KEY:

COMB — COMB
OWC — OWC
+ 86.00
+ 86.20
+ 86.00
FFL 54.950
ACO/DC

EXISTING COMBINED WATER SEWER
EXISTING CULVERTED WATER COURSE
PROPOSED SURFACE WATER SEWER
PROPOSED FOUL WATER SEWER
PROPOSED COMBINED SEWER
PROPOSED EXTERNAL LEVELS
EXISTING EXTERNAL LEVELS (to be confirmed)
PROPOSED ADDITIONAL EXPOSED FACINGS (No. OF ADDITIONAL EXPOSED FACINGS COURSES BELOW DPC)
PROPOSED TANKING (No. OF COURSES ABOVE DPC)
PROPOSED DOUBLE DPC (to be confirmed)
FINISHED FLOOR LEVEL
PROPOSED RETAINING STRUCTURES (to be confirmed)
LOCALISED BATTERING (to be confirmed)
PROPOSED GRADIENTS / FALLS (to be confirmed)
PROPOSED ACO DRAIN / DRAINAGE CHANNEL (to be confirmed)
PROPOSED SURFACE WATER YARD GULLY (to be confirmed)

UU4100
CL 52.18m AOD (topo)
52.22m AOD (records)
IL 48.68m AOD (interpolated)

@CH84.14m from UU5100
(survey abandoned)

@CH74.14m from UU5100
(Ø150mm connection at 11 o'clock)

@CH57.34m from UU5100
(Ø300mm connection at 12 o'clock)

EXISTING HIGHWAYS FOOTPATHS AND KERBING SUBJECT TO S278 AGREEMENT.
WORKS INCLUDE RE-SURFACING, NEW LINING AND SIGNAGE, CLOSING OFF OF EXISTING ACCESS, RELOCATION OF EXISTING SIGNAGE AND LIGHTING.

C2
Proposed New 1500mm Ø Manhole
CL 53.516m AOD (topo)
IL 49.385m AOD (interpolated)

Interpolated Invert Level 58.876m AOD on Existing 900mm Ø Culverted Water Course

@CH39.63m from UU5100
(Ø225mm connection at 9 o'clock)

SC4 (junction conection)
CL: 53.465m
IL: 51.326m
IL: 50.876m (interpolated)

@CH8.0m from UU5100
(Ø150mm connection at 9 o'clock)

@CH4.78m from UU5100
(Ø150mm connection at 9 o'clock)

UU5100
CL 53.64m AOD (topo)
53.62m AOD (records)
IL 49.53m AOD (records)

UU5102
CL 53.71m AOD (topo)
53.69mAOD (records)
IL m AOD (records)

C1
CL: 53.075m
IL: 49.69m

SC5HB (2.50 x 2.05 internal dims)
CL: 53.906m
IL: 51.406m
MD-SHE-0100-0300-2000-4520
Design Head: 2.000m
Discharge Rate: 45.2l/s
2.700m Easement Width
(from outside drainage pipework

S5HB
CL: 53.872m
IL: 50.093m
MD-SHE-0099-4520-2000-4520
Design Head: 2.000m
Discharge Rate: 45.2l/s

C4
CL: 53.99m
IL: 49.688m

S1
CL: 52.81m
IL: 50.31m

S2
CL: 53.163m
IL: 50.257m

F1
CL: 53.2m
IL: 51.413m

S4
CL: 54.649m
IL: 50.138m

F3
CL: 54.732m
IL: 50.832m

S3
CL: 54.62m
IL: 50.154m

F2
CL: 54.663m
OB: 52.420m
IL: 50.063m

F5
CL: 54.675m
IL: 52.575m

SC2 (3.0mØ)
CL: 54.701m
IL: 51.556m

C3
CL: 54.600m
IL: 51.556m

EXISTING HIGHWAYS FOOTPATHS AND KERBING SUBJECT TO S278 AGREEMENT.
WORKS INCLUDE RE-SURFACING, NEW LINING AND SIGNAGE, CLOSING OFF OF EXISTING ACCESS, RELOCATION OF EXISTING SIGNAGE AND LIGHTING.

UU4102
CL 53.59m AOD (records)
IL 50.76m AOD (records)

NOTE
DETAILS ON THIS DRAWING ARE SUBJECT TECHNICAL APPROVALS

DO NOT SCALE

CAVEATES

FOUL WATER

- FOUL WATER HAS BEEN TAKEN TO AN EXISTING 300Ø COMBINED SYSTEM IN CHAPEL STREET, VIA A NEW MANHOLE'
- INVERT OF CONNECTION POINT INTERPOLATED FROM INFORMATION ASCERTAINED FROM UU RECORDS
- CONFIRMATION REQUIRED FROM UNITED UTILITIES ON ALLOWANCE AND CAPACITY IN EXISTING SYSTEM

SURFACE WATER

- DISCHARGE RATE FROM THE DEVELOPMENT TAKEN AS 45.2 L/SEC AS STIPULATED IN THE FRA (REQUIRED FOR 1:2, 1:30 AND 1:100 YR + 40% CC
- DISCHARGE POINT TAKEN AS THE EXISTING 300Ø COMBINED SYSTEM
- ON CHECKING AVAILABLE INFORMATION THE EXISTING 900Ø CULVERTED WATER COURSE IN CHAPEL STREET WOULD BE TOO SHALLOW.
- AS STATED IN THE FRA FURTHER DISCUSSION WITH UU, EA AND MCC WILL BE REQUIRED TO CONFIRM ACCEPTANCE OF THESE PROPOSALS
- FURTHER INVESTIGATION REQUIRED TO ESTABLISH:-
  - LINE, LEVEL AND CONDITION OF THE EXISTING CULVERTED WATERCOURSE IN CHAPEL STREET
  - LINE AND LEVEL OF THE EXISTING COMBINED SEWER IN CHAPEL STREET
  - INVESTIGATION TO CONFIRM EXISTING DRAINAGE CONNECTIONS FROM THE DEVELOPMENT AREA

SERVICES

- EXISTING SERVICES ARE TO BE LOCATED ACCURATELY BEFORE FINAL DESIGN WORKS ARE COMPLETE

SURFACE WATER RUN-OFF RATES

Q = 45.2 L/SEC

BASED ON 50% BETTERMENT OF THE PRE-DEVELOPMENT RATE GENERATED IN THE 50mm/hr RAINFALL INTENSITY WITH A SITE AREA OF 0.651 HA.

FIGURES TAKEN FROM FRA BY BETTS HYDRO AUGUST 2016

REV	DATE	BY	DESCRIPTION	CHK
C	09.05.18	JC	SURFACE WATER SEWER SYSTEMS AMENDED TO SUIT LU DISCUSSIONS	RDN
B	18.04.17	JC	UPDATED TO SUIT REVISED PLANNING LAYOUT	
A	10.02.17	JC	ISSUED FOR INITIAL COMMENTS/REVIEW	

DRAWING STATUS:

BETTS ASSOCIATES
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MULBURY HOMES

PROJECT:
CHAPEL STREET
LEVENSHULME

TITLE:
OVERALL ENGINEERING LAYOUT

DATE:	SCALE @ SIZE:	DRAWN:	CHECKED:
10.02.17	1:200@A1	JC	RA

PROJECT No:	DRAWING No:	REV:
MLB07	101	C