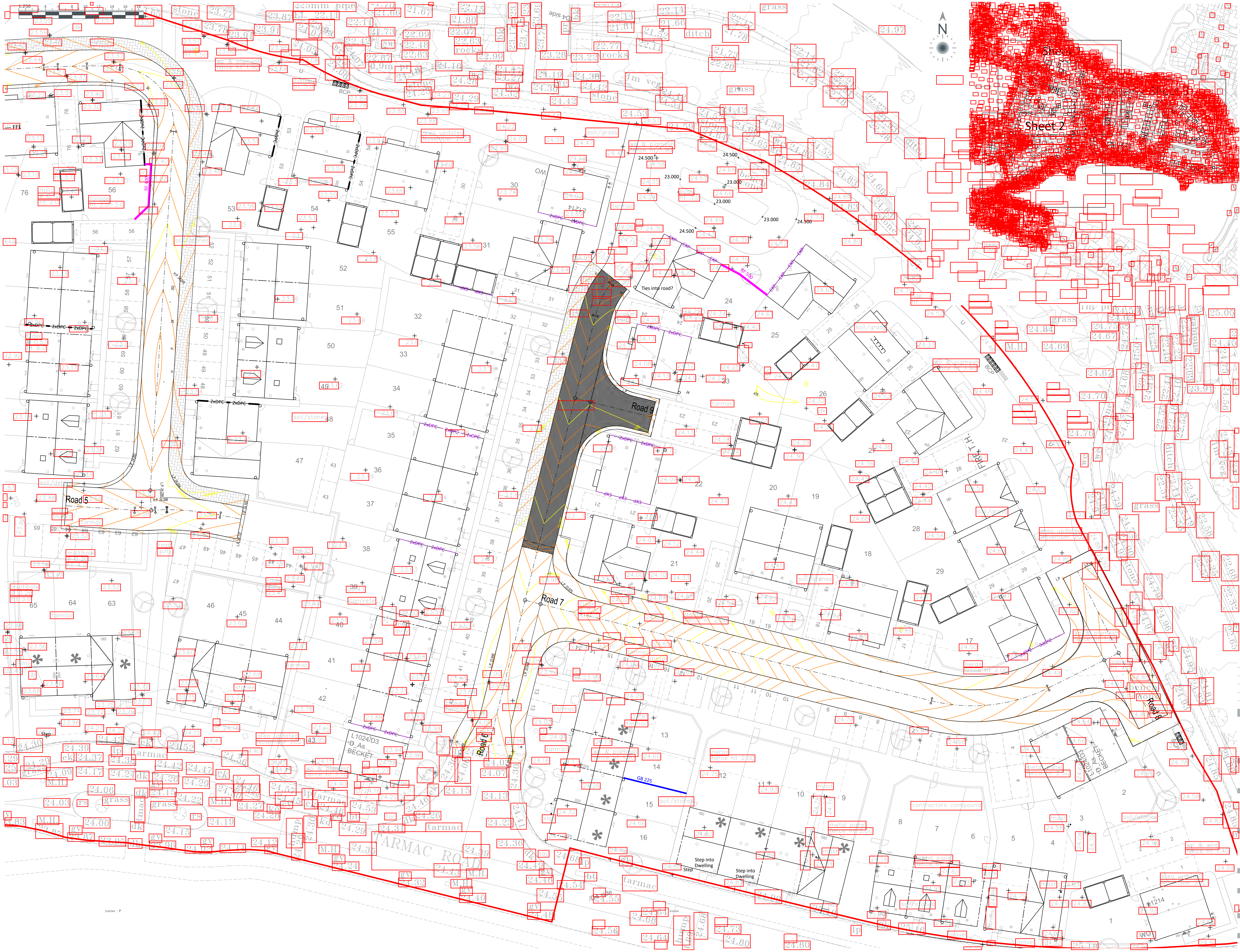

These drawings have been produced with reference to the CDM Regulations 2015. Please note that these are pre-construction phase drawings and should be subject to further design risk management as required in accordance with Regulation 9

## GENERAL NOTES:

1. This drawing is to be read in conjunction with all other relevant Engineering and Architect's details.
2. The design details presented must be reviewed in conjunction with the wider site information and site constraints which may not be evident on drawing and must be requested if not already provided. This includes, but not limited to, ground conditions (geotechnical and geo-environmental), groundwater levels, buried services, remnant obstructions, ecology, tree protection and topography.
3. The Engineer shall be notified immediately, in writing, should any errors or discrepancies be found prior to the commencement or continuation of any works.
4. All work is to be carried out in accordance with current British Standards, Building Regulations and NHBC Standards.
5. It is the responsibility of the Contractor to execute the works at all times in strict accordance with the requirements of the Health and Safety at Work Act 1974, and the C.D.M. Regulations 2015. The Contractor will be deemed to have allowed for full compliance, including full liaison with the CDM Co-ordinator, within his rates.
6. Any existing details which are shown on this drawing are for guidance only and are to be checked on site by the contractor. Any variations are to be recorded and reported to the engineer immediately.
7. Before work commences contractor should consult the engineer and the SI report regarding any contamination issues. All necessary Health and Safety measures to be taken

## EXTERNAL LEVEL NOTES:

1. All levels to comply with Building Regulations Part M - Part 1. Architect to confirm plots where Part M - Part 2 or Part 3 apply.
2. The approach route to any dwelling should be level, gently sloping or, where necessary ramped. On steeply sloping sites a stepped approach can be used.
3. Part M provisions to be generally provided to the principal entrance, however if this is not feasible an alternative entrance is reasonable.
4. The approach route should be a minimum 900m wide and have a maximum crossfall of 1:40.
5. A 1200x1200mm threshold to be provided at the principal access. Maximum crossfall 1:40
6. A ramped approach is acceptable with the following criteria
   a. Individual flights are:
   i. For gradients up to 1:15 - not more than 10m long
   ii. For gradients up to 1:12 - not more than 5m long
   b. Every flight has a minimum clear width of 900m
   c. Every flight has a top and bottom landing.
   d. An intermediate flight is provided between individual flights and any change in direction.
   e. Every landing is a minimum of 1200mm long, clear of the swing of any doors or gate.
7. An external stepped approach is acceptable with the following criteria
   a. Steps are uniform with a rise of 75-150mm and a minimum going of 280mm.
   b. Steps have suitable tread nosings.
   c. No individual flight has a rise of more than 1800mm between landings.
   d. Every flight has a minimum clear width of 900mm
   e. Top, bottom and intermediate landings has a minimum length of 900mm.
   f. Every flight with three or more risers has a suitable handrail to one side.
8. Should any departure from the proposed slab or external levels be considered, agreement shall be sought from the Engineer immediately and prior to the commencement or continuation of any works.
9. Threshold drainage is required where levels fall towards a flush entrance. Architect to confirm if not required.
10. Where tanking of double DPC is proposed, this should be suitably detailed and designed by the structural engineer as part of the foundations.
11. Any soft spots discovered after proof rolling shall be removed and replaced with suitable engineering fill.
12. New road levels to tie in smoothly with existing road. Levels to be confirmed prior to construction and reported to the Engineer

PRELIMINARY SCHEME
For comment and review only.
Design is based upon information available at the time.
Design is subject to full review as additional information becomes available.
Design is subject to full review upon receipt of comments from

- Development Control
- LA Planning Authority
- Environment Agency
- LA Highways Department
- Sewerage Undertaker

Surface levels to tie in smoothly with existing (Section 50 licence required)

KEY

| | |
|---|---|
| — | Site Boundary |
| +45.00 | Proposed Level |
| FFL 45.250 | Proposed Finished Floor Level |
| — T— T— T— T— | Brickwork Tanking |
| — EXP — EXP — | Brickwork Exposed |
| — 2xDPC — | Double DPC |
| RW | Retaining Feature |
| GB | Gravel Board Retention |
| — 00.000 — | Minor Contour |
| — 00.000 — | Major Contour |

Seven House ▫ High Street
Longbridge ▫ Birmingham
B31 2UQ ▫ [redacted]
▫ Bristol
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CLIENT

Linden HOMES

PROJECT

DRAWING TITLE

DRAWING ISSUE STATUS

INFORMATION

| PJA JOB No. | SUB-CODE | DRAWING NO. | REVISION |
|---|---|---|---|
| | | | |

BIM DRAWING REFERENCE

| SCALE | DRAWN | REVIEWED | DATE |
|---|---|---|---|
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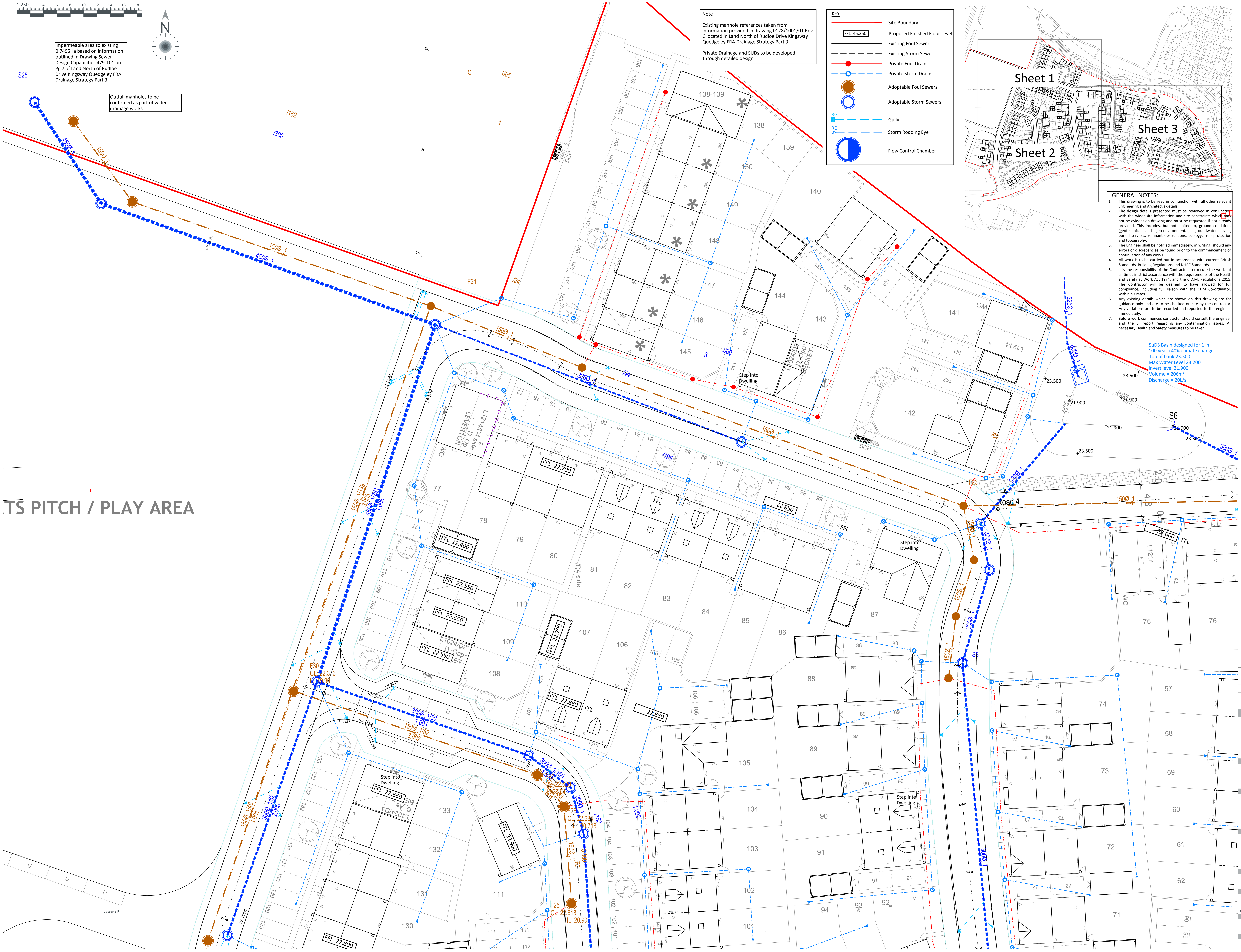

Impermeable area to existing 0.7495Ha based on information outlined in Drawing Sewer Design Capabilities 479-101 on Pg 7 of Land North of Rudloe Drive Kingsway Quedgeley FRA Drainage Strategy Part 3

Outfall manholes to be confirmed as part of wider drainage works

**Note**

Existing manhole references taken from information provided in drawing 0128/1001/01 Rev C located in Land North of Rudloe Drive Kingsway Quedgeley FRA Drainage Strategy Part 3

Private Drainage and SUDs to be developed through detailed design

**KEY**

| | |
|---|---|
| ━ | Site Boundary |
| FFL 45.250 | Proposed Finished Floor Level |
| ── | Existing Foul Sewer |
| — — — | Existing Storm Sewer |
| ─●─ | Private Foul Drains |
| ─○─ | Private Storm Drains |
| ─●─ | Adoptable Foul Sewers |
| ─◎─ | Adoptable Storm Sewers |
| RG | Gully |
| RE | Storm Rodding Eye |
| ◐ | Flow Control Chamber |

SuDS Basin designed for 1 in 100 year +40% climate change
Top of bank 23.500
Max Water Level 23.200
Invert level 21.900
Volume = 206m³
Discharge = 20L/s

## GENERAL NOTES:

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7. Before work commences contractor should consult the engineer and the SI report regarding any contamination issues. All necessary Health and Safety measures to be taken

These drawings have been produced with reference to the CDM Regulations 2015. Please note that these are pre-construction phase drawings and should be subject to further design risk management as required in accordance with Regulation 9

## DRAINAGE NOTES:

1. Drainage works to start at the outfall connection and work upstream. Any discrepancies of existing invert levels to be reported immediately as this may alter the design.
2. The Contractor shall be responsible for checking all tie-ins for line and level with existing foul and surface water systems before commencing any works.
3. All drainage work is to be strictly in accordance with the requirements of the Building Regulations 2015, Approved Document Part H, "Drainage and waste disposal".
4. All existing land drains encountered on site during construction are to be re-connected.
5. Temporary protection to be provided to drainage work during construction as necessary.
6. Prior to commencing work on the drainage, all existing drains, sewers manholes and outfalls to remain shall be located, identified and a CCTV condition survey carried out. Where necessary, protection to the existing drainage infrastructure shall be provided.
7. All existing sewers and manholes abandoned due to the proposed works are to be either removed, and suitably backfilled or grouted up.
8. All pipes to be 100 or 110mm dia. and laid at 1 in 80 unless stated otherwise.
9. All concrete is to be in accordance with BS EN 206-1, BS 8500 and the recommendations of BRE Special Digest (Concrete in Aggressive Ground).

- Unless specified otherwise, in situ concrete shall be designated mix Gen 3 (Grade C20), or an equivalent mix subject to the approval of the Engineer.
- The following types of pipe may be used unless noted or agreed otherwise;
  Pipes up to 300mm diameter to be Structured Walled to BS EN 13476, Polypropylene to BS EN 1852, PVC-U to BS EN 1401 or Vitrified Clay to BS EN 295.
  Pipes over 300mm diameter to be Concrete to BS 5911, Structured Walled to BS EN 13476, Polypropylene to BS EN 1852 or PVC-U to BS EN 1401.

10. Both Clay and Concrete pipes shall be strength class 120 (100/150mm min crushing strength 28kN/m). Thermoplastic pipes shall have a minimum ring stiffness of SN4.
11. Pipes which run adjacent to buildings shall be installed in strict accordance with Part H, Clauses 2.23 to 2.25. Diagrams 7 and 8 are of particular relevance and shall be complied with.
12. All pipes, chambers and fittings shall be installed, bedded and backfilled in accordance with the manufacturers instructions subject to the following minimum requirements table.

| Location | Cover to crown | Bedding Clay/Concrete Pipe* | Bedding Plastic Pipe | Backfill |
|---|---|---|---|---|
| Roads (HGV) | >1.2m<br><1.2m | Class S<br>Class 'A' (Concrete) | Class S (S1or2)<br>Class 'A' (Concrete) | Type 1 Granula |
| Drives / car parking | >0.9m<br><0.9m | Class S<br>Class 'A' (Concrete) | Class S (S1or2)<br>Class 'A' (Concrete) | Type 1 Granular |
| Hard and soft Landscaping | >0.6m<br><0.6m | Class S<br>Class 'A' (Concrete) | Class S (S1or2)<br>Class 'A' (Concrete | Suitable as dug material |

13. Pipes Penetrating Walls.
    An opening is to be formed through walls to give pipes at least 50mm clearance all round. Brickwork over shall be supported by a lintel. Opening to be masked each side with rigid sheet material.
    Pipes embedded in walls shall have joints formed within 150mm of either wall face. Adjacent rocker pipes of max 600mm length with flexible joints shall continue the pipework.
14. All pipes beneath buildings to be B&S in concrete. Where cover is less than 300mm the concrete is to be cast integrally with the floor slab.
15. All drains in the vicinity of existing or proposed trees to be constructed in accordance with the requirements of NHBC Practice Note 3.
16. Ventilation shall be provided at the head of the foul drainage runs.
17. The first flexible joint in pipes adjoining a manhole shall be a maximum length of 600mm from the inside face of the manhole, connecting to a rocker pipe. The length of the rocker pipe shall be as follows;

| Pipe Dia | Length of Rocker Pipe |
|---|---|
| 150-600mm | 600mm |
| 675-750mm | 1000mm |
| over 750mm | 1250mm |

18. All manholes and inspection chambers situated in areas subject to vehicular loading to have class D400 covers and frames to BS EN124 and those not subject to vehicular loading may have class B125 covers and frames.
19. Manholes located within block paved areas to have 150mm deep cover frames and bedded suitable for the size of blocks in use. The concrete hauching is NOT to be broken out to allow for block paving installation.
20. Drainage frames must be tied to manhole risers by use of manufacturers ties (eg. Polypipe ref FRK500 fixing kit and FRK501 black ties.) The ground works contractor will be held fully responsible for any accidents due to incorrect fitting or failure to use the correct manufacturers fixing equipment.
21. Cover levels for manholes are approximate only and should be adjusted to match surrounding levels.
22. All works to sewers/ manholes being offered for adoption or on existing public sewers should be in accordance with "Sewers for Adoption, current Edition" and the Adopting Water Authority's recommendations
23. Requirement for Land Drains to be assessed on site by the Site Manager
24. Road gullies shall be trapped 450Ø x 900mm deep with Class D 400 frame and grating to BS EN 124.
25. All manholes, pipe trenches etc. to be backfilled with imported granular fill to Class 6F1-6F5 (Capping material) to (SHW) Table 6/1 & compacted in accordance with Table 6/4.
26. All pipelines shall be tested both before and after backfilling, using either air test or water test, in accordance with BS EN 1610.

PRELIMINARY SCHEME
For comment and review only.
Design is based upon information available at the time.
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Design is subject to full review upon receipt of comments from

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- LA Planning Authority
- Environment Agency
- LA Highways Department
- Sewerage Undertaker

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CLIENT

Linden
HOMES

PROJECT

DRAWING TITLE

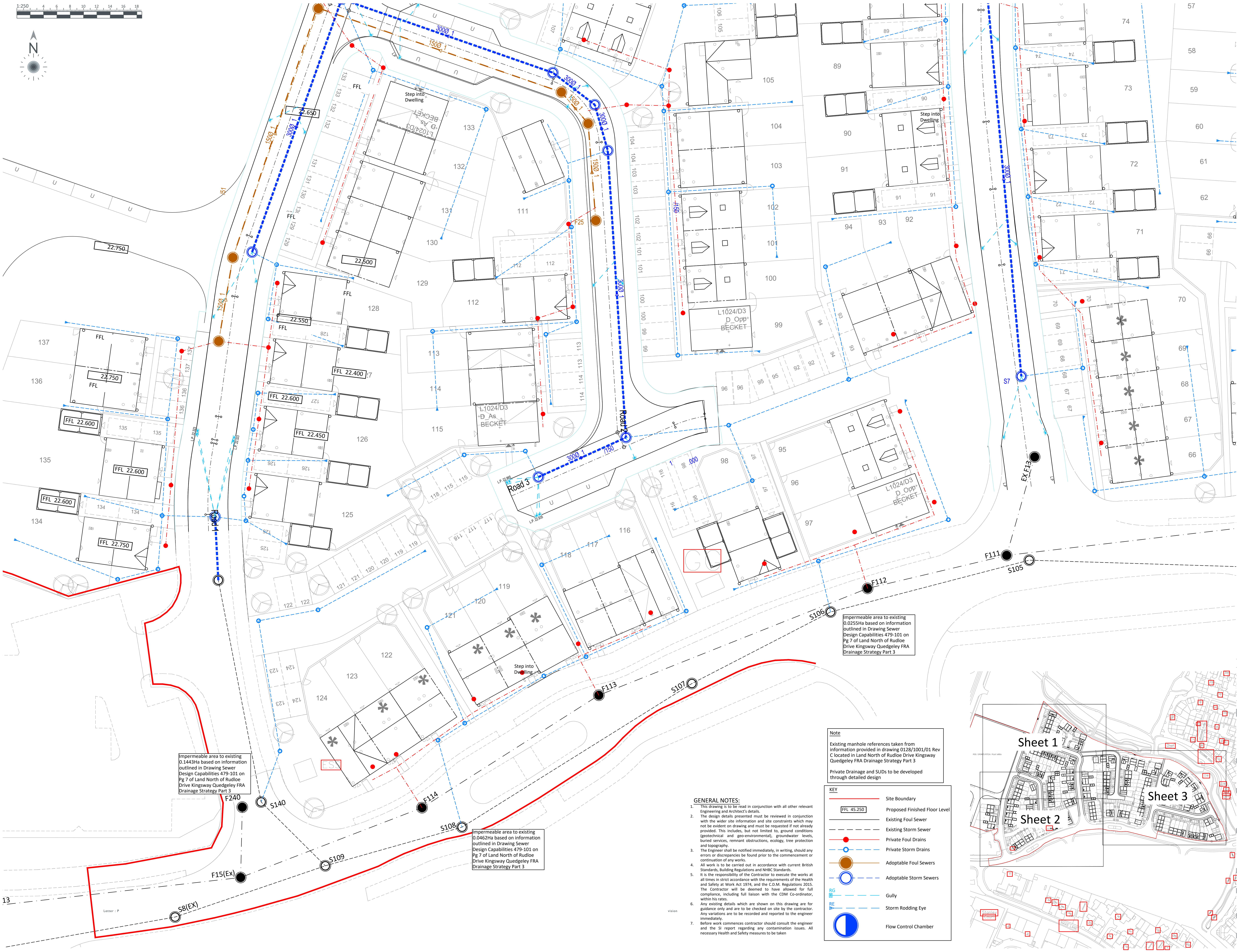
DRAWING ISSUE STATUS

INFORMATION

PJA JOB No. SUB-CODE DRAWING NO. REVISION

BIM DRAWING REFERENCE

SCALE DRAWN REVIEWED DATE



Impermeable area to existing 0.0255Ha based on information outlined in Drawing Sewer Design Capabilities 479-101 on Pg 7 of Land North of Rudloe Drive Kingsway Quedgeley FRA Drainage Strategy Part 3

Impermeable area to existing 0.1443Ha based on information outlined in Drawing Sewer Design Capabilities 479-101 on Pg 7 of Land North of Rudloe Drive Kingsway Quedgeley FRA Drainage Strategy Part 3

Impermeable area to existing 0.0462Ha based on information outlined in Drawing Sewer Design Capabilities 479-101 on Pg 7 of Land North of Rudloe Drive Kingsway Quedgeley FRA Drainage Strategy Part 3

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| Drives / car parking | >0.9m<br><0.9m | Class S<br>Class 'A' (Concrete) | Class S (S1or2)<br>Class 'A' (Concrete) | Type 1 Granular |
| Hard and soft Landscaping | >0.6m<br><0.6m | Class S<br>Class 'A' (Concrete) | Class S (S1or2)<br>Class 'A' (Concrete | Suitable as dug material |

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    An opening is to be formed through walls to give pipes at least 50mm clearance all round. Brickwork over shall be supported by a lintel. Opening to be masked each side with rigid sheet material.
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14. All pipes beneath buildings to be B&S in concrete. Where cover is less than 300mm the concrete is to be cast integrally with the floor slab.
15. All drains in the vicinity of existing or proposed trees to be constructed in accordance with the requirements of NHBC Practice Note 3.
16. Ventilation shall be provided at the head of the foul drainage runs.
17. The first flexible joint in pipes adjoining a manhole shall be a maximum length of 600mm from the inside face of the manhole, connecting to a rocker pipe. The length of the rocker pipe shall be as follows;

| Pipe Dia | Length of Rocker Pipe |
|---|---|
| 150-600mm | 600mm |
| 675-750mm | 1000mm |
| over 750mm | 1250mm |

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21. Cover levels for manholes are approximate only and should be adjusted to match surrounding levels.
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23. Requirement for Land Drains to be assessed on site by the Site Manager
24. Road gullies shall be trapped 450Ø x 900mm deep with Class D 400 frame and grating to BS EN 124.
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26. All pipelines shall be tested both before and after backfilling, using either air test or water test, in accordance with BS EN 1610.

**PRELIMINARY SCHEME**

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Design is subject to full review as additional information becomes available.
Design is subject to full review upon receipt of comments from

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- LA Planning Authority
- Environment Agency
- LA Highways Department
- Sewerage Undertaker

**Note**

Existing manhole references taken from information provided in drawing 0128/1001/01 Rev C located in Land North of Rudloe Drive Kingsway Quedgeley FRA Drainage Strategy Part 3

Private Drainage and SUDs to be developed through detailed design

**KEY**

| | |
|---|---|
| ━ | Site Boundary |
| FFL 45.250 | Proposed Finished Floor Level |
| ━ | Existing Foul Sewer |
| – – – | Existing Storm Sewer |
| ● | Private Foul Drains |
| ○ | Private Storm Drains |
| ● | Adoptable Foul Sewers |
| ○ | Adoptable Storm Sewers |
| RG | Gully |
| RE | Storm Rodding Eye |
| ◐ | Flow Control Chamber |

## GENERAL NOTES:

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PROJECT

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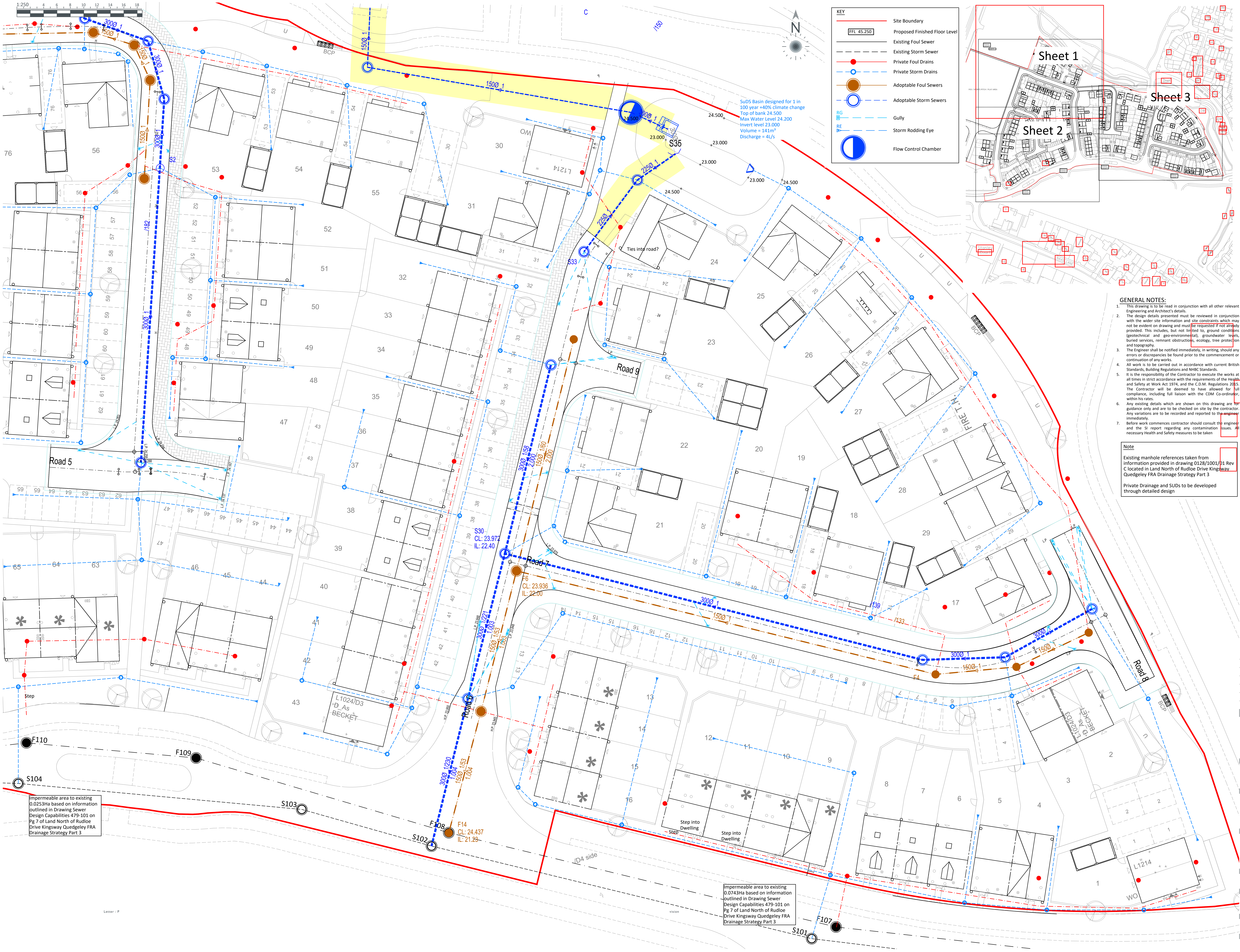

SuDS Basin designed for 1 in 100 year +40% climate change
Top of bank 24.500
Max Water Level 24.200
Invert level 23.000
Volume = 141m³
Discharge = 4L/s

Impermeable area to existing 0.0253Ha based on information outlined in Drawing Sewer Design Capabilities 479-101 on Pg 7 of Land North of Rudloe Drive Kingsway Quedgeley FRA Drainage Strategy Part 3

Impermeable area to existing 0.0743Ha based on information outlined in Drawing Sewer Design Capabilities 479-101 on Pg 7 of Land North of Rudloe Drive Kingsway Quedgeley FRA Drainage Strategy Part 3

KEY

| | |
|---|---|
| 🟥 | Site Boundary |
| FFL 45.250 | Proposed Finished Floor Level |
| — | Existing Foul Sewer |
| – – – | Existing Storm Sewer |
| ● | Private Foul Drains |
| ○ | Private Storm Drains |
| ● | Adoptable Foul Sewers |
| ○ | Adoptable Storm Sewers |
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| Drives / car parking | >0.9m<br><0.9m | Class S<br>Class 'A' (Concrete) | Class S (S1or2)<br>Class 'A' (Concrete) | Type 1 Granular |
| Hard and soft Landscaping | >0.6m<br><0.6m | Class S<br>Class 'A' (Concrete) | Class S (S1or2)<br>Class 'A' (Concrete | Suitable as dug material |

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| Pipe Dia | Length of Rocker Pipe |
|---|---|
| 150-600mm | 600mm |
| 675-750mm | 1000mm |
| over 750mm | 1250mm |

18. All manholes and inspection chambers situated in areas subject to vehicular loading to have class D400 covers and frames to BS EN124 and those not subject to vehicular loading may have class B125 covers and frames.
19. Manholes located within block paved areas to have 150mm deep cover frames and bedded suitable for the size of blocks in use. The concrete hauching is NOT to be broken out to allow for block paving installation.
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23. Requirement for Land Drains to be assessed on site by the Site Manager
24. Road gullies shall be trapped 450Ø x 900mm deep with Class D 400 frame and grating to BS EN 124.
25. All manholes, pipe trenches etc. to be backfilled with imported granular fill to Class 6F1-6F5 (Capping material) to (SHW) Table 6/1 & compacted in accordance with Table 6/4.
26. All pipelines shall be tested both before and after backfilling, using either air test or water test, in accordance with BS EN 1610.

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**Note**

Existing manhole references taken from information provided in drawing 0128/1001/01 Rev C located in Land North of Rudloe Drive Kingsway Quedgeley FRA Drainage Strategy Part 3

Private Drainage and SUDs to be developed through detailed design

**PRELIMINARY SCHEME**

For comment and review only.
Design is based upon information available at the time.
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- Development Control
- LA Planning Authority
- Environment Agency
- LA Highways Department
- Sewerage Undertaker

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B31 2UQ ▫ [redacted]
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Linden HOMES

PROJECT

DRAWING TITLE

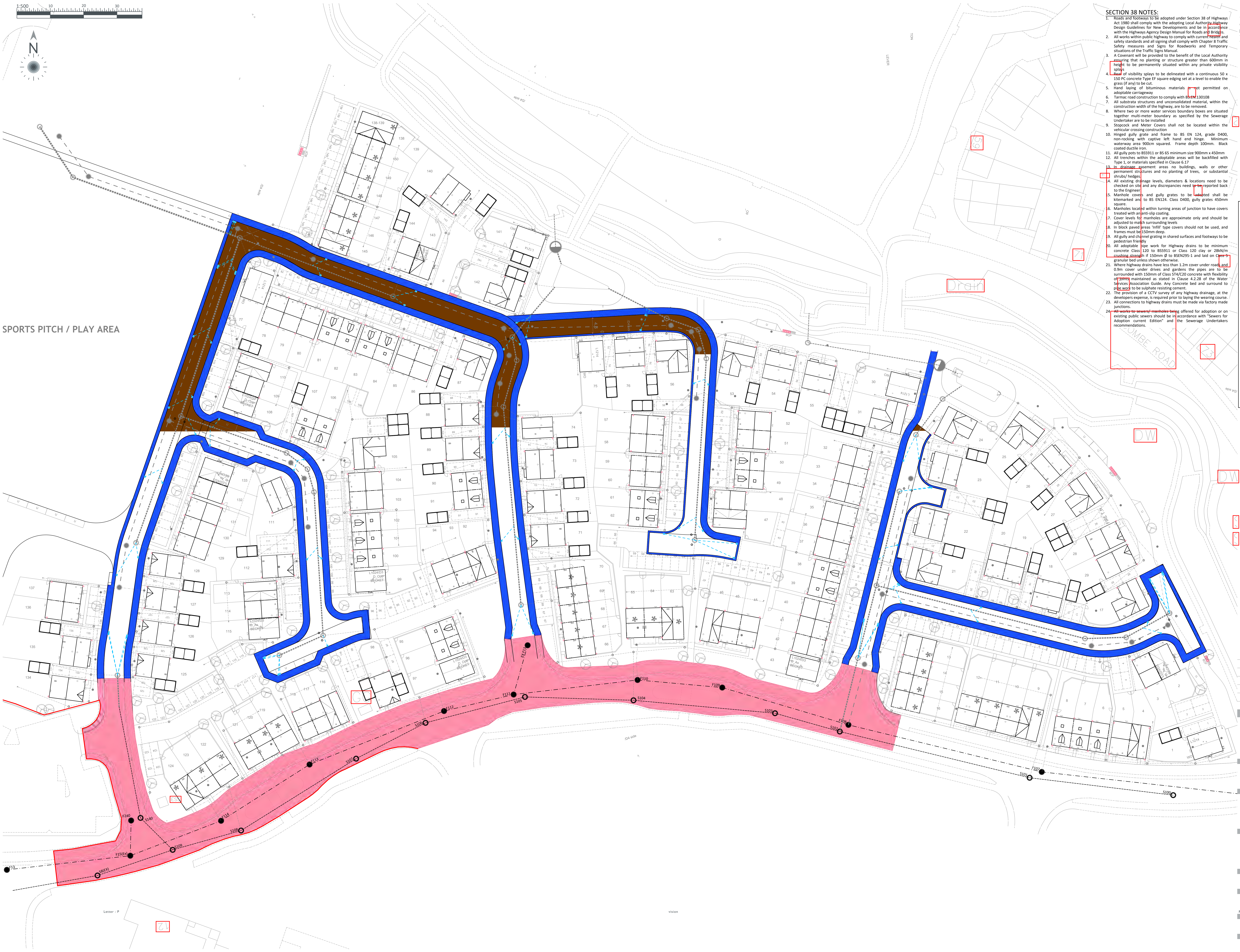
DRAWING ISSUE STATUS

INFORMATION

| PJA JOB No. | SUB-CODE | DRAWING NO. | REVISION |
|---|---|---|---|
| | | | |

BIM DRAWING REFERENCE

| SCALE | DRAWN | REVIEWED | DATE |
|---|---|---|---|
| | | | |



## SECTION 38 NOTES:

1. Roads and footways to be adopted under Section 38 of Highways Act 1980 shall comply with the adopting Local Authority Highway Design Guidelines for New Developments and be in accordance with the Highways Agency Design Manual for Roads and Bridges.
2. All works within public highway to comply with current health and safety standards and all signing shall comply with Chapter 8 Traffic Safety measures and Signs for Roadworks and Temporary situations of the Traffic Signs Manual.
3. A Covenant will be provided to the benefit of the Local Authority ensuring that no planting or structure greater than 600mm in height to be permanently situated within any private visibility splays
4. Rear of visibility splays to be delineated with a continuous 50 x 150 PC concrete Type EF square edging set at a level to enable the grass (if any) to be cut.
5. Hand laying of bituminous materials is not permitted on adoptable carriageway
6. Tarmac road construction to comply with BS.EN.130108
7. All substrata structures and unconsolidated material, within the construction width of the highway, are to be removed.
8. Where two or more water services boundary boxes are situated together multi-meter boundary as specified by the Sewerage Undertaker are to be installed
9. Stopcock and Meter Covers shall not be located within the vehicular crossing construction
10. Hinged gully grate and frame to BS EN 124, grade D400, non-rocking with captive left hand end hinge. Minimum waterway area 900cm squared. Frame depth 100mm. Black coated ductile iron.
11. All gully pots to BS5911 or BS 65 minimum size 900mm x 450mm
12. All trenches within the adoptable areas will be backfilled with Type 1, or materials specified in Clause 6.17
13. In drainage easement areas no buildings, walls or other permanent structures and no planting of trees, or substantial shrubs/ hedges.
14. All existing drainage levels, diameters & locations need to be checked on site and any discrepancies need to be reported back to the Engineer.
15. Manhole covers and gully grates to be adopted shall be kitemarked and to BS EN124. Class D400, gully grates 450mm square.
16. Manholes located within turning areas of junction to have covers treated with an anti-slip coating.
17. Cover levels for manholes are approximate only and should be adjusted to match surrounding levels
18. In block paved areas 'Infill' type covers should not be used, and frames must be 150mm deep.
19. All gully and channel grating in shared surfaces and footways to be pedestrian friendly
20. All adoptable pipe work for Highway drains to be minimum concrete Class 120 to BS5911 or Class 120 clay or 28kN/m crushing strength if 150mm Ø to BSEN295-1 and laid on Class S granular bed unless shown otherwise.
21. Where highway drains have less than 1.2m cover under roads and 0.9m cover under drives and gardens the pipes are to be surrounded with 150mm of Class ST4/C20 concrete with flexibility of joints maintained as stated in Clause 4.2.28 of the Water Services Association Guide. Any Concrete bed and surround to pipe work to be sulphate resisting cement.
22. The provision of a CCTV survey of any highway drainage, at the developers expense, is required prior to laying the wearing course.
23. All connections to highway drains must be made via factory made junctions.
24. All works to sewers/ manholes being offered for adoption or on existing public sewers should be in accordance with "Sewers for Adoption current Edition" and the Sewerage Undertakers recommendations.

These drawings have been produced with reference to the CDM Regulations 2015. Please note that these are pre-construction phase drawings and should be subject to further design risk management as required in accordance with Regulation 9

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4. All work is to be carried out in accordance with current British Standards, Building Regulations and NHBC Standards.
5. It is the responsibility of the Contractor to execute the works at all times in strict accordance with the requirements of the Health and Safety at Work Act 1974, and the C.D.M. Regulations 2015. The Contractor will be deemed to have allowed for full compliance, including full liaison with the CDM Co-ordinator, within his rates.
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KEY

| | |
|---|---|
| — | Site Boundary |
| 🟫 | Carriageway offered for adoption |
| 🟦 | Footpath (& other hard surfaces) offered for adoption |
| 🟥 | Existing Carriageway |
| — · — | Existing Foul Sewer |
| — — | Existing Storm Sewer |
| ● | Private Foul Drains |
| ○ | Private Storm Drains |
| ● | Adoptable Foul Sewers |
| ○ | Adoptable Storm Sewers |
| RG | Gully |
| RE | Storm Rodding Eye |
| ◐ | Flow Control Chamber |

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▫ Bristol
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Linden HOMES

PROJECT

DRAWING TITLE

DRAWING ISSUE STATUS

INFORMATION

| PJA JOB No. | SUB-CODE | DRAWING NO. | REVISION |
|---|---|---|---|
| | | | |

Re

BIM DRAWING REFERENCE

| SCALE | DRAWN | REVIEWED | DATE |
|---|---|---|---|
| | | | |

PRELIMINARY SCHEME
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- LA Planning Authority
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## ADOPTABLE DRAINAGE NOTES:

1. This drawing is subject to approval by Local Authority, Building Control and / or Sewerage Undertaker. Any works undertaken prior to the granting of these approvals is carried out at at risk to others.
2. Prior to commencing work on the drainage, all existing drains, sewers manholes and outfalls to remain shall be located, identified and a CCTV condition survey carried out. Where necessary, protection to the existing drainage infrastructure shall be provided.
3. All existing sewers and manholes abandoned due to the proposed works are to be either removed, and suitably backfilled or grouted up.
4. All manhole covers to comply with BS.EN.124, and be Kitemarked
5. Cover levels for manholes are approximate only and should be adjusted to match surrounding levels.
6. In block paved areas 'Infill' type covers should not be used, and frames must be 150mm deep.
7. All manhole and drainage covers shall comply with BS.EN124, BS.EN13598-1 and HA104/09.
   Cover strengths to be:-
   Class E600 in areas of heavy loading.
   Class D400 in all trafficked areas (roads, hard shoulder, parking areas and services yards).
   Manhole covers on foul only sewers shall be of low leakage types in order to prevent excessive surface water ingress.
8. Drainage pipes 100mm Ø unless stated otherwise.
   Pipes to be :-
   Vitrified clay to BS EN 295 or Concrete to BS 5911 or UPVC pipes to BS EN 1452 or Thermoplastic Structured wall pipes complying with WIS 4-35-01. BSi kitemarked. Class 8kM/m² nominal short term ring stiffness.
9. All sewer pipes 300mm diameter or larger, to be concrete pipes, to BS.5911, unless noted otherwise
10. All pipes to be laid with soffits level, unless noted otherwise.
11. Where cover to pipes is less than 1200mm under carriageway - concrete bed and surround or concrete protection slab is required.
12. All concrete to drainage, manholes bases, surrounds etc to be in accordance with the BRE special digest 1 - Concrete in aggressive ground. Refer to site investigation report for sulphate requirements.
13. All manholes, pipe trenches etc. to be backfilled with imported granular fill to Class 6F1-6F5 (Capping material) to (SHW) Table 6/1 & compacted in accordance with Table 6/4.
14. All pipelines shall be tested both before and after backfilling, using either air test or water test, in accordance with BS EN 1610.
15. Upon completion of the drainage works all drains shall be flushed out and CCTV surveyed and shown to be free of all silt and debris and to have no joint displacements or other defects. A copy of the written report and video is to be forwarded to the Engineers for comment. Any defects shall be attributable to the contractor for rectification unless indicated otherwise by the CCTV report and agreed with the Engineers.
16. Demarcation manholes and lateral drains need to be constructed in accordance with the Water UK/WRc "Sewers For Adoption 7th Edition".
17. All works to sewers/ manholes being offered for adoption or on existing public sewers should be in accordance with "Sewers for Adoption 7th Edition" and the Adopting Water Authority's recommendations

KEY

| | |
|---|---|
| —·—·—·— | Existing Foul Sewer |
| – – – – – | Existing Storm Sewer |
| —●— | Adoptable Foul Sewers |
| – ○ – | Adoptable Storm Sewers |
| —•— | Private Foul Drains |
| —◦— | Private Storm Drains |
| RG ▪ | Highway Road Gully |
| 🟨 | Sewer Easement |
| ▨ | Existing Sewer Easement |
| FFL 45.250 | Proposed Finished Floor Level |
| 🟩 | Site Boundary |

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Longbridge ▫ Birmingham
B31 2UQ ▫ [redacted]
▫ Bristol
Exeter ▫ London ▫ Reading
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Linden
HOMES

PROJECT

DRAWING TITLE

DRAWING ISSUE STATUS

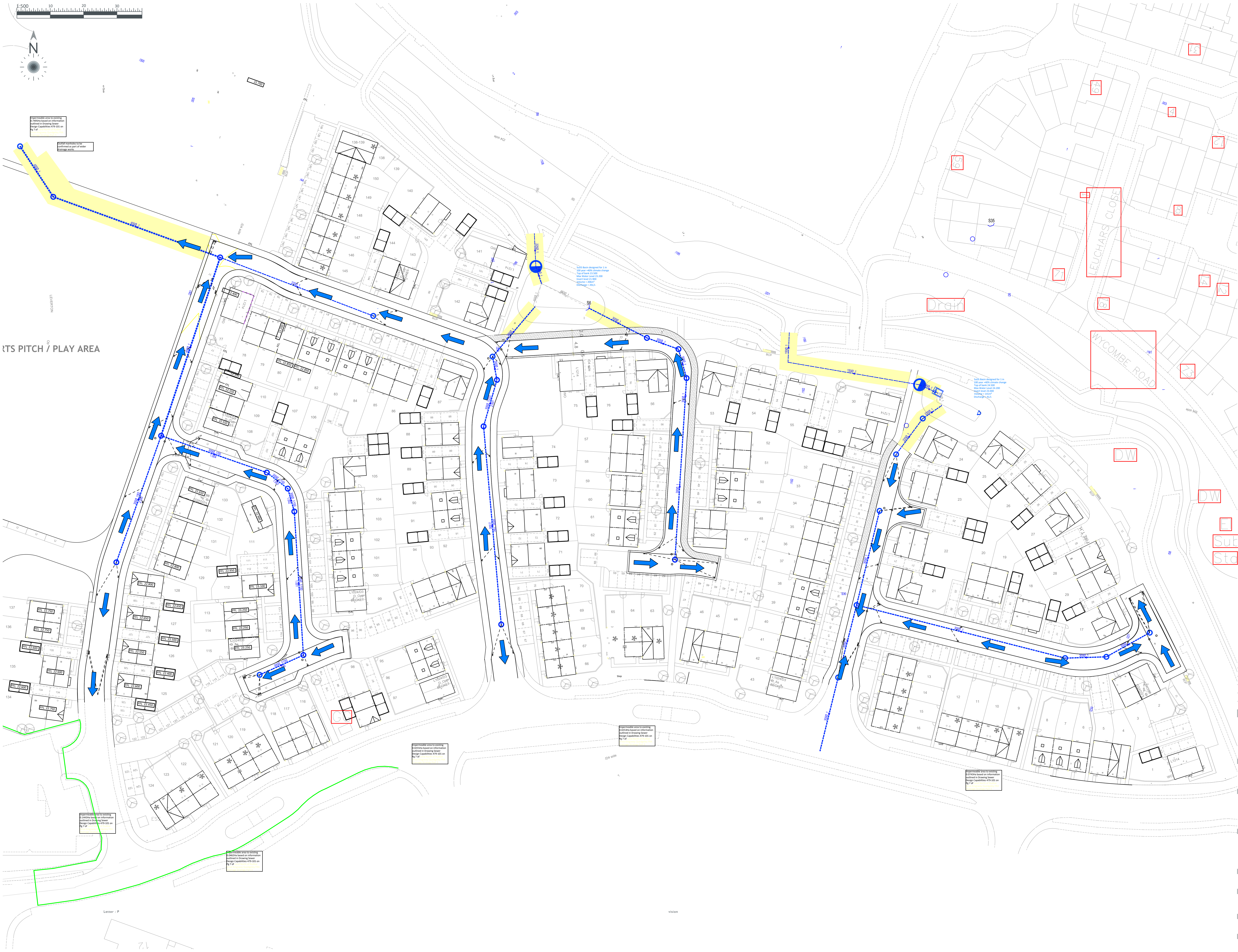
INFORMATION

PJA JOB No. SUB-CODE DRAWING NO. REVISION

Re

BIM DRAWING REFERENCE

SCALE DRAWN REVIEWED DATE



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KEY

| | |
|---|---|
| — ◎ — — — | Adoptable Storm Sewers |
| RG ▥— — — — | Highway Road Gully |
| ◐ | Flow Control Chamber |
| FFL 45.250 | Proposed Finished Floor Level |
| 🟩 | Site Boundary |
| ➡ | Flow Direction Arrow |
| — | Major Contour |

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▫ Bristol
Exeter ▫ London ▫ Reading
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Linden HOMES

PROJECT

DRAWING TITLE

DRAWING ISSUE STATUS
INFORMATION

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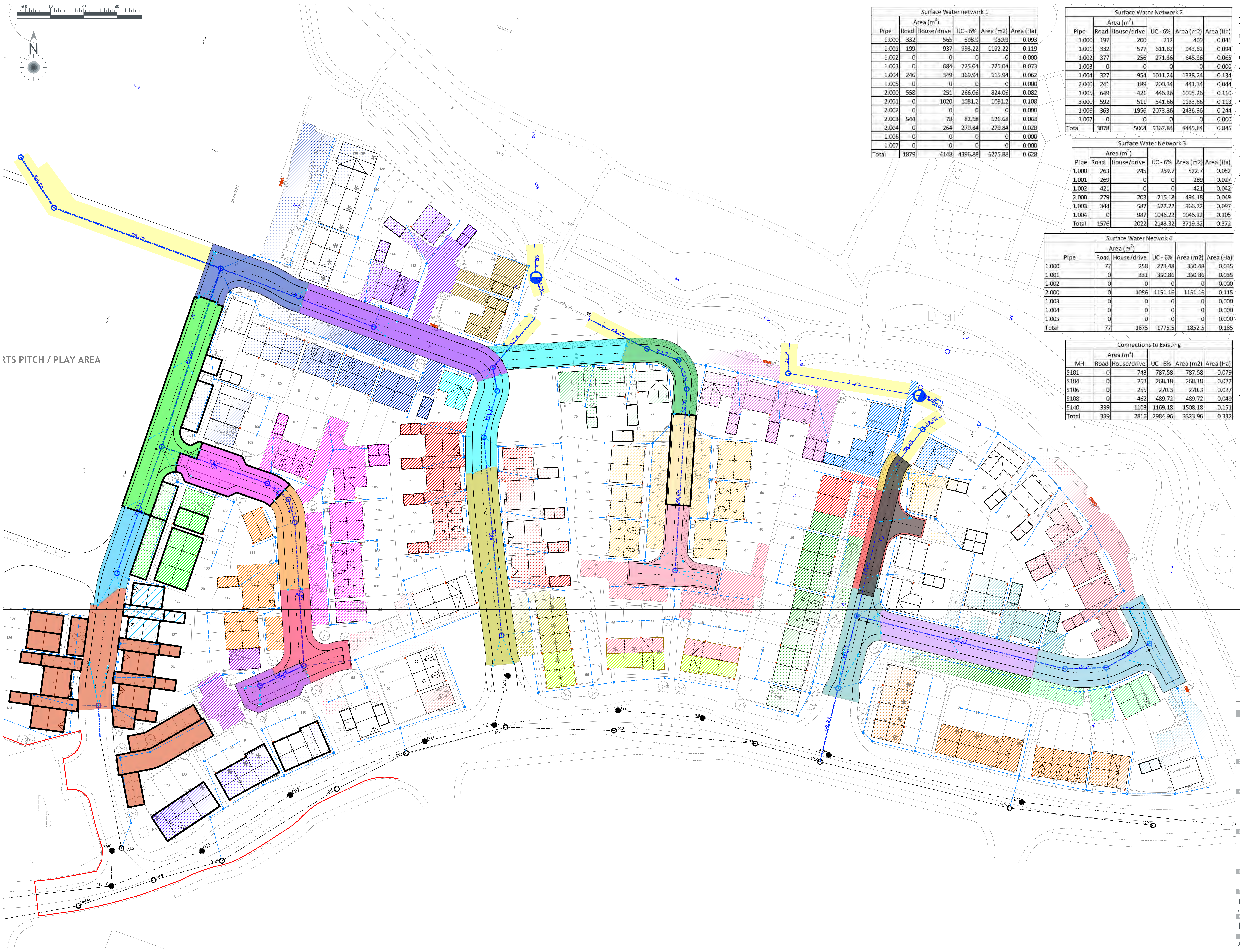

| Surface Water network 1 | | | | | |
|---|---|---|---|---|---|
| | Area (m$^2$) | | | | |
| Pipe | Road | House/drive | UC - 6% | Area (m2) | Area (Ha) |
| 1.000 | 332 | 565 | 598.9 | 930.9 | 0.093 |
| 1.001 | 199 | 937 | 993.22 | 1192.22 | 0.119 |
| 1.002 | 0 | 0 | 0 | 0 | 0.000 |
| 1.003 | 0 | 684 | 725.04 | 725.04 | 0.073 |
| 1.004 | 246 | 349 | 369.94 | 615.94 | 0.062 |
| 1.005 | 0 | 0 | 0 | 0 | 0.000 |
| 2.000 | 558 | 251 | 266.06 | 824.06 | 0.082 |
| 2.001 | 0 | 1020 | 1081.2 | 1081.2 | 0.108 |
| 2.002 | 0 | 0 | 0 | 0 | 0.000 |
| 2.003 | 544 | 78 | 82.68 | 626.68 | 0.063 |
| 2.004 | 0 | 264 | 279.84 | 279.84 | 0.028 |
| 1.006 | 0 | 0 | 0 | 0 | 0.000 |
| 1.007 | 0 | 0 | 0 | 0 | 0.000 |
| Total | 1879 | 4148 | 4396.88 | 6275.88 | 0.628 |

| Surface Water Network 2 | | | | | |
|---|---|---|---|---|---|
| | Area (m$^2$) | | | | |
| Pipe | Road | House/drive | UC - 6% | Area (m2) | Area (Ha) |
| 1.000 | 197 | 200 | 212 | 409 | 0.041 |
| 1.001 | 332 | 577 | 611.62 | 943.62 | 0.094 |
| 1.002 | 377 | 256 | 271.36 | 648.36 | 0.065 |
| 1.003 | 0 | 0 | 0 | 0 | 0.000 |
| 1.004 | 327 | 954 | 1011.24 | 1338.24 | 0.134 |
| 2.000 | 241 | 189 | 200.34 | 441.34 | 0.044 |
| 1.005 | 649 | 421 | 446.26 | 1095.26 | 0.110 |
| 3.000 | 592 | 511 | 541.66 | 1133.66 | 0.113 |
| 1.006 | 363 | 1956 | 2073.36 | 2436.36 | 0.244 |
| 1.007 | 0 | 0 | 0 | 0 | 0.000 |
| Total | 3078 | 5064 | 5367.84 | 8445.84 | 0.845 |

| Surface Water Network 3 | | | | | |
|---|---|---|---|---|---|
| | Area (m$^2$) | | | | |
| Pipe | Road | House/drive | UC - 6% | Area (m2) | Area (Ha) |
| 1.000 | 263 | 245 | 259.7 | 522.7 | 0.052 |
| 1.001 | 269 | 0 | 0 | 269 | 0.027 |
| 1.002 | 421 | 0 | 0 | 421 | 0.042 |
| 2.000 | 279 | 203 | 215.18 | 494.18 | 0.049 |
| 1.003 | 344 | 587 | 622.22 | 966.22 | 0.097 |
| 1.004 | 0 | 987 | 1046.22 | 1046.22 | 0.105 |
| Total | 1576 | 2022 | 2143.32 | 3719.32 | 0.372 |

| Surface Water Netwok 4 | | | | | |
|---|---|---|---|---|---|
| | Area (m$^2$) | | | | |
| Pipe | Road | House/drive | UC - 6% | Area (m2) | Area (Ha) |
| 1.000 | 77 | 258 | 273.48 | 350.48 | 0.035 |
| 1.001 | 0 | 331 | 350.86 | 350.86 | 0.035 |
| 1.002 | 0 | 0 | 0 | 0 | 0.000 |
| 2.000 | 0 | 1086 | 1151.16 | 1151.16 | 0.115 |
| 1.003 | 0 | 0 | 0 | 0 | 0.000 |
| 1.004 | 0 | 0 | 0 | 0 | 0.000 |
| 1.005 | 0 | 0 | 0 | 0 | 0.000 |
| Total | 77 | 1675 | 1775.5 | 1852.5 | 0.185 |

| Connections to Existing | | | | | |
|---|---|---|---|---|---|
| | Area (m$^2$) | | | | |
| MH | Road | House/drive | UC - 6% | Area (m2) | Area (Ha) |
| S101 | 0 | 743 | 787.58 | 787.58 | 0.079 |
| S104 | 0 | 253 | 268.18 | 268.18 | 0.027 |
| S106 | 0 | 255 | 270.3 | 270.3 | 0.027 |
| S108 | 0 | 462 | 489.72 | 489.72 | 0.049 |
| S140 | 339 | 1103 | 1169.18 | 1508.18 | 0.151 |
| Total | 339 | 2816 | 2984.96 | 3323.96 | 0.332 |

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- LA Highways Department
- Sewerage Undertaker

KEY

| | |
|---|---|
| — —○— — — — | Private Storm Drains |
| — —◎— — — | Adoptable Storm Sewers |
| ◐ | S104 3mØ Flow Control Chamber |
| ▭ | Large STW Headwall |
| RG — — — — | Gully |
| RE — — — — | Storm Rodding Eye |

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▫ Bristol
Exeter ▫ London ▫ Reading
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PROJECT
Rudloe Drive Quedgeley

DRAWING TITLE
Area Contribution Plan

DRAWING ISSUE STATUS
INFORMATION

| PJA JOB No. | SUB-CODE | DRAWING NO. | REVISION |
|---|---|---|---|
| 06396 | | 0405 | P0 |

Revision Letter : P - Prelim / A - Approval / T - Tender / C - Construction

BIM DRAWING REFERENCE
RDQUE-PJA-XX-D2-Y-0405-00

| SCALE | DRAWN | REVIEWED | DATE |
|---|---|---|---|
| A1@ | | | |

Notes:
The contractor must verify all dimensions on site before commencing any work on shop drawings, do not scale from this drawing

KEY:

| | |
|---|---|
| 🟪 | Bin Collection Point<br>to be hard paved (indicative) |
| ↔ 15 | Operator Drag Distance |
| ↔ 15 | Resident Drag Distance |

| Revision | Amendment | Date |
|---|---|---|
| P1 | Issued for planning | 23.05.2022 |

| Drawn by | Reviewed by | Approved by |
|---|---|---|
| KK/VS | SC | EC |

| MCB Number | Date Created | Scale |
|---|---|---|
| 61841 | MAY 2022 | 1:500 @ A0 |

McBains Ltd
5th Fl, 26 Finsbury Square London EC2A 1DS
[redacted]
mcbains.co.uk

Client
Vistry Group

Project
LAND NORTH RUDLOE DRIVE
QUEDGELEY

Drawing Title
REFUSE STRATEGY PLAN

ARCHITECTURE

| Drawing / Document Reference | | | | | | | Status | |
|---|---|---|---|---|---|---|---|---|
| RDQUE | MCB | ZZ | ZZ | DR | A | 0236 | D5 | P1 |
| Project Iden | Originator | Zone | Level | Type | Discipline | Number | Suitability | Revision |

Notes:
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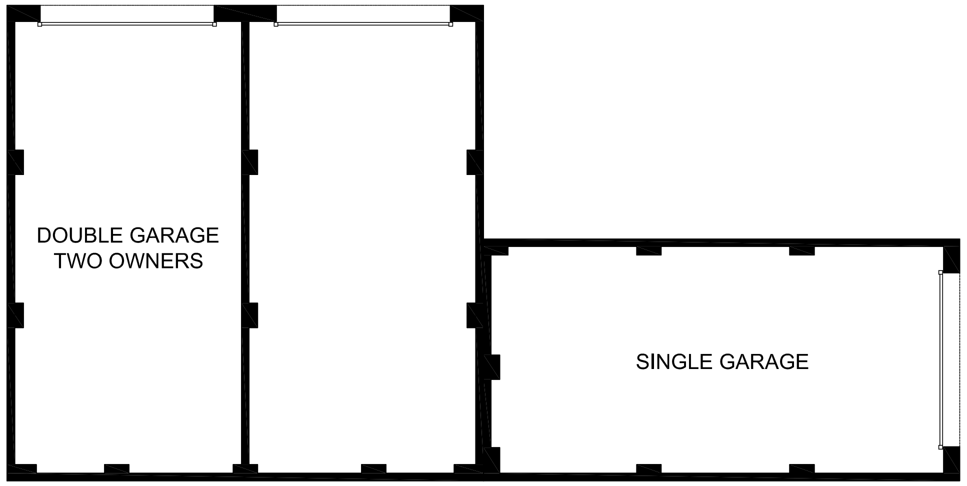
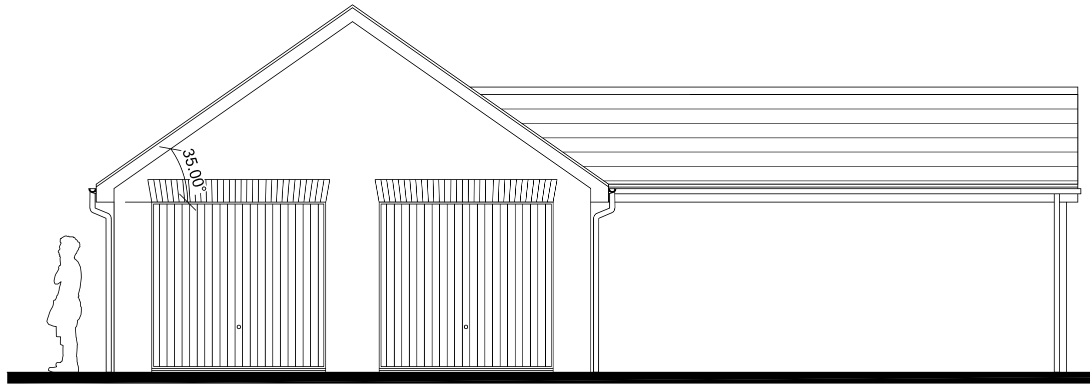
on shop drawings, do not scale from this drawing

NOTE:
ALL BATHROOMS & ENSUITE WINDOWS TO
HAVE OBSCURED GLASS.

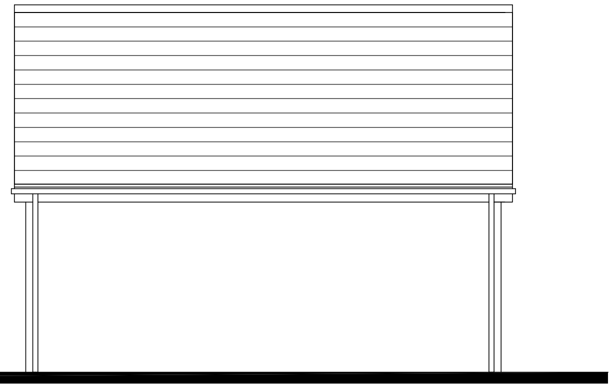
REFER TO EXTERNAL MATERIALS PLAN
FOR SPECIFIC MATERIALS, WINDOWS
COLOURS AND DOOR COLOURS



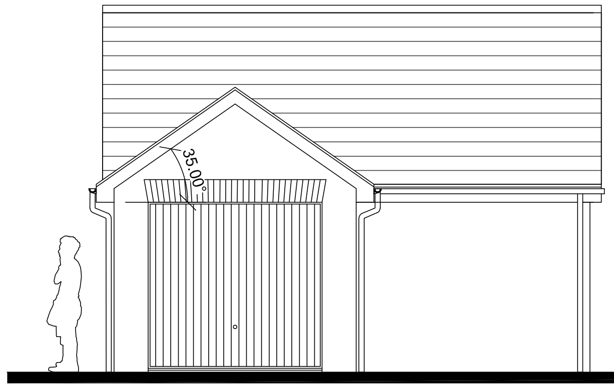
FLOOR PLAN



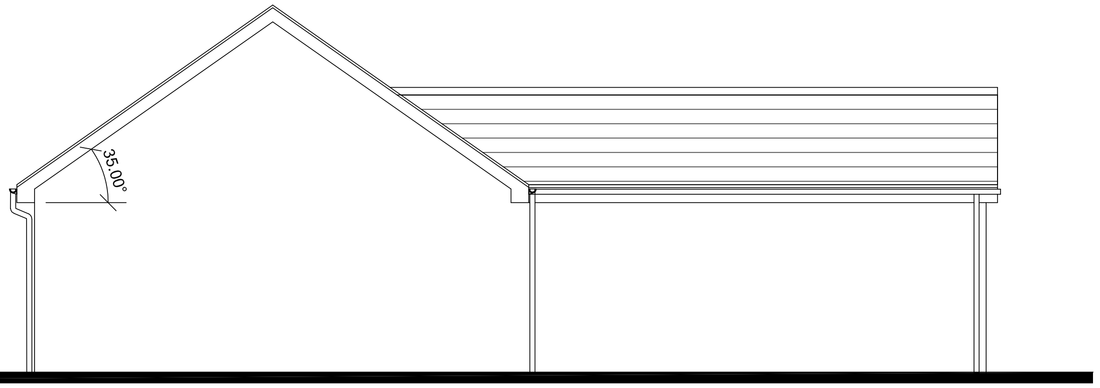
FRONT ELEVATION



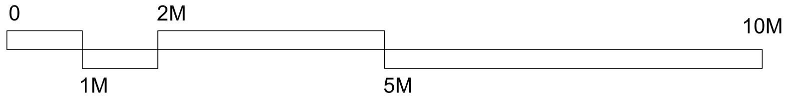
SIDE ELEVATION



SIDE ELEVATION



REAR ELEVATION



| Revision | Amendment | Date |
|---|---|---|
| P1 | Issued for planning | 23-05-2022 |

| Drawn by | Reviewed by | Approved by |
|---|---|---|
| VS | EC/SC | P'OR |

| MCB Number | Date created | Scale @ A3 |
|---|---|---|
| 61841 | MAY '22 | 1:100 @ A3 |

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Client
Vistry Group

Project
LAND NORTH OF RUDLOE DRIVE
QUEDGELEY

Drawing Title
HOUSETYPE PLANS & ELEVATIONS
SINGLE & DOUBLE GARAGE
PLOTS 30,31,55 as shown
PLOTS --- handed

ARCHITECTURE

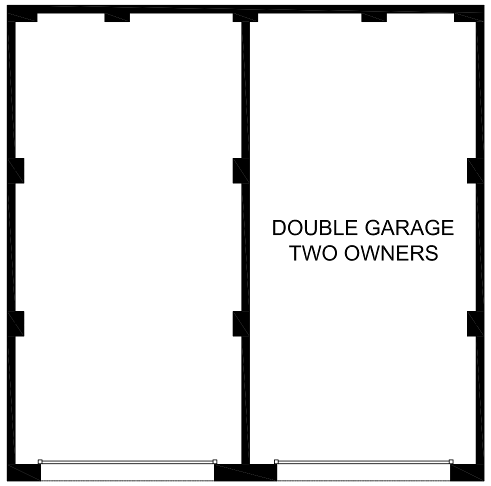
| Project Iden | Originator | Zone | Level | Type | Discipline | Number | Suitability | Revision |
|---|---|---|---|---|---|---|---|---|
| RDQUE | MCB | ZZ | ZZ | DR | A | 0161 | D5 | P1 |

Drawing / Document Reference: RDQUE - MCB - ZZ - ZZ - DR - A - 0161
Status: D5 - P1

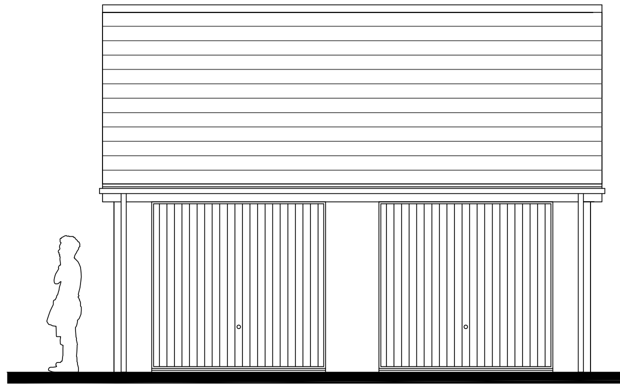
Notes:
The contractor must verify all dimensions on site before commencing any work on shop drawings, do not scale from this drawing

NOTE:
ALL BATHROOMS & ENSUITE WINDOWS TO HAVE OBSCURED GLASS.

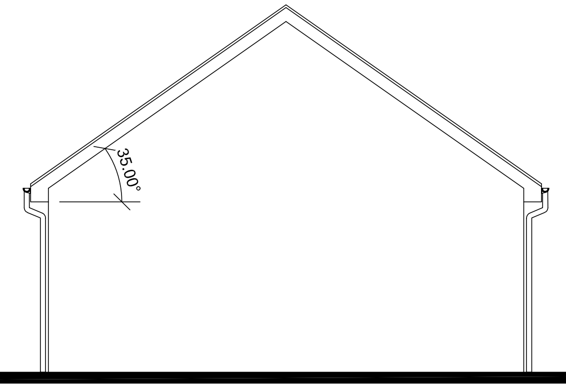
REFER TO EXTERNAL MATERIALS PLAN FOR SPECIFIC MATERIALS, WINDOWS COLOURS AND DOOR COLOURS



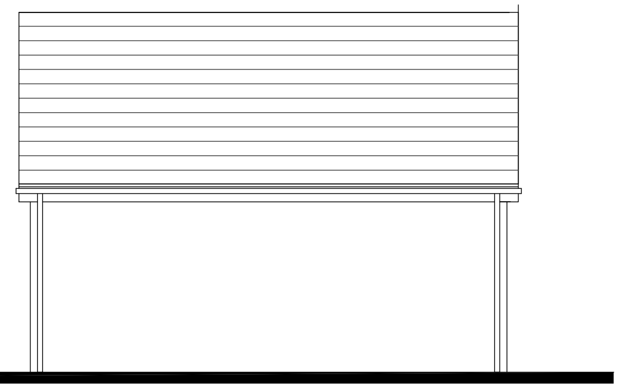
FLOOR PLAN



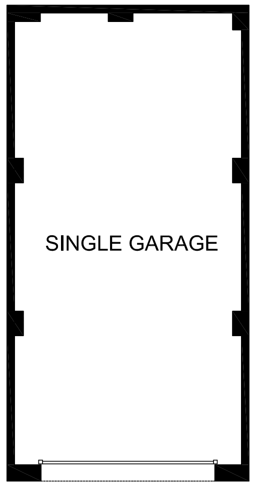
FRONT ELEVATION



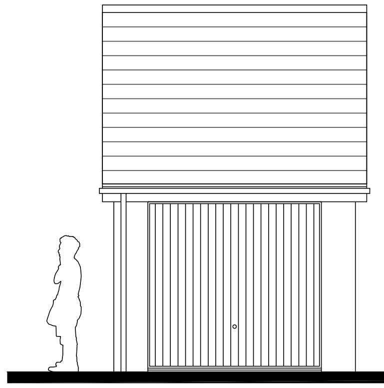
SIDE ELEVATION



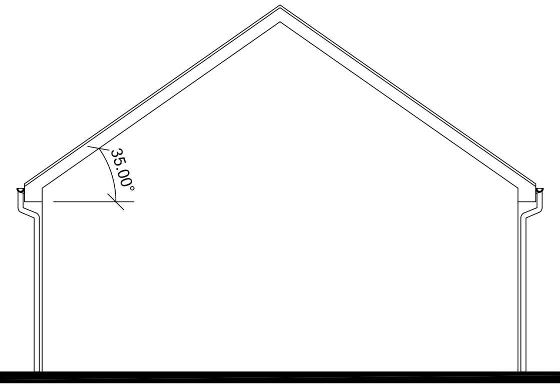
REAR ELEVATION



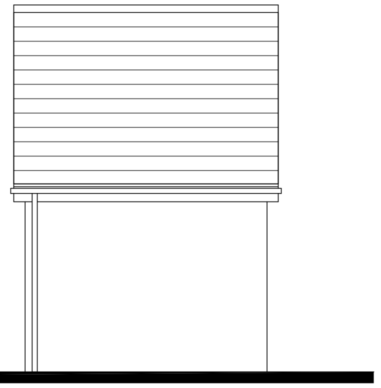
FLOOR PLAN



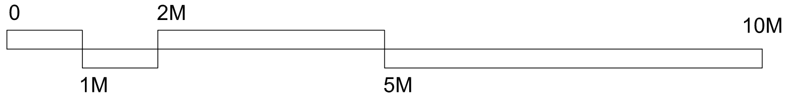
FRONT ELEVATION



SIDE ELEVATION



REAR ELEVATION



| Revision | Amendment | Date |
|---|---|---|
| P1 | Issued for planning | 23-05-2022 |

| Drawn by | Reviewed by | Approved by |
|---|---|---|
| VS | EC/SC | P'OR |

| MCB Number | Date created | Scale @ A3 |
|---|---|---|
| 61841 | MAY '22 | 1:100 @ A3 |

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Client
Vistry Group

Project
LAND NORTH OF RUDLOE DRIVE
QUEDGELEY

Drawing Title
HOUSETYPE PLANS & ELEVATIONS
SINGLE & DOUBLE GARAGES
PLOTS --- as shown
PLOTS --- handed

ARCHITECTURE

| Drawing / Document Reference | | | | | | | Status | |
|---|---|---|---|---|---|---|---|---|
| RDQUE - | MCB - | ZZ - | ZZ - | DR - | A - | 0160 | D5 - | P1 |
| Project Iden | Originator | Zone | Level | Type | Discipline | Number | Suitability | Revision |

## NORTH OF RUDLOE DRIVE - QUEDGELEY

## Accommodation Schedule

25.05.2022 RDQUE-MCB-ZZ-ZZ-DR-A-0220-D5-P1-Site Layout

**Net Developable Area (approx): 3.77 Ha/9.32 Acres TBC**
**Approx Coverage (Sqft/net developable acre) 17285 TBC**

**Open Market Sale**

| Type | Description | No. | Sq.ft.* | Total Sq.ft. |
|---|---|---|---|---|
| Cartwright | 2 bed house - mid terrace - parking space | 2 | 782 | **1564** |
| Cartwright | 2 bed house - end terrace - parking space | 2 | 782 | **1564** |
| Elmslie | 3 bed house - mid terrace - parking space | 6 | 933 | **5598** |
| Elmslie | 3 bed house - end terrace - parking space | 9 | 933 | **8397** |
| Alwin | 3 bed house - mid terrace - parking space Area TBC *(Elm+)* | 3 | 1010 | **3030** |
| Alwin | 3 bed house - end terrace - parking space - Area TBC *(Elm+)* | 26 | 1010 | **26260** |
| Becket | 3 bed house - semi detached - single garage | 1 | 1024 | **1024** |
| Becket | 3 bed house - semi detached - parking space | 5 | 1024 | **5120** |
| Becket | 3 bed house - detached - single garage | 2 | 1024 | **2048** |
| Becket | 3 bed house - detached - parking space | 3 | 1024 | **3072** |
| Aldridge | 3 bed Townhouse - mid terrace - parking space | 2 | 1111 | **2222** |
| Aldridge | 3 bed Townhouse - end terrace - parking space | 16 | 1111 | **17776** |
| Aldridge | 3 bed Townhouse - end terrace - single garage | 4 | 1111 | **4444** |
| Mylne | 4 bed house - detached - single garage | 6 | 1136 | **6816** |
| Harford | 4 bed house - detached - single garage - Area TBC *(Myl+)* | 6 | 1225 | **7350** |
| Leverton | 4 bed house - detached - single garage | 5 | 1214 | **6070** |
| Pembroke | 4 bed house - detached - single garage | 10 | 1372 | **13720** |
| Knightley | 4 bed house - detached - single garage | 12 | 1429 | **17148** |
| **Total:** | | **120** | | **133223** |

**Affordable Housing**

| Type | Description | No. | Sq.ft.* | Total Sq.ft. |
|---|---|---|---|---|
| AF1 MAIS GF | 1 Bed 2 Person Maisonette M4(3) - parking space (Area tbc) | 1 | 624 | 624 |
| AF1 MAIS FF | 1 Bed 2 Person Maisonette - parking space (Area tbc) | 1 | 731 | 731 |
| Cooper | 2 Bed 4 Person House - parking space | 15 | 861 | 12915 |
| Asher | 3 Bed 6 Person House - parking space - Plan to be amended to 6 person | 10 | 1018 | 10180 |
| Speirs | 4 Bed 8 Person House - parking space - Plan to be amended to 8 person | 3 | 1141 | 3423 |
| **Total:** | | **30** | | **27873** |

**Total Number of Units:**

| | | | |
|---|---|---|---|
| **Total:** | **150** | | **161096** |

Notes:

The schedule is based on site plan information supplied by others, the accuracy of which we cannot guarantee. No consultations have taken place with the planning authority and as such the above proposals should not be used as a basis for financial or commmercial transactions.

Notes:
The contractor must verify all dimensions on site before commencing any work on shop drawings, do not scale from this drawing

Notes:

- -Each dwelling shall be provided with an outside electrical socket to enable ease of installation of an electric vehicle charging point and shall be provided with an lockable weatherproof cover if located externally to the building
- Cycle sheds to be provided in the rear gardens of all houses without a garage, large enough to accommodate 1 cycle space = 1 bed, 2 cycle spaces thereafter
- -Each property to be provided with a slabbed area within the garden for the storage of refuse/recycling/food bins

| Revision | Amendment | Date |
|---|---|---|
| P1 | Issued for planning | 23.05.2022 |

| Drawn by | Reviewed by | Approved by |
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| KK/VS | SC | EC |

| MCB Number | Date Created | Scale |
|---|---|---|
| 61841 | MAY 2022 | 1:500 @ A0 |

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Client
Vistry Group

Project
LAND NORTH RUDLOE DRIVE
QUEDGELEY

Drawing Title
SITE LAYOUT PLAN

ARCHITECTURE

| Drawing / Document Reference | | | | | | | Status | |
|---|---|---|---|---|---|---|---|---|
| RDQUE - | MCB - | ZZ - | ZZ - | DR - | A - | 0230 | D5 - | P1 |
| Project Iden | Originator | Zone | Level | Type | Discipline | Number | Suitability | Revision |

Notes:
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| Revision | Amendment | Date |
|---|---|---|
| P1 | Issued for planning | 23.05.2022 |

| Drawn by | Reviewed by | Approved by |
|---|---|---|
| SC | EC | PO'R |

| MCB Number | Date created | Scale |
|---|---|---|
| 61841 | MAY 2022 | 1:2500 @ A3 |

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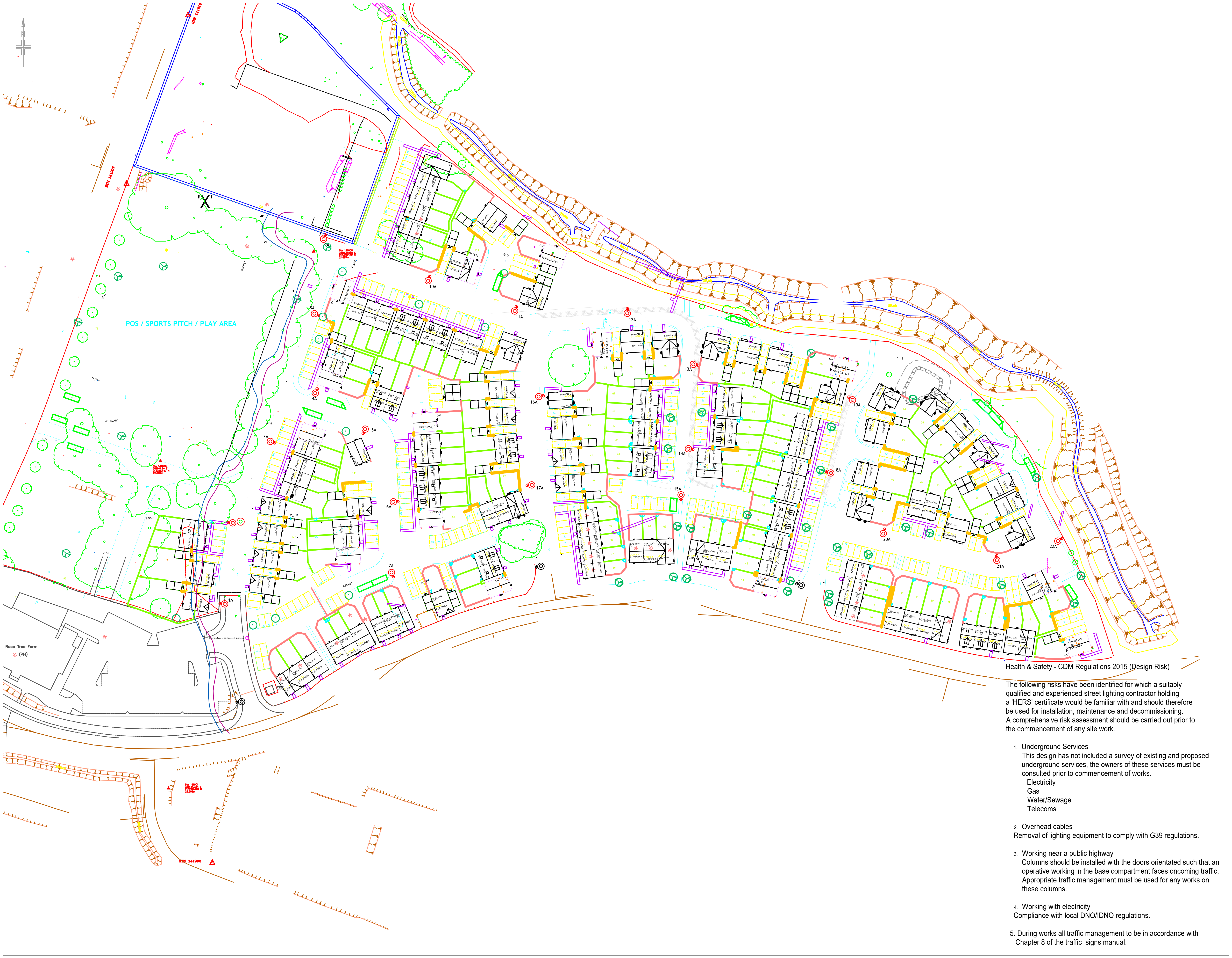
Client
Vistry Group

Project
LAND NORTH RUDLOE DRIVE
QUEDGELEY

Drawing Title
SITE LOCATION PLAN

ARCHITECTURE

| Drawing / Document Reference | | | | | | | Status | |
|---|---|---|---|---|---|---|---|---|
| RDQUE | MCB | ZZ | ZZ | DR | A | 0201 | D5 | P1 |
| Project Iden | Originator | Zone | Level | Type | Discipline | Number | Suitability | Revision |



## Health & Safety - CDM Regulations 2015 (Design Risk)

The following risks have been identified for which a suitably qualified and experienced street lighting contractor holding a 'HERS' certificate would be familiar with and should therefore be used for installation, maintenance and decommissioning.
A comprehensive risk assessment should be carried out prior to the commencement of any site work.

1. Underground Services
   This design has not included a survey of existing and proposed underground services, the owners of these services must be consulted prior to commencement of works.
   - Electricity
   - Gas
   - Water/Sewage
   - Telecoms
2. Overhead cables
   Removal of lighting equipment to comply with G39 regulations.
3. Working near a public highway
   Columns should be installed with the doors orientated such that an operative working in the base compartment faces oncoming traffic. Appropriate traffic management must be used for any works on these columns.
4. Working with electricity
   Compliance with local DNO/IDNO regulations.
5. During works all traffic management to be in accordance with Chapter 8 of the traffic signs manual.

## Street Lighting Key:
## Adoptable Units:

◎ Proposed 6m galvanised steel column with post top mounted at 0° Urbis Ampera 16LED lantern to be fitted with DALI dimming.
Column Ref: CU Phosco (to GCC Specification)
Lantern Order Ref: Ampera Mini 5112 16LED Square Giant 500mA Warm White Flat Smooth Glass Extra Clear 414272
7 PIN NEMA SOCKET
Control Gear Ref: DALI Dimming and CMS compatible
Telecell Ref: 5 Pin NEMA Telensa – GPS Enabled (Product Code T2E1N-G-3)
Dimming Regime: 30% Light Output – 00:00hrs to 5:30hrs
LED Driver: Philips Xiatanium
Service Connection: WPD Unmetered Statutory Low Voltage Supply
Project quantity (22no.)

○ Existing column to be disconnected removed. Existing lantern to be collected by GCC

◎ Location of existing lighting in other phases

1A Unit numbers for general reference purposes only.

## LUX Contours

1.0 —
0.5 —

## Notes:

1. All illuminated street furniture drawings shall be submitted to GCC Street Lighting for approval.
2. The installation of street lighting shall be in accordance with Gloucestershire County Council Manual for Gloucestershire Streets (Section 11).
3. All columns types shall be in accordance to the above specification. Any other manufacturer or model type other than those specified on the GCC approved drawing will not be accepted for adoption.
4. All columns to be located as shown on the drawing and in adoptable highway. They must be at the back, and within the footway wherever possible, or positioned in an adoptable build out as per Manual for Gloucestershire Streets Section 11 (Appendix G/02)
5. All columns to be installed accordingly so doors are facing away from oncoming traffic.
6. All columns and illuminated signs require direct DNO connections.
7. All illuminated bollards within central reserves are to be privately fed from the nearest lighting column or feeder pillar.
8. Contractor to check all dimensions and report all errors and omissions to the engineer.

Drawing to be read in conjunction with:
- Lighting Schedule (Ref 433/101)
- GCC Manual for Gloucestershire Streets

| - | - | - | - | - | - |
|---|---|---|---|---|---|
| Rev | By | Chkd | Apprvd | Date | Description |

Developer

VISTRY HOMES

Development

QUEDGELEY,
PHASE 2

Drawing

STREET LIGHTING DESIGN

Drawn by: JS
Date Drawn: 22.05.2022

Drawing No.
4330/001

Revision
-

Drawing Scale: 1:1000 at A2

Notes:
The contractor must verify all dimensions on site before commencing any work on shop drawings, do not scale from this drawing
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KEY:

| | |
|---|---|
| ▩ | Tarmac |
| ▭ | 450X450 mm Buff Slabs to Front and Rear Paths |
| ▨ | Block paving |

| Revision | Amendment | Date |
|---|---|---|
| P1 | Issued for planning | 23.05.2022 |

| Drawn by | Reviewed by | Approved by |
|---|---|---|
| KK/VS | SC | EC |

| MCB Number | Date Created | Scale |
|---|---|---|
| 61841 | MAY 2022 | 1:500 @ A0 |

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Client
Vistry Group

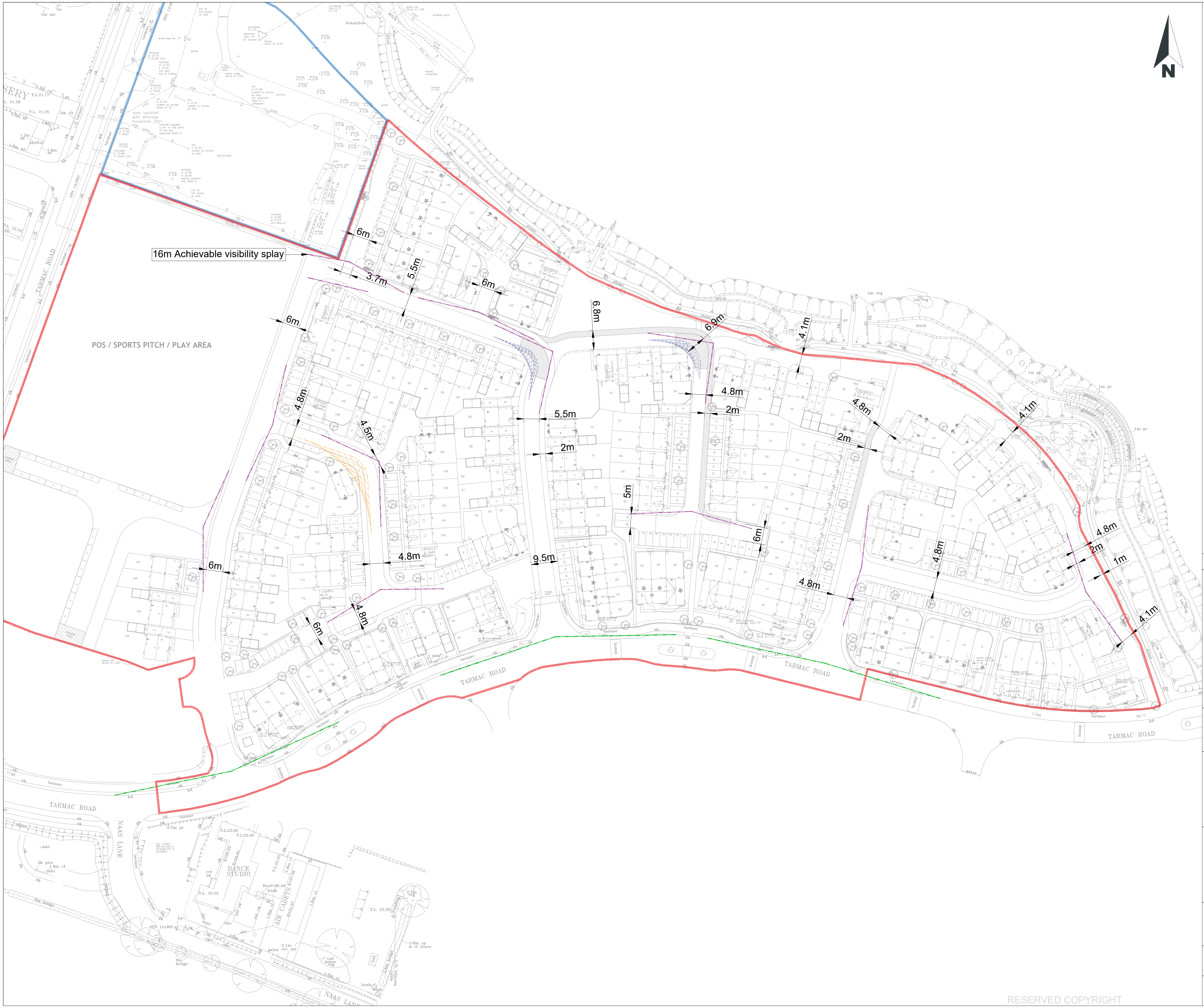
Project
LAND NORTH RUDLOE DRIVE
QUEDGELEY

Drawing Title
SURFACE FINISHES PLAN

ARCHITECTURE

Drawing / Document Reference | Status

| Project Iden | Originator | Zone | Level | Type | Discipline | Number | Suitability | Revision |
|---|---|---|---|---|---|---|---|---|
| RDQUE | MCB | ZZ | ZZ | DR | A | 0232 | D5 | P1 |



## Notes:

1. Do not scale from this drawing. All dimensions are in metres, unless stated otherwise.
2. This drawing is based on the Architects layout 61841-MCB-ZZ-ZZ-DR-A-SK16-S3-P1-Illustrative Site Layout received from McBains on 24.05.2022.
3. Ordnance Survey, (c) Crown Copyright 2020. All rights reserved. Licence number 100022432.

KEY

Site Boundary

Client Land Ownership

Visibility Splay 2.4m x 43m (30 mph)
(Visibility Splays are based upon MfS standards)

Visibility Splay 2.4m x 22m (20 mph)
(Visibility Splays are based upon MfS standards)

Forward Visibility Splay 25m (20 mph)
(Visibility Splays are based upon MfS standards)

Forward Visibility Splay 15m

| Rev | Date | Details | Drawn by | Checked by |
|---|---|---|---|---|
| C | 25.05.22 | Updated Layout & SPA | FA | ES |
| B | 25.05.22 | Updated Layout & Visibility Splays | FA | ES |
| A | 19.05.22 | Updated Layout & Visibility Splays | FA | MG |

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Infrastructure and environmental consultants

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CLIENT:
Vistry Group

PROJECT:
Land North Of Rudloe Drive,
Quedgeley

TITLE:
Visibility Assessment

STATUS:
PLANNING

| SCALE @ A3: | DATE: | DRAWN: | CHECKED: | APPROVED: |
|---|---|---|---|---|
| 1:1250 | 23.02.2022 | FA | MG | MG |

| JOB NO: | DRAWING NO: | REVISION: |
|---|---|---|
| 22-0196 | SK01 | C |