SWF CONSULTING
CONSULTING CIVIL & STRUCTURAL ENGINEERS

ALDI REDEVELOPMENT
KEMP STREET
OLDHAM

Drainage Philosophy Report

Date: July 2019

8943-SWF-XX-XX-RP-D-0201

S2: Suitable for Information

Version: P1

By: Phil Sarbutts

F28
Version 3
23rd July 2019

SWF CONSULTING
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REVISION HISTORY

VERSION	DATE	SUITABILITY	REVISIONS
P1	24/07/19	S2: Suitable for Information	Issued For Information

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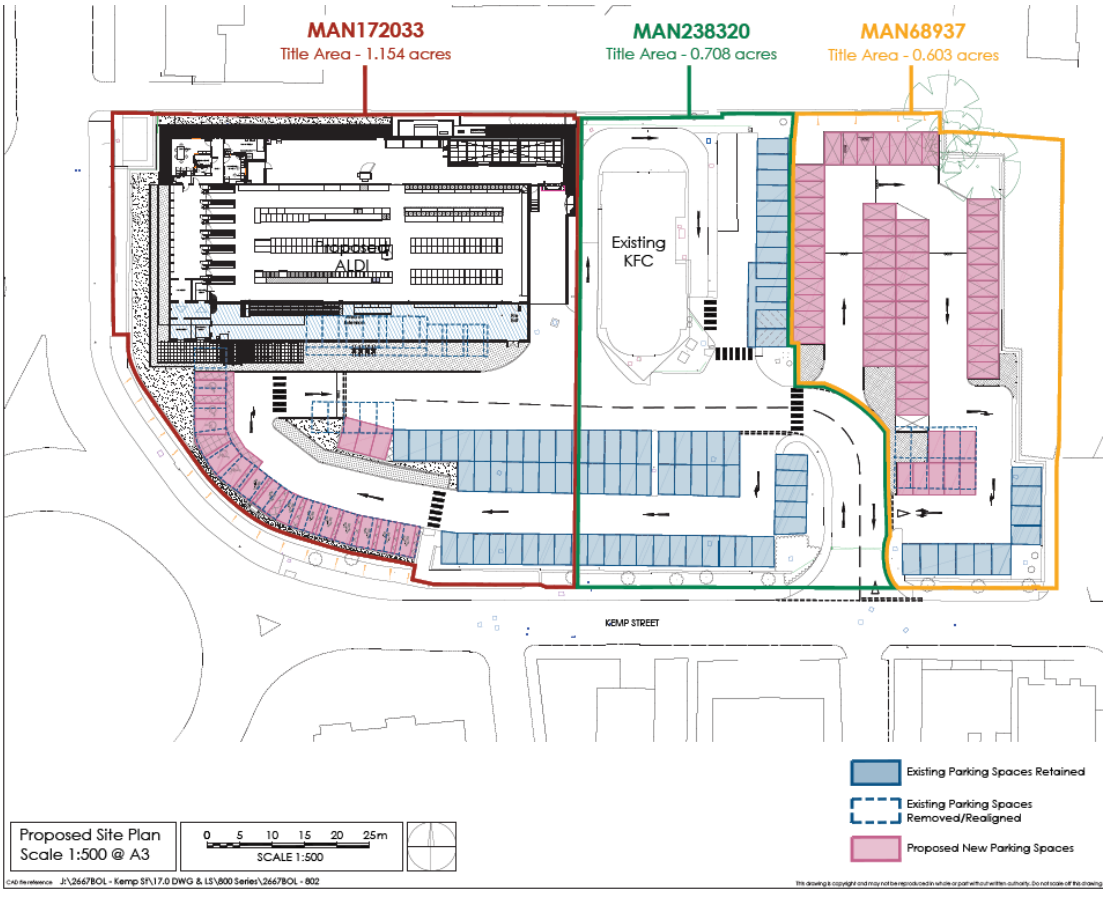
1. Development Details

The existing site contains an Aldi Store and KFC Drive Thru' restaurant which were constructed as part of a wider development site in 2012. The works included the provision of underground attenuation as the first phase of works, provided by the original developer, to facilitate the construction process.

Details of the existing drainage can be found in Appendix A with the existing architectural site layout can be found in Appendix B at the rear of this report.

The site plan therefore includes a large number of parking spaces with a small area, to the top right of the plan below which has been let un-surfaced. It should be noted that this surfacing was to be developed into a further retail unit with due allowances being made by the original drainage engineers for positive drainage from the site.

As built information from the original Aldi development indicate that the entire site was designed to discharge surface water at a limited rate of 5l/s to the surface water sewer network under Kemp Street.



It is now proposed to update the site layout, adjusting parking bays and incorporating the final portion of land.

2. Flood Zone Classification

The Environment Agency maps have been consulted and the site is shown to be in Flood Zone 1.



This means the site has a low probability of flooding having a less than 1 in 1000 annual probability of river or sea flooding.

The more detailed maps have also been consulted and these confirm that the site is at a very low risk of surface water flooding and no risk of flooding from reservoirs.

3. Climate Change Allowance

The original planning permission for the development included a requirement to allow for climate change and therefore the existing drainage network will have been designed accordingly.

Given the date of construction for the development, being 2012, the design also considered the 30 year storm and the 100 year storm event making due allowance on the site to ensure that no flooding was permitted in the 30 year event and any flood waters generated in the 100 year event were not able to leave the site boundary.

It is therefore considered that climate change has been considered as part of the original development.

4. Proposed Drainage Scheme

As discussed in the earlier section of the report it is known that the site currently has attenuation measures based on the whole site boundary for a limited discharge of 5l/s. This flow is controlled by a Hydrobrake type device that ensures the flow is designed for the maximum head of water available.

Given the site already has a very restricted discharge rate and reducing in further will disproportionately increase the risk of blockage to the flow control it is not proposed to limit the flow from this site further.

Flood risk is already known to be very low on the site and the provision of the existing attenuation tank will not be compromised given the original design parameters.

5. Proposed Foul Water Drainage Scheme

This project is only considering the provision of new parking areas and no adjustments are to be made to the foul water provisions on the site.

6. Future maintenance

Given the drainage installation is a gravity fed system the requirements for maintenance are similar to any typical installation. This work is to be undertaken by a private maintenance firm who will be appointed under a long term contract.

As part of the maintenance it is recommend that road gullys are cleared of silt build up on an annual basis to prevent the build-up of silts within the below ground drainage network. In addition, the roads should be swept of debris, particularly around the autumn months to reduce the ingress of leaf litter.

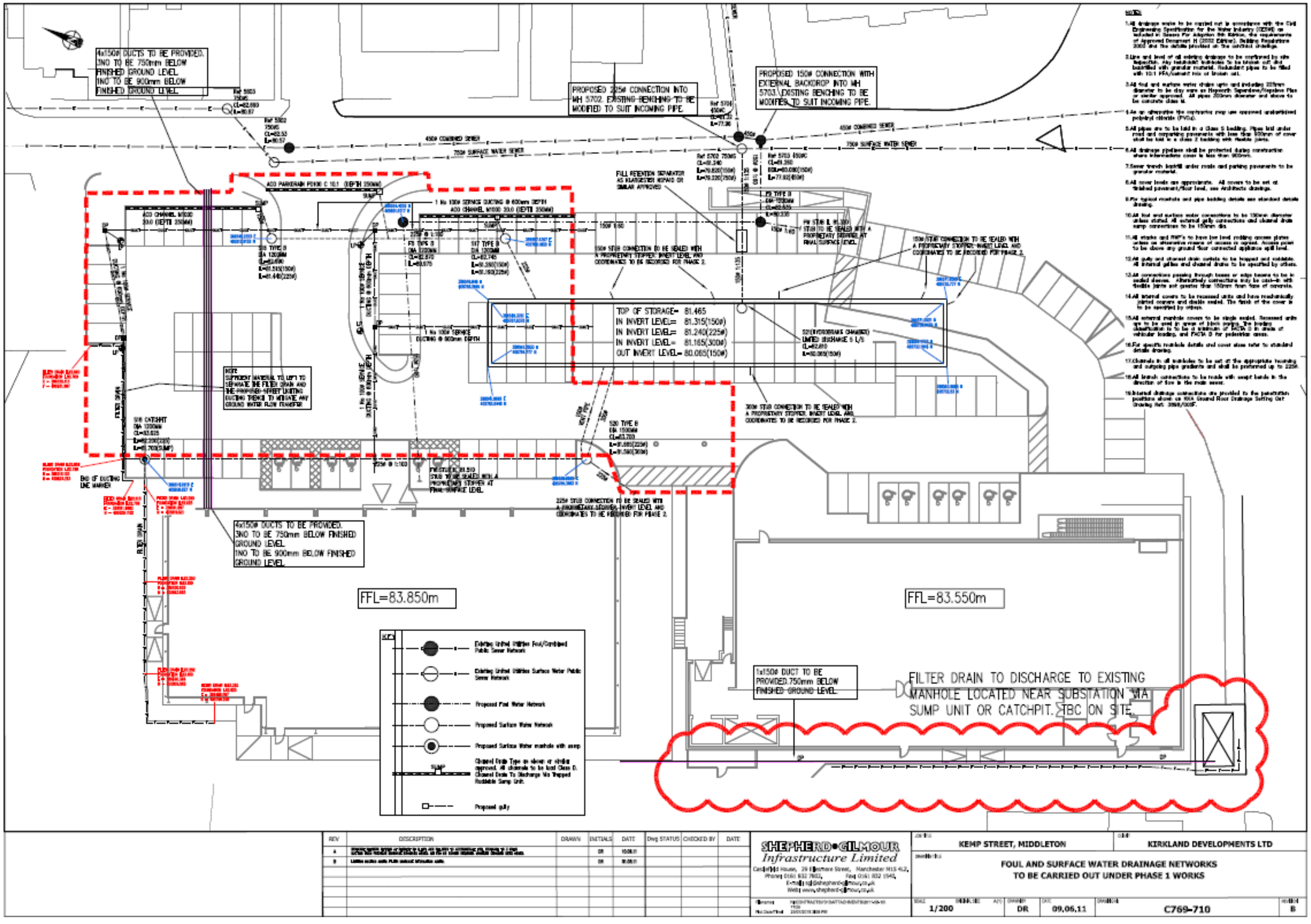
The flow control device, be it Hydrobrake or orifice plate, will also need an annual inspection and should be checked to ensure no debris is preventing the device functioning correctly.

As with any drainage system is it recommended that jet clearing of the system is undertaken on a 5 yearly basis. This should check for defects in the pipework and allow for the removal of any debris.

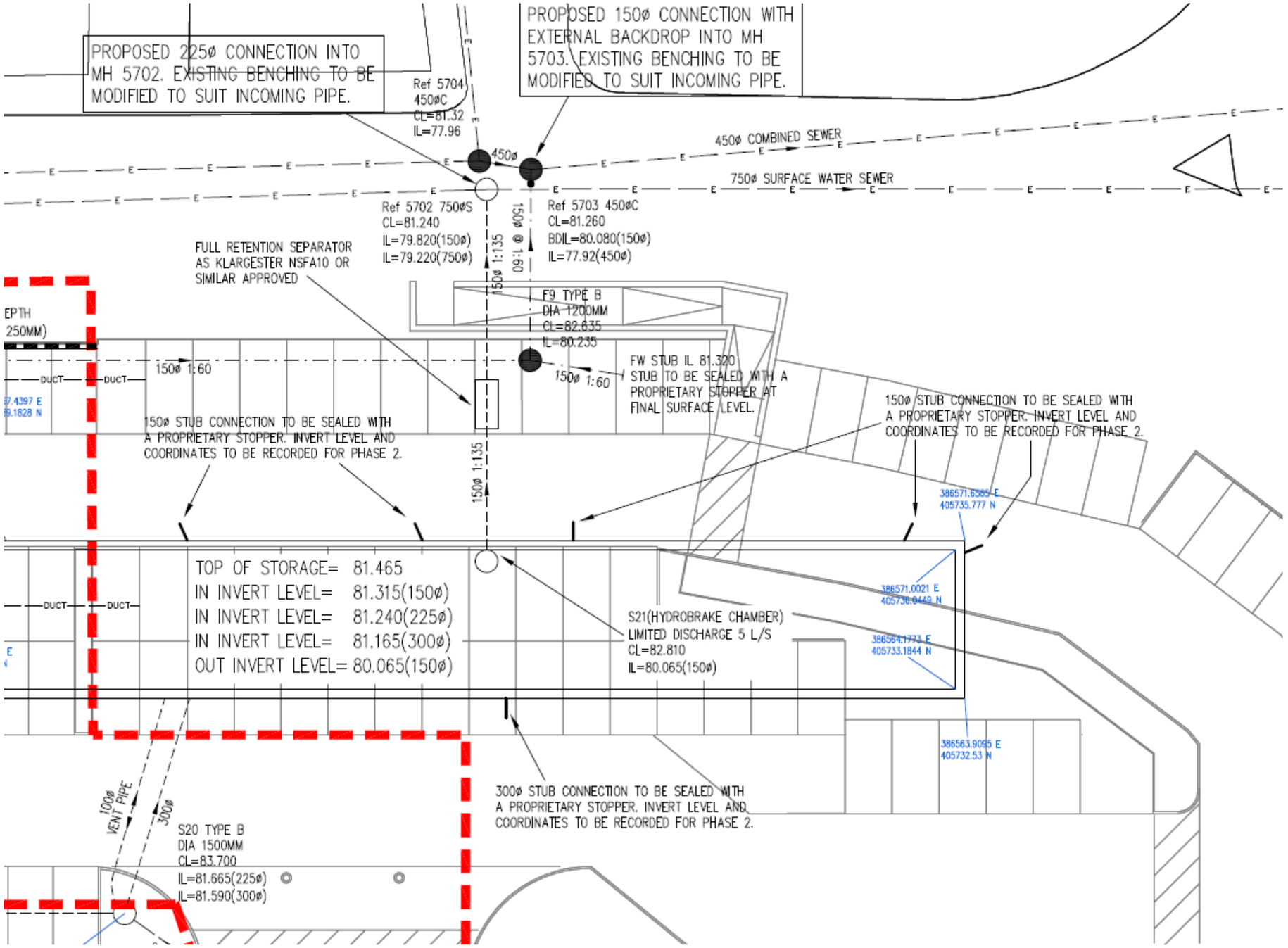
APPENDIX A

Original Scheme Drainage Drawing

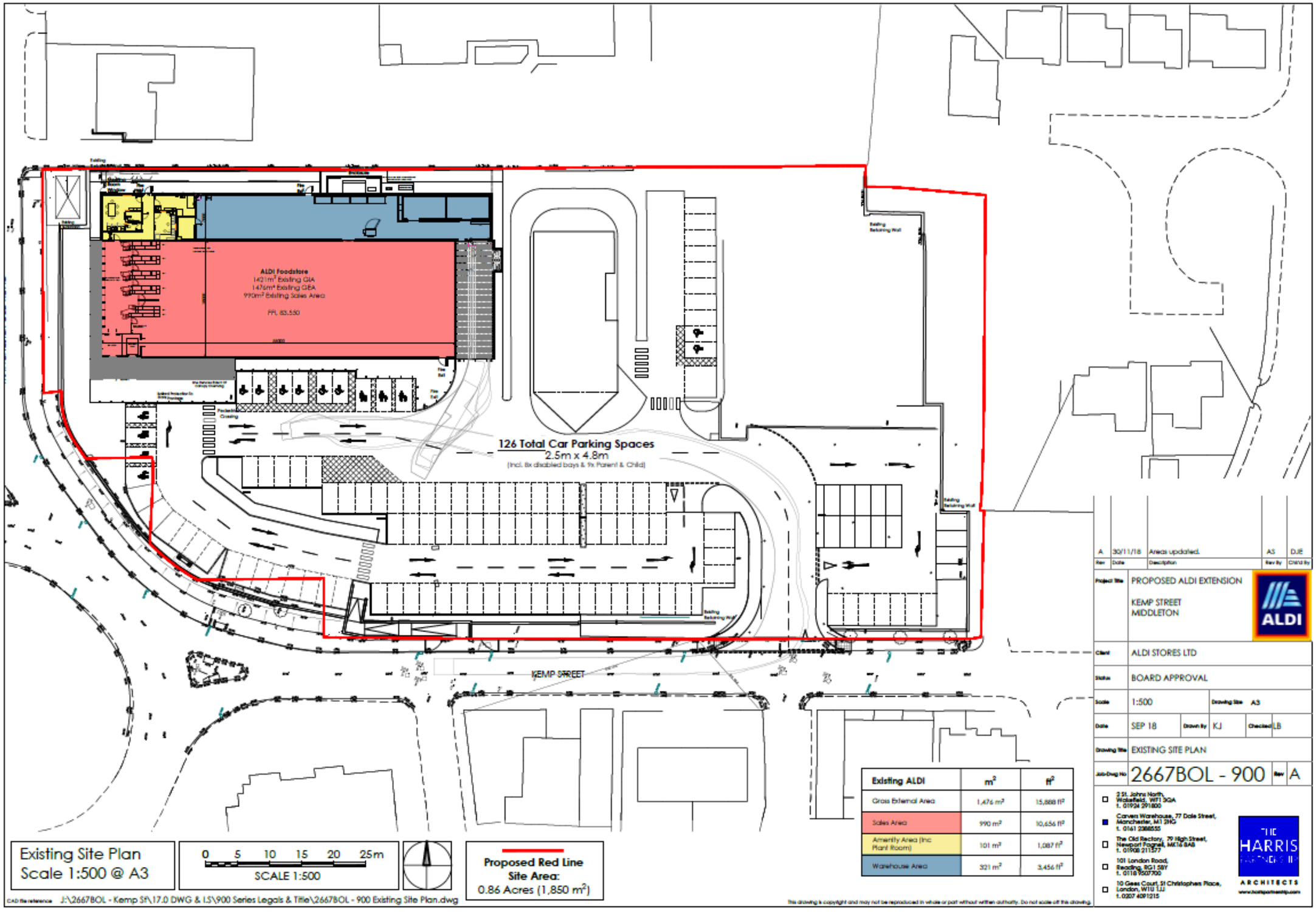
(from Shepherd Gilmour Infrastructure)


4x150ø DUCTS TO BE PROVIDED.
3NO TO BE 750mm BELOW FINISHED GROUND LEVEL
1NO TO BE 900mm BELOW FINISHED GROUND LEVEL
PROPOSED 225ø CONNECTION INTO MH 5702. EXISTING BENCHING TO BE MODIFIED TO SUIT INCOMING PIPE.
PROPOSED 150ø CONNECTION WITH EXTERNAL BACKDROP INTO MH 5703. EXISTING BENCHING TO BE MODIFIED TO SUIT INCOMING PIPE.
450ø COMBINED SEWER
750ø SURFACE WATER SEWER
TOP OF STORAGE= 81.465
IN INVERT LEVEL= 81.315(150ø)
IN INVERT LEVEL= 81.240(225ø)
IN INVERT LEVEL= 81.165(300ø)
OUT INVERT LEVEL= 80.065(150ø)
FFL=83.850m
FFL=83.550m
1x150ø DUCT TO BE PROVIDED.750mm BELOW FINISHED GROUND LEVEL
FILTER DRAIN TO DISCHARGE TO EXISTING MANHOLE LOCATED NEAR SUBSTATION VIA SUMP UNIT OR CATCHPIT. TBC ON SITE.
SHEPHERD•GILMOUR Infrastructure Limited
KEMP STREET, MIDDLETON
KIRKLAND DEVELOPMENTS LTD
FOUL AND SURFACE WATER DRAINAGE NETWORKS TO BE CARRIED OUT UNDER PHASE 1 WORKS
1/200
DR
09.06.11
C769-710
B

Extract of Shepherd Gilmour Drawing showing tank arrangement

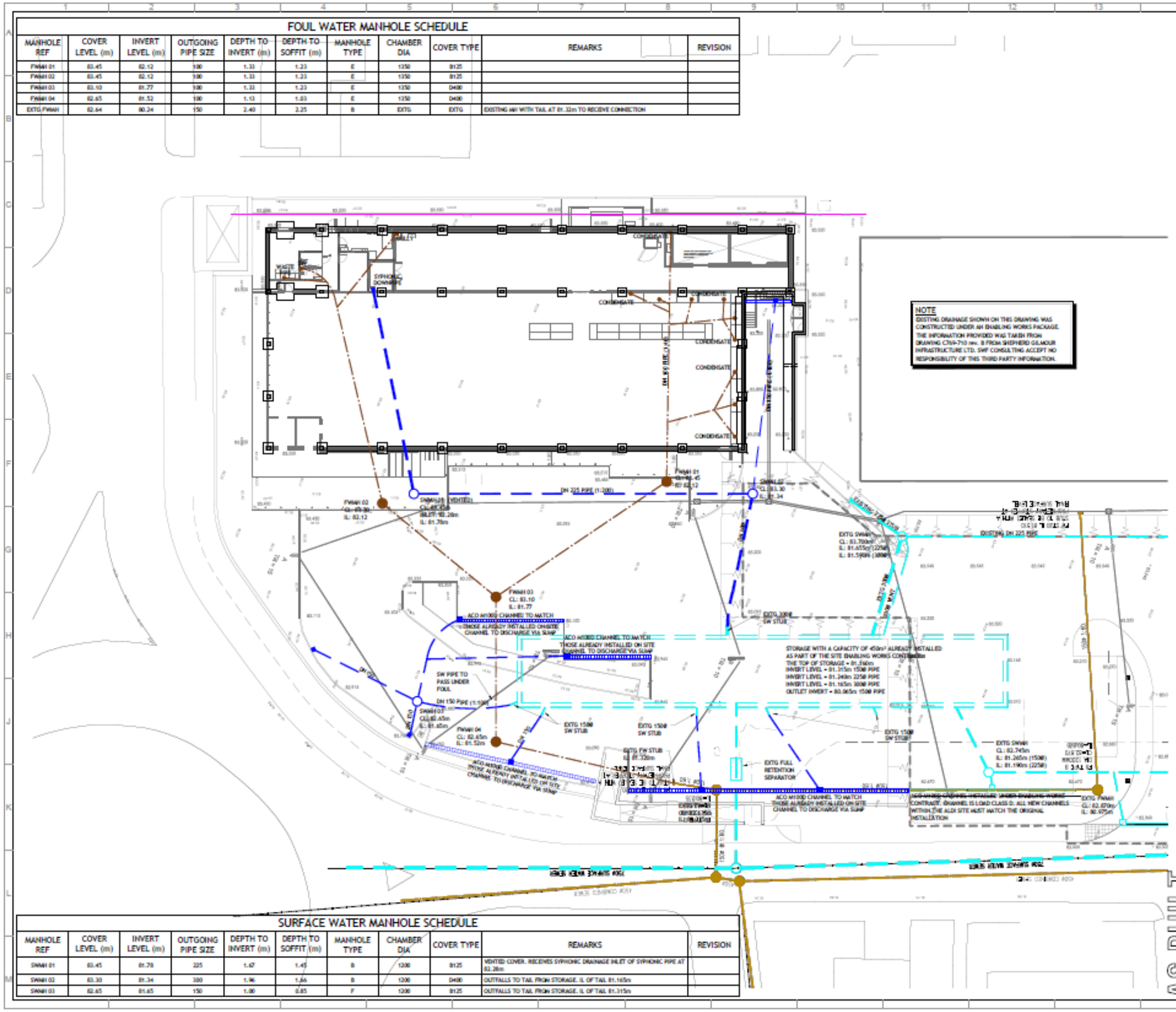


APPENDIX B
Existing Site Plan


ALDI Foodstore
1421m² Existing GIA
1476m² Existing GEA
990m² Existing Sales Area
FFL 83.550
126 Total Car Parking Spaces
2.5m x 4.8m
(Incl. 8x disabled bays & 9x Parent & Child)
KEMP STREET
Existing Site Plan
Scale 1:500 @ A3
0 5 10 15 20 25m
SCALE 1:500
Proposed Red Line
Site Area:
0.86 Acres (1,850 m²)
Existing ALDI
m²
ft²
Gross External Area
1,476 m²
15,888 ft²
Sales Area
990 m²
10,656 ft²
Amenity Area (Inc Plant Room)
101 m²
1,087 ft²
Warehouse Area
321 m²
3,456 ft²
A 30/11/18 Areas updated. AS DJE
PROPOSED ALDI EXTENSION
KEMP STREET
MIDDLETON
ALDI STORES LTD
BOARD APPROVAL
1:500
A3
SEP 18
KJ
LB
EXISTING SITE PLAN
2667BOL - 900
A
THE HARRIS PARTNERSHIP
ARCHITECTS
J:\2667BOL - Kemp St\17.0 DWG & LS\900 Series Legals & Title\2667BOL - 900 Existing Site Plan.dwg

FOUL WATER MANHOLE SCHEDULE

MANHOLE REF	COVER LEVEL (m)	INVERT LEVEL (m)	OUTGOING PIPE SIZE	DEPTH TO INVERT (m)	DEPTH TO SOFFIT (m)	MANHOLE TYPE	CHAMBER DIA	COVER TYPE	REMARKS	REVISION
FWMH 01	83.45	82.12	100	1.33	1.23	E	1350	B125		
FWMH 02	83.45	82.12	100	1.33	1.23	E	1350	B125		
FWMH 03	83.10	81.77	100	1.33	1.23	E	1350	D400		
FWMH 04	82.65	81.52	100	1.13	1.03	E	1350	D400		
EXTG FWMH	82.64	80.24	150	2.40	2.25	B	EXTG	EXTG	EXISTING MH WITH TAIL AT 81.32m TO RECEIVE CONNECTION	



NOTE
EXISTING DRAINAGE SHOWN ON THIS DRAWING WAS CONSTRUCTED UNDER AN ENABLING WORKS PACKAGE. THE INFORMATION PROVIDED WAS TAKEN FROM DRAWING C759-710 rev. B FROM SHEPHERD GILMOUR INFRASTRUCTURE LTD. SWF CONSULTING ACCEPT NO RESPONSIBILITY OF THIS THIRD PARTY INFORMATION.

GENERAL

1. ALL DRAWINGS TO BE READ IN CONJUNCTION WITH THE SPECIFICATION
2. ALL DRAWINGS TO BE READ IN CONJUNCTION WITH THE RELEVANT ARCHITECTURAL AND STRUCTURAL DRAWINGS.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
4. ALL LEVELS ARE IN METRES RELATIVE TO BUILDING DATUM OF +0.000m = +83.550m FFL.
5. ALL DIMENSIONS ARE TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION

DRAINAGE

1. THIS DRAWING USES THE ARCHITECTURAL DRAWING AS A BACKGROUND. THE CONTRACTOR SHOULD USE ARCHITECTURAL DRAWINGS FOR SETTING OUT OF ALL POP-UPS AND ABOVE GROUND DRAINAGE POSITIONS.
2. REFERENCE SHOULD BE MADE TO ALL OTHER DRAINAGE DRAWINGS PROVIDED BY SWF CONSULTING WHICH GIVES CONSTRUCTION DETAILS.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE DRAINAGE SPECIFICATION PREPARED FOR THIS PROJECT.
4. THE DESIGN OF THE PIPES HAS BEEN BASED ON CLAYWARE. HOWEVER, SUBJECT TO WRITTEN CONSENT FROM SWF CONSULTING, OTHER MATERIALS MAY BE USED.
5. THE EXACT LOCATION OF THE OUTFALL PIPE/MANHOLE IS TO BE CHECKED AND CONFIRMED TO SWF CONSULTING PRIOR TO COMMENCEMENT OF ANY DRAINAGE WORKS.
6. REFERENCE SHOULD BE MADE TO ANY CCTV SURVEY, SEWER RECORDS WHICH INDICATE THE EXISTING DRAINAGE SYSTEMS.
7. ONCE THE DRAINAGE SYSTEM HAS BEEN INSTALLED AND CONNECTED TO THE EXISTING SYSTEM, A CCTV SURVEY SHOULD BE UNDERTAKEN AND THE PIPES JET CLEANED TO REMOVE ANY SILT OR CONSTRUCTION DEBRIS.
8. ONCE THE AS-BUILT SURVEY HAS BEEN COMPLETED A COPY SHOULD BE ISSUED TO SWF CONSULTING FOR THEIR COMMENT WITH DUPLICATE COPIES BEING ISSUED TO THE CDM CO-ORDINATOR FOR INCLUSION IN THE HEALTH & SAFETY FILES.
9. COVER LEVELS ARE INDICATIVE AND MAY NEED TO BE ADJUSTED TO SUIT THE ACTUAL FINISHED LEVELS OF THE EXTERNAL AREAS.
10. GRADIENTS INDICATED ON PIPES ARE MINIMUM GRADIENTS REQUIRED. HOWEVER, MANHOLE INVERT LEVELS ARE TO TAKE PRECEDENCE OVER THESE GRADIENTS.
11. POSITIONS OF MANHOLES, GULLYS AND DRAINAGE ARE TO BE SET OUT BY THE CONTRACTOR TO AVOID WHITE LINING DELINEATING CAR PARKING AREAS, KERB LINES ETC.

NOTE
THE ARCHITECTURAL BACKGROUNDS ARE A VISUAL REPRESENTATION OF THE PROPOSED BUILDING LAYOUT, BUT ARE NOT NECESSARILY DIMENSIONALLY ACCURATE AND THUS MAY NOT RELATE TO THE LOCATION OF THE STRUCTURAL MEMBERS

SURFACE WATER MANHOLE SCHEDULE

MANHOLE REF	COVER LEVEL (m)	INVERT LEVEL (m)	OUTGOING PIPE SIZE	DEPTH TO INVERT (m)	DEPTH TO SOFFIT (m)	MANHOLE TYPE	CHAMBER DIA	COVER TYPE	REMARKS	REVISION
SWMH 01	83.45	81.78	225	1.67	1.45	B	1200	B125	VENTED COVER. RECEIVES SYPHONIC DRAINAGE INLET OF SYPHONIC PIPE AT 82.28m	
SWMH 02	83.30	81.34	300	1.96	1.66	B	1200	D400	OUTFALLS TO TAIL FROM STORAGE. IL OF TAIL 81.165m	
SWMH 03	82.65	81.65	150	1.00	0.85	F	1200	B125	OUTFALLS TO TAIL FROM STORAGE. IL OF TAIL 81.315m	

Rev	Date	Description	By	Chkd
C	16/11/13	AS BUILT	KBP	PJS
B	11/10/13	CONDENSATE LAYOUT ADJUSTED TO SUIT THE SETTING OUT	KBP	PJS
A	30/09/13	ISSUED FOR CONSTRUCTION	KBP	PJS

Project
ALDI STORE
MANCHESTER OLD ROAD
MIDDLETON

Client
ALDI STORES LTD

Job No.	Drawing No.	Revision	Scale 1: 200	UNO @ A1
7313/D/002		C	Date MARCH 2011	
			By PJS	A1
			Chkd PJS	

Drawing Title
DRAINAGE
PROPOSED DRAINAGE WITHIN THE ALDI PART OF THE SITE

147 Lansdown Road Sandiway,
Payneberry, Cheshire, CW12 1LG.
Tel: 01522 810040
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SWF CONSULTING
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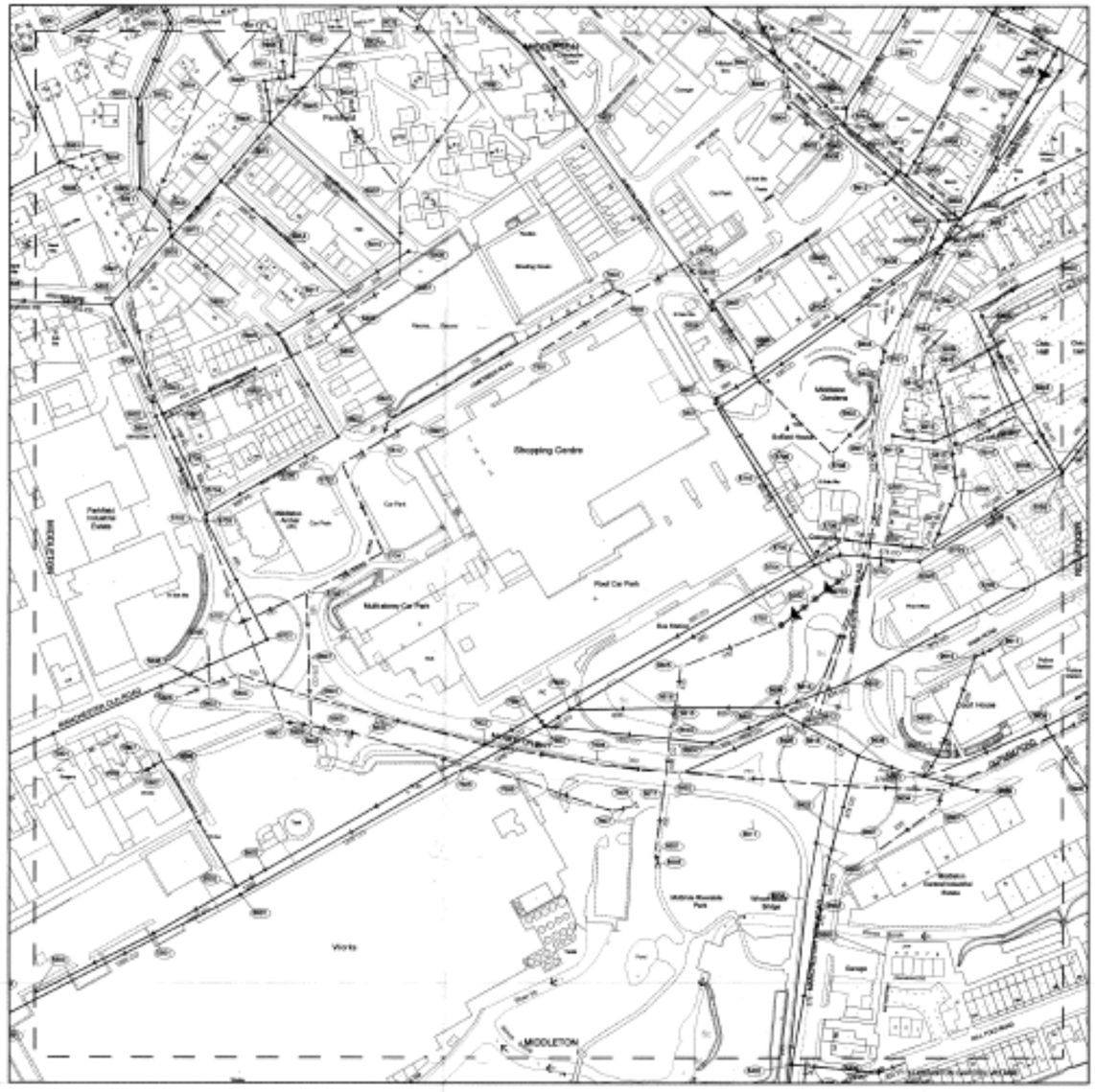
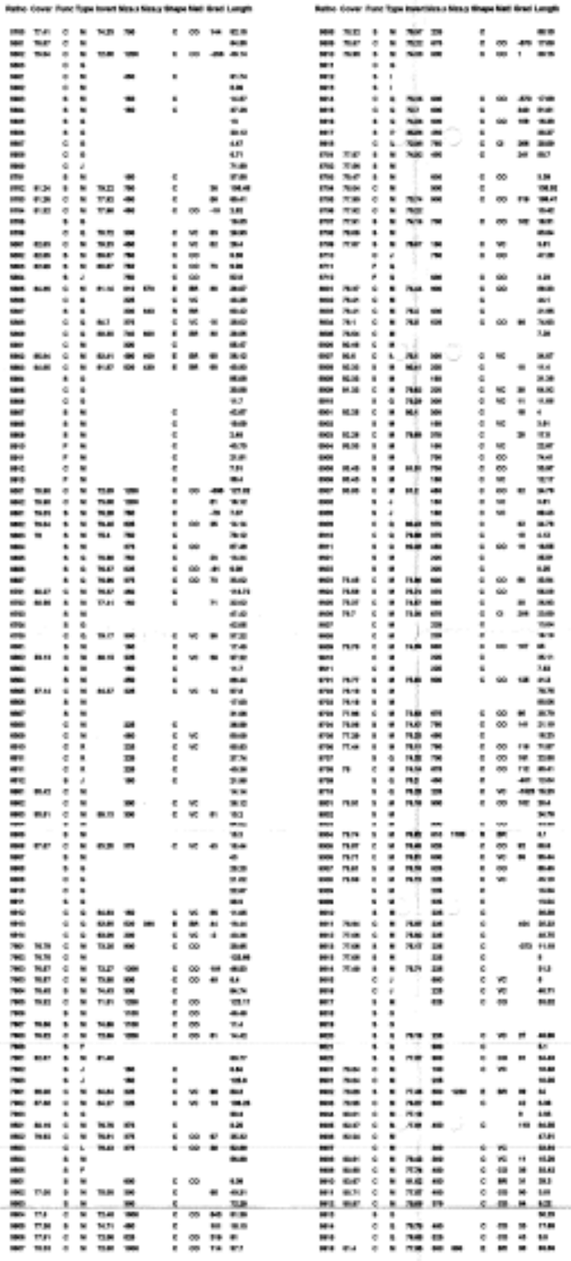
APPENDIX C

United Utilities Sewer Records



OS Sheet No: SD8605NE
Scale 1:1250 Date: 21-Mar-2007

Printed by: Liz Mannion



WASTE WATER SYMBOLOGY

Note - ALL flow direction arrows are BLUE - colour not significant

NODE TABLE ABBREVIATIONS

MANHOLE FUNCTION

F	Foul	T	Transition
S	Surface	O	Overflow
C	Combined	U	Unspecified

MANHOLE / NODE TYPE

M	Manhole	Z	Sluice in Rising Main
J	Junction	C	Cascade
L	Lamphole	Y	Gulley
H	Hatchbox	E	Ejector
R	Rodding Eye	O	Oil Injector
F	Outfall	I	Inlet
V	Combined Sewer Overflow	B	Hydrobrake
		T	Weir Cobatrix
P	Pumping Station	X	Valve
S	Soakaway	U	Unspecified
D	Dual Function Manhole	Q	Expediency Node
		G	Ghost (no inflow pipe needs)
W	Treatment Works		

SEWER SHAPE

C	Circular	T	Trapezoidal
E	Egg	A	Arch
O	Ovid	B	Barrel
F	Flat Top	H	Horseshoe
R	Rectangular	U	Unspecified
S	Square		

SEWER MATERIAL

AC	Asbestos Cement
BR	Brick
CI	Cast Iron
SI	Spun (Grey) Iron
CO	Concrete
CS	Concrete Segmental (Unbolted)
CC	Concrete Box Culvert
DI	Ductile Iron
GR	Glass Reinforced Concrete
GR	Glass Reinforced Plastic
PS	Plastic / Steel Composite
PV	Polyvinyl Chloride
PE	Polythene
RP	Reinforced Plastic Matrix
ST	Steel
VC	Vitrified Clay (All Clayware)
PP	Polypropylene
PF	Pitch Fibre
MR	Masonry - to Regular Courses
MA	Masonry - Randomly Coursed
U	Unspecified

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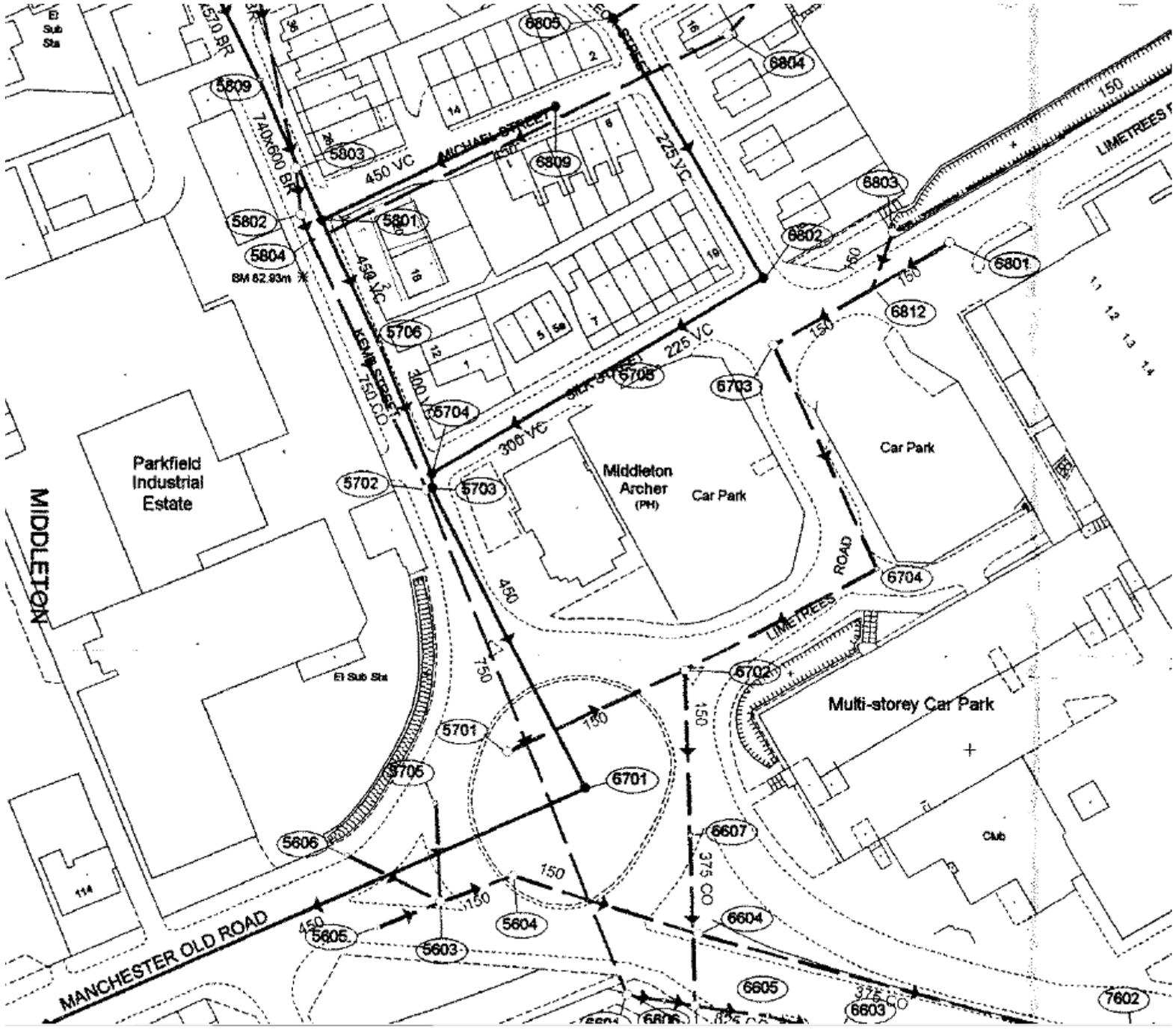
OS Sheet No: SD8605NE
Scale 1:1250 Date: 21-Mar-2007
220 Nodes
Sheet 1 of 1

United Utilities
SEWER RECORDS


Parkfield Industrial Estate
MIDDLETON
Middleton Archer (PH)
Car Park
Car Park
Multi-storey Car Park
MANCHESTER OLD ROAD
MICHAEL STREET
KEMP STREET
LIMETREES ROAD
LIMETREES
450 VC
225 VC
300 VC
740x600 BR
750 CO
375 CO
El Sub Sta
Club
BM 62.93m
5809
5803
5802
5804
5801
5706
5704
5702
5703
5701
5705
5606
5605
5603
5604
6805
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