ISO A0 841mm x 1189mm

Approved: ____

Checked: ____

Designer: ____

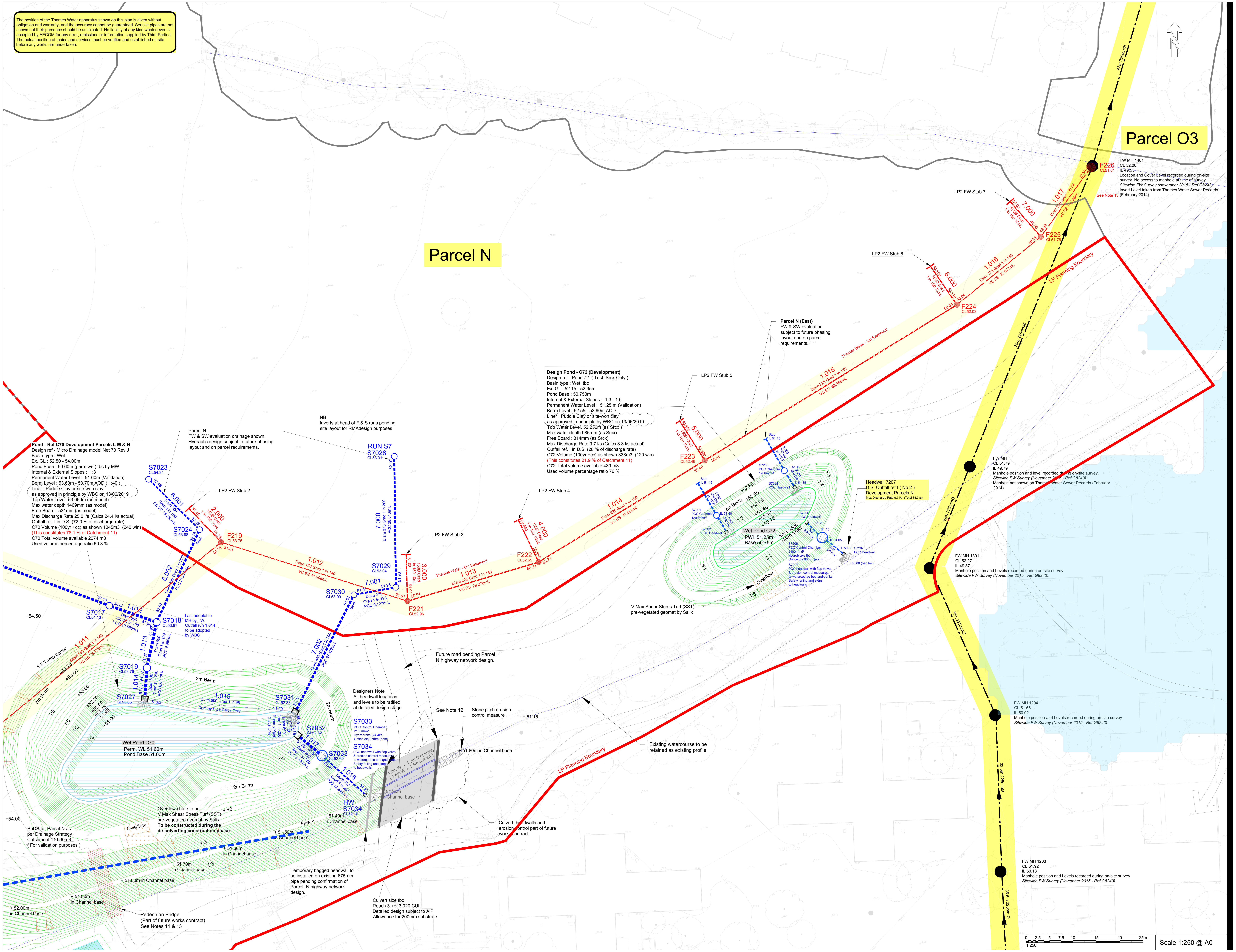
Project Management Initials:

Last Plotted: 2019-06-14

Last saved by: PAVLOS.KALOGIROU

Filename: \\UKBHM2FP002\UKBHM2FP002-V1IE\PROJECTS\MUNICIPAL INFRASTRUCTURE - ARBORFIELD GARRISON SDL\DRAWINGS\CURRENT DRAWINGS\LINEAR PARK - II\60312043_LP2_002-003-C7-LINEAR PARK 2 DRAINAGE GENERAL ARRANGEMENT.DWG

The position of the Thames Water apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by AECOM for any error, omissions or information supplied by Third Parties. The actual position of mains and services must be verified and established on site before any works are undertaken.



**Pond - Ref C70 Development Parcels L M & N**
Design ref - Micro Drainage model Net 70 Rev J
Basin type : Wet
Ex. GL : 52.50 - 54.00m
Pond Base : 50.60m (perm wet) tbc by MW
Internal & External Slopes : 1:3
Permanent Water Level : 51.60m (Validation)
Berm Level : 53.60m - 53.70m AOD ( 1:40 )
Liner : Puddle Clay or site-won clay
as approved in principle by WBC on 13/06/2019
Top Water Level. 53.069m (as model)
Max water depth 1469mm (as model)
Free Board : 531mm (as model)
Max Discharge Rate 25.0 l/s (Calcs 24.4 l/s actual)
Outfall ref. I in D.S. (72.0 % of discharge rate)
C70 Volume (100yr +cc) as shown 1045m3 (240 win)
(This constitutes 78.1 % of Catchment 11)
C70 Total volume available 2074 m3
Used volume percentage ratio 50.3 %

Parcel N
FW & SW evaluation drainage shown.
Hydraulic design subject to future phasing
layout and on parcel requirements.

NB
Inverts at head of F & S runs pending
site layout for RMAdesign purposes

**Design Pond - C72 (Development)**
Design ref - Pond 72 ( Test Srcx Only )
Basin type : Wet tbc
Ex. GL : 52.15 - 52.35m
Pond Base : 50.750m
Internal & External Slopes : 1:3 - 1:6
Permanent Water Level : 51.25 m (Validation)
Berm Level : 52.55 - 52.60m AOD
Liner : Puddle Clay or site-won clay
as approved in principle by WBC on 13/06/2019
Top Water Level. 52.236m (as Srcx )
Max water depth 986mm (as Srcx)
Free Board : 314mm (as Srcx)
Max Discharge Rate 9.7 l/s (Calcs 8.3 l/s actual)
Outfall ref. I in D.S. (28 % of discharge rate)
C72 Volume (100yr +cc) as shown 338m3 (120 win)
(This constitutes 21.9 % of Catchment 11)
C72 Total volume available 439 m3
Used volume percentage ratio 76 %

**Parcel N (East)**
FW & SW evaluation
subject to future phasing
layout and on parcel
requirements.

Headwall 7207
D.S. Outfall ref I ( No 2 )
Development Parcels N
Max Discharge Rate 9.7 l/s (Total 34.7l/s)

S7206
PCC Control Chamber
2100mmØ
Hydrobrake tbc
Orifice dia 66mm (nom)

S7207
PCC headwall with flap valve
& erosion control measures
to watercourse bed and banks
Safety railing and steps
to headwalls

V Max Shear Stress Turf (SST)
pre-vegetated geomat by Salix

Future road pending Parcel
N highway network design.

Designers Note
All headwall locations
and levels to be ratified
at detailed design stage

See Note 12

Stone pitch erosion
control measure

S7033
PCC Control Chamber
2100mmØ
Hydrobrake (24.4l/s)
Orifice dia 97mm (nom)

S7034
PCC headwall with flap valve
& erosion control measures
to watercourse bed and banks
Safety railing and steps
to headwalls

Existing watercourse to be
retained as existing profile

Culvert, headwalls and
erosion control part of future
works contract.

Overflow chute to be
V Max Shear Stress Turf (SST)
pre-vegetated geomat by Salix
**To be constructed during the**
**de-culverting construction phase.**

SuDS for Parcel N as
per Drainage Strategy
Catchment 11 930m3
( For validation purposes )

Temporary bagged headwall to
be installed on existing 675mm
pipe pending confirmation of
ParceL N highway network
design.

Culvert size tbc
Reach 3. ref 3.020 CUL
Detailed design subject to AiP
Allowance for 200mm substrate

Pedestrian Bridge
(Part of future works contract)
See Notes 11 & 13

FW MH 1401
CL 52.00
IL 49.53
Location and Cover Level recorded during on-site survey. No access to manhole at time of survey.
*Sitewide FW Survey (November 2015 - Ref.G8243).*
Invert Level taken from Thames Water Sewer Records (February 2014).

FW MH
CL 51.79
IL 49.79
Manhole position and level recorded during on-site survey.
*Sitewide FW Survey (November 2015 - Ref.G8243).*
Manhole not shown on Thames Water Sewer Records (February 2014)

FW MH 1301
CL 52.27
IL 49.87
Manhole position and Levels recorded during on-site survey
*Sitewide FW Survey (November 2015 - Ref.G8243).*

FW MH 1204
CL 51.66
IL 50.02
Manhole position and Levels recorded during on-site survey
*Sitewide FW Survey (November 2015 - Ref.G8243).*

FW MH 1203
CL 51.92
IL 50.18
Manhole position and Levels recorded during on-site survey
*Sitewide FW Survey (November 2015 - Ref.G8243).*

Scale 1:250 @ A0

AECOM

**PROJECT**

Arborfield Garrison
SDL

**CLIENT**

Crest Nicholson

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**KEY**

| | |
|---|---|
| 🟥 | Linear Park 2 Boundary |
| 🟨 | Existing Thames Water Foul Sewer & 6m Easement |
| — | Existing Watercourse |
| 🟨 | Proposed Foul Water Drainage and required 6m Easement |
| 🟨 | Proposed Surface Water Drainage and required 6m Easement |
| + | VMax Shear Stress Turf (SST) pre-vegetated geomat by Salix |
| 🟦 | 100 yr + CC. Flood Extents - AECOM Model Ref 19.5 |
| ---- | Existing culvert alignment |

**NOTES**

1. This drawing is not to be scaled.
2. Topographical Survey data has been taken from "Topographical Release Seven.dwg" received from K.A Rylance February 2015.
3. The existing drainage information is based on Subscan Surveys and Hilson Moran drawings. The Contractor is to undertake all necessary investigative works to confirm the status, size, position, depths of the existing drainage network prior to the commencement of the works. The Engineer is to be notified of any omissions or variations.
4. Thames Water network manhole positions and alignment information has been taken from the Water Authority records. Additional survey work was undertaken by Laser Surveys in 2015 and has been added as applicable. This supplied information has not been independently verified and may be inconclusive. No drainage works to commence until all outfall drainage has been independently confirmed by contractor. Engineers to be informed of all variations in size, level and gradient which affect the proposed FW drainage design.
5. Line and level of all drainage shown is to be confirmed following detailed design.
6. Foul water discharge to the public sewer at TW manhole ref 1401, has section 106 consent, TW Ref: DS6048262.
7. NMRE drainage shown as per AECOM drawing "60312043/NMRE/S104/004 - NMRE Section 104 Layout Sheet 3 of 3.
8. Surface water drainage easement requirements to be confirmed by Water Authority.
9. Path layout has been taken from Murdoch Wickham drawing "14558/VB/LS/5130 - Phase 2 Path Layout" dated August 2017.
10. Designer notes identify items in development to be incorporated into detailed design.
11. Pedestrian bridge span and foundation type details within channel to be confirmed pending detailed design. Bridge details subject to structural design and AiP.
12. Refer to AiP drawings for culvert headwall designs.
13. Bridge designer, manufacturer or coordinator to contact AECOM to confirm minimum/critical bridge soffit levels to ensure freeboard allowances are acceptable prior to commencing pedestrian bridge and foundation design. This value is dependant on type, span and depth of construction.
14. Design information for Princess Marina Drive South has been taken from AECOM drawing "60312043-PMD-S-CIV-002 PMD South Drainage General Arrangement", and is subject of separate Reserved Matters Application.
15. V Max Shear Stress Turf SST geomat by Salix to be installed as per Manufactures specifications.
16. Surface and Foul Water drainage locations and levels subject to change due to PMD / Rowcroft alignment redesign. Extents of changes to be confirmed after junction redesign.

**For Construction**

**ISSUE/REVISION**

| Rev | Date | Detail | Made | Chk'd | App'd |
|---|---|---|---|---|---|
| C6 | 21.05.19 | For approval by WBC following proposal for re-use of site won clay for pond lining | PK | CP | CP |
| C5 | 21.05.19 | Remaining works updated | PK | AC | CP |
| C4 | 22.01.19 | FW stub levels amended following correspondence with contractors dated 10.01.19. Section of channel/de-culverting released for construction | PK | AC | CP |
| C3 | 21.12.18 | SW Drainage amended following correspondence with contractors dated 17.12.18 | LP | AC | CP |
| C2 | 13.12.18 | SW Drainage amended following correspondence with contractors dated 12.12.18 | LP | CP | CP |
| C1 | 23.11.18 | For construction | RC | CB | CP |
| P8 | 22.06.18 | Issued for Tender | RC | CB | CP |
| P7 | 23.05.18 | Issued for Planning | RC | CB | CP |
| P6 | 21.03.18 | Issued for Planning | LP | AC | CP |
| P5 | 08.01.18 | Culvert 3.020 preliminary info added | LP | AC | CP |
| P4 | 02.11.17 | LP2 path alignments amended following revisions made by Landscape Architects | BJM | LP | AC |
| P3 | 13.10.17 | Amendments made to Ponds C70, C71 ,watercourse and earthworks following request from Landscape Architects | LP | AC | SLM |
| P2 | 20.09.17 | Preliminary Issue | LP | AC | SLM |
| P1 | 19.09.17 | For Information | LP | AC | SLM |

**PROJECT NUMBER**

60312043

**SHEET TITLE**

Linear Park 2
Drainage General Arrangement
Sheet 2 of 2

**SHEET NUMBER**

60312043/LP2/003