



ESS
GG

EXISTING FOUL SEWER
150mm @ 1:63

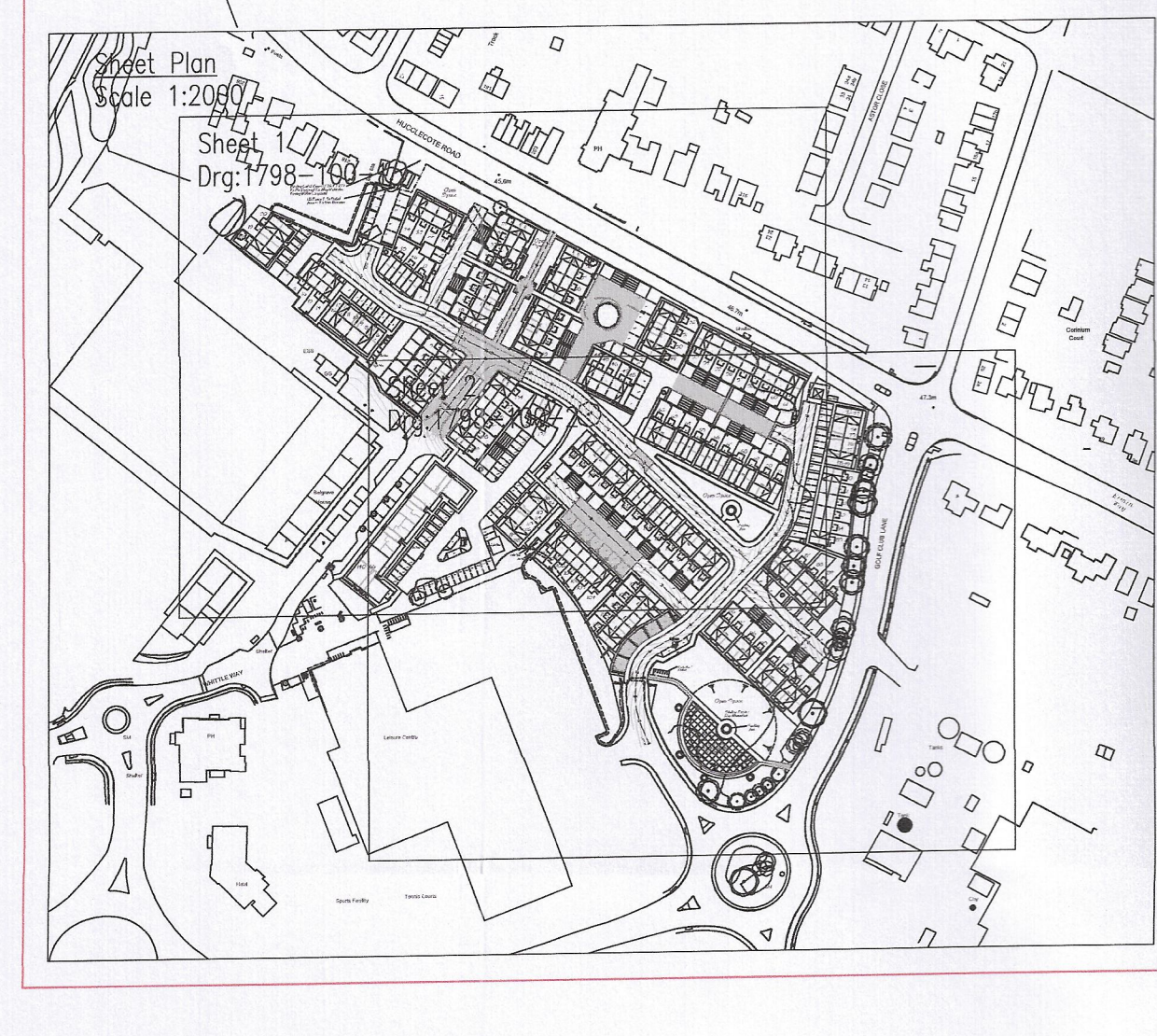
WHERE THE PROPOSED FOUL SEWER PASSES BETWEEN EXISTING SURFACE WATER MANHOLE AND PROPOSED HYDROBRAKE, ENSURE THERE IS 300mm CLEARANCE SURROUNDING THE PIPE

NEW FOUL CONNECTION ON ITS EXISTING ADOPTED MANHOLE VIA SECTION 106 NOTICE WITH SEWER TREATMENT WATER

NEW SURFACE WATER CONNECTION ON TO EXISTING SURFACE WATER SYSTEM. RESTRICTED TO MAX DISCHARGE OF 11.4 l/s VIA HYDROBRAKE CHAMBER

NON RETURNED VALVE FITTED WITHIN INSPECTION CHAMBER

Belgrave House



CELLULAR STORAGE ATTENUATION TO ACCOMMODATE FLOWS UP TO AND INCLUDING THE 30YEAR EVENT
WIDTH 18m, LENGTH 32m, DEPTH 0.8m
BASE LEVEL 42.88m
SOFFIT LEVEL 43.68m

OVERFLOW PIPES FROM CATCHPIT MANHOLES TO DISCHARGE TO BASIN

SHALLOW BASIN ABOVE CELLULAR STORAGE TO ATTENUATE VOLUMES FROM STORM EVENTS UP TO AND INCLUDING THE 100YEAR + 40% ALLOWANCE FOR CLIMATE CHANGE
BED LEVEL 44.18m, TOP 45.08m

LEAR WITHIN DRY ATTENUATION DETAILED DESIGN BY OTHERS

- SEWER ADOPTION NOTES**
- ALL WORKS FOR ADOPTION UNDER A SECTION 104 AGREEMENT SHALL BE CARRIED OUT TO THE NATIONAL WATER COMMISSIONS CODE 'SEWERS FOR ADOPTION' 6TH EDITION, THE REQUIREMENTS OF SEWER TREATMENT WATER (STW) AS THE STATUTORY SEWERAGE UNDERFLOW AND THE CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY (CEWI) 6TH EDITION AND THE STW AGENCIES TO CEWI.
 - A SECTION 104 APPLICATION TO CONNECT MUST BE MADE TO STW. THE DRAINER SHALL OBTAIN A SECTION 104 FROM STW PRIOR TO COMMENCING WORKS. WORKS MAY ONLY BE UNDERTAKEN BY A STW HEALTH & SAFETY APPROVED CONTRACTOR.
 - AN ACCREDITED CONTRACTOR OR ENGINEER SHALL BE REQUIRED TO DESIGN AND TO BE USED TO LAY ANY ADOPTABLE PLASTIC PIPES. A COPY OF THE ACCREDITATION CERTIFICATE TO BE SUPPLIED TO STW BEFORE ANY ORDER IS PLACED OR WORK COMMENCES ON SITE.
- DRAINAGE NOTES**
- THE PLANNING, DESIGN AND CONSTRUCTION OF SEWERS SHALL BE IN ACCORDANCE WITH SEWERS FOR ADOPTION 6TH EDITION.
 - MINIMUM COVER SIZE 100mm x 100mm x 100mm IF LESS THAN TEN HOUSES (OR EQUIVALENT) CONNECTED. MINIMUM FULL SEWER SIZE 150mm DIAMETER IF MORE THAN TEN HOUSES (OR EQUIVALENT) CONNECTED.
 - SURFACE WATER MANHOLES SHALL BE 1.75m DIAMETER.
 - THE MINIMUM SIZE OF SEWER WHERE GUIDE BARS, SAFETY CHAINS, OR OTHER SAFETY DEVICES ARE REQUIRED IN MANHOLES SHALL BE 225mm DIAMETER.
 - MINIMUM COVER BETWEEN TOP OF PIPES AND GROUND LEVEL.
 - GRADES/OPEN SPACES AND AGRICULTURAL 0.8m
 - HOVINGS (INCLUDING FOOTWAYS) 1.2m
 - ALL TYPE 1 AND 2 MANHOLES SHOULD HAVE A CONCRETE SURROUNDING CONCRETE RINGS SHALL BE SEALED USING 'TODSTRIP' AND LIFTING EYES POINTED WITH RESIN MORTAR.
 - COMPLIANCE WITH HEALTH AND SAFETY MATTERS ON ANY TRENCH/MANHOLE IS OBLIGATORY AND A PERMIT TO ENTER A CONFINED SPACE IS REQUIRED WHEN CONNECTING SITE DRAINAGE TO THE EXISTING PUBLIC SEWERAGE SYSTEM. A PERMIT TO ENTER A CONFINED SPACE MUST BE OBTAINED FROM STW PRIOR TO WORKS COMMENCING ON ANY PUBLIC SEWERAGE SYSTEM.
 - WHERE THE PROPOSED SITE DRAINAGE CONNECTS TO THE PUBLIC SEWERAGE SYSTEM EITHER BY NEW JUNCTION, NEW MANHOLE OR AT AN EXISTING MANHOLE OR AT AN EXISTING MANHOLE, IT WILL REQUIRE THE SUBMISSION OF AN APPLICATION FOR SEWER CONNECTIONS FROM STW PRIOR TO WORKS COMMENCING.
 - MAN COVERS AND FRAMES SHALL BE DUCTILE IRON WITH A MINIMUM SQUARE OPENING OF 750mm DEEP AND 1.1m WIDE. THE FRAMES SHALL COMPLY WITH EN124.
 - PROPOSED ADOPTABLE SEWERS ARE ONLY PERMITTED TO HAVE OTHER SEWERALLY CONNECTIONS AND OTHER SERVICES Laid AT AN ANGLE OF BETWEEN 45° AND 90° ACROSS THE LINE WITH A MINIMUM CLEARANCE OF EXCESS OF 300mm.
 - ALL MANHOLES TO BE KEPT MARKED BY BS OR CERTIFIED BY EQUAL INSPECTION AUTHORITY.
 - RED COLOURED PLASTIC MARKER TAPE AT LEAST 150mm WIDE SHALL BE Laid AT A MINIMUM OF 300mm ABOVE THE SOFFIT OF THE PIPE. THE TAPE SHALL BE PRINTED WITH THE WORDS 'TRENCH' IN BOLD CAPITAL LETTERS THROUGHOUT ITS LENGTH AND AT INTERVALS NOT EXCEEDING 700mm AND SHALL INCORPORATE A CORROSION RESISTANT TACKLING SYSTEM FOR RETICULATED PIPES.
 - ALL WORKS TO BE ADOPTED UNDER THE SECTION 104 AGREEMENT SHALL BE INSPECTED AND APPROVED BY STW PRIOR TO COMMENCING WORKS.
 - REFER TO LONGITUDINAL SECTIONS FOR DETAILS OF PIPE SIZES, INVERT LEVELS, ETC.
 - PERMITTED PIPE MATERIALS ARE:
 - POLYSEWER - POLYPIPE BUILDING PRODUCTS SIZE 150MM, 225MM AND 300MM. ALL APPROXIMATE SIZES TO BE POLYPIPE UNLESS OTHERWISE SPECIFIED.
 - POLYSEWER - POLYPIPE CULDS SIZE 400MM, 450MM, 500MM, 600MM, 750MM AND 900MM
 - WADWATE - ASSET INTERNATIONAL SIZE 450MM TO 3000MM
- ANY PROPOSED CHANGES TO THE MATERIAL MUST BE AUTHORIZED BY STW.
- HIGHWAY NOTES:**
- ALL WORKS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE HIGHWAYS AGENCY'S SPECIFICATION FOR HIGHWAY WORKS (SHW) MARCH 1998 AS AMENDED PUBLISHED BY THE HIGHWAYS AGENCY.
 - ALL LEVELS RELATE TO THE SURVEY WHICH IS TO ORIGINATE DRAINAGE DIMENSIONS NOT TO BE SCALED.
 - STREET LIGHTING, ILLUMINATED TRAFFIC SIGNALS, BOLLARDS AND ASSOCIATED WORKS SHALL COMPLY WITH SPECIFICATION PROVIDED BY HIGHWAYS AGENCY AND DESIGN BY OTHERS UNDER THE HEALTH AND SAFETY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY PERMISSIONS FROM THE HIGHWAYS AGENCY AND MANAGEMENT REGULATIONS 2015. THE PRINCIPLE DESIGNER IS REQUIRED TO CONTACT PHG CONSULTING PRIOR TO PREPARING HIS DRAWING TO BE USED IN CONNECTION WITH ANY CONSTRUCTION WORKS.

Street Lighting Legend

6m galvanneal steel lighting column and post-top mounted units
Litescoper Armpac Max 6
LED WWS 1364A405050mmx10Wx1.01 1m LED luminaire finished black (RAL 9005) with Philips Xitanium driver, 7 pin NEMA and Lucy Zodiak SSS photo-electric, 3 pin NEMA cell with switch control of 100% light. The luminaires shall be pre-programmed to dim to 50% light output from mid-night to 05:30am.

6m tapered galvanneal steel lighting column and post-top mounted units
Litescoper Armpac Max 6
LED WWS 1364A405050mmx10Wx1.01 1m LED luminaire finished black (RAL 9005) with Philips Xitanium driver, 7 pin NEMA and Lucy Zodiak SSS photo-electric, 3 pin NEMA cell with switch control of 100% light. The luminaires shall be pre-programmed to dim to 50% light output from mid-night to 05:30am. Arrow denoted direction of column tilt.

FOR FULL STREET LIGHTING DESIGN AND CONSTRUCTION INFORMATION REFER TO CAPITA DRAWINGS
02204040-13-XC-01-1871 & 02204040-13-XC-01-1872

Tewkesbury Borough Council
OPERATIONS

Office: Scanned

Rec'd: -7 APR 2021

ACK'D:

Ans'd:

File:

Legend

- FWS 2250
- SWS 9000
- Existing Severn Trent Foul Sewer
- Existing Private Surface Water Sewer
- Existing 1200mm Private Surface Water Culvert
- Adoptable Foul Sewer & Manhole (S104 - refer to manhole schedule for chamber size)
- Adoptable foul drainage invert level
- Private Surface Water Sewer & Manhole (Refer to manhole schedule for chamber size)
- Surface water drainage invert level
- Private storm cell attenuation sized to accommodate flows up to and including the 1 in 30 year storm event (100+30% attenuation in its basin above)
- Private foul drain (1000 unless shown otherwise)
- Private foul inspection chamber <3.0m deep with restricted access depths over 1.2m (700mm deep unless noted)
- Private surface water drain (1000 unless shown otherwise)
- Private surface water inspection chamber <3.0m deep with restricted access depths over 1.2m (450mm deep unless noted otherwise)
- Rodding eye (450mm deep unless noted otherwise)
- Drive Gully
- Channel / Aco drain or similar approved
- Road gully & connection
- PFL Level
- Car Port slab level (indicates the level at the access to the car port, the slab is to be laid with a minimum 50mm longitudinal fall)
- Proposed spot level
- Existing ground level
- Proposed fall and gradient
- Tanking
- Tanked retaining wall
- Retaining Wall
- Drainage gully (300mm wide 700mm deep filled with 550mm unimpreg. open shingle and topped with 150mm top soil)
- Overland flood/exceedance route
- Flood protection area within development taken from architects layout
- Buff coloured bitersed tactile paving
- Contrary tactile paving
- Brassage: Swireless steel bollard with reflective strip
- Diagram 1062 750 wide and 1800mm long
- Junction road marking

NO	REVISION	DATE	BY	CHKD	APP'D
1	ISSUED	17/03/21	PHG	PHG	PHG
2	REVISED	17/03/21	PHG	PHG	PHG
3	REVISED	17/03/21	PHG	PHG	PHG
4	REVISED	17/03/21	PHG	PHG	PHG
5	REVISED	17/03/21	PHG	PHG	PHG
6	REVISED	17/03/21	PHG	PHG	PHG
7	REVISED	17/03/21	PHG	PHG	PHG
8	REVISED	17/03/21	PHG	PHG	PHG
9	REVISED	17/03/21	PHG	PHG	PHG
10	REVISED	17/03/21	PHG	PHG	PHG
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15	REVISED	17/03/21	PHG	PHG	PHG
16	REVISED	17/03/21	PHG	PHG	PHG
17	REVISED	17/03/21	PHG	PHG	PHG
18	REVISED	17/03/21	PHG	PHG	PHG
19	REVISED	17/03/21	PHG	PHG	PHG
20	REVISED	17/03/21	PHG	PHG	PHG

Eden Stone Homes

phg

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Engineering Layout
Sheet 2

TOR	SJD	Approval	1:250 @ A0
June 19	1798	100-2	M