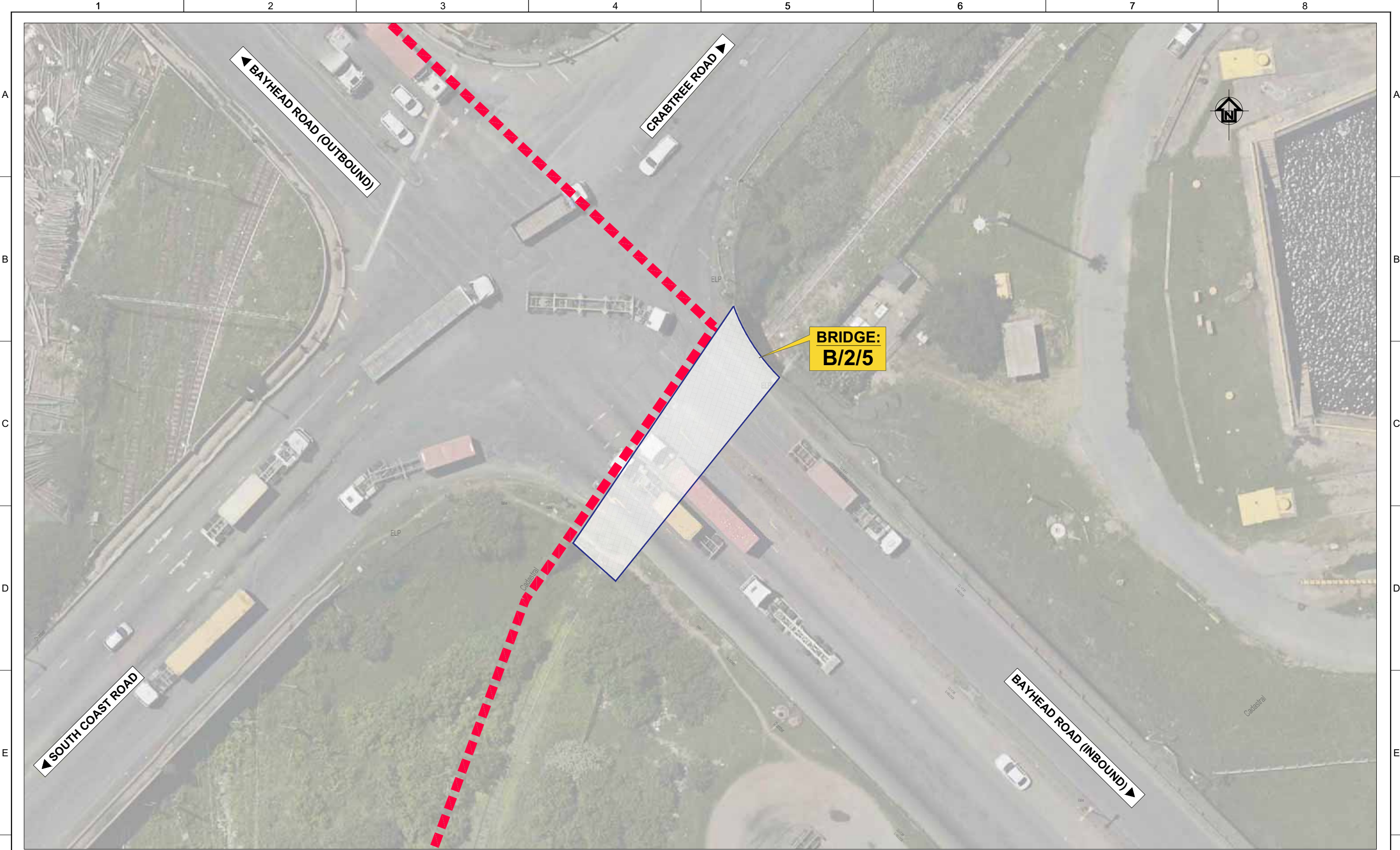
KERB AND CHANNEL SCHEDULE			
RIGHT OF ROAD EDGE			
FROM KM	TO KM	LENGTH (m)	REMARKS
0+000	0+165	165	C-DE-8001-06 C
0+165	1+017	1217	C-DE-8001-06 C
1+017	1+043	165	C-DE-8001-06 C

GUARDRAIL SCHEDULE			
LHS OF ROAD EDGE			
FROM KM	TO KM	LENGTH (m)	REMARKS
0+000	0+165	165	C-DE-8001-08
0+165	1+017	1217	C-DE-8001-08
1+017	1+043	165	C-DE-8001-08

GUARDRAIL SCHEDULE			
RIGHT OF ROAD EDGE			
FROM KM	TO KM	LENGTH (m)	REMARKS
0+000	0+165	165	C-DE-8001-08
0+165	1+017	1217	C-DE-8001-08
1+017	1+043	165	C-DE-8001-08

INTERSECTING ROAD DATA			
LANGEBERG ROAD - SEAFARER ROAD / LEFT			
No.	CHAINAGE	Y - CO-ORDINATE	X - CO-ORDINATE
START	0+000	1 008.576	3 308 283.290
END	65.729	978.278	3 309 225.491
LANGEBERG ROAD - SHAKESPEAR ROAD / LEFT			
No.	CHAINAGE	Y - CO-ORDINATE	X - CO-ORDINATE
START	0+000	1 071.736	3 309 013.344
END	32.138	1 041.558	3 308 002.342

PIPE AND BOX CULVERT SCHEDULE						
ITEM NO.	SIZE (Ø mm)	CLASS	GRADE (1:1)	FLOW (m³/s)	LENGTH (m)	
KU-PH-120	Ø PH 119	450	1500	217.278	0.014	25.000
KU-PH-118	Ø PH 118	450	1500	217.508	0.028	25.000
KU-PH-117	Ø PH 117	450	1500	217.378	0.028	21.321
KU-PH-115	Ø PH 115	450	1500	217.508	0.052	30.000
KU-PH-116	Ø PH 116	450	1500	217.421	0.080	23.828
KU-PH-114	Ø PH 114	450	1500	217.451	0.013	25.000
KU-PH-113	Ø PH 113	450	1500	217.481	0.028	24.999
KU-PH-112	Ø PH 112	450	1500	217.413	0.038	25.000
KU-PH-111	Ø PH 111	450	1500	217.387	0.045	23.000
KU-PH-110	Ø PH 110	450	1500	217.357	0.065	23.655
KU-PH-109	Ø PH 109	450	1500	217.327	0.075	24.191
KU-PH-108	Ø PH 108	450	1500	217.297	0.020	25.574
KU-PH-107	Ø PH 107	450	1500	217.267	0.045	24.381
KU-PH-106	Ø PH 106	450	1500	217.237	0.080	21.787
KU-PH-105	Ø PH 105	450	1500	217.207	0.075	23.999
KU-PH-104	Ø PH 104	450	1500	217.177	0.010	24.191
KU-PH-103	Ø PH 103	450	1500	217.147	0.020	25.574
KU-PH-102	Ø PH 102	450	1500	217.117	0.045	24.381
KU-PH-101	Ø PH 101	450	1500	217.087	0.080	21.787
KU-PH-100	Ø PH 100	450	1500	217.057	0.075	23.999
KU-PH-99	Ø PH 99	450	1500	217.027	0.010	24.191
KU-PH-98	Ø PH 98	450	1500	216.997	0.020	25.574
KU-PH-97	Ø PH 97	450	1500	216.967	0.045	24.381
KU-PH-96	Ø PH 96	450	1500	216.937	0.080	21.787
KU-PH-95	Ø PH 95	450	1500	216.907	0.075	23.999
KU-PH-94	Ø PH 94	450	1500	216.877	0.010	24.191
KU-PH-93	Ø PH 93	450	1500	216.847	0.020	25.574
KU-PH-92	Ø PH 92	450	1500	216.817	0.045	24.381
KU-PH-91	Ø PH 91	450	1500	216.787	0.080	21.787
KU-PH-90	Ø PH 90	450	1500	216.757	0.075	23.999
KU-PH-89	Ø PH 89	450	1500	216.727	0.010	24.191
KU-PH-88	Ø PH 88	450	1500	216.697	0.020	25.574
KU-PH-87	Ø PH 87	450	1500	216.667	0.045	24.381
KU-PH-86	Ø PH 86	450	1500	216.637	0.080	21.787
KU-PH-85	Ø PH 85	450	1500	216.607	0.075	23.999
KU-PH-84	Ø PH 84	450	1500	216.577	0.010	24.191
KU-PH-83	Ø PH 83	450	1500	216.547	0.020	25.574
KU-PH-82	Ø PH 82	450	1500	216.517	0.045	24.381
KU-PH-81	Ø PH 81	450	1500	216.487	0.080	21.787
KU-PH-80	Ø PH 80	450	1500	216.457	0.075	23.999
KU-PH-79	Ø PH 79	450	1500	216.427	0.010	24.191
KU-PH-78	Ø PH 78	450	1500	216.397	0.020	25.574
KU-PH-77	Ø PH 77	450	1500	216.367	0.045	24.381
KU-PH-76	Ø PH 76	450	1500	216.337	0.080	21.787
KU-PH-75	Ø PH 75	450	1500	216.307	0.075	23.999
KU-PH-74	Ø PH 74	450	1500	216.277	0.010	24.191
KU-PH-73	Ø PH 73	450	1500	216.247	0.020	25.574
KU-PH-72	Ø PH 72	450	1500	216.217	0.045	24.381
KU-PH-71	Ø PH 71	450	1500	216.187	0.080	21.787
KU-PH-70	Ø PH 70	450	1500	216.157	0.075	23.999
KU-PH-69	Ø PH 69	450	1500	216.127	0.010	24.191
KU-PH-68	Ø PH 68	450	1500	216.097	0.020	25.574
KU-PH-67	Ø PH 67	450	1500	216.067	0.045	24.381
KU-PH-66	Ø PH 66	450	1500	216.037	0.080	21.787
KU-PH-65	Ø PH 65	450	1500	216.007	0.075	23.999
KU-PH-64	Ø PH 64	450	1500	215.977	0.010	24.191
KU-PH-63	Ø PH 63	450	1500	215.947	0.020	25.574
KU-PH-62	Ø PH 62	450	1500	215.917	0.045	24.381
KU-PH-61	Ø PH 61	450	1500	215.887	0.080	21.787
KU-PH-60	Ø PH 60	450	1500	215.857	0.075	23.999
KU-PH-59	Ø PH 59	450	1500	215.827	0.010	24.191
KU-PH-58	Ø PH 58	450	1500	215.797	0.020	25.574
KU-PH-57	Ø PH 57	450	1500	215.767	0.045	24.381
KU-PH-56	Ø PH 56	450	1500	215.737	0.080	21.787
KU-PH-55	Ø PH 55	450	1500	215.707	0.075	23.999
KU-PH-54	Ø PH 54	450	1500	215.677	0.010	24.191
KU-PH-53	Ø PH 53	450	1500	215.647	0.020	25.574
KU-PH-52	Ø PH 52	450	1500	215.617	0.045	24.381
KU-PH-51	Ø PH 51	450	1500	215.587	0.080	21.787
KU-PH-50	Ø PH 50	450	1500	215.557	0.075	23.999
KU-PH-49	Ø PH 49	450	1500	215.527	0.010	24.191
KU-PH-48	Ø PH 48	450	1500	215.497	0.020	25.574
KU-PH-47	Ø PH 47	450	1500	215.467	0.045	24.381
KU-PH-46	Ø PH 46	450	1500	215.437	0.080	21.787
KU-PH-45	Ø PH 45	450	1500	215.407	0.075	23.999
KU-PH-44	Ø PH 44	450	1500	215.377	0.010	24.191
KU-PH-43	Ø PH 43	450	1500	215.347	0.020	25.574
KU-PH-42	Ø PH 42	450	1500	215.317	0.045	24.381
KU-PH-41	Ø PH 41	450	1500	215.287	0.080	21.787
KU-PH-40	Ø PH 40	450	1500	215.257	0.075	23.999
KU-PH-39	Ø PH 39	450	1500	215.227	0.010	24.191
KU-PH-38	Ø PH 38	450	1500	215.197	0.020	25.574
KU-PH-37	Ø PH 37	450	1500	215.167	0.045	24.381
KU-PH-36	Ø PH 36	450	1500	215.137	0.080	21.787
KU-PH-35	Ø PH 35	450	1500	215.107	0.075	23.999
KU-PH-34	Ø PH 34	450	1500	215.077	0.010	24.191
KU-PH-33	Ø PH 33	450	1500	215.047	0.020	25.574
KU-PH-32	Ø PH 32	450	1500	215.017	0.045	24.381
KU-PH-31	Ø PH 31	450	1500	214.987	0.080	21.787
KU-PH-30	Ø PH 30	450	1500	214.957	0.075	23.999
KU-PH-29	Ø PH 29	450	1500	214.927	0.010	24.191
KU-PH-28	Ø PH 28	450	1500	214.897	0.020	25.574
KU-PH-27	Ø PH 27	450	1500	214.867	0.045	24.381
KU-PH-26	Ø PH 26	450	1500	214.837	0.080	21.787
KU-PH-25	Ø PH 25	450	1500	214.807	0.075	23.999
KU-PH-24	Ø PH 24	450	1500	214.777	0.010	24.191
KU-PH-23	Ø PH 23	450	1500	214.747	0.020	25.574
KU-PH-22	Ø PH 22	450	1500	214.717	0.045	24.381
KU-PH-21	Ø PH 21	450	1500	214.687	0.080	21.787
KU-PH-20	Ø PH 20	450	1500	214.657	0.075	23.999
KU-PH-19	Ø PH 19	450	1500	214.627	0.010	24.191
KU-PH-18	Ø PH 18	450	1500	214.597	0.020	25.574
KU-PH-17	Ø PH 17	450	1500	214.567	0.045	24.381
KU-PH-16	Ø PH 16	450	1500	214.537	0.080	21.787
KU-PH-15	Ø PH 15	450	1500	214.507	0.075	23.999
KU-PH-14	Ø PH 14	450	1500	214.477	0.010	24.191
KU-PH-13	Ø PH 13	450	1500	214.447	0.020	25.574
KU-PH-12	Ø PH 12	450	1500	214.417	0.045	24.381
KU-PH-11	Ø PH 11	450	1500	214.387	0.080	21.787
KU-PH-10	Ø PH 10	450	1500	214.357	0.075	23.999
KU-PH-9	Ø PH 9	450	1500	214.327	0.010	24.191
KU-PH-8	Ø PH 8	450	1500	214.297	0.020	25.574
KU-PH-7	Ø PH 7	450	1500	214.267	0.045	24.381
KU-PH-6	Ø PH 6	450	1500	214.237	0.080	21.787
KU-PH-5	Ø PH 5	450	1500	214.207	0.075	23.999
KU-PH-4	Ø PH 4	450	1500	214.177	0.010	24.191
KU-PH-3	Ø PH 3	450	1500	214.147	0.020	25.574
KU-PH-2	Ø PH 2	450	1500	214.117	0.045	24.381
KU-PH-1	Ø PH 1	450	1500	214.087	0.080	21.787



DRAWING NO.

DRAWING DESCRIPTION

REFERENCE DRAWINGS

SHEET KEY INDEX

NO.	DESCRIPTION	M.N. BY	E.P. CHKD	A.W. APPD	17/11/2025 DATE
C	FIRST ISSUE FOR APPROVAL				

REVISIONS

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LIFE AFRICA
CHANGING LIVES
BUILT ENVIRONMENT PROFESSIONALS
27 Vuna Close, Ridge 7, Suite 701,
Umhlanga Ridge, 4320
(031) 566 2300 durban@la-eng.co.za

STATUS

FOR APPROVAL

CONSULTANT DRAWING No.

XDNE043-000-C-GA-7100-01.C

CONTRACTOR / CONSULTANT			
TITLE	NAME	SIGN	DATE
DRAWN	M.N.		17 11 25
CHECKED	E.P.		17 11 25
DESIGNED	N/A		17 11 25
CHECKED	A.W.		17 11 25

PR.ENG. / PR.TECH./PR. ARCH	
NAME	DATE
ALAN WRIGHT	17 11 25

TITLE	DIRECTOR
SCALE :	1: 200
TRANSNET DRG. NO.	

TRANSNET NATIONAL PORTS AUTHORITY			
TITLE	NAME	SIGN	DATE
DRAWN			
CHECKED			
DESIGNED			
CHECKED			

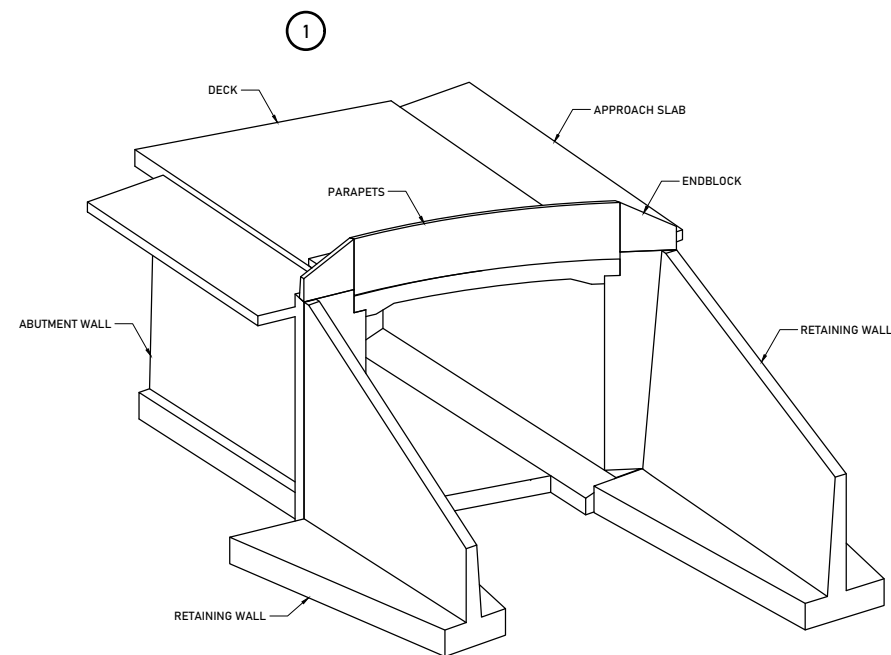
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NAME	DATE

TITLE	PAPER SIZE :
	A1

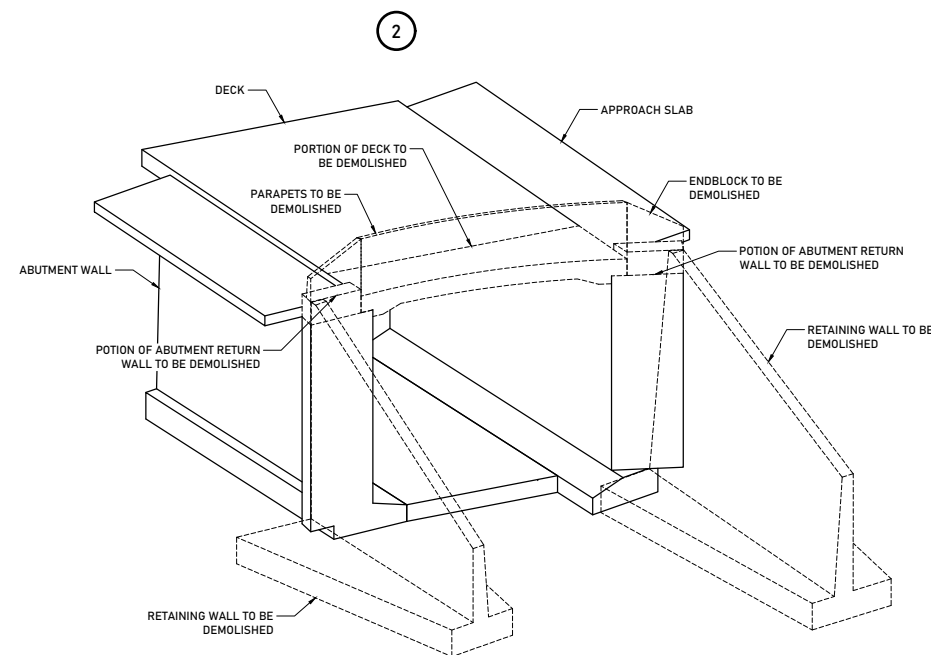
Transnet National Ports Authority
TRANSNET SOC Ltd : REG No. 1990/00090/00
237 MAHATMA GANDHI ROAD
DURBAN
P.O. BOX 31683, DURBAN
TEL: 031 361 1696

PROJECT / AREA / ASSET / SUBJECT/DRAWING TITLE
PORT OF DURBAN
FEASIBILITY & DETAILED DESIGN FOR THE UPGRADING
OF BAYHEAD & LANGEBERG ROADS
LAYOUT PLAN OF EXISTING BRIDGE STRUCTURES ON
BAYHEAD ROAD - B/2/5
PROJECT DRG. NO.
XDNE043-000-C-GA-7100-01.C

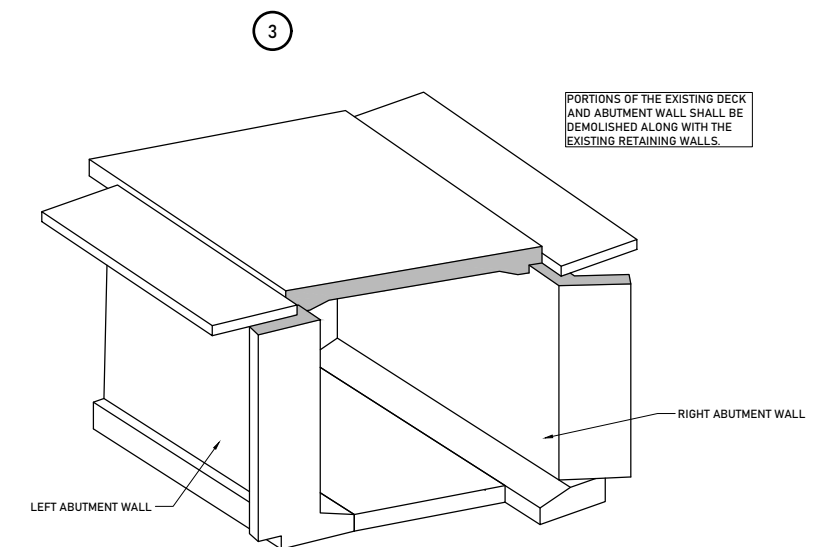
REV.
C



3D VIEW - EXISTING BRIDGE
N.T.S



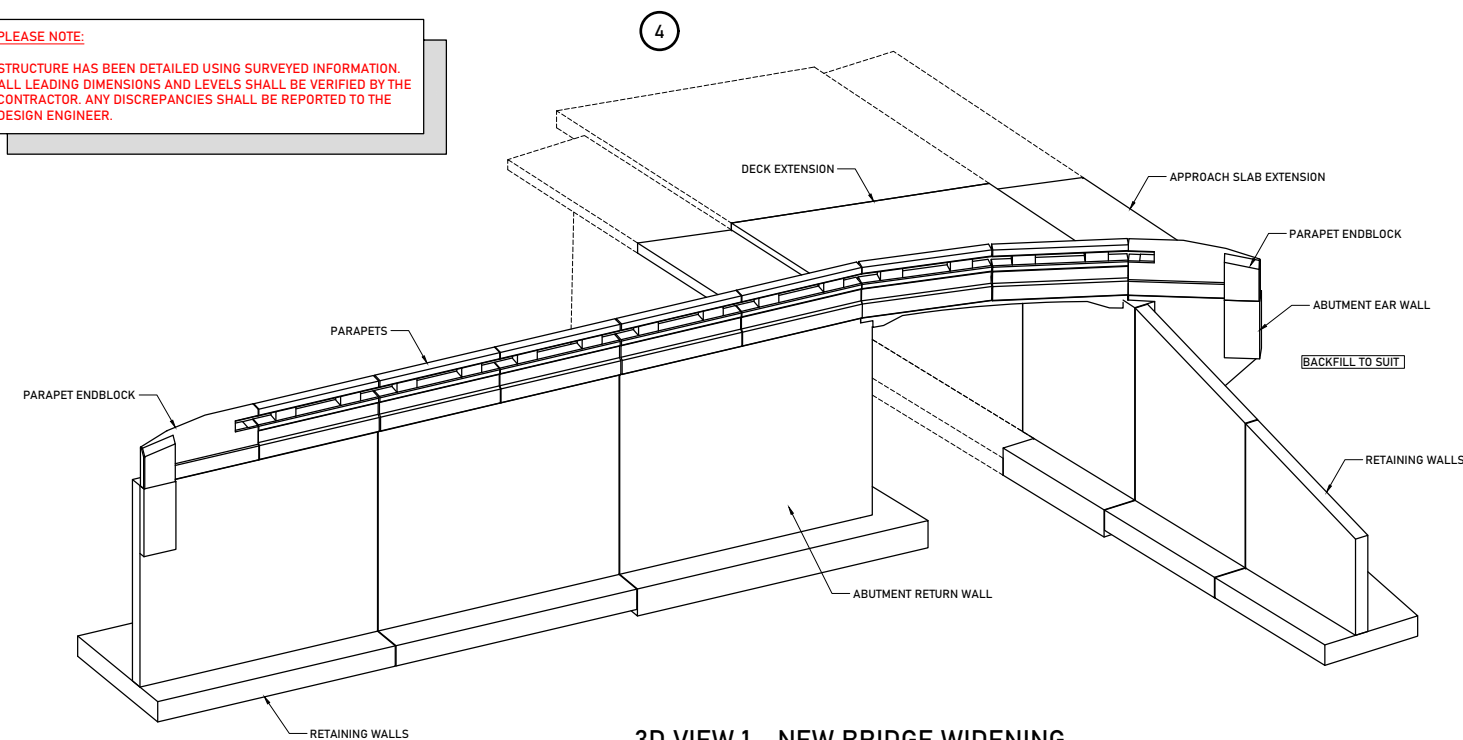
3D VIEW - DEMOLISH PORTIONS OF EXISTING BRIDGE
N.T.S



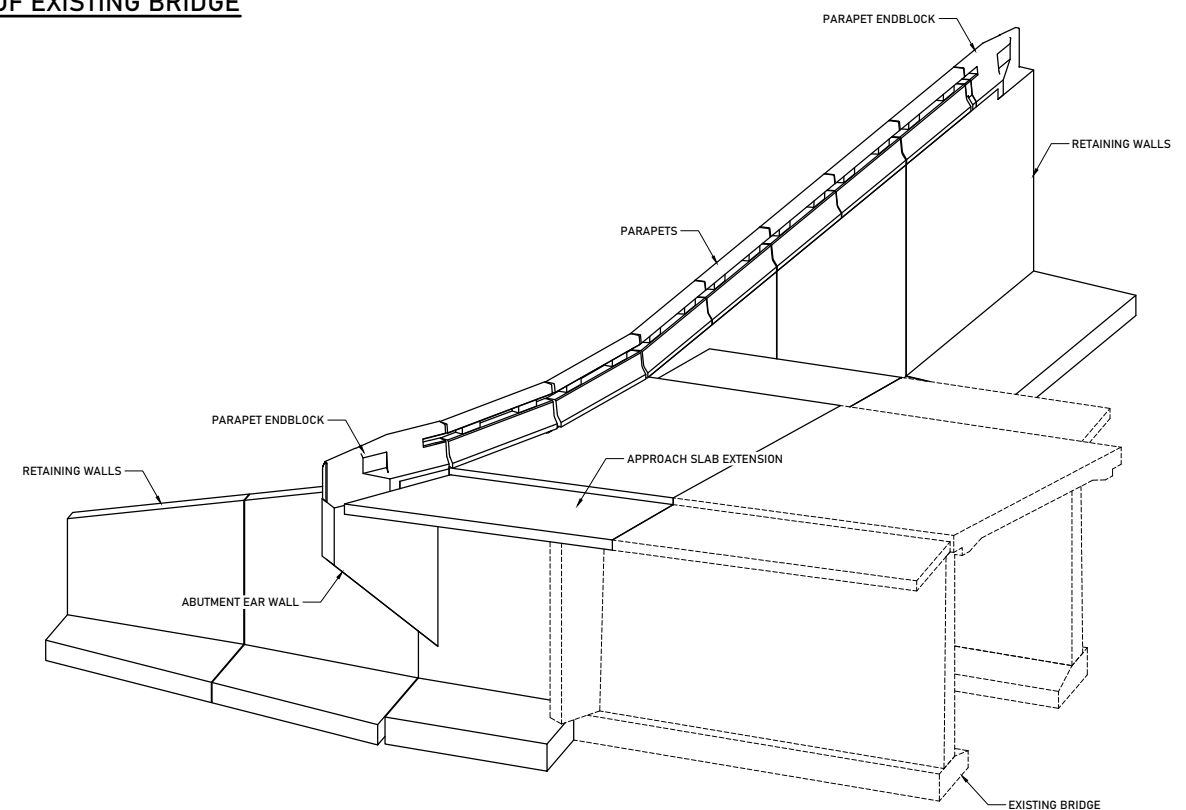
3D VIEW - POST-DEMOLITION OF EXISTING BRIDGE
N.T.S

PLEASE NOTE:

STRUCTURE HAS BEEN DETAILED USING SURVEYED INFORMATION. ALL LEADING DIMENSIONS AND LEVELS SHALL BE VERIFIED BY THE CONTRACTOR. ANY DISCREPANCIES SHALL BE REPORTED TO THE DESIGN ENGINEER.



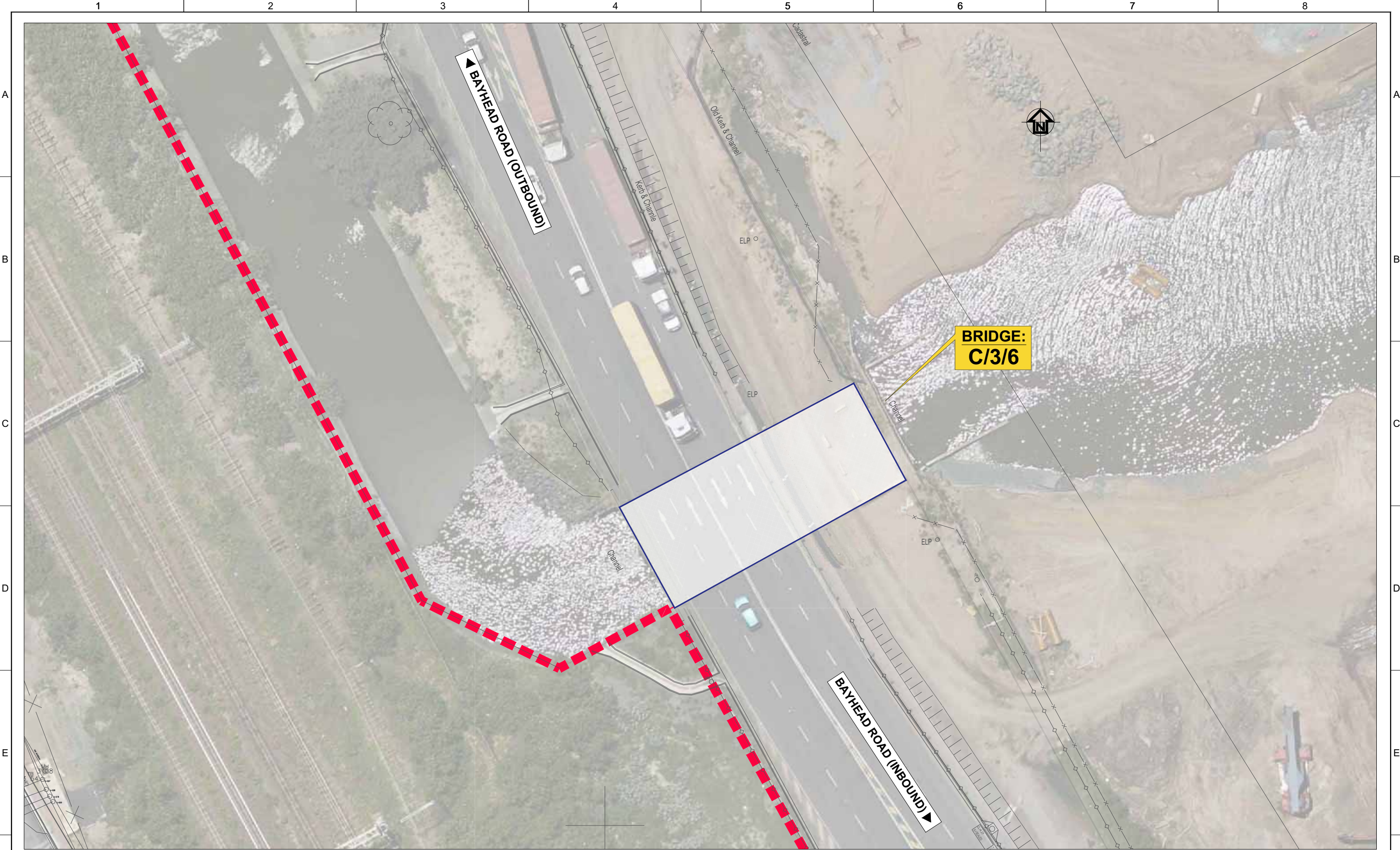
3D VIEW 1 - NEW BRIDGE WIDENING
N.T.S.



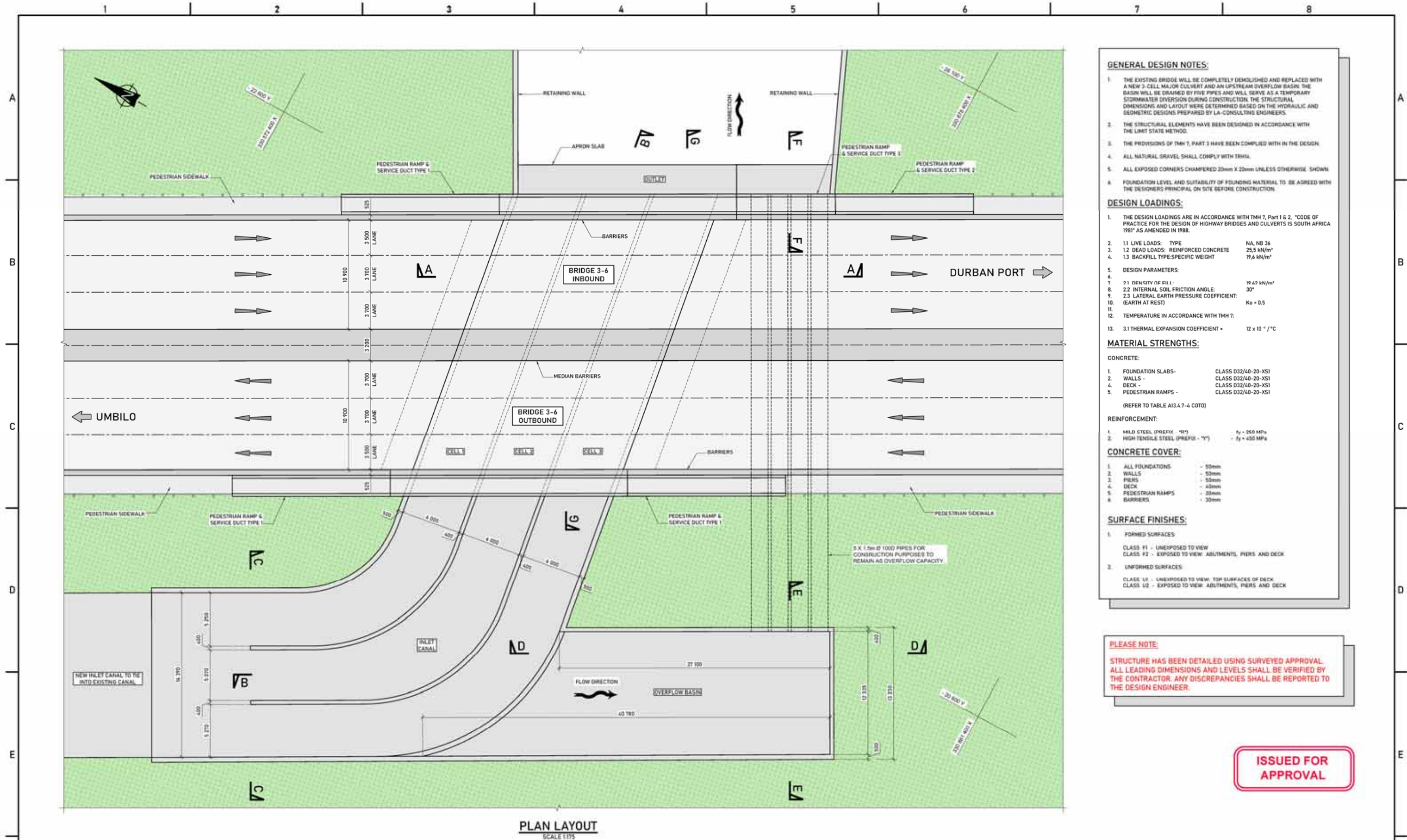
3D VIEW 2 - NEW BRIDGE WIDENING

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APPROVAL**

[illegible]



DRAWING NO.	DRAWING DESCRIPTION		REVISIONS				LIFE AFRICA CHANGING LIVES BUILT ENVIRONMENT PROFESSIONALS 27 Vuna Close, Ridge 7, Suite 701, Umhlanga Ridge, 4320 (031) 566 2300 durban@la-eng.co.za	CONTRACTOR / CONSULTANT				TRANSNET NATIONAL PORTS AUTHORITY				Transnet National Ports Authority											
			C FIRST ISSUE FOR APPROVAL					M.N.	E.P.	A.W.	17/11/2025	DRAWN				TITLE				PROJECT / AREA / ASSET / SUBJECT/DRAWING TITLE							
			NO. DESCRIPTION					BY	CHKD	APPD	DATE	CHECKED				DRAWN				237 MAHATMA GANDHI ROAD							
			STATUS					CONSULTANT DRAWING No.				PR.ENG. / PR.TECH./PR. ARCH				PR.ENG. / PR.TECH./PR. ARCH				DURBAN							
REFERENCE DRAWINGS																											



GENERAL DESIGN NOTES:

1. THE EXISTING BRIDGE WILL BE COMPLETELY DEMOLISHED AND REPLACED WITH A NEW 3-CELL MAJOR CULVERT AND AN UPSTREAM OVERFLOW BASIN. THE BASIN WILL BE DRAINED BY FIVE PIPES AND WILL SERVE AS A TEMPORARY STORMWATER DIVERSION DURING CONSTRUCTION. THE STRUCTURAL DIMENSIONS AND LAYOUT WERE DETERMINED BASED ON THE HYDRAULIC AND GEOMETRIC DESIGNS PREPARED BY LA-CONSULTING ENGINEERS.
2. THE STRUCTURAL ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE LIMIT STATE METHOD.
3. THE PROVISIONS OF FMH 7, PART 3 HAVE BEEN COMPLIED WITH IN THE DESIGN.
4. ALL NATURAL GRAVEL SHALL COMPLY WITH IRMA.
5. ALL EXPOSED CORNERS CHAMFERED 20mm X 20mm UNLESS OTHERWISE SHOWN.
6. FOUNDATION LEVEL AND SUITABILITY OF FOUNIDING MATERIAL TO BE AGREED WITH THE DESIGNERS PRINCIPAL ON SITE BEFORE CONSTRUCTION.

DESIGN LOADINGS:

- | | | |
|-----|--|----------------------------|
| 1. | THE DESIGN LOADINGS ARE IN ACCORDANCE WITH TMH 7, Part 1 & 2, "CODE OF PRACTICE FOR THE DESIGN OF HIGHWAY BRIDGES AND CULVERTS IS SOUTH AFRICA 1981" AS AMENDED IN 1988. | |
| 2. | 1.1 LIVE LOADS: TYPE | NA, NB 36 |
| 3. | 1.2 DEAD LOADS: REINFORCED CONCRETE | 25,5 kN/m ³ |
| 4. | 1.3 BACKFILL TYPE-SPECIFIC WEIGHT | 19,6 kN/m ³ |
| 5. | DESIGN PARAMETERS: | |
| 6. | | |
| 7. | 2.1 DENSITY OF FILL: | 19,67 kN/m ³ |
| 8. | 2.2 INTERNAL SOIL FRICTION ANGLE: | 30° |
| 9. | 2.3 LATERAL EARTH PRESSURE COEFFICIENT:
(EARTH AT REST) | Ko = 0.5 |
| 10. | | |
| 11. | | |
| 12. | TEMPERATURE IN ACCORDANCE WITH TMH 7: | |
| 13. | 3.1 THERMAL EXPANSION COEFFICIENT = | 12 x 10 ⁻⁶ / °C |

MATERIAL STRENGTHS:

CONCRETE:

- | | | |
|----|--------------------|---------------------|
| 1. | FOUNDATION SLABS- | CLASS D32/40-20-XS1 |
| 2. | WALLS - | CLASS D32/40-20-XS1 |
| 4. | DECK - | CLASS D32/40-20-XS1 |
| 5. | PEDESTRIAN RAMPS - | CLASS D32/40-20-XS1 |

(REFER TO TABLE A13.4.7-4 COT0)

REINFORCEMENT:

- | | | |
|---|-----------------------------------|-------------------------|
| 1 | MILD STEEL (PREFIX - "R") | $f_y = 250 \text{ MPa}$ |
| 2 | HIGH TENSILE STEEL (PREFIX - "H") | $f_y = 450 \text{ MPa}$ |

CONCRETE COVER:

- | | | |
|----|------------------|--------|
| 1. | ALL FOUNDATIONS | ~ 50mm |
| 2. | WALLS | ~ 50mm |
| 3. | PIERS | ~ 50mm |
| 4. | DECK | ~ 40mm |
| 5. | PEDESTRIAN RAMPS | ~ 30mm |
| 6. | BARRIERS | ~ 30mm |

SURFACE FINISHES:

1. FORMED SURFACES
CLASS F1 - UNEXPOSED TO VIEW
CLASS F2 - EXPOSED TO VIEW: ABUTMENTS, PIERS AND DECK
2. UNFORMED SURFACES:
CLASS U1 - UNEXPOSED TO VIEW: TOP SURFACES OF DECK
CLASS U2 - EXPOSED TO VIEW: ABUTMENTS, PIERS AND DECK

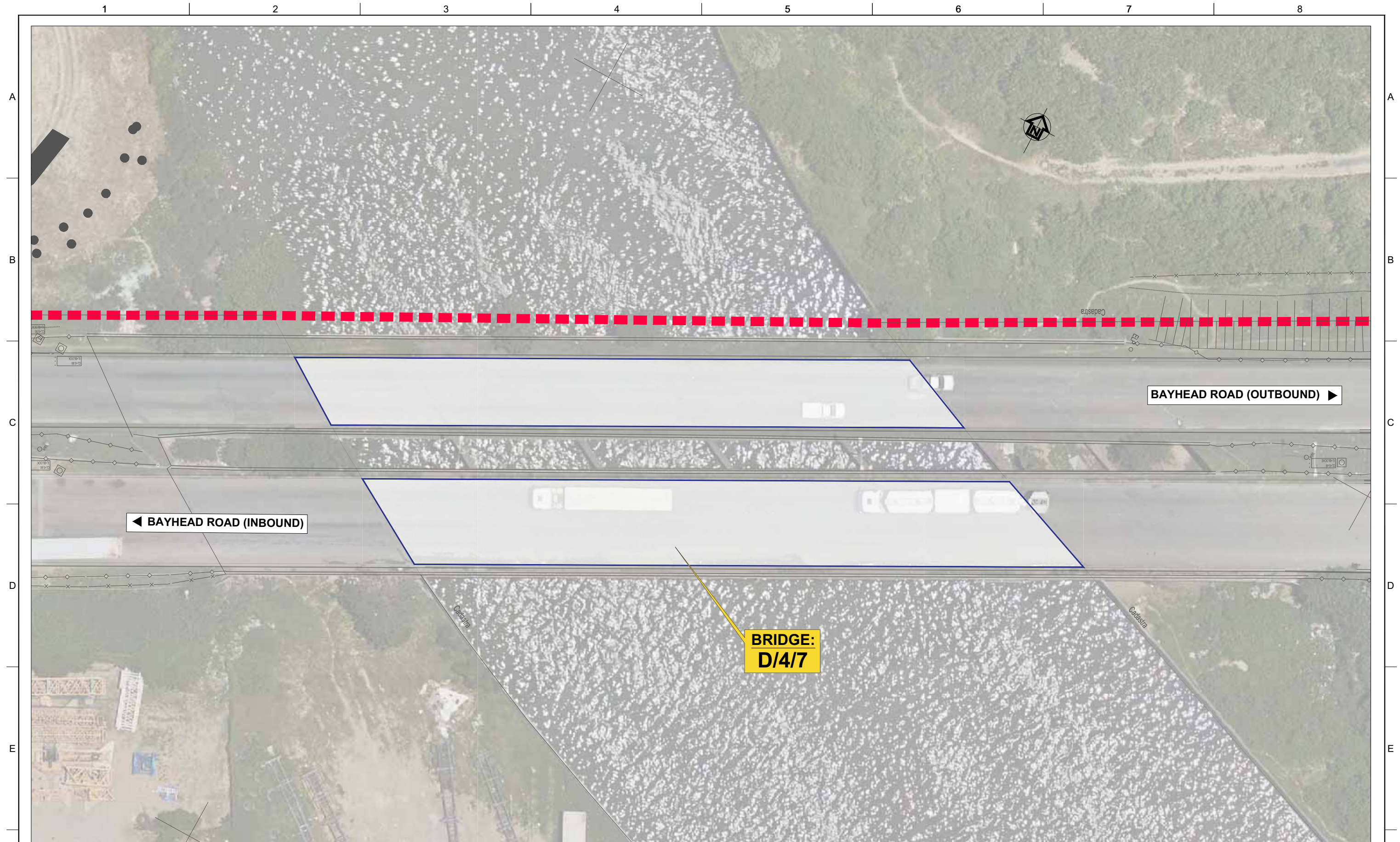
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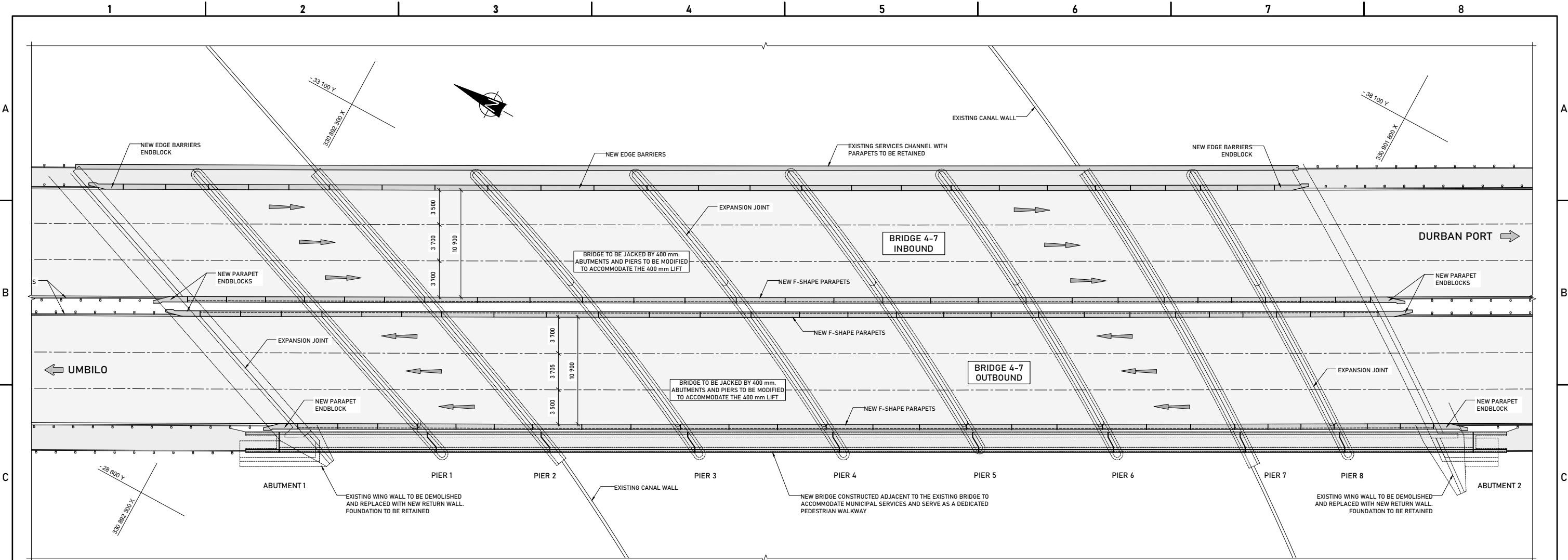
STRUCTURE HAS BEEN DETAILED USING SURVEYED APPROVAL. ALL LEADING DIMENSIONS AND LEVELS SHALL BE VERIFIED BY THE CONTRACTOR. ANY DISCREPANCIES SHALL BE REPORTED TO THE DESIGN ENGINEER.

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PLAN LAYOUT
SCALE 1:75

[illegible]

[illegible]



PLAN LAYOUT
SCALE 1:90

GENERAL DESIGN NOTES:

- INBOUND:
THE EXISTING BRIDGE COMPRISES A NINE-SPAN SIMPLY SUPPORTED DECK. IT WILL BE WIDENED BY EXTENDING THE DECK TOWARDS THE OUTBOUND CARRIAGEWAY. IN ADDITION TO THE WIDENING, THE EXISTING LEFT DECK EDGE PARAPET WILL BE RETAINED. NEW PEDESTRIAN BARRIERS WILL BE ADDED ON THE LEFT SIDE OF THE DECK. THE BRIDGE WILL BE JACKED UP BY 400mm, AND THE HEIGHT OF THE SUBSTRUCTURE WILL BE INCREASED SUBSEQUENTLY.
OUTBOUND:
THE EXISTING STRUCTURE COMPRISES A NINE-SPAN SIMPLY SUPPORTED DECK. THE PEDESTRIAN WALKWAYS WILL BE REMOVED AND THE DECK WIDENED TOWARDS RGE INBOUND CARRIAGEWAY. A PEDESTRIAN AND SERVICES BRIDGE DECK WILL BE ADDED TO THE LEFT OF THE BRIDGE DECK. THE BRIDGE WILL BE JACKED 400mm, AND THE SUBSTRUCTURE HEIGHT WILL BE INCREASED SUBSEQUENTLY. THE PEDESTRIAN AND SERVICE BRIDGE WILL BE SUPPORTED FROM A CANTILEVER ADDITION OF THE EXISTING SUBSTRUCTURE.
- THE STRUCTURAL ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE LIMIT STATE METHOD.
- THE PROVISIONS OF TMH 7, PART 3 HAVE BEEN COMPLIED WITH IN THE DESIGN.
- ALL NATURAL GRAVEL SHALL COMPLY WITH TRH14.
- ALL EXPOSED CORNERS CHAMFERED 20mm X 20mm UNLESS OTHERWISE SHOWN.
- FOUNDATION LEVEL AND SUITABILITY OF FOUNDING MATERIAL TO BE AGREED WITH THE DESIGNERS PRINCIPAL ON SITE BEFORE CONSTRUCTION.

DESIGN LOADINGS:

- THE DESIGN LOADINGS ARE IN ACCORDANCE WITH TMH 7, Part 1 & 2, "CODE OF PRACTICE FOR THE DESIGN OF HIGHWAY BRIDGES AND CULVERTS IS SOUTH AFRICA 1981" AS AMENDED IN 1988.
- 1.1 LIVE LOADS: TYPE NA, NB 36
- 1.2 DEAD LOADS: REINFORCED CONCRETE 25.5 kN/m²
- 1.3 BACKFILL TYPE:SPECIFIC WEIGHT 19.6 kN/m³
- DESIGN PARAMETERS:
- 2.1 DENSITY OF FILL: 19.62 kN/m³
- 2.2 INTERNAL SOIL FRICTION ANGLE: 30°
- 2.3 LATERAL EARTH PRESSURE COEFFICIENT: Ko = 0.5
- TEMPERATURE IN ACCORDANCE WITH TMH 7:
- 3.1 THERMAL EXPANSION COEFFICIENT = 12 x 10⁻⁶ / °C

MATERIAL STRENGTHS:

- CONCRETE:
FOUNDATION - CLASS D32/40-20-XS1
ABUTMENTS - CLASS D32/40-20-XS1
PIERS - CLASS D32/40-20-XS1
DECK SLABS - CLASS D32/40-20-XS1
(REFER TO TABLE A13.4.7-4 COTD)
- REINFORCEMENT:
MILD STEEL (PREFIX - "R") - fy = 250 MPa
HIGH TENSILE STEEL (PREFIX - "Y") - fy = 450 MPa

CONCRETE COVER:

- ALL FOUNDATIONS - 50mm
- ABUTMENTS - 50mm
- PIERS - 50mm
- DECK SLAB - 40mm
- PARAPETS - 30mm
- ENDBLOCKS - 30mm

SURFACE FINISHES:

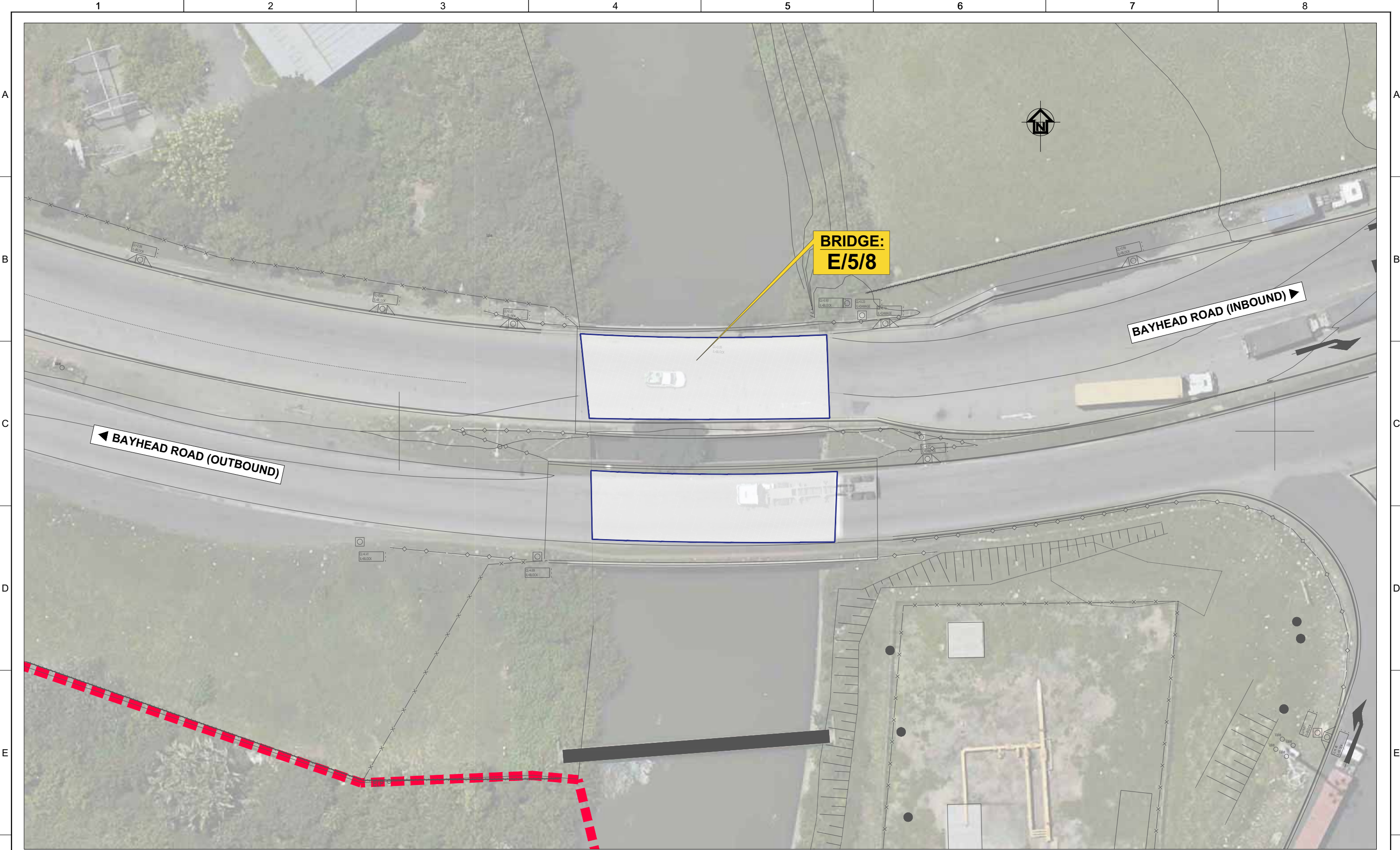
- FORMED SURFACES:
CLASS F1 - UNEXPOSED TO VIEW
CLASS F2 - EXPOSED TO VIEW: ABUTMENTS, PIERS AND DECK
- UNFORMED SURFACES:
CLASS U1 - UNEXPOSED TO VIEW: TOP SURFACES OF DECK
CLASS U2 - EXPOSED TO VIEW: ABUTMENTS, PIERS AND DECK

PLEASE NOTE:

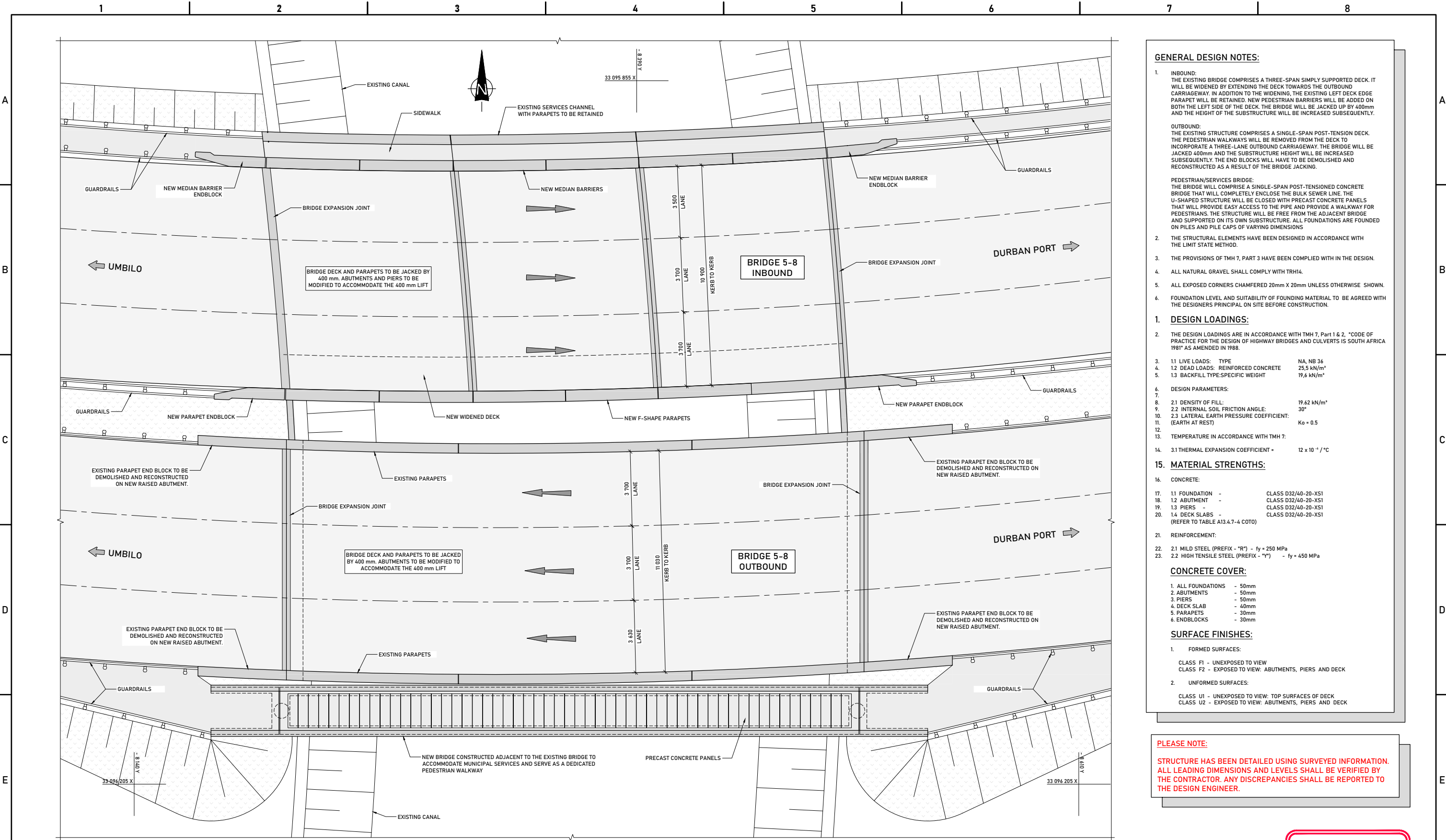
STRUCTURE HAS BEEN DETAILED USING SURVEYED INFORMATION. ALL LEADING DIMENSIONS AND LEVELS SHALL BE VERIFIED BY THE CONTRACTOR. ANY DISCREPANCIES SHALL BE REPORTED TO THE DESIGN ENGINEER.

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DRAWING NO.		DRAWING DESCRIPTION		SHEET KEY INDEX		CONTRACTOR / CONSULTANT		TRANSNET NATIONAL PORTS AUTHORITY		Transnet National Ports Authority	
						TITLE		NAME		REG No. 1990/000600/30	
						DRAWN		DRAWN		237 MAHATMA GANDHI ROAD	
						CHECKED		CHECKED		DURBAN	
						DESIGNED		DESIGNED		P.O. BOX 31683, DURBAN	
						CHECKED		CHECKED		TEL: 031 361 1696	
						PR.ENG. / PR.TECH./PR. ARCH		PR.ENG. / PR.TECH./PR. ARCH		PROJECT / AREA / ASSET / SUBJECT/DRAWING TITLE	
						NAME		NAME		PORT OF DURBAN	
						SIGNATURE		SIGNATURE		FEASIBILITY & DETAILED DESIGN FOR THE UPGRADING	
						REG. NUMBER		REG. NUMBER		OF BAYHEAD ROAD BRIDGE 4-7	
						TITLE		TITLE		GENERAL ARRANGEMENT SHEET 1	
						SCALE: AS SHOWN		PAPER SIZE: A1		PROJECT DRG. NO.	
						TRANSNET DRG. NO.		REV. C		XDNE043-000-C-LA-7300-01.C	
										REV. C	



DRAWING NO. DRAWING DESCRIPTION		SHEET KEY INDEX	CONTRACTOR / CONSULTANT <table border="1"><thead><tr><th>TITLE</th><th>NAME</th><th>SIGN</th><th>DATE</th></tr></thead><tbody><tr><td>DRAWN</td><td>M.N.</td><td></td><td>17 11 25</td></tr><tr><td>CHECKED</td><td>E.P.</td><td></td><td>17 11 25</td></tr><tr><td>DESIGNED</td><td>N/A</td><td></td><td>17 11 25</td></tr><tr><td>CHECKED</td><td>A.W.</td><td></td><td>17 11 25</td></tr></tbody></table>				TITLE	NAME	SIGN	DATE	DRAWN	M.N.		17 11 25	CHECKED	E.P.		17 11 25	DESIGNED	N/A		17 11 25	CHECKED	A.W.		17 11 25	TRANSNET NATIONAL PORTS AUTHORITY <table border="1"><thead><tr><th>TITLE</th><th>NAME</th><th>SIGN</th><th>DATE</th></tr></thead><tbody><tr><td>DRAWN</td><td></td><td></td><td></td></tr><tr><td>CHECKED</td><td></td><td></td><td></td></tr><tr><td>DESIGNED</td><td></td><td></td><td></td></tr><tr><td>CHECKED</td><td></td><td></td><td></td></tr></tbody></table>				TITLE	NAME	SIGN	DATE	DRAWN				CHECKED				DESIGNED				CHECKED				Transnet National Ports Authority TRANSNET TRANSNET SOC Ltd : REG No. 1990/00090/00 237 MAHATMA GANDHI ROAD DURBAN P.O. BOX 31683, DURBAN TEL: 031 361 1696			
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STATUS FOR APPROVAL		CONSULTANT DRAWING No. XDNE043-000-C-GA-7400-01.C		PROJECT / AREA / ASSET / SUBJECT/DRAWING TITLE PORT OF DURBAN FEASIBILITY & DETAILED DESIGN FOR THE UPGRADING OF BAYHEAD & LANGEBERG ROADS LAYOUT PLAN OF EXISTING BRIDGE STRUCTURES ON BAYHEAD ROAD - E/5/8																																																		
REVISIONS <table border="1"><thead><tr><th>NO.</th><th>DESCRIPTION</th><th>M.N.</th><th>BY</th><th>CHKD</th><th>APPD</th><th>DATE</th></tr></thead><tbody><tr><td>C</td><td>FIRST ISSUE FOR APPROVAL</td><td></td><td></td><td></td><td></td><td>17/11/2025</td></tr></tbody></table>		NO.	DESCRIPTION	M.N.	BY	CHKD	APPD	DATE	C	FIRST ISSUE FOR APPROVAL					17/11/2025	CONTRACTOR / CONSULTANT <table border="1"><thead><tr><th>NAME</th><th>SIGN</th><th>DATE</th></tr></thead><tbody><tr><td>ALAN WRIGHT</td><td></td><td>17 11 25</td></tr></tbody></table>		NAME	SIGN	DATE	ALAN WRIGHT		17 11 25	TRANSNET NATIONAL PORTS AUTHORITY <table border="1"><thead><tr><th>NAME</th><th>SIGN</th><th>DATE</th></tr></thead><tbody><tr><td></td><td></td><td></td></tr></tbody></table>		NAME	SIGN	DATE				PROJECT DRG. NO. XDNE043-000-C-GA-7400-01.C																						
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PLAN LAYOUT
SCALE 1:90

GENERAL DESIGN NOTES:

- INBOUND:
THE EXISTING BRIDGE COMPRISES A THREE-SPAN SIMPLY SUPPORTED DECK. IT WILL BE WIDENED BY EXTENDING THE DECK TOWARDS THE OUTBOUND CARRIAGEWAY. IN ADDITION TO THE WIDENING, THE EXISTING LEFT DECK EDGE PARAPET WILL BE RETAINED. NEW PEDESTRIAN BARRIERS WILL BE ADDED ON BOTH THE LEFT SIDE OF THE DECK. THE BRIDGE WILL BE JACKED UP BY 400mm AND THE HEIGHT OF THE SUBSTRUCTURE WILL BE INCREASED SUBSEQUENTLY.
 - OUTBOUND:
THE EXISTING STRUCTURE COMPRISES A SINGLE-SPAN POST-TENSION DECK. THE PEDESTRIAN WALKWAYS WILL BE REMOVED FROM THE DECK TO INCORPORATE A THREE-LANE OUTBOUND CARRIAGEWAY. THE BRIDGE WILL BE JACKED 400mm AND THE SUBSTRUCTURE HEIGHT WILL BE INCREASED SUBSEQUENTLY. THE END BLOCKS WILL HAVE TO BE DEMOLISHED AND RECONSTRUCTED AS A RESULT OF THE BRIDGE JACKING.
 - PEDESTRIAN/SERVICES BRIDGE:
THE BRIDGE WILL COMPRISE A SINGLE-SPAN POST-TENSIONED CONCRETE BRIDGE THAT WILL COMPLETELY ENCLOSE THE BULK SEWER LINE. THE U-SHAPED STRUCTURE WILL BE CLOSED WITH PRECAST CONCRETE PANELS THAT WILL PROVIDE EASY ACCESS TO THE PIPE AND PROVIDE A WALKWAY FOR PEDESTRIANS. THE STRUCTURE WILL BE FREE FROM THE ADJACENT BRIDGE AND SUPPORTED ON ITS OWN SUBSTRUCTURE. ALL FOUNDATIONS ARE FOUNDED ON PILES AND PILE CAPS OF VARYING DIMENSIONS.
 - THE STRUCTURAL ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE LIMIT STATE METHOD.
 - THE PROVISIONS OF TMH 7, PART 3 HAVE BEEN COMPLIED WITH IN THE DESIGN.
 - ALL NATURAL GRAVEL SHALL COMPLY WITH TRH14.
 - ALL EXPOSED CORNERS CHAMFERED 20mm X 20mm UNLESS OTHERWISE SHOWN.
 - FOUNDATION LEVEL AND SUITABILITY OF FOUNDING MATERIAL TO BE AGREED WITH THE DESIGNERS PRINCIPAL ON SITE BEFORE CONSTRUCTION.
1. DESIGN LOADINGS:
- THE DESIGN LOADINGS ARE IN ACCORDANCE WITH TMH 7, Part 1 & 2, "CODE OF PRACTICE FOR THE DESIGN OF HIGHWAY BRIDGES AND CULVERTS IS SOUTH AFRICA 1981" AS AMENDED IN 1988.
 - 1.1 LIVE LOADS: TYPE NA, NB 36
 - 1.2 DEAD LOADS: REINFORCED CONCRETE 25,5 kN/m²
 - 1.3 BACKFILL TYPE: SPECIFIC WEIGHT 19,6 kN/m³
 - DESIGN PARAMETERS:
 - 2.1 DENSITY OF FILL: 19,42 kN/m³
 - 2.2 INTERNAL SOIL FRICTION ANGLE: 30°
 - 2.3 LATERAL EARTH PRESSURE COEFFICIENT: (EARTH AT REST) Ko = 0,5
 - TEMPERATURE IN ACCORDANCE WITH TMH 7:
 - 3.1 THERMAL EXPANSION COEFFICIENT = 12 x 10⁻⁶ / °C

15. MATERIAL STRENGTHS:

- CONCRETE:
- 1.1 FOUNDATION - CLASS D32/40-20-XS1
- 1.2 ABUTMENT - CLASS D32/40-20-XS1
- 1.3 PIERS - CLASS D32/40-20-XS1
- 1.4 DECK SLABS - CLASS D32/40-20-XS1 (REFER TO TABLE A13.4.7-4 COTO)
- REINFORCEMENT:
- 2.1 MILD STEEL (PREFIX - "R") - fy = 250 MPa
- 2.2 HIGH TENSILE STEEL (PREFIX - "Y") - fy = 450 MPa

CONCRETE COVER:

- ALL FOUNDATIONS - 50mm
- ABUTMENTS - 50mm
- PIERS - 50mm
- DECK SLAB - 40mm
- PARAPETS - 30mm
- ENDBLOCKS - 30mm

SURFACE FINISHES:

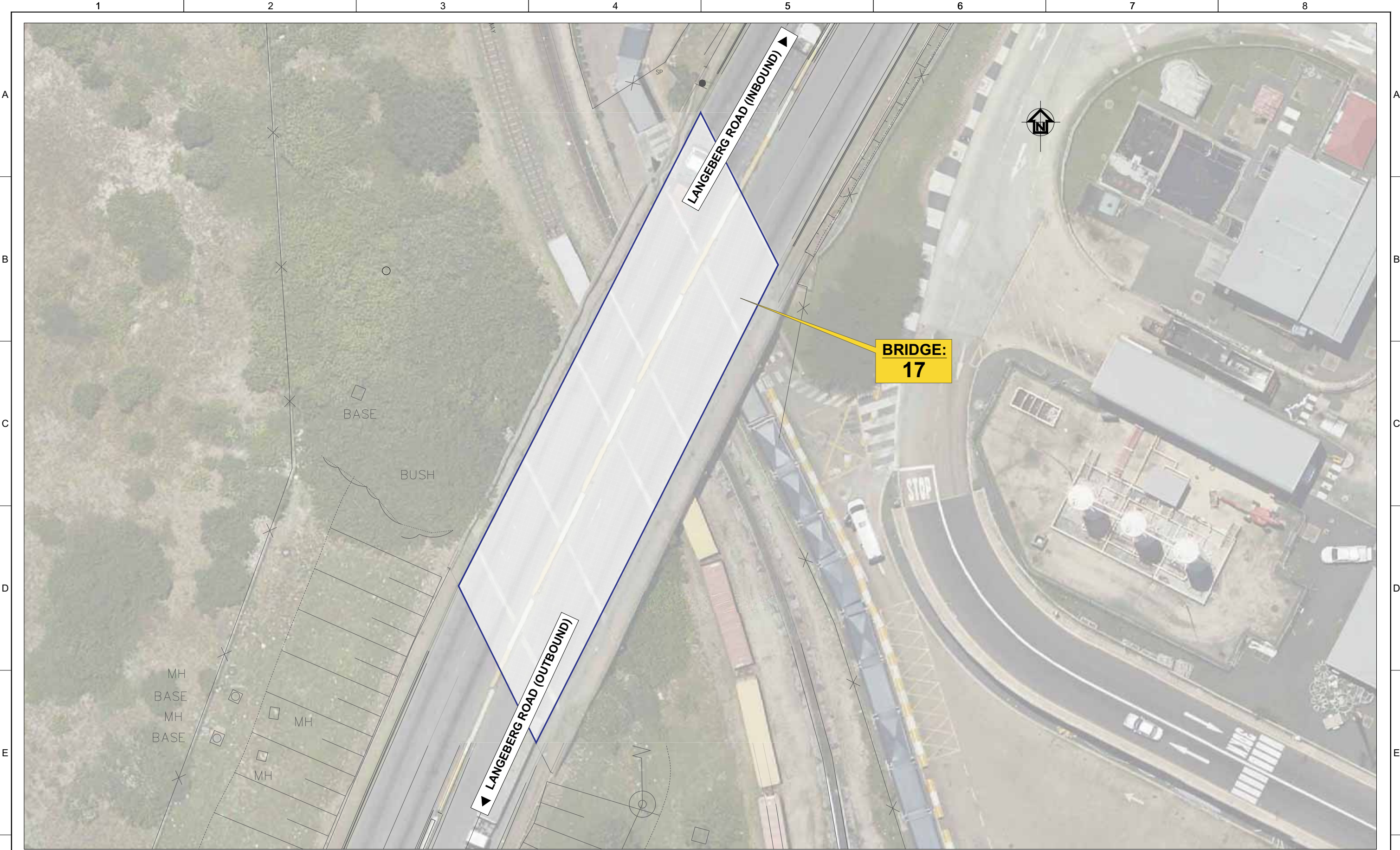
- FORMED SURFACES:
CLASS F1 - UNEXPOSED TO VIEW
CLASS F2 - EXPOSED TO VIEW: ABUTMENTS, PIERS AND DECK
- UNFORMED SURFACES:
CLASS U1 - UNEXPOSED TO VIEW: TOP SURFACES OF DECK
CLASS U2 - EXPOSED TO VIEW: ABUTMENTS, PIERS AND DECK

PLEASE NOTE:

STRUCTURE HAS BEEN DETAILED USING SURVEYED INFORMATION. ALL LEADING DIMENSIONS AND LEVELS SHALL BE VERIFIED BY THE CONTRACTOR. ANY DISCREPANCIES SHALL BE REPORTED TO THE DESIGN ENGINEER.

ISSUED FOR
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DRAWING NO.		DRAWING DESCRIPTION		SHEET KEY INDEX		CONTRACTOR / CONSULTANT		TRANSNET NATIONAL PORTS AUTHORITY		Transnet National Ports Authority	
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						STATUS FOR APPROVAL		PR.ENG. / PR.TECH./PR. ARCH		PORT OF DURBAN	
						CONSULTANT DRAWING No. XDNE043-000-C-LA-7400-01.C		NAME SIGNATURE REG. NUMBER		FEASIBILITY & DETAILED DESIGN FOR THE UPGRADING OF BAYHEAD ROAD BRIDGE 5-8 GENERAL ARRANGEMENT SHEET 1	
						REVISIONS		TITLE DIRECTOR SCALE: AS SHOWN		PROJECT DRG. NO. XDNE043-000-C-LA-7400-01.C	
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REFERENCE DRAWINGS

SHEET KEY INDEX

NO.	DESCRIPTION	M.N. BY	E.P. CHKD	A.W. APPD	DATE
C	FIRST ISSUE FOR APPROVAL				17/11/2025

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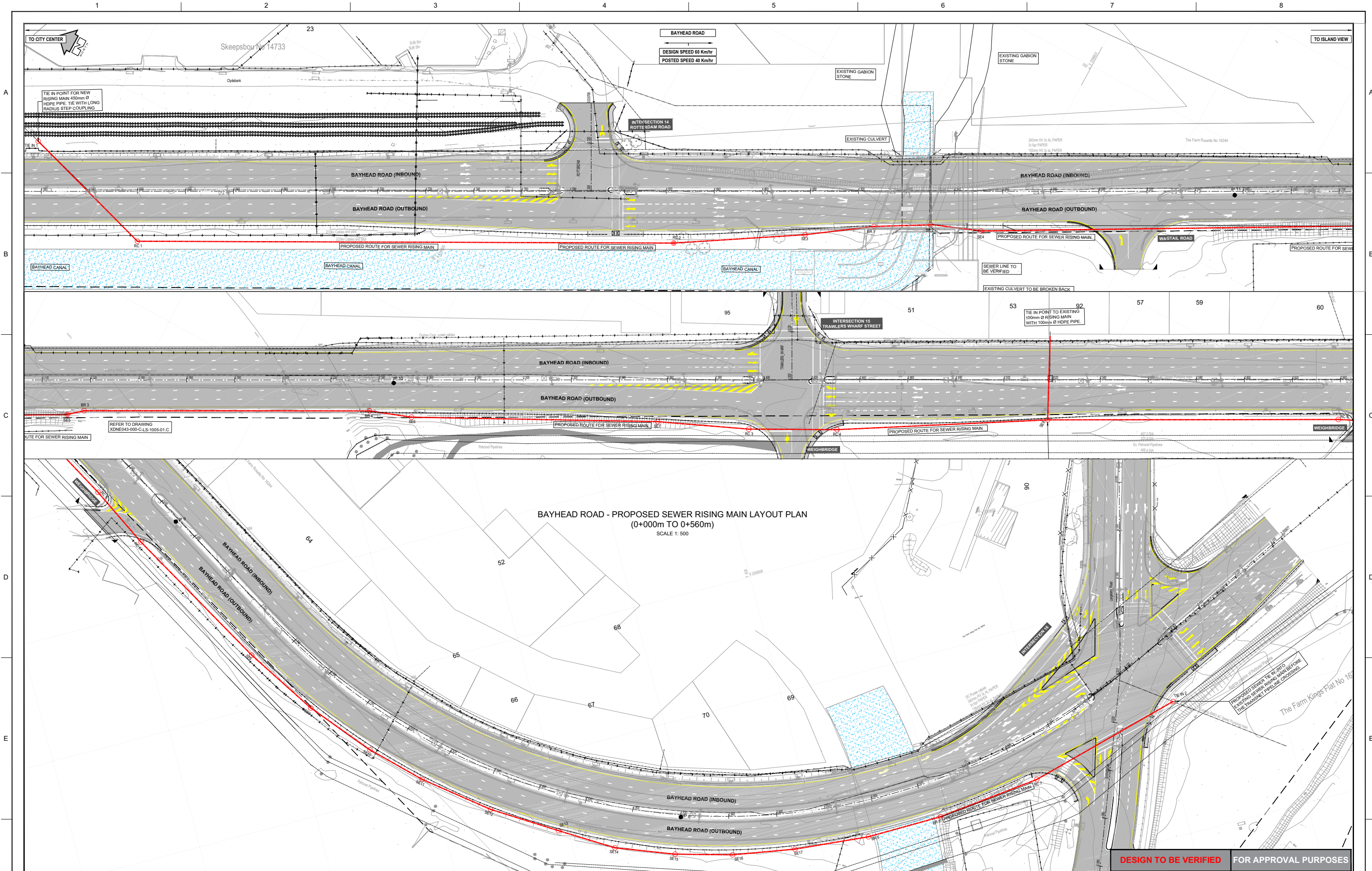
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PROJECT / AREA / ASSET / SUBJECT/DRAWING TITLE
PORT OF DURBAN
**FEASIBILITY & DETAILED DESIGN FOR THE UPGRADING
OF BAYHEAD & LANGEBERG ROADS
LAYOUT PLAN OF EXISTING BRIDGE STRUCTURES ON
LANGEBERG ROAD - BRIDGE 17**

PROJECT DRG. NO.
XDNE043-000-C-GA-7500-01.C

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