

ORIGINAL SIZE A1 DO NOT SCALE - IF IN DOUBT, ASK

LEGEND	
	EXISTING PARCEL BOUNDARY
	NEW LEGAL ROAD BOUNDARY
	DESIGNATION BOUNDARY
	EXISTING TOP/BOTTOM OF BANK
	EXISTING EDGE OF PAVEMENT
	EXISTING EDGE OF SEAL
	EXISTING RETAINING WALL
	EXISTING FENCE
	EXISTING DISH DRAIN
	EXISTING TABLE DRAIN
	EXISTING SUMP
	EXISTING CULVERT
	EXISTING SAFETY BARRIER
	EXISTING WIRE ROPE SAFETY BARRIER
	EXISTING SAFETY BARRIER TYPE F
	EXISTING LIGHT POLE
	EXISTING ELECTRICAL PYLON LEG
	EXISTING TELECOM MARKER
	EXISTING TELECOM POLE
	EXISTING SUMP
	EXISTING SIGN
	EXISTING WATER STOP VALVE
	EXISTING WATER AIR VALVE
	EXISTING WATER MAIN MARKER
	EXISTING WATER HYDRANT
	EXISTING ELECTRICAL POLE

LEGEND	
POSSIBLE LOCATION (2D / PLAN)	
	EXISTING UNDER GROUND LV POWER
	EXISTING UNDER GROUND HV POWER
	EXISTING VODAFONE
	EXISTING VECTOR GAS
	NEW EDGE OF SEAL
	BATTER SLOPES
	CENTRELINE
	NEW SHOULDER
	NEW WIRE ROPE SAFETY FENCE
	NEW W BEAM SAFETY FENCE
	NEW FLUME REFER TO SD212 AND SD213
	NEW STORMWATER PIPE
	NEW CULVERT - 1.0m MINIMUM COVER POTHOLE SERVICES TO AVOID CLASHES
	UPGRADE EXISTING CULVERT
	NEW STANDARD PRECAST HEADWALL (UNLESS NOTED OTHERWISE)
	NEW Ø1050 MANHOLE REFER TO SD220 (UNLESS NOTED OTHERWISE)
	NEW SCRUFFY DOME REFER TO SD235
	NEW SINGLE SUMP REFER TO SD234
	NEW DOUBLE YARD SUMP REFER TO SD223 & SD224
	NEW BACK ENTRY DOUBLE SUMP REFER TO SD222
	EROSION PROTECTION (RIP RAP)
	TYPE 1 CHANNEL REFER TO SD217
	TYPE 2 CHANNEL REFER TO SD217
	TYPE 3 CHANNEL REFER TO SD217
	RELOCATE MANOR PARK RESERVOIR OUTLET PIPE, REPLACE WITH 250mm PIPELINE INCLUDING CONNECTIONS AT EACH BARRIER
	NEW CUT SLOPE BENCH DRAIN
	EXISTING OPEN CHANNEL REFER SD455

NOTES	
SURVEY	
1. COORDINATES ARE IN TERMS OF NZTM. LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953. ORIGIN OF LEVELS (RTK GNSS): BBKV (ELLIPSOID HEIGHT CONVERTED TO WLG 53).	
2. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL SURVEY MARKS AND THEIR OFFSET POSITIONS.	
GENERAL	
1. CADASTRAL BOUNDARIES ARE INDICATIVE ONLY AND TO BE VERIFIED BY SURVEY.	
2. ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.	
3. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER.	
4. ALL LOCATIONS OF HYDRAULIC STRUCTURES TO BE CONFIRMED ON SITE.	
5. REFER TO EXISTING SERVICE SERIES C200 FOR EXPECTED SERVICE DEPTHS FROM GPR SCANNING. NOTE ONLY SERVICES WITH DEPTHS SHOWN HAVE BEEN LOCATED WITH GPR. ALL OTHER BURIED SERVICES ARE IDENTIFIED FROM SERVICE PROVIDER RECORDS AND YET TO BE VERIFIED.	
SERVICES	
1. PIPES, CABLES AND OTHER UTILITIES ON THIS DRAWING ARE BASED ONLY ON READILY AVAILABLE RECORD PLANS AND OTHER INFORMATION. THIS INFORMATION MAY NOT BE COMPLETE, ACCURATE NOR UP TO DATE. PRIOR TO CARRYING OUT ANY EXCAVATION OR OTHER PHYSICAL WORKS, CONTRACTORS SHALL OBTAIN THE LATEST INFORMATION FROM UTILITY PROVIDERS AND CARRY OUT DETAILED EXPLORATORY WORK, TRACING, LOCATING, PROTECTION AND ALTERATIONS AS ARE REQUIRED UNDER NZS 3910 CLAUSE 5.13.	
2. FOR EXISTING SERVICES' PLEASE REFER TO C200 SERIES DRAWINGS.	
3. FOR SERVICE RELOCATIONS' PLEASE REFER TO C220 SERIES DRAWINGS.	
CULVERTS AND STORMWATER PIPES	
1. TO BE READ IN CONJUNCTION WITH DRAINAGE LAYOUT PLANS, C500 SERIES.	
2. EXISTING SW PIPES ARE TYPICALLY CONCRETE.	
3. NEW CULVERTS ≤ DN1200 SHALL BE RCRRJ CLASS 4 OR EQUIVALENT APPROVED - REFER NOTE 5.	
4. NEW CULVERTS > DN1200 SHALL BE RCRRJ CLASS 4.	
5. MATERIALS OTHER THAN RCRRJ SHALL BE CONTRACTOR DESIGNED. THE SUITABILITY OF THE MATERIAL FOR THE APPLICATION (INCLUDING LOADING CONDITIONS AND REQUIRED STIFFNESS CLASS) SHALL BE AGREED WITH THE ENGINEER FOR EACH INSTANCE AND PRIOR TO ORDERING.	
6. EXISTING CULVERTS SHALL BE EXPOSED, MADE REASONABLY ACCESSIBLE, CLEANED BY HIGH PRESSURE WATER JETTING AND INSPECTED BY CCTV OR OTHER APPROPRIATE MEANS, SURVEYED (ALIGNMENT, LEVELS, GRADE, DIAMETER, MATERIAL) TO CONFIRM THEIR CONDITION AND IDENTIFY ANY DEFECTS. ACTIONS REQUIRED SHALL BE AGREED WITH THE ENGINEER PRIOR TO UNDERTAKING FURTHER WORK.	
7. GROUND LEVELS ARE INTERPOLATED AND ARE INDICATIVE ONLY. ACTUAL SITE LEVELS MAY VARY.	
8. LOCALISED FILL SHALL BE PLACED OVER PIPE BETWEEN CARRIAGEWAY AND HEADWALL WHERE IT IS NOT SHOWN.	
9. TRANSITION BETWEEN FLUMES AND LONGITUDINAL DRAINS SHALL BE AGREED WITH ENGINEER.	
10. REFER TO TYPICAL STANDARD DRAWINGS C900 SERIES: CULVERT BEDDING: SD205. PIPE BEDDING AND TRENCH DETAILS: SD205. SERVICE REINSTATEMENT: SD110.	

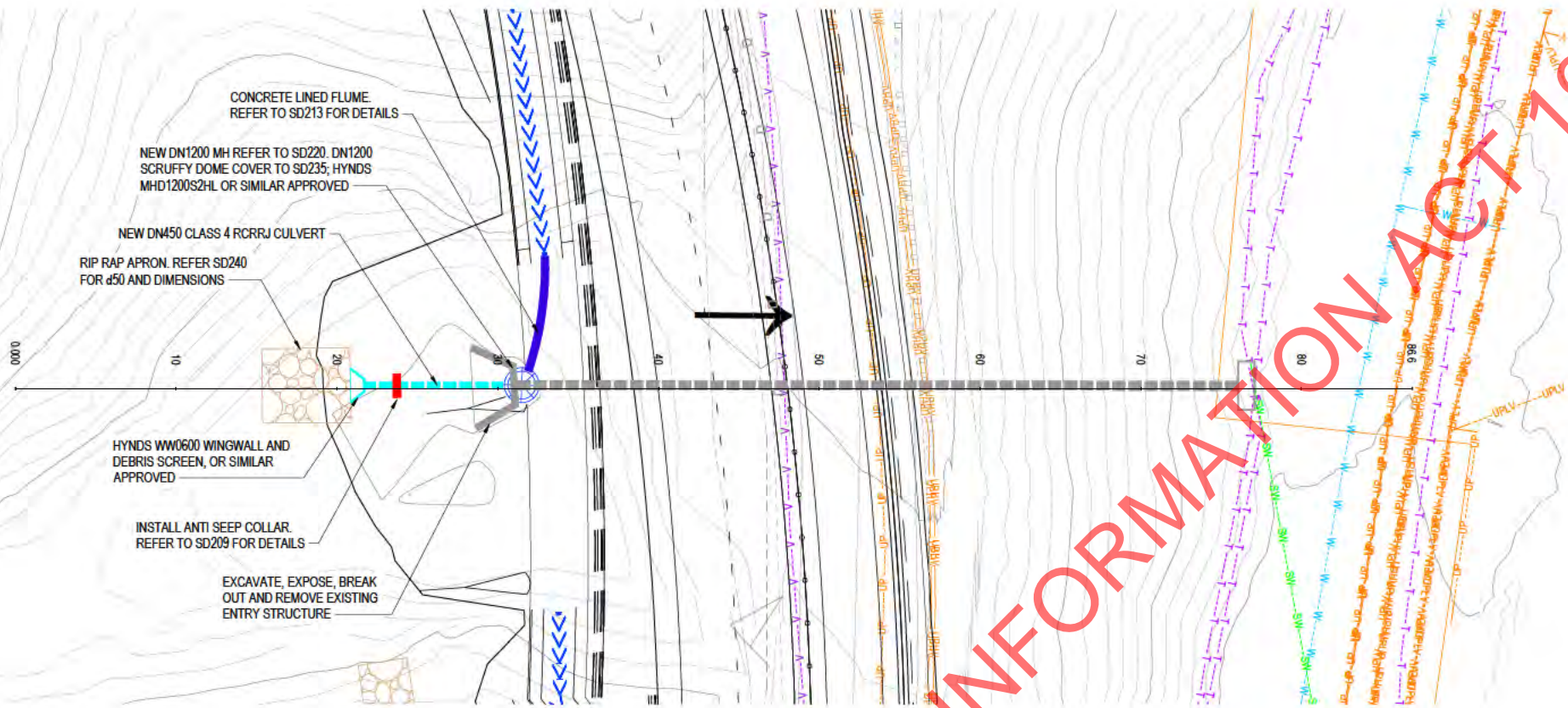
RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV</th> <th>FOR CONSTRUCTION ISSUE</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>FOR CONSTRUCTION ISSUE</td> <td>30.08.19</td> </tr> </tbody> </table>	REV	FOR CONSTRUCTION ISSUE	DATE	1	FOR CONSTRUCTION ISSUE	30.08.19	<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td>SURVEYED</td> <td>Adamson Shaw</td> <td>02.18</td> </tr> <tr> <td>DESIGNED</td> <td>s9(2)(a)</td> <td>08.19</td> </tr> <tr> <td>DRAWN</td> <td></td> <td>08.19</td> </tr> <tr> <td>CAD REVIEW</td> <td></td> <td>30.08.2019</td> </tr> <tr> <td>DESIGN CHECK</td> <td></td> <td>30.08.2019</td> </tr> <tr> <td>DESIGN REVIEW</td> <td></td> <td>30.08.2019</td> </tr> <tr> <td>APPROVED</td> <td></td> <td>30.08.2019</td> </tr> </tbody> </table>	SURVEYED	Adamson Shaw	02.18	DESIGNED	s9(2)(a)	08.19	DRAWN		08.19	CAD REVIEW		30.08.2019	DESIGN CHECK		30.08.2019	DESIGN REVIEW		30.08.2019	APPROVED		30.08.2019	<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </tbody> </table>			<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td colspan="2" style="text-align: center;">SH58 SAFETY IMPROVEMENTS - STAGE 1 STRUCTURAL - CULVERTS</td> </tr> <tr> <td colspan="2" style="text-align: center;">CULVERT GENERAL NOTES AND LEGEND</td> </tr> </tbody> </table>	SH58 SAFETY IMPROVEMENTS - STAGE 1 STRUCTURAL - CULVERTS		CULVERT GENERAL NOTES AND LEGEND	
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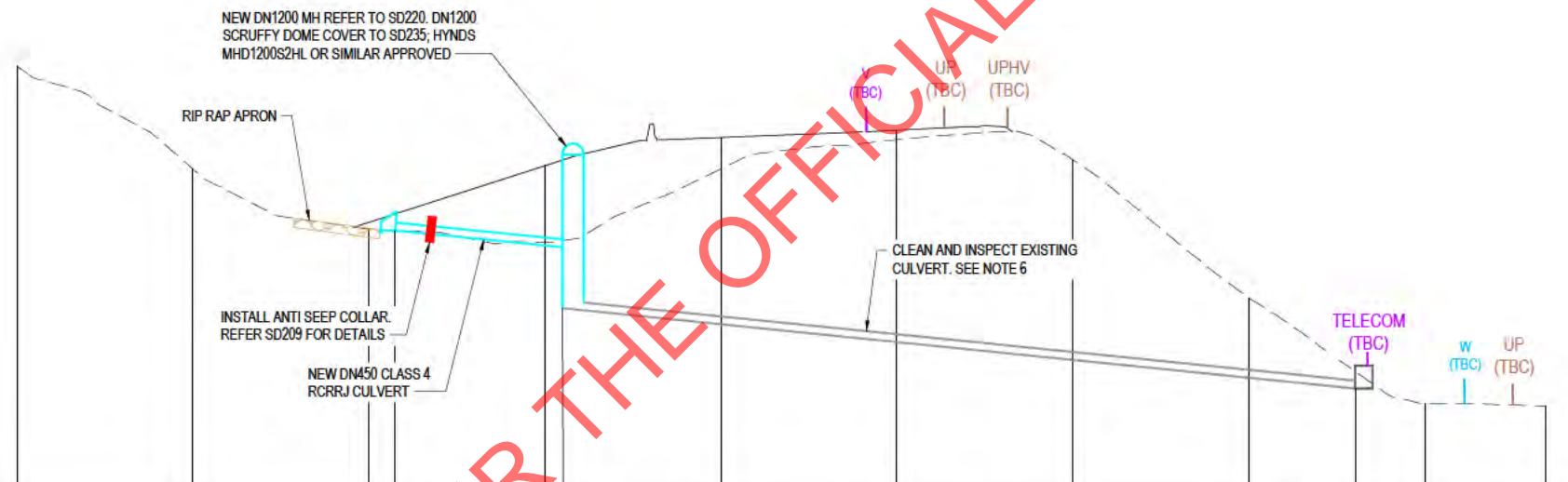
DO NOT SCALE - IF IN DOUBT, ASK

20mm
180
100
90
80
70
60
50
40
30
20
10
0

ORIGINAL SIZE A1



PLAN
SCALE 1 : 200



MZ00 - LONGITUDINAL SECTION
SCALES - HZ 1:200
VT 1:200

DATUM RL 40.00		GRADE -10% LENGTH 98 m		EXISTING CULVERT GRADE -10.1% LENGTH 45.2 m					
PIPE GRADE									
DEPTH TO INVERT									
INDICATIVE INVERT LEVEL		54.984	54.239 50.631	49.719	46.702	47.687	46.672	46.062	
DESIGN ROAD LEVEL			58.725	60.331	60.743				
EXISTING LEVEL	64.384	64.334	56.120	54.365	58.549	60.205	58.067	51.209	46.218
CHAINAGE	0.000	10000	20000	30000	40000	50000	60000	70000	80000
									88887

- NOTES**
1. TO BE READ IN CONJUNCTION WITH C350 - C100 "GENERAL NOTES AND LEGEND"
 2. TO BE READ IN CONJUNCTION WITH C500 SERIES OF DRAWINGS "DRAINAGE LAYOUT PLANS"
 3. FOR NOTES ON SERVICES REFER NOTES ON DRAWING 350-C100.
 4. POT HOLE SERVICES PRIOR TO CONSTRUCTION
 5. WHERE EXISTING DRAINAGE ASSETS ARE TO BE REPLACED, THEY SHALL BE BROKEN OUT AND REMOVED TO MINIMUM 800mm BELOW FINISHED ROAD LEVEL OR AS REQUIRED TO SUIT NEW ASSETS. REMAINING ASSETS SHALL BE REMOVED OR ABANDONED. PIPES SHALL BE COMPLETELY GROUTED, CHAMBERS SHALL BE FILLED WITH AP65 COMPACTED TO 95% MDD
 6. WHERE EXISTING CULVERTS ARE TO BE RETAINED AND EXTENDED, THEY SHALL BE INSPECTED IN ACCORDANCE WITH WATER NZ PIPE INSPECTION MANUAL. PROVIDE LOG SHEETS TO THE ENGINEER AND FOOTAGE ON REQUEST.

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982



SCALE 1:200

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DESIGN REVIEW		30.08.2019
APPROVED		30.08.2019



SH58 SAFETY IMPROVEMENTS - STAGE 1
STRUCTURAL - CULVERTS

CULVERT CH680
PLAN AND LONGITUDINAL SECTION

Status Stamp	FOR CONSTRUCTION
Date Stamp	30.08.19
Scales	AS SHOWN
Drawing No.	80510096-06-350-C105
Rev.	1

- NOTES**
1. TO BE READ IN CONJUNCTION WITH C350 - C100 "GENERAL NOTES AND LEGEND"
 2. TO BE READ IN CONJUNCTION WITH C500 SERIES OF DRAWINGS "DRAINAGE LAYOUT PLANS"
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RIP RAP APRON. REFER SD240 FOR d50 AND DIMENSIONS
 HYNDS WW 1050 WINGWALL AND DEBRIS SCREEN, OR SIMILAR APPROVED

INSTALL ANTI SEEP COLLARS. REFER TO SD209 FOR DETAILS

PROPOSED NEW GROUND PROFILE

HYNDS WW 1050 WINGWALL OR SIMILAR APPROVED

RIP RAP APRON

INSTALL ANTI SEEP COLLARS. REFER TO SD209 FOR DETAILS

NEW DN900 CLASS 4 RCRRJ CULVERT

PROPOSED DN300 CULVERT

PROPOSED NEW GROUND PROFILE
 RL= 60.099

HYNDS WW 1050 WINGWALL OR SIMILAR APPROVED

MATCH HEADWALL INVERT TO EXISTING STREAM

RIP RAP APRON

25MPa MASS CONCRETE RING, 2000mm HIGH x 500mm THICK

DATUM RL 46.00	
P PE GRADE	GRADE -32.1% LENGTH 90.1m
DEPTH TO INVERT	GRADE -1% LENGTH 9.5m
INDICATIVE INVERT LEVEL	
DESIGN ROAD LEVEL	
EXISTING LEVEL	
CHAINAGE	

MZ005 - LONGITUDINAL SECTION
 SCALES - HZ 1:200
 VT 1:200



SCALE 1:200

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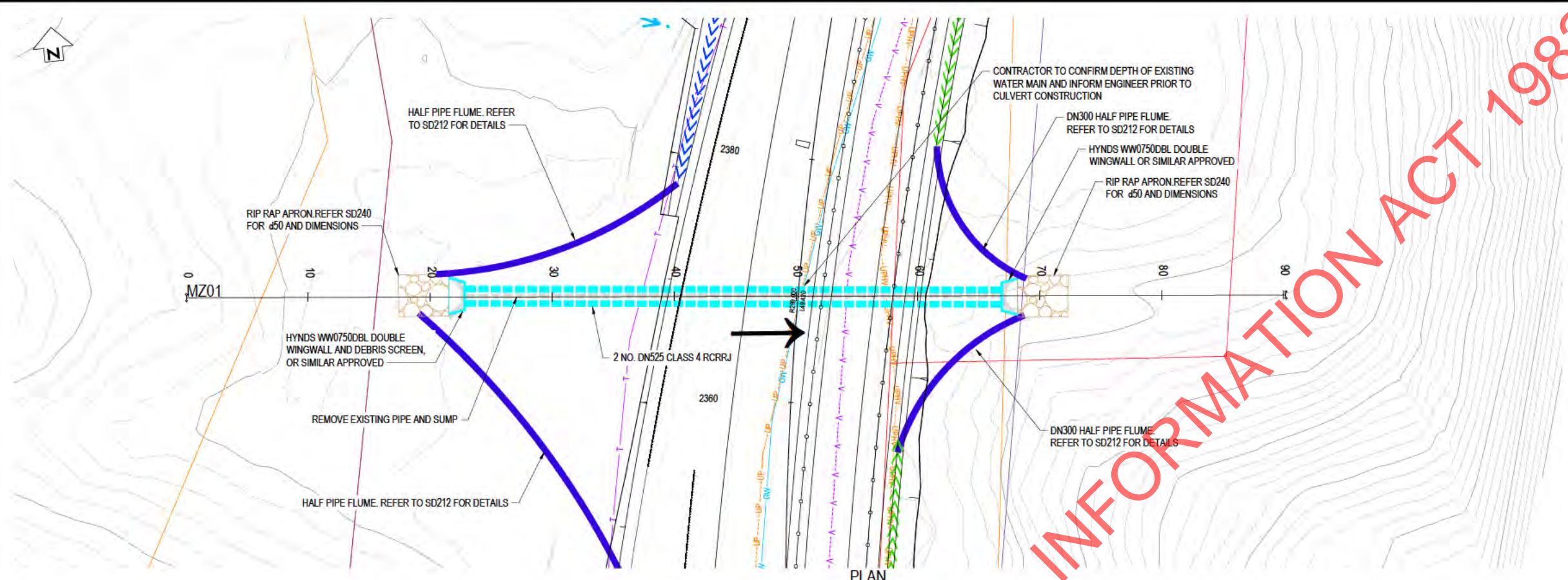


SH58 SAFETY IMPROVEMENTS - STAGE 1
 STRUCTURAL - CULVERTS
 CULVERT CH880
 PLAN AND LONGITUDINAL SECTION

Status Stamp	FOR CONSTRUCTION
Date Stamp	30.08.19
Scale	AS SHOWN
Drawing No.	80510096-06-350-C110
Rev.	1

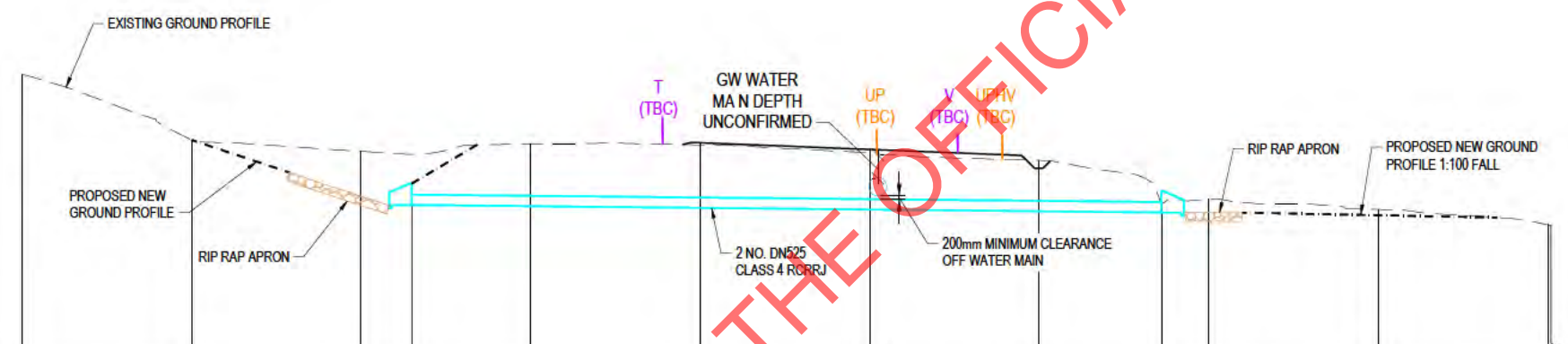
DO NOT SCALE - IF IN DOUBT, ASK

ORIGINAL SIZE A1



PLAN
SCALE 1 : 200

- NOTES**
1. TO BE READ IN CONJUNCTION WITH C350 - C100 "GENERAL NOTES AND LEGEND"
 2. TO BE READ IN CONJUNCTION WITH C500 SERIES OF DRAWINGS "DRAINAGE LAYOUT PLANS"
 3. FOR NOTES ON SERVICES REFER NOTES ON DRAWING 350-C100.
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CHANG	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	90.207
EXISTING LEVEL	172.845	168.978	168.309	168.746	168.891	168.214	167.786	165.468	164.894	163.983	163.988
DESIGN ROAD LEVEL					168.918	168.422	167.319				
INDICATIVE INVERT LEVEL			166.151	166.079	164.981	164.881	164.781	164.709			
DEPTH TO INVERT			-2.861	-3.670	-3.770	-3.333	-3.005	-0.491			
PIPE GRADE			GRADE -1% LENGTH 44.2 m								

MZ01 - LONGITUDINAL SECTION
SCALES - HZ 1:200
VT 1:200

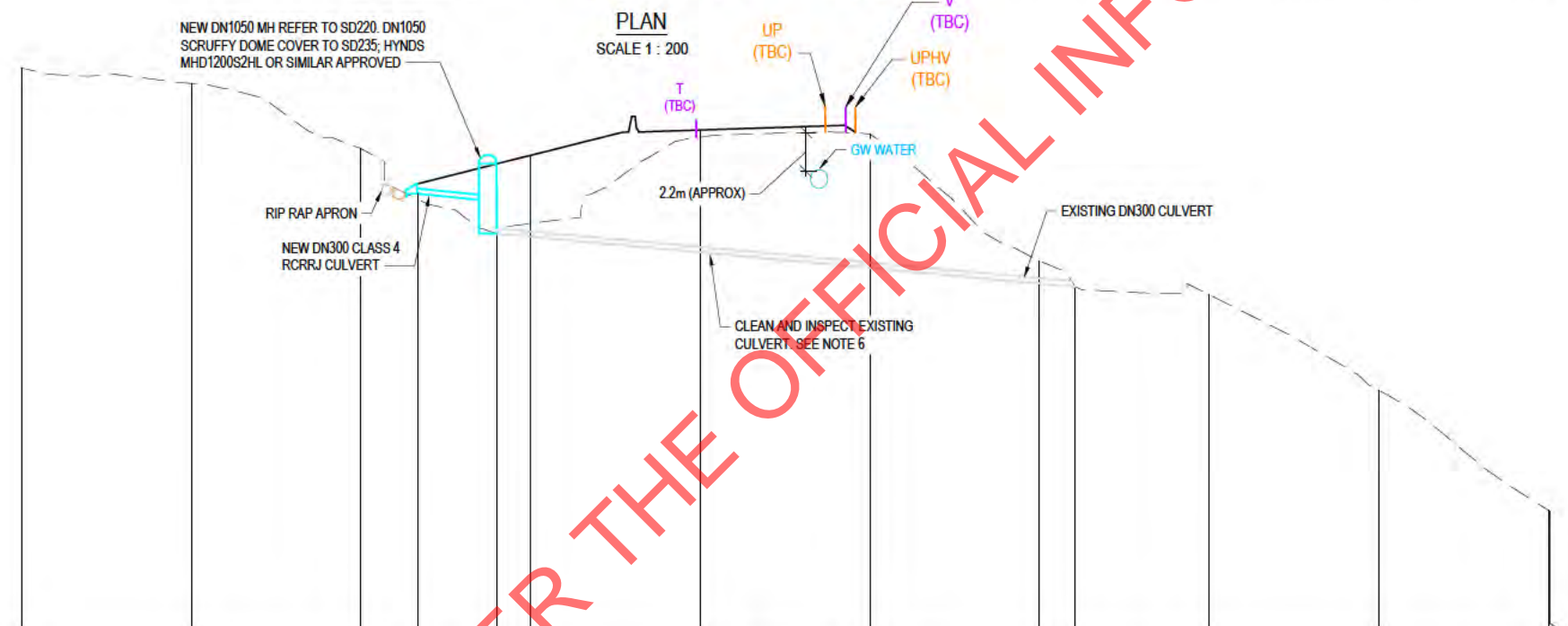
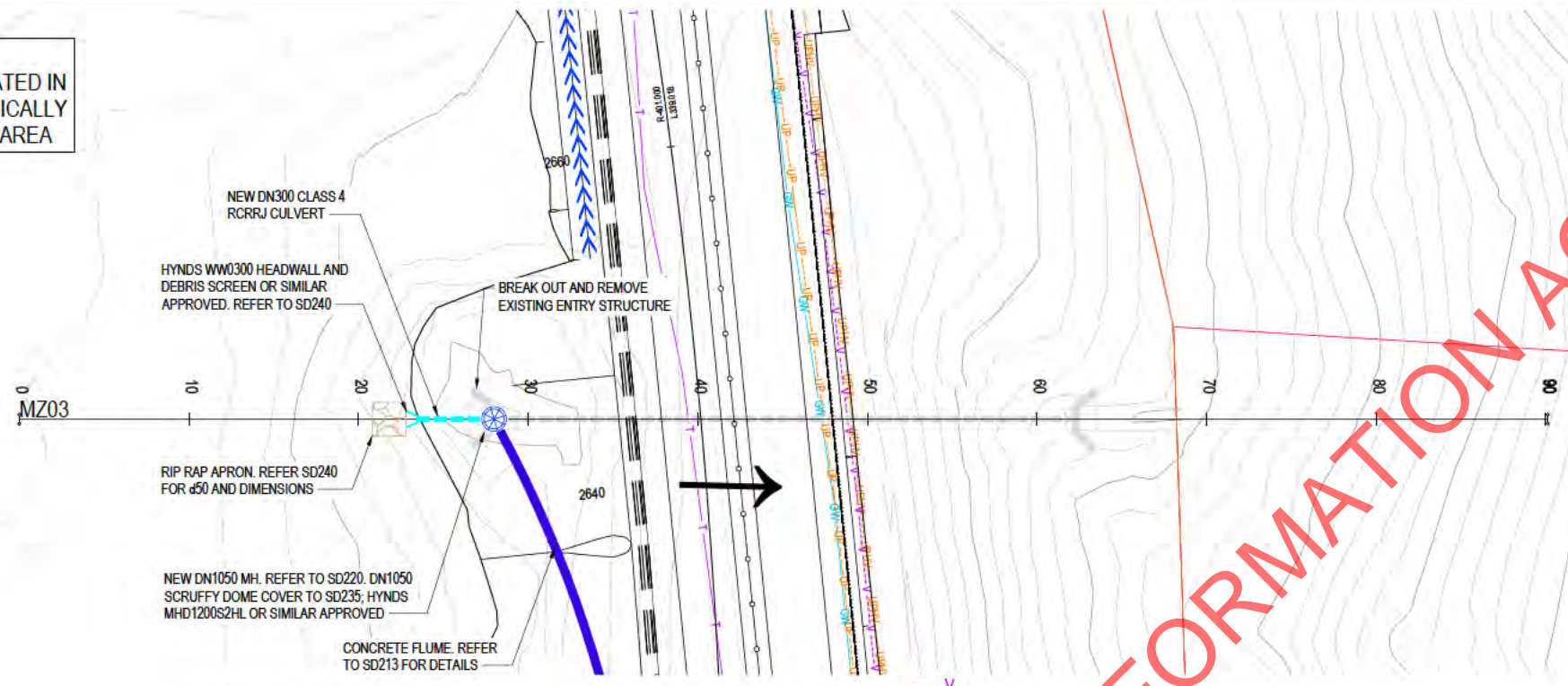


SCALE 1:200

1 FOR CONSTRUCTION ISSUE REVISIONS	SURVEYED	Adamson Shaw	02.18			SH58 SAFETY IMPROVEMENTS - STAGE 1 STRUCTURAL - CULVERTS	FOR CONSTRUCTION Date Stamp: 30.08.19
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	DRAWN		08.19				
	CAD REVIEW		30.08.2019				
	DESIGN CHECK		30.08.2019				
DESIGN REVIEW		30.08.2019	CULVERT CH2350 PLAN AND LONGITUDINAL SECTION	Scale: AS SHOWN Drawing No.: 80510096-06-350-C115 Rev: 1			
APPROVED		30.08.2019					
PROF REGISTRATION:							

CAUTION
INLET LOCATED IN
GEOTECHNICALLY
UNSTABLE AREA

- NOTES**
1. TO BE READ IN CONJUNCTION WITH C350 - C100 "GENERAL NOTES AND LEGEND"
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 3. FOR NOTES ON SERVICES REFER NOTES ON DRAWING 350-C100.
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 6. WHERE EXISTING CULVERTS ARE TO BE RETAINED AND EXTENDED, THEY SHALL BE INSPECTED IN ACCORDANCE WITH WATER NZ PIPE INSPECTION MANUAL. PROVIDE LOG SHEETS TO THE ENGINEER AND FOOTAGE ON REQUEST.



PIPE GRADE	GRADE 16% LENGTH 33.6m		EXISTING CULVERT GRADE 9.1% LENGTH 34.2m	
DEPTH TO INVERT	0.97	0	-0.75	-0.75
INDICATIVE INVERT LEVEL	160.826	158.480	158.252	157.374
DESIGN ROAD LEVEL			163.080	164.875
EXIST NG LEVEL	168.226	167.313	163.480	164.157
CHAINAGE	0+000	0+000	20+000	30+000
				40+000
				50+000
				60+000
				70+000
				80+000
				90+000
				90+107

MZ03 - LONGITUDINAL SECTION
SCALE: HZ 1:200
VT 1:200

ORIGINAL SIZE A1
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PROF REGISTRATION:		

Stantec

NZ TRANSPORT AGENCY
WAKA MATIHI

SH58 SAFETY IMPROVEMENTS - STAGE 1
STRUCTURAL - CULVERTS

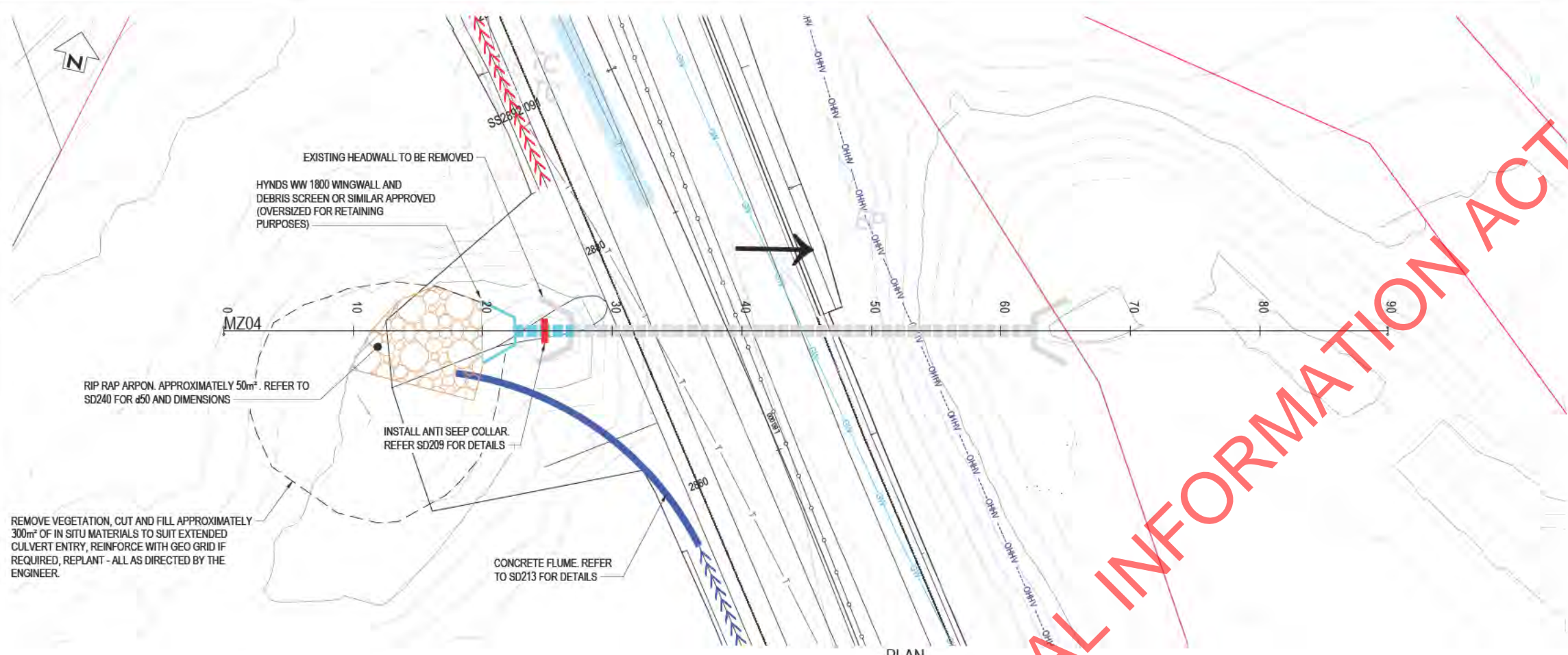
CULVERT CH2640
PLAN AND LONGITUDINAL SECTION

Status Stamp	FOR CONSTRUCTION
Date Stamp	30.08.19
Scale	AS SHOWN
Drawing No.	80510096-06-350-C125
Rev.	1

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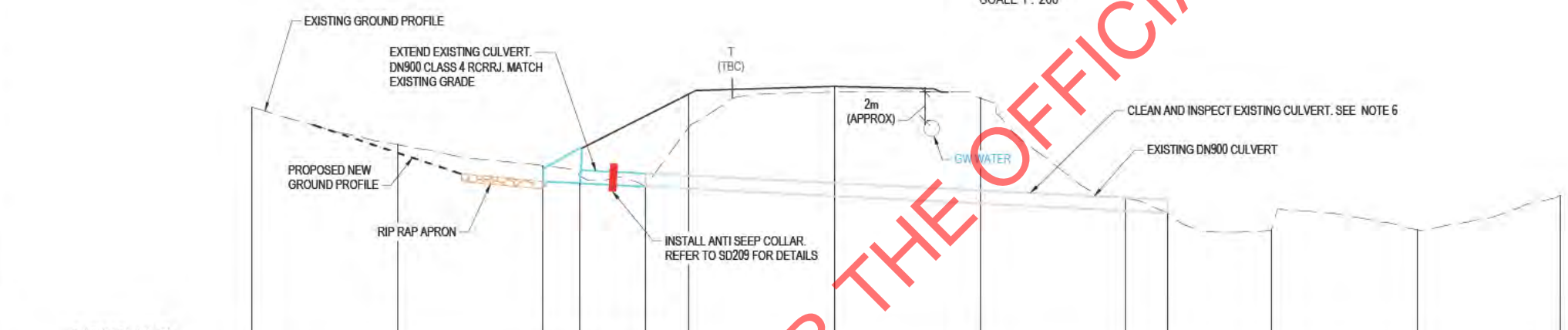
20mm
150
100
50
30
20
10
0

ORIGINAL SIZE A1



PLAN
SCALE 1 : 200

- NOTES**
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DATUM RL 141.50	
P PE GRADE	EXISTING CULVERT GRADE -0.0 % LENGTH 35.5 m
DEPTH TO INVERT	GRADE -5.0 % LENGTH 4.4 m
INDICATIVE INVERT LEVEL	
DESIGN ROAD LEVEL	
EXISTING LEVEL	
CH A NAGE	

MZ04 - LONGITUDINAL SECTION
SCALES - HZ 1:200
VT 1:200

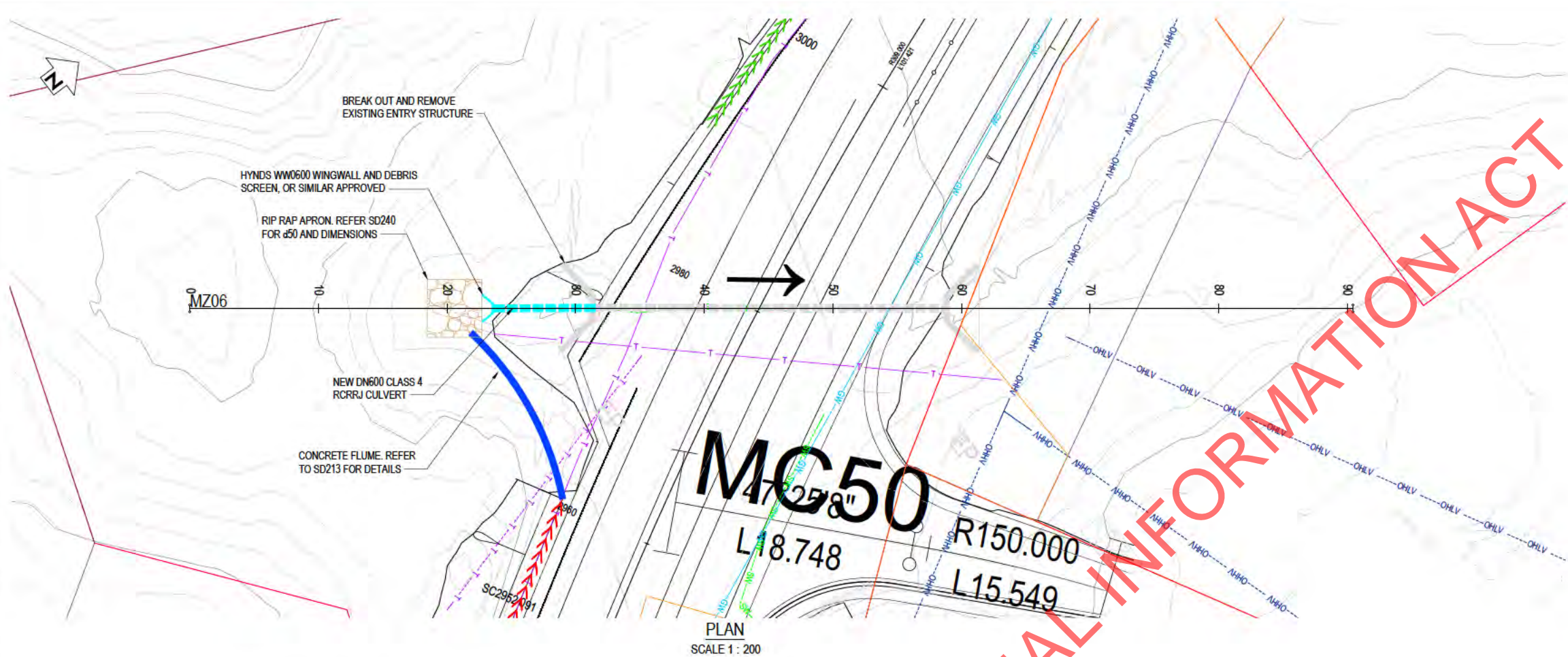


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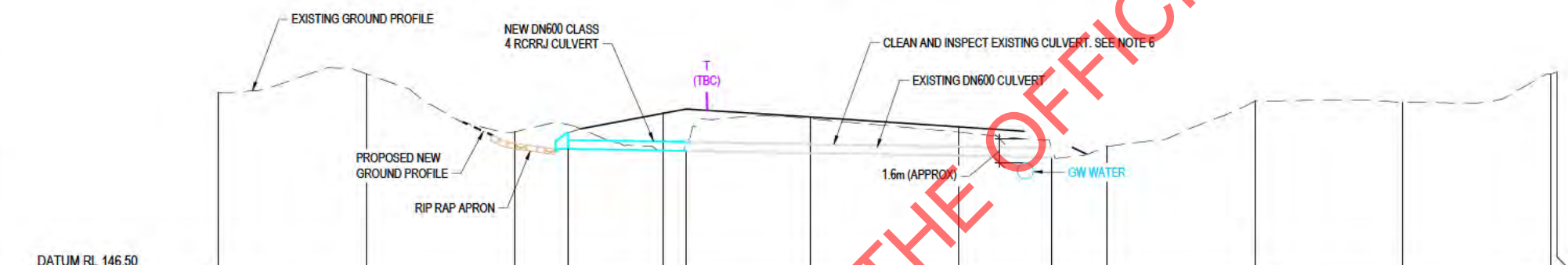
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20mm
10
20
30
40
50
60
70
80
90
100

ORIGINAL SIZE A1



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DATUM RL 146.50

PIPE GRADE		GRADE -1.7% LENGTH 7.9 m	EXISTING CULVERT GRADE -1.1% LENGTH 24.7 m								
DEPTH TO INVERT		-1.630	-0.025	-1.586							
INDICATIVE INVERT LEVEL		154.796	154.668	154.220							
DESIGN ROAD LEVEL		157.179	156.805	156.274							
EXISTING LEVEL	158.556	158.841	158.933	158.918	158.916	158.938	158.908	157.948	158.838	158.957	
CHAINAGE	0.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000

MZ06 - LONGITUDINAL SECTION
 SCALES - HZ 1:200
 VT 1:200



<p>1 FOR CONSTRUCTION ISSUE</p>	<p>REVISIONS</p>	<p>DATE</p>	<p>PROF REGISTRATION:</p>	<p>SURVEYED Adamson Shaw 02.18</p> <p>DESIGNED s9(2)(a) 08.19</p> <p>DRAWN s9(2)(a) 08.19</p> <p>CAD REVIEW 30.08.2019</p> <p>DESIGN CHECK 30.08.2019</p> <p>DESIGN REVIEW 30.08.2019</p> <p>APPROVED 30.08.2019</p>	<p>Client</p> <p>Stantec</p> <p>NZ TRANSPORT AGENCY</p>	<p>SH58 SAFETY IMPROVEMENTS - STAGE 1 STRUCTURAL - CULVERTS</p> <p>CULVERT CH2980 PLAN AND LONGITUDINAL SECTION</p>	<p>Status Stamp</p> <p>FOR CONSTRUCTION</p> <p>Date Stamp</p> <p>30.08.19</p> <p>Scale</p> <p>AS SHOWN</p> <p>Drawing No.</p> <p>80510096-06-350-C135</p> <p>Rev.</p> <p>1</p>
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