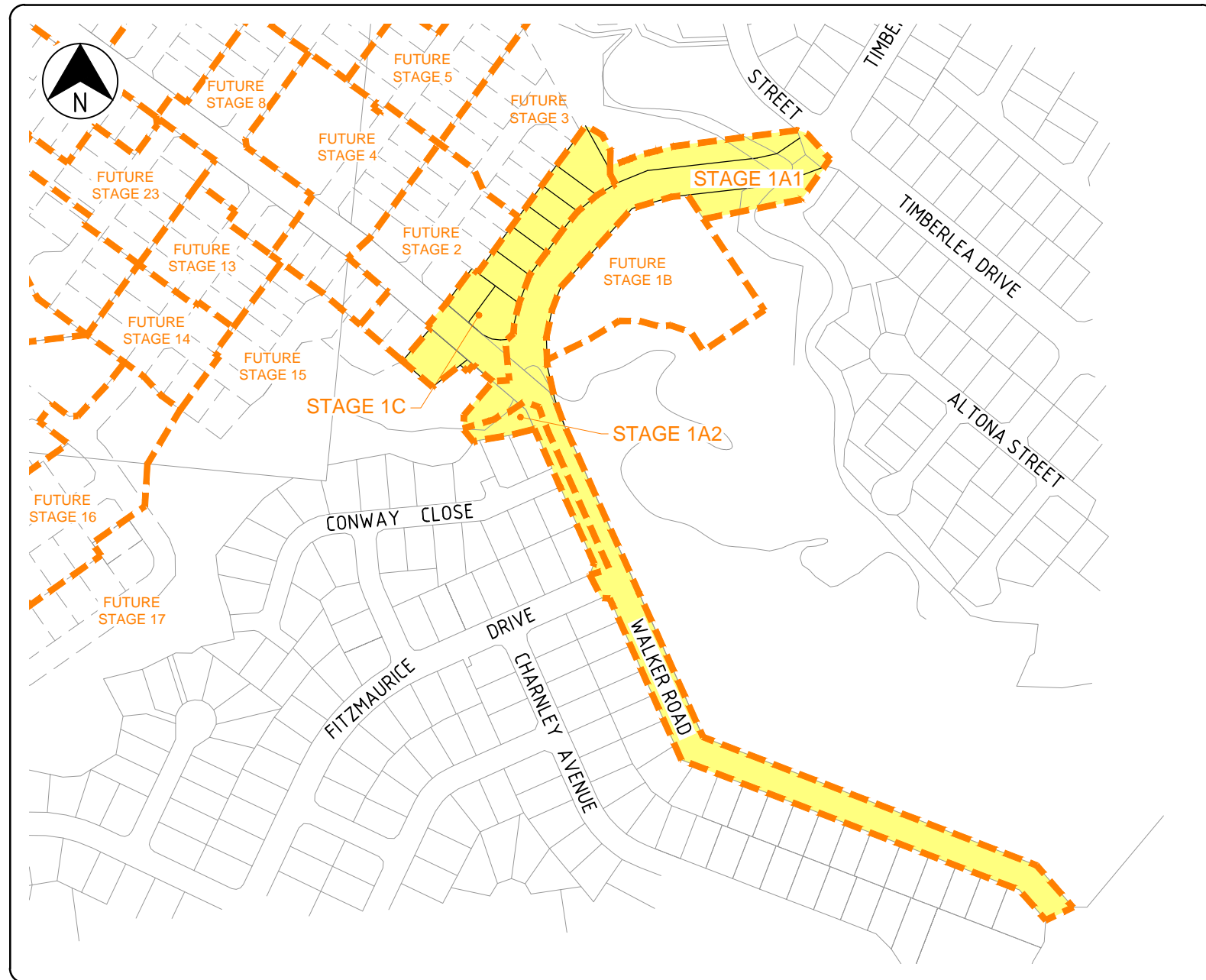


BENTLEY CROSSING - STAGES 1A & 1C

DRAWING INDEX



LOCALITY PLAN
N.T.S.

DRAWING No.	DRAWING TITLE
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IH035500-CI-DG-0001	GENERAL NOTES
IH035500-CI-DG-0002	GENERAL ARRANGEMENT - SHEET 1 OF 2
IH035500-CI-DG-0003	GENERAL ARRANGEMENT - SHEET 2 OF 2
IH035500-CI-DG-0004	EARTHWORKS - SHEET 1 OF 2
IH035500-CI-DG-0005	EARTHWORKS - SHEET 2 OF 2
IH035500-CI-DG-0006	MISCELLANEOUS SECTIONS AND DETAILS
IH035500-CI-DG-0007	ROAD LONGITUDINAL SECTIONS - SHEET 1 OF 3
IH035500-CI-DG-0008	ROAD LONGITUDINAL SECTIONS - SHEET 2 OF 3
IH035500-CI-DG-0008A	ROAD LONGITUDINAL SECTIONS - SHEET 3 OF 3
IH035500-CI-DG-0009	ROAD CROSS SECTIONS - SHEET 1 OF 4
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IH035500-CI-DG-0014	INTERSECTION DETAILS - SHEET 1 OF 2
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IH035500-CI-DG-0016	INTERSECTION LINEMARKING DETAILS
IH035500-CI-DG-0017	CONCRETE BANDING DETAILS
IH035500-CI-DG-0018	STORMWATER DRAINAGE
IH035500-CI-DG-0019	STORMWATER DRAINAGE DETAILS
IH035500-CI-DG-0020	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 1 OF 2
IH035500-CI-DG-0021	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 2 OF 2
IH035500-CI-DG-0022	SEWERAGE - SHEET 1 OF 2
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IH035500-CI-DG-0028	WATER RETICULATION
IH035500-CI-DG-0029	TRUNK WATER MAIN COMPILATION PLAN AND GENERAL NOTES
IH035500-CI-DG-0030	TRUNK WATER MAIN PLAN AND LONGITUDINAL SECTION - SHEET 1 OF 2
IH035500-CI-DG-0031	TRUNK WATER MAIN PLAN AND LONGITUDINAL SECTION - SHEET 1 OF 2
IH035500-CI-DG-0032	TRUNK WATER MAIN MISCELLANEOUS DETAILS - SHEET 1 OF 3
IH035500-CI-DG-0033	TRUNK WATER MAIN MISCELLANEOUS DETAILS - SHEET 2 OF 3
IH035500-CI-DG-0034	TRUNK WATER MAIN MISCELLANEOUS DETAILS - SHEET 3 OF 3
IH035500-CI-DG-0035	EROSION AND SEDIMENT CONTROL STRATEGY PHASE 1 - TOPSOIL STRIPPING
IH035500-CI-DG-0036	EROSION AND SEDIMENT CONTROL STRATEGY PHASE 2 - EARTHWORKS
IH035500-CI-DG-0037	EROSION AND SEDIMENT CONTROL STRATEGY PHASE 3 - ROAD WORKS
IH035500-CI-DG-0038	EARTHWORKS SPOIL PLAN
IH035500-CI-DG-0039	LINEMARKING DETAILS PLAN

INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALIA STANDARD DRAWINGS

DRAWING No.	DRAWING TITLE
D-0040	SEDIMENT CONTROL DEVICES - SEDIMENT FENCE, ENTRY/EXIT SEDIMENT TRAP
D-0041	SEDIMENT CONTROL DEVICES - KERB AND FIELD INLETS, CHECK DAMS & STRAW BALE BANKS

FNQROC STANDARD DRAWINGS

DRAWING No.	DRAWING TITLE
S1000 - S1110	ROADWORKS AND DRAINAGE
S2000 - S2050	WATER
S3000 - S3015	SEWERAGE

DRAWING AMENDED BY PDR ENGINEERS - 18-12-2015

REV	DATE	DRAWN	REV'D	APP'D	REVISION
C	018.12.15	DM	GH	AMcP	ADDITIONAL DRAWINGS
B	01.05.15	JAH	CJC	RJC	DRAWING INDEX REVISED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

CLIENT	WALKER ROAD PTY LTD		
PROJECT	BENTLEY CROSSING - STAGES 1A & 1C		
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE LOCALITY PLAN AND DRAWING INDEX	
SCALE N.T.S.	DRAWING No. IH035500-CI-DG-0000
	REV C

GENERAL ARRANGEMENT

GENERAL

- FOR EARTHWORKS DETAILS REFER DRG. DG-0004 AND DG-0005.
- FOR TYPICAL CROSS SECTIONS AND CONTROL LINE SETOUT DETAILS REFER DRG. DG-0006.
- FOR ROAD LONGITUDINAL SECTIONS REFER DRGS. DG-0007 AND DG-0008.
- FOR KERB PROFILE DETAILS REFER FNQROC STD. DRG. S1000.
- FOR KERB RAMP DETAILS REFER STD. DRG. S1016.
- FOR STREET NAME POST DETAILS REFER FNQROC STD. DRG. S1040, AND LANDSCAPING DRAWINGS FOR POST DEATILS.
- CONTRACTOR TO PROVIDE PUBLIC NOTIFICATION/SIGNS (REFER FNQROC DEVELOPMENT MANUAL CP1.11).
- CLEARED VEGETATION SHALL BE MULCHED ON SITE BY THE CONTRACTOR.
- FOR CONCRETE PATHWAY DETAILS REFER FNQROC STD. DRG. S1035. PATHWAY TO FOLLOW KERB ALIGNMENT, REFER DRG. DG-0002 FOR DETAILS.
- FOR ACCESS CROSSOVER DETAILS REFER FNQROC STD. DRG. S1015.
- JOIN NEATLY TO EXISTING ROADS. REFER DETAIL ON DRG. DG-0006.
- FOR TYPICAL VERGE ARRANGEMENT REFER FNQROC STD DRG. S1004.
- WHERE WORKS ARE ADJACENT TO PARKLAND OR DRAINAGE RESERVES PROVIDE TEMPORARY FENCE FOR THE DURATION OF CONSTRUCTION TO RESTRICT BUILDING ACCESS.

EXISTING SERVICES

- EXISTING SERVICES ARE PLOTTED FROM THE BEST INFORMATION AVAILABLE. NO RESPONSIBILITY IS TAKEN BY THE PRINCIPAL OR SUPERINTENDENT FOR THE ACCURACY AND COMPLETENESS OF THE INFORMATION SHOWN.
- PRIOR TO THE COMMENCEMENT OF CONSTRUCTION THE CONTRACTOR IS TO ESTABLISH ON SITE THE EXACT POSITION OF ALL UNDERGROUND SERVICES IN THE PROPOSED WORKS AREA. METHODS FOR ACHIEVING THIS WILL INCLUDE BUT NOT BE LIMITED TO:-
 - CAREFUL EXAMINATION OF THE CONTRACT DRAWINGS.
 - CONSULTATION WITH THE RELEVANT SERVICE AUTHORITIES.
 - COMPREHENSIVELY SCANNING THE AFFECTED AREAS WITH A CABLE DETECTOR AND MARKING ON THE GROUND THE POSITION OF ALL SERVICES.
 - HAND EXCAVATING TO EXPOSE ALL SUCH SERVICES WHICH MAY BE AFFECTED BY THE PROPOSED WORKS UNDER THE DIRECTION OF THE RELEVANT SERVICE AUTHORITY.
- THE CONTRACTOR IS TO BRING TO THE SUPERINTENDENT'S ATTENTION ANY DISCREPANCIES BETWEEN THE EXISTING SERVICES THUS IDENTIFIED AND DOCUMENTED SERVICES WHICH MIGHT AFFECT THE PROPOSED WORKS. APPROPRIATE MEASURES TO RESOLVE ANY CONFLICTS WILL BE DOCUMENTED BY THE SUPERINTENDENT.

EARTHWORKS

- THE CONTRACTOR IS TO LOCATE ALL EXISTING SERVICES IN THE WORKS AREA PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- ALL BATTERS TO ROAD FRONTAGES OF LOTS ARE 1 ON 4 OR FLATTER. ALL OTHER BATTERS ARE 1 ON 1 U.N.O.
- FOR STORMWATER PIT LOCATIONS REFER DRG. DG-0018.
- BATTERS TO BE ADJUSTED LOCALLY AROUND SEWER MANHOLES. REFER DRG. DG-0022 FOR DETAILS.
- ALL BATTERS STEEPER THAN 1 IN 2 AND HIGHER THAN 1.5m SHALL REQUIRE CERTIFICATION AS TO THE STABILITY BY A GEOTECHNICAL ENGINEER.
- ALL FILLING IN EXCESS OF 600mm IN DEPTH TO BE SPREAD AND COMPATED UNDER LEVEL 1 CONTROL.

INTERSECTION DETAILS

- ALL KERB SETOUT DETAILS REFER TO THE LIP LINE OF KERB AND CHANNEL OR FACE OF KERB AS APPLICABLE.
- FOR KERB PROFILE DETAILS REFER FNQROC STD. DRG. S1000.
- ALL TRAFFIC SIGNS AND PAVEMENT MARKING TO BE IN ACCORDANCE WITH 'T.M.R. MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES' PARTS 1-15.
- ALL REGULATORY, WARNING AND HAZARD SIGNS TO BE SIZE 'A' UNLESS NOTED OTHERWISE.

STORMWATER DRAINAGE

- FOR STANDARD STORMWATER DRAINAGE DETAILS REFER FNQROC STD. DRGS. S1045-S1100 INCLUSIVE.
- THE CONTRACTOR IS TO LOCATE ALL EXISTING SERVICES IN THE WORKS AREA PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. REFER NOTES REGARDING EXISTING SERVICES.
- SUBSURFACE DRAINS TO BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATION, FLUSHING POINTS IN ACCORDANCE WITH FNQROC STD. DRG. S1095.
- SETOUT OF STORMWATER DRAINAGE STRUCTURES REFER TO:
 - CENTRE OF GRATE ON FIELD INLET PIT OR KERB INLET LINE FOR KERB INLET PITS
 - CENTRELINE OF PIPE AT TOP OF HEADWALL FOR HEADWALLS
 - CENTRE OF COLLECTION PIT FOR GROSS POLLUTANT TRAP AND PIPES
- FOR STORMWATER LONGITUDINAL SECTIONS REFER DRGS. DG-0020 AND DG-0021.
- ALL STORMWATER PIPES ARE TO BE CLASS 2 FJ, RCP'S U.N.O.
- PRIOR TO ORDERING THE GPT, THE CONTRACTOR SHALL CONFIRM THE FINISHED SURFACE LEVEL TAKING INTO ACCOUNT VERGE CROSS FALL AND ADVISE THE SUPERINTENDENT OF ANY DISCREPANCIES.
- PRIOR TO COMMENCEMENT OF PIPEWORK, THE CONTRACTOR IS TO CONFIRM THE INVERT LEVEL OF DOWNSTREAM DRAINAGE TO ENSURE THE STORMWATER SYSTEM CAN DRAIN SATISFACTORILY. REFER ANY DISCREPANCY TO THE SUPERINTENDENT.
- CCTV INSPECTIONS ARE TO BE CONDUCTED FOR ALL NEW STORMWATER PIPES FOR COUNCIL ASSESSMENT.

WATER

- ALL WATER MAINS ARE ON 2.8m ALIGNMENTS FROM R.P. BOUNDARY U.N.O.
- FOR STANDARD DETAILS REFER FNQROC. STD. DRGS. S2000 TO S2035 INCLUSIVE.
- CONNECTIONS TO EXISTING COUNCIL MAINS TO BE MADE BY CAIRNS WATER.
- THE CONTRACTOR IS TO LOCATE ALL EXISTING SERVICES IN THE WORKS AREA PRIOR TO COMMENCEMENT OF CONSTRUCTION. REFER NOTES REGARDING EXISTING SERVICES.
- PROVIDE 80mm uPVC CLASS 6 CONDUITS WITH 300mm COVER UNDER CONCRETE FOOTPATH FOR WATER SERVICES AS PER FNQROC STD. DRG. S2038. EXTEND CONDUITS 200mm PAST THE EDGE OF FOOTPATH. FINAL LOCATION OF CONDUITS TO BE CONFIRMED ONCE ERGON PILLAR BOX LOCATIONS ARE AVAILABLE.
- TEARDROP MARKERS AND BLUE RETRO REFLECTIVE MARKERS TO BE IN ACCORDANCE WITH FNQROC STD DRG S2010.
- PROVIDE A COMPRESSIBLE LAYER BETWEEN ALL EXISTING AND PROPOSED HYDRANT OR VALVE SURROUNDS WITHIN AREAS OF CONCRETE.

SEWERAGE

- ALL SEWER PIPES SHALL BE uPVC CLASS 'S.N.8.' (U.N.O.).
- FOR STANDARD DETAILS OF SEWER MAINS, ETC. REFER FNQROC STD. DRGS. S3000 TO S3015 INCLUSIVE.
- MANHOLES ADJACENT ROAD BOUNDARIES SHALL BE ON A 1.5m ALIGNMENT U.N.O. MANHOLES ADJACENT SIDE AND REAR BOUNDARIES SHALL BE ON A 0.8m ALIGNMENT U.N.O.
- SEWER MANHOLES SHALL BE FINISHED 50mm MAX ABOVE FINISHED SURFACE LEVEL IN ALLOTMENTS AND FLUSH IN ROAD RESERVES.
- HOUSE DRAINS ARE TO EXTEND 1.5m CLEAR OF ANY EARTHWORKS BATTER THAT IS STEEPER THAN 1 ON 4. AN INSPECTION OPENING IS TO BE PROVIDED AT THE DOWNSTREAM END OF THE HOUSE DRAIN.
- FOR SEWER LONGITUDINAL SECTIONS REFER DRGS. DG-0024 TO DG-0027.
- THE CONTRACTOR IS TO LOCATE ALL EXISTING SERVICES IN THE WORKS AREA PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. REFER NOTES REGARDING EXISTING SERVICES.
- CONSTRUCTION OF SEWER TO EXISTING MANHOLE SHALL BE IN ACCORDANCE WITH FNQROC'S REQUIREMENTS. CONNECTION TO MANHOLE TO BE MADE WITH SAND-SOCKETED PIPES (TO BE CONFIRMED WITH CAIRNS WATER PRIOR TO CONSTRUCTION).
- STAINLESS STEEL 'WYE' JUNCTION TO BE USED FOR HOUSE CONNECTION BRANCHES TO EXISTING LINES.
- EXISTING LOTS TO BE REINSTATED AFTER CONSTRUCTION OF THE SEWER.
- ALL HOUSE CONNECTION BRANCHES ARE REQUIRED TO BE BROUGHT TO WITHIN A MAXIMUM OF 300mm OF THE FINISHED SURFACE LEVEL AND A GLUED CAP INSTALLED. THE RISER MUST BE CONNECTED TO A MARKER PEG WITH PLASTIC COATED WIRE. THE MARKER PEG IS TO BE OF HARDWOOD MATERIAL, PROTRUDING 20mm ABOVE THE GROUND AND SHALL BE INSTALLED IMMEDIATELY ADJACENT TO THE RISER IN ACCORDANCE WITH FNQROC DRAWING S3005.
- ALL VERTICAL DROPS SHALL BE CONSTRUCTED USING FIBREGLASS HEAVY DUTY DEEP SEWER DROPS.
- CONNECTIONS TO EXISTING COUNCIL MAINS TO BE MADE BY CAIRNS WATER.
- CCTV INSPECTIONS ARE TO BE CONDUCTED FOR ALL NEW SEWERS FOR COUNCIL ASSESSMENT.

EROSION AND SEDIMENT CONTROL.

- REFER DRG. DG-0036 FOR SEDIMENT BASIN CALCS.
- SEQUENCING OF CONTROL MEASURES**
 - INSTALL STABLE POINT OF ENTRY
 - INSTALL SILT FENCES
 - PROTECT TOPSOIL STOCKPILES
 - CONSTRUCT TEMPORARY SEDIMENT BASINS
 - INSTALL STORMWATER PIPES
 - IMPLEMENT PROTECTION MEASURES TO STORMWATER PITS
 - REVEGETATE BARE AREAS UPON COMPLETION OF EARTHWORKS
 - THE SEDIMENT CONTROL STRUCTURES ARE TO BE CLEANED & MAINTAINED AFTER EVERY STORM EVENT. ERODED SOILS SHALL BE STOCKPILED AS DIRECTED.
- THE AMOUNT OF DISTURBANCE TO EXISTING VEGETATION BE KEPT TO A MINIMUM.
- EXACT LOCATION OF SEDIMENT CONTROL STRUCTURES TO BE DETERMINED ON SITE BY COUNCIL & SUPERINTENDENT.
- STOCKPILE LOCATIONS TO BE AGREED WITH COUNCIL & THE SUPERINTENDENT. STOCKPILES TO BE PROTECTED VIA DIVERSION DRAIN ON THE UPSLOPE & SILT FENCE ON THE DOWNSLOPE.
- STORMWATER PIPES TO HAVE PIT PROTECTION MEASURES AS DETAILED IN FNQROC DEVELOPMENT MANUAL.
- ALL SEDIMENT CONTROL MEASURES TO BE IN ACCORDANCE WITH THE CONTRACTORS ESC PLAN.
- THE FOLLOWING REVEGETATION MEASURES ARE TO BE UNDERTAKEN IMMEDIATELY UPON COMPLETION OF EARTHWORKS.
 - CUT & FILL BATTERS TO BE HYDOMULCHED. (EXTENT TO BE CONFIRMED BY SUPERINTENDENT).
 - VERGES & ALLOTMENTS TO BE GRASS SEEDED.
 - PLACE TURF STRIPS BEHIND ALL KERB LINES.
- REVEGETATION IS TO BE WATERED & MAINTAINED UNTIL GROWTH IS ESTABLISHED.
- CONTRACTOR TO PROVIDE DUST SUPPRESSION MEASURES AS REQUIRED.
- SEDIMENT BASIN**
 - INLET PROTECTION TO MINIMISE SCOUR & EVENLY DISTRIBUTE FLOW THROUGH BASIN.
 - A MARKER PEG SHOULD BE INSTALLED TO SHOW THE STORAGE DEPTH. SEDIMENT SHALL BE REMOVED FROM BASIN WHEN 30% STORAGE DEPTH IS ENCLOSED & APPROPRIATELY DISPOSED ON SITE BY RESPREADING IN AREAS OF NON-EROSIVE FLOWS.
- WATER QUALITY MONITORING SHOULD BE UNDERTAKEN DURING SIGNIFICANT RAINFALL EVENTS (I.E. > 10mm). MONITORING SHOULD INVOLVE MEASUREMENT OF TURBIDITY. TURBIDITY AT A POINT 50m BELOW THE LAST SITE DISCHARGE LOCATION SHOULD BE NO MORE THAN 10% ABOVE THAT AT A POINT IMMEDIATELY ABOVE THE SITE, AS MEASURED BY A TURBIDITY METER OR TURBIDITY TUBE. IF THIS IS EXCEEDED A SAMPLE AT EACH LOCATION SHOULD BE TAKEN AND ANALYSED FOR TOTAL SUSPENDED SOLIDS (TSS). DOWNSTREAM TSS SHOULD NOT EXCEED UPSTREAM TSS PLUS 10%.
- DESIGN CRITERIA FOR CONTRACTOR'S EROSION & SEDIMENT CONTROL PLAN TO BE IN ACCORDANCE WITH SECTION CP1.05 OF THE FNQROC DEVELOPMENT MANUAL.

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A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE
REV	DATE	DRAWN	REVD	APPD	REVISION

DRAWING NUMBER	REFERENCE DRAWING TITLE
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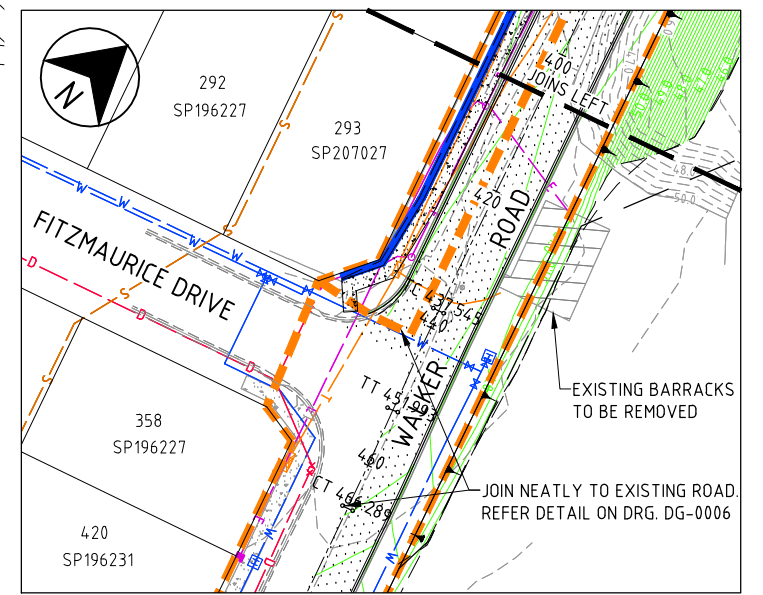
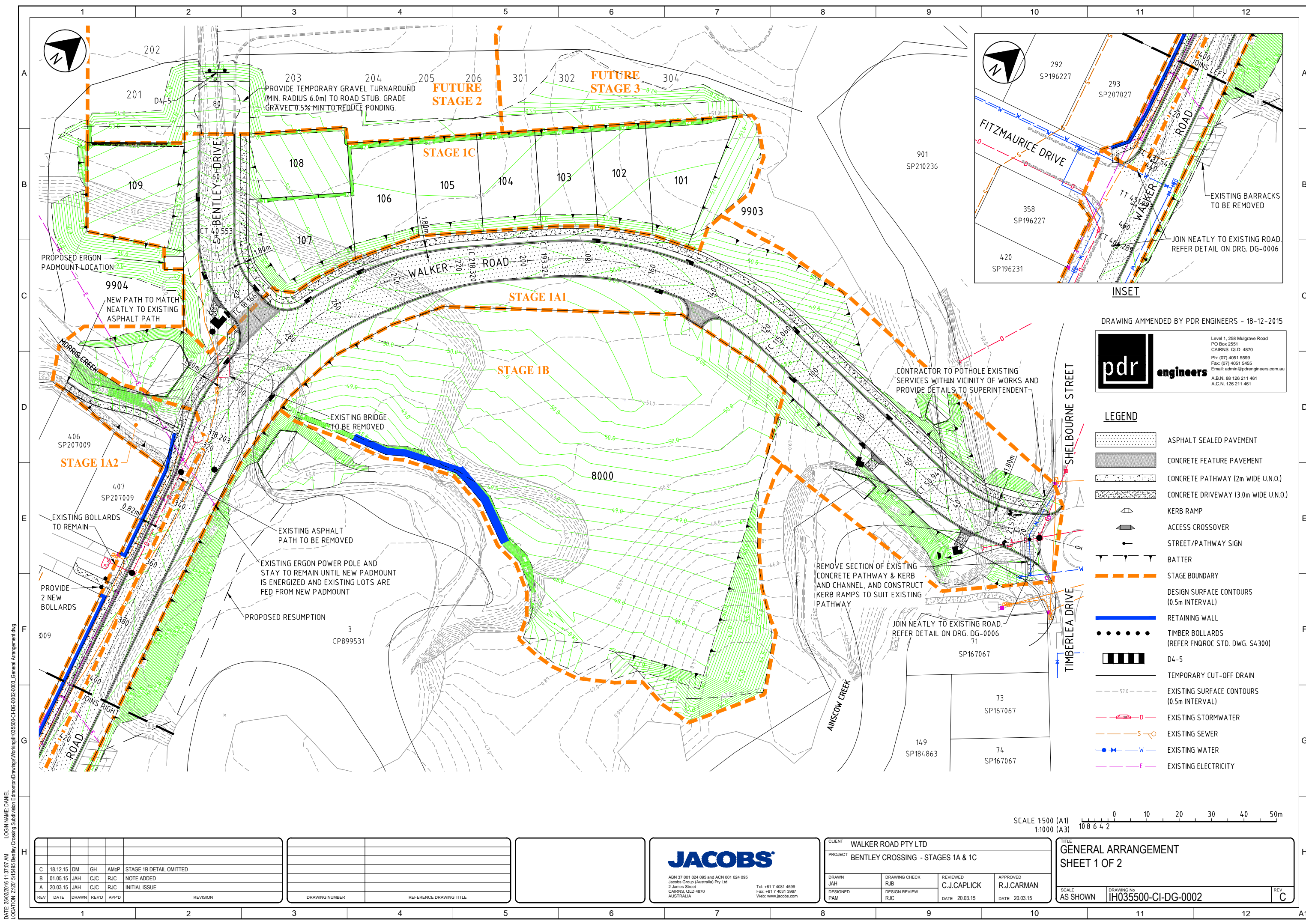
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CLIENT WALKER ROAD PTY LTD			
PROJECT BENTLEY CROSSING - STAGES 1A & 1C			
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE GENERAL NOTES	
SCALE N.T.S	DRAWING No IH035500-CI-DG-0001
REV B	



DRAWING AMENDED BY PDR ENGINEERS - 18-12-2015

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A.C.N. 126 211 461

- LEGEND**
- ASPHALT SEALED PAVEMENT
 - CONCRETE FEATURE PAVEMENT
 - CONCRETE PATHWAY (2m WIDE U.N.O.)
 - CONCRETE DRIVEWAY (3.0m WIDE U.N.O.)
 - KERB RAMP
 - ACCESS CROSSOVER
 - STREET/PATHWAY SIGN
 - BATTER
 - STAGE BOUNDARY
 - DESIGN SURFACE CONTOURS (0.5m INTERVAL)
 - RETAINING WALL
 - TIMBER BOLLARDS (REFER FNQROC STD. DWG. S4300)
 - D4-5
 - TEMPORARY CUT-OFF DRAIN
 - EXISTING SURFACE CONTOURS (0.5m INTERVAL)
 - EXISTING STORMWATER
 - EXISTING SEWER
 - EXISTING WATER
 - EXISTING ELECTRICITY

SCALE 1:500 (A1)
1:1000 (A3)

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REV	DATE	DRAWN	REV'D	APP'D	REVISION
C	18.12.15	DM	GH	AMcP	STAGE 1B DETAIL OMITTED
B	01.05.15	JAH	CJC	RJC	NOTE ADDED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

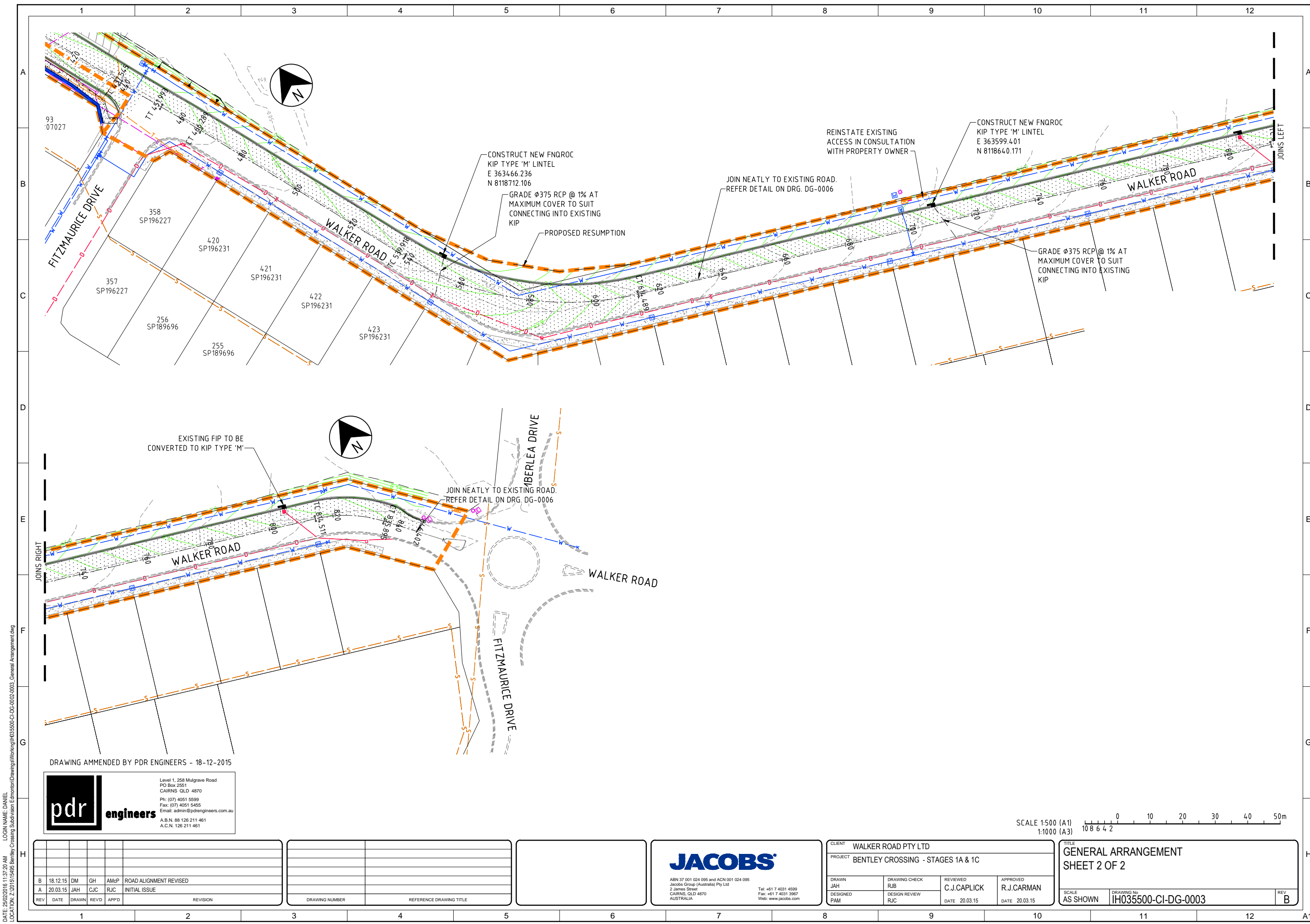
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CLIENT WALKER ROAD PTY LTD		PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE GENERAL ARRANGEMENT SHEET 1 OF 2	
SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0002
	REV C



DRAWING AMENDED BY PDR ENGINEERS - 18-12-2015

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SCALE 1:500 (A1)
 1:1000 (A3)

REV	DATE	DRAWN	REVD	APPD	REVISION
B	18.12.15	DM	GH	AMcP	ROAD ALIGNMENT REVISED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

DRAWING NUMBER	REFERENCE DRAWING TITLE

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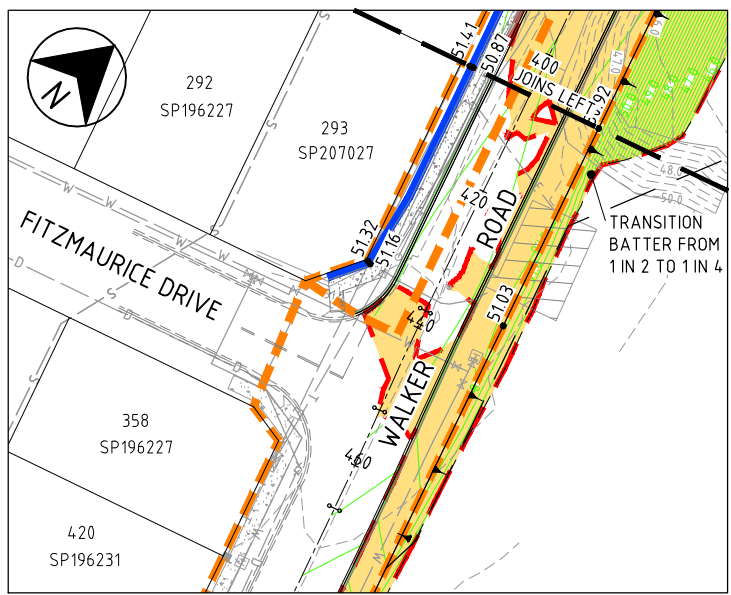
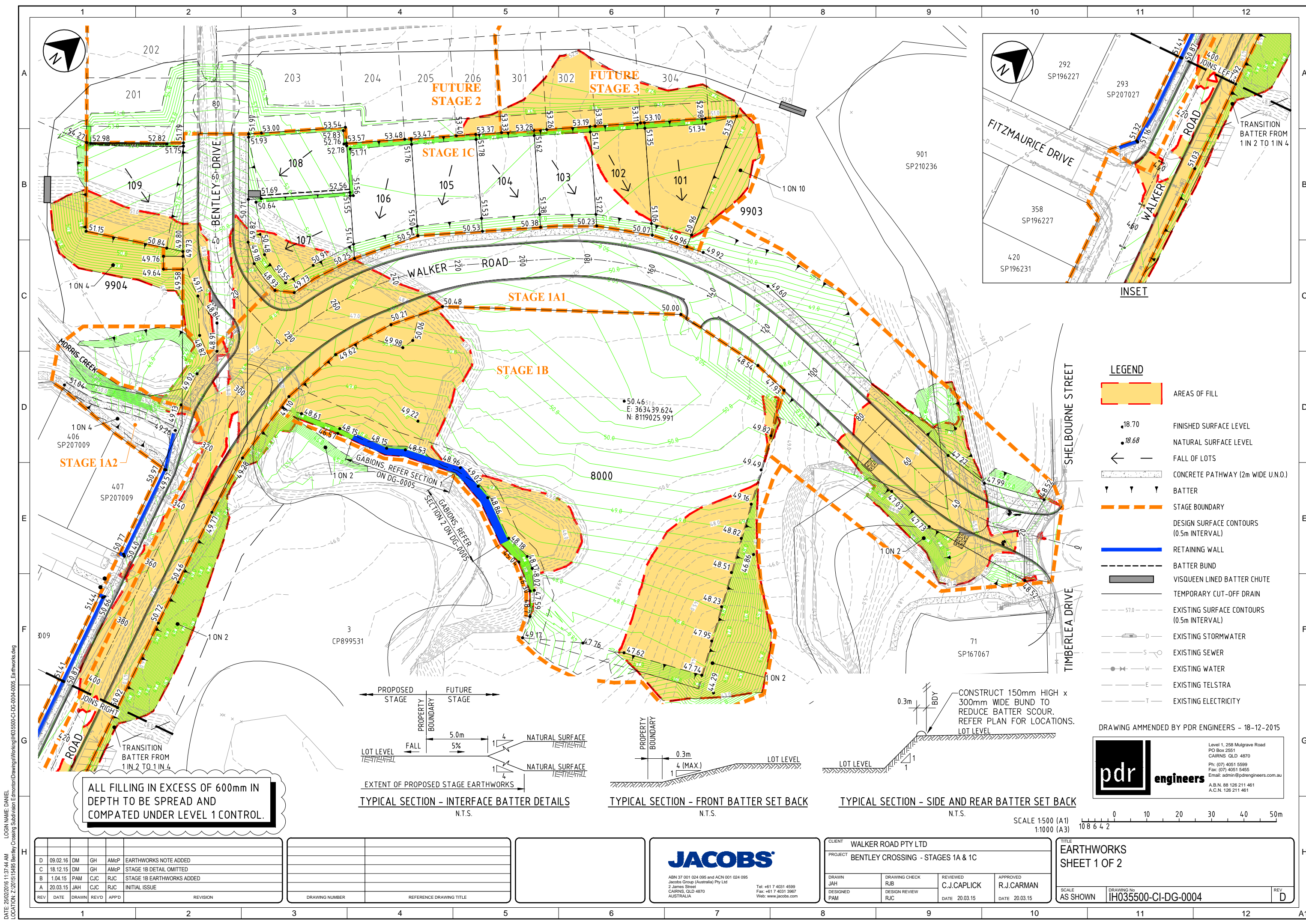
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CLIENT WALKER ROAD PTY LTD		PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE GENERAL ARRANGEMENT SHEET 2 OF 2	
SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0003
REV B	

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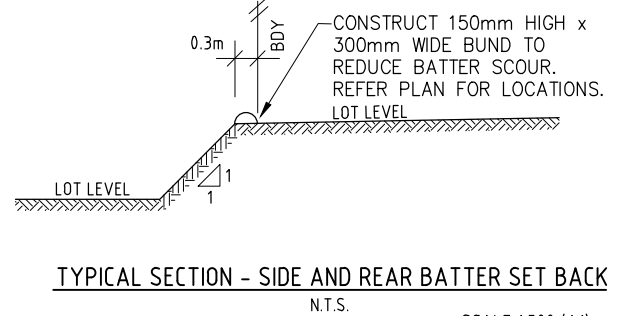
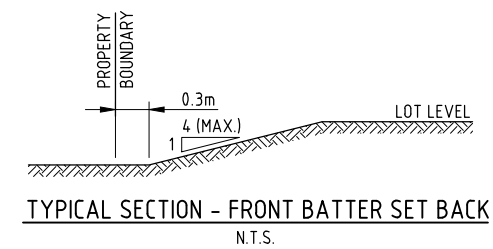
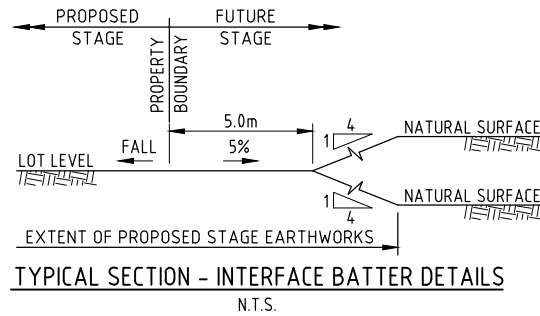
- LEGEND**
- AREAS OF FILL
 - 18.70 FINISHED SURFACE LEVEL
 - 18.68 NATURAL SURFACE LEVEL
 - FALL OF LOTS
 - CONCRETE PATHWAY (2m WIDE U.N.O.)
 - BATTER
 - STAGE BOUNDARY
 - DESIGN SURFACE CONTOURS (0.5m INTERVAL)
 - RETAINING WALL
 - BATTER BUND
 - VISQUEEN LINED BATTER CHUTE
 - TEMPORARY CUT-OFF DRAIN
 - EXISTING SURFACE CONTOURS (0.5m INTERVAL)
 - EXISTING STORMWATER
 - EXISTING SEWER
 - EXISTING WATER
 - EXISTING TELSTRA
 - EXISTING ELECTRICITY

DRAWING AMENDED BY PDR ENGINEERS - 18-12-2015

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A.C.N. 126 211 461

ALL FILLING IN EXCESS OF 600mm IN DEPTH TO BE SPREAD AND COMPACTED UNDER LEVEL 1 CONTROL.



SCALE 1:500 (A1)
1:1000 (A3)

REV	DATE	DRAWN	REV'D	APP'D	REVISION
D	09.02.16	DM	GH	AMcP	EARTHWORKS NOTE ADDED
C	18.12.15	DM	GH	AMcP	STAGE 1B DETAIL OMITTED
B	1.04.15	PAM	CJC	RJC	STAGE 1B EARTHWORKS ADDED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

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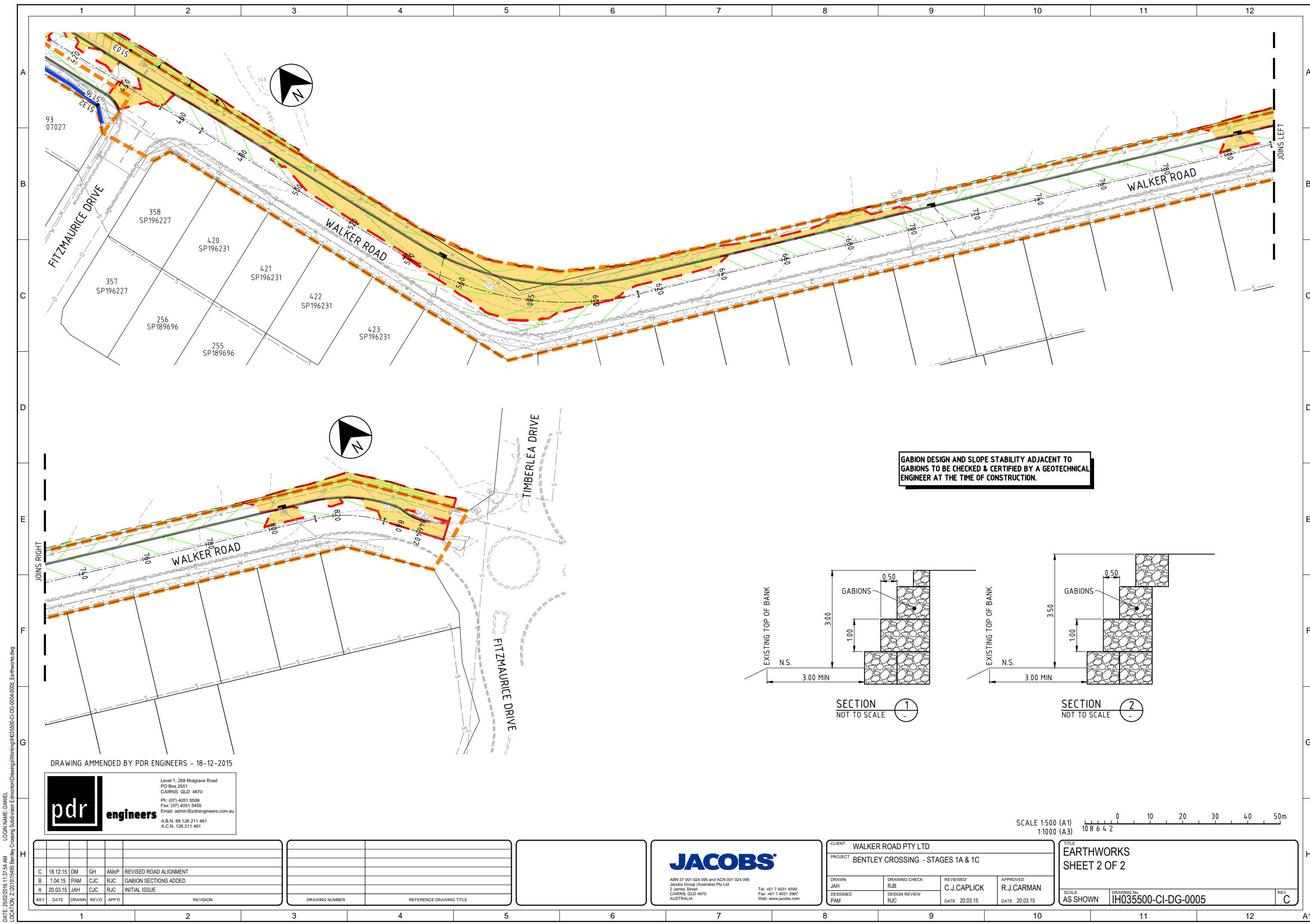
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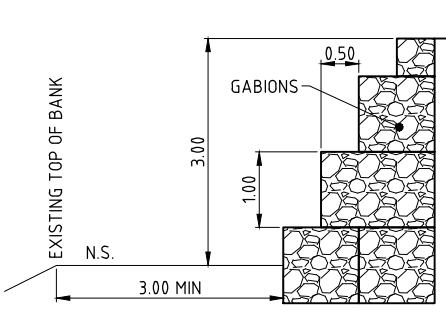
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DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE EARTHWORKS SHEET 1 OF 2	
SCALE AS SHOWN	DRAWING No. IH035500-CI-DG-0004
	REV D

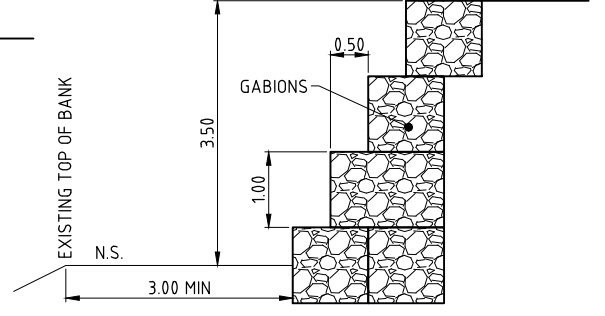
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GABION DESIGN AND SLOPE STABILITY ADJACENT TO GABIONS TO BE CHECKED & CERTIFIED BY A GEOTECHNICAL ENGINEER AT THE TIME OF CONSTRUCTION.



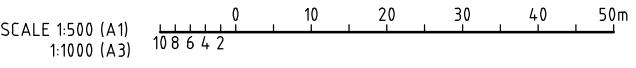
SECTION 1
NOT TO SCALE



SECTION 2
NOT TO SCALE

DRAWING AMENDED BY PDR ENGINEERS - 18-12-2015

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REV	DATE	DRAWN	REVD	APPD	REVISION
C	18.12.15	DM	GH	AMcP	REVISED ROAD ALIGNMENT
B	1.04.15	PAM	CJC	RJC	GABION SECTIONS ADDED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

--

JACOBS
 ABN 37 001 024 095 and ACN 001 024 095
 Jacobs Group (Australia) Pty Ltd
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 Web: www.jacobs.com

CLIENT WALKER ROAD PTY LTD		PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE EARTHWORKS SHEET 2 OF 2	
SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0005
	REV C

DATE: 25/02/2016 11:37:54 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\IH035500-CI-DG-0004-0005_Earthworks.dwg

CONTROL LINE WALKER ROAD SETOUT

CHAINAGE	COORDINATES		BEARING DEG MIN SEC	RADIUS OF CURVATURE	TANGENT LENGTH	ARC LENGTH
	EASTING	NORTHING				
0.000	363565.460	8119104.257	235° 26' 27"	STRAIGHT		
21.576	363547.691	8119092.018	235° 26' 27"	60.000	14.983	29.365
IP 36.258	363535.352	8119083.518	-	60.000		
50.941	363520.466	8119081.818	263° 28' 58"	STRAIGHT		
115.060	363456.761	8119074.540	263° 28' 58"	-95.000		
IP 154.192	363415.523	8119069.829	-	-95.000	4.1506	78.264
193.324	363390.962	8119036.370	216° 16' 51"	STRAIGHT		
218.320	363376.171	8119016.220	216° 16' 51"	-95.000		
IP 268.262	363343.557	8118971.790	-	-95.000	55.115	99.883
318.203	363365.939	8118921.424	156° 02' 23"	STRAIGHT		
437.545	363414.404	8118812.367	156° 02' 23"	-400.000		
IP 444.769	363417.338	8118805.764	-	-400.000	7.225	14.449
451.993	363420.509	8118799.272	153° 58' 13"	400.000		
IP 459.141	363423.646	8118792.849	-	400.000	7.148	14.295
466.289	363426.551	8118786.317	156° 01' 04"	STRAIGHT		
539.918	363456.478	8118719.045	156° 01' 04"	-95.000		
IP 577.203	363472.462	8118683.114	-	-95.000	39.326	74.572
614.489	363509.166	8118668.993	111° 02' 34"	STRAIGHT		
814.511	363695.848	8118597.173	111° 02' 34"	40.000		
IP 825.203	363706.072	8118593.239	-	40.000	10.954	21.385
835.895	363712.866	8118584.646	141° 40' 26"	STRAIGHT		
854.972	363724.696	8118569.680	141° 40' 26"	STRAIGHT		

CONTROL LINE BENTLEY DRIVE SETOUT

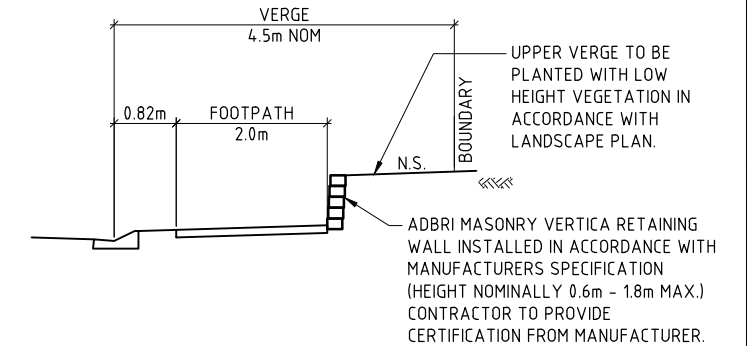
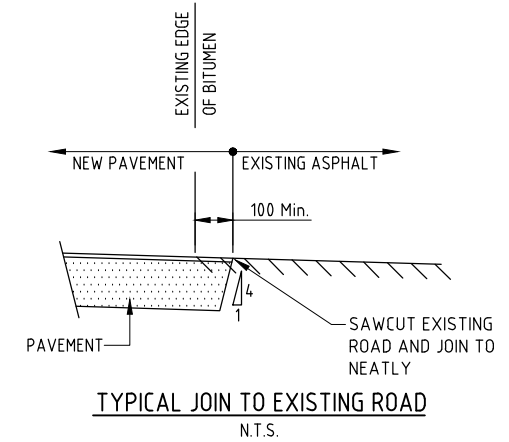
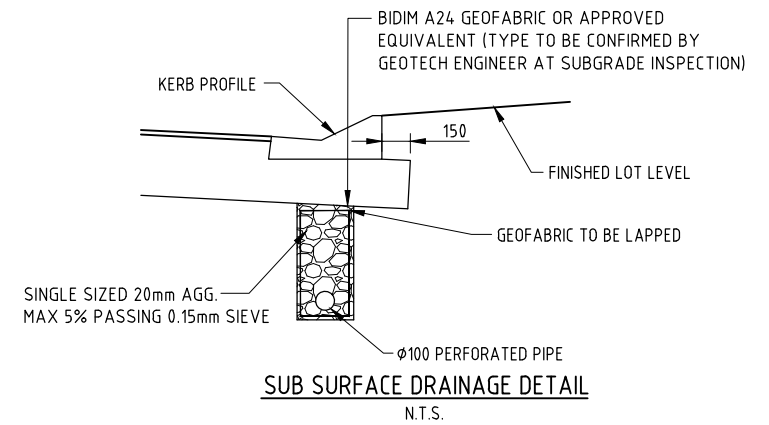
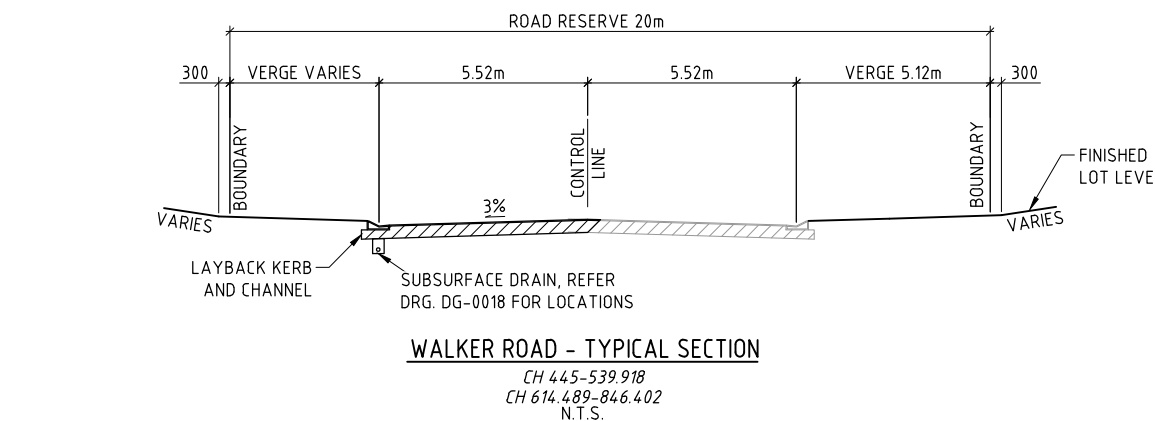
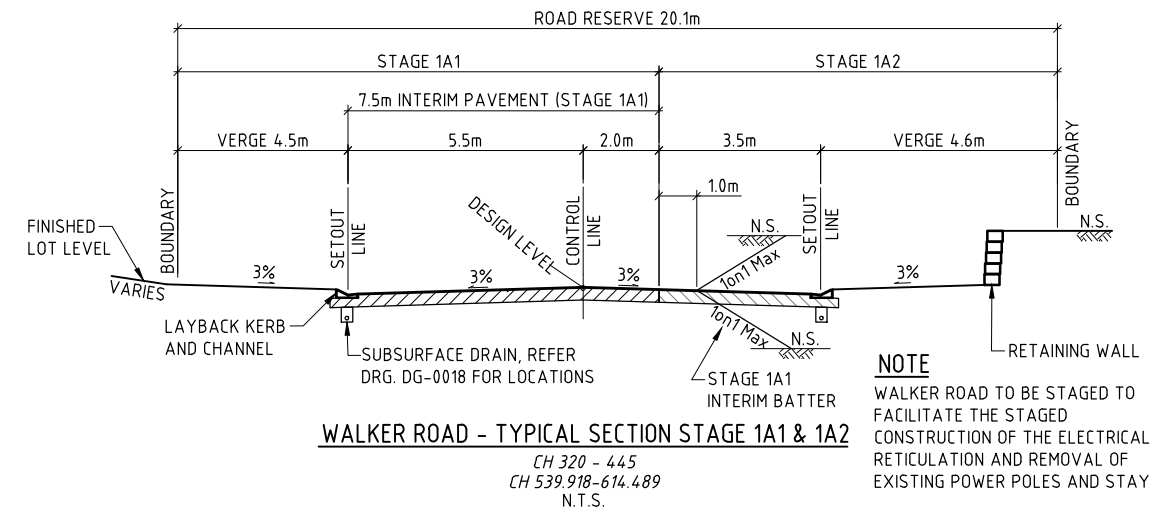
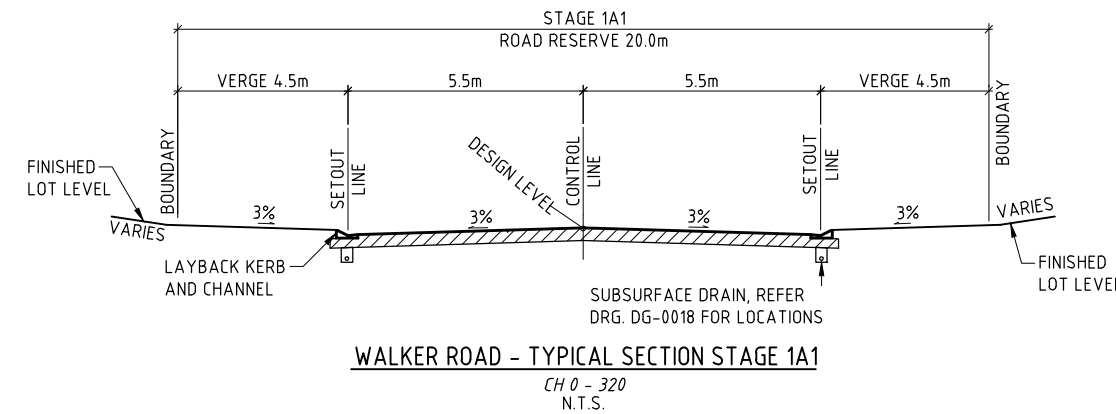
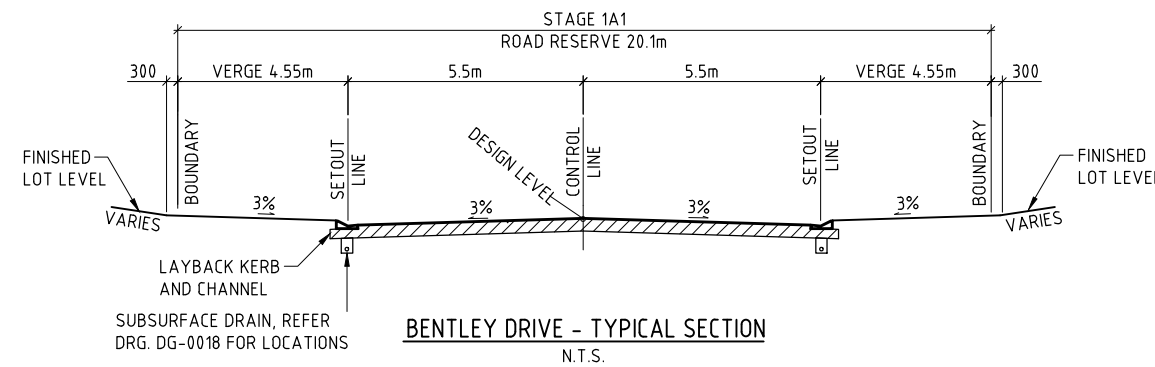
CHAINAGE	COORDINATES		BEARING DEG MIN SEC	RADIUS OF CURVATURE	TANGENT LENGTH	ARC LENGTH
	EASTING	NORTHING				
0.000	363357.825	8118956.291	267° 45' 35"	STRAIGHT		
18.166	363339.673	8118955.581	267° 45' 35"	30.000	11.743	22.386
IP 29.359	363327.939	8118955.122	-	30.000		
40.553	363319.011	8118962.750	310° 30' 51"	STRAIGHT		
133.430	363248.402	8119023.087	310° 30' 51"	-99.989		
IP 137.124	363245.592	8119025.488	-	-99.989	3.696	7.388
140.818	363242.613	8119027.675	306° 16' 51"	STRAIGHT		
237.025	363165.057	8119084.605	306° 16' 51"	100.000		
IP 242.443	363160.686	8119087.814	-	100.000	5.423	10.835
247.861	363156.687	8119091.477	312° 29' 21"	-100.000		
IP 253.264	363152.699	8119095.130	-	-100.000	5.408	10.806
258.667	363148.340	8119098.332	306° 17' 51"	STRAIGHT		
338.667	363083.863	8119145.690	306° 17' 51"	-100.000		
IP 344.153	363079.438	8119148.941	-	-100.000	5.491	10.971
349.639	363074.683	8119151.687	300° 0' 41"	100.000		
IP 355.110	363069.940	8119154.426	-	100.000	5.477	10.942
360.581	363065.525	8119157.667	306° 16' 51"	STRAIGHT		
469.602	362977.640	8119222.180	306° 16' 51"	100.000		
IP 475.174	362973.144	8119225.481	-	100.000	5.578	11.144
480.746	362969.042	8119229.261	312° 39' 57"	-100.000		
IP 486.304	362964.952	8119233.031	-	-100.000	5.563	11.115
491.861	362960.468	8119236.324	306° 17' 51"	STRAIGHT		
538.756	362922.673	8119264.085	306° 17' 51"	-35.000		
IP 545.883	362916.849	8119268.363	-	-35.000	7.227	14.254
553.010	362909.806	8119269.984	282° 57' 47"	STRAIGHT		
556.909	362906.006	8119270.859	282° 57' 47"	STRAIGHT		

PROVISIONAL PAVEMENT DETAILS

ROAD	SURFACING	SUBBASE CBR 60 (mm)	BASE CBR 80 (mm)
WALKER ROAD	30mm ASPHALT	125	125
BENTLEY DRIVE	30mm ASPHALT	125	125

NOTES
PROVISIONAL PAVEMENT DESIGN IS BASED ON AN ASSUMED SUBGRADE SOAKED CBR OF 10. THE CONTRACTOR IS TO CONFIRM SUBGRADE CBR DURING CONSTRUCTION AND THE PAVEMENT DESIGN MAY BE AMENDED ACCORDINGLY BY THE CAIRNS REGIONAL COUNCIL.

ASPHALT SURFACING TO BE INCREASED TO 50mm AT INTERSECTIONS. REFER DRGS. DG-0014 AND DG-00015 FOR LOCATIONS.



DRAWING AMMENDED BY PDR ENGINEERS - 18-12-2015

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A.C.N. 126 211 461

REV	DATE	DRAWN	REV'D	APP'D	REVISION
C	18.12.15	DM	GH	AMcP	WALKER ROAD SETOUT UPDATED
B	01.05.15	PAM	CJC	RJC	TYPICAL SECTION REVISED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

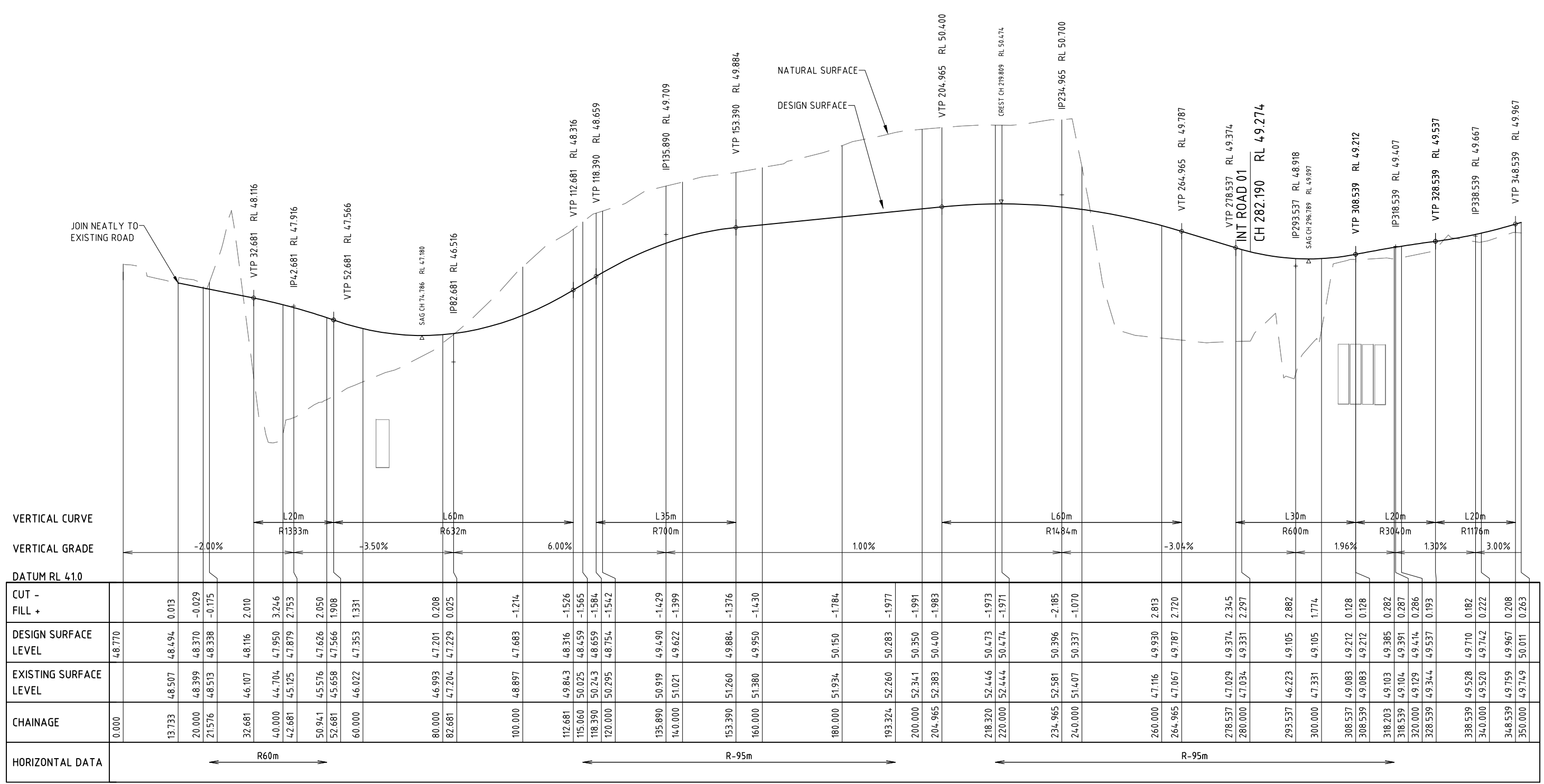
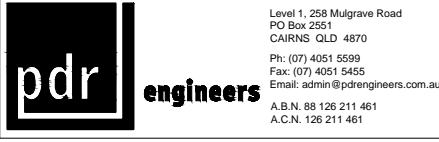
DRAWING NUMBER	REFERENCE DRAWING TITLE

ABN 37 001 024 095 and ACN 001 024 095
2 James Street
CAIRNS, QLD 4870
AUSTRALIA
Tel: +61 7 4031 4599
Fax: +61 7 4031 3967
Web: www.jacobs.com

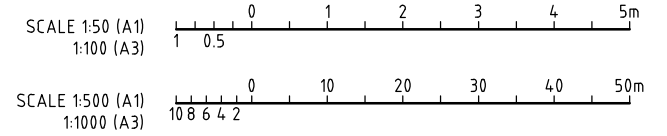
CLIENT WALKER ROAD PTY LTD		PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE MISCELLANEOUS SECTIONS & DETAILS		SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0006	REV C
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LONGITUDINAL SECTION WALKER ROAD



REV	DATE	DRAWN	REVD	APPD	REVISION
C	18.12.15	DM	GH	AMcP	LONGITUDINAL SECTION REVISED
B	01.05.15	JAH	CJC	RJC	LONGITUDINAL SECTION REVISED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

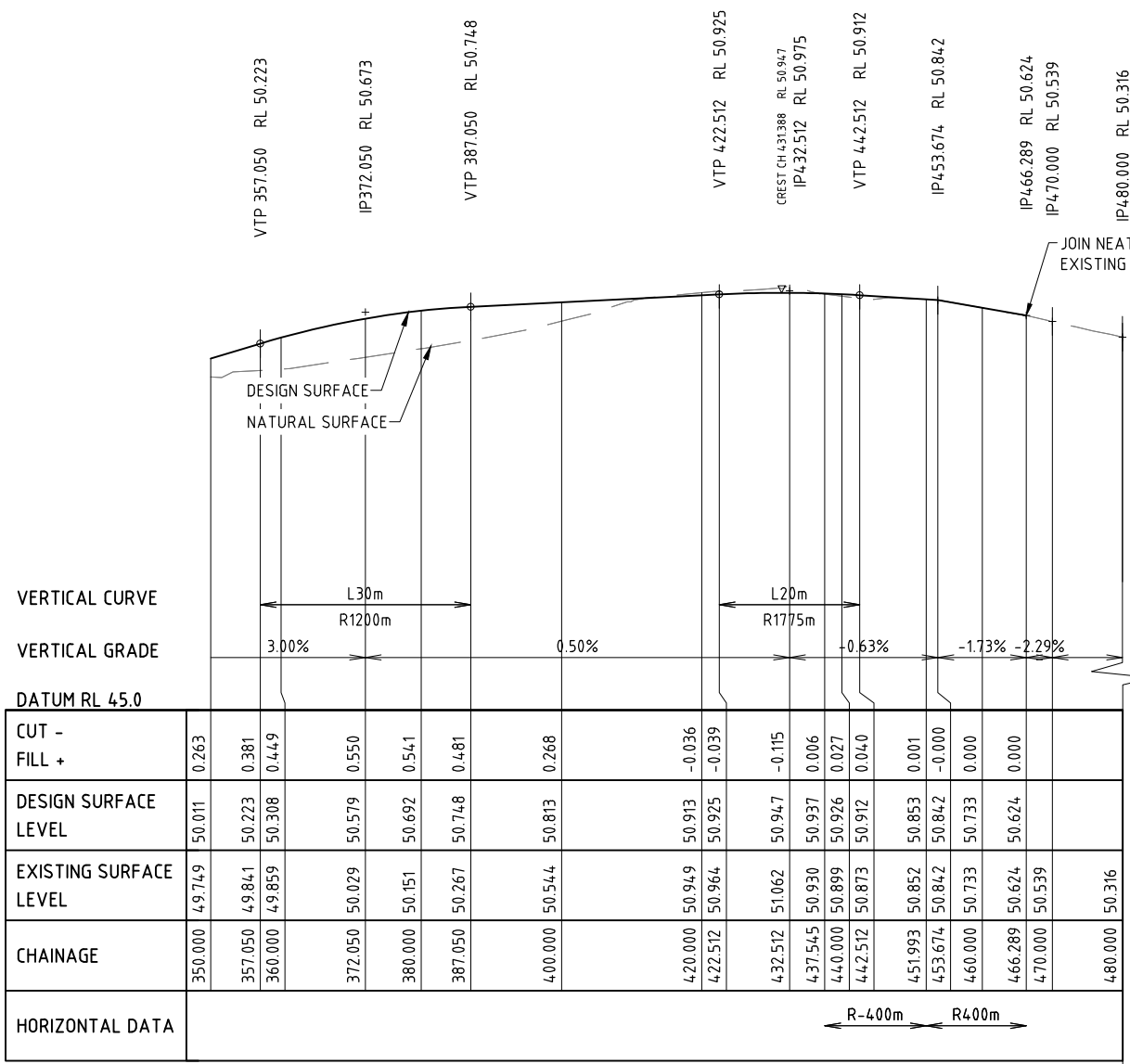
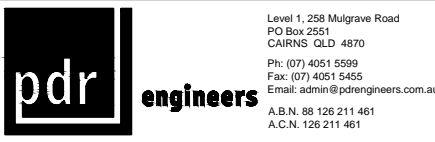
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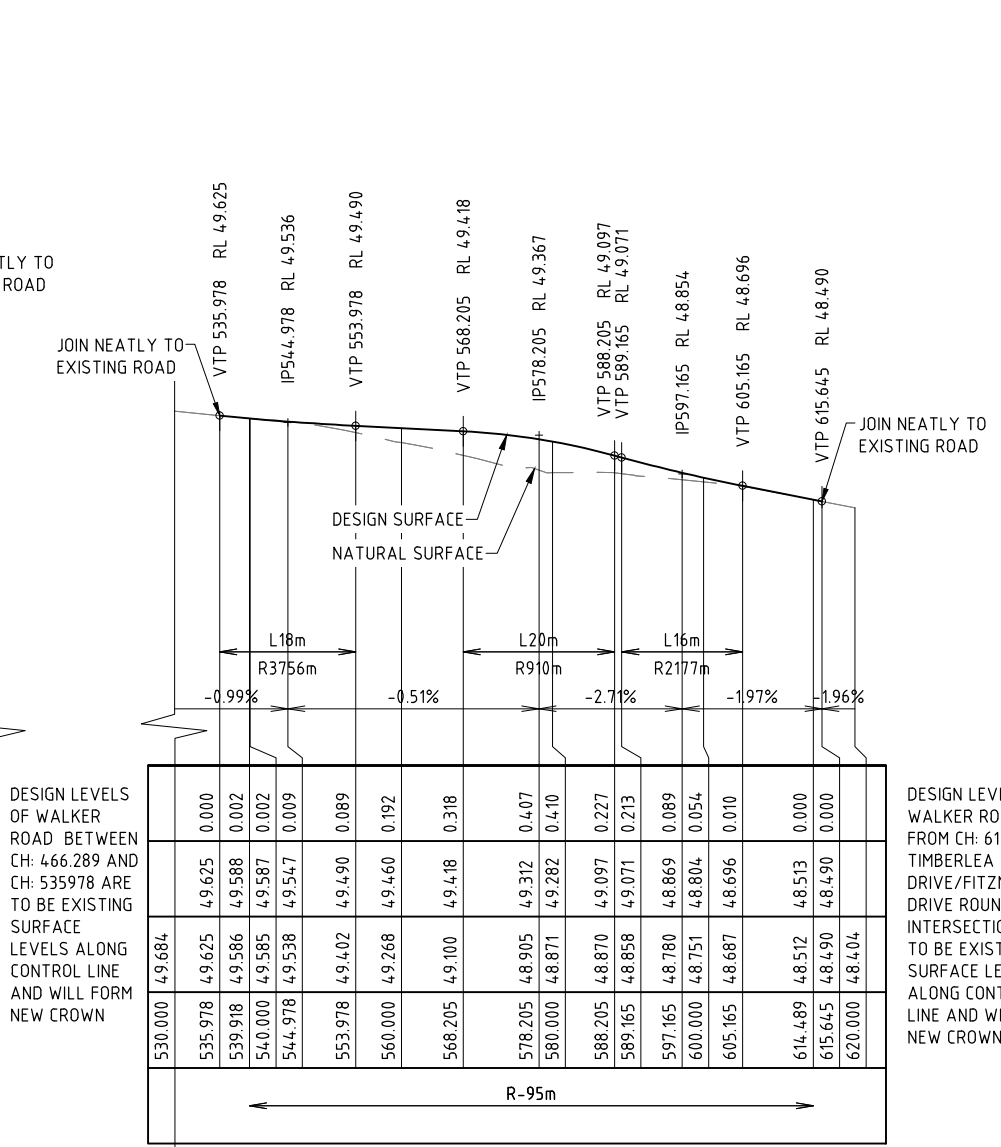
CLIENT WALKER ROAD PTY LTD		PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE ROAD LONGITUDINAL SECTIONS SHEET 1 OF 3	
SCALE AS SHOWN	DRAWING No. IH035500-CI-DG-0007
	REV C

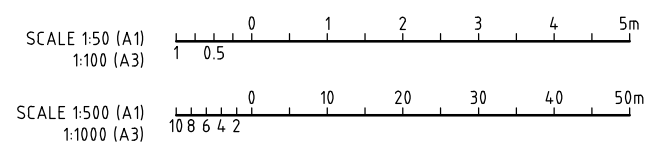
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LONGITUDINAL SECTION WALKER ROAD (CONTINUED)



LONGITUDINAL SECTION WALKER ROAD (NEW HORIZONTAL CURVE)



REV	DATE	DRAWN	REV'D	APP'D	REVISION
B	18.12.15	DJM	GH	AMcP	LONGITUDINAL SECTION REVISIONS
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

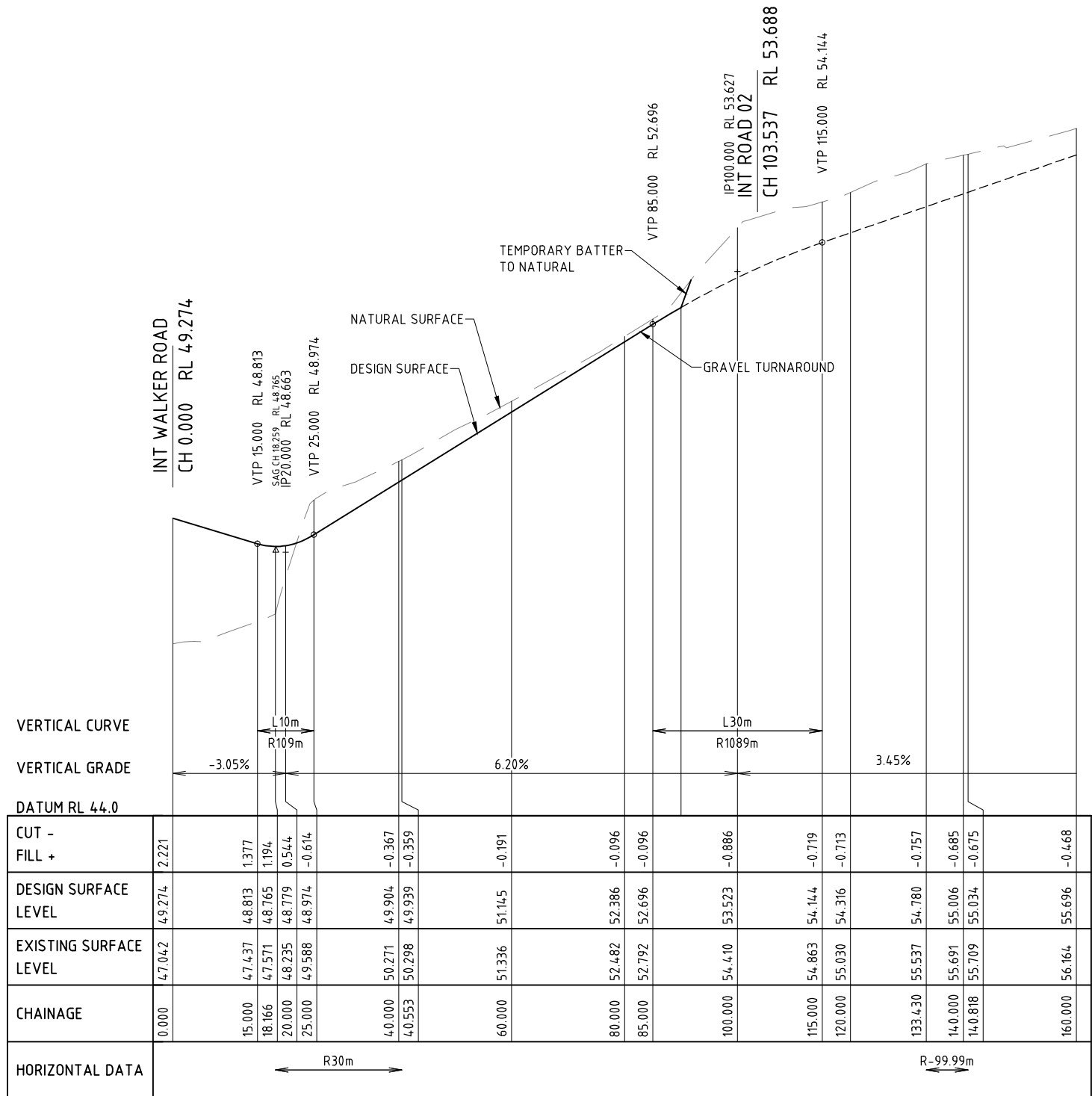
--

ABN 37 001 024 085 and ACN 001 024 085
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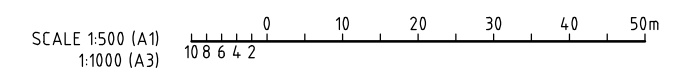
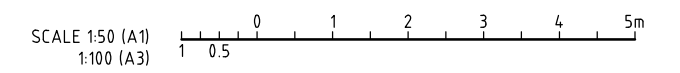
CLIENT WALKER ROAD PTY LTD	
PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN JAH	DRAWING CHECK RJB
DESIGNED PAM	DESIGN REVIEW RJC
REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DATE 20.03.15	DATE 20.03.15

TITLE ROAD LONGITUDINAL SECTIONS SHEET 2 OF 3	
SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0008
REV	B

DATE: 25/02/2016 11:38:08 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\Working\IH035500-CI-DG-0007-0008_Road_LS.dwg



LONGITUDINAL SECTION BENTLEY DRIVE

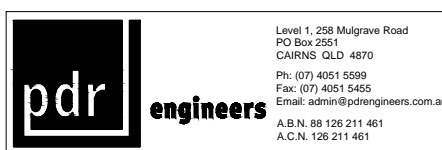


ISSUE	DESCRIPTION	DATE
A	FOR PRELIMINARY REVIEW	17.09.13

Drawing Status
FOR COUNCIL APPROVAL

SCALE: AS SHOWN
Orig. Sheet A1
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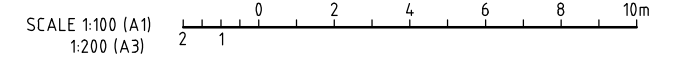
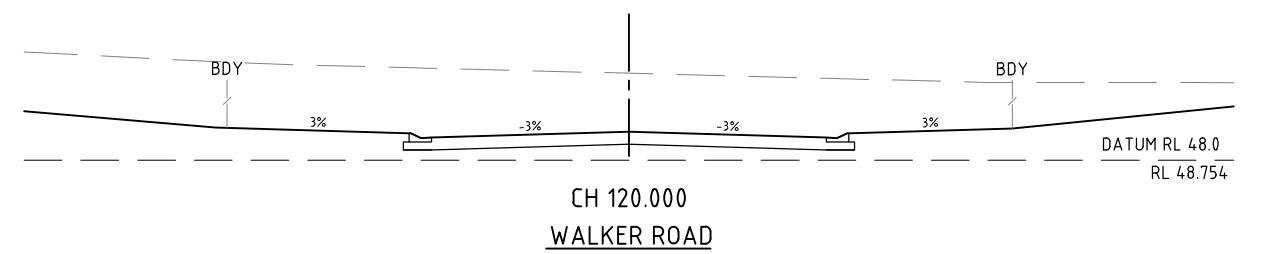
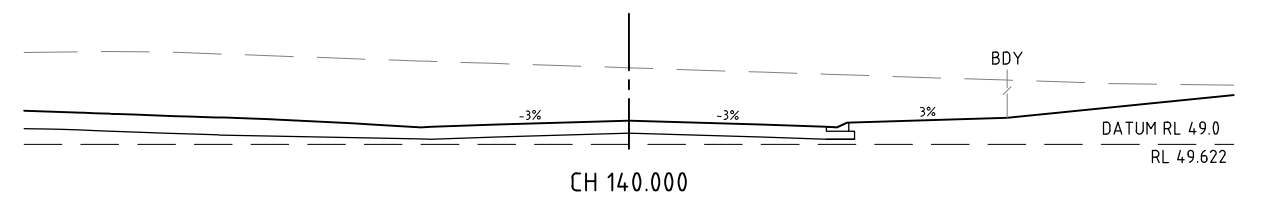
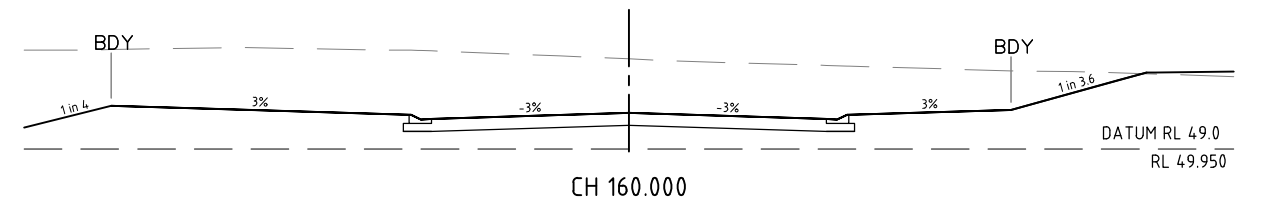
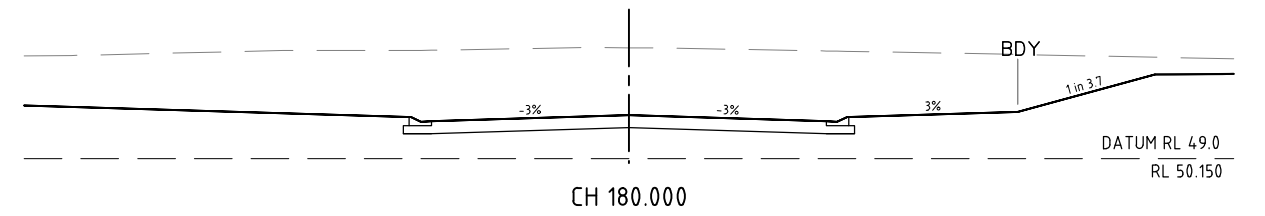
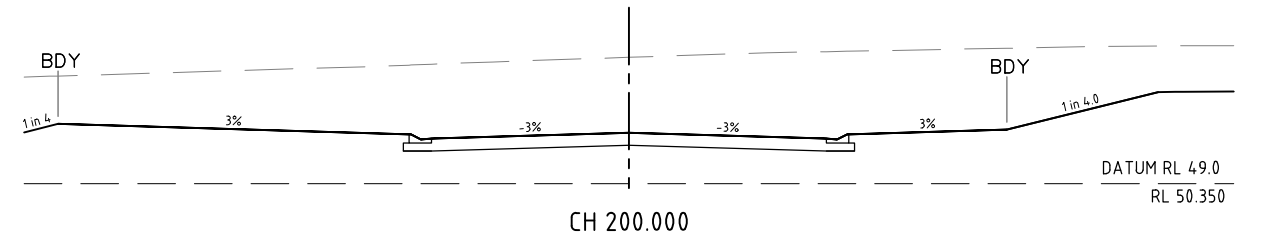
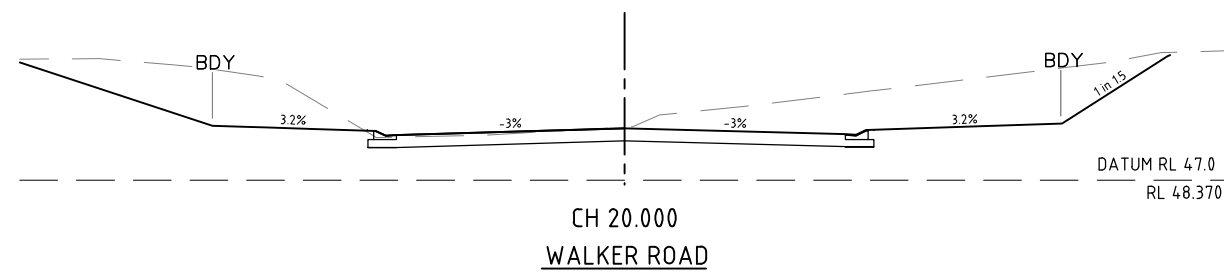
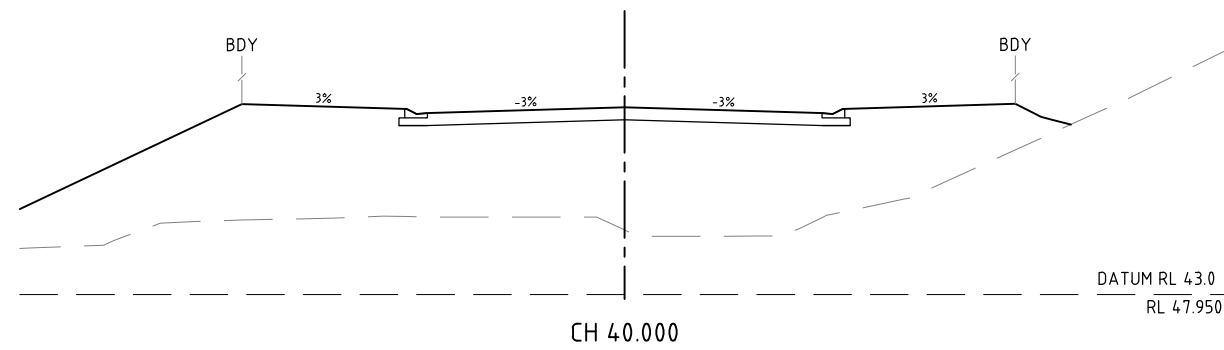
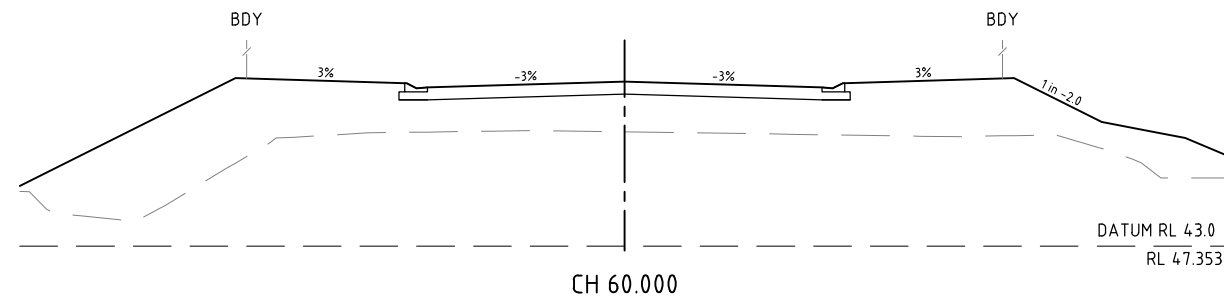
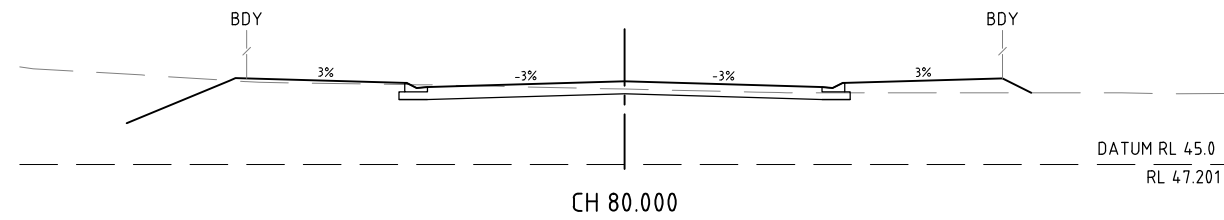
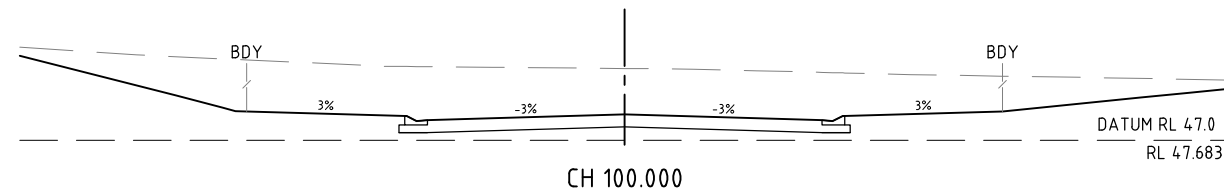
Client
WALKER ROAD PTY LTD

Project
BENTLEY CROSSING - STAGES 1A & 1C

Drawing Title
ROAD LONGITUDINAL SECTIONS - SHEET 3 OF 3

Drawn	Designed	Verified
DM	DM	-
Approved		Date
-		NOV 2015
Drawing Number		Revision
IH035500-C1-DG-0008A		A

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 A.C.N. 126 211 461



REV	DATE	DRAWN	REVD	APPD	REVISION
B	18.12.15	DM	GH	AMcP	REVISED CROSS SECTIONS
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

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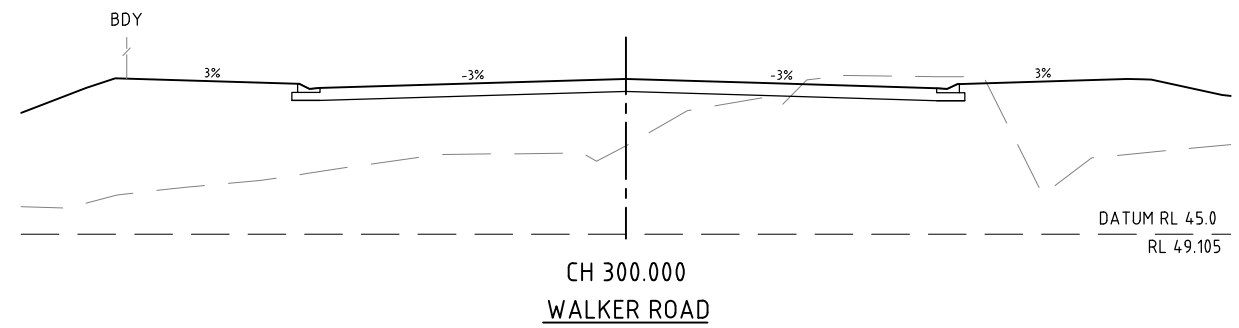
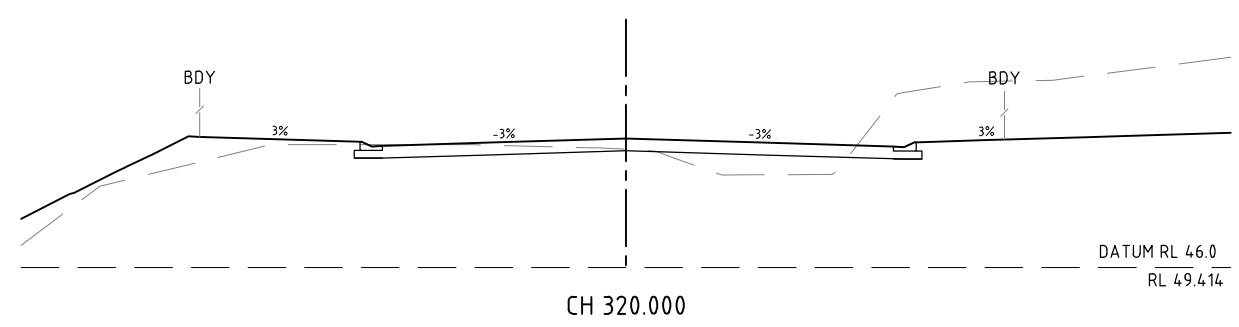
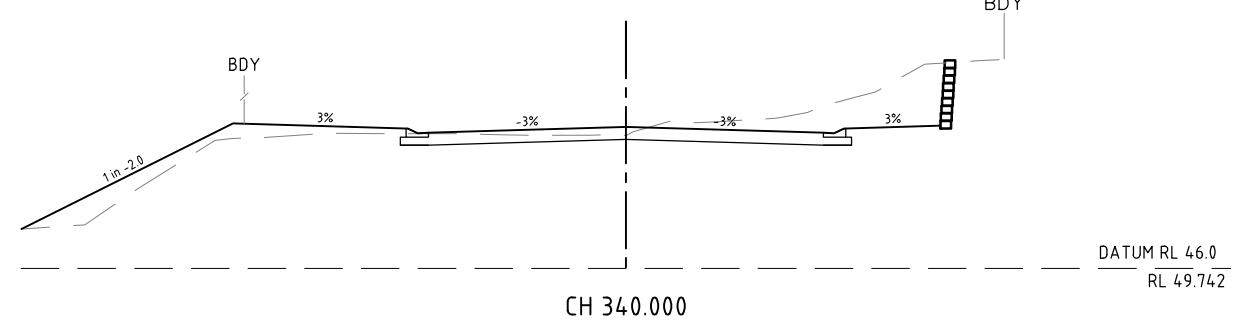
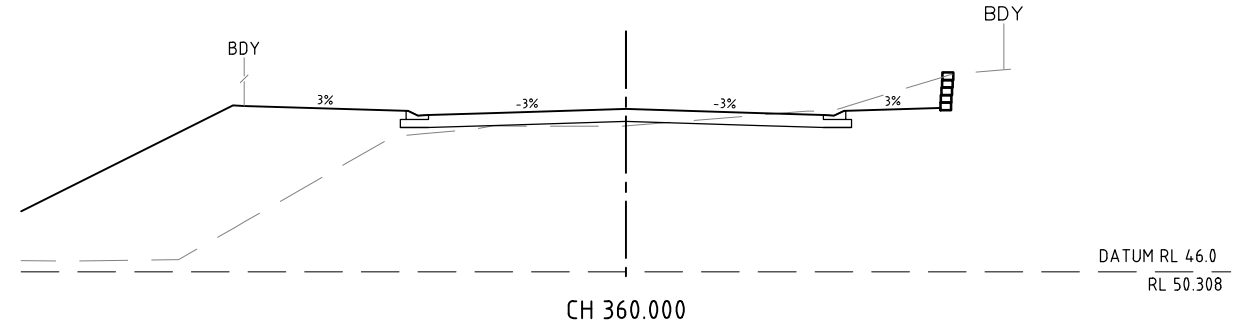
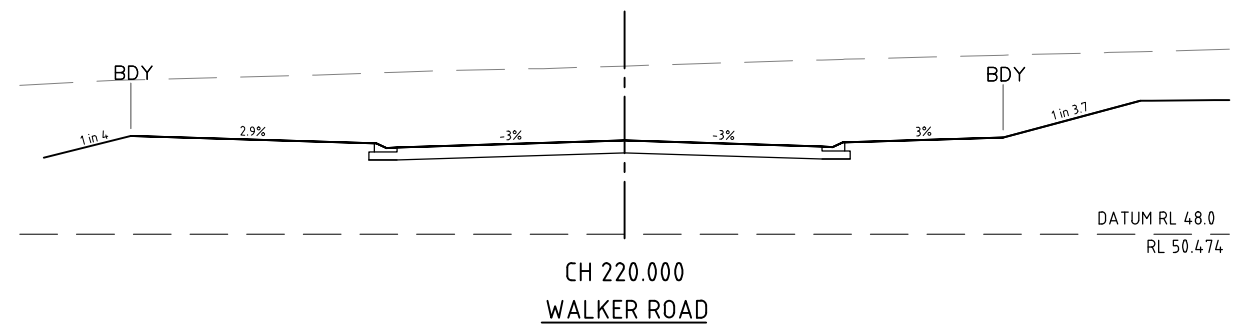
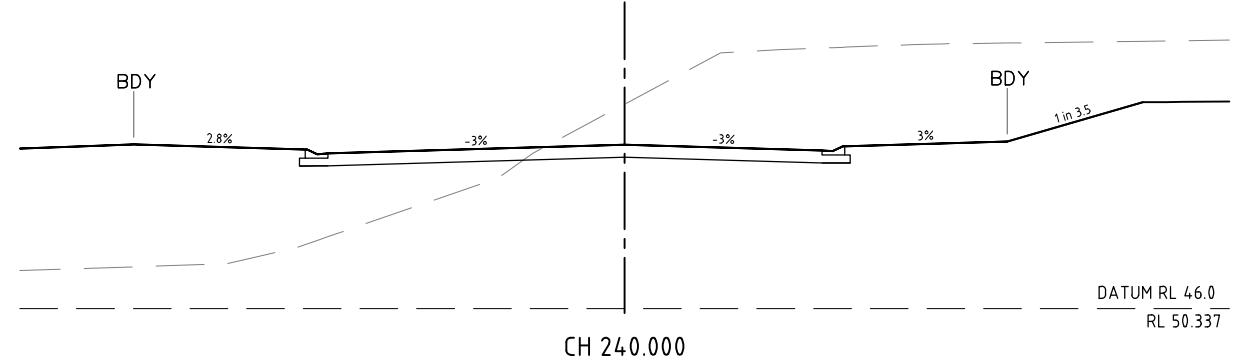
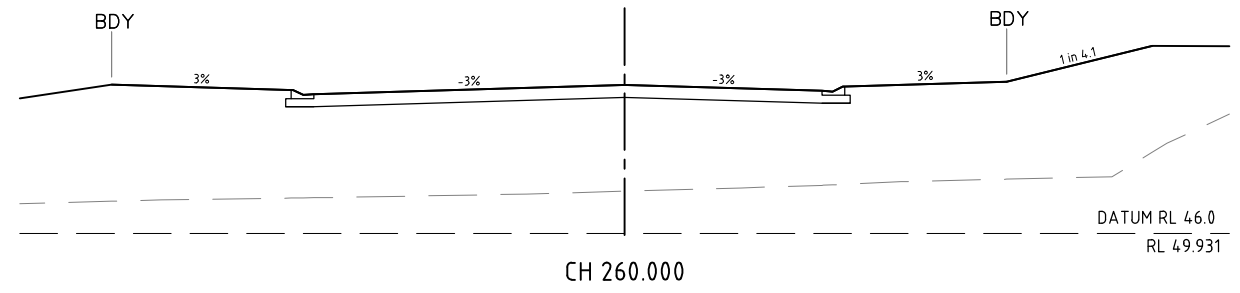
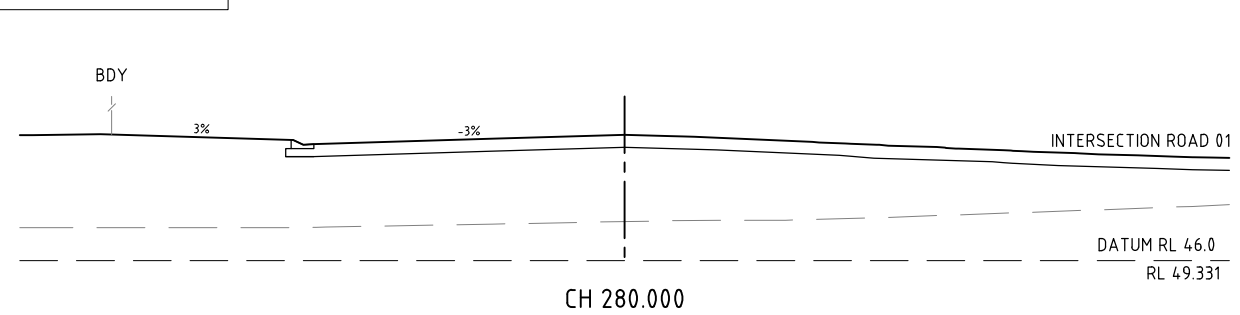
JACOBS
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 Jacobs Group (Australia) Pty Ltd
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 Fax: +61 7 4031 3967
 Web: www.jacobs.com

CLIENT WALKER ROAD PTY LTD			
PROJECT BENTLEY CROSSING - STAGES 1A & 1C			
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

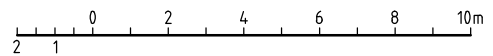
TITLE ROAD CROSS SECTIONS SHEET 1 OF 4		
SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0009	REV B

DRAWING AMENDED BY PDR ENGINEERS - 18-12-2015

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 A.C.N. 128 211 461



SCALE 1:100 (A1)
 1:200 (A3)



REV	DATE	DRAWN	REVD	APPD	REVISION
B	18.12.15	DM	GH	AMcP	REVISED CROSS SECTIONS
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

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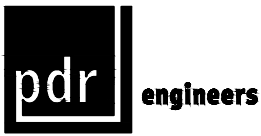
JACOBS
 ABN 37 001 024 095 and ACN 001 024 095
 Jacobs Group (Australia) Pty Ltd
 2 James Street
 CAIRNS, QLD 4870
 AUSTRALIA
 Tel: +61 7 4031 4599
 Fax: +61 7 4031 3967
 Web: www.jacobs.com

CLIENT WALKER ROAD PTY LTD		PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

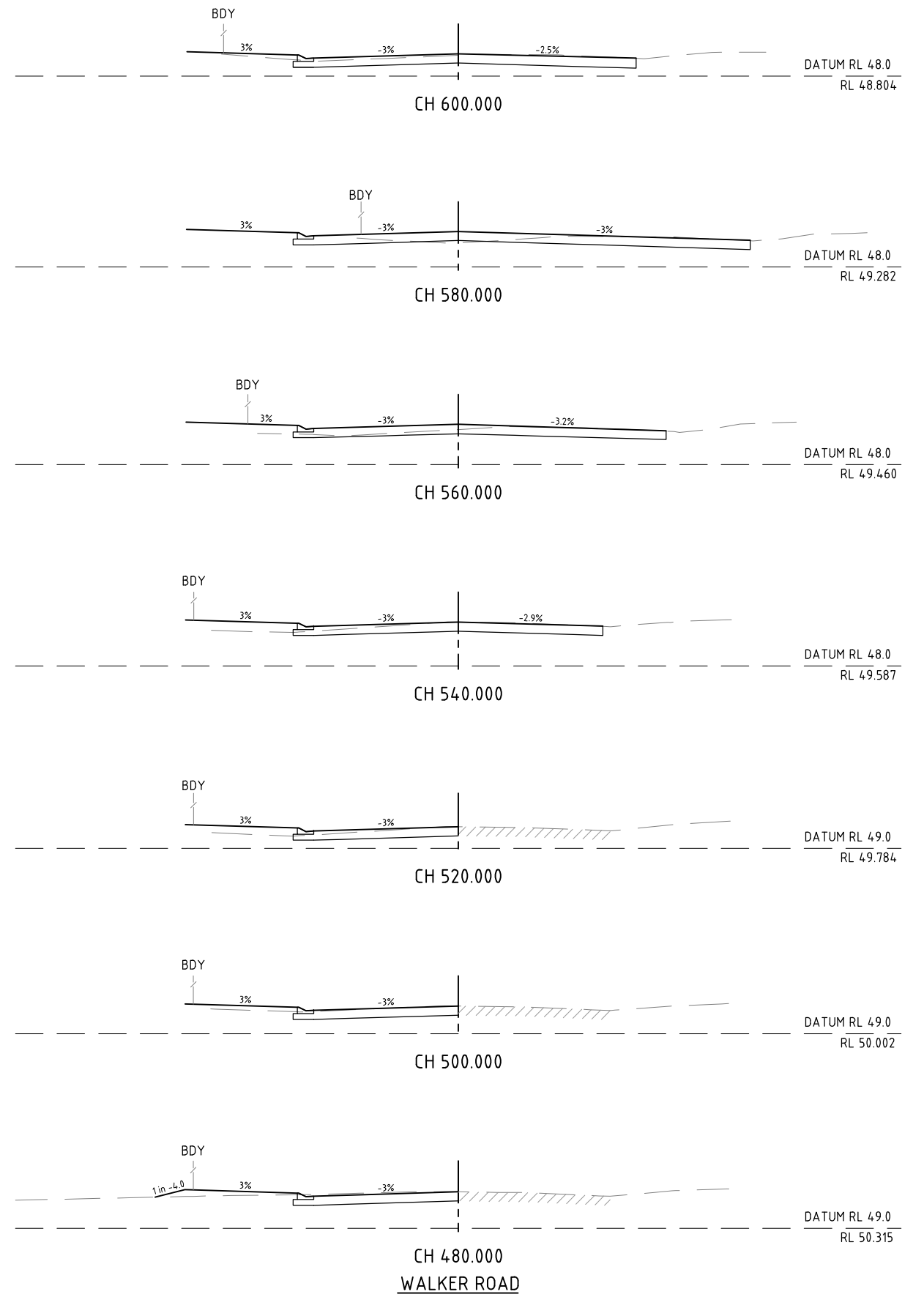
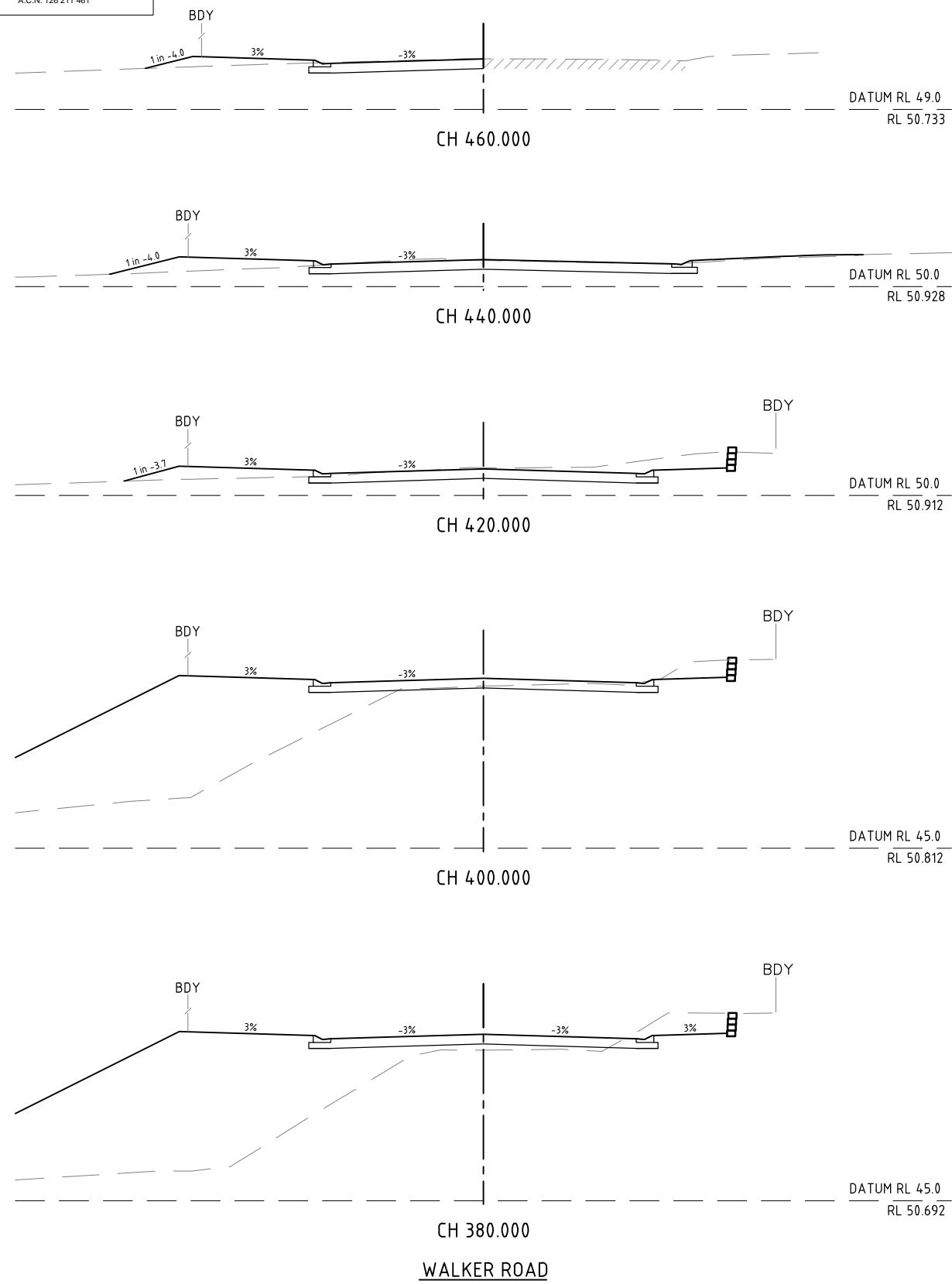
TITLE ROAD CROSS SECTIONS SHEET 2 OF 4		
SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0010	REV B

DATE: 25/02/2016 11:38:14 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Submission Edmonton\Drawings\IH035500-CI-DG-0010-0013_Road XS.dwg

DRAWING AMENDED BY PDR ENGINEERS - 18-12-2015



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SCALE 1:100 (A1)
1:200 (A3)

B	18.12.15	DM	GH	AMcP	REVISED CROSS SECTIONS
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE
REV	DATE	DRAWN	REVD	APPD	REVISION

DRAWING NUMBER	REFERENCE DRAWING TITLE

--




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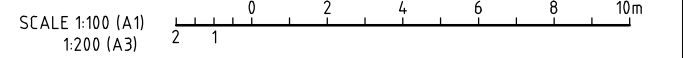
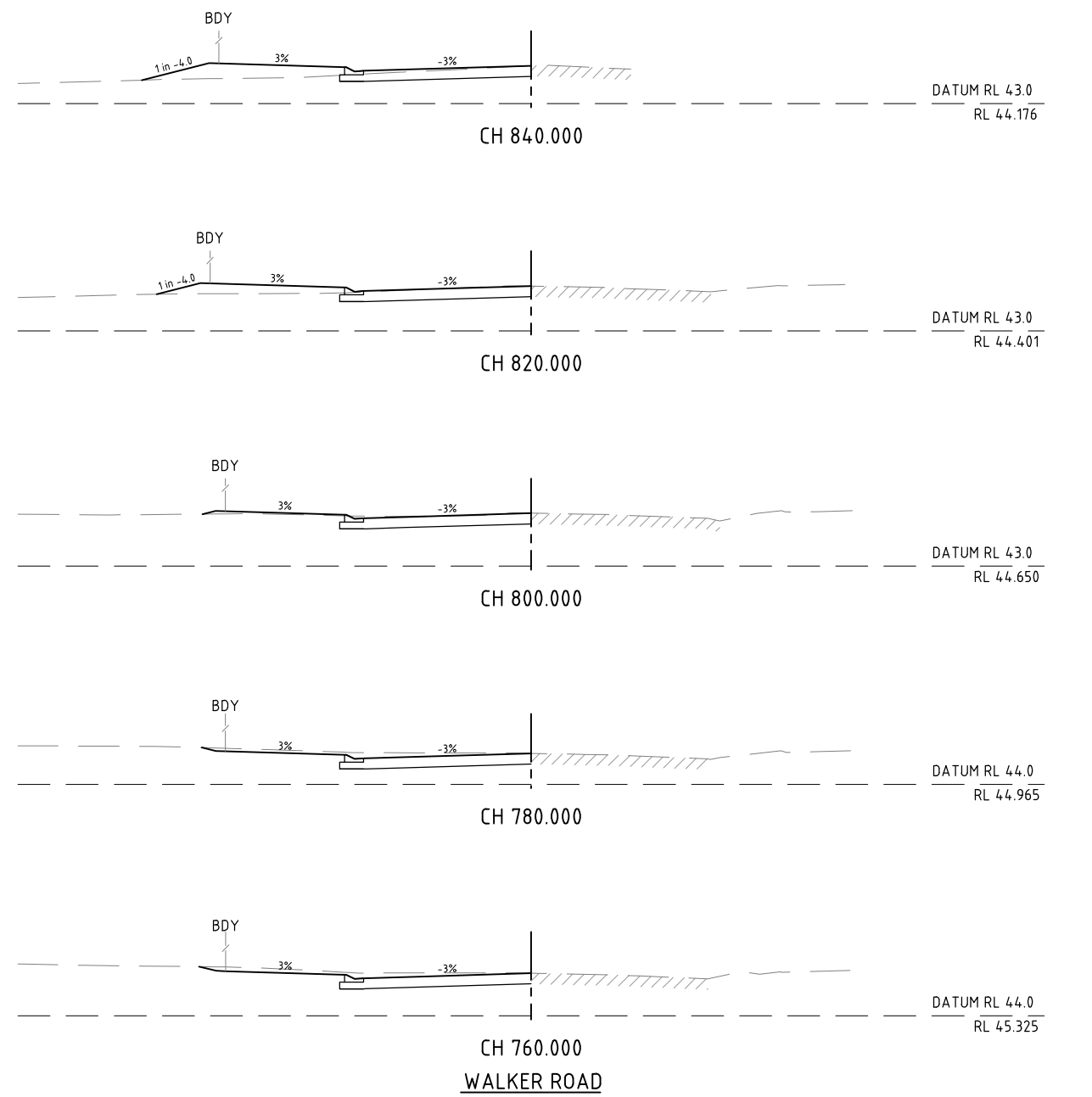
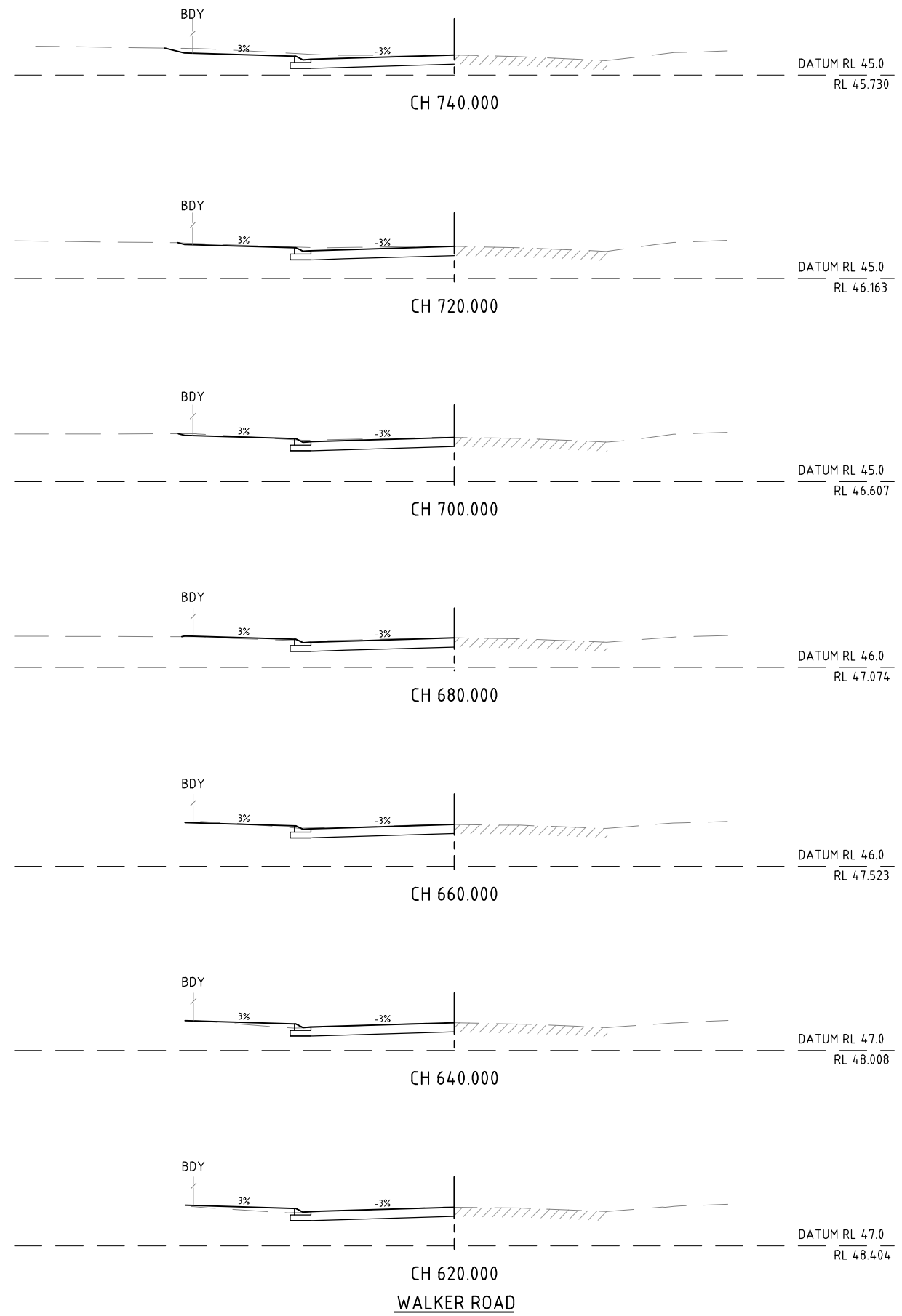
CLIENT WALKER ROAD PTY LTD			
PROJECT BENTLEY CROSSING - STAGES 1A & 1C			
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE ROAD CROSS SECTIONS SHEET 3 OF 4		
SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0011	REV B

DATE: 25/02/2016 11:38:16 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Submission Edmonton\Drawings\H035500-CI-DG-0011-0013_Road XS.dwg




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A.C.N. 126 211 461



REV	DATE	DRAWN	REVD	APPD	REVISION
B	18.12.15	DM	GH	AMcP	REVISED CROSS SECTIONS
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

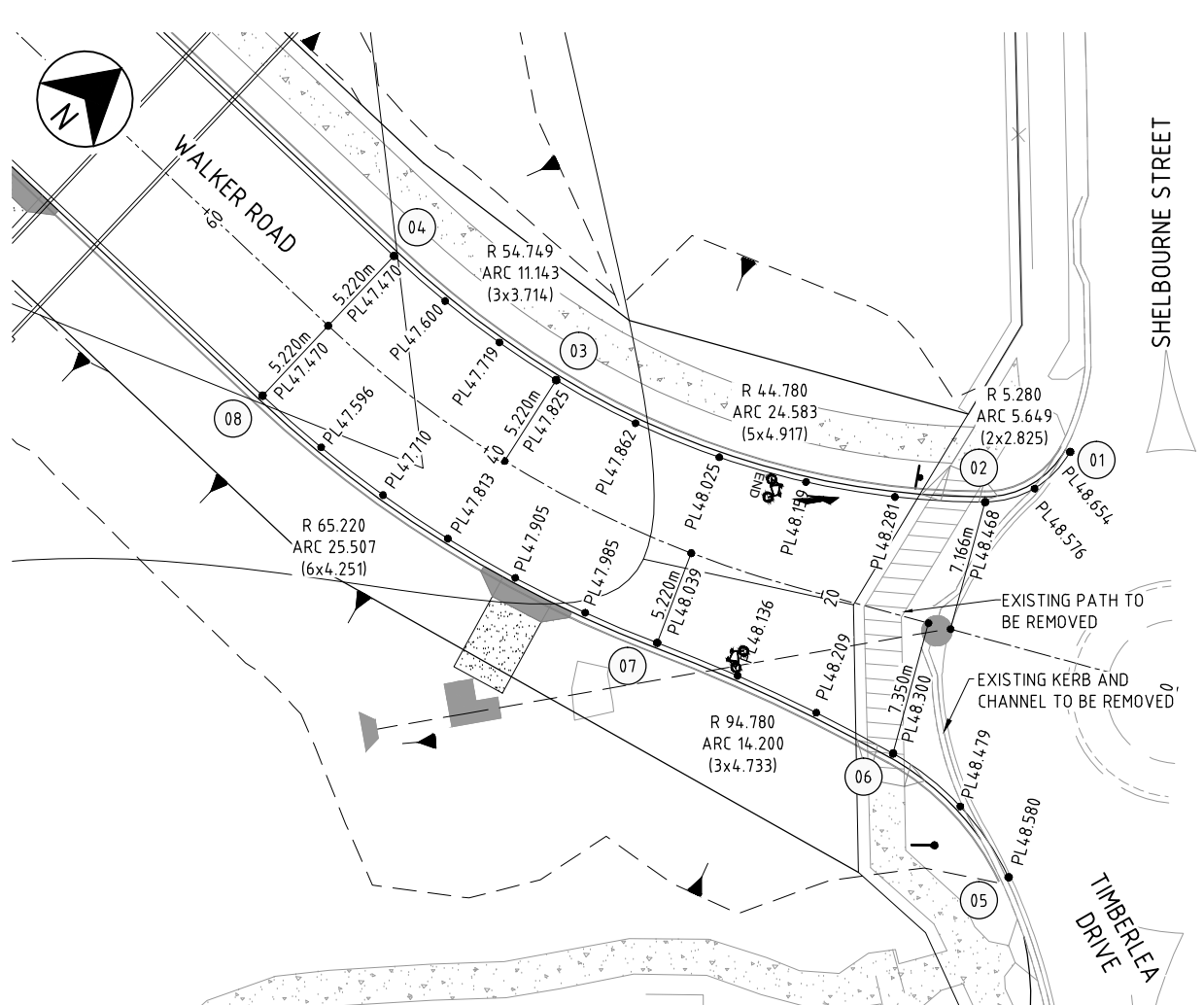



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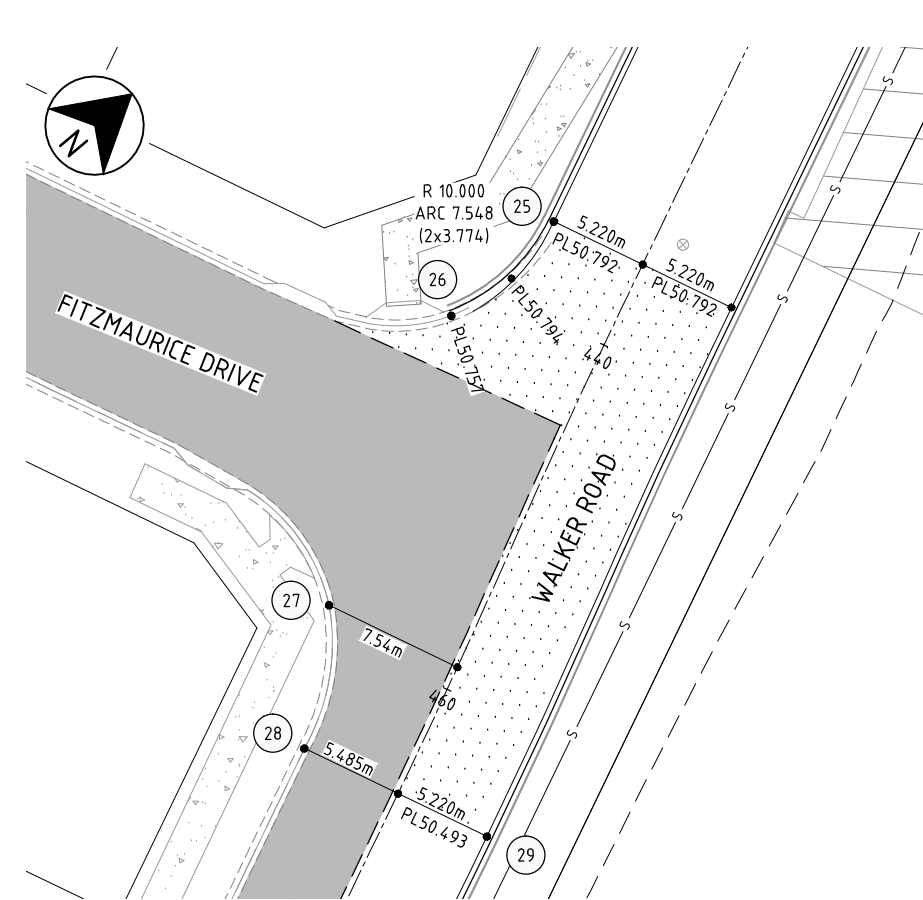
CLIENT WALKER ROAD PTY LTD			
PROJECT BENTLEY CROSSING - STAGES 1A & 1C			
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE ROAD CROSS SECTIONS SHEET 4 OF 4		
SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0012	REV B

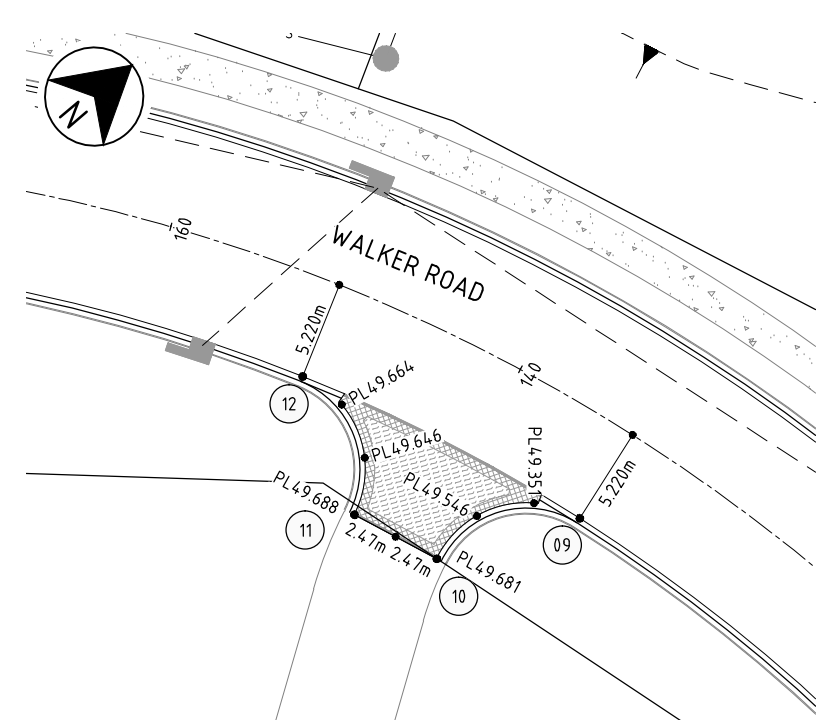
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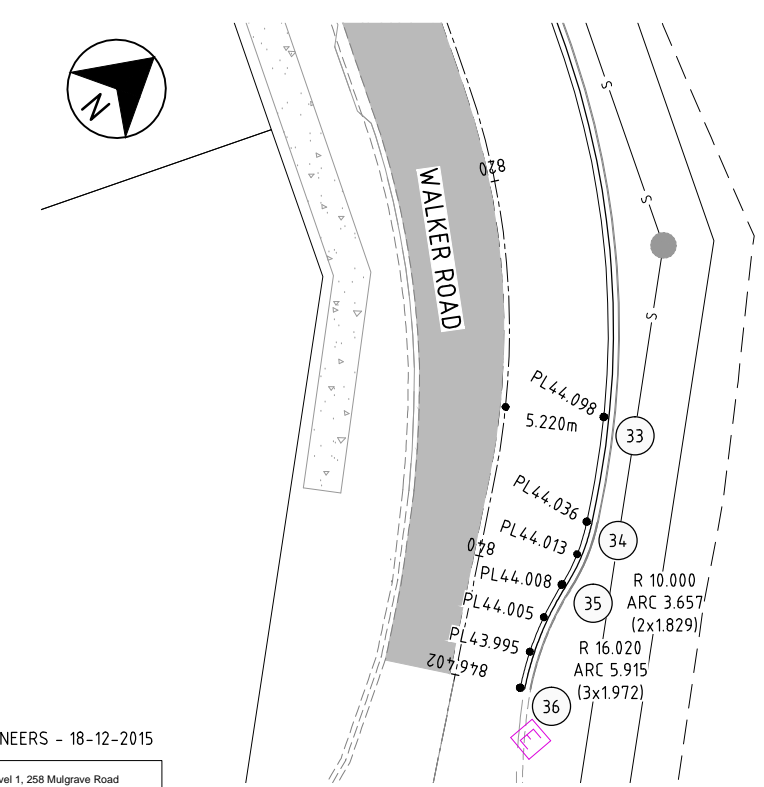
WALKER ROAD AND TIMBERLEA DRIVE ROUNDABOUT



WALKER ROAD AND FITZMAURICE DRIVE INTERSECTION (WEST)



WALKER ROAD AND FUTURE ROAD STAGE 1A/C INTERSECTION



WALKER ROAD WIDENING AND FITZMAURICE DRIVE INTERSECTION (EAST)

INTERSECTION SETOUT TABLE

POINT	EASTING	NORTHING
01	363551.798	8119108.228
02	363550.891	8119102.919
03	363530.740	8119089.382
04	363519.874	8119087.002
05	363567.296	8119090.709
06	363558.096	8119090.259
07	363545.202	8119084.347
08	363521.058	8119076.632
09	363440.684	8119065.822
10	363437.427	8119058.665
11	363432.833	8119056.845
12	363425.488	8119059.475
25	363408.710	8118812.326
26	363409.011	8118804.962
27	363416.521	8118790.139
28	363421.451	8118784.250
29	363431.243	8118788.614
33	363714.066	8118591.199
34	363717.708	8118586.938
35	363719.395	8118583.785
36	363722.140	8118578.583

LEGEND

- PL44.956 PAVEMENT LEVEL
- 7 SETOUT POINT
- LAYBACK KERB AND CHANNEL
- OR KERB INLET PIT
- - - PROPOSED STORMWATER
- PROPOSED SEWER
- 57.0 DESIGN SURFACE CONTOURS (0.1m INTERVAL)
- EXISTING STORMWATER
- W EXISTING WATER
- STREET SIGN
- KERB RAMP
- CONCRETE PATHWAY (2m WIDE U.N.O.)
- 50mm ASPHALT SURFACE
- CONCRETE FEATURE PAVEMENT
- EXISTING ASPHALT SURFACE

NOTE

1. FOR NOTES REFER DRG. DG-0001.

SCALE 1:200 (A1)
1:400 (A3)

DRAWING AMMENDED BY PDR ENGINEERS - 18-12-2015

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REV	DATE	DRAWN	REVD	APPD	REVISION
C	18.12.15	DM	GH	AMcP	PAVEMENT LEVELS REVISED
B	07.04.15	PAM	CJC	RJC	50mm ASPHALT ADDED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

DRAWING NUMBER	REFERENCE DRAWING TITLE

JACOBS

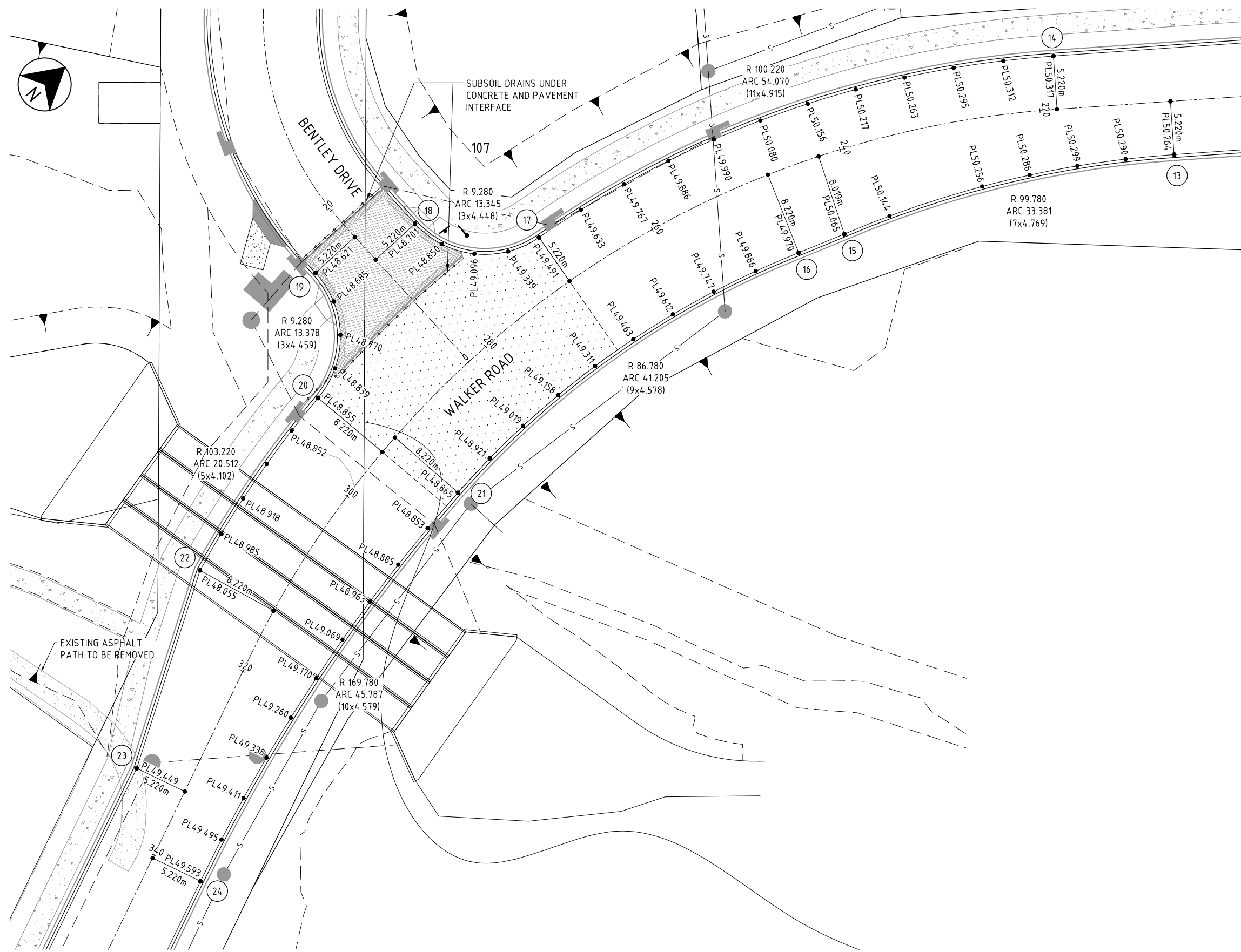
ABN 37 001 024 085 and ACN 001 024 085
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Fax: +61 7 4031 3967
Web: www.jacobs.com

CLIENT WALKER ROAD PTY LTD		PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE INTERSECTION DETAILS		SHEET 1 OF 2	
SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0014	REV	C



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WALKER ROAD AND BENTLEY DRIVE INTERSECTION

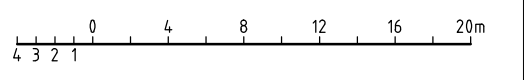
INTERSECTION SETOUT TABLE

POINT	EASTING	NORTHING
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14	363371.960	8119019.305
15	363372.037	8118992.419
16	363370.552	8118987.823
17	363352.973	8118969.382
18	363344.096	8118960.978
19	363341.481	8118950.431
20	363349.856	8118945.836
21	363366.928	8118947.165
22	363356.409	8118922.961
23	363367.208	8118905.715
24	363379.690	8118903.337

NOTE

- FOR NOTES REFER DRG. DG-0001.
- FOR LEGEND REFER SHEET 1.

SCALE 1:200 (A1)
1:400 (A3)



REV	DATE	DRAWN	REVD	APPD	REVISION
C	18.12.15	DM	GH	AMcP	PAVEMENT LEVELS REVISED
B	01.05.15	JAH	CJC	RJC	PAVEMENT LEVELS REVISED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE




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CLIENT WALKER ROAD PTY LTD		PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE INTERSECTION DETAILS SHEET 2 OF 2		SCALE AS SHOWN	DRAWING No. IH035500-CI-DG-0015	REV C
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DATE: 25/02/2016 11:38:32 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\Working\IH035500-CI-DG-0014\015_Intersection.dwg

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NOTES

- ALL TRAFFIC SIGNS AND PAVEMENT MARKING TO BE IN ACCORDANCE WITH 'TMR MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES' PARTS 1-15.
- ALL REGULATORY, WARNING AND HAZARD SIGNS TO BE SIZE 'A' UNLESS NOTED OTHERWISE.
- SUPERFLUOUS LINEMARKING TO BE BLACKED OUT.

LEGEND FOR PAVEMENT MARKING

GIVE WAY LINE: GWL 200mm

LANE LINE: LL 80mm

UNBROKEN LANE LINE: LL 80mm

EDGE LINE: EL 80mm

CONTINUITY LINE: CL 200mm

OUTLINE MARKING: OM 150mm

HOLD LINE: HL 300mm

BIKE LANE SYMBOL: REFER M.U.T.C.D.

LEGEND

TRAFFIC FLOW:

UNIDIRECTIONAL RRPM, WHITE:

BIDIRECTIONAL RRPM, RED & WHITE (RED REFLECTOR FACES TRAFFIC):

UNIDIRECTIONAL RRPM, RED:

UNIDIRECTIONAL RRPM, RED:

NOTES

- FOR RRPM'S ADJACENT SOLID LINES, LATERAL SPACING BETWEEN EDGE OF LINE AND EDGE OF RRPM MUST BE IN RANGE 25mm (MIN) TO 50mm (MAX).
- SPACING SHOWN ARE MAXIMUM ONLY AND MAY BE ADJUSTED TO ALLOW EVEN GAPS BETWEEN RRPM'S.
- REDUCE SPACING AS NECESSARY TO ENSURE THAT AT LEAST TWO CONSECUTIVE RRPM'S REMAIN IN DRIVERS' VIEW.
- SPACING: N = 12m.

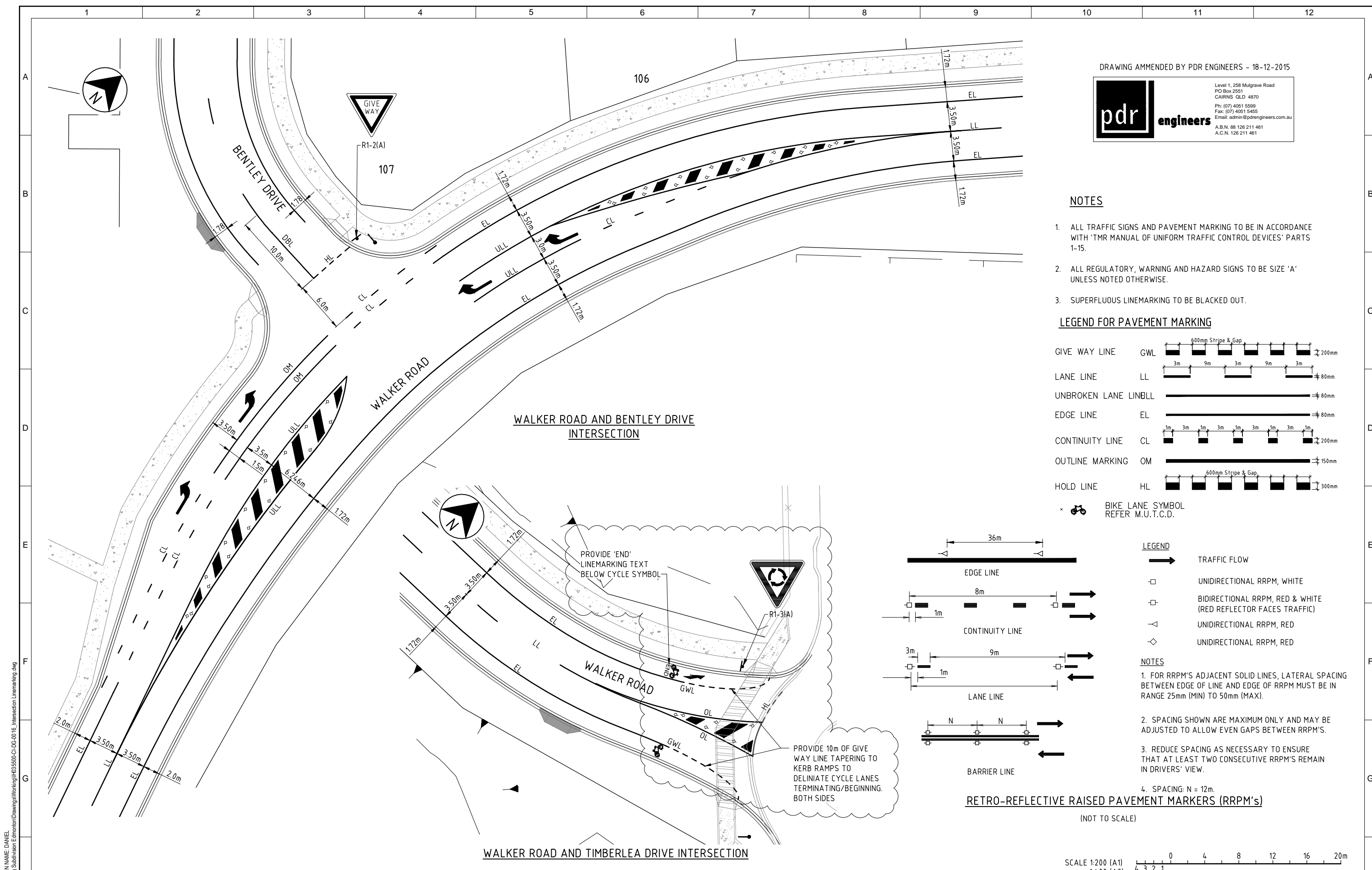
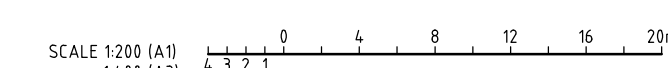
RETRO-REFLECTIVE RAISED PAVEMENT MARKERS (RRPM's)
(NOT TO SCALE)

EDGE LINE:

CONTINUITY LINE:

LANE LINE:

BARRIER LINE:



DATE: 25/02/2016 11:38:40 AM LOGIN NAME: DANIEL LOCATION: z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\Working\IH035500-CI-DG-0016_Intersection Linemarking.dwg

REV	DATE	DRAWN	REV'D	APP'D	REVISION
D	10.02.16	DM	GH	AMcP	CYCLE LANE AMMENDMENTS INTERSECTION TIMBERLEA DR.
C	18.12.15	DM	GH	AMcP	LINEMARKING ADDED BENTLEY DRIVE
B	01.05.15	JAH	CJC	RJC	KERB RAMPS ADJUSTED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE



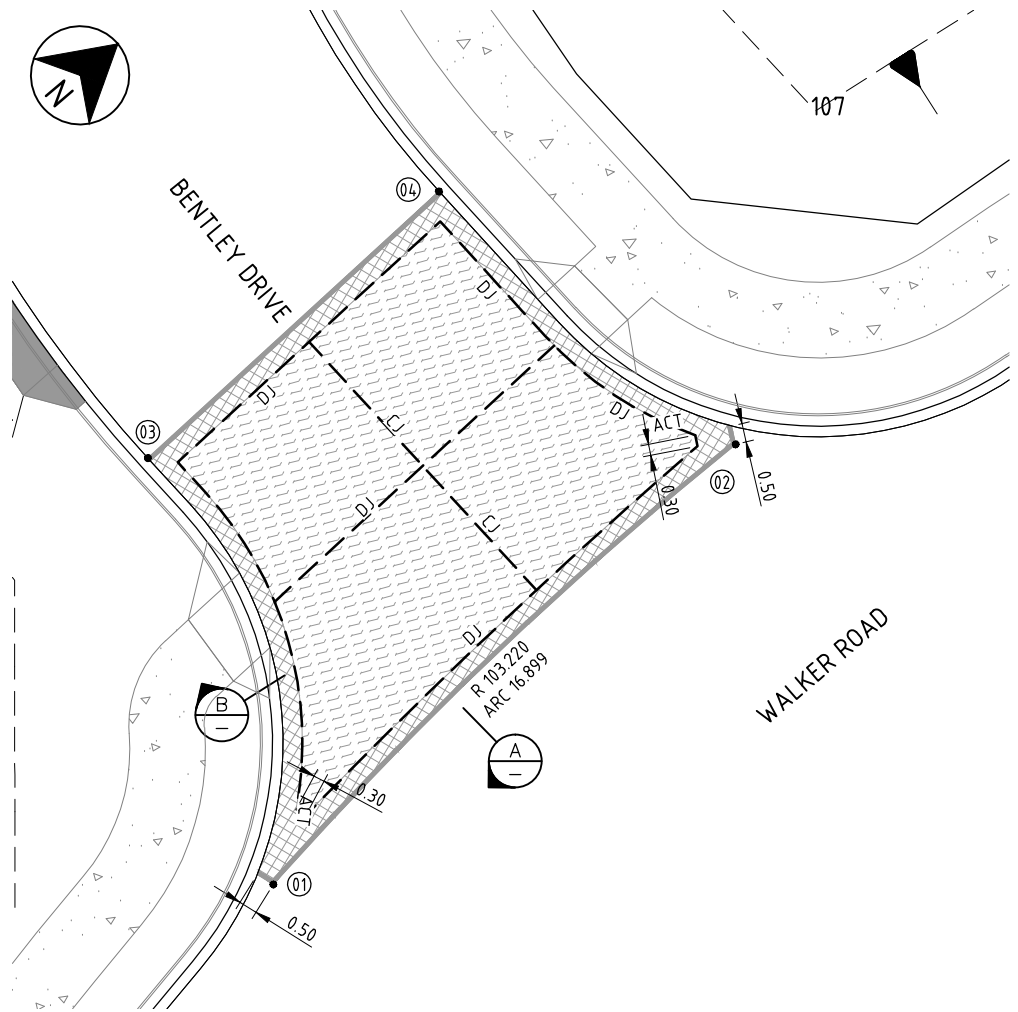
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AUSTRALIA

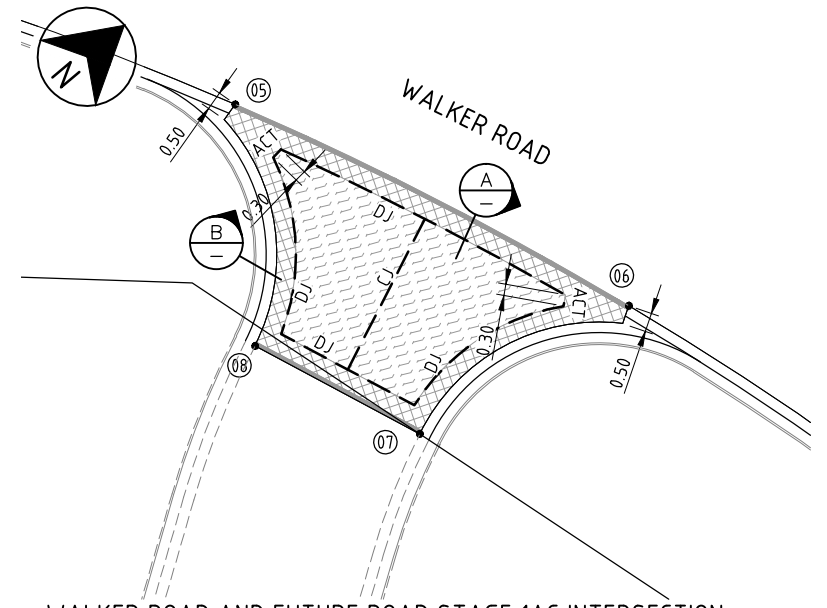
Tel: +61 7 4031 4599
Fax: +61 7 4031 3967
Web: www.jacobs.com

CLIENT: WALKER ROAD PTY LTD			
PROJECT: BENTLEY CROSSING - STAGES 1A & 1C			
DRAWN: JAH	DRAWING CHECK: RJB	REVIEWED: C.J.CAPLICK	APPROVED: R.J.CARMAN
DESIGNED: PAM	DESIGN REVIEW: RJC	DATE: 20.03.15	DATE: 20.03.15

TITLE: INTERSECTION LINEMARKING DETAILS		
SCALE: AS SHOWN	DRAWING No: IH035500-CI-DG-0016	REV: C



WALKER ROAD AND BENTLEY DRIVE INTERSECTION



WALKER ROAD AND FUTURE ROAD STAGE 1A/C INTERSECTION

DRAWING AMMENDED BY PDR ENGINEERS - 18-12-2015

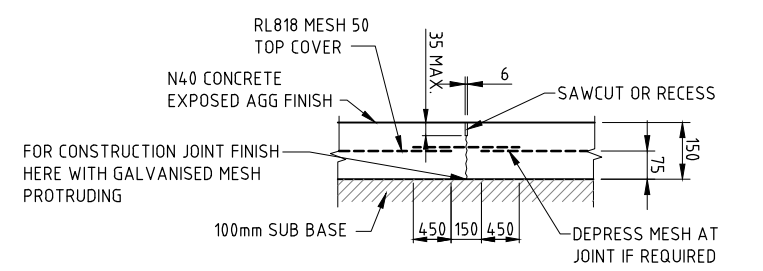
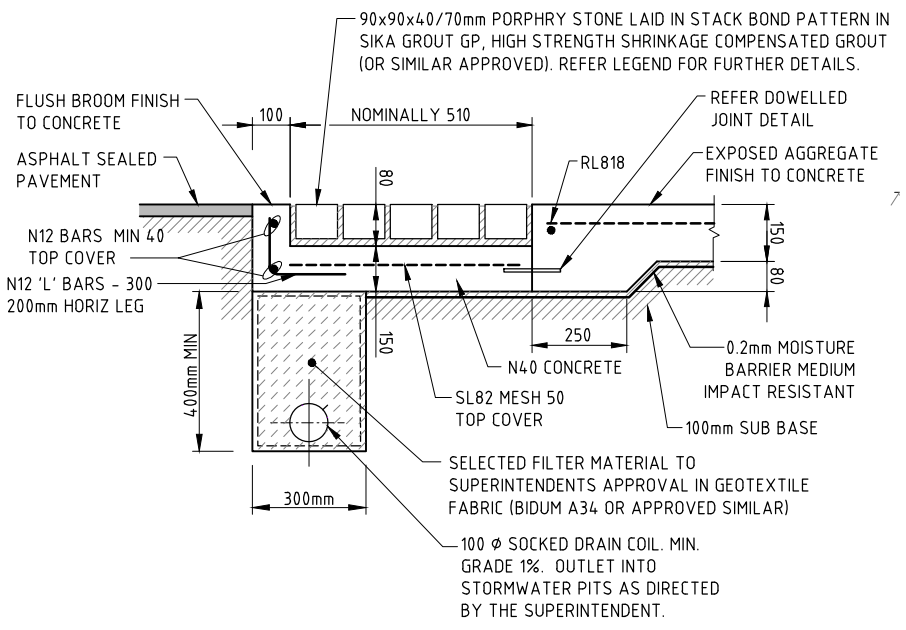
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CONCRETE BANDING SETOUT TABLE

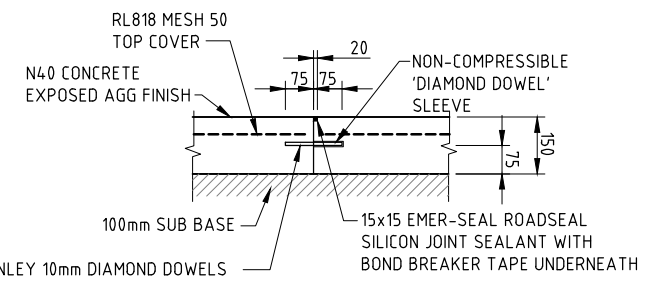
POINT	EASTING	NORTHING
01	363350.541	811894.562
02	363349.562	8118962.464
03	363339.382	8118960.793
04	363339.794	8118950.361
05	363427.619	8119060.568
06	363438.408	8119065.075
07	363437.427	8119058.665
08	363432.833	8119056.845

LEGEND

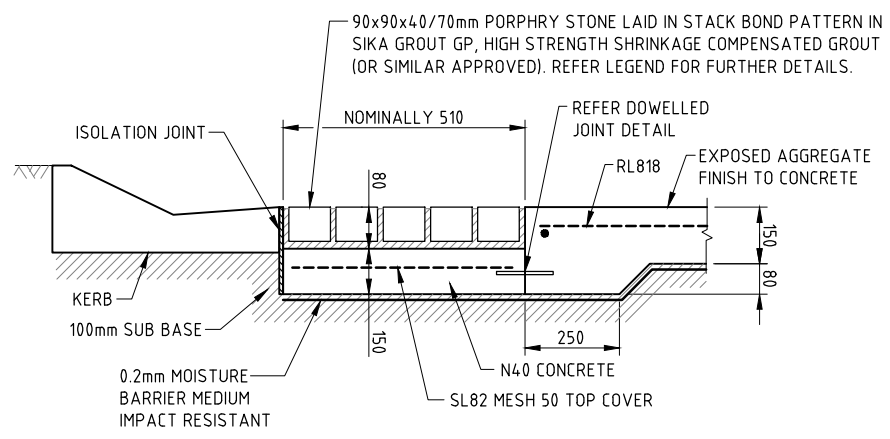
- ⑦ SETOUT POINT
- ===== LAYBACK KERB AND CHANNEL
- +++++ EXPOSED AGGREGATE CONCRETE
150mm THICK WITH RL818 MESH
50mm TOP COVER
100mm SUB-BASE CBR 45
EMERALD HONEY (MEDIUM EXPOSURE WITH TUNGSTON COLOUR BASE)
- ||||| EXPOSED AGGREGATE CONCRETE TYPE 3
150mm THICK WITH RL818 MESH
50mm TOP COVER
100mm SUB-BASE CBR 45
BURDEKIN (MEDIUM EXPOSURE WITH MAIZE COLOUR BASE)
- PORPHYRY STONE COBBLES 90x90x40/70mm (SPLIT FACES TO ALL SIDES)
SUPPLIER - AUSTRALIAN PORPHYRY STONE.
COLOUR GREY.
GROUT TO BE SET DOWN 2mm BELOW FINISHED PAVING LEVEL AND 10mm THICK MINIMUM.



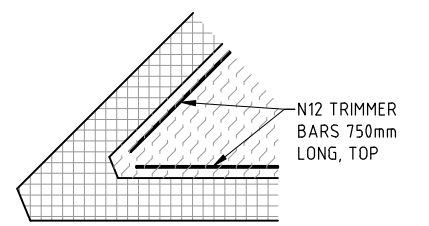
CONTRACTION JOINT (CJ)
N.T.S. (SAW CUT)



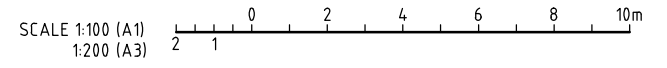
DOWELLED JOINT (DJ)
N.T.S.



SECTION B
N.T.S.



ACUTE CORNER TREATMENT (ACT)
N.T.S.



DATE: 25/02/2016 11:38:49 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\IH035500-CI-DG-0017_Intersection Concrete.dwg

REV	DATE	DRAWN	REVD	APPD	REVISION
B	18.12.15	DM	GH	AMcP	SUBSOIL DRAIN DETAIL ADDED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE



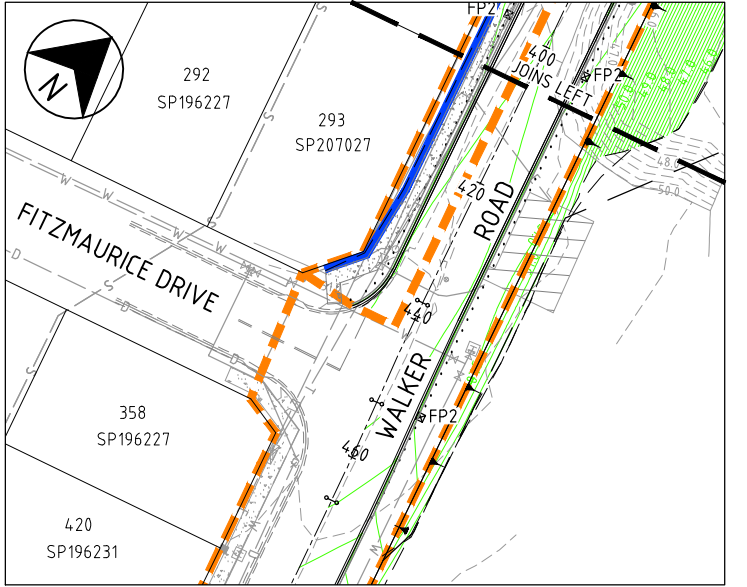
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CLIENT: WALKER ROAD PTY LTD		PROJECT: BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN: JAH	DRAWING CHECK: RJB	REVIEWED: C.J.CAPLICK	APPROVED: R.J.CARMAN
DESIGNED: PAM	DESIGN REVIEW: RJC	DATE: 20.03.15	DATE: 20.03.15

TITLE: CONCRETE BANDING DETAILS		REV: B
SCALE: AS SHOWN	DRAWING No: IH035500-CI-DG-0017	



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A.C.N. 126 211 461



FOR STORMWATER INLET PITS AND PIPES BEYOND CH 460 ALONG WALKER ROAD, REFER TO DRG IH035500-CI-DG-0003

INSET 1

NOTE

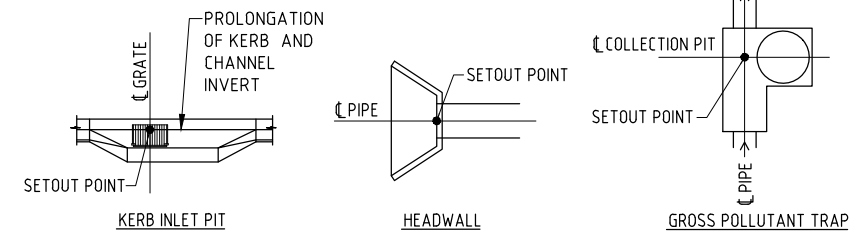
1. FOR NOTES REFER DRG DG-0001.

LEGEND

- 2/1 STRUCTURE No. / LINE NUMBER
- EX2/3 EXISTING STRUCTURE No.
- STORMWATER DRAINAGE PIPE & MANHOLE
- SUBSURFACE DRAINAGE
- PROPOSED SEWER
- OR —■— KERB INLET PIT
- ▲— HEADWALL
- GROSS POLLUTANT TRAP
- ← FALL OF LOTS
- ▲ BATTER
- STAGE BOUNDARY
- 57.0 DESIGN SURFACE CONTOURS (0.5m INTERVAL)
- RETAINING WALL
- GROUTED STONE PITCHING
- TEMPORARY CUT-OFF DRAIN
- × PROVIDE 3x100φ uPVC ROOFWATER PIPES AS PER STD DRG 1035
- 57.0 EXISTING SURFACE CONTOURS (0.5m INTERVAL)
- D EXISTING STORMWATER
- S EXISTING SEWER
- W EXISTING WATER
- E EXISTING TELSTRA
- T EXISTING ELECTRICITY

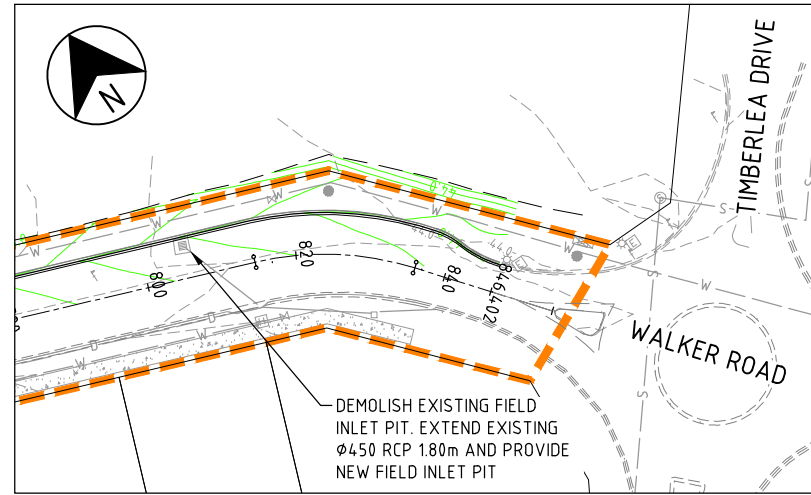
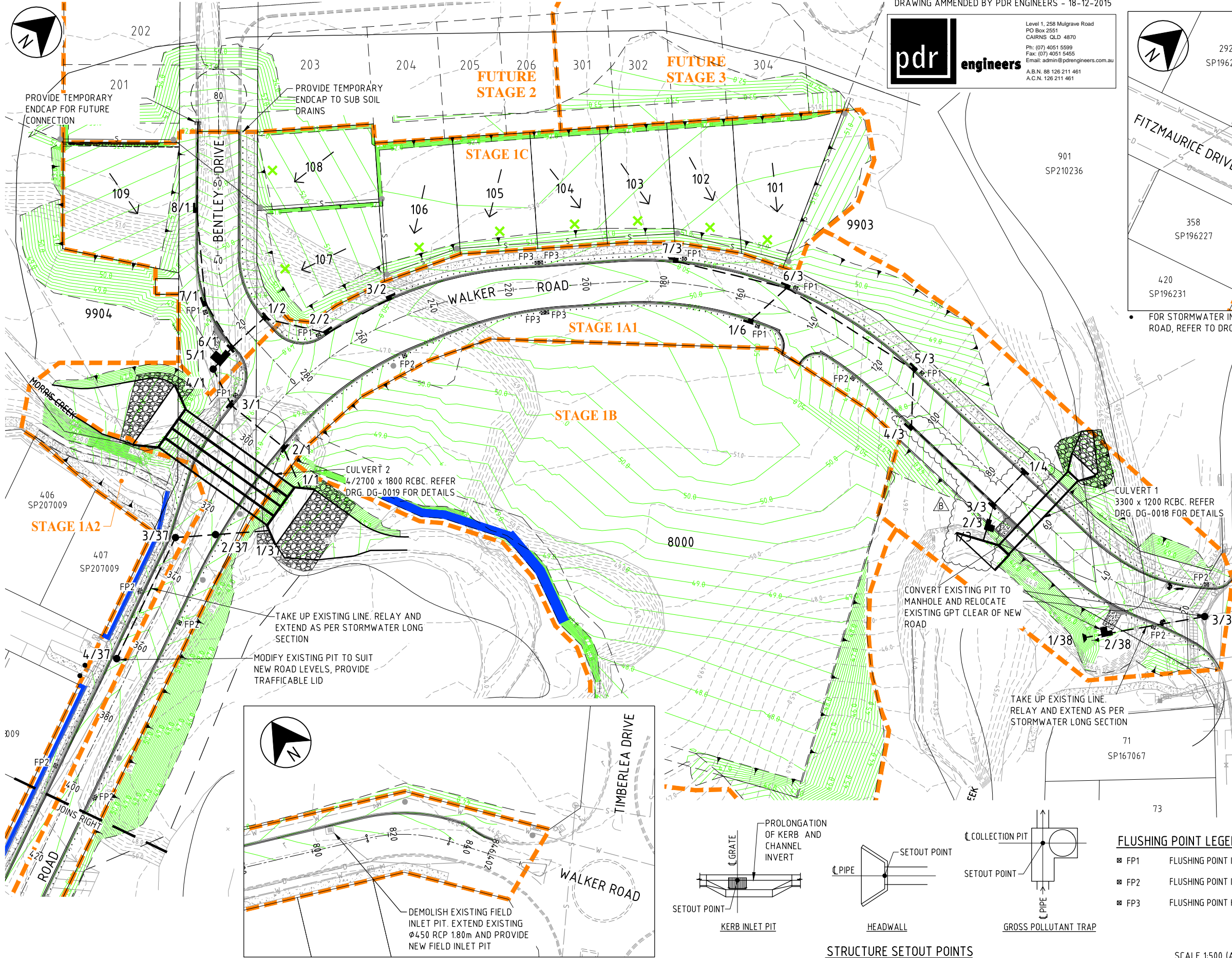
FLUSHING POINT LEGEND

- FP1 FLUSHING POINT IN PIT
- FP2 FLUSHING POINT IN LINE
- FP3 FLUSHING POINT HEAD



STRUCTURE SETOUT POINTS
N.T.S.

SCALE 1:500 (A1)
1:1000 (A3)



INSET 2

REV	DATE	DRAWN	REVD	APPD	REVISION
B	18.12.15	DM	GH	AMCP	STORMWATER TO SUIT NEW SAG PIT
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

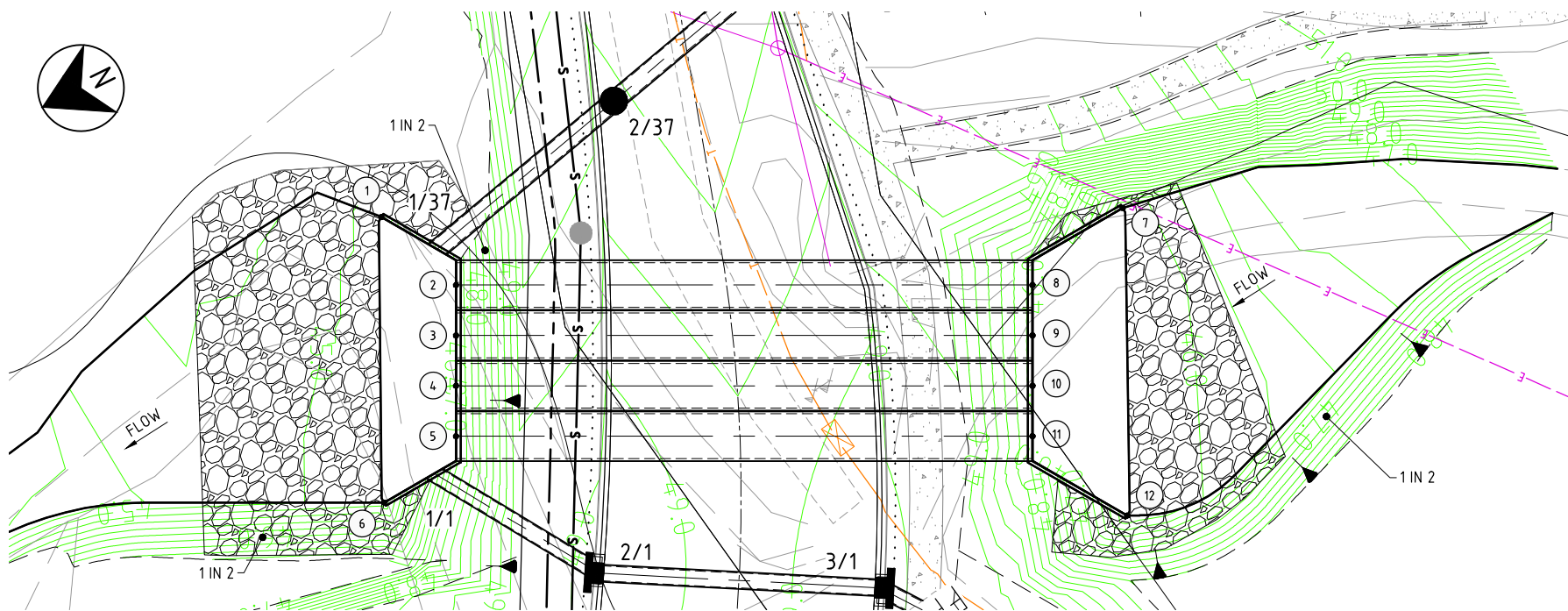
DRAWING NUMBER	REFERENCE DRAWING TITLE

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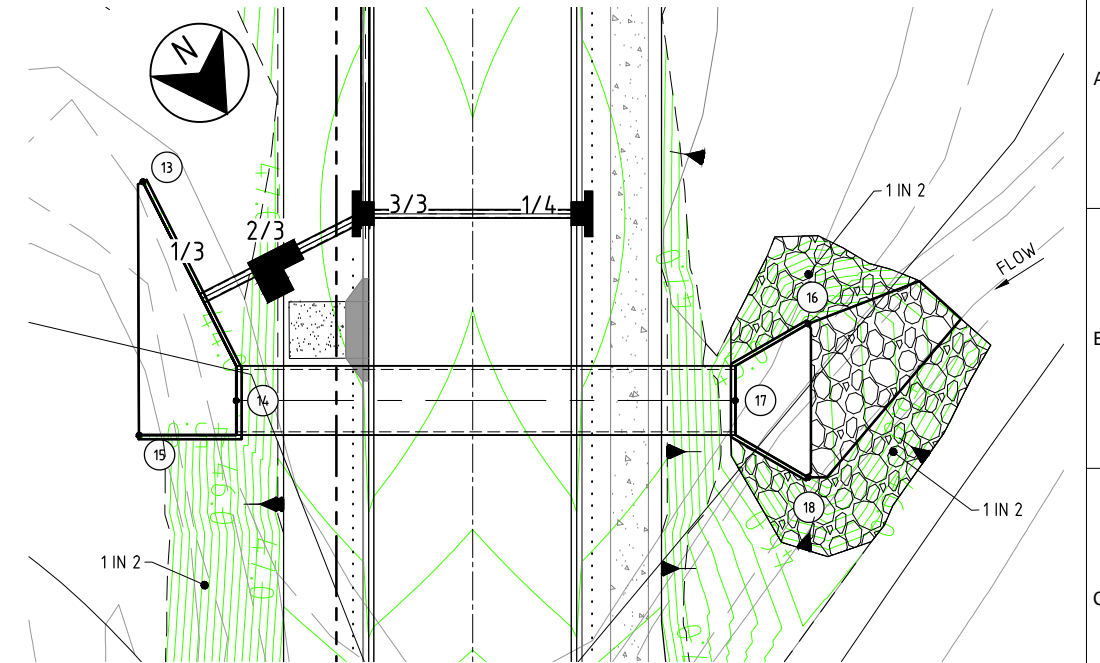
CLIENT WALKER ROAD PTY LTD		APPROVED R.J.CARMAN	
PROJECT BENTLEY CROSSING - STAGES 1A & 1C		DATE 20.03.15	
DRAWN JAH	DRAWING CHECK RJB	DESIGNED PAM	DESIGN REVIEW RJC

TITLE STORMWATER DRAINAGE	
SCALE AS SHOWN	DRAWING No. IH035500-CI-DG-0018
	REV B

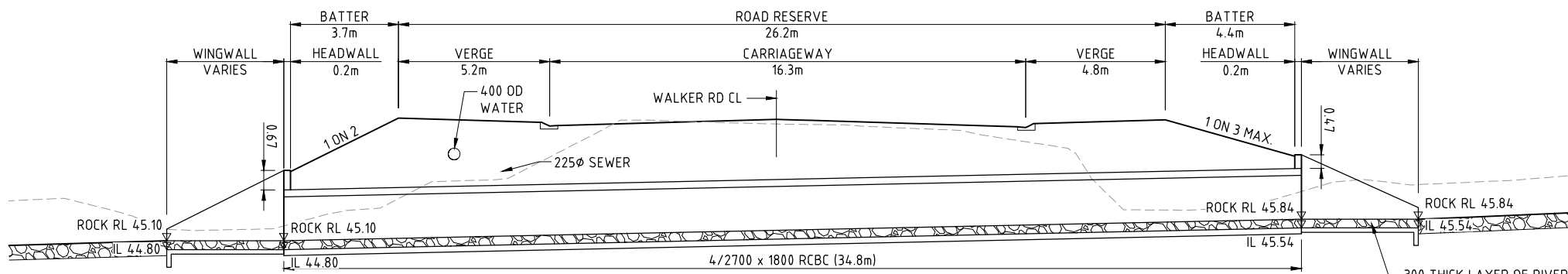
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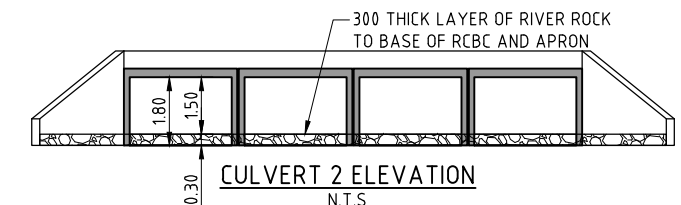
CULVERT 2 - 4/2700x1800 RCBC SETOUT DETAILS



CULVERT 1 - 1/3300x1200 RCBC SETOUT DETAILS



CULVERT 2 - 4/2700x1800 RCBC N.T.S. NOTE: REFER FNQROC STD. DWG. S1090 FOR HEADWALL DETAILS



CULVERT 2 ELEVATION N.T.S.

CULVERT SETOUT TABLE

POINT	EASTING	NORTHING
1	363385.770	8118925.762
2	363380.410	8118928.647
3	363379.673	8118931.596
4	363378.936	8118934.546
5	363378.199	8118937.495
6	363381.439	8118942.435
7	363342.494	8118914.387
8	363346.648	8118920.210
9	363345.911	8118923.159
10	363345.174	8118926.108
11	363344.437	8118929.058
12	363337.733	8118932.318
13	363497.074	8119061.593
14	363508.006	8119067.813
15	363510.409	8119062.902
16	363500.546	8119097.408
17	363505.010	8119094.042
18	363508.599	8119098.328

DRAWING AMMENDED BY PDR ENGINEERS - 18-12-2015

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A.C.N. 126 211 461

SCALE 1:200 (A1)
1:400 (A3)

REV	DATE	DRAWN	REVD	APPD	REVISION
C	18.12.15	DM	GH	AMcP	CULVERT WINGS AND APRONS AMMENDED
B	02.04.15	PAM	CJC	RJC	CULVERT 2 HEIGHT INCREASED FOR 300mm RIVER ROCK LAYER
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

DRAWING NUMBER	REFERENCE DRAWING TITLE

JACOBS

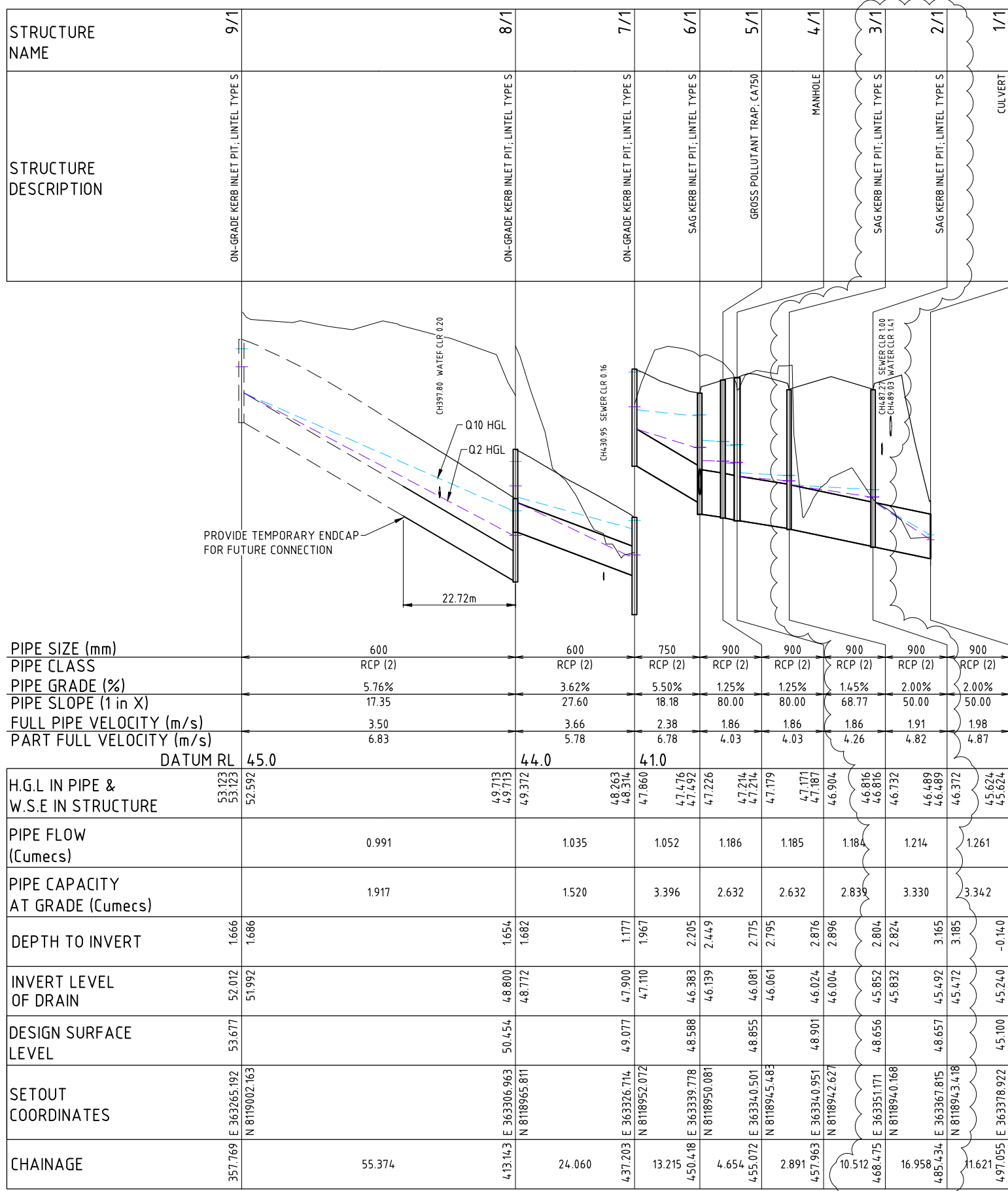
ABN 37 001 024 085 and ACN 001 024 085
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CLIENT WALKER ROAD PTY LTD		PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE STORMWATER DRAINAGE CULVERT DETAILS	
SCALE AS SHOWN	DRAWING No. IH035500-CI-DG-0019
	REV C

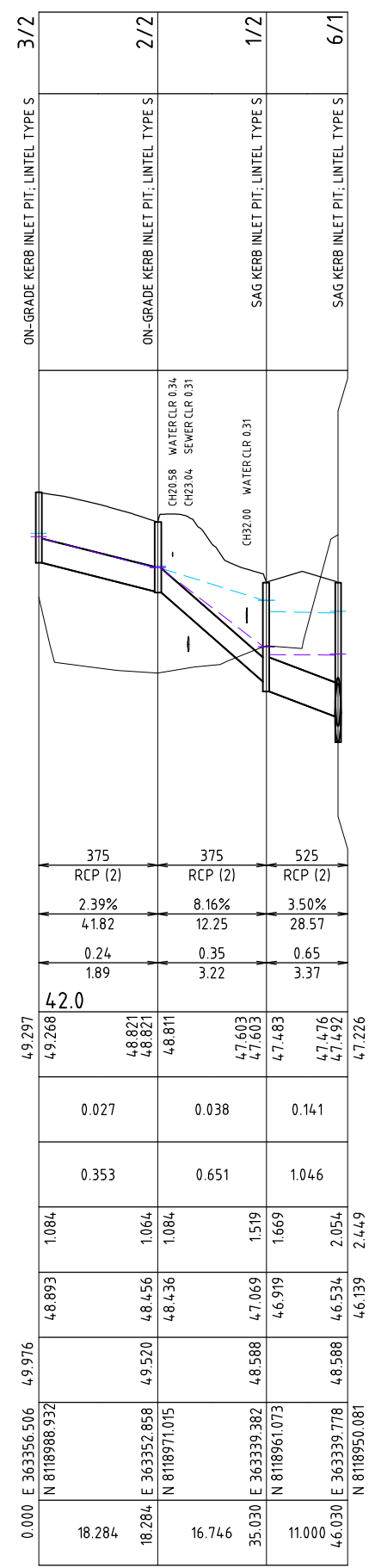
DATE: 25/02/2016 11:39:39 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\Working\IH035500-CI-DG-0019_Drainage Details.dwg

A
B
C
D
E
F
G
H



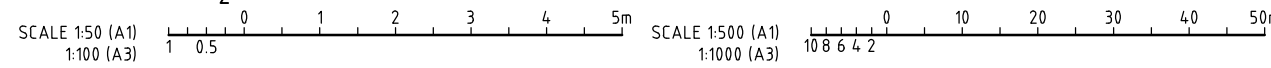
PIPE SIZE (mm)	600	600	750	900	900	900	900	900
PIPE CLASS	RCP (2)	RCP (2)	RCP (2)	RCP (2)	RCP (2)	RCP (2)	RCP (2)	RCP (2)
PIPE GRADE (%)	5.76%	3.62%	5.50%	1.25%	1.25%	1.45%	2.00%	2.00%
PIPE SLOPE (1 in X)	17.35	27.60	18.18	80.00	80.00	68.77	50.00	50.00
FULL PIPE VELOCITY (m/s)	3.50	3.66	2.38	1.86	1.86	1.86	1.91	1.98
PART FULL VELOCITY (m/s)	6.83	5.78	6.78	4.03	4.03	4.26	4.82	4.87
DATUM RL	45.0	44.0	41.0					

H.G.L IN PIPE & W.S.E IN STRUCTURE	53.123 53.123 52.592	49.713 49.713 49.372	48.263 48.314 47.860	47.476 47.492 47.226	47.214 47.214 47.179	47.171 47.187 46.904	46.816 46.816 46.732	46.489 46.489 46.372	45.624 45.624 45.624
PIPE FLOW (Cumecs)		0.991	1.035	1.052	1.186	1.185	1.184	1.214	1.261
PIPE CAPACITY AT GRADE (Cumecs)		1.917	1.520	3.396	2.632	2.632	2.839	3.330	3.342
DEPTH TO INVERT	1.666 1.686	1.654 1.682	1.177 1.967	2.205 2.449	2.775 2.795	2.876 2.896	2.804 2.824	3.165 3.185	-0.140 -0.140
INVERT LEVEL OF DRAIN	52.012 51.992	48.800 48.772	47.900 47.110	46.383 46.139	46.081 46.061	46.024 46.004	45.852 45.832	45.492 45.472	45.240 45.240
DESIGN SURFACE LEVEL	53.677	50.454	49.077	48.588	48.855	48.901	48.656	48.657	45.100
SETOUT COORDINATES	E 363265.192 N 8119002.163	E 363306.963 N 8118965.811	E 363326.714 N 8118952.072	E 363339.778 N 8118950.081	E 363340.501 N 8118945.483	E 363340.951 N 8118942.627	E 363351.171 N 8118940.168	E 363367.815 N 8118943.418	E 363378.922 N 8118940.001
CHAINAGE	357.769	55.374	4.13.143	24.060	4.37.203	13.215	4.50.418	4.65.4	4.97.055



PIPE SIZE (mm)	375	375	525
PIPE CLASS	RCP (2)	RCP (2)	RCP (2)
PIPE GRADE (%)	2.39%	8.16%	3.50%
PIPE SLOPE (1 in X)	4.182	12.25	28.57
FULL PIPE VELOCITY (m/s)	0.24	0.35	0.65
PART FULL VELOCITY (m/s)	1.89	3.22	3.37
DATUM RL	42.0		

H.G.L IN PIPE & W.S.E IN STRUCTURE	49.297 49.268 48.821 48.821 48.811	47.603 47.603 47.483	47.176 47.492 47.226
PIPE FLOW (Cumecs)	0.027	0.038	0.141
PIPE CAPACITY AT GRADE (Cumecs)	0.353	0.651	1.046
DEPTH TO INVERT	1.084	1.064	1.084
INVERT LEVEL OF DRAIN	48.893	48.456	48.436
DESIGN SURFACE LEVEL	49.976	49.520	48.588
SETOUT COORDINATES	E 363356.506 N 8118988.932	E 363352.858 N 8118971.075	E 363339.382 N 8118961.073
CHAINAGE	0.000	18.284	16.746



REV	DATE	DRAWN	REVD	APPD	REVISION
B	01.05.15	JAH	CJC	RJC	PIT LEVELS RAISED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE



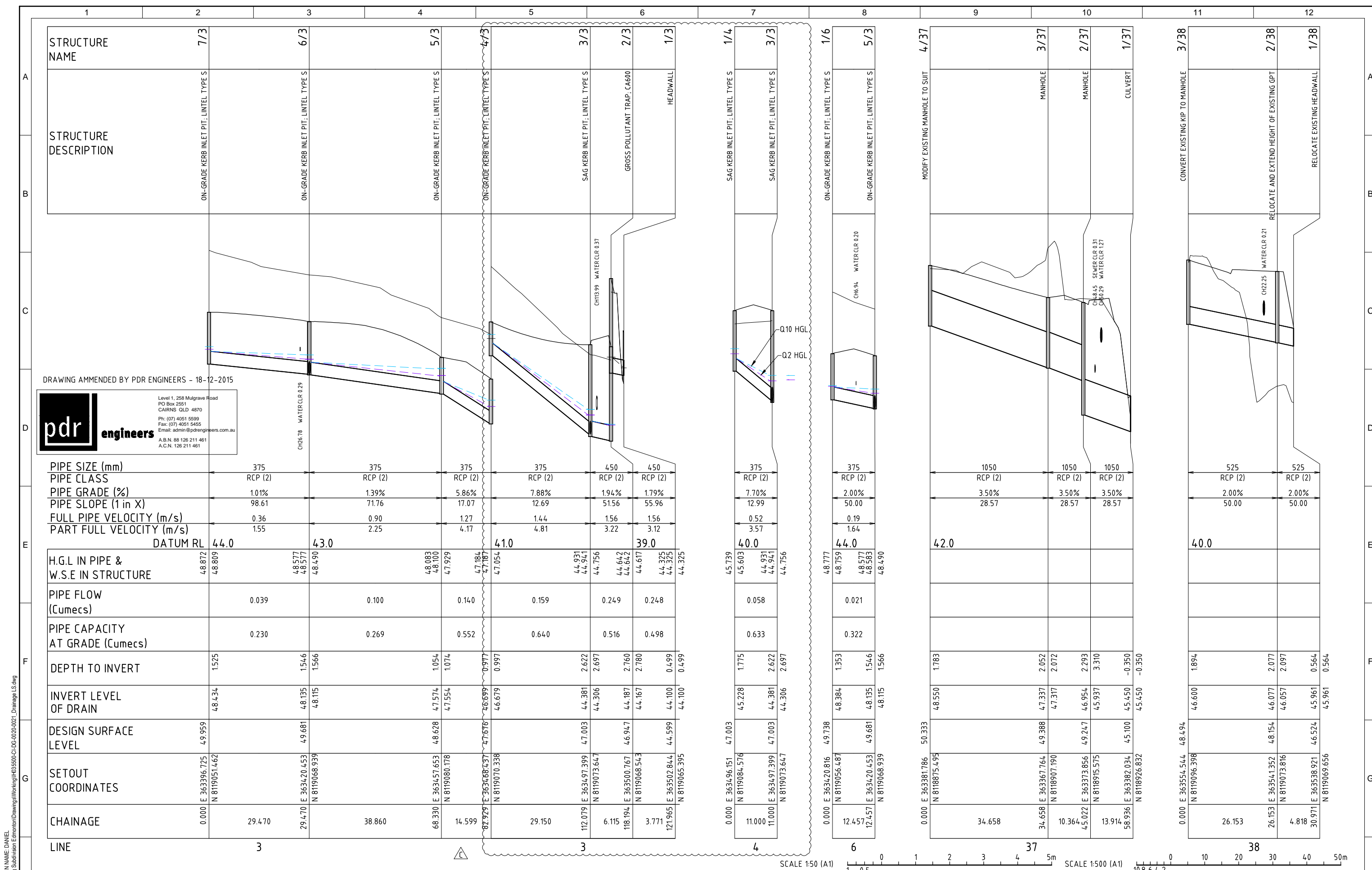
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CLIENT	WALKER ROAD PTY LTD		
PROJECT	BENTLEY CROSSING - STAGES 1A & 1C		
DRAWN	DRAWING CHECK	REVIEWED	APPROVED
JAH	RJB	C.J.CAPLICK	R.J.CARMAN
DESIGNED	DESIGN REVIEW	DATE	DATE
PAM	RJC	20.03.15	20.03.15

TITLE	
STORMWATER DRAINAGE LONGITUDINAL SECTIONS	
SHEET 1 OF 2	
SCALE	DRAWING No
AS SHOWN	IH035500-CI-DG-0020
REV	B



DRAWING AMENDED BY PDR ENGINEERS - 18-12-2015

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PIPE SIZE (mm)	375	375	375	375	450	450	375	375	1050	1050	1050	525	525
PIPE CLASS	RCP (2)	RCP (2)	RCP (2)	RCP (2)	RCP (2)	RCP (2)	RCP (2)	RCP (2)	RCP (2)	RCP (2)	RCP (2)	RCP (2)	RCP (2)
PIPE GRADE (%)	1.01%	1.39%	5.86%	7.88%	1.94%	1.79%	7.70%	2.00%	3.50%	3.50%	3.50%	2.00%	2.00%
PIPE SLOPE (1 in X)	98.61	71.76	17.07	12.69	51.56	55.96	12.99	50.00	28.57	28.57	28.57	50.00	50.00
FULL PIPE VELOCITY (m/s)	0.36	0.90	1.27	1.44	1.56	1.56	0.52	0.19	0.19	0.19	0.19	0.19	0.19
PART FULL VELOCITY (m/s)	1.55	2.25	4.17	4.81	3.22	3.12	3.57	1.64	1.64	1.64	1.64	1.64	1.64
DATUM RL	44.0	43.0	41.0	41.0	39.0	39.0	40.0	44.0	42.0	42.0	42.0	40.0	40.0
H.G.L IN PIPE & W.S.E IN STRUCTURE	48.872 48.809	48.577 48.577	48.490 48.490	48.083 48.100	47.929 47.929	47.184 47.187	47.054 47.054	44.931 44.941	44.756 44.756	44.642 44.642	44.617 44.617	44.325 44.325	44.325 44.325
PIPE FLOW (Cumecs)	0.039	0.100	0.140	0.159	0.249	0.248	0.058	0.021	0.021	0.021	0.021	0.021	0.021
PIPE CAPACITY AT GRADE (Cumecs)	0.230	0.269	0.552	0.640	0.516	0.498	0.633	0.322	0.322	0.322	0.322	0.322	0.322
DEPTH TO INVERT	1.525	1.546	1.566	1.054	1.074	0.997	1.775	1.353	1.783	2.052	2.072	1.894	1.894
INVERT LEVEL OF DRAIN	48.434	48.135	48.115	47.574	47.554	46.699	45.228	48.384	48.550	47.337	47.317	46.600	46.600
DESIGN SURFACE LEVEL	49.959	49.681	49.681	48.628	47.574	47.676	47.003	48.384	49.681	49.388	49.247	48.154	48.154
SETOUT COORDINATES	0.000 E 363396.725 N 8119051.462	29.470 E 363420.453 N 8119068.939	68.330 E 363457.653 N 8119080.178	14.599 E 363468.437 N 8119070.338	29.150 E 363497.399 N 8119073.647	6.115 E 363500.767 N 8119068.543	3.771 E 363502.844 N 8119065.395	0.000 E 363496.151 N 8119084.576	12.457 E 363420.453 N 8119068.939	0.000 E 363381.786 N 8118875.495	34.658 E 363367.764 N 8118907.190	4.5022 E 363373.856 N 8118915.575	58.936 E 363382.034 N 8118926.832
CHAINAGE	0.000	29.470	68.330	82.929	29.150	6.115	3.771	0.000	12.457	0.000	34.658	39.160	43.662
LINE	3	3	3	3	3	3	3	4	6	6	37	38	38

<p>DATE: 25/02/2016 11:39:45 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Submission Edmonton\Drawings\Working\H035500-CI-DG-0020-0021_Drainage LS.dwg</p>	<p>SCALE 1:50 (A1) 1:100 (A3)</p>	<p>SCALE 1:50 (A1) 1:100 (A3)</p>	<p>SCALE AS SHOWN</p>	<p>DATE: 20.03.15</p>	<p>DATE: 20.03.15</p>	<p>DATE: 20.03.15</p>	<p>DATE: 20.03.15</p>
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<p>CLIENT: WALKER ROAD PTY LTD PROJECT: BENTLEY CROSSING - STAGES 1A & 1C</p>	<p>TITLE: STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 2 OF 2</p>
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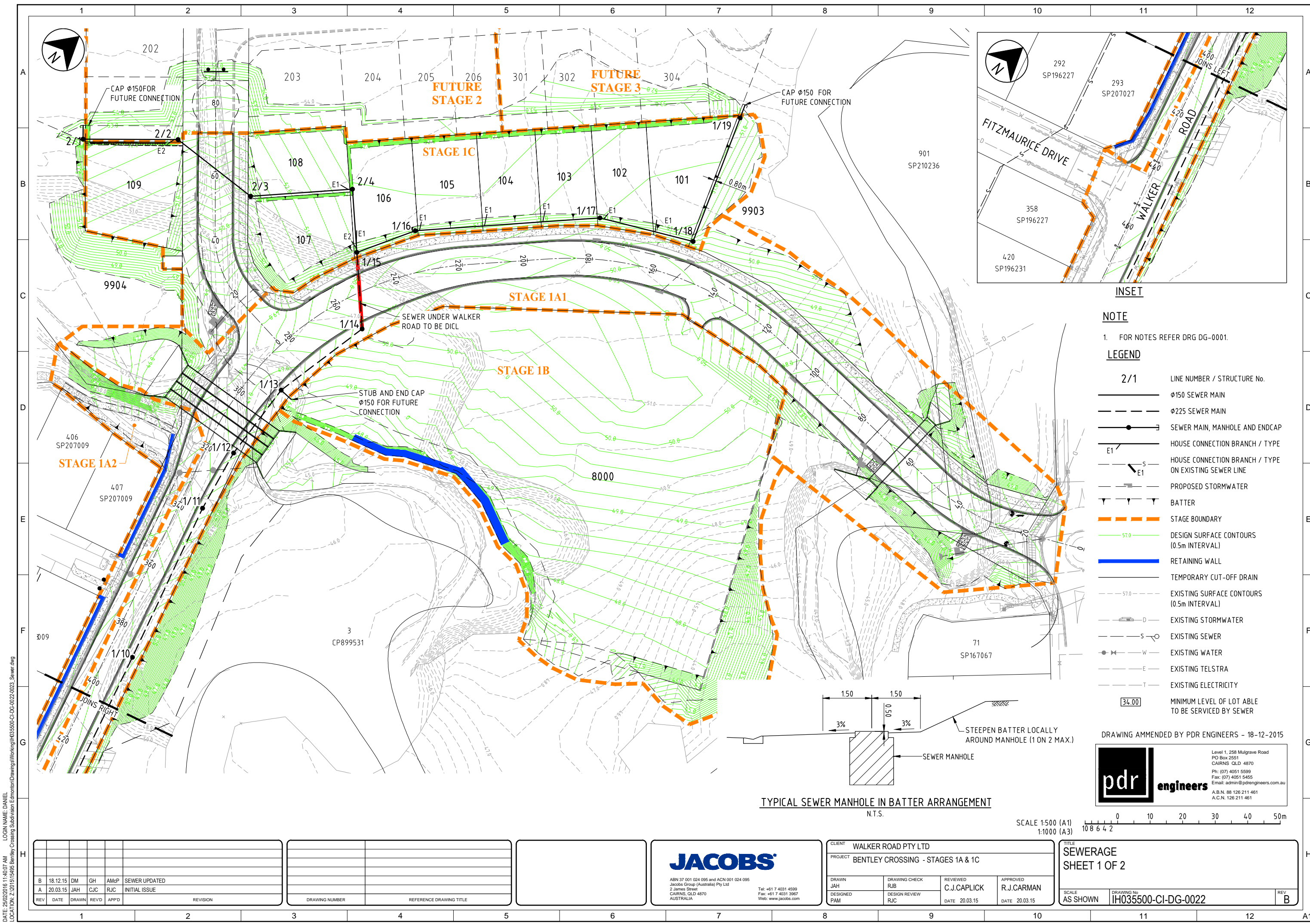
<p>DRAWN: JAH DESIGNED: PAM</p>	<p>DRAWING CHECK: RJB DESIGN REVIEW: RJC</p>	<p>REVIEWED: C.J.CAPLICK DATE: 20.03.15</p>	<p>APPROVED: R.J.CARMAN DATE: 20.03.15</p>
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<p>SCALE: AS SHOWN</p>	<p>DRAWING No: IH035500-CI-DG-0021</p>	<p>REV: C</p>
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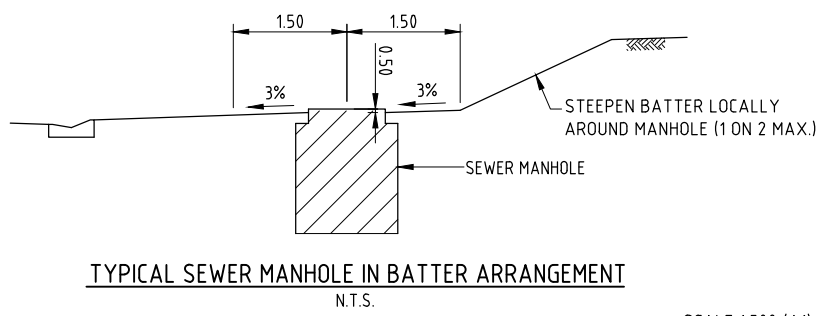
<p>REV: C 18.12.15 DM GH AMcP VERTICAL REALIGNMENT SAG AMENDMENTS</p>	<p>REV: B 01.05.15 JAH CJC RJC PIT LEVELS RAISED</p>	<p>REV: A 20.03.15 JAH CJC RJC INITIAL ISSUE</p>
<p>REV: DATE: DRAWN: REV'D: APP'D: REVISION:</p>	<p>DRAWING NUMBER:</p>	<p>REFERENCE DRAWING TITLE:</p>

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- NOTE**
- FOR NOTES REFER DRG DG-0001.
- LEGEND**
- 2/1 LINE NUMBER / STRUCTURE No.
 - φ150 SEWER MAIN
 - - - φ225 SEWER MAIN
 - SEWER MAIN, MANHOLE AND ENDCAP
 - E1 / HOUSE CONNECTION BRANCH / TYPE
 - E1 / HOUSE CONNECTION BRANCH / TYPE ON EXISTING SEWER LINE
 - - - PROPOSED STORMWATER
 - ▲ BATTER
 - - - STAGE BOUNDARY
 - 57.0- DESIGN SURFACE CONTOURS (0.5m INTERVAL)
 - RETAINING WALL
 - - - TEMPORARY CUT-OFF DRAIN
 - 57.0- EXISTING SURFACE CONTOURS (0.5m INTERVAL)
 - D - EXISTING STORMWATER
 - S - EXISTING SEWER
 - W - EXISTING WATER
 - E - EXISTING TELSTRA
 - T - EXISTING ELECTRICITY
 - [34.00] MINIMUM LEVEL OF LOT ABLE TO BE SERVICED BY SEWER



DRAWING AMMENDED BY PDR ENGINEERS - 18-12-2015

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SCALE 1:500 (A1)
1:1000 (A3)

REV	DATE	DRAWN	REVD	APPD	REVISION
B	18.12.15	DM	GH	AMcP	SEWER UPDATED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

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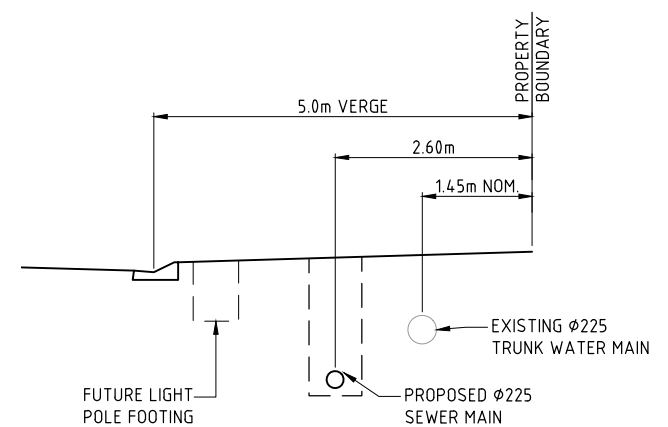
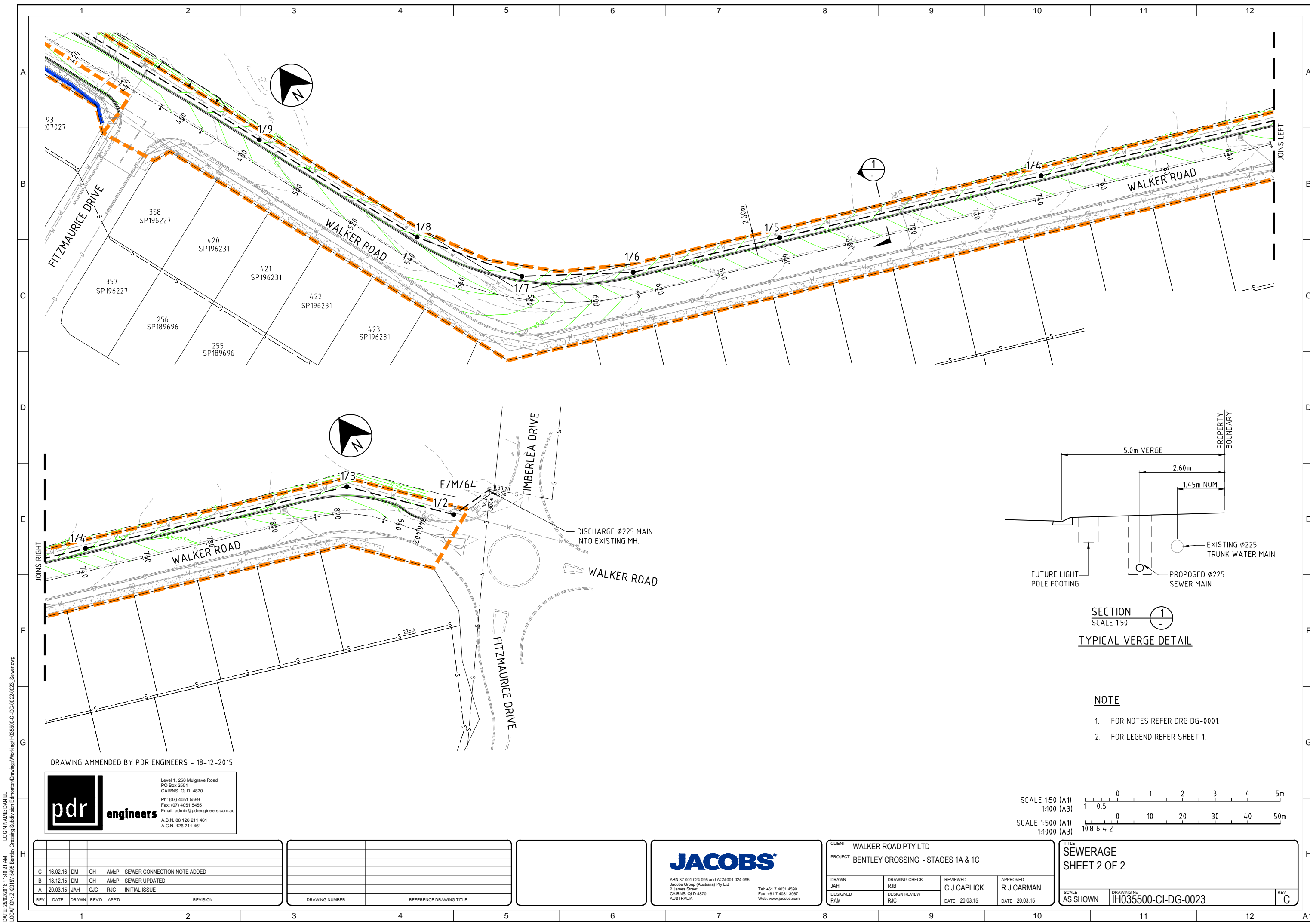
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CLIENT WALKER ROAD PTY LTD		PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

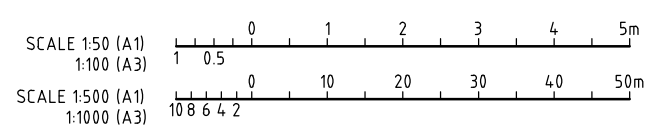
TITLE SEWERAGE SHEET 1 OF 2	
SCALE AS SHOWN	DRAWING No. IH035500-CI-DG-0022
REV	B

DATE: 25/02/2016 11:40:07 AM
LOGIN NAME: DANIEL
LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\Working\IH035500-CI-DG-0022-0023_Sewer.dwg



SECTION 1
SCALE 1:50
TYPICAL VERGE DETAIL

- NOTE**
- FOR NOTES REFER DRG DG-0001.
 - FOR LEGEND REFER SHEET 1.



DRAWING AMENDED BY PDR ENGINEERS - 18-12-2015

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A.C.N. 126 211 461

REV	DATE	DRAWN	REVD	APPD	REVISION
C	16.02.16	DM	GH	AMcP	SEWER CONNECTION NOTE ADDED
B	18.12.15	DM	GH	AMcP	SEWER UPDATED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

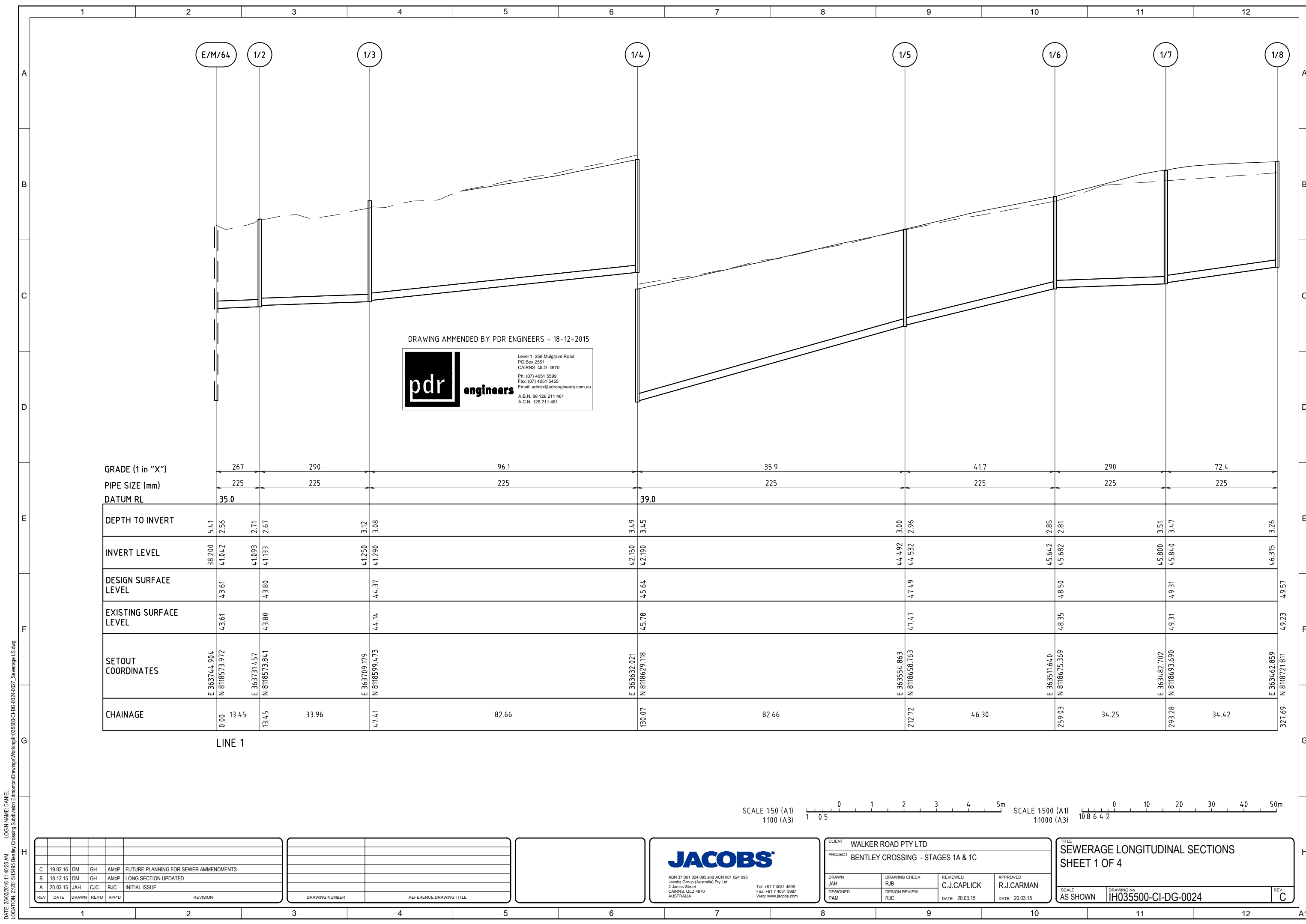
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CLIENT: WALKER ROAD PTY LTD			
PROJECT: BENTLEY CROSSING - STAGES 1A & 1C			
DRAWN: JAH	DRAWING CHECK: RJB	REVIEWED: C.J.CAPLICK	APPROVED: R.J.CARMAN
DESIGNED: PAM	DESIGN REVIEW: RJC	DATE: 20.03.15	DATE: 20.03.15

TITLE: SEWERAGE SHEET 2 OF 2	
SCALE: AS SHOWN	DRAWING No: IH035500-CI-DG-0023
	REV: C

DATE: 25/02/2016 11:40:21 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision\Drawings\IH035500-CI-DG-0022-0023_Sewer.dwg

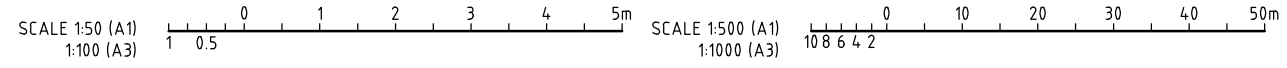


DRAWING AMENDED BY PDR ENGINEERS - 18-12-2015

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 A.B.N. 88 126 211 461
 A.C.N. 126 211 461

	267		290		96.1		35.9		4.7		290		72.4	
GRADE (1 in "X")														
PIPE SIZE (mm)	225		225		225		225		225		225		225	
DATUM RL	35.0													
														39.0
DEPTH TO INVERT	5.41	2.56												
INVERT LEVEL	38.200	4.1042	4.1093	4.1133			4.1250	4.1290						
DESIGN SURFACE LEVEL		4.361	4.380	4.380			4.437	4.437						
EXISTING SURFACE LEVEL		4.361	4.380	4.380			4.414	4.414						
SETOUT COORDINATES	E 363744.904	N 8118573.972	E 363731.457	N 8118573.841	E 363709.179	N 8118599.473	E 363632.021	N 8118629.118	E 363554.863	N 8118658.763	E 363511.640	N 8118675.369	E 363482.702	N 8118693.690
CHAINAGE	0.00	13.45	13.45	33.96	47.41	82.66	130.07	130.07	82.66	212.72	46.30	259.03	34.25	293.28

LINE 1



REV	DATE	DRAWN	REVD	APPD	REVISION
C	19.02.16	DM	GH	AMcP	FUTURE PLANNING FOR SEWER AMMENDMENTS
B	18.12.15	DM	GH	AMcP	LONG SECTION UPDATED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE



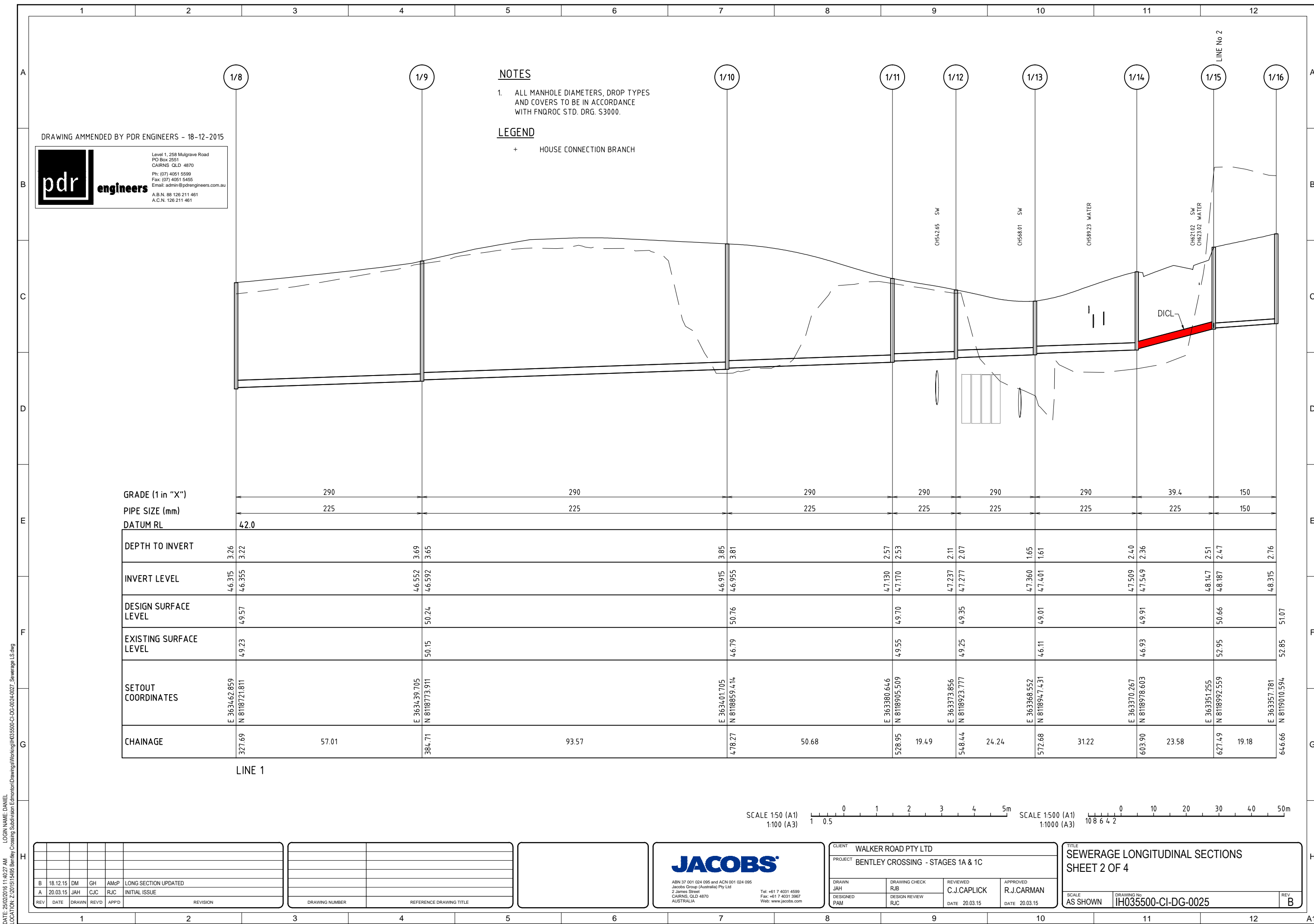
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CLIENT WALKER ROAD PTY LTD			
PROJECT BENTLEY CROSSING - STAGES 1A & 1C			
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE
SEWERAGE LONGITUDINAL SECTIONS
SHEET 1 OF 4

SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0024	REV C
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DATE: 25/02/2016 11:40:25 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\1515495 Bentley Crossing Subdivision Edmonton\Drawings\IH035500-CI-DG-0024-0027_Sewerage_LS.dwg



NOTES

- 1. ALL MANHOLE DIAMETERS, DROP TYPES AND COVERS TO BE IN ACCORDANCE WITH FNQROC STD. DRG. S3000.

LEGEND

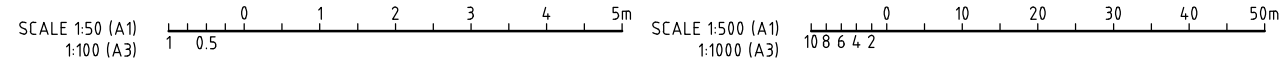
+ HOUSE CONNECTION BRANCH

DRAWING AMENDED BY PDR ENGINEERS - 18-12-2015

pdr engineers
 Level 1, 258 Mulgrave Road
 PO Box 2551
 CAIRNS QLD 4870
 Ph: (07) 4051 5599
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 Email: admin@pdrengineers.com.au
 A.B.N. 88 126 211 461
 A.C.N. 126 211 461

GRADE (1 in "X")	290	290	290	290	290	290	39.4	150	
PIPE SIZE (mm)	225	225	225	225	225	225	225	150	
DATUM RL	42.0								
DEPTH TO INVERT	3.26 3.22	3.69 3.65	3.85 3.81	2.57 2.53	2.11 2.07	1.65 1.61	2.40 2.36	2.51 2.47	2.76
INVERT LEVEL	4.6315 4.6355	4.6552 4.6592	4.6915 4.6955	4.7130 4.7170	4.7237 4.7277	4.7360 4.7401	4.7509 4.7549	4.8147 4.8187	4.8315
DESIGN SURFACE LEVEL	4.957	50.24	50.76	4.970	4.935	4.901	4.991	50.66	51.07
EXISTING SURFACE LEVEL	4.923	50.15	4.679	4.955	4.925	4.611	4.693	52.95	52.85
SETOUT COORDINATES	E 3634.62.859 N 8118721.811	E 3634.39.705 N 8118773.911	E 3634.01.705 N 8118859.414	E 363380.646 N 8118905.509	E 363373.856 N 8118923.777	E 363368.552 N 8118947.431	E 363370.267 N 8118978.603	E 363351.255 N 8118992.559	E 363357.781 N 8119010.594
CHAINAGE	327.69 57.01	384.71 93.57	478.27 50.68	528.95 19.49	548.44 24.24	572.68 31.22	603.90 23.58	627.49 19.18	646.66

LINE 1



REV	DATE	DRAWN	REVD	APPD	REVISION
B	18.12.15	DM	GH	AMcP	LONG SECTION UPDATED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE



JACOBS
 ABN 37 001 024 085 and ACN 001 024 085
 Jacobs Group (Australia) Pty Ltd
 2 James Street
 CAIRNS, QLD 4870
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 Fax: +61 7 4031 3967
 Web: www.jacobs.com

CLIENT WALKER ROAD PTY LTD	
PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN JAH	DRAWING CHECK RJB
DESIGNED PAM	DESIGN REVIEW RJC
REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DATE 20.03.15	DATE 20.03.15

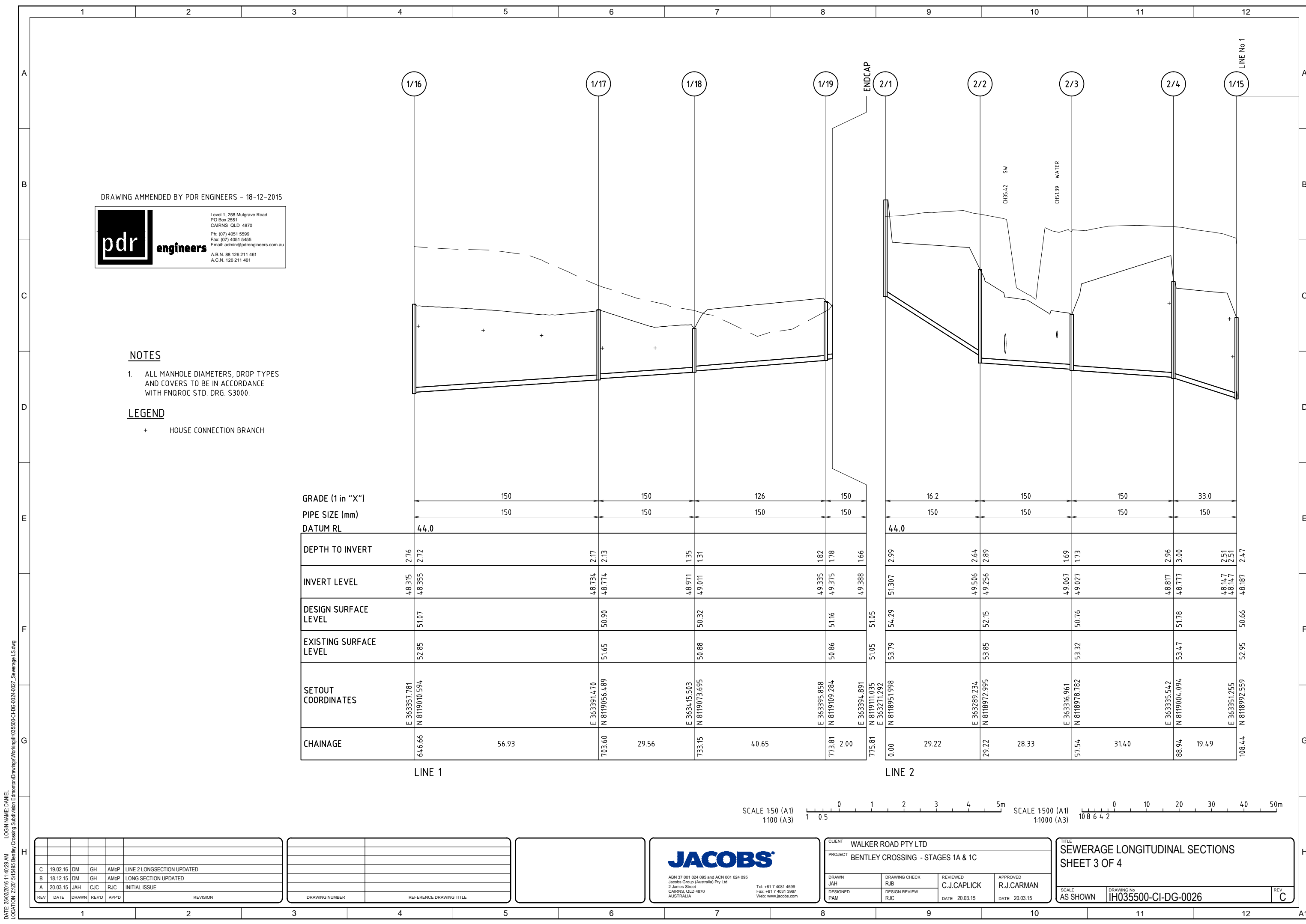
TITLE
SEWERAGE LONGITUDINAL SECTIONS
SHEET 2 OF 4

SCALE
AS SHOWN

DRAWING No
IH035500-CI-DG-0025

REV
B

DATE: 25/02/2016 11:40:27 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\Working\IH035500-CI-DG-0024-0027_Sewerage_LS.dwg



DRAWING AMENDED BY PDR ENGINEERS - 18-12-2015

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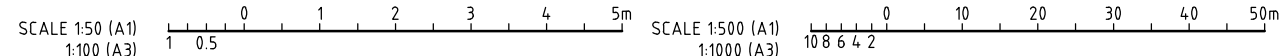
NOTES

- ALL MANHOLE DIAMETERS, DROP TYPES AND COVERS TO BE IN ACCORDANCE WITH FNQROC STD. DRG. S3000.

LEGEND

+ HOUSE CONNECTION BRANCH

	LINE 1					LINE 2															
GRADE (1 in "X")	150					16.2															
PIPE SIZE (mm)	150					150															
DATUM RL	44.0					44.0															
DEPTH TO INVERT	2.76	2.72	2.17	2.13	1.35	1.31	1.82	1.78	1.66	2.99	2.64	2.89	1.69	1.73	2.96	3.00	2.51	2.51	2.47		
INVERT LEVEL	4.8.315	4.8.355	4.8.734	4.8.774	4.8.971	4.9.011	4.9.335	4.9.375	4.9.388	51.307	49.506	49.256	49.067	49.027	48.817	48.777	48.147	48.147	48.187		
DESIGN SURFACE LEVEL	51.07					50.90					51.05					54.29					
EXISTING SURFACE LEVEL	52.85					51.65					50.88					53.79					
SETOUT COORDINATES	E 363357.781 N 8119010.594		E 363391.470 N 8119056.489		E 363415.503 N 8119073.695		E 363395.858 N 8119105.284		E 363394.891 N 8119111.035 E 363271.292		E 363289.234 N 8118972.995		E 363316.961 N 8118978.782		E 363335.542 N 8119004.094		E 363351.255 N 8118992.559		E 363351.255 N 8118992.559		
CHAINAGE	64.66	56.93			703.60	29.56	733.15	40.65		773.81	2.00	775.81	0.00	29.22	29.22	28.33	57.54	31.40	88.94	19.49	108.44



REV	DATE	DRAWN	REVD	APPD	REVISION
C	19.02.16	DM	GH	AMcP	LINE 2 LONGSECTION UPDATED
B	18.12.15	DM	GH	AMcP	LONG SECTION UPDATED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE



JACOBS
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 Web: www.jacobs.com

CLIENT WALKER ROAD PTY LTD		PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

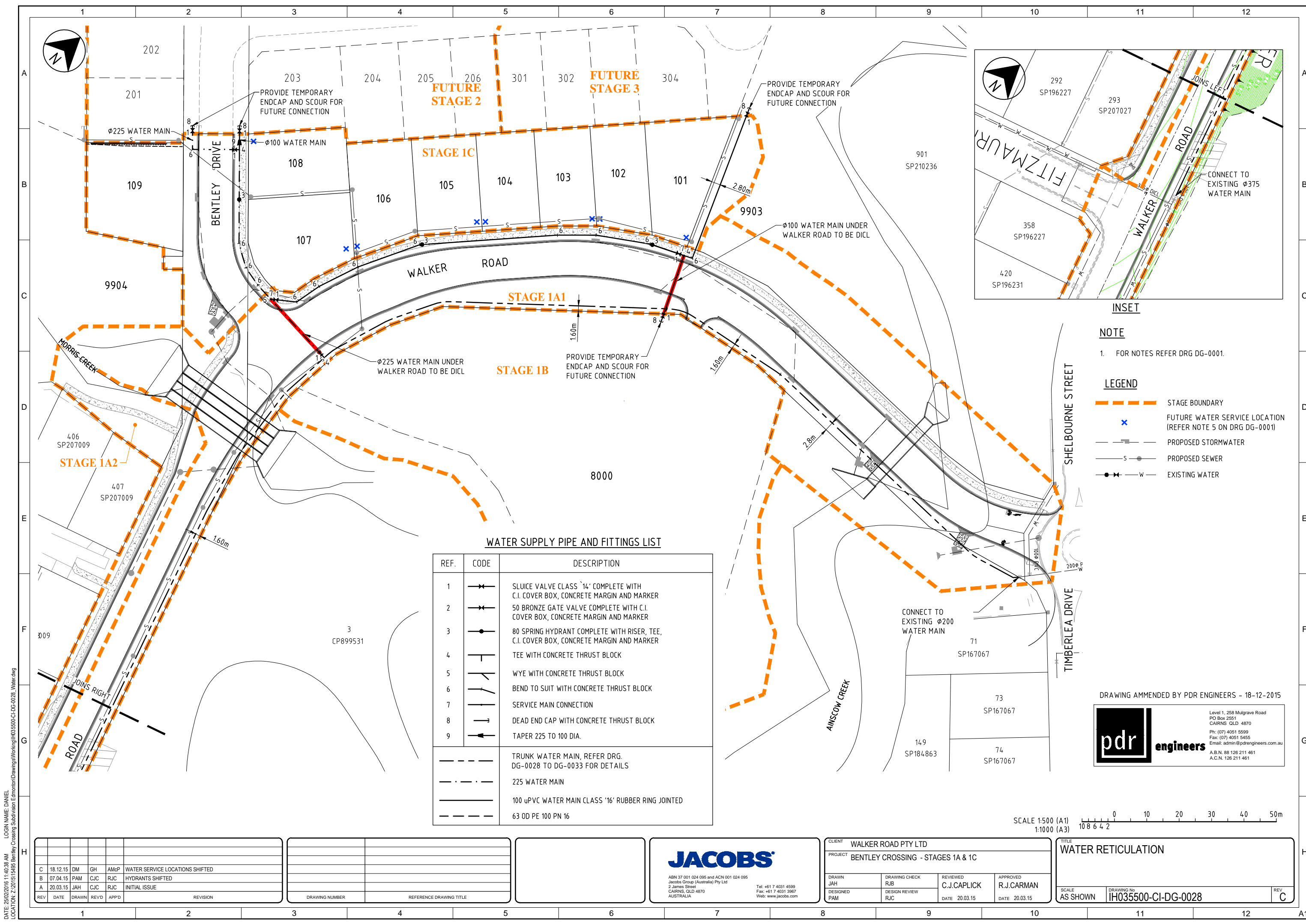
TITLE
SEWERAGE LONGITUDINAL SECTIONS
SHEET 3 OF 4

SCALE
AS SHOWN

DRAWING No
IH035500-CI-DG-0026

REV
C

DATE: 25/02/2016 11:40:29 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\Working\IH035500-CI-DG-0024-0027_Sewerage_LS.dwg



- NOTE**
- FOR NOTES REFER DRG DG-0001.
- LEGEND**
- STAGE BOUNDARY
 - FUTURE WATER SERVICE LOCATION (REFER NOTE 5 ON DRG DG-0001)
 - PROPOSED STORMWATER
 - PROPOSED SEWER
 - EXISTING WATER

WATER SUPPLY PIPE AND FITTINGS LIST

REF.	CODE	DESCRIPTION
1		SLUICE VALVE CLASS '14' COMPLETE WITH C.I. COVER BOX, CONCRETE MARGIN AND MARKER
2		50 BRONZE GATE VALVE COMPLETE WITH C.I. COVER BOX, CONCRETE MARGIN AND MARKER
3		80 SPRING HYDRANT COMPLETE WITH RISER, TEE, C.I. COVER BOX, CONCRETE MARGIN AND MARKER
4		TEE WITH CONCRETE THRUST BLOCK
5		WYE WITH CONCRETE THRUST BLOCK
6		BEND TO SUIT WITH CONCRETE THRUST BLOCK
7		SERVICE MAIN CONNECTION
8		DEAD END CAP WITH CONCRETE THRUST BLOCK
9		TAPER 225 TO 100 DIA.
		TRUNK WATER MAIN, REFER DRG. DG-0028 TO DG-0033 FOR DETAILS
		225 WATER MAIN
		100 uPVC WATER MAIN CLASS '16' RUBBER RING JOINTED
		63 OD PE 100 PN 16

DRAWING AMENDED BY PDR ENGINEERS - 18-12-2015

pdr engineers

Level 1, 258 Mulgrave Road
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 A.B.N. 88 126 211 461
 A.C.N. 126 211 461

SCALE 1:500 (A1)
 1:1000 (A3)

REV	DATE	DRAWN	REVD	APPD	REVISION
C	18.12.15	DM	GH	AMcP	WATER SERVICE LOCATIONS SHIFTED
B	07.04.15	PAM	CJC	RJC	HYDRANTS SHIFTED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

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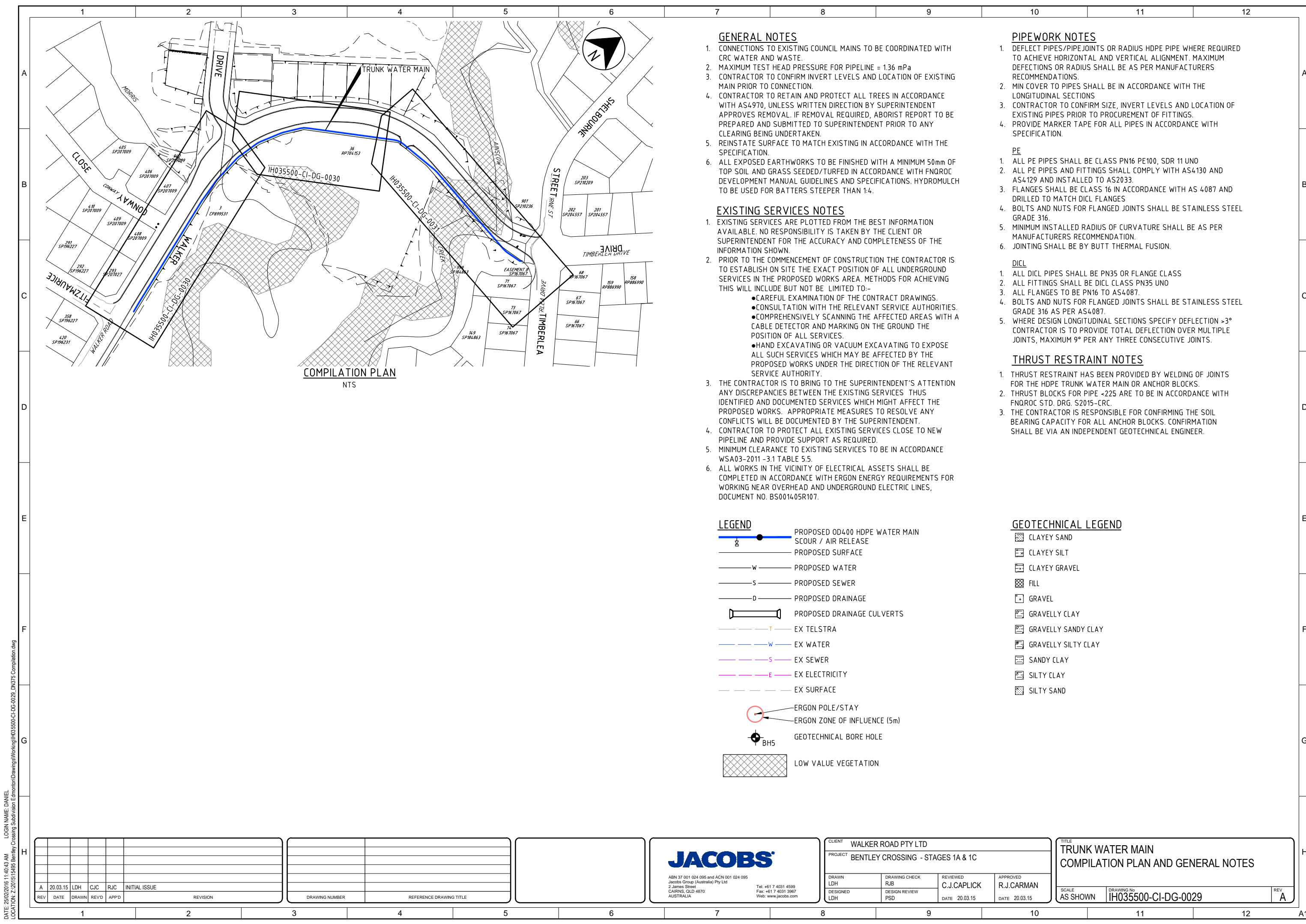
ABN 37 001 024 095 and ACN 001 024 095
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 Web: www.jacobs.com

CLIENT WALKER ROAD PTY LTD		PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE WATER RETICULATION	
SCALE AS SHOWN	DRAWING No. IH035500-CI-DG-0028
	REV C

DATE: 25/02/2016 11:40:38 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmondson\Drawings\Working\IH035500-CI-DG-0028_Water.dwg



COMPILATION PLAN
NTS

GENERAL NOTES

1. CONNECTIONS TO EXISTING COUNCIL MAINS TO BE COORDINATED WITH CRC WATER AND WASTE.
2. MAXIMUM TEST HEAD PRESSURE FOR PIPELINE = 1.36 mPa
3. CONTRACTOR TO CONFIRM INVERT LEVELS AND LOCATION OF EXISTING MAIN PRIOR TO CONNECTION.
4. CONTRACTOR TO RETAIN AND PROTECT ALL TREES IN ACCORDANCE WITH AS4970, UNLESS WRITTEN DIRECTION BY SUPERINTENDENT APPROVES REMOVAL. IF REMOVAL REQUIRED, ARBORIST REPORT TO BE PREPARED AND SUBMITTED TO SUPERINTENDENT PRIOR TO ANY CLEARING BEING UNDERTAKEN.
5. REINSTATE SURFACE TO MATCH EXISTING IN ACCORDANCE WITH THE SPECIFICATION.
6. ALL EXPOSED EARTHWORKS TO BE FINISHED WITH A MINIMUM 50mm OF TOP SOIL AND GRASS SEEDED/TURFED IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL GUIDELINES AND SPECIFICATIONS. HYDROMULCH TO BE USED FOR BATTERS STEEPER THAN 1:4.

EXISTING SERVICES NOTES

1. EXISTING SERVICES ARE PLOTTED FROM THE BEST INFORMATION AVAILABLE. NO RESPONSIBILITY IS TAKEN BY THE CLIENT OR SUPERINTENDENT FOR THE ACCURACY AND COMPLETENESS OF THE INFORMATION SHOWN.
2. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION THE CONTRACTOR IS TO ESTABLISH ON SITE THE EXACT POSITION OF ALL UNDERGROUND SERVICES IN THE PROPOSED WORKS AREA. METHODS FOR ACHIEVING THIS WILL INCLUDE BUT NOT BE LIMITED TO:
 - CAREFUL EXAMINATION OF THE CONTRACT DRAWINGS.
 - CONSULTATION WITH THE RELEVANT SERVICE AUTHORITIES.
 - COMPREHENSIVELY SCANNING THE AFFECTED AREAS WITH A CABLE DETECTOR AND MARKING ON THE GROUND THE POSITION OF ALL SERVICES.
 - HAND EXCAVATING OR VACUUM EXCAVATING TO EXPOSE ALL SUCH SERVICES WHICH MAY BE AFFECTED BY THE PROPOSED WORKS UNDER THE DIRECTION OF THE RELEVANT SERVICE AUTHORITY.
3. THE CONTRACTOR IS TO BRING TO THE SUPERINTENDENT'S ATTENTION ANY DISCREPANCIES BETWEEN THE EXISTING SERVICES THUS IDENTIFIED AND DOCUMENTED SERVICES WHICH MIGHT AFFECT THE PROPOSED WORKS. APPROPRIATE MEASURES TO RESOLVE ANY CONFLICTS WILL BE DOCUMENTED BY THE SUPERINTENDENT.
4. CONTRACTOR TO PROTECT ALL EXISTING SERVICES CLOSE TO NEW PIPELINE AND PROVIDE SUPPORT AS REQUIRED.
5. MINIMUM CLEARANCE TO EXISTING SERVICES TO BE IN ACCORDANCE WSA03-2011 -3.1 TABLE 5.5.
6. ALL WORKS IN THE VICINITY OF ELECTRICAL ASSETS SHALL BE COMPLETED IN ACCORDANCE WITH ERGON ENERGY REQUIREMENTS FOR WORKING NEAR OVERHEAD AND UNDERGROUND ELECTRIC LINES, DOCUMENT NO. BS001405R107.

PIPEWORK NOTES

1. DEFLECT PIPES/PIPE JOINTS OR RADIUS HDPE PIPE WHERE REQUIRED TO ACHIEVE HORIZONTAL AND VERTICAL ALIGNMENT. MAXIMUM DEFLECTIONS OR RADIUS SHALL BE AS PER MANUFACTURERS RECOMMENDATIONS.
2. MIN COVER TO PIPES SHALL BE IN ACCORDANCE WITH THE LONGITUDINAL SECTIONS
3. CONTRACTOR TO CONFIRM SIZE, INVERT LEVELS AND LOCATION OF EXISTING PIPES PRIOR TO PROCUREMENT OF FITTINGS.
4. PROVIDE MARKER TAPE FOR ALL PIPES IN ACCORDANCE WITH SPECIFICATION.

PE

1. ALL PE PIPES SHALL BE CLASS PN16 PE100, SDR 11 UNO
2. ALL PE PIPES AND FITTINGS SHALL COMPLY WITH AS4130 AND AS4129 AND INSTALLED TO AS2033.
3. FLANGES SHALL BE CLASS 16 IN ACCORDANCE WITH AS 4087 AND DRILLED TO MATCH DICL FLANGES
4. BOLTS AND NUTS FOR FLANGED JOINTS SHALL BE STAINLESS STEEL GRADE 316.
5. MINIMUM INSTALLED RADIUS OF CURVATURE SHALL BE AS PER MANUFACTURERS RECOMMENDATION.
6. JOINTING SHALL BE BY BUTT THERMAL FUSION.

DICL

1. ALL DICL PIPES SHALL BE PN35 OR FLANGE CLASS
2. ALL FITTINGS SHALL BE DICL CLASS PN35 UNO
3. ALL FLANGES TO BE PN16 TO AS4087.
4. BOLTS AND NUTS FOR FLANGED JOINTS SHALL BE STAINLESS STEEL GRADE 316 AS PER AS4087.
5. WHERE DESIGN LONGITUDINAL SECTIONS SPECIFY DEFLECTION >3° CONTRACTOR IS TO PROVIDE TOTAL DEFLECTION OVER MULTIPLE JOINTS, MAXIMUM 9° PER ANY THREE CONSECUTIVE JOINTS.

THRUST RESTRAINT NOTES

1. THRUST RESTRAINT HAS BEEN PROVIDED BY WELDING OF JOINTS FOR THE HDPE TRUNK WATER MAIN OR ANCHOR BLOCKS.
2. THRUST BLOCKS FOR PIPE <225 ARE TO BE IN ACCORDANCE WITH FNQROC STD. DRG. S2015-CRC.
3. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE SOIL BEARING CAPACITY FOR ALL ANCHOR BLOCKS. CONFIRMATION SHALL BE VIA AN INDEPENDENT GEOTECHNICAL ENGINEER.

LEGEND

- PROPOSED OD400 HDPE WATER MAIN
- SCOUR / AIR RELEASE
- PROPOSED SURFACE
- PROPOSED WATER
- PROPOSED SEWER
- PROPOSED DRAINAGE
- PROPOSED DRAINAGE CULVERTS
- EX TELSTRA
- EX WATER
- EX SEWER
- EX ELECTRICITY
- EX SURFACE
- ERGON POLE/STAY
- ERGON ZONE OF INFLUENCE (5m)
- GEOTECHNICAL BORE HOLE
- LOW VALUE VEGETATION

GEOTECHNICAL LEGEND

- CLAYEY SAND
- CLAYEY SILT
- CLAYEY GRAVEL
- FILL
- GRAVEL
- GRAVELLY CLAY
- GRAVELLY SANDY CLAY
- GRAVELLY SILTY CLAY
- SANDY CLAY
- SILTY CLAY
- SILTY SAND

REV	DATE	DRAWN	REVD	APPD	REVISION
A	20.03.15	LDH	CJC	RJC	INITIAL ISSUE

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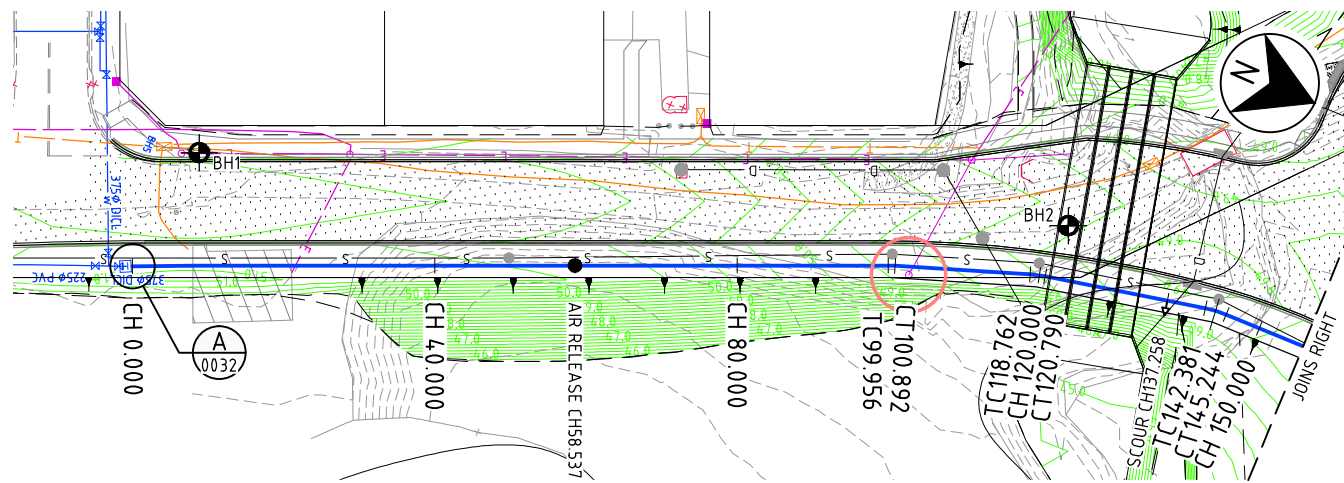
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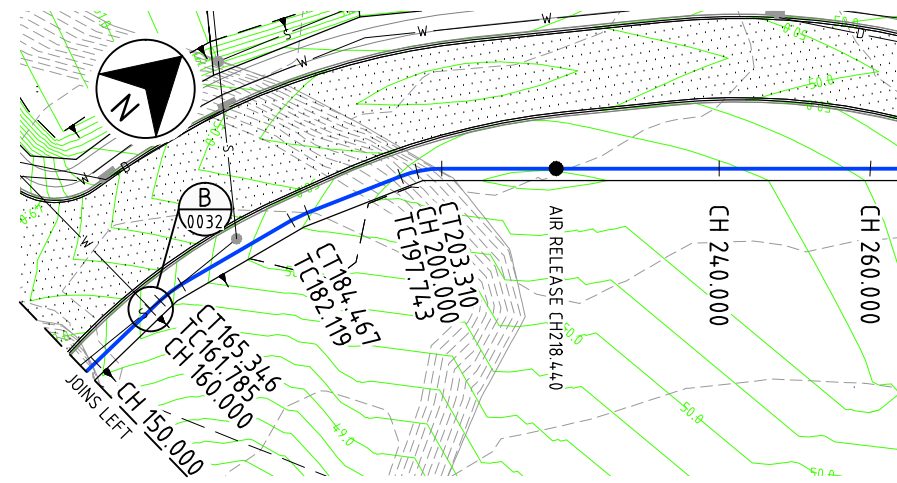
CLIENT WALKER ROAD PTY LTD		REVIEWED C.J.CAPLICK	
PROJECT BENTLEY CROSSING - STAGES 1A & 1C		APPROVED R.J.CARMAN	
DRAWN LDH	DRAWING CHECK RJB	DATE 20.03.15	DATE 20.03.15
DESIGNED LDH	DESIGN REVIEW PSD		

TITLE TRUNK WATER MAIN COMPILATION PLAN AND GENERAL NOTES		
SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0029	REV A

DATE: 25/02/2016 11:40:43 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\Working\IH035500-CI-DG-0029_DK375 Compilation.dwg



PLAN SCALE 1:500

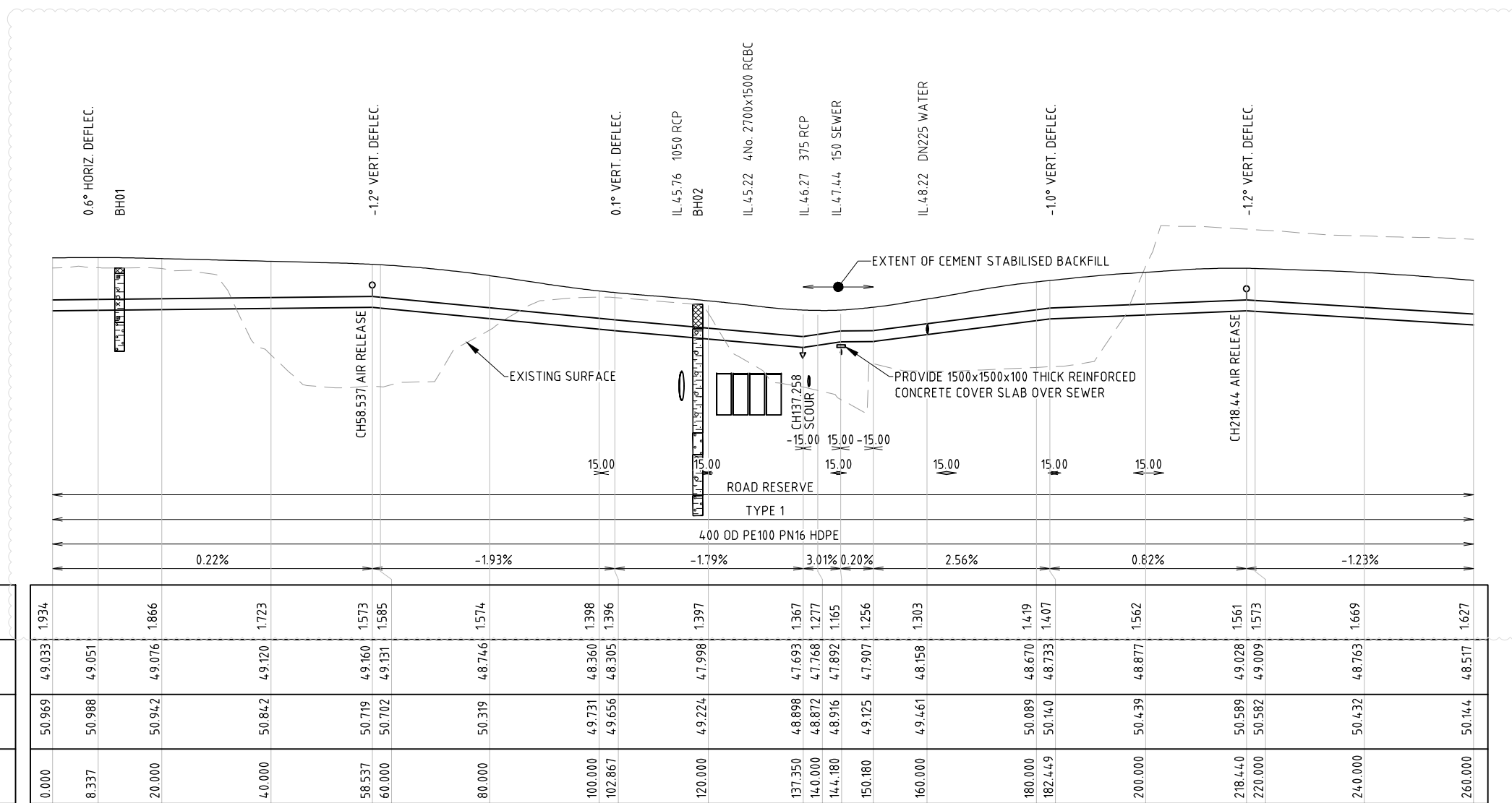


PLAN (CONTINUED) SCALE 1:500

LOCATION, SIZE AND LEVELS OF ALL UNDERGROUND SERVICES ALONG ROUTE TO BE CONFIRMED/LOCATED ON SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION.

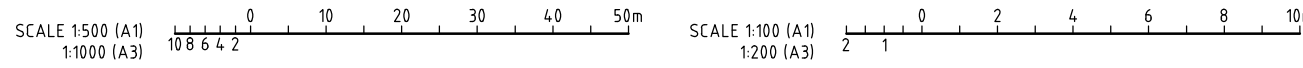
NOTES

- 1. FOR GENERAL NOTES AND LEGEND REFER DRG. No. 0029.
2. FOR SETOUT DETAILS REFER DRG. No. 0031



LONGITUDINAL SECTION SCALE H 1:500, V 1:100

Table with 4 columns: DEPTH TO INVERT, PIPE INVERT LEVEL, EXISTING SURFACE, CHAINAGE. Includes vertical curve, horizontal curve, location, trench type, pipe type/joint, pipe grade, datum RL, and road reserve information.



DATE: 25/02/2016 11:40:53 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\Working\H035500-CI-DG-0030-0031-DN375 Plan & LS.dwg

Revision table with columns: REV, DATE, DRAWN, REV'D, APP'D, REVISION.

Table with columns: DRAWING NUMBER, REFERENCE DRAWING TITLE.

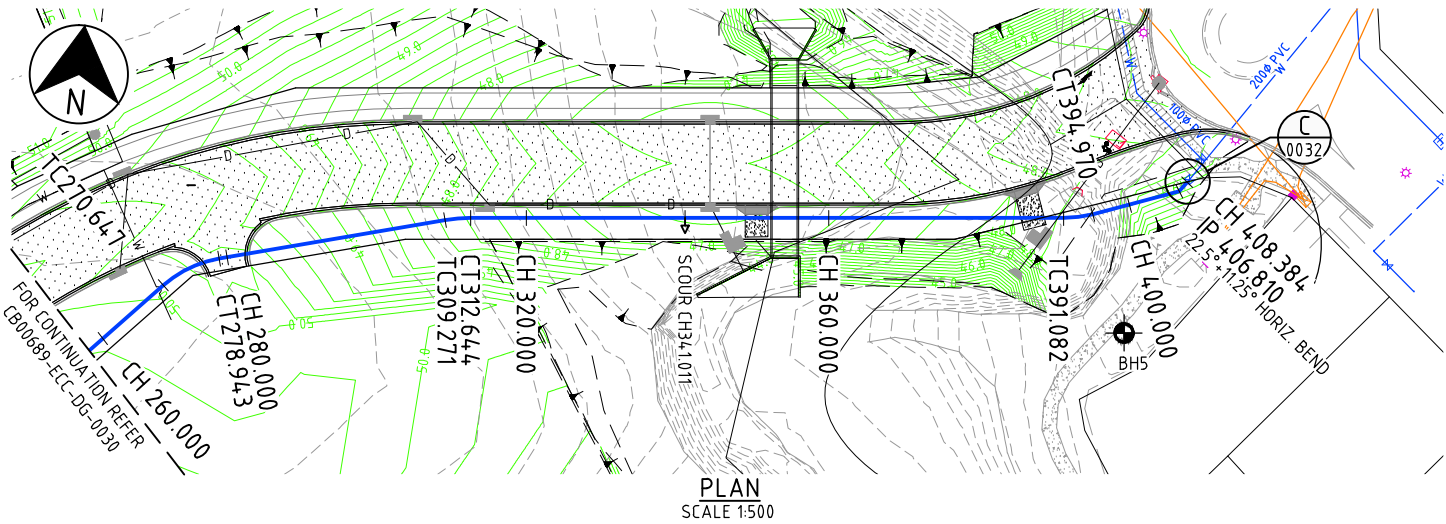
JACOBS logo and contact information for Australia.

Client and project information table including Walker Road Pty Ltd, Bentley Crossing - Stages 1A & 1C, and design/review dates.

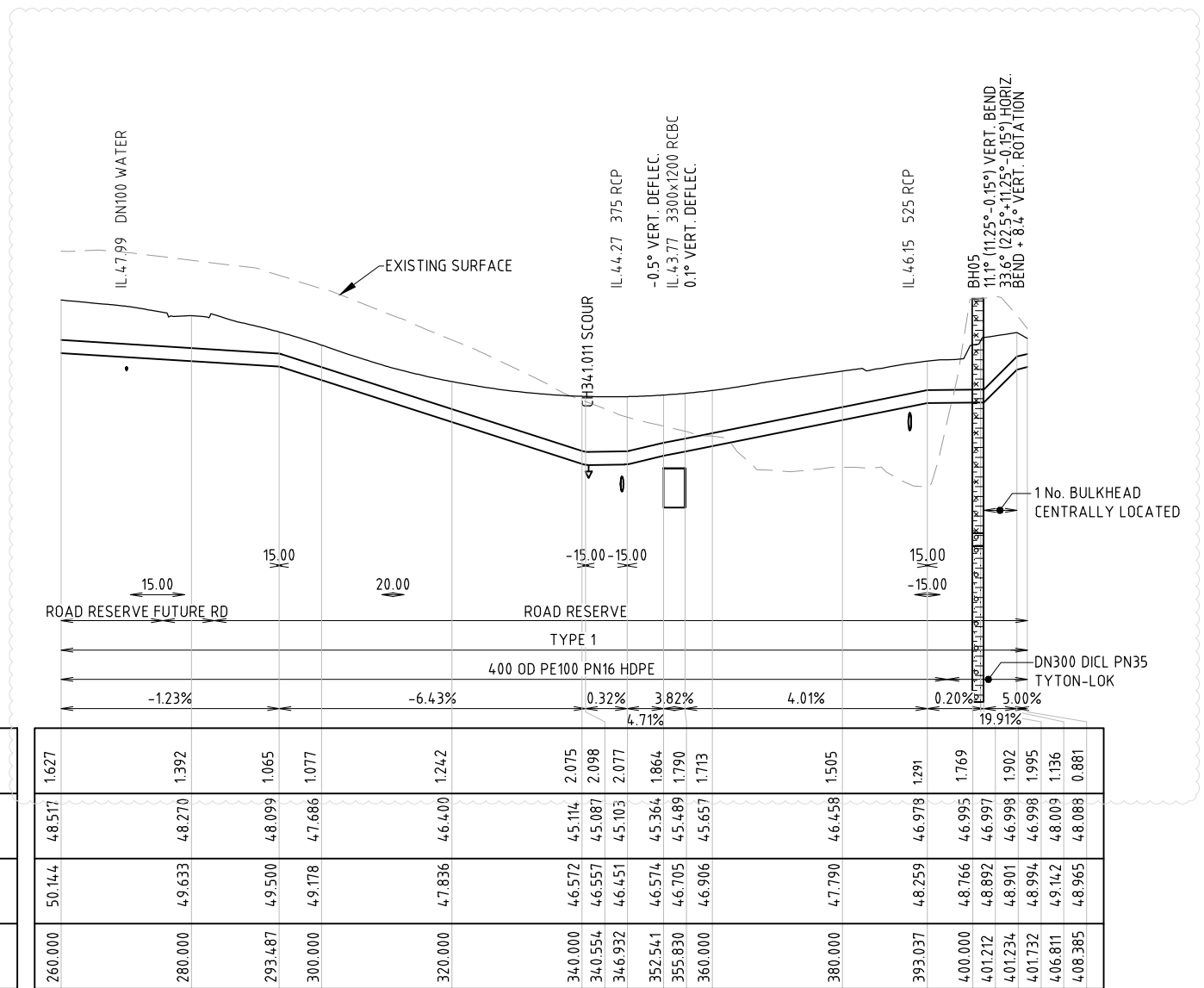
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LOCATION, SIZE AND LEVELS OF ALL UNDERGROUND SERVICES ALONG ROUTE TO BE CONFIRMED/LOCATED ON SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION.



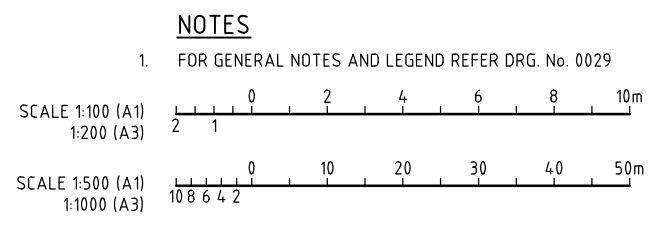
SETOUT TABLE							
CHAINAGE	EASTING	NORTHING	BEARING	RADIUS	TAN LENGTH	DEF ANGLE	ARC LENGTH
0.000	363422.931	8118814.338	335d25'52"				
8.337	363419.464	8118821.920	335d25'52"			0d36'23"	
40.000	363406.605	8118850.854	336d02'15"			336d02'15"	
80.000	363390.359	8118887.406	336d02'15"			336d02'15"	
99.956	363382.254	8118905.642	336d02'15"			336d02'15"	
100.424	363382.064	8118906.070		15.000000	0.468	3d34'29"	0.936
100.892	363381.901	8118906.509	339d36'44"				
118.762	363375.676	8118923.260	339d36'44"				
119.776	363375.322	8118924.212		15.000000	1.016	7d44'48"	2.028
120.000	363375.293	8118924.436	344d20'27"				
120.790	363375.100	8118925.203	347d21'33"				
142.381	363370.375	8118946.270	347d21'33"				
143.812	363370.061	8118947.671		15	1.436	10d56'02"	2.862
145.244	363370.018	8118949.106	358d17'34"				
160.000	363369.578	8118963.856	358d17'34"				
161.785	363369.525	8118965.640	358d17'34"				
163.566	363369.472	8118967.428		15	1.789	13d36'010"	3.561
165.346	363369.840	8118969.179					
182.119	363373.298	8118985.592		15	1.176	8d58'05"	2.348
183.293	363373.540	8118986.743					
184.467	363373.959	8118987.842	20d51'49"				
197.743	363378.687	8119000.247	20d51'49"				
200.000	363379.647	8119002.288	29d29'11"				
200.527	363379.690	8119002.879		15	2.816	21d16'03"	5.568
203.310	363381.580	8119004.967	42d07'52"				
240.000	363406.192	8119032.177	42d07'52"				
270.647	363426.751	8119054.905	42d07'52"				
274.795	363429.607	8119058.062		15	4.257	31d41'15"	8.295
278.943	363433.695	8119059.248	73d49'07"				
280.000	363434.710	8119059.543	73d49'07"				
309.271	363462.822	8119067.700	73d49'07"				
310.958	363464.445	8119068.171		20	1.691	9d39'50"	3.373
312.644	363466.125	8119068.363	83d28'57"				
320.000	363473.433	8119069.198	83d28'57"				
360.000	363513.175	8119073.738	83d28'57"				
391.082	363544.056	8119077.266	83d28'57"				
393.026	363545.998	8119077.488		15	1.955	14d51'06"	3.888
394.970	363547.819	8119078.200	68d37'51"				
400.000	363552.503	8119080.033	68d37'51"				
401.212	363553.632	8119080.475	68d37'51"			0d00'44"	
406.811	363558.845	8119082.516	68d37'07"			33d36'21"	
408.385	363559.748	8119083.805	35d00'46"				



VERTICAL CURVE
HORIZONTAL CURVE
LOCATION
TRENCH TYPE
PIPE TYPE / JOINT
PIPE GRADE (%)
DATUM RL. 37.0

DEPTH TO INVERT	PIPE INVERT LEVEL	EXISTING SURFACE	CHAINAGE
1.627	4.8517	50.144	260.000
1.392	4.8270	49.633	280.000
1.065	4.8099	49.500	293.487
1.077	4.7686	49.178	300.000
1.242	4.6400	47.836	320.000
2.075	4.5114	46.572	340.000
2.098	4.5087	46.557	340.554
2.077	4.5103	46.451	346.932
1.864	4.5364	46.574	352.541
1.790	4.5489	46.705	355.830
1.713	4.5657	46.906	360.000
1.505	4.6458	47.790	380.000
1.291	4.6978	48.259	393.037
1.769	4.6995	48.766	400.000
1.902	4.6997	48.892	401.212
1.995	4.6998	48.901	401.234
1.136	4.8009	48.994	401.732
0.881	4.8089	49.142	406.811
0.881	4.8089	48.965	408.385

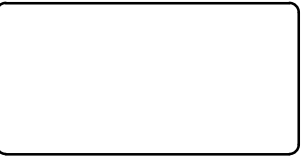
LONGITUDINAL SECTION
SCALE H 1:500, V 1:100



DATE: 25/02/2016 11:40:56 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\Working\H035500-CI-DG-0030-0031-DN375 Plan & LS.dwg

REV	DATE	DRAWN	REVD	APPD	REVISION
B	18.12.15	DM	GH	AMcP	DESIGN SURFACE LEVELS AMENDED
A	20.03.15	LDH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE



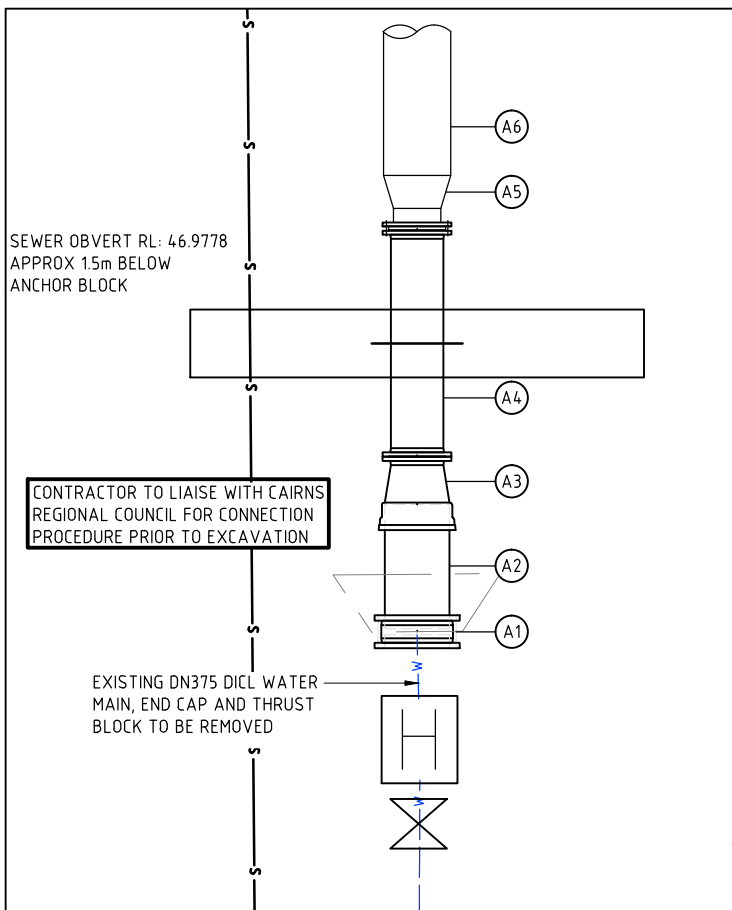
CLIENT WALKER ROAD PTY LTD		PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN LDH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED LDH	DESIGN REVIEW PSD	DATE 20.03.15	DATE 20.03.15

TITLE TRUNK WATER MAIN PLAN AND LONGITUDINAL SECTION SHEET 2 OF 2		SCALE AS SHOWN	DRAWING No. IH035500-CI-DG-0031	REV B
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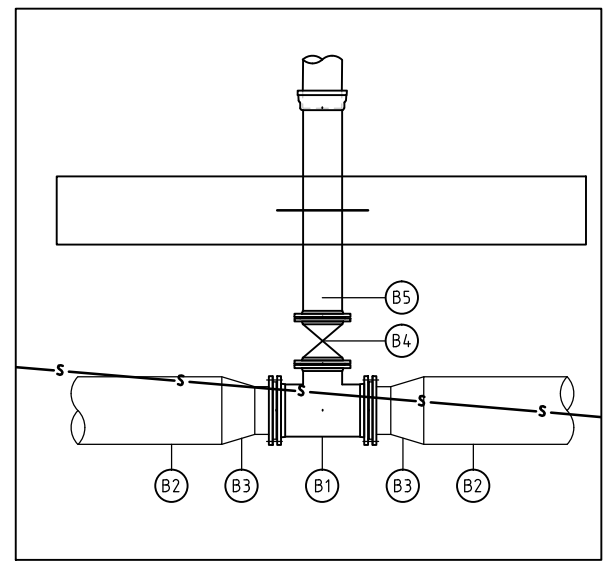
DRAWING AMMENDED BY PDR ENGINEERS - 18-12-2015

pdr engineers
 Level 1, 258 Mulgrave Road
 PO Box 2551
 CAIRNS QLD 4870
 Ph: (07) 4051 5599
 Fax: (07) 4051 5455
 Email: admin@pdrengineers.com.au
 A.B.N. 88 126 211 461
 A.C.N. 126 211 461

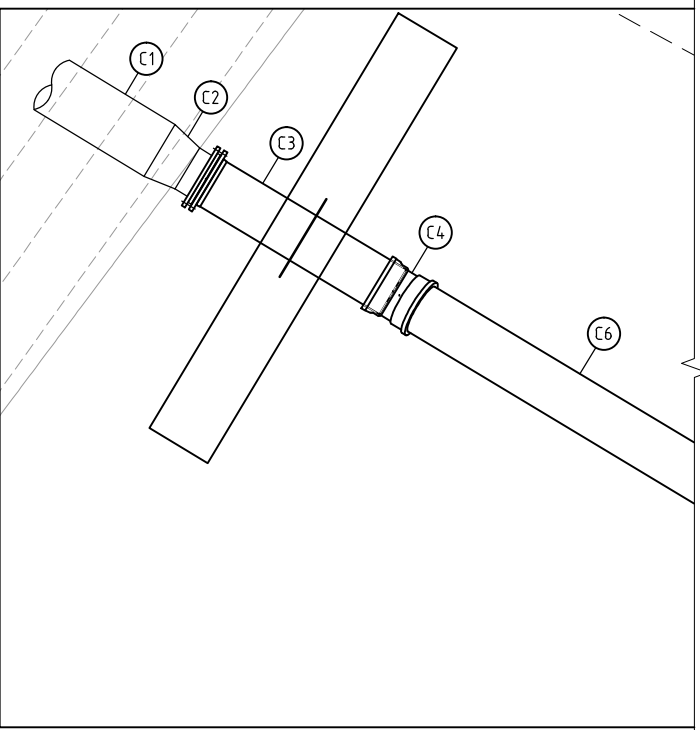
CONTRACTOR TO LIAISE WITH CAIRNS REGIONAL COUNCIL FOR CONNECTION PROCEDURE PRIOR TO EXCAVATION



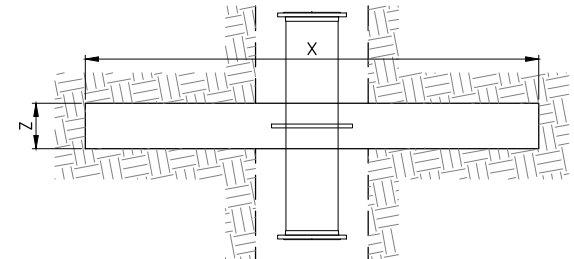
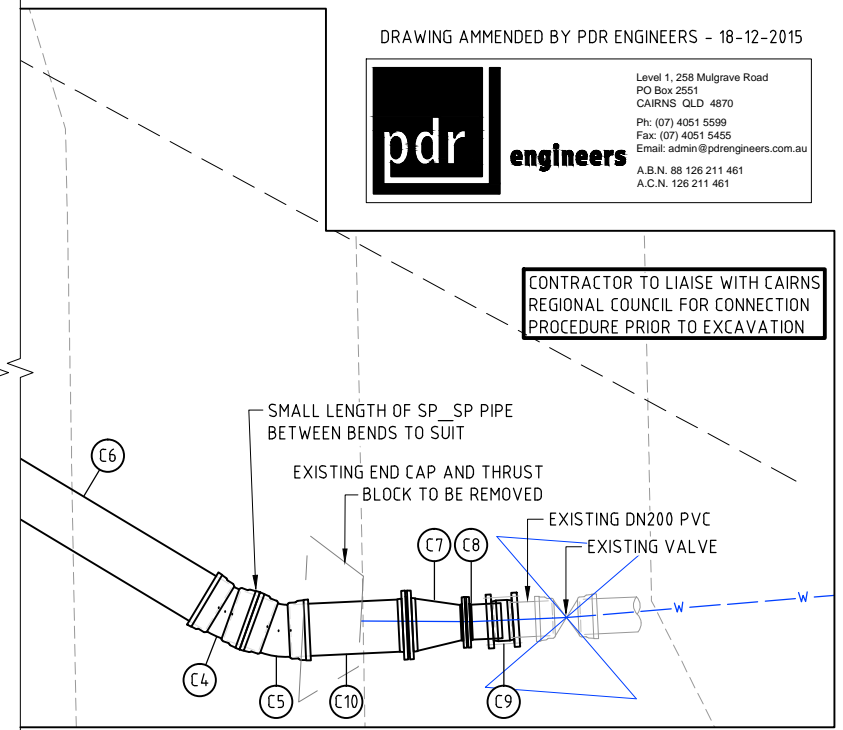
DETAIL A
SCALE 1:25
0030



DETAIL B
SCALE 1:25
0030



DETAIL C
SCALE 1:25
0031



PLAN
IN-LINE THRUST RESTRAINT
SCALE 1:25

IN-LINE THRUST BLOCK NOTES

- ALL IN-LINE THRUST BLOCKS SHALL BE N32 IN ACCORDANCE WITH AS3179 AND AS3600.
- COVER TO REINFORCEMENT SHALL BE 50mm MINIMUM.
- THE DESIGN ASSUMES THE THRUST BLOCK IS POURED AGAINST UNDISTURBED NATURAL GROUND HAVING A MINIMUM WEIGHT AND LATERAL EARTH PRESSURE COEFFICIENTS LISTED IN TABLE 5 OF THE GEOTECHNICAL REPORT FOR A GIVEN SOIL CONSISTENCY. THE MINIMUM CONSISTENCY ASSUMED FOR EACH THRUST BLOCK IS LISTED ON THE DRAWINGS. THESE SHOULD BE CONFIRMED BY AN RPEQ GEOTECHNICAL ENGINEER AND IF DIFFERENT REFERRED TO THE PRINCIPAL'S REPRESENTATIVE.
- FOR SOIL CONDITIONS LIKELY TO BE ENCOUNTERED AT THE THRUST BLOCK SITES AND RECOMMENDATIONS FOR EARTHWORKS REFER TO GEOTECHNICAL REPORT BY ETS GEOTECHNICAL DATED AUGUST 2013 (REPORT No. GT13-067-001R REV1)
- THE FOLLOWING DESIGN PARAMETERS WERE ADOPTED FOR THE THRUST BLOCK DESIGN:
 - PIPE DIAMETER = REFER TABLE
 - MAX. TEST PRESSURE = 1200 kPa
 - MIN. PIPE COVER = REFER LONGITUDINAL SECTION
 - MAX. PIPE TRENCH WIDTH = 1500 mm
- THE THRUST BLOCK DESIGN ASSUMES THAT DURING TESTING THE PIPE TRENCH WILL BE DEWATERED IF NECESSARY.
- THE THRUST BLOCK REO DETAILING IS BASED ON HAVING REO CAGES LOWERED INTO THE TRENCH FOR CONSTRUCTION PURPOSES TO MINIMISE WORK BEING CARRIED OUT FROM INSIDE THE TRENCH.
- THE DEPTH FROM GROUND TO PIPE CENTRELINE FOR EACH ANCHOR BLOCK HAS BEEN DETAILED ON THE DRAWINGS. THIS DEPTH SHALL BE CONFIRMED AFTER EXCAVATION AND PRIOR TO PLACEMENT OF REINFORCEMENT BY THE CONTRACTOR AND IF THE DEPTH IS SHALLOWER THEN DETAILED ON THE DRAWINGS REFER TO THE PRINCIPAL'S REPRESENTATIVE.
- THE DIMENSIONS OF THE ANCHOR BLOCK MAY VARY FROM THAT DETAILED ON THE DRAWINGS IF THE GROUND CONDITIONS / DEPTH TO CENTRELINE ARE DIFFERENT TO THAT ASSUMED FOR THE DESIGN.
- BACKFILL TO BE COMPACTED AND HAVE A DENSITY AND K_0 VALUE EQUAL TO OR GREATER THAN THE MATERIAL REMOVED. REFER TO THE GEOTECHNICAL REPORT FOR VALUES ASSUMED AT EACH LOCATION.

ANTICIPATED REINFORCEMENT INSTALLATION PROCEDURE:

- LOWER BOTTOM CAGE INTO EXCAVATION (COMPLETE WITH SPLICE BARS)
- INSTALL PIPE SPOOL PIECE
- LOWER TOP CAGE ONTO BOTTOM CAGE
- INSTALL PENETRATION TRIMMERS

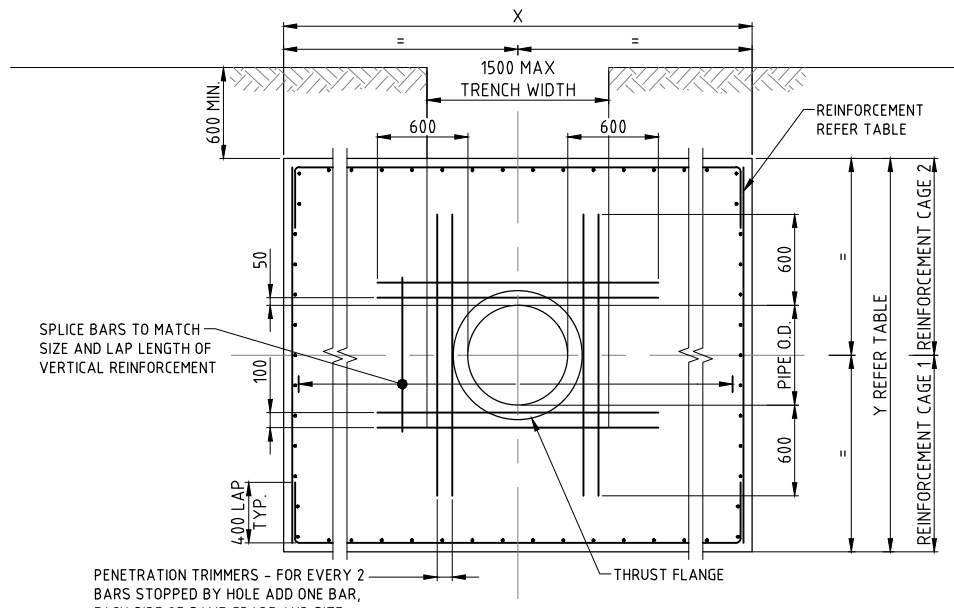
IN LINE THRUST RESTRAINTS

CHAINAGE	MAIN SIZE	DEPTH TO CENTRE LINE	X	Y	Z	REINFORCEMENT (E/W E/F)	SOIL
1.900	400 OD	1723	3030	2650	450	N16-150	SILTY CLAY
160.000	DN 225	1103	3520	1410	450	N16-150	SILTY CLAY
400.500	400 OD	1521	3200	1800	450	N16-150	SILTY CLAY

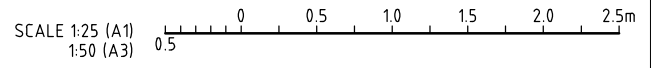
FITTINGS SCHEDULE		
DETAIL A		
ITEM	DESCRIPTION	QTY.
A1	DN375 GIBAULT	1
A2	DN375 DICL PIPE SP-SP	-
A3	DN375-300 DICL TAPER SO-FL	1
A4	DN300 DICL SPOOL FL-FL C\W THRUST FL 1.5m LONG	1
A5	400 OD-315 OD PE TAPER C/W STUB FL & BACKING RING	1
A6	400 OD PE100 PN 16 PIPE	-
DETAIL B		
B1	DN300-225 DICL TEE FL-FL-FL	1
B2	400 OD PE100 PN 16 PIPE	-
B3	400 OD - 315 OD PE TAPER C/W STUB FL & BACKING RING	2
B4	DN225 RESILIENT SEATED SLUICE VALVE	1
B5	DN225 DICL SPOOL FL-SO C\W THRUST FL 1.5m LONG	1
DETAIL C		
C1	400 OD PE100 PN 16 PIPE	-
C2	400 OD-315 OD PE TAPER C/W STUB FL & BACKING RING	1
C3	DN300 DICL SPOOL FL-SP C\W THRUST FL 1.5m LONG	1
C4	DN300 DICL 11.25° BEND SO-SO TYTON-LOK	2
C5	DN300 DICL 22.5° BEND SO-SO TYTON-LOK	1
C6	DN300 DICL PIPE SP-SP	-
C7	DN300-200 DICL CON TAPER FL-FL	1
C8	DN200 DICL CONNECTOR FL-SP	1
C9	DN200 GIBAULT JOINT	1
C10	DN300 DICL PIPE SP-FL	-

NOTES

- CONTRACTOR TO CONFIRM LOCATION, SIZE AND MATERIAL OF EXISTING MAIN TO ENSURE FITTINGS AND BEND ANGLES ETC. ARE CORRECT PRIOR TO THE PURCHASE OF ANY FITTINGS AND MATERIALS.



IN-LINE THRUST RESTRAINT DETAILS
(ELEVATION)
NOT TO SCALE



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REV	DATE	DRAWN	REV'D	APP'D	REVISION
B	18.12.15	DM	GH	AMCP	NOTES ADDED
A	20.03.15	LDH	CJC	RJC	INITIAL ISSUE

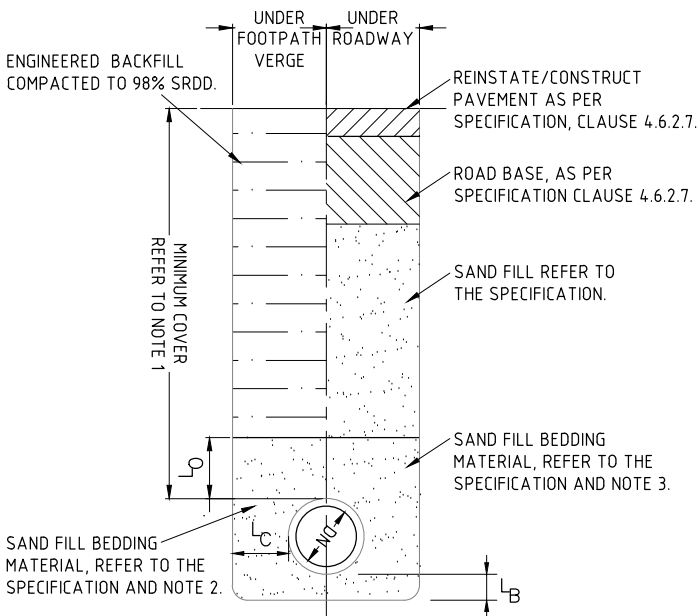
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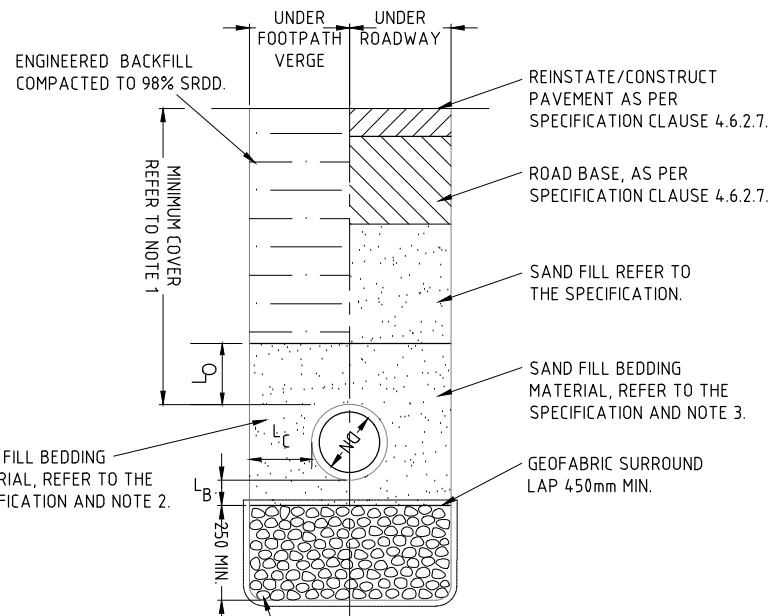
JACOBS
 ABN 37 001 024 095 and ACN 001 024 095
 Jacobs Group (Australia) Pty Ltd
 2 James Street
 CAIRNS, QLD 4870
 AUSTRALIA
 Tel: +61 7 4031 4599
 Fax: +61 7 4031 3967
 Web: www.jacobs.com

CLIENT: WALKER ROAD PTY LTD		PROJECT: BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN: LDH	DRAWING CHECK: RJB	REVIEWED: C.J.CAPLICK	APPROVED: R.J.CARMAN
DESIGNED: LDH	DESIGN REVIEW: PSD	DATE: 20.03.15	DATE: 20.03.15

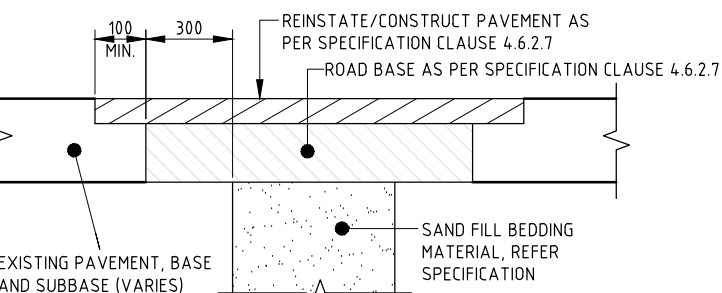
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SCALE: AS SHOWN	DRAWING No: IH035500-CI-DG-0032
REV: B	



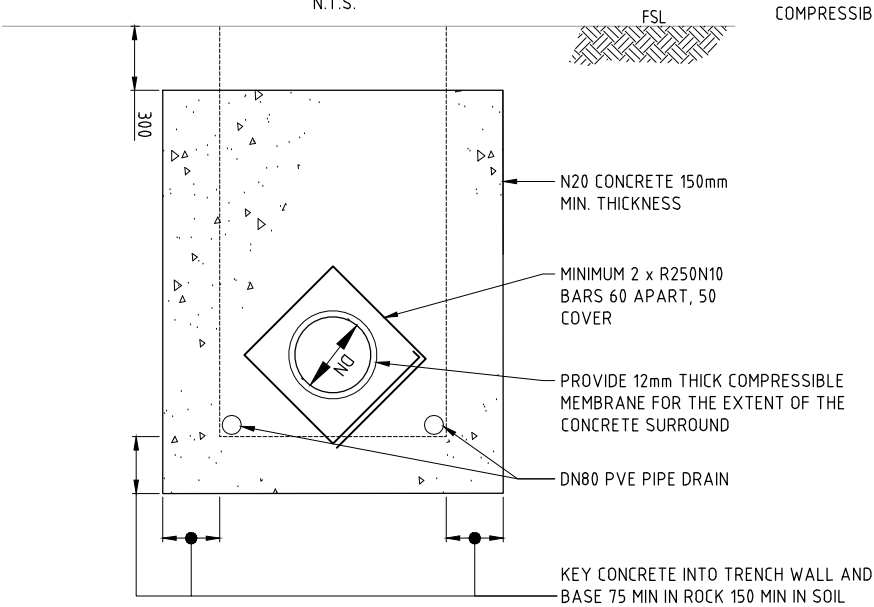
TYPE 1 - BEDDING DETAIL
(APPROVED BEDDING FLEXIBLE PIPE)
N.T.S.



TYPE 2 - BEDDING DETAIL
(FLEXIBLE PIPE CRUSHED ROCK WORKING PLATFORM)
N.T.S.



UNDER EXISTING PAVEMENTS
N.T.S.



SECTION B
N.T.S.

CONCRETE BULKHEAD DETAIL
PROVIDE TRENCH STOPS IN ACCORDANCE WITH WSA 03-2011-3.1

TRENCH STOP DETAILS
BULKHEAD AND TRENCH STOP DETAILS
N.T.S.

EMBEDMENT GEOMETRY

BEDDING, OVERLAY DEPTHS AND MIN CLEARANCES TO AS/NZS2566.1

DIAMETER (DN)	L _B	L _C	L _D
150	100	100	150
300	150	200	150
400	150	200	150

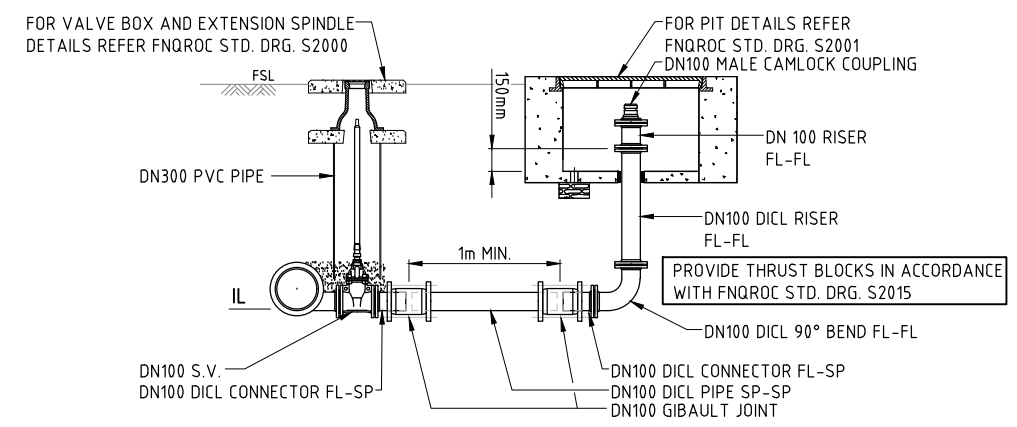
STANDARD TRENCH WIDTH

DIAMETER (DN)	MIN WIDTH (mm)	MAX WIDTH (mm)
150	450	700
300	745	700
400	800	

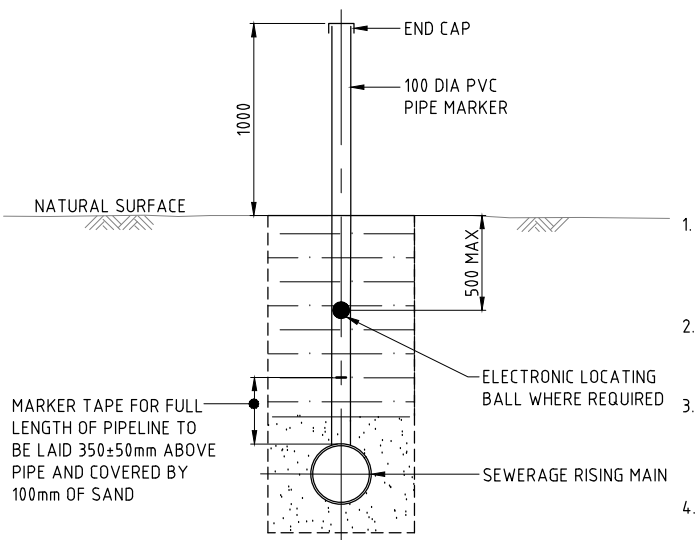
TRENCH WIDTH TO BE SUFFICIENT TO SAFELY LAY PIPE AND COMPACT THE SIDE SUPPORT ZONE

TRENCH DETAIL NOTES

- COVER TO MAIN SHALL BE AS SHOWN ON LONGITUDINAL SECTION, WITH MINIMUM COVER AS PER SPECIFICATION CLAUSE 4.6.1.13.
- BEDDING MATERIAL UNDER FOOTPATH TO BE COMPACTED TO MIN. DENSITY INDEX 75% (COHESIONLESS SOILS).
- BEDDING MATERIAL AND BACKFILL SHALL BE SAND FILL UNDER ROADWAY TO EXTEND TO UNDERSIDE OF PAVEMENT BASE (OR SUBBASE WHERE APPLICABLE) & BE COMPACTED TO MIN. DENSITY INDEX 80% (COHESIONLESS SOILS).
- TYPE 2 BEDDING SHALL BE SUPPLIED WHERE NOTED ON PROJECT DRAWINGS & IN WET CONDITIONS WHERE THE TRENCH FOUNDATIONS ARE SOFT, YIELDING OR UNSUITABLE. AS DIRECTED BY THE SUPERINTENDENT.
- BEDDING - SPECIAL BEDDING SHALL BE SPECIFIED TO SUIT THE CONDITIONS IF THE TRENCH FLOOR HAS:
 - IRREGULAR OUTCROPS OF ROCK.
 - AHBP OF -50 kPa.
 - UNCONTROLLED GROUND WATER HAS DISTURBED THE FLOOR OF THE TRENCH.
- REFER TO SPECIFICATION CLAUSE 4.6.2.7 FOR PAVEMENT REINSTATEMENT/CONSTRUCTION.
- ANY EXCAVATION MAY REQUIRE SHORING IF DEEMED NECESSARY BECAUSE OF GROUND CONDITIONS. REFER GEOTECHNICAL REPORT FOR FURTHER DETAILS.
- WHEN IN ROCK, INCREASE SAND BEDDING DEPTH UNDER PIPE TO 150mm MIN.
- THE MIN. CLEAR DISTANCE BETWEEN THE OUTSIDE OF THE PIPE SOCKET & THE TRENCH WALL SHALL NOT BE LESS THAN 100mm AT ANY LOCATION.
- SIDES OF EXCAVATION TO BE KEPT VERTICAL TO AT LEAST 150 ABOVE THE PIPE.
- THE USE OF COMPACTION EQUIPMENT IS TO BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.



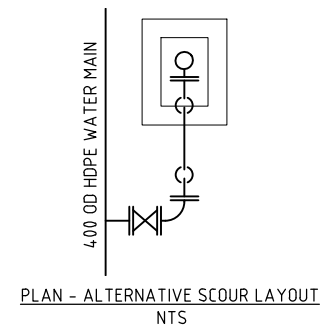
SCOUR DETAIL
N.T.S.



AS CONSTRUCTED PIPE LOCATION TEMPORARY MARKER DETAIL
N.T.S.

TEMPORARY MARKER POINT NOTES

- MARKERS TO BE INSTALLED AT ALL CHANGES OF DIRECTION BOTH HORIZONTALLY AND VERTICALLY AND INTERVALS NOT GREATER THAN 50m ALONG THE PIPELINE FOR THE COLLECTION OF AS CONSTRUCTED SURVEY DATA.
- PIPELINES WITHIN ROAD PAVEMENTS SHALL BE SURVEYED PRIOR TO BACKFILLING, NO TEMPORARY MARKER POINTS TO BE PROVIDED.
- PIPE MARKER AFTER COMPLETION OF AS CONSTRUCTED SURVEY DATA ARE TO BE UTILISED FOR PLACEMENT OF ELECTRONIC LOCATION BALLS. FINAL MARKER BALL LOCATIONS TO BE AS DIRECTED BY SUPERINTENDENT.
- MARKERS SHALL BE REMOVED ON COMPLETION OF AS CONSTRUCTED SURVEY AND BACKFILLED WITH COURSE SAND WET FOR COMPACTION AS REMOVED.



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A	20.03.15	LDH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

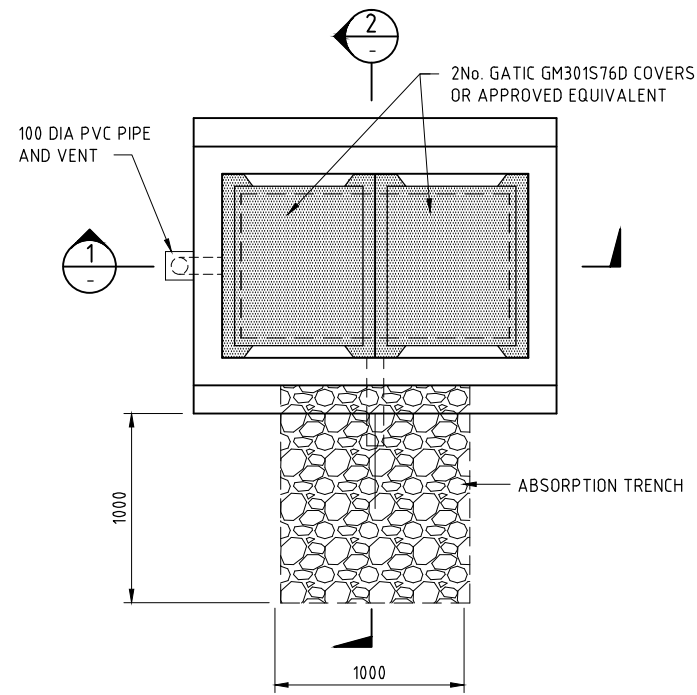
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2 James Street
CAIRNS, QLD 4870
AUSTRALIA

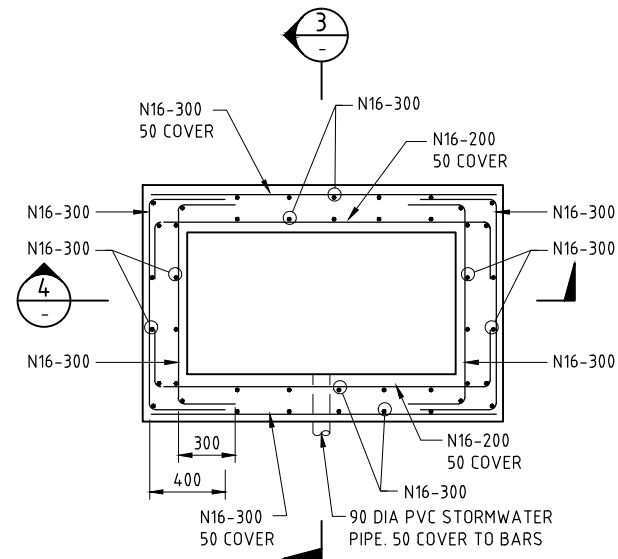
Tel: +61 7 4031 4599
Fax: +61 7 4031 3967
Web: www.jacobs.com

CLIENT: WALKER ROAD PTY LTD		PROJECT: BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN: LDH	DRAWING CHECK: RJB	REVIEWED: C.J.CAPLICK	APPROVED: R.J.CARMAN
DESIGNED: LDH	DESIGN REVIEW: PSD	DATE: 20.03.15	DATE: 20.03.15

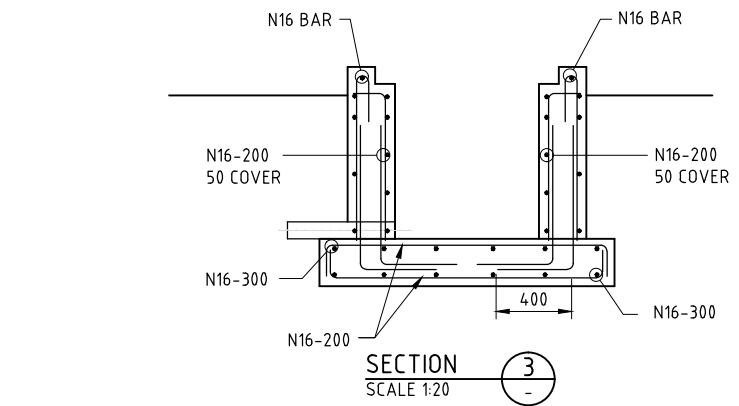
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SCALE: AS SHOWN	DRAWING No: IH035500-CI-DG-0033
	REV: A



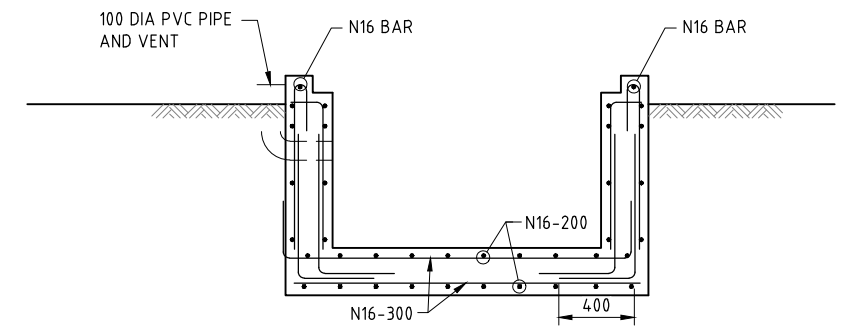
AIR VALVE CHAMBER - PLAN
SCALE 1:20



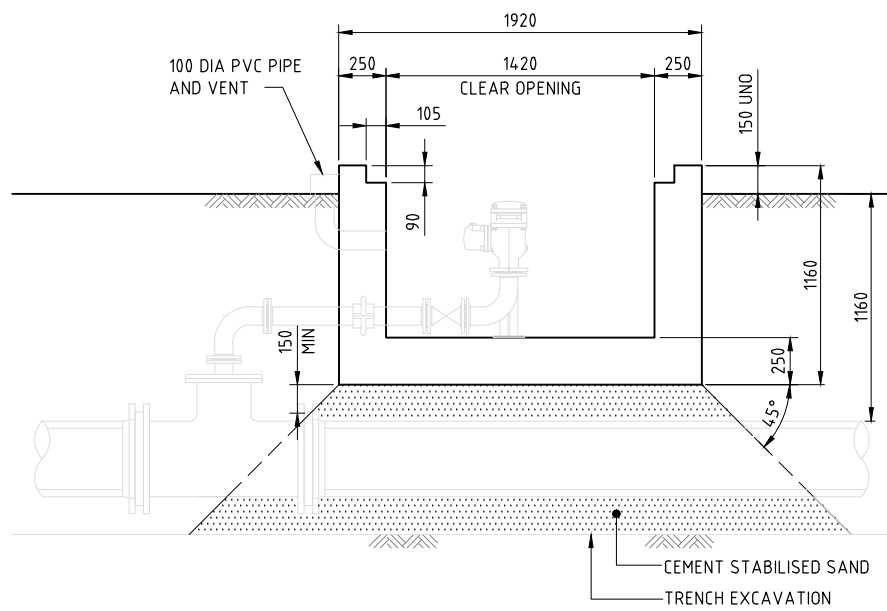
AIR VALVE CHAMBER - REINFORCEMENT PLAN
SCALE 1:20



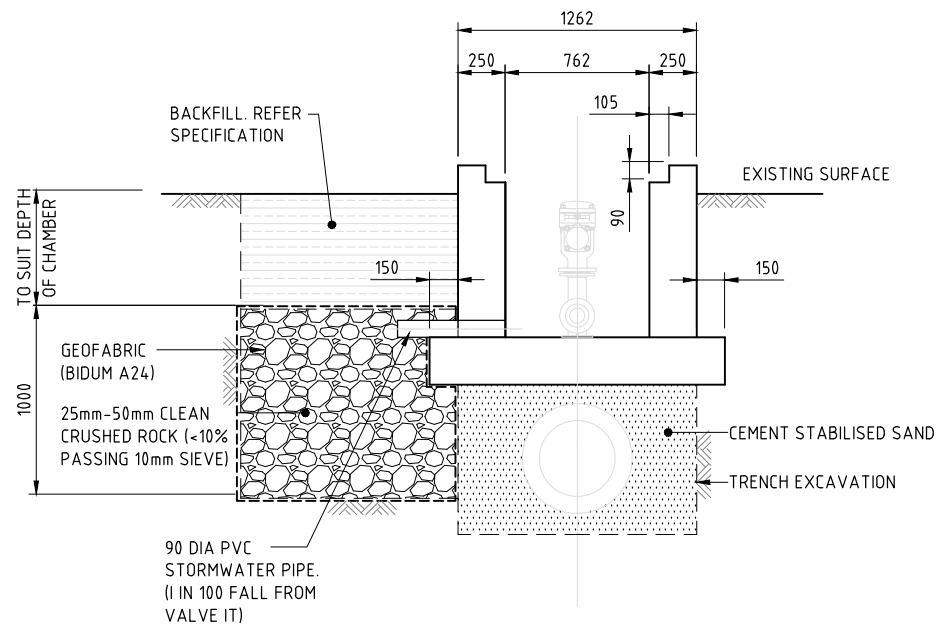
SECTION 3
SCALE 1:20



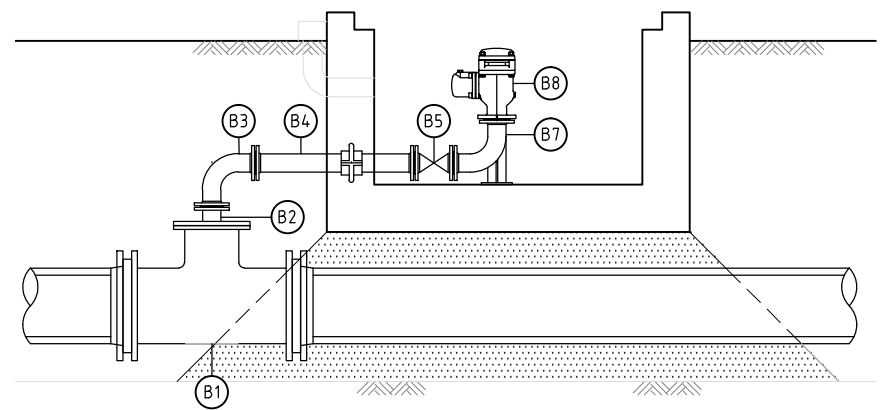
SECTION 4
SCALE 1:20



SECTION 1
SCALE 1:20



SECTION 2
SCALE 1:20



AIR RELEASE FITTINGS SCHEDULE		
ITEM	DESCRIPTION	QTY.
B1	DN400-250 MSCL TEE PL-PL-FL	1
B2	DN250-80 MS CONNECTOR FL-FL 100mm LONG MAX.	1
B3	DN80 DICL 90° BEND FL-FL	1
B4	DN80 DICL PIPE FL-FL C/W THRUST FL	1
B5	DN80 S.V. FL-FL	1
B6	DN80 DUCKFOOT BEND	1
B7	DN80 AVK AIR VALVE	1

SCALE 1:20 (A1)
1:40 (A3)

REV	DATE	DRAWN	REVD	APPD	REVISION
A	20.03.15	LDH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

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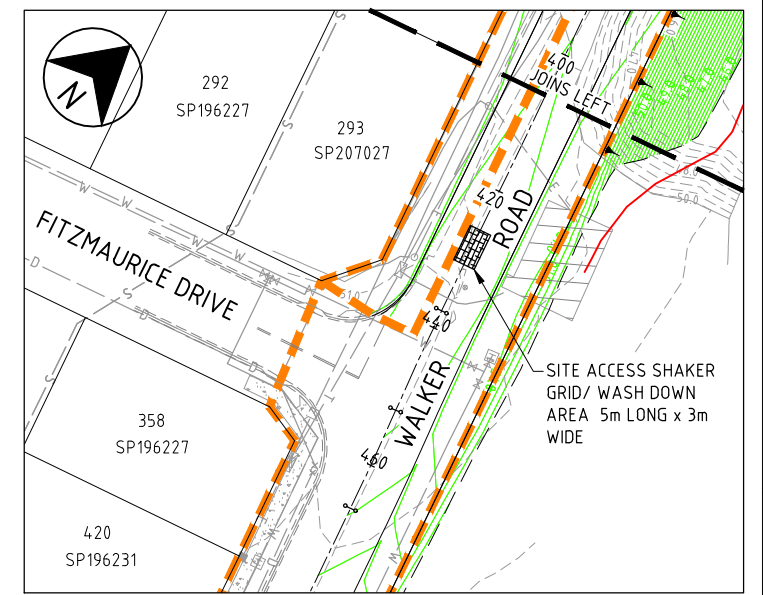
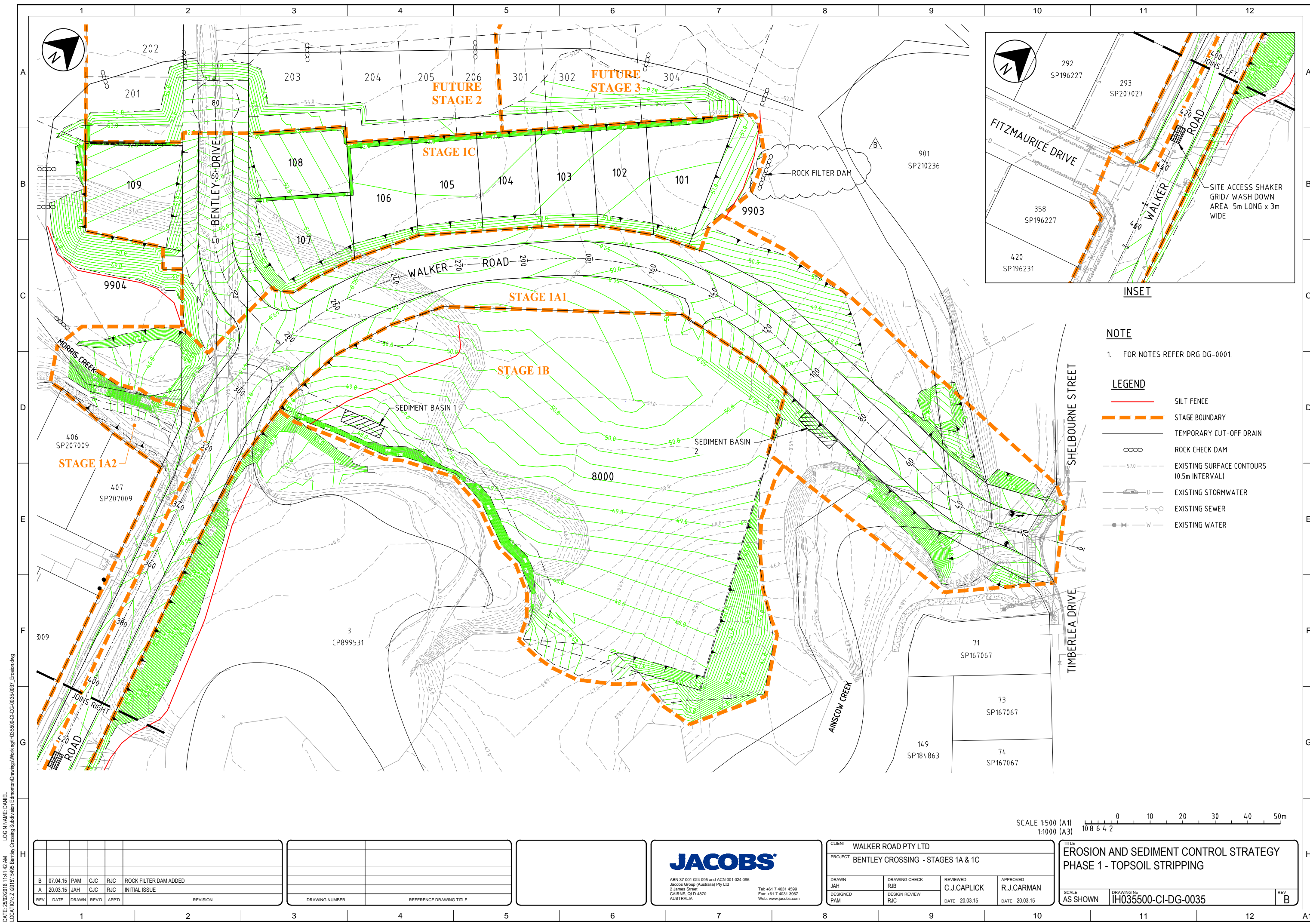
CLIENT WALKER ROAD PTY LTD			
PROJECT BENTLEY CROSSING - STAGES 1A & 1C			
DRAWN LDH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED LDH	DESIGN REVIEW PSD	DATE 20.03.15	DATE 20.03.15

TITLE TRUNK WATER MAIN
 MISCELLANEOUS DETAILS
 SHEET 3 OF 3

SCALE AS SHOWN DRAWING No. IH035500-CI-DG-0034

REV A

DATE: 25/02/2016 11:14:24 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\Working\IH035500-CI-DG-0032-0034_DN375_Details.dwg



NOTE

- 1. FOR NOTES REFER DRG DG-0001.

LEGEND

- SILT FENCE
- - - - STAGE BOUNDARY
- TEMPORARY CUT-OFF DRAIN
- ROCK CHECK DAM
- - - - EXISTING SURFACE CONTOURS (0.5m INTERVAL)
- EXISTING STORMWATER
- EXISTING SEWER
- EXISTING WATER

SCALE 1:500 (A1)
1:1000 (A3)

REV	DATE	DRAWN	REVD	APPD	REVISION
B	07.04.15	PAM	CJC	RJC	ROCK FILTER DAM ADDED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

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JACOBS

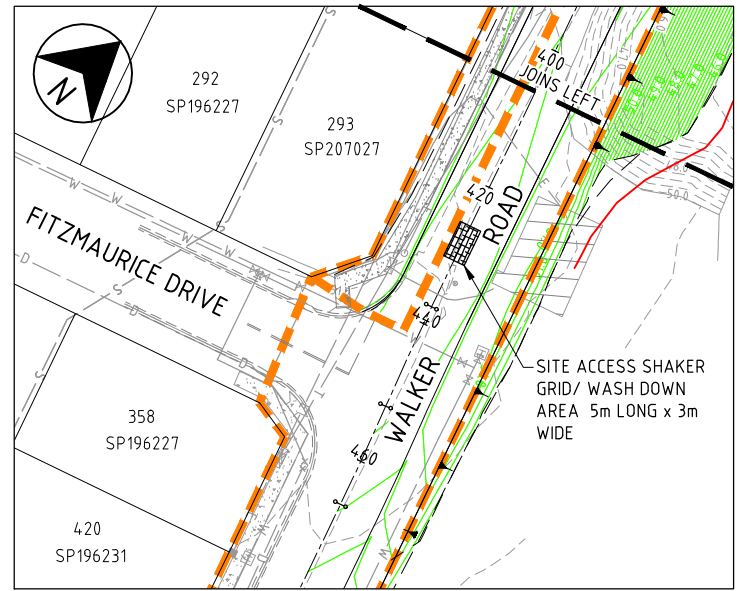
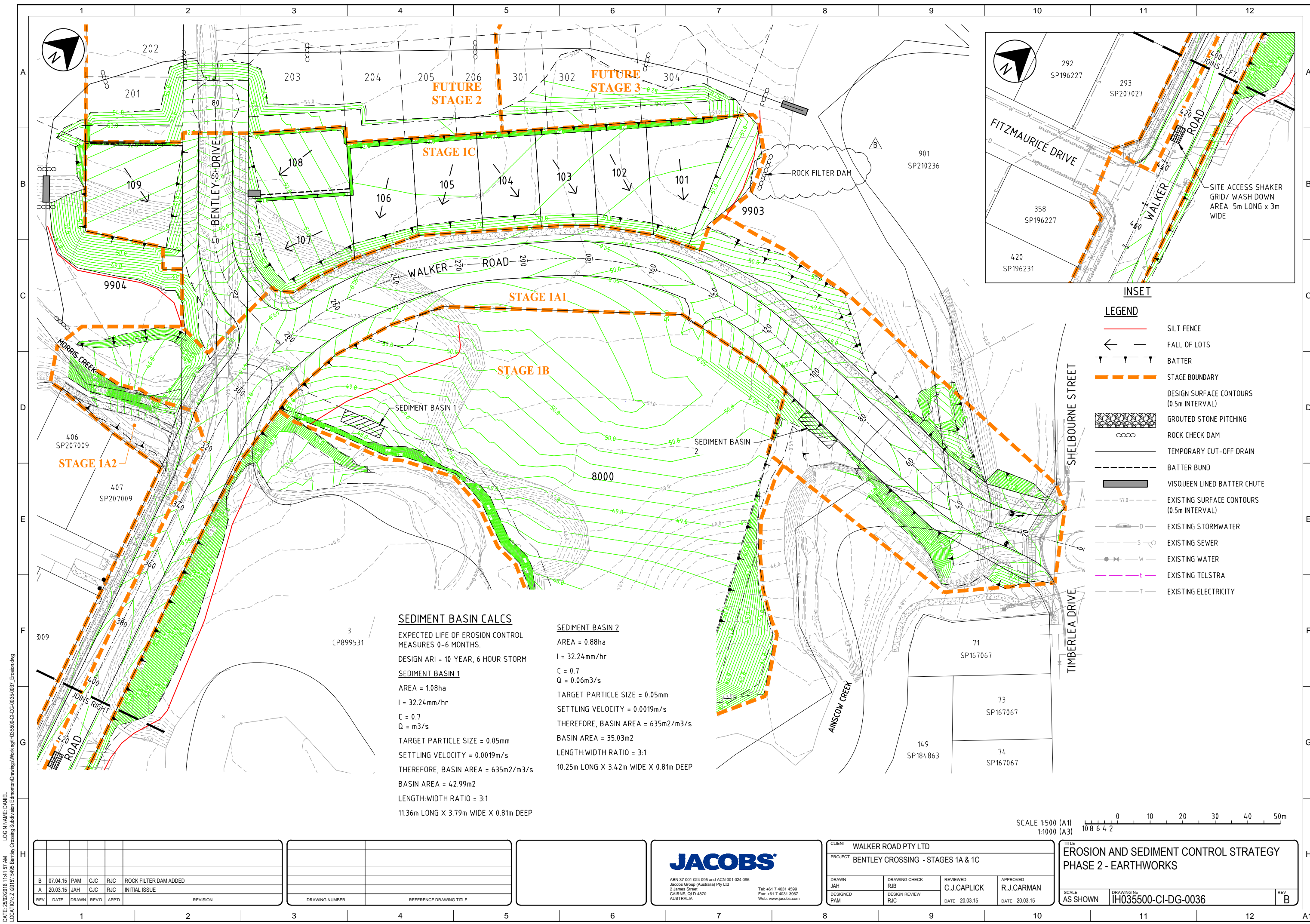
ABN 37 001 024 085 and ACN 001 024 085
 Jacobs Group (Australia) Pty Ltd
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 AUSTRALIA

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 Fax: +61 7 4031 3967
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CLIENT WALKER ROAD PTY LTD		APPROVED R.J.CARMAN	
PROJECT BENTLEY CROSSING - STAGES 1A & 1C		DATE 20.03.15	
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	DATE 20.03.15
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE EROSION AND SEDIMENT CONTROL STRATEGY PHASE 1 - TOPSOIL STRIPPING		REV B
SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0035	

DATE: 25/02/2016 11:41:42 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\Working\IH035500-CI-DG-0035-0037_Erosion.dwg



- INSET**
- LEGEND**
- SILT FENCE
 - ← FALL OF LOTS
 - |—|—| BATTER
 - - - - STAGE BOUNDARY
 - DESIGN SURFACE CONTOURS (0.5m INTERVAL)
 - GROUTED STONE PITCHING
 - ROCK CHECK DAM
 - TEMPORARY CUT-OFF DRAIN
 - - - - BATTER BUND
 - VISQUEEN LINED BATTER CHUTE
 - EXISTING SURFACE CONTOURS (0.5m INTERVAL)
 - EXISTING STORMWATER
 - EXISTING SEWER
 - EXISTING WATER
 - EXISTING TELSTRA
 - EXISTING ELECTRICITY

SEDIMENT BASIN CALCS

EXPECTED LIFE OF EROSION CONTROL MEASURES 0-6 MONTHS.
 DESIGN ARI = 10 YEAR, 6 HOUR STORM

SEDIMENT BASIN 1
 AREA = 1.08ha
 I = 32.24mm/hr
 C = 0.7
 Q = m³/s
 TARGET PARTICLE SIZE = 0.05mm
 SETTLING VELOCITY = 0.0019m/s
 THEREFORE, BASIN AREA = 635m²/m³/s
 BASIN AREA = 42.99m²
 LENGTH:WIDTH RATIO = 3:1
 11.36m LONG X 3.79m WIDE X 0.81m DEEP

SEDIMENT BASIN 2
 AREA = 0.88ha
 I = 32.24mm/hr
 C = 0.7
 Q = 0.06m³/s
 TARGET PARTICLE SIZE = 0.05mm
 SETTLING VELOCITY = 0.0019m/s
 THEREFORE, BASIN AREA = 635m²/m³/s
 BASIN AREA = 35.03m²
 LENGTH:WIDTH RATIO = 3:1
 10.25m LONG X 3.42m WIDE X 0.81m DEEP

SCALE 1:500 (A1)
 1:1000 (A3)

DATE: 25/02/2016 11:41:57 AM
 LOGIN NAME: DANIEL
 LOCATION: Z:\2015\15495 Bentley Crossing Submission Edmondson\Drawings\Working\IH035500-CI-DG-0035-0037_Erosion.dwg

REV	DATE	DRAWN	REVD	APPD	REVISION
B	07.04.15	PAM	CJC	RJC	ROCK FILTER DAM ADDED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

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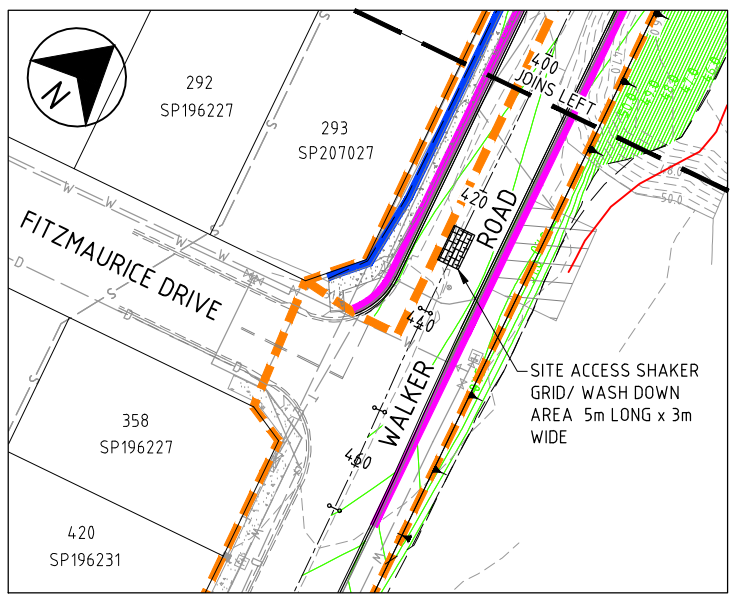
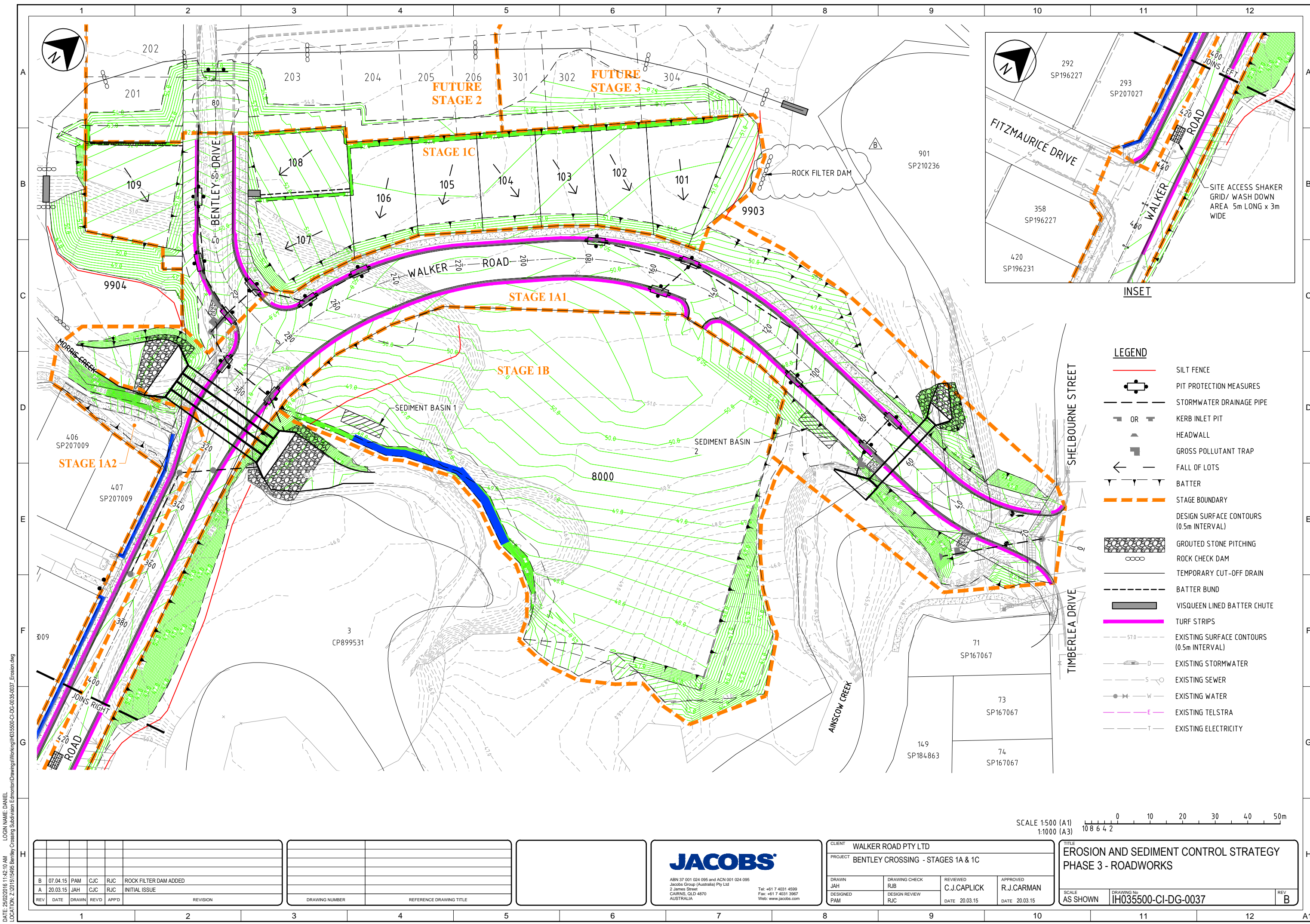
JACOBS

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CLIENT: WALKER ROAD PTY LTD		PROJECT: BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN: JAH	DRAWING CHECK: RJB	REVIEWED: C.J.CAPLICK	APPROVED: R.J.CARMAN
DESIGNED: PAM	DESIGN REVIEW: RJC	DATE: 20.03.15	DATE: 20.03.15

TITLE: EROSION AND SEDIMENT CONTROL STRATEGY PHASE 2 - EARTHWORKS	
SCALE: AS SHOWN	DRAWING No: IH035500-CI-DG-0036
REV: B	



- LEGEND**
- SILT FENCE
 - PIT PROTECTION MEASURES
 - STORMWATER DRAINAGE PIPE
 - KERB INLET PIT
 - HEADWALL
 - GROSS POLLUTANT TRAP
 - FALL OF LOTS
 - BATTER
 - STAGE BOUNDARY
 - DESIGN SURFACE CONTOURS (0.5m INTERVAL)
 - GROUDED STONE PITCHING
 - ROCK CHECK DAM
 - TEMPORARY CUT-OFF DRAIN
 - BATTER BUND
 - VISQUEEN LINED BATTER CHUTE
 - TURF STRIPS
 - EXISTING SURFACE CONTOURS (0.5m INTERVAL)
 - EXISTING STORMWATER
 - EXISTING SEWER
 - EXISTING WATER
 - EXISTING TELSTRA
 - EXISTING ELECTRICITY

SCALE 1:500 (A1)
1:1000 (A3)

REV	DATE	DRAWN	REVD	APPD	REVISION
B	07.04.15	PAM	CJC	RJC	ROCK FILTER DAM ADDED
A	20.03.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

DRAWING NUMBER	REFERENCE DRAWING TITLE

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CLIENT WALKER ROAD PTY LTD		PROJECT BENTLEY CROSSING - STAGES 1A & 1C	
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 20.03.15	DATE 20.03.15

TITLE EROSION AND SEDIMENT CONTROL STRATEGY PHASE 3 - ROADWORKS	
SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0037
REV B	

DATE: 25/02/2016 11:42:10 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Submission Edmonton\Drawings\IH035500-CI-DG-0035-0037_Erosion.dwg



LEGEND

	AREAS OF FILL
	FINISHED SURFACE LEVEL
	STAGE BOUNDARY
	DESIGN SURFACE CONTOURS (0.2m INTERVAL)
	SILT FENCE
	CLEAN WATER DIVERSION BUND
	ROCK CHECK DAM

SCALE 1:500 (A1)
1:1000 (A3)

REV	DATE	DRAWN	REVD	APPD	REVISION
A	07.04.15	JAH	CJC	RJC	INITIAL ISSUE

DRAWING NUMBER	REFERENCE DRAWING TITLE

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JACOBS

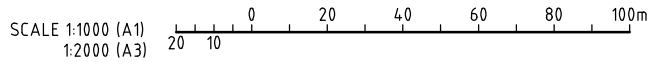
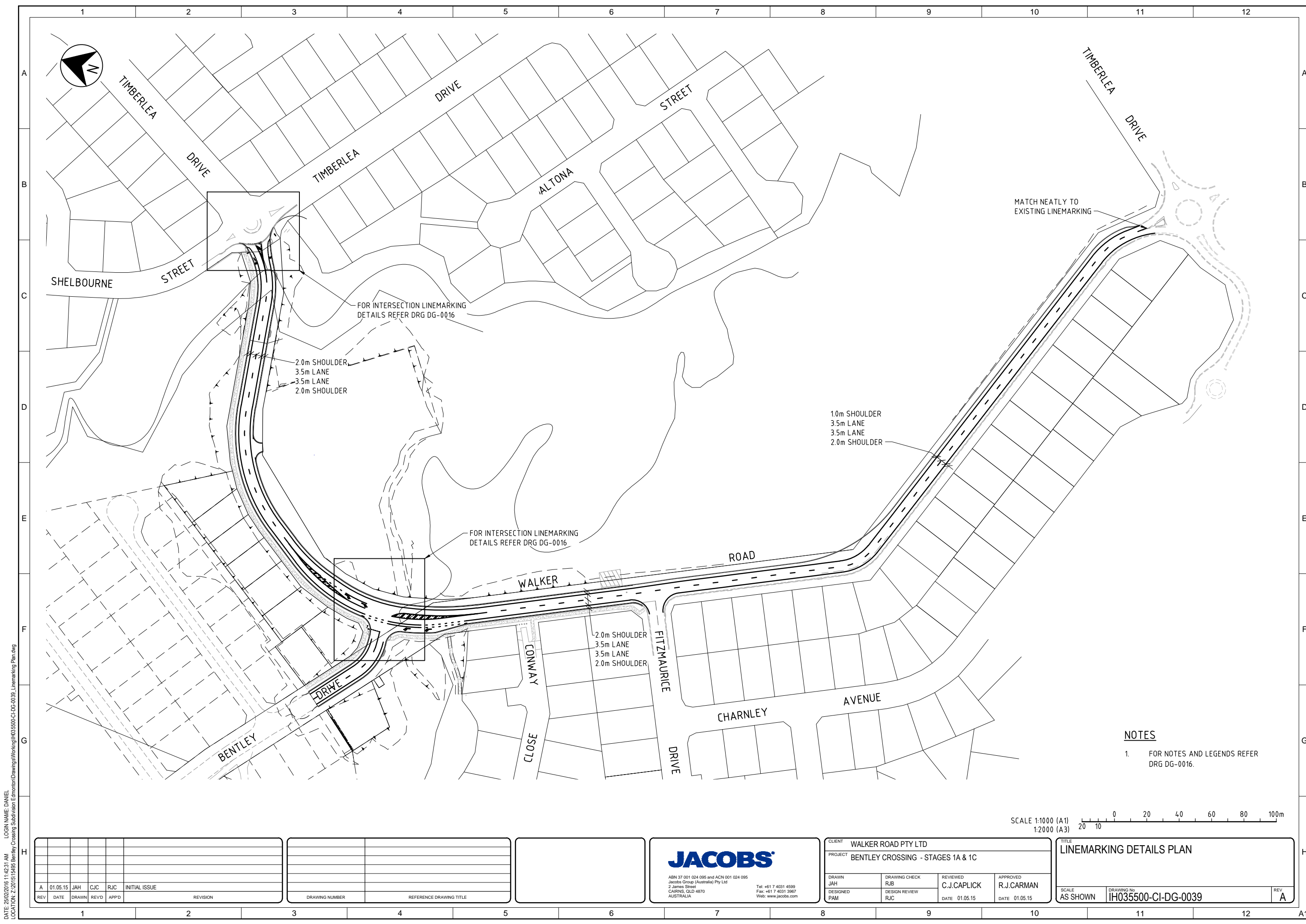
ABN 37 001 024 085 and ACN 001 024 085
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CLIENT WALKER ROAD PTY LTD			
PROJECT BENTLEY CROSSING - STAGES 1A & 1C			
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 07.04.15	DATE 07.04.15

TITLE EARTHWORKS SPOIL PLAN		
SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0038	REV A

DATE: 25/02/2016 11:42:24 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\Working\IH035500-CI-DG-0038_Earthworks Spoil.dwg



- NOTES**
- FOR NOTES AND LEGENDS REFER DRG DG-0016.

REV	DATE	DRAWN	REVD	APPD	INITIAL ISSUE	REVISION
A	01.05.15	JAH	CJC	RJC	INITIAL ISSUE	

DRAWING NUMBER	REFERENCE DRAWING TITLE

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JACOBS

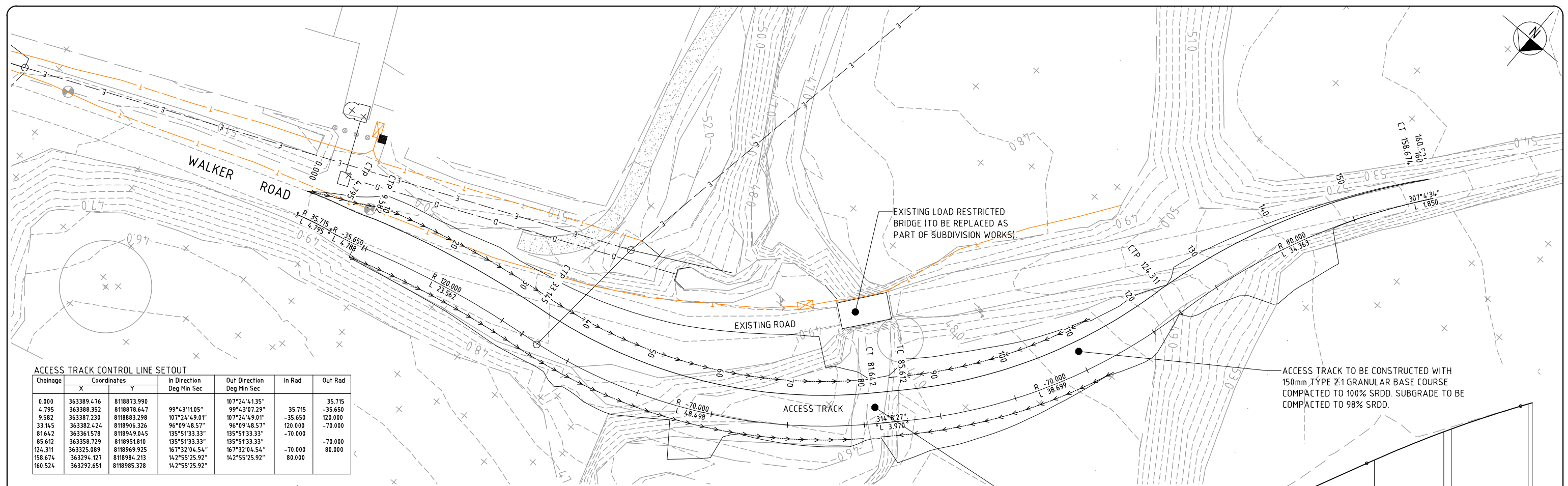
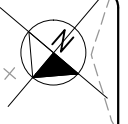
ABN 37 001 024 095 and ACN 001 024 095
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CLIENT WALKER ROAD PTY LTD			
PROJECT BENTLEY CROSSING - STAGES 1A & 1C			
DRAWN JAH	DRAWING CHECK RJB	REVIEWED C.J.CAPLICK	APPROVED R.J.CARMAN
DESIGNED PAM	DESIGN REVIEW RJC	DATE 01.05.15	DATE 01.05.15

TITLE LINEMARKING DETAILS PLAN		
SCALE AS SHOWN	DRAWING No IH035500-CI-DG-0039	REV A

DATE: 25/02/2016 11:42:31 AM LOGIN NAME: DANIEL LOCATION: Z:\2015\15495 Bentley Crossing Subdivision Edmonton\Drawings\Working\IH035500-CI-DG-0039_Linemarking Plan.dwg

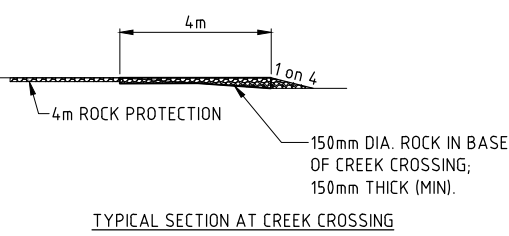
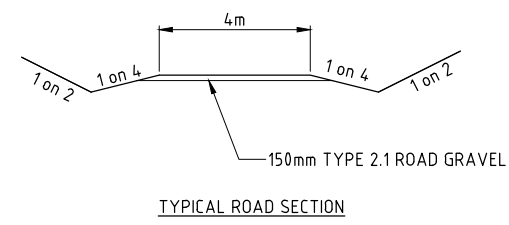


ACCESS TRACK CONTROL LINE SETOUT

Chainage	X	Y	In Direction Deg Min Sec	Out Direction Deg Min Sec	In Rad	Out Rad
0.000	363389.476	8118873.990	99°43'11.05"	107°24'41.35"	35.715	35.715
4.795	363388.352	8118878.647	99°43'07.29"	99°43'07.29"	-35.650	-35.650
9.582	363387.230	8118883.298	107°24'49.01"	107°24'49.01"	-35.650	120.000
33.145	363382.424	8118906.326	96°09'48.57"	96°09'48.57"	120.000	-70.000
81.642	363361.578	8118949.045	135°51'33.33"	135°51'33.33"	-70.000	-70.000
85.612	363358.729	8118951.810	135°51'33.33"	135°51'33.33"	-70.000	-70.000
124.311	363325.089	8118969.925	167°32'04.54"	167°32'04.54"	-70.000	80.000
158.674	363294.127	8118984.213	142°55'25.92"	142°55'25.92"	80.000	80.000
160.524	363292.651	8118985.328	142°55'25.92"	142°55'25.92"	80.000	80.000

PLAN SCALE: 1:250

PROVIDE 150mm DIA. ROCK IN BASE OF CREEK CROSSING; 150mm THICK (MIN).



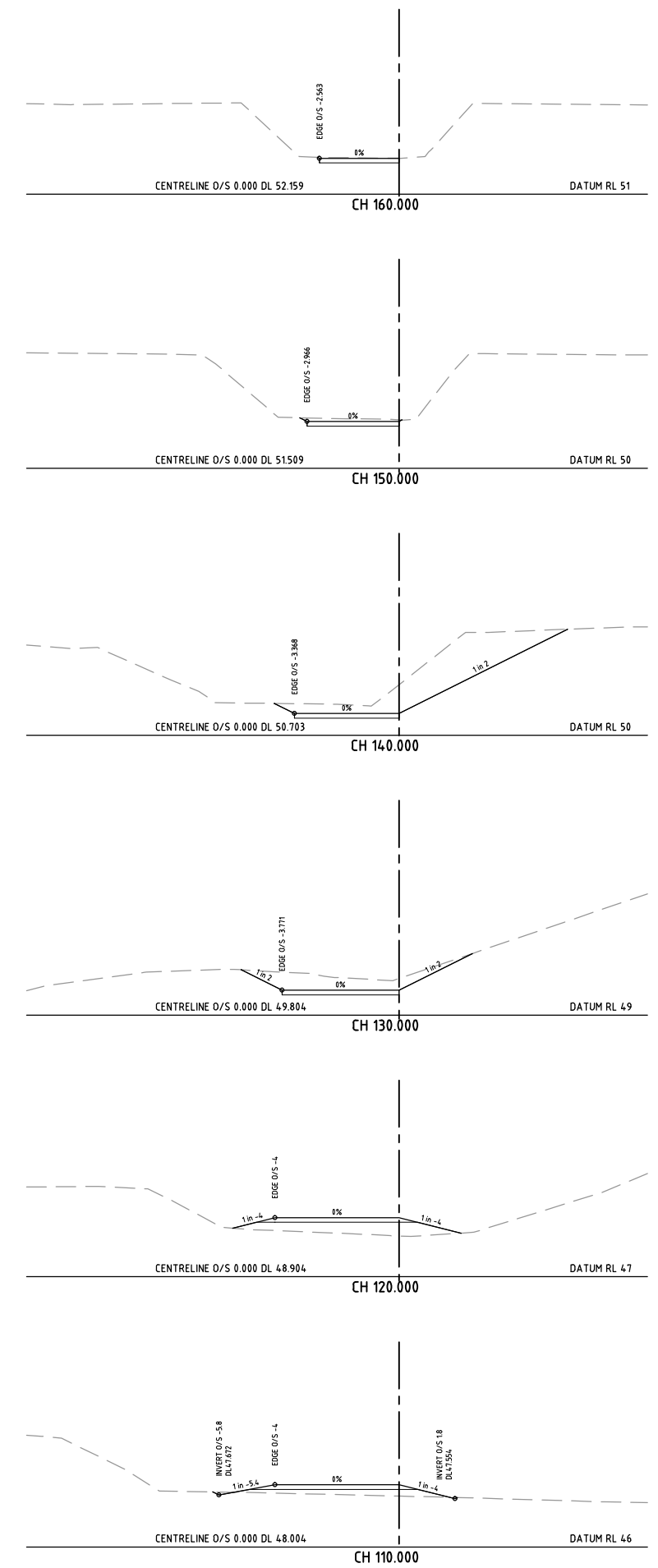
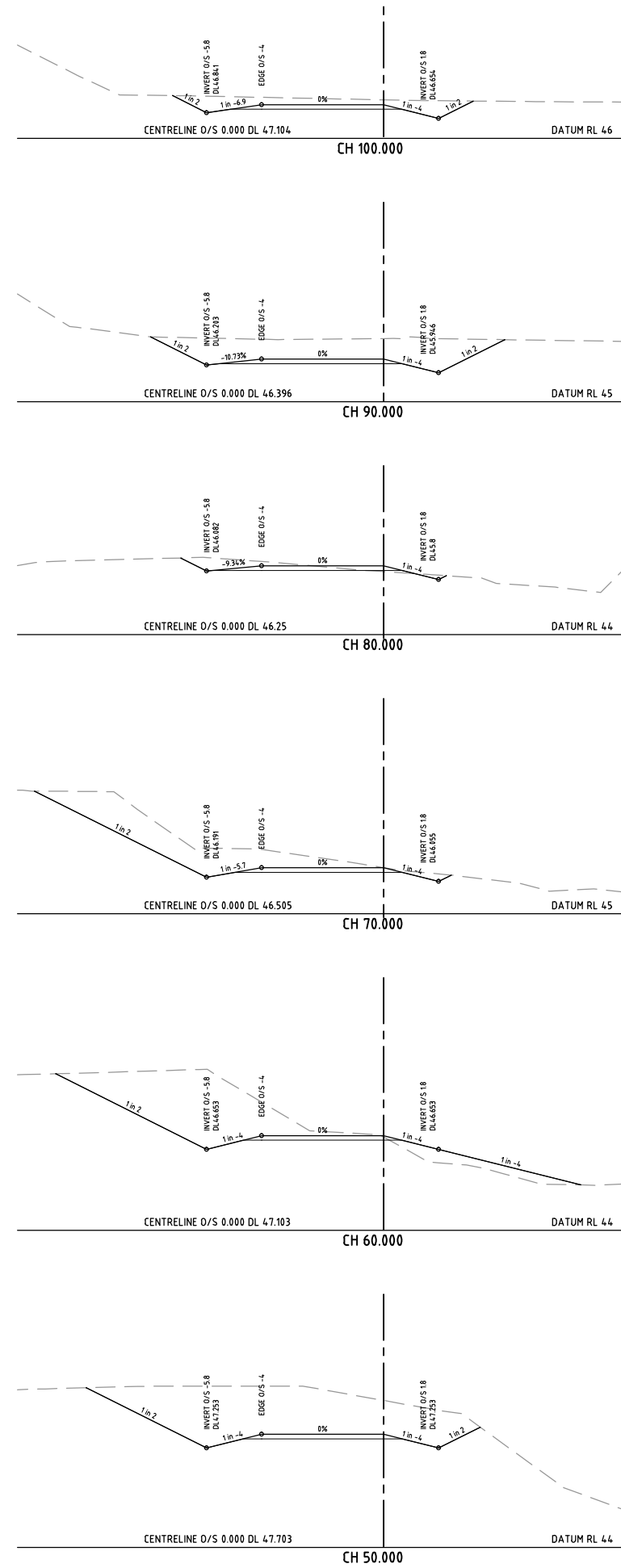
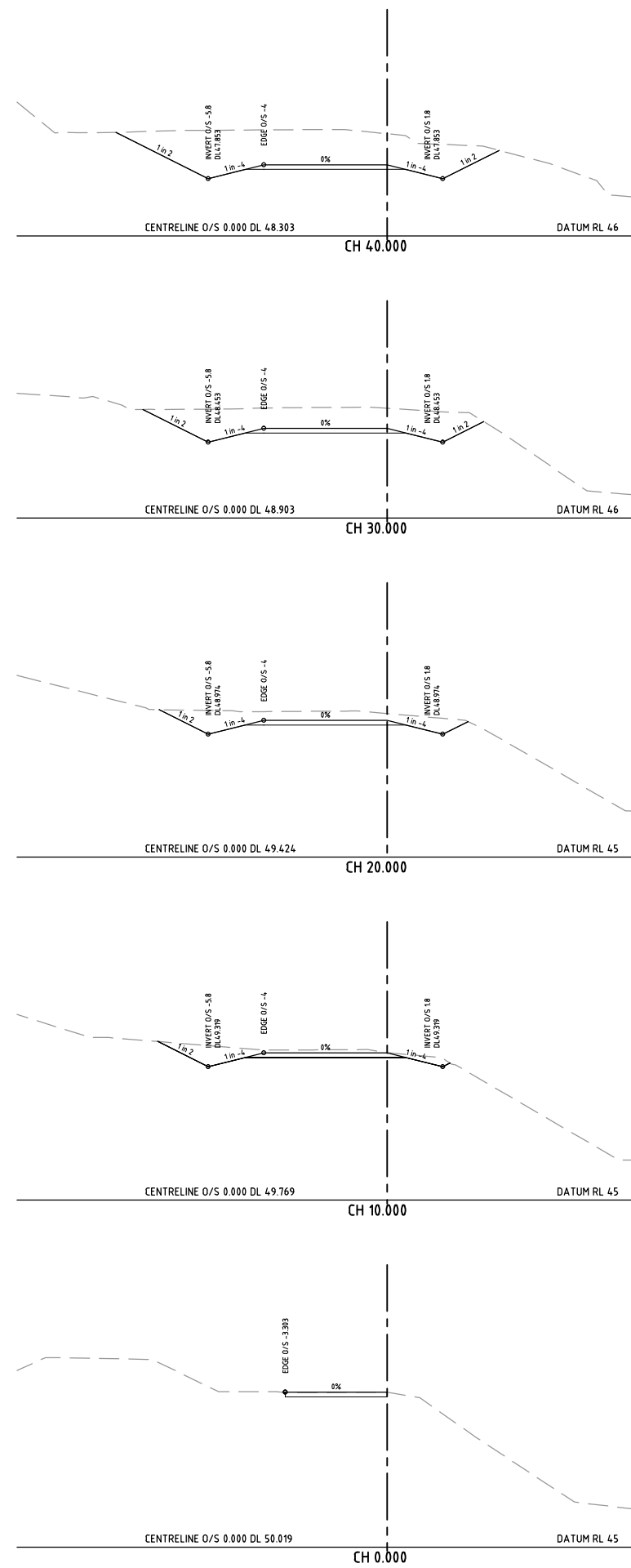
VERTICAL CURVE DATA
VERTICAL GRADING

DATUM R.L. 40.000

HORIZONTAL GEOMETRY	R 35.715 ARC 4.795 m		R -35.65 ARC 4.788 m		R 120 ARC 23.562 m		R -70 ARC 48.498 m		R -70 ARC 38.699 m		R 80 ARC 34.363 m											
CUT/FILL DEPTH TO EXISTING SURFACE	0.000	-0.006	-0.206	-0.221	-0.649	-1.002	-1.107	0.047	-0.007	-0.270	0.190	-0.057	-0.376	-0.926	-0.063	-0.053	-0.001	0.000				
CONTROL LINE PAVEMENT LEVEL	50.019	49.769	49.443	49.424	48.903	48.303	47.703	47.103	46.505	46.325	46.250	46.396	46.419	47.104	48.004	48.904	49.804	50.703	51.437	51.509	52.159	52.190
CONTROL LINE EXISTING LEVEL	50.019	49.775	49.649	49.645	49.553	49.306	48.810	47.056	46.512	46.595	46.860	47.066	47.070	47.261	47.637	48.312	50.180	51.629	51.500	51.562	52.160	52.190
CONTROL LINE CHAINAGE	0	10	19.539	20	30	40	50	60	70	74.223	80	90	90.515	100	110	120	130	140	149.021	150	160	160.524

LONGSECTION
H SCALE: 1:250
V SCALE: 1:50

FOR COUNCIL APPROVAL DATE: 23/11/15	Drawing Status: FOR COUNCIL APPROVAL	SCALE: AS SHOWN DO NOT SCALE DRAWINGS Scales Before Reduction	Orig. Sheet: A1	Disclaimer & Copyright THIS DRAWING AND DESIGN REMAINS THE PROPERTY OF PDR ENGINEERS AND MAY NOT BE COPIED IN WHOLE OR IN PART WITHOUT PRIOR WRITTEN APPROVAL FROM THIS COMPANY. © PDR Engineers Copyright		Client: WALKER ROAD PTY LTD	Project: BENTLEY CROSSING - STAGES 1A & 1C	Drawing Title: TEMPORARY ACCESS TRACK	Drawn: DM Designed: DM Verified: - Approved: - Date: NOV 2015 Drawing Number: 15496-SK1 Revision: A
	Level 1, 258 Mulgrave Road PO Box 2551 CAIRNS QLD 4870 Ph: (07) 4051 5599 Fax: (07) 4051 5455 Email: admin@pdrengineers.com.au A.B.N. 88 126 211 461 A.C.N. 126 211 461								



A	FOR COUNCIL APPROVAL	23/11/15
SUE	DESCRIPTION	DATE

Drawing Status
FOR COUNCIL APPROVAL

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Orig. Sheet
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A.B.N. 88 126 211 461
A.C.N. 126 211 461

Client
WALKER ROAD PTY LTD

Project
BENTLEY CROSSING - STAGES 1A & 1C

Drawing Title
TEMPORARY ACCESS TRACK CROSS SECTIONS

Drawn DM	Designed DM	Verified -
Approved -	Date NOV 2015	
Drawing Number 15496-SK1		Revison A