

## Land at Sweechbridge Road, Hillborough Surface Water Drainage Statement

(Document ref. 133598-SWDS-01A)

### 1. Introduction

This Drainage Statement has been prepared by RSK on behalf of Taylor Wimpey UK Ltd to provide supporting information in relation to the drainage planning conditions as stated in the planning permission reference CA/17/01866. It is to be read in conjunction with the supporting information as provided in the appendices and/or referenced within this document. It provides information regarding the disposal of surface water runoff and the design philosophy and criteria.

### 2. Site Background

The site is located at Hillborough, Sweechbridge Road, Herne Bay with grid reference 620222N, 167643E. The existing site is greenfield land bounded by existing development to the north and west, Sweechbridge Road to the east and the A299 Thanet Way to the south. The site has been granted planning based on an application for a mixed-use development including up to 900 dwellings comprising detailed proposals for the erection of 193 new dwellings (Phase 1) and outline application for up to 707 additional dwellings with all matters reserved except access (excluding internal circulation).

The site itself is a green field site, with a general fall from northwest to southeast. South of the railway, the existing topography of the site falls towards the east from the south west, and there is an existing ditch network on site that acts as a preferential pathway for overland flows on the site in its current condition. There is an existing connection from Puffin Road to the north that will be protected and maintained throughout development works, and incorporated into the proposed network.

The proposed site layout is shown on the plan in **Appendix A**.

### 3. Surface Water Drainage

The proposed strategy for the site wide development, including Phase 1 which has been advanced to detailed design status based on the hybrid planning application, is in accordance with the principles set out during the pre-planning stage. The LLFA were liaised with and contributed into these philosophies which are adhered to. The PFA Consulting Limited strategy is based on managing the disposal of surface water runoff from the proposed development within a system of swales and on-line ponds/detention basins, with the discharge to the local watercourse and ditch system restricted to greenfield rates.

The key principles of the PFA strategy are listed below. A copy of the sitewide drainage strategy presented at planning is included in **Appendix B**. It is planned that the strategy will adhere to these key principles agreed during the planning stage.

- It is proposed that the discharge rate from the site is restricted to QBAR for all rainfall events.

- For preliminary calculations are based on the assumption that developed areas would give rise to net impermeable areas of 65% of the respective development catchment area for residential development, 85% for employment, and 50% for the school.
- Existing ditches within the site boundary will be retained and kept separate from the proposed surface water drainage network where possible. The connection from Puffin Road to the north of the development will be maintained.

The QBAR discharge rate presented on PFA report has been used when developing the detailed strategy for the scheme on Phase 1. The latest review of the layout suggests that the impermeable area for the Phase 1 residential development is approximately 50% of the total phase area. It is anticipated the same strategy will be carried through to future phases, that will be developed as the masterplan is advanced.

RSK discussed the use of the existing ditch network with the Kent County Council's (KCC) drainage team at a meeting on 28th January 2020. It was agreed, and as stated in the PFA FRA report, the function of the ditches will be maintained. However, at some locations where the existing ditches are adjacent to the proposed development, the form of the ditches may be altered to improve their use, i.e. converted to enhanced swales where the proposed and existing levels are incompatible. The features will have a green, SuDS appearance on the surface but still maintain their present functionality.

In the future phases, the ditches on those areas of the scheme will be surveyed to investigate any measures required to improve or maintain their role in the overall network.

A scheme has been developed, utilising a combination of sustainable features, including permeable paving for drives and parking areas, with high level overflows into the positive network, via downstream open drainage features. Ultimately the surface water will outfall via the existing culvert under the railway that dissects the site and the existing ditch south of the railway to the existing watercourse on the eastern boundary, with the rate limited to QBAR.

Surveys will be carried out of the existing outfall features to identify any maintenance required to preserve the purpose of these features.

SuDS measures are incorporated the Phase 1 design to provide water quality improvements. These include permeable paving, enhanced swales, catch pits prior to all SuDS features, gullies, online ponds with granular low flow channels as indicated on the details included in **Appendix C**.

The design philosophy was to design the features to have capacity to keep the storm events up to and including the 1:30 year storm underground. If any flooding occurs during the 1:100 plus climate change event, it will be controlled and directed away from properties. The levels have been designed to ensure all properties are protected from any overland flood flows. Any such flows will be contained within the kerb height of the highway.

We have looked to replicate the existing catchments and topography as much as is practicable. Controls, set at greenfield rates, will be installed to ensure the downstream features are not overwhelmed during the most severe storm events. The individual catchments will be directed to detention SuDS features, the volumes of which will be commensurate with these catchments. Verification reports will be provided to prove the drainage network is constructed as approved.

The proposed strategy for surface water disposal is replicated in **Appendix D**.

#### **4. Summary**

This strategy to dispose of the surface water runoff has been developed in accordance with the requirements set out by the LLFA, both during consultation and the subsequent meeting.

We have worked to provide a system that not only provides a betterment to the existing situation but ensures that no neighbouring properties will be affected by the proposed works. The proposed network has been designed using sustainable techniques while addressing all environmental considerations to provide a robust, sustainable, compliant design.

#### **Appendices**

- Appendix A - Proposed Site Plan
- Appendix B – Site Wide Drainage Strategy
- Appendix C – SuDS Details
- Appendix D – Surface Water Calculations



**APPENDIX A**  
**Proposed Site Plan**

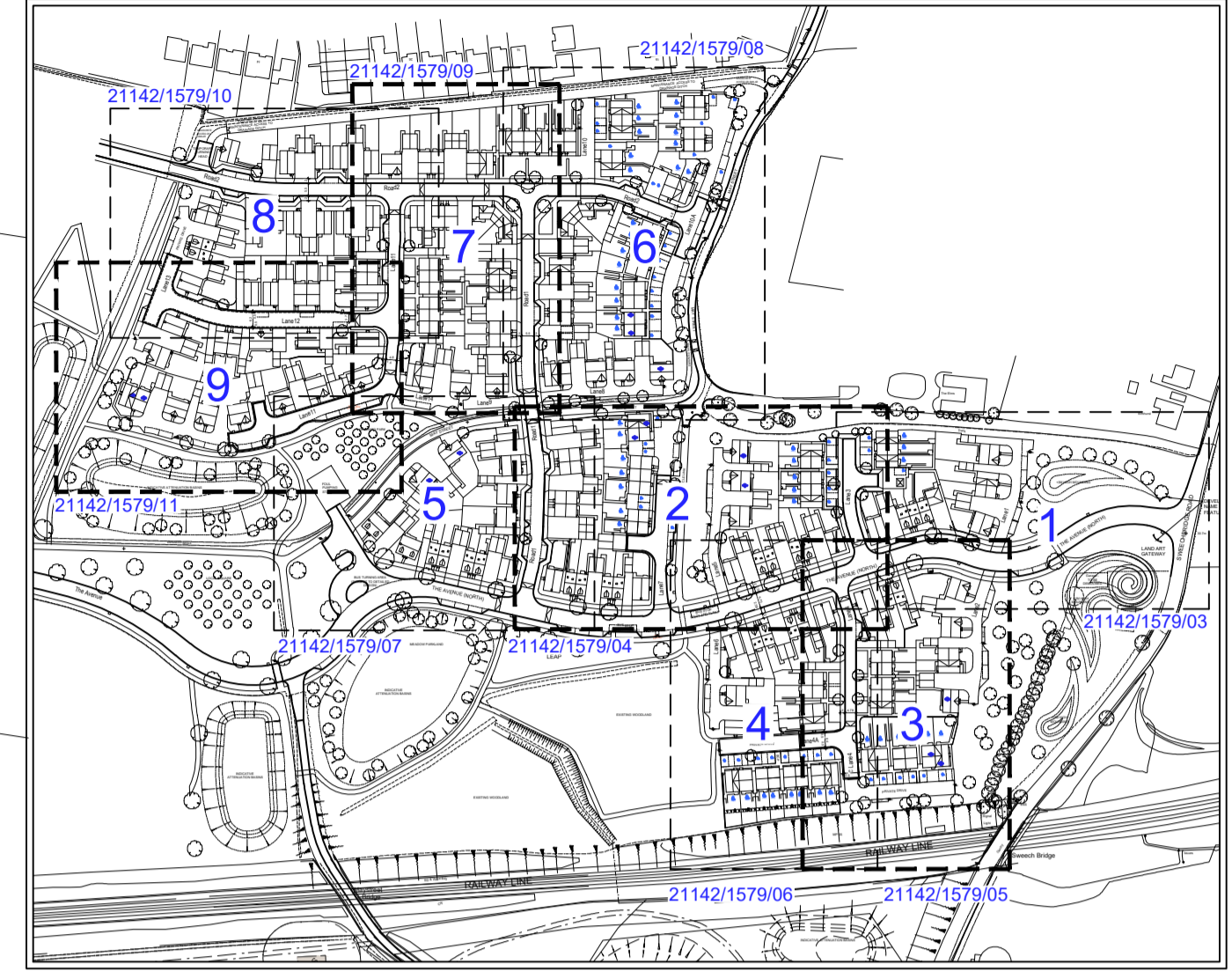
Rev: 01-07-21 GATES RELOCATED ON LEAP. ENGINEERS STEPS IN PATH AND RETAINING WALLS ADDED. UNITS IDENTIFIED REQUIRING SPRINKLERS DUE TO EXCESS OF 45M HOSE DISTANCE. M4(2) UNITS CONFIRMED AS ALL H.A PLOTS. GAS GROUND BOXES REMOVED FROM PLOTS 32-35. VISITOR PARKING BAY OPPOSITE PLOT 65 MOVED EAST TO ACCOMMODATE CHANGING POINT ISLAND. H.T REFS CORRECTED ON PLOTS 33-34. 1M WIDE SOFT VERGES CHANGED TO TARMAC. MAY STREET EXISTING REGRADED TO FORM ENHANCED SWALE WITH DITCH NORTH OF PLOT 101 CULVERTED. SUB-ST FOOTPRINT AMENDED AND BOUNDARIES TO PLOTS 6 & 7 ADJUSTED TO SUIT. STREET LIGHTING UPDATED TO ENGINEERS DESIGN. BOARDED GARAGE VERSIONS IDENTIFIED AS G2C & G2D.

B 12-07-21 PARKING BAYS ADJUSTED ON ALL H.A PLOTS TO ACHIEVE M4(2) 3.3M WIDTH WITH LOSS OF LANDSCAPE STRIPS AND TWO VISITOR PARKING BAYS OUTSIDE PLOTS 15 & 61. PLOTS 119/120 MOVED NORTH 100mm. FENCE TO 115/116 MOVED SOUTH 100mm. PLOTS 115/116 MOVED BACK 600mm TO ACHIEVE 2x2 VIS-SPLAY. VISITOR PARKING BAY REPOSITIONED OUTSIDE PLOTS 9 & 32. ROAD EXTENDED IN FRONT OF PLOT 11. REAR ACCESS TO PLOTS 10 & 11 ADJUSTED AROUND P9 WITH FENCE TO PLOT 8 ADJUSTED. PLOT 4 REAR WALL ADJUSTED FOR VIS-SPLAY. REF CHANGED ON SINGLE GARAGE TO PLOT 28 AS NOW BOARDED. GARAGE G65 MOVED SOUTH 500mm. PARKING TO PLOTS 71-77 RELOCATED. GARAGE G65 MOVED SOUTH 500mm. PARKING TO PLOTS 71, 72 & 74 RELOCATED WITH VISITOR PARKING BAY REPOSITIONED OUTSIDE PLOT 75. REAR SCREEN WALL TO PLOT 17 MOVED SOUTH BY 300mm.

C 02-11-21 ROADS AMENDED TO SUIT ENGINEERS LAYOUT WITH FOOTPATH ADJUSTED WITH TURNING HEAD OF LANES 4 & 4A WITH REMOVAL OF 2 TREES ADJACENT PLOTS 54 & 56. LANES 11, 12 & 13 ADJUSTED WITH REDUCED/AMENDED SERVICE MARGINS. LANE 7 EXTENDED WITH TURNING HEAD ADJUSTED AND CONNECTING PUBLIC FOOTPATH IN FRONT OF PLOT 74 ADDED. TURNING HEADS EXTENDED UP TO PLOT 145 & 170. PUBLIC FOOTPATHS ADDED IN FRONT OF PLOT 113. FOOTPATH ADDED TO SIDE OF PLOT 108. PLOTS 1-3 RE-PLANNED WITH PLOTS 1 & 3 SWAPPED AT SALES REQUEST. NEW HT EMT41 SUBSTITUTED FOR NT41 WITH PLOTS 48-49 RELOCATED TO SUIT. GRAIN FIBRE CABINET ADDED ADJACENT TO PLOT 28 SCREEN WALL. DEVELOPMENT NAME FEATURE WALLS ADDED AT ENTRANCE OF SITE AT SWEECHBRIDGE JUNCTION. GAS GOVERNOR OMITTED FROM IN FRONT OF PLOT 89 (AWAIT DETAILS OF NEW LOCATION). LAMP COLUMN LOCATION CONFIRMED WITH PAVED BASES ADDED FOR COLUMNS IN VERGES.

D 05-11-21 BCP REMOVED FROM FRONTAGE OF PLOT 13. TREE REMOVED FROM IN FRONT OF PLOTS 47, 65, 158 & 159. REAR FENCE LINE MOVED ON PLOTS 57-64 FROM SITE BOUNDARY TO RETAINING WALL. BOLLARD LIGHTS REMOVED FROM LANE 7. EVCP MOVED BACK FROM KERB IN FRONT OF PLOT 166. RED COMMENTS REMOVED.

E 11-11-21 LEGEND AMENDED FOR KCC OWNERSHIP. M4(2) COMMUNAL PATHS INCREASED TO 1200 WIDE.



KEY FOR 1:200 SHEETS

- LEGEND**
- 1.8M HIGH SCREEN WALL
  - RETAINING WALL
  - - - 1.8M HIGH SCREEN FENCE, CLOSE BOARD FENCE
  - - - 1.8M HIGH SCREEN FENCE, LARCH LAP
  - - - 0.9M HIGH GREEN CHAINLINK FENCE
  - - - 1.2M HIGH TIMBER POST & RAIL FENCE (3 RAILS)
  - 1.2M HIGH STEEL PARKLAND RAILINGS
  - 1.0M HIGH BLACK BOW TOP STEEL RAILINGS
  - - - 0.4M HIGH TIMBER KNEE RAIL
  - BLOCK PAVING - BUFF
  - BLOCK PAVING - CHARCOAL IN STRETCHER BOND
  - BLOCK PAVING - BRINDLE
  - BLOCK PAVING - RAMPS
  - BOUND SHINGLE - PATHS
  - KCC HIGHWAY OWNERSHIP
  - EXISTING TREES RETAINED  
SEE TREE PROTECTION PLAN
  - NEW LANDSCAPING INDICATIVE ONLY.  
SEE LANDSCAPING ARCHITECT DRAWINGS FOR FULL DETAILS
  - BCP
  - BIN COLLECTION POINT
  - BOLLARD LIGHTING - PRIVATE
  - LAMP COLUMNS - ADOPTABLE
  - ELECTRIC VEHICLE CHARGING POINT FOR PUBLIC USE
  - BIRD BOX - REFER TO SPECIALIST REPORT
  - SPRINKLERS REQUIRED DUE TO UNIT IN EXCESS OF 45M FIRE HOSE LENGTH
  - ALL AFFORDABLE UNITS TO MEET PART M4(2) FOR ACCESSIBILITY AND ADAPTATION
- FOR FULL DETAILS OF EXTERNAL FINISHES REFER TO 1:200 SITE LAYOUT

SCHEDULE OF UNITS			
<b>PRIVATE</b>			
NA21	2 BED HOUSE	BEUFORD	17
NA32	3 BED HOUSE	BYFORD	34
NT31	3 BED HOUSE	KINGSDALE	15
CH1	3 BED HOUSE	BESPOKE	4
NB31	3 BED HOUSE	BRAXTON	23
NA42	4 BED HOUSE	HUXFORD	9
NT40	4 BED HOUSE	ROSSDALE	10
EMT41	4 BED HOUSE	PLUMDALE	11
NA44	4 BED HOUSE	MANFORD	20
NB51	5 BED HOUSE	GARRTON	2
			<b>TOTAL 145</b>
<b>AFFORDABLE</b>			
NA22-A	2 BED HOUSE	BLANDFORD	21
NA30-A	3 BED HOUSE	BIRCHFORD	4
NA32-A	3 BED HOUSE	BYFORD	8
NT31-A	3 BED HOUSE	MARSDALE	5
NA34-A	3 BED HOUSE	COLTFORD	10
			<b>TOTAL 48</b>
			<b>TOTAL 193</b>

(h) - HANDED UNITS

**GLAZING & TRICKLE VENTILATOR SPECIFICATION TO SUIT NOISE REPORT**

FCS BUILDING DESIGN CONSULTANTS LTD. E1 East Court, South Park Business Village, Enterprise Road, Mallow, Kild. M21 5 LF. Tel: 01622 865585. Email: mail@fcs-ireland.co.uk

Client/Job title: TAYLOR WIMPEY HILLBOROUGH HERNE BAY - PHASE 1 (PLOTS 1 - 193)

Drawing: 1:750 OVERALL SITE LAYOUT



Scale: 1:750@A1 Date: DEC 2019 Drawn: M.J. Checked: FCS Drawing No: 21142/1579/12 Rev: E

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