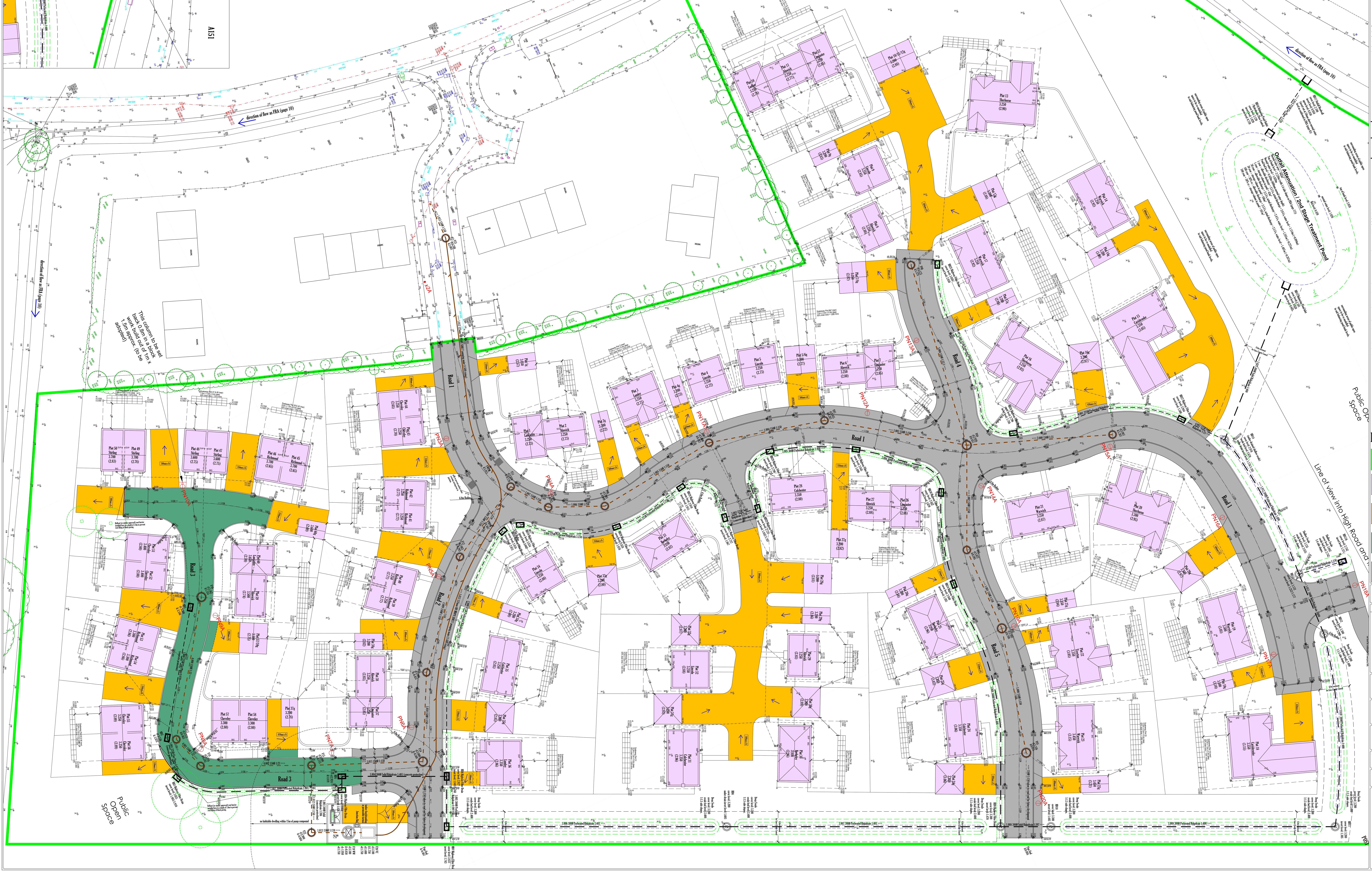
THE FINISHED FLOOR LEVELS, SURFACE WATER AND HIGHWAY DRAINAGE SYSTEMS SHOWN ON THIS DRAWING HAVE BEEN DESIGNED TO FOLLOW AS CLOSELY AS PRACTICABLE THE SURFACE WATER DRAINAGE STRATEGY SET OUT IN THE FLOOD RISK ASSESSMENT REV A (31st MARCH 2016) AND DRAINAGE STRATEGY REV A (19th JULY 2016) BOTH PREPARED BY STUART HEMMINGS ESQ AND CONFIRMED AS BEING "GENERALLY ACCEPTABLE TO THE HIGHWAY AUTHORITY" IN THEIR PLANNING CONSULTATION RESPONSE 8th AUGUST 2016.

ALL INFILTRATION STRUCTURES AND CONVEYANCE CONDUITS HAVE BEEN DESIGNED AS SHALLOW AS POSSIBLE TO ENSURE SUFFICIENT CLEARANCE BETWEEN THEM AND THE WATER TABLE AND TO ENSURE A GRAVITY OUTFALL SOLUTION IS ACHIEVABLE WORKING WITHIN THE CONSTRAINTS OF EXISTING SITE LEVELS, RECEIVING WATERCOURSE LEVELS AND FINISHED FLOOR LEVELS.

THE HIGHWAY DRAINAGE SYSTEM HAS BEEN DESIGNED AS A CONVEYANCE SYSTEM, HOWEVER ALLOWANCE HAS BEEN MADE WITHIN THE DRAINAGE CALCULATIONS FOR LIMITED INFILTRATION THROUGH THE SIDES (NOT BASES) OF FILTER STRIPS AND UNDER-DRAINED SWALES AS PER THE HUMBERSIDE MATERIALS LABORATORY REPORT REF 860/4607/P (NOVEMBER 2016), RATE = 1.5x10-6 ms.

ALL ADOPTED ROADS BASED ON 1.1% CBR AS PER HUMBERSIDE MATERIALS LABORATORY REPORT REF 860/4067/P (NOVEMBER 2016).

FOUL WATER CONNECTION TO BE CONFIRMED BY THE CLIENT FOLLOWING THE ANGLIAN WATER SERVICES LTD PLANNING RESPONSE LETTER REF 00012841 DATED 3rd MAY 2016.



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NOTES:

ALL SEWERS TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROCEDURES AND SPECIFICATIONS OF SEWERS FOR ADOPTION 6TH EDITION (MARCH 2006).

PRIVATE STORM BRANCH CONNECTIONS TO BE 100mm dia UNLESS OTHERWISE STATED.
GULLY CONNECTION TO BE 150mm dia. CLAY PIPES EXTRA STRENGTH LAID NO FLATTER THAN 1:150.
PRIVATE FOUL BRANCH CONNECTIONS TO BE 100mm dia. LAID NO FLATTER THAN 1:80 WHERE SERVING 9 PLOTS OR LESS AND 150mm dia. LAID NO FLATTER THAN 1:150 WHERE SERVING 10 PLOTS OR MORE (UNLESS OTHERWISE STATED).

ALL SEWERS AND LATERAL DRAINS WITHIN DOMESTIC CURTILAGE OF DIAMETER 100mm AND 150mm TO BE EITHER CLAY PIPES EXTRA STRENGTH OR PVC-U TO BS EN 1401-1:1998 & BS 4660:2000.
ALL PRIVATE BRANCH CONNECTIONS WITHIN ADOPTED HIGHWAY TO BE CLAY PIPES EXTRA STRENGTH.

ALL PIPEWORK TO BE LAID SOFFIT TO SOFFIT UNLESS OTHERWISE STATED.
ALL HIGHWAY DRAINAGE PIPES NOT DENOTED OTHERWISE (ie clay) 225mmØ and 300mmØ WITH COVER MORE THAN 1.2m TO BE POLYPIPE RIDGIDRAIN PERFORATED (IN FILTER STRIPS AND UNDER-DRAINED SWALES) OR POLYPIPE RIDGIDRAIN SOLID (IN ROAD CROSSING LOCATIONS AND THROUGH PUBLIC OPEN SPACE) WITH CLASS S BEDDING (20mm - 5mm GRAVEL BED & SURROUND UNLESS DENOTED OTHERWISE).
ALL CLAY PIPES 150mmØ & 225mmØ DITTO TO BE EXTRA STRENGTH WITH CLASS S BEDDING (14mm - 5mm GRAVEL BED AND SURROUND).
ALL HIGHWAY DRAINAGE PIPES NOT DENOTED OTHERWISE (ie clay) 225mmØ and 300mmØ WITH COVER LESS THAN 1.2m TO BE POLYPIPE RIDGIDRAIN PERFORATED (IN FILTER STRIPS AND UNDER-DRAINED SWALES) OR POLYPIPE RIDGIDRAIN SOLID (IN ROAD CROSSING LOCATIONS AND THROUGH PUBLIC OPEN SPACE) WITH CLASS S BEDDING (20mm - 5mm GRAVEL BED & SURROUND UNLESS DENOTED OTHERWISE), CONCRETE PROTECTION PROVIDED WHERE THE PIPE DOES NOT FORM PART OF A FILTER STRUCTURE.
ALL CLAY PIPES 150mmØ & 225mmØ DITTO TO BE EXTRA STRENGTH WITH CONCRETE PROTECTION.

PRECAST CONCRETE PRODUCTS AND IN-SITU CONCRETE TO CONTAIN A MINIMUM CLASS 3 S.R.C.
STRUCTURAL CONCRETE TO BE IN ACCORDANCE WITH BS 5328 AND NOT TO BE LESS THAN GRADE FND2 WHEN REINFORCED AND GEN3 IN ALL OTHER SITUATIONS.
CAST CONCRETE SHALL BE FINISHED TO PRODUCE A "FAIR" SURFACE WHERE EXPOSED AND SHALL HAVE A "ROUGH" FINISH IN ALL OTHER SITUATIONS. (FINISHES AS DEFINED IN CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY - 5TH EDITION).
STEELWORK SHALL BE IN ACCORDANCE WITH BS4483.

ALL MANHOLE COVERS TO BE 600x600 CLEAR OPENING (UNLESS STATED OTHERWISE ON MANHOLE SCHEDULE ie TYPE C MANHOLES) IN ACCORDANCE WITH B.S. EN124 CLASS D400 AND EMBOSSED FW OR SW AS APPROPRIATE.

THE SPECIFICATION IN ALL RESPECTS SHALL BE IN ACCORDANCE WITH THE CURRENT LINCOLNSHIRE COUNTY COUNCIL DESIGN GUIDE FOR RESIDENTIAL AREAS AND DEVELOPMENT ROAD SPECIFICATION AND CONSTRUCTION PUBLICATIONS IN FORCE IN THE COUNTY AT THE TIME OF CONSTRUCTION.

ALL GULLIES WITHIN THE HIGHWAY SHALL CONFORM TO BSEN124,GRP 4 (CLASS D400). ALL GULLIES SHALL BE HINGED BUT NON- REMOVABLE AND SHALL HAVE A NOMINAL WIDTH OF 450mm WITH A MINIMUM AREA OF WATERWAY OF 900cm² FOR CARRIAGEWAYS AND A CLEAR OPENING OF AT LEAST 300mm x 300mm FOR FOOTWAYS. THE UPPER SURFACE OF GULLY GRATINGS SHALL BE FLAT AND SLOTS IN GRATINGS OR BETWEEN GRATINGS AND FRAMES SHALL NOT BE ORIENTATED PARALLEL TO THE DIRECTION OF TRAFFIC EXCEPT WHERE THE SLOTS ARE LESS THAN 150mm LONG OR LESS THAN 20mm WIDE. WHERE GRADIENTS ARE STEEPER THAN 1:50, STORM PATTERN GRIDS SHALL BE PROVIDED.

ALL SIGNS AND LINE MARKINGS ARE TO BE AGREED WITH THE SENIOR HIGHWAYS OFFICER PRIOR TO CONSTRUCTION.

BT CHAMBERS AND ANGLIAN WATER METERS ARE NOT TO BE LOCATED WITHIN PEDESTRIAN CROSSING POINTS OR VEHICLE ACCESSES.

THE MINIMUM LONGITUDINAL FALL FOR HIGHWAYS, WITHOUT CHANNEL BLOCKS SHALL BE 1 in 150, AND WITH CHANNEL BLOCKS 1 in 250. IN ADDITION, ENSURE THAT THE FIRST SECTION OF ANY SIDE ROAD FALLS AWAY FROM THE ROAD TO WHICH IT IS CONNECTING. IF GENERAL TOPOGRAPHY REQUIRES IT TO RISE, THIS CHANGE OF DIRECTION SHOULD TAKE PLACE AFTER THE FIRST SET OF GULLIES. THIS IS TO ENSURE A "FALSE CHANNEL" WITH ASSOCIATED DRAINAGE PROBLEMS IS NOT CREATED IN THE BELLMOUTH OF JUNCTIONS. NO PRIVATE SURFACE WATER SHALL DISCHARGE ONTO THE ADOPTABLE HIGHWAY.

RECONSTRUCTION OF EXISTING CARRIAGEWAY AND FOOTWAYS THAT ARE AFFECTED BY THESE DEVELOPMENT WORKS ARE TO BE SPECIFIED AND AGREED BY THE SENIOR HIGHWAYS OFFICER PRIOR TO CONSTRUCTION.

Domestic Curtilage Drainage Notes

Plot 1 DENOTES PLOT NUMBER
3.250 DENOTES SUGGESTED FINISHED FLOOR LEVEL
(2.73) DENOTES EXISTING GROUND LEVEL

225mmØ HIGHWAY DRAIN (S38) - MATERIAL AS STATED
300mmØ HIGHWAY DRAIN (S38) - MATERIAL AS STATED
100mm Ø (min 1:80) SURFACE WATER HOUSE DRAIN (PRIVATE).
150mm Ø UNLESS STATED (min 1:150) (10+ PLOTS) FOUL WATER SEWER (S104).
100mm Ø (min 1:80) 150mm Ø (min 1:150) FOUL WATER HOUSE DRAIN (PRIVATE).

RAINWATER PIPE ADAPTOR
rwp-sd RAINWATER PIPE - SURFACE DISCHARGE AS DETAIL.
SVP SVP ADAPTOR
WB WASH BASIN / BATH / SHOWER ADAPTOR
WB WC ADAPTOR
BIG BACK INLET GULLY
re RODDING EYE
SOURCE CONTROL OUTLET WITH SILT TRAP AS DETAIL.
POLYPROPYLENE ACCESS CHAMBER (PRIVATE) - FOUL
POLYPROPYLENE MINI ACCESS CHAMBER (PRIVATE) - FOUL

UNDER-DRAINED ROADSIDE FILTER DRAIN WITH 225mmØ OR 300mmØ PERFORATED PIPES. (HIGHWAY DRAINAGE SYSTEM) TO BE ADOPTED BY LINCOLNSHIRE COUNTY COUNCIL UNDER S38 AGREEMENT.

UNDER-DRAINED ROADSIDE SHALLOW SWALE WITH 300mmØ PERFORATED PIPES. (HIGHWAY DRAINAGE SYSTEM) TO BE ADOPTED BY LINCOLNSHIRE COUNTY COUNCIL UNDER S38 AGREEMENT.

UNDER-DRAINED NON-ROADSIDE DEEP SWALE (PERIMETER) WITH 300mmØ PERFORATED PIPES. (HIGHWAY DRAINAGE SYSTEM) TO BE ADOPTED BY LINCOLNSHIRE COUNTY COUNCIL UNDER S38 AGREEMENT.

DOMESTIC CURTILAGE PERMEABLE PAVED DRIVEWAY LEVELS TO BE SET SO AS TO PROMOTE FLOWS WITHIN THE SUB BASE RESERVOIR LAYER AWAY FROM PUBLIC HIGHWAY TOWARDS SOFT LANDSCAPING AREAS.

300mm s/b DENOTES THE MINIMUM THICKNESS OF TYPE 3 SUB BASE (30% VOIDS) REQUIRED IN THE RESERVOIR LAYER TO ACCOMODATE A 1:100 YEAR STORM EVENT PLUS 30% CLIMATE CHANGE WITHOUT EXCEEDENCE.

st cl:3.050 il:2.650 SHALLOW CELLULAR CRATE SOAKAWAY FOR ROOF WATER DRAINAGE, SIZES & DETAILS AS PER SITE LAYOUT. DESIGNED TO BRE365 10 YEAR STANDARD WITH ADDITIONAL VOLUME FOR 100 YEAR PLUS CLIMATE CHANGE.

POLYPROPYLENE ACCESS CHAMBERS (TYPE 3) TO BE USED UP TO 3.0m DEEP.
POLYPROPYLENE ACCESS CHAMBERS (TYPE 4) TO BE USED UP TO 2.0m DEEP SERVING MAX 3 PLOTS.
ALL CHAMBERS ON SEWERS AND LATERALS WITHIN GARDEN AREAS, FOOTWAYS AND DRIVEWAYS TO BE FITTED WITH BS EN 124 GRADE B125 COVERS.
CHAMBERS WITHIN PARKING COURTYARDS TO BE FITTED WITH BS EN 124 GRADE D 400 COVERS.
CHAMBERS WITHIN FOOTWAYS, DRIVEWAYS AND PARKING COURTYARDS TO BE PROVIDED WITH 150mm DEEP C20 CONCRETE COLLAR.
WHERE CHAMBERS ARE WITHIN 1.2m OF ANY BUILDING AND THE INVERT LEVEL OF THE CHAMBER IS MORE THAN 600mm DEEP ENSURE BUILDING FOUNDATION IS LOCALLY DEEPENED SO THAT BOTTOM OF FOUNDATION IS 150mm BELOW CHAMBER INVERT LEVEL.
DOMESTIC DRAINAGE TO BE UPVC OR CLAY.
100mm Ø DOMESTIC DRAINAGE (not S104) TO BE LAID NO FLATTER THAN 1:60 GRADIENT.
150mm Ø DOMESTIC DRAINAGE (not S104) TO BE LAID NO FLATTER THAN 1:150 GRADIENT.

S38 Street Lighting Key

6 metre Type G1A (LCC) column with post top TRT Aspect ECO FOPR PSET 19W 4000K lantern with SELC NEMA PN 8480 photocell at 35 Lux (24:00-06:00hrs OFF) Type 'A' Termination via D.N.O. supply.

S38 Street Lighting Notes

1. Column foundations to be as per SD/14/2A
2. All columns to be provided with Distribution Network Operator (D.N.O.) Services and Termination Type A to LCC Standard Detail SD/14/4A unless otherwise specified. DNO Cutouts to be fitted with 16Amp BS88 Fuse Link. Double Pole Isolator to be fitted with BS 88 Fuse Link to L.C.C Appendix 14/4.
3. Column setbacks shall comply with Table 2 Section 4.3.3.3 of BS 5489-1:2013.
4. Columns shall not be installed within Drop Kerb areas and shall have a minimum clearance of 1.5m from Drives/Accesses.
5. It is preferred that all Street Lighting works are undertaken by L.C.C Approved Contractors.
6. Lanterns to be cleaned and re-lamped (during maintenance period) prior to adoption as detailed in S38 Agreement unless the specification is for LED lanterns which will require clean only.
7. Developer to liaise with Distribution Network Operator (D.N.O.) with regards to connections and disconnections of columns and appropriate black ducting. Where an independent D.N.O. (I.D.N.O.) has been used the cutout must be clearly and indelibly marked with the I.D.N.O. name and contact number.
8. It is the Developers responsibility to inform property owners of part night street lighting switching where applicable.
9. All private cabling shall have correct core colour identification as detailed in BS7671. Sleeving of conductors is not permitted.
10. Due to ongoing technical innovations within the industry, if the street lighting equipment is to be ordered in excess of three years after the drawing approval date, the Authority reserves the right to upgrade the equipment specification.

As Built Notes
(Below are details of changes made to the final 'Construction' drawing at the As Built Stage)

- Notes and key amended to 'Past' tense to reflect works carried out on site

Development Areas.

Development Site.
Total Area = 3.636 Ha.
Ai = 1.148 Ha. (32% including development creep)

Domestic Curtilage Roof Areas.
Ai = 0.469 Ha. (13%) plus 6% development creep Ai = 0.497 Ha (14%)
To be connected to adjacent permeable paved individual driveways sub base reservoir layers or shallow cellular crate soakaways in rear garden areas as shown on layout.

Domestic Curtilage Individual Driveways.
Ai = 0.251 Ha. (7%)
To be paved with permeable materials (eg permeable block paving) with levels set to shed away from highway and towards soft landscaping areas.

Impermeable Paved Adopted Access Roads (block paving).
Ai = 0.065 Ha. (2%)
To be paved in traditional impermeable materials with surface water run-off to adjacent under-drained swales / filter strips.

Impermeable Paved Adopted Access Roads / Footpaths (tarmac).
Ai = 0.335 Ha. (9%)
To be paved in traditional impermeable materials with surface water run-off to adjacent under-drained swales / filter strips.

DO NOT SCALE. USE FIGURED DIMENSIONS ONLY. CHECK ON SITE AND ALL DISCREPANCIES TO BE REPORTED TO HALL infrastructure DESIGN Ltd.

AMENDMENTS:

REF.	DESCRIPTION.	DATE.	BY.
A	LCC street lighting design added.	24.01.17	GWH
B	Amended as per AWS comments 11.12.17	02.01.18	GWH
C	Amended as per LCC comments 12.12.17	03.01.18	GWH
D	Foul sewers at pump station amended.	09.01.18	GWH
E	Amended as per LCC comments 15.01.18	17.01.18	GWH
F	Amended as per LCC comments 12.02.18	14.02.18	GWH
G	House type names changed, garage sizes increased - all as client request 15.02.18	16.02.18	GWH
H	ReRoot root protection to block paved road shown.	09.03.18	GWH

CLIENT: Seagate Homes (UK) Ltd

PROJECT: Small Drove Weston

TITLE: Road and Sewer Layout

SCALE:	DATE:	SIZE:
1:250	November 2016	A0

DRAWING No:	DRAWN BY:	CHECKED BY:
1615/01-H	[signature]	[signature]

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