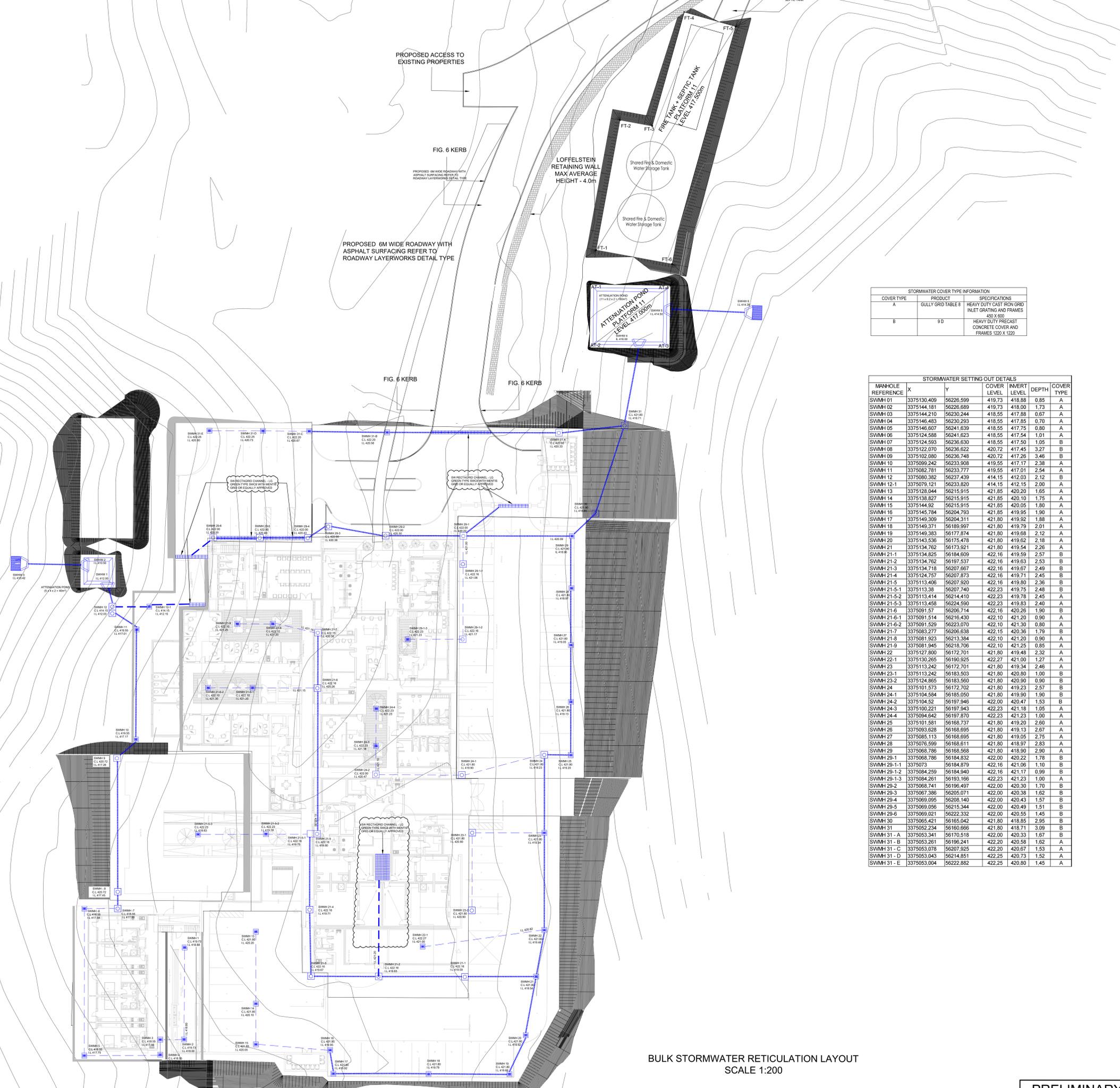


LEGEND

- 160mm CLASS 34 uPVC PIPE
- 250mm CLASS 34 uPVC PIPE
- 450mm CLASS 1000 CONCRETE PIPE
- PROPOSED HEADWALL
- STORMWATER MANHOLE
- STORMWATER RECTAGRID CHANNEL



STORMWATER COVER TYPE INFORMATION

COVER TYPE	PRODUCT	SPECIFICATIONS
A	GULLY GRID TABLE 8	HEAVY DUTY CAST IRON GRID INLET GRATING AND FRAMES 450 X 600
B	9D	HEAVY DUTY PRECAST CONCRETE COVER AND FRAMES 1200 X 1200

STORMWATER SETTING OUT DETAILS

MANHOLE REFERENCE	X	Y	COVER LEVEL	INVERT LEVEL	DEPTH	COVER TYPE
SWMH 01	3375130.409	56226.599	419.73	418.88	0.85	A
SWMH 02	3375144.181	56226.689	419.73	418.00	1.73	A
SWMH 03	3375144.210	56230.244	418.55	417.88	0.67	A
SWMH 04	3375146.483	56230.293	418.55	417.85	0.70	A
SWMH 05	3375146.807	56241.639	418.55	417.75	0.80	A
SWMH 06	3375124.588	56241.623	418.55	417.54	1.01	A
SWMH 07	3375124.593	56236.630	418.55	417.50	1.05	B
SWMH 08	3375122.070	56236.622	420.72	417.45	3.27	B
SWMH 09	3375102.080	56236.748	420.72	417.26	3.46	B
SWMH 10	3375099.242	56233.908	419.55	417.17	2.38	A
SWMH 11	3375082.781	56233.777	419.55	417.01	2.54	A
SWMH 12	3375080.382	56237.439	414.15	412.03	2.12	B
SWMH 12-1	3375079.121	56233.820	414.15	412.15	2.00	A
SWMH 13	3375128.044	56215.915	421.85	420.20	1.65	A
SWMH 14	3375138.827	56215.915	421.85	420.10	1.75	A
SWMH 15	3375144.92	56215.915	421.85	420.05	1.80	A
SWMH 16	3375145.794	56204.793	421.85	419.95	1.90	A
SWMH 17	3375149.309	56204.311	421.80	419.92	1.88	A
SWMH 18	3375149.371	56189.997	421.80	419.79	2.01	A
SWMH 19	3375149.383	56177.874	421.80	419.68	2.12	A
SWMH 20	3375143.536	56175.478	421.80	419.62	2.18	A
SWMH 21	3375134.762	56173.921	421.80	419.54	2.26	A
SWMH 21-1	3375134.825	56184.809	422.16	419.59	2.57	B
SWMH 21-2	3375134.762	56197.537	422.16	419.63	2.53	B
SWMH 21-3	3375134.718	56207.867	422.16	419.67	2.49	B
SWMH 21-4	3375124.757	56207.873	422.16	419.71	2.45	B
SWMH 21-5	3375113.406	56207.920	422.16	419.80	2.36	B
SWMH 21-6-1	3375113.38	56207.740	422.23	419.75	2.48	B
SWMH 21-6-2	3375113.414	56214.410	422.23	419.78	2.45	A
SWMH 21-6-3	3375113.458	56224.590	422.23	419.83	2.40	A
SWMH 21-6	3375091.57	56206.714	422.16	420.26	1.90	B
SWMH 21-6-1	3375091.514	56216.430	422.10	421.20	0.90	A
SWMH 21-6-2	3375091.529	56223.070	422.10	421.30	0.80	A
SWMH 21-7	3375083.277	56206.838	422.15	420.36	1.79	B
SWMH 21-8	3375081.923	56213.384	422.10	421.20	0.90	A
SWMH 21-9	3375081.945	56218.706	422.10	421.25	0.85	A
SWMH 22	3375127.800	56172.701	421.80	419.48	2.32	A
SWMH 22-1	3375130.265	56190.925	422.27	421.00	1.27	A
SWMH 23	3375113.242	56172.701	421.80	419.54	2.26	A
SWMH 23-1	3375113.242	56183.903	421.80	420.80	1.00	B
SWMH 23-2	3375124.865	56183.560	421.80	420.90	0.90	B
SWMH 24	3375101.573	56172.702	421.80	419.23	2.57	B
SWMH 24-1	3375104.584	56185.050	421.80	419.90	1.90	B
SWMH 24-2	3375104.52	56197.946	422.00	420.47	1.53	B
SWMH 24-3	3375100.221	56197.943	422.23	421.18	1.05	A
SWMH 24-4	3375094.847	56197.970	422.23	421.23	1.00	A
SWMH 25	3375101.581	56168.737	421.80	419.20	2.60	A
SWMH 26	3375093.628	56168.695	421.80	419.13	2.67	A
SWMH 27	3375085.113	56168.695	421.80	419.05	2.75	A
SWMH 28	3375076.599	56168.611	421.80	418.97	2.83	A
SWMH 29	3375066.786	56168.568	421.80	418.90	2.90	A
SWMH 29-1	3375068.786	56184.832	422.00	420.22	1.78	B
SWMH 29-1-1	3375073	56184.879	422.16	421.06	1.10	B
SWMH 29-1-2	3375084.259	56184.940	422.16	421.17	0.99	B
SWMH 29-1-3	3375084.261	56193.166	422.23	421.23	1.00	A
SWMH 29-2	3375068.741	56196.497	422.00	420.30	1.70	B
SWMH 29-3	3375067.366	56205.071	422.00	420.36	1.62	B
SWMH 29-4	3375069.095	56208.140	422.00	420.43	1.57	B
SWMH 29-5	3375069.056	56215.344	422.00	420.49	1.51	B
SWMH 29-6	3375069.021	56222.332	422.00	420.55	1.45	B
SWMH 30	3375065.421	56185.042	421.80	418.85	2.95	B
SWMH 31	3375062.234	56180.866	421.80	418.71	3.09	B
SWMH 31 - A	3375053.341	56170.518	422.00	420.33	1.67	B
SWMH 31 - B	3375053.261	56196.241	422.20	420.58	1.62	A
SWMH 31 - C	3375053.078	56207.925	422.20	420.67	1.53	A
SWMH 31 - D	3375053.043	56214.851	422.25	420.73	1.52	A
SWMH 31 - E	3375053.004	56222.882	422.25	420.80	1.45	A

NOTES :

- A. GENERAL**
1. ALL SETTING OUT TO BE UNDERTAKEN BY A REGISTERED PROFESSIONAL LAND SURVEYOR.
 2. PROVIDE ALL SERVICES PRIOR TO CONSTRUCTION.
 3. ALL WORK AREAS TO BE REINSTATED (PRECAST CONCRETE, ETC.)
 4. MUNICIPALITY TO EXECUTE ALL CONNECTIONS INTO MUNICIPAL LINES.
 5. ALL LEVELS AND DIMENSIONS TO BE VERIFIED ON SITE.
 6. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE STRUCTURAL ENGINEERING AND ARCHITECTURAL DRAWINGS.
 7. ALL WORK IS TO BE EXECUTED IN ACCORDANCE WITH SANS 1200.
 8. CONTRACTOR TO PROVIDE AN AS-BUILT SURVEY OF ALL WORKS CONSTRUCTED UPON COMPLETION OF THE PROJECT.
 9. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT SANS 1200 SPECIFICATIONS.
 10. THE CONTRACTOR MUST GIVE THE ENGINEER 48 HOURS WRITTEN NOTICE OF INSPECTIONS PRIOR TO COVERING UP ANY WORKS.
 11. THE CONTRACTOR MUST ARRANGE FOR CONTROL TESTING AT FREQUENCIES SPECIFIED IN THE RELEVANT SANS 1200 SPECIFICATIONS. COSTS FOR CONTROL TESTING WILL BE FOR THE CONTRACTOR'S ACCOUNT.
 12. ONCE THE WORKS ARE SET OUT THE CONTRACTOR MUST CALL THE ENGINEER FOR INSPECTION PRIOR TO COMMENCING WITH CONSTRUCTION.
 13. SHOULD THE CONTRACTOR DISCOVER ANY DISCREPANCIES IN THE DRAWINGS, THESE DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY. NO ASSUMPTIONS MUST BE MADE.
 14. SHOULD THE CONTRACTOR WISH TO USE ANY MATERIALS OTHER THAN THOSE SPECIFIED, HE MUST OBTAIN WRITTEN APPROVAL FROM THE ENGINEER TO DO SO.
 15. ANY DESIGN CHANGES CONCERNING CONSTRUCTION MUST BE ISSUED UNDER SITE INSTRUCTION, AFTER APPROVAL BY THE PRINCIPAL AGENT.
 16. ALL BRICKS USED TO CONSTRUCT SEWER AND STORMWATER MANHOLES MUST BE NFX LOAD BEARING BRICKS CONFORMING TO SANS 1200 LD.
 17. ALL EXISTING SERVICES TO BE PROVIDED PRIOR TO WORK COMMENCING. ANY EXISTING SERVICE THAT IS DAMAGED BY THE CONTRACTOR AND IS INDICATED IN THE CONSTRUCTION DRAWINGS OR INDICATED TO THE CONTRACTOR ON SITE BY THE ENGINEER, MUST BE REPAIRED BY THE CONTRACTOR AT HIS OWN COST.

- B. EARTHWORKS :**
1. 150mm TOPSOIL TO BE STRIPPED AND STOCKPILED AS INSTRUCTED.
 2. UNSUITABLE MATERIAL TO BE SPOILT AS INDICATED BY THE ENGINEER.
 3. IN SITU MATERIAL TO BE COMPACTED TO 93% MOD. ASHTO DENSITY.
 4. FILL TO BE COMPACTED IN MAX. 200mm THICKNESS TO 93% MOD. ASHTO DENSITY.
 5. ALL BATTERS TO BE TOPSOILED WITH MATERIAL FROM STOCKPILE.
- C. STORMWATER**
1. ALL STORMWATER PIPES ARE :
250mm NOMINAL DIAMETER - CLASS 34HD uPVC
375mm / 450mm NOMINAL DIAMETER - CLASS 1000 CONCRETE
 2. ALL STORMWATER CONCRETE PIPES TO COMPLY WITH SANS 977 STANDARDS.
 3. ALL JOINTS TO BE 'SPIGOT AND SOCKET' TYPE.
 4. ALL STORMWATER PIPES TO BE LAID ON CLASS B BEDDING.
- D. SEWER**
1. ALL SEWER PIPES ARE 160mm NOMINAL DIAMETER CLASS 34 HEAVY DUTY uPVC PIPES.
 2. ALL SEWER PIPES TO BE LAID ON CLASS B BEDDING.
 3. ALL SEWER PIPES TO COMPLY WITH SANS 1001 STANDARDS.
 4. ALL SEWER PIPES IN PARKING AREAS/ROAD CROSSINGS TO BE CONCRETE ENCASED 150mm ALL ROUND WITH 25MPa CONCRETE AT 28 DAYS STRENGTH.
- E. WATER RETICULATION**
1. BULK WATER MAIN - 75mm Ø HDPE PE100 PN 12.5
 2. BEDDING TO SUIT FLEXIBLE PIPES
 3. PIPES TO BE INSTALLED WITH ALL COUPLINGS AND TO BE TESTED AND DISINFECTED.
 4. INSTALLATION TO COMPLY WITH SANS 1200.
 5. THRUST BLOCKS TO BE 25MPa CONCRETE AT 28 DAYS STRENGTH.
 6. CONTRACTOR TO ENSURE THAT ALL INDIVIDUAL DOMESTIC SUPPLY WATER MAINS ARE CONNECTED TO THE POTABLE WATER RETICULATION AND NOT THE FIRE RETICULATION.
 7. PRECAST MARKERS TO BE INSTALLED TO INDICATE TO THE RELEVANT UNDERGROUND SERVICES (WATER LINES, VALVES, FIRE LINES ETC.).
 8. MINIMUM COVER TO BURIED PIPES SHALL BE 900mm, EXCEPT AT ROAD CROSSINGS WHERE THE COVER SHALL BE INCREASED TO 1000mm.

SCALE (mm)

REFERENCE DRAWINGS

No.	DESCRIPTION	BY	DATE
911	BULK STORM WATER LONG SECTIONS 2		
910	BULK STORM WATER LONG SECTIONS 1		
909	BULK STORM WATER TYPICAL DETAILS		
904	BULK WATER RETICULATION LAYOUT		
903	BULK SEWER RETICULATION LAYOUT		
902	BULK SERVICES LAYOUT		
900	BULK EARTHWORKS LAYOUT		

REVISIONS

REV	DESCRIPTION	BY	DATE
P3	REMOVAL OF STORMWATER MANHOLES; ADDING RECTAGRID & INFORMATION	S.M	2025.04.29
P2	STORMWATER POSITIONS UPDATED	S.M	2025.04.14
P1	ISSUED FOR COMMENTS	A.M	2024.09.20

Professional person Registration

CLIENT

SOUTH AFRICAN POLICE SERVICES

PROJECT

MSINSINI POLICE STATION

DETAILS

BULK STORMWATER RETICULATION LAYOUT

MAP AFRICA CONSULTING

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DRAWN A.M. DATE 2024.09.20

APPROVED S.S. PL

TENDER No. DRAWING No. 589/MSI/908 REV P3

BULK STORMWATER RETICULATION LAYOUT
SCALE 1:200

PRELIMINARY