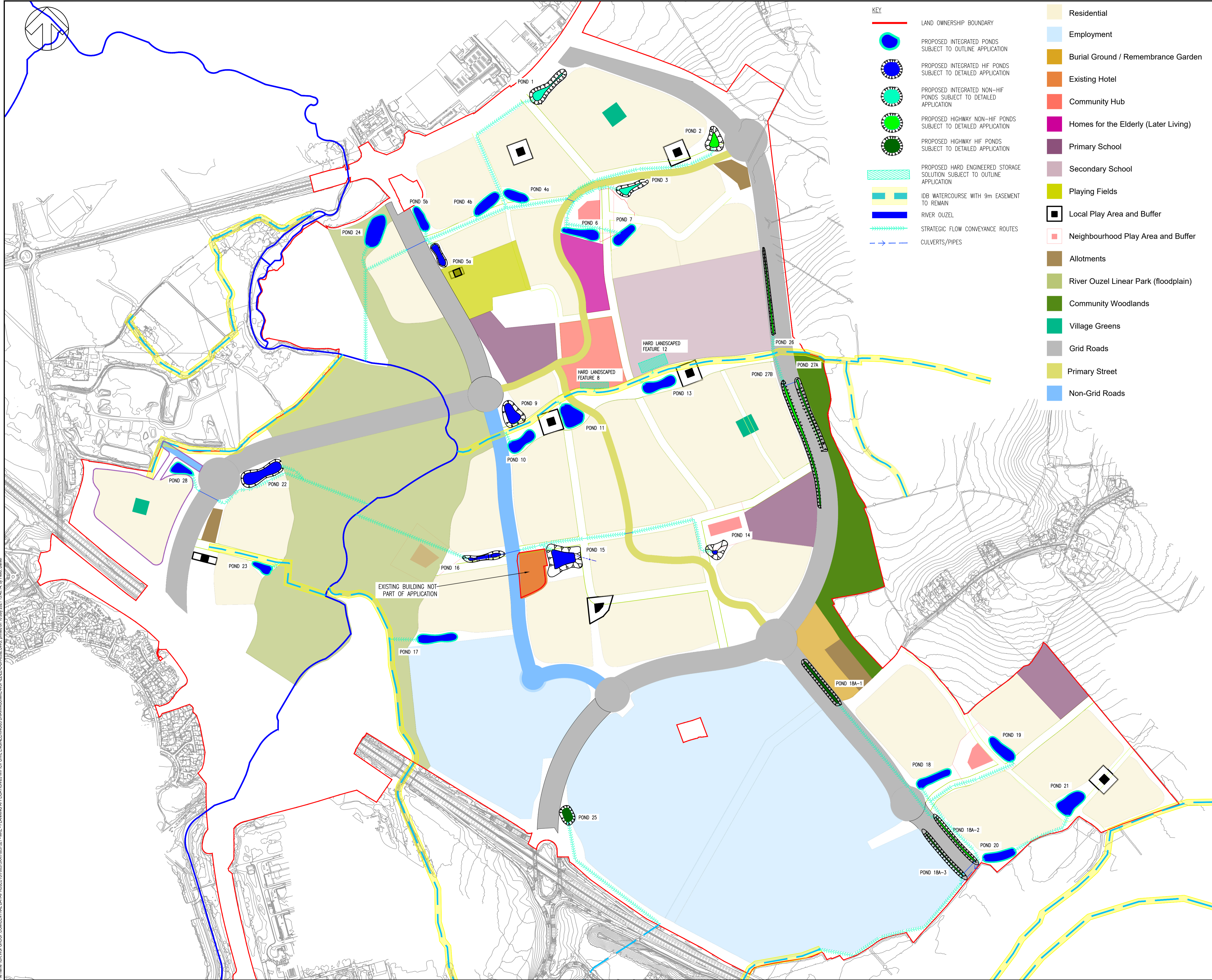


# **Appendix 13** Outline Integrated Drainage Strategy (Dwg MKW-WSP-ZZ-ZZ-C-DR-0592-P03)



- KEY**
- LAND OWNERSHIP BOUNDARY
  - PROPOSED INTEGRATED PONDS SUBJECT TO OUTLINE APPLICATION
  - PROPOSED INTEGRATED HIF PONDS SUBJECT TO DETAILED APPLICATION
  - PROPOSED INTEGRATED NON-HIF PONDS SUBJECT TO DETAILED APPLICATION
  - PROPOSED HIGHWAY NON-HIF PONDS SUBJECT TO DETAILED APPLICATION
  - PROPOSED HIGHWAY HIF PONDS SUBJECT TO DETAILED APPLICATION
  - PROPOSED HARD ENGINEERED STORAGE SOLUTION SUBJECT TO OUTLINE APPLICATION
  - IDB WATERCOURSE WITH 9m EASEMENT TO REMAIN
  - RIVER OUZEL
  - STRATEGIC FLOW CONVEYANCE ROUTES
  - CULVERTS/PIPES

- Residential
- Employment
- Burial Ground / Remembrance Garden
- Existing Hotel
- Community Hub
- Homes for the Elderly (Later Living)
- Primary School
- Secondary School
- Playing Fields
- Local Play Area and Buffer
- Neighbourhood Play Area and Buffer
- Allotments
- River Ouzel Linear Park (floodplain)
- Community Woodlands
- Village Greens
- Grid Roads
- Primary Street
- Non-Grid Roads

- NOTES:**
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
  2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH MKE-WSP-XX-XX-C-RP-001.
  3. THIS DRAWING IS NOT TO BE REPRODUCED IN ANY PART OF FORM WITHOUT PRIOR CONSENT FROM WSP UK LIMITED, ALL COPY RIGHT RESERVED.
  4. DO NOT SCALE FROM THIS DRAWING, IF IN DOUBT CONTACT WSP UK LIMITED.
  5. SURFACE WATER STRATEGY IS INDICATIVE AND IS BASED ON THE LAND BUDGET PLAN PROVIDED BY JTP ON 14/07/2021.
  6. ALL SURFACE WATER RUNOFF CALCULATIONS WERE UNDERTAKEN USING MICRODRAINAGE SOFTWARE AND ARE SUBJECT TO DETAILED DESIGN.
  7. CONFLICTING INFORMATION SHOWN ON THE ENGINEER'S DRAWINGS OR DISCREPANCIES BETWEEN THE INFORMATION GIVEN BY THE ENGINEER AND THAT PROVIDED BY OTHERS MUST BE REFERRED TO THE ENGINEER BEFORE THE WORKS COMMENCE.
  8. TOPOGRAPHICAL INFORMATION PROVIDED BY MK SURVEYS FILE - "28562" ON THE 11/06/2020 AND 3D ENGINEERING SURVEYS FILE - "DES21007\_MKE\_REV1" ON THE 22/02/2021. WSP CAN NOT ACCEPT RESPONSIBILITY FOR ANY INACCURACIES.
  9. ALL DRAINAGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE DCG, DMRB, CIRIA SuDS MANUAL AND MKE GUIDANCE.
  10. ALL OUTFALL LEVELS TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.
  11. SURFACE WATER RUNOFF IS RESTRICTED TO 4L/S/IMPERMEABLE HECTARE. FOR FURTHER DETAILS OF VORTEX CONTROLS USED AND DISCHARGE RATES PLEASE REFER TO THE ACCOMPANYING CALCULATIONS.
  12. ALL HEADWALLS TO BE ARCHITECTURALLY CLADDED.
  13. CCTV SURVEY OF IDENTIFIED OUTFALLS TO BE UNDERTAKEN AT THE NEXT STAGE OF DESIGN.
  14. DESIGN ASSUMPTIONS:
    - 14.1. RESIDENTIAL AND SCHOOL CATCHMENTS ASSUMED TO BE 60% IMPERMEABLE WITH 10% DEVELOPMENT CREEP FOR A TOTAL IMPERMEABILITY 66%.
    - 14.2. COMMERCIAL CATCHMENTS ASSUMED TO BE 90% IMPERMEABLE.
    - 14.3. HIGHWAY ASSUMED TO BE 100% IMPERMEABLE.
    - 14.4. ALL GREENFIELDS, ALLOTMENTS AND PLAYGROUNDS ASSUMED TO BE PERMEABLE AND SO NO FORMAL DRAINAGE REQUIRED.
    - 14.5. 300mm FREEBOARD AVAILABLE ON ALL PONDS ABOVE 1 IN 100 YEAR PLUS 40% CLIMATE CHANGE LEVEL IN ACCORDANCE WITH CIRIA SuDS MANUAL C753.
    - 14.6. 150mm FREEBOARD ON ALL SWALES ABOVE THE 1 IN 100 YEAR PLUS 40% CLIMATE CHANGE LEVEL IN ACCORDANCE WITH CIRIA SuDS MANUAL C753.

THIS PROVISIONAL PRELIMINARY DESIGN IS FOR GUIDANCE PURPOSES ONLY. WSP ACCEPTS NO LIABILITY FOR ANY DAMAGE, LOSS, EXPENSES OR COST INCURRED AS A RESULT OF RELYING ON THE INFORMATION PROVIDED IN THE DESIGN APPRAISAL ESTIMATE. THE APPROVAL ESTIMATE WAS DERIVED FROM A MIXTURE OF THIRD PARTY INFORMATION AND THE APPLICATION OF WSP'S REASONABLE SKILL AND CARE, BUT MAY BE SUBJECT TO OTHER SUCH INFORMATION AND VARIATIONS OF WHICH WSP IS UNAWARE. THE DESIGN APPRAISAL ESTIMATE SHOULD NOT BE RELIED UPON FOR TENDER OR PROCUREMENT PURPOSES. FOR ACCURATE ADVICE A DETAILED DESIGN SHOULD BE CARRIED OUT AT THE APPROPRIATE DESIGN STAGE. THEREFORE, USE OF THE INFORMATION IS ENTIRELY AT YOUR OWN RISK.

REV	DATE	BY	DESCRIPTION	CHK	APP
P03	13/07/2021	DSF	STRATEGY UPDATED IN LINE WITH NEW LAND BUDGET PLAN	BU	SP
P02	29/03/2021	MAR	PONDS AND BOUNDARIES UPDATED	BU	SP
P01	05/03/2021	DSF	FIRST ISSUE	BU	SP

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SITE/PROJECT: **MILTON KEYNES EAST**

TITLE: **OUTLINE INTEGRATED DRAINAGE STRATEGY**

SCALE @ A1: 1:5000	CHECKED: BU	APPROVED: SP
PROJECT NO: 70057521	DESIGNED: DSF	DRAWN: OPL
		DATE: July 21

DRAWING NO: **MKE-WSP-ZZ-ZZ-C-DR-0592**      REV: **P03**

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