

- DRAINAGE NOTES:**
- ALL EXISTING MANHOLE COVERS TO BE RE-SET TO EXISTING/PROPOSED LEVELS AS REQUIRED; INFILL COVERS IN BLOCK PAVEMENT, SOLID TOP IN ASPHALT, COBBLES AND SOFT AREAS. CLEAR OPENINGS TO MATCH EXISTING.
  - REPLACEMENT OF EXISTING SURFACE LEVEL DRAINAGE FEATURES AS DETERMINED BY LANDSCAPE ARCHITECTS
  - ALL NEW BELOW GROUND DRAINAGE AT RISK OF ROOT INGRESS TO BE PROVIDED WITH ROOT BARRIER PROTECTION.
  - ALL DRAINS PASSING THROUGH OR UNDER STRUCTURE ARE TO BE PROVIDED WITH DOUBLE ROCKER PIPES.
  - ALL COVER LEVELS ARE APPROXIMATE & SHALL BE CONFIRMED BY THE EXTERNAL WORKS DESIGNER.
  - ALL EXTERNAL PIPEWORK SHALL BE VITRIFIED CLAY AS HEPTORTH SUPERSLEEVE OR SIMILAR APPROVED.
  - ALL DRAINAGE SERVING THE EXISTING BUILDING IS TO REMAIN LIVE UNTIL THE NEW WORK IS COMPLETE AND OCCUPIED.
  - EXISTING SITE SERVICES ARE SHOWN IN GOOD FAITH AND HAVE BEEN TAKEN FROM EXISTING SITE SURVEY INFORMATION. THE CONTRACTOR SHALL CONFIRM BY CAT GENNY/SPRINDLE/TRIAL PIT ETC AS NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING SUPPLIES DURING SITE WORKS.
  - THIS DRAWING IS TO BE READ FOR EXTERNAL DRAINAGE ONLY. FOR DETAILS OF MECHANICAL & ELECTRICAL SERVICES REFER TO RELEVANT ENGINEERS DETAILS. SERVICES COORDINATION BY OTHERS.
  - ALL DRAINS WITH LESS THAN 600mm COVER SHALL BE PROTECTED BY CONCRETE COVER SLABS AS STANDARD DETAILS. DRAINS SHALL THEN RAMP DOWN WHERE APPLICABLE TO ACHIEVE 600mm COVER VIA 45° BENDS.
  - THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE LATEST EXTERNAL WORKS DRAWINGS FOR EXACT GROUND LEVELS - WHERE IN DOUBT THE RELEVANT ARCHITECT SHALL BE CONTACTED TO CONFIRM.
  - ALL EXISTING DRAINAGE LEVELS HAVE BEEN EXTRACTED FROM THE SURVEY INFORMATION; CHECK ALL EXISTING INVERT LEVELS PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
  - ALL CONNECTION TO BE VIA JUNCTION INSERTIONS - SADDLES SHALL NOT BE USED
  - ANY EXISTING CONNECTION DISTURBED BY PROPOSED WORKS TO BE RECONNECTED AS EXISTING OR VIA NEW CONNECTION AS APPLICABLE. THE ENGINEER SHALL BE PROVIDED WITH ALL NECESSARY INFORMATION TO REVISE DESIGN TO ACCOMMODATE WHERE NECESSARY.

- RESIDUAL RISKS**
- EXISTING SERVICES**
- UTILISE EXISTING SERVICES DRAWINGS AUGMENTED BY CAT GENNY/SPRINDLE/TRIAL PIT SURVEYS AS NECESSARY TO ESTABLISH ALL SERVICE LOCATIONS
  - ARRANGE FOR TEMPORARY OR PERMANENT DECOMMISSIONING DURING WORKS AS NECESSARY
  - HAND DIG CLOSE TO SERVICES AS NECESSARY
  - ALL PERSONNEL TO BE APPROPRIATELY TRAINED
  - SUBMIT METHOD STATEMENT FOR APPROVAL PRIOR TO COMMENCING WORKS
- NO OTHER KNOWN SIGNIFICANT RISKS OTHER THAN THOSE THAT A COMPETENT DRAINAGE CONTRACTOR WOULD TYPICALLY EXPECT TO ENCOUNTER FROM TIME TO TIME AND MANAGE ACCORDINGLY

**BASIS OF DESIGN**

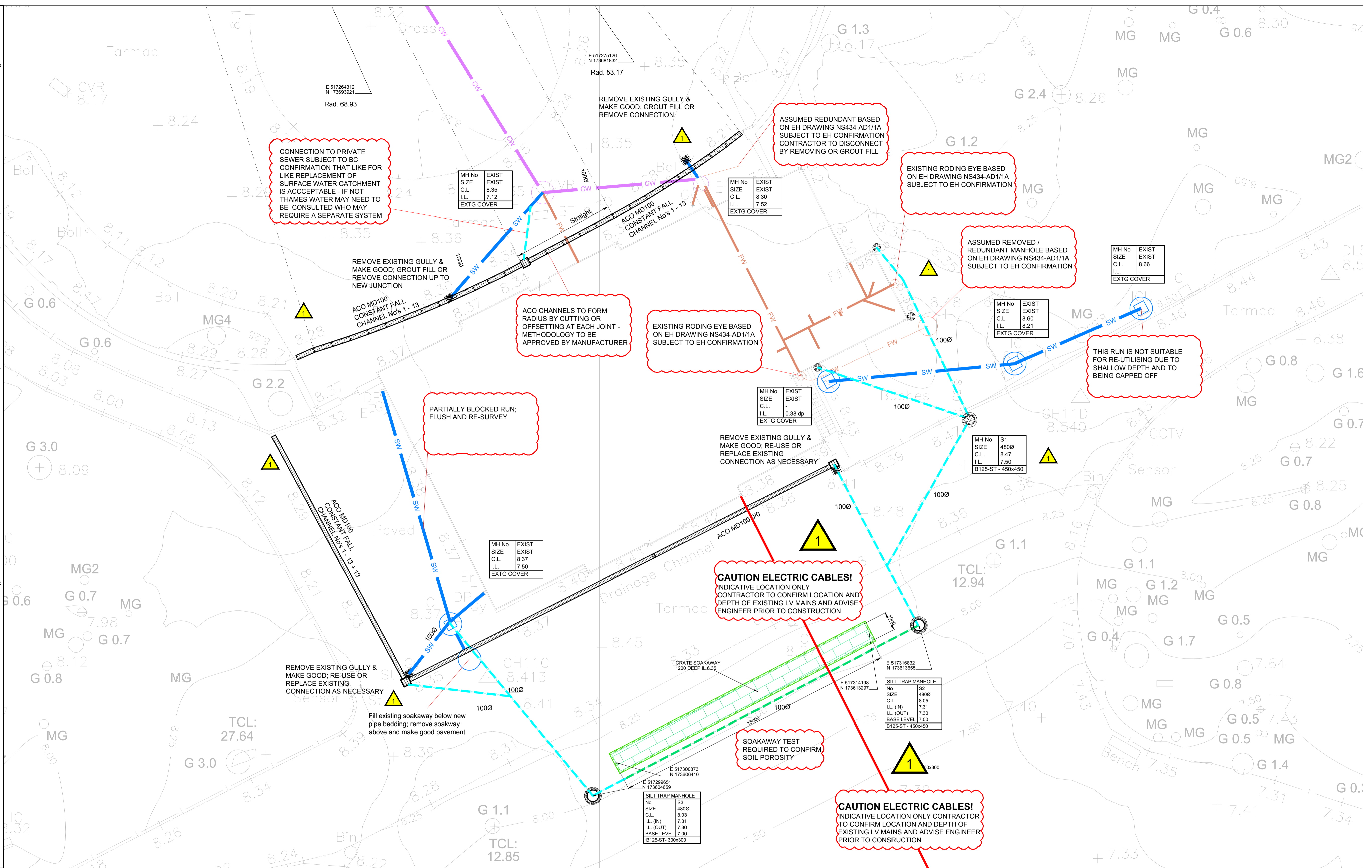
Site Plan:  
JLG 581\_170630\_JLG\_Landscape Base\_clean issue

Drainage Strategy:  
AC 16-132-270C

Existing Drainage:  
English Heritage Drawing No. NS 434 AD1/A

Topographical:  
CHG MH16T01-17

CadMap 2010 2017



**KEY**

|  |  |
|--|--|
| Proposed uPVC private carrier drain  |  |
| Proposed filter drain  |  |
| Proposed cast iron surface water sewer   |  |
| Existing private surface water sewer   |  |
| Existing private foul sewer  |  |
| Existing private combined sewer  |  |
| ACO MD100 0.0 Treadsafe with universal gully unit  |  |
| ACO MD100 0.0 Treadsafe with sump unit at connection   |  |
| RW Gully, W.T. Knowles & Sons "Square Inspection Gully" with cast iron grate, code KRGU1/1   |  |
| Inspection chamber in Class A Engineering Brick laid in NHL lime mortar, plastic base to BS EN 1401, and solid top cast iron cover (J) & JL Longbottom - Single Seal, code 922 |  |

| REV | DESCRIPTION        | CHK | DATE     |
|-----|--------------------|-----|----------|
| P06 | ISSUED FOR COMMENT | JC  | 14/05/18 |
| P05 | ISSUED FOR COMMENT | JC  | 01/05/18 |
| P04 | ISSUED FOR COMMENT | JC  | 26/03/18 |
| P03 | ISSUED FOR COMMENT | JC  | 13/11/17 |
| P02 | ISSUED FOR COMMENT | JC  | 08/11/17 |
| P01 | ISSUED FOR COMMENT | JC  | 10/10/17 |
| REV | AMENDMENT          | CHK | DATE     |

**The Morton Partnership**

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**MARBLE HILL HOUSE**  
TWICKENHAM  
TW1 2NL

**BELOW GROUND DRAINAGE**  
HISTORIC HOUSE  
GENERAL ARRANGEMENT

SCALE: 1:100 DRAWN BY: WGO  
DATE: July 2017 CHECKED BY: JC

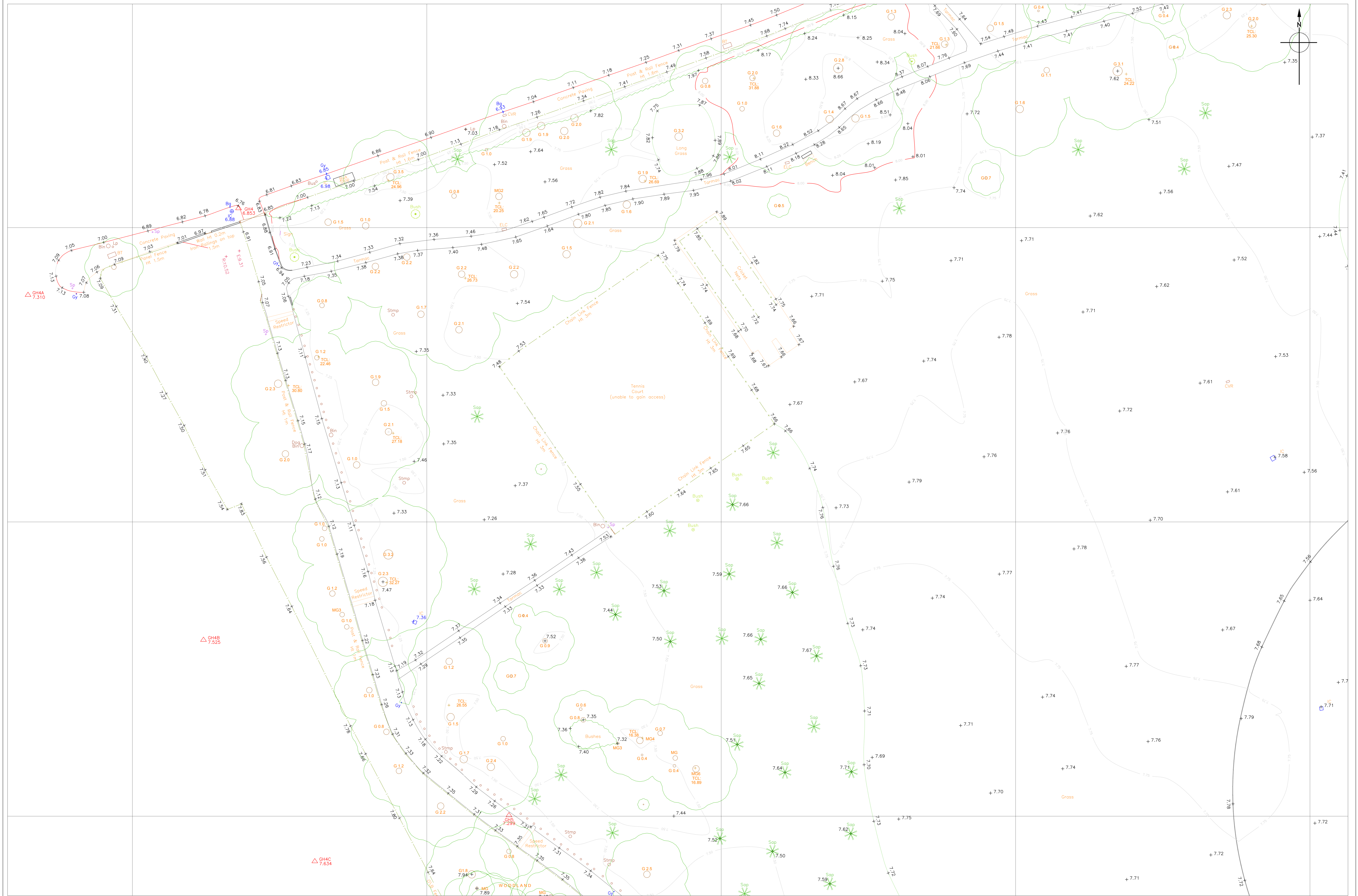
DRG No. **17549/D/50/3-1/P06**

## Appendix B Topographical Survey

Topographical Survey undertaken by Greenhatch Group, dated August 2016:

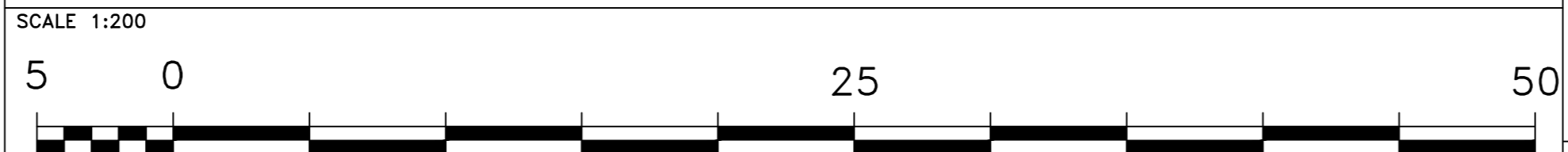
- MHH16 Marble Hill Park, Richmond Road, Twickenham: Sheet 1 - Sheet 16

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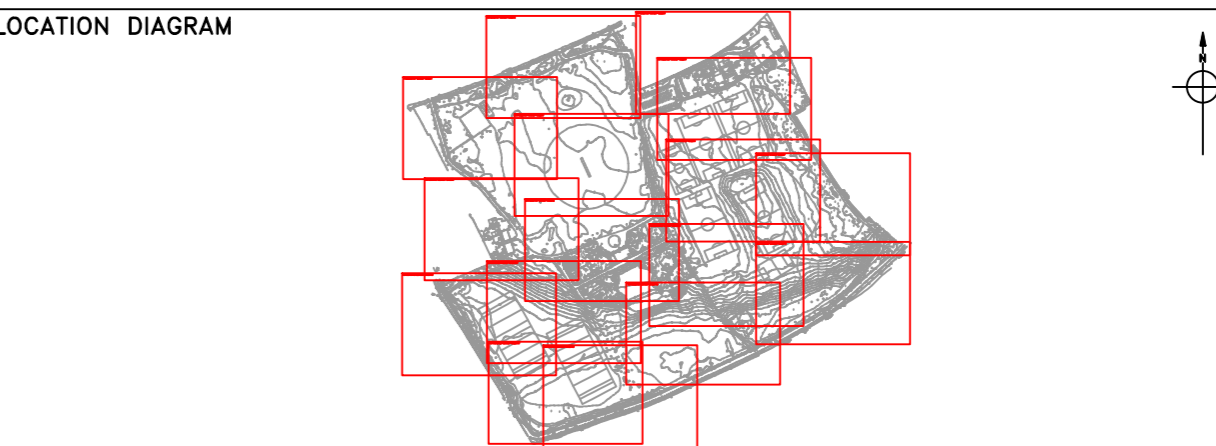


MAIN TITLE MARBLE HILL PARK  
 TOWN TWICKENHAM  
 COUNTY MIDDLESEX

SUBSIDIARY  
 MARBLE HILL PARK, RICHMOND ROAD – SHEET 1  
 TWICKENHAM

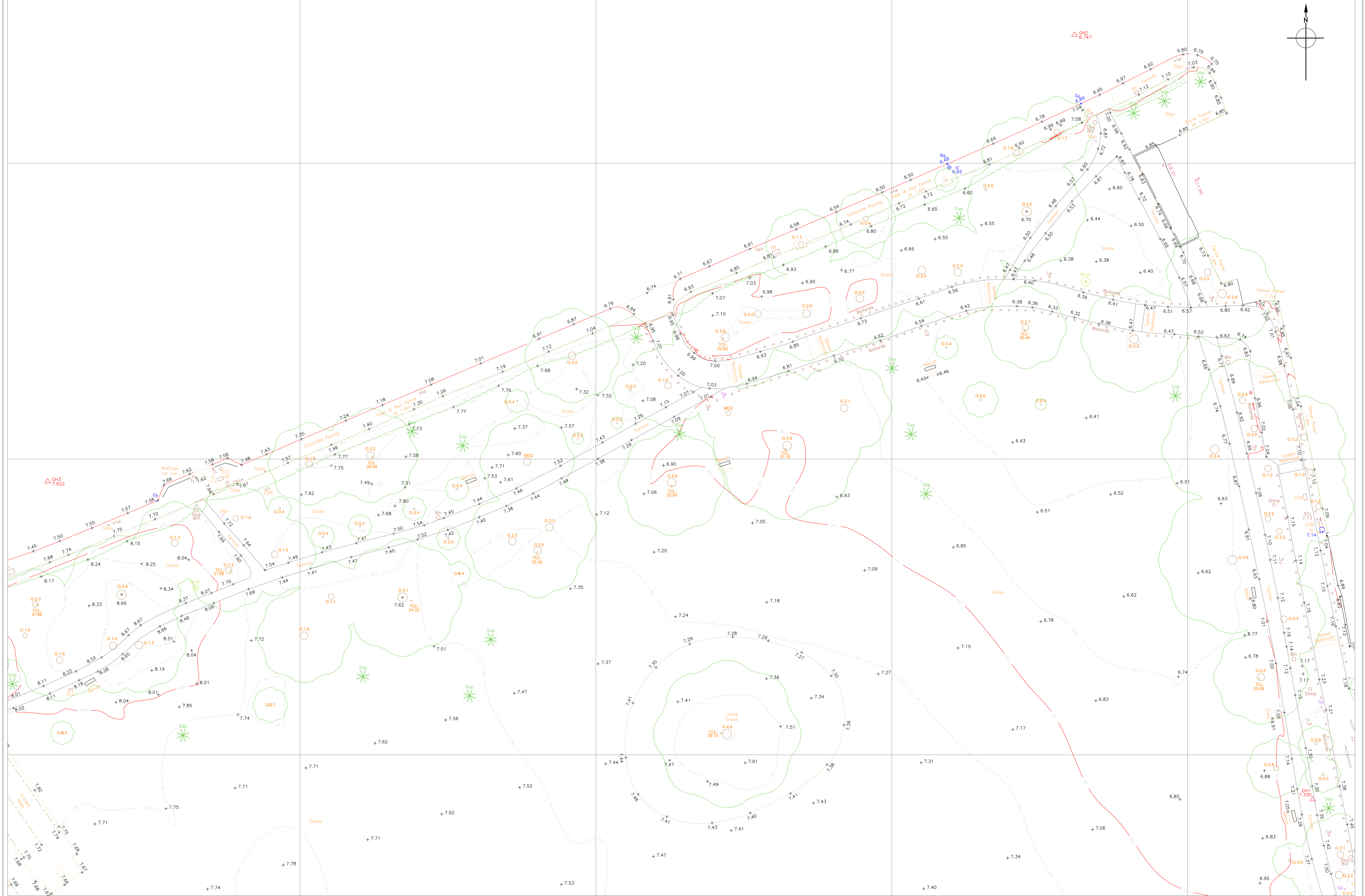
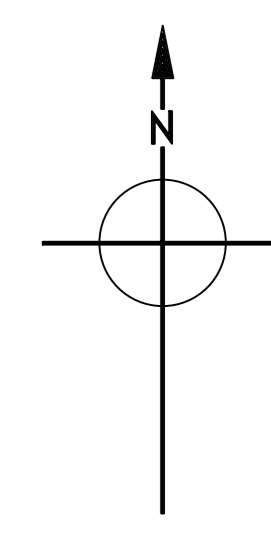


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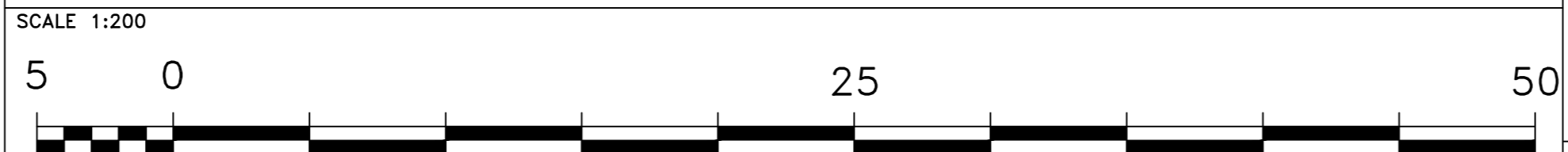
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| DIGITAL FILE NAME: MHH16T01  | SCALE: 1:200 |
| SURVEYED: AUGUST 2016  | ST No: MHH16 |
| PLOTTED: AUGUST 2016   |              |
| CAD: AUGUST 2016   |              |

ENGLISH HERITAGE  
 SURVEY JOB No: MHH16



MAIN TITLE **MARBLE HILL PARK**  
 TOWN **TWICKENHAM**  
 COUNTY **MIDDLESEX**

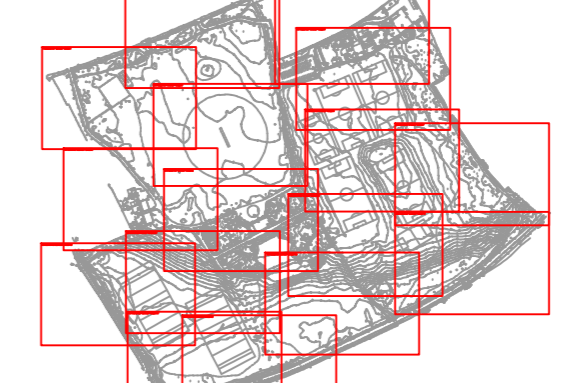
SUBSIDIARY  
**MARBLE HILL PARK, RICHMOND ROAD – SHEET 2**  
 TWICKENHAM



BENCH MARKS USED  
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Reference:  
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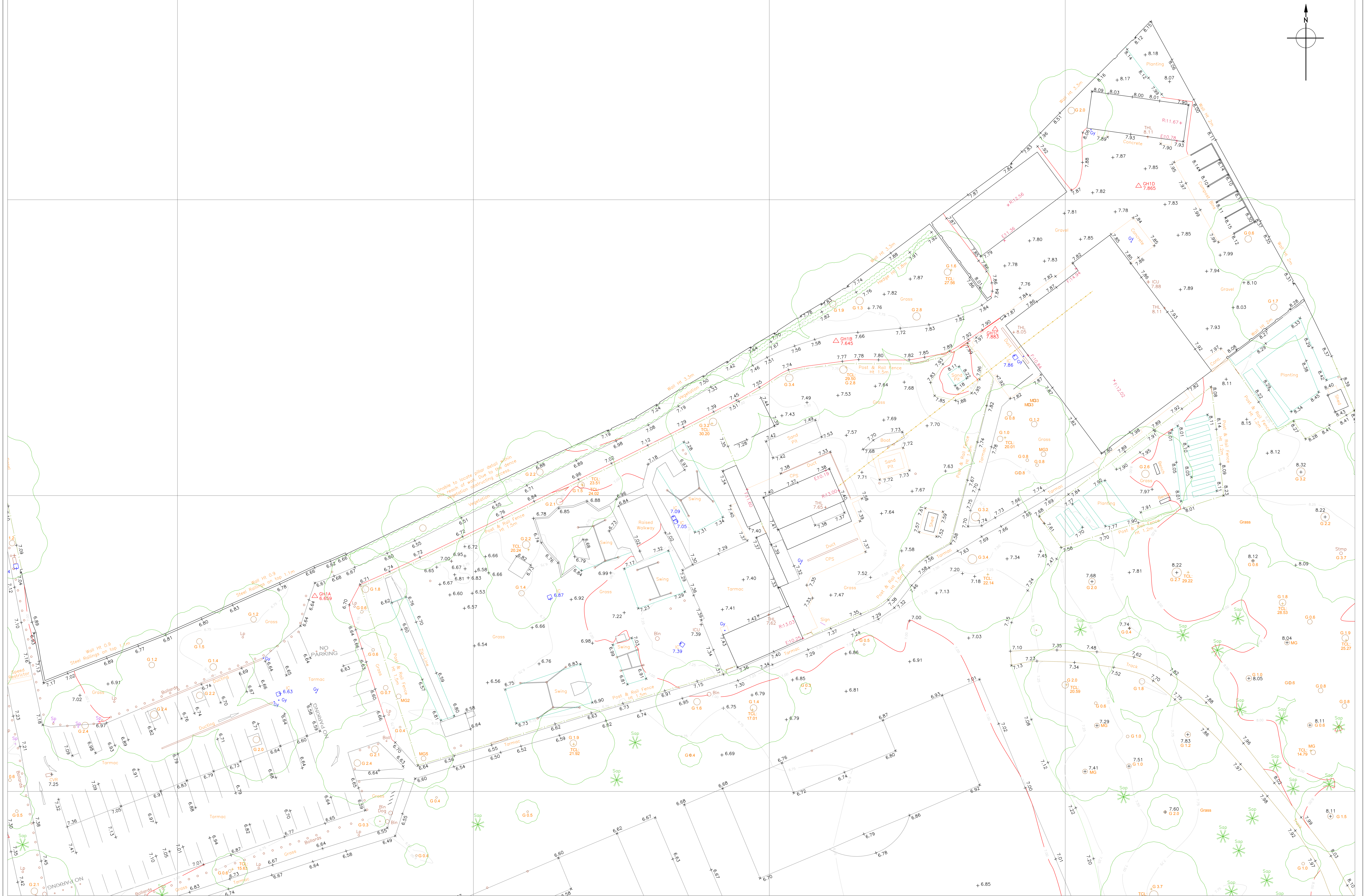
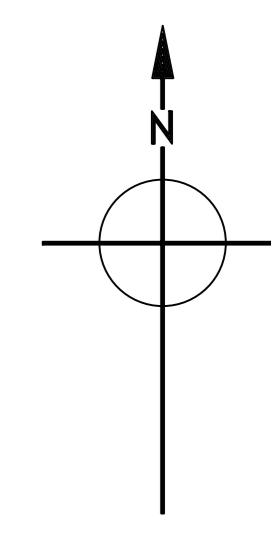
LOCATION DIAGRAM



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 DUFFIELD ROAD  
 LITTLE EATON  
 DERBY, DE21 5DR  
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|-------------------|-------------|-------|--------|----------------|
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| SURVEYED:         | AUGUST 2016 |       |        |                |
| PLOTTED:          | AUGUST 2016 |       |        |                |
| CAD:              | AUGUST 2016 | 1:200 |        | MHH16          |



MAIN TITLE **MARBLE HILL PARK**  
 TOWN **TWICKENHAM**  
 COUNTY **MIDDLESEX**

SUBSIDIARY  
**MARBLE HILL PARK, RICHMOND ROAD – SHEET 3**  
 TWICKENHAM

SCALE 1:200

5 0 25 50

AutoCAD PLOT SCALE 200:1 (centered)

BENCH MARKS USED  
 O.S.GPS LSF:1  
 Origin:  
 Sta GH1  
 E: 517354.065  
 N: 173682.658  
 L: 8.598m

Reference:  
 All other stations (mean).



SURVEY BY: GREENHATCH GROUP  
 ROWAN HOUSE  
 DUFFIELD ROAD  
 LITTLE EATON  
 DERBY, DE21 5DR  
 Tel: 01332 830044 Fax: 01332 830044

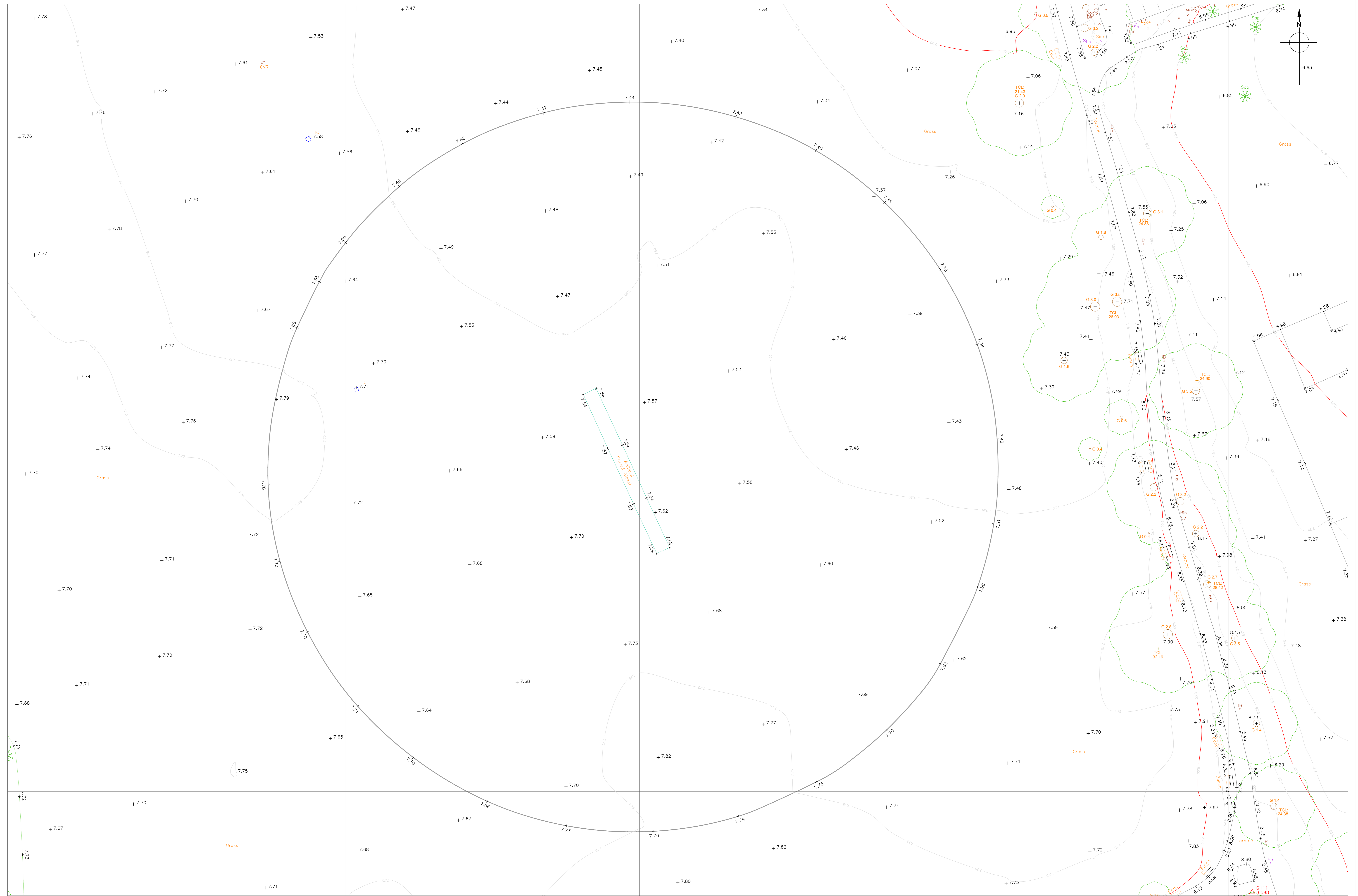
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 SURVEYED: AUGUST 2016  
 PLOTTED: AUGUST 2016  
 CAD: AUGUST 2016

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MHH16





MAIN TITLE **MARBLE HILL PARK**  
 TOWN **TWICKENHAM**  
 COUNTY **MIDDLESEX**

SUBSIDIARY  
**MARBLE HILL PARK, RICHMOND ROAD – SHEET 5**  
 TWICKENHAM

SCALE 1:200

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AutoCAD PLOT SCALE 200:1 (centered)

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 N: 173682.859  
 L: 8.598m

Reference:  
 All other stations (mean).



SURVEY BY: GREENHATCH GROUP  
 ROWAN HOUSE  
 DUFFIELD ROAD  
 LITTLE BAYTON  
 DERBY, DE21 5DR  
 Tel: 01332 830044 Fax: 01332 830044

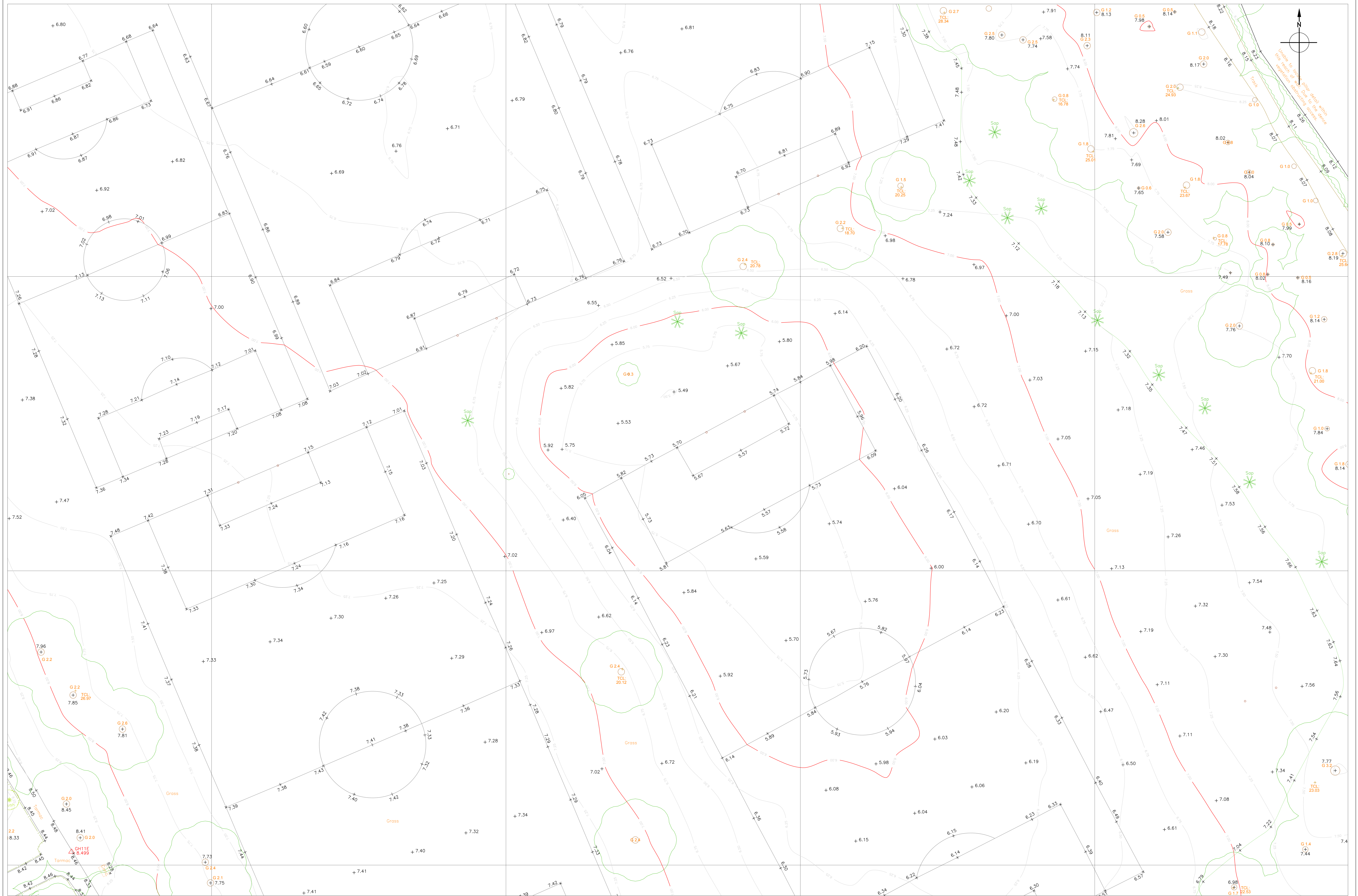
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 PLOTTED: AUGUST 2016  
 CAD: AUGUST 2016

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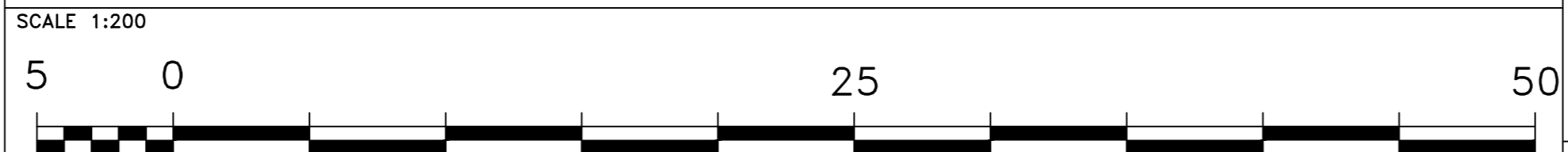
MHH16





**MAIN TITLE** MARBLE HILL PARK  
**TOWN** TWICKENHAM  
**COUNTY** MIDDLESEX

**SUBSIDIARY**  
 MARBLE HILL PARK, RICHMOND ROAD – SHEET 6  
 TWICKENHAM



**BENCH MARKS USED**  
 O.S.GPS LSF:1  
 Origin:  
 Sta GH1  
 E: 517354.065  
 N: 173682.659  
 L: 8.598m

**LOCATION DIAGRAM**  
 Reference:  
 All other stations (mean).



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