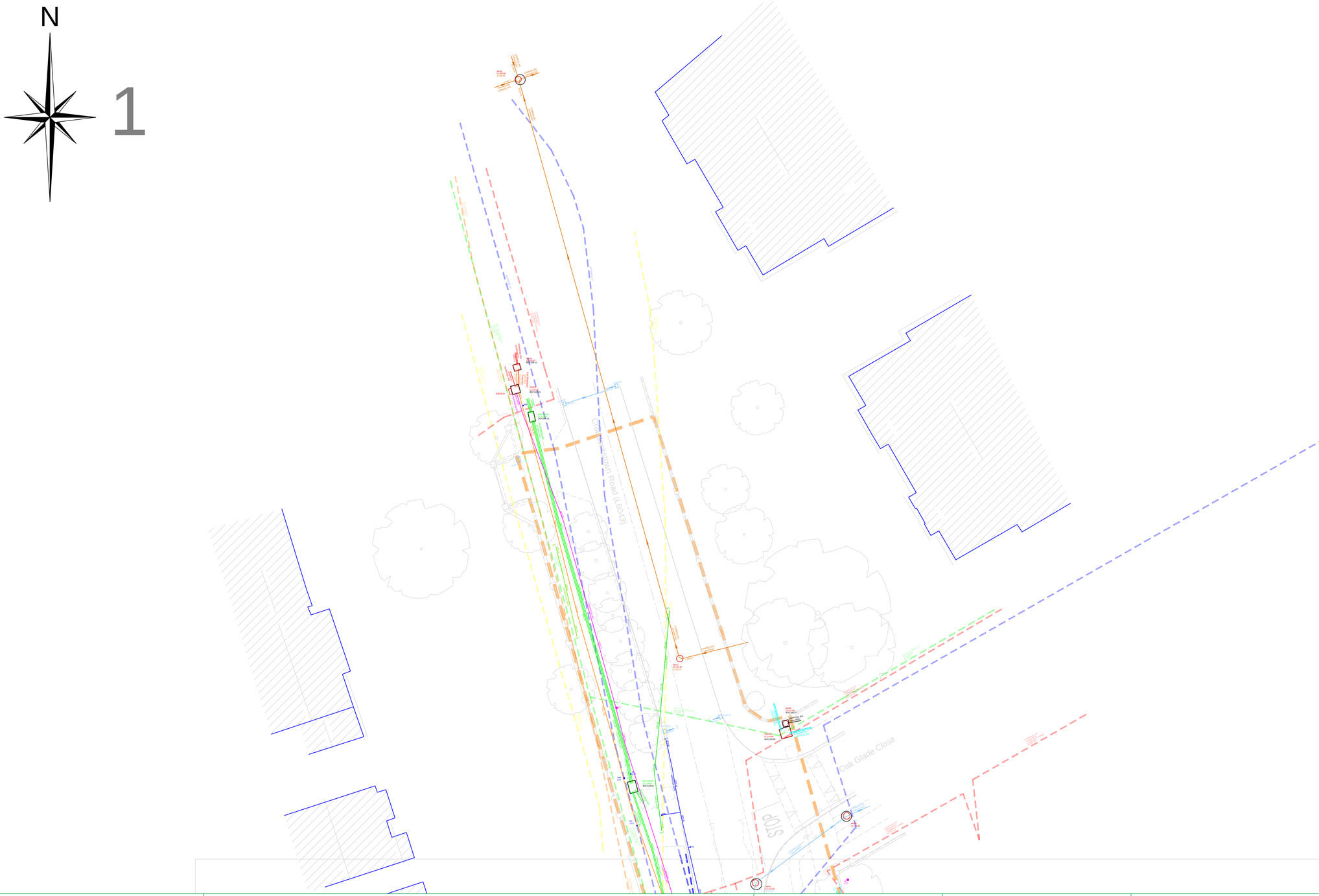
Appendix B – Site Survey



PAS 128: 2014 (Quality of Survey Level Outputs):

DESKTOP UTILITY RECORDS SEARCH	
QL-D	Drafted from utility records
SITE RECONNAISSANCE	
QL-C	Location Demonstrated by visual reference to street furniture or evidence of previous streetworks, ie - reinstatement scars
DETECTION	
QL-B4	A segment of utility suspected to exist but has not been detected by a geophysical technique
QL-B3	Horizontal location only of the utility detected by one of the geophysical techniques used
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VERIFICATION	
QL-A	Horizontal and vertical location of the top and/or bottom of the utility

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- Size of Utility: The smaller the diameter of a utility the more difficult it is to locate. This difficulty increases with depth.
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APEX SURVEYS

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00353 1 691 0156

STREET FURNITURE :

BOLLARDS	BD •
BUS STOP	BS •
CRASH BARRIER	CB
GATE	
ELECTRICITY POLE	EP •
TELEPHONE POLE	TP •
EARTHING ROD	ER +
LAMP POST	LP •
MARKER POST	MKR +
SIGN POST	SIGN
TRAFFIC LIGHT	TL •
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POST	POST •
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SLUICE VALVE	SV •

STOPCOCK	ST •
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VENT	VENT
WATER METER	WM +

LEVELS :

BED LEVEL	+ BED101.50
FLOOR LEVEL	+ FL101.50
INVERT LEVEL	+ IL101.50
ROAD LEVEL	+ 101.50
SOFFIT LEVEL	+ SL101.50
SPOT LEVEL	+101.50
TOP OF WALL LEVEL	+ TOW101.50
WATER LEVEL	+ WL101.50
SURVEY CONTROL STATION	

BOTTOM OF CHAMBER	BOC	DOWNPIPE	DP
CAST-IRON	C/I	EARTHENWARE	E/W
CONCRETE	CONC	NO FURTHER TRACE	NFT
DIAMETER	DIA	OFFSITE	O/S
		START OF RUN	SOR
		UNABLE TO OPEN	UTO
		UNABLE TO TRACE	UTT

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GAS MAIN	GAS
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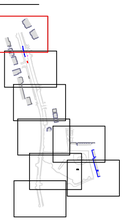

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Hayes Higgins Partnership

PROJECT:

Craddockstown Road, Naas
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GRID SYSTEM:	Irish Transverse Mercator
DATUM:	Malin Head (OSGM15)
NOTES:	Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing

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DRG No:	6392	DESCRIPTION :	2D Utilities
		SURVEYED BY :	G.L. & G.F.
SHEET:	1 of 8	PROCESSED BY :	A.B.
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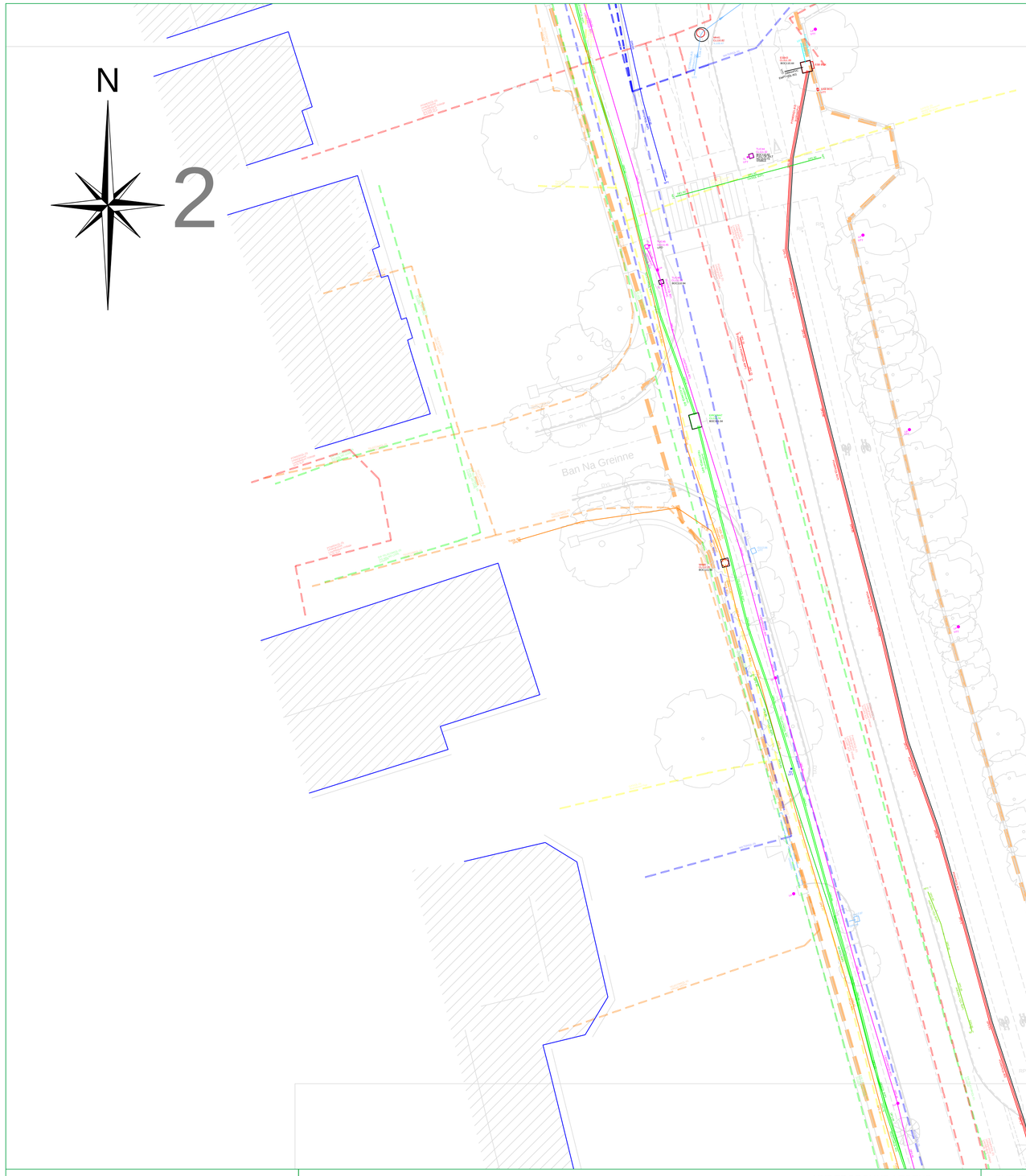

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EARTHING ROD	ER +
LAMP POST	LP •
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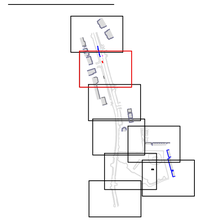

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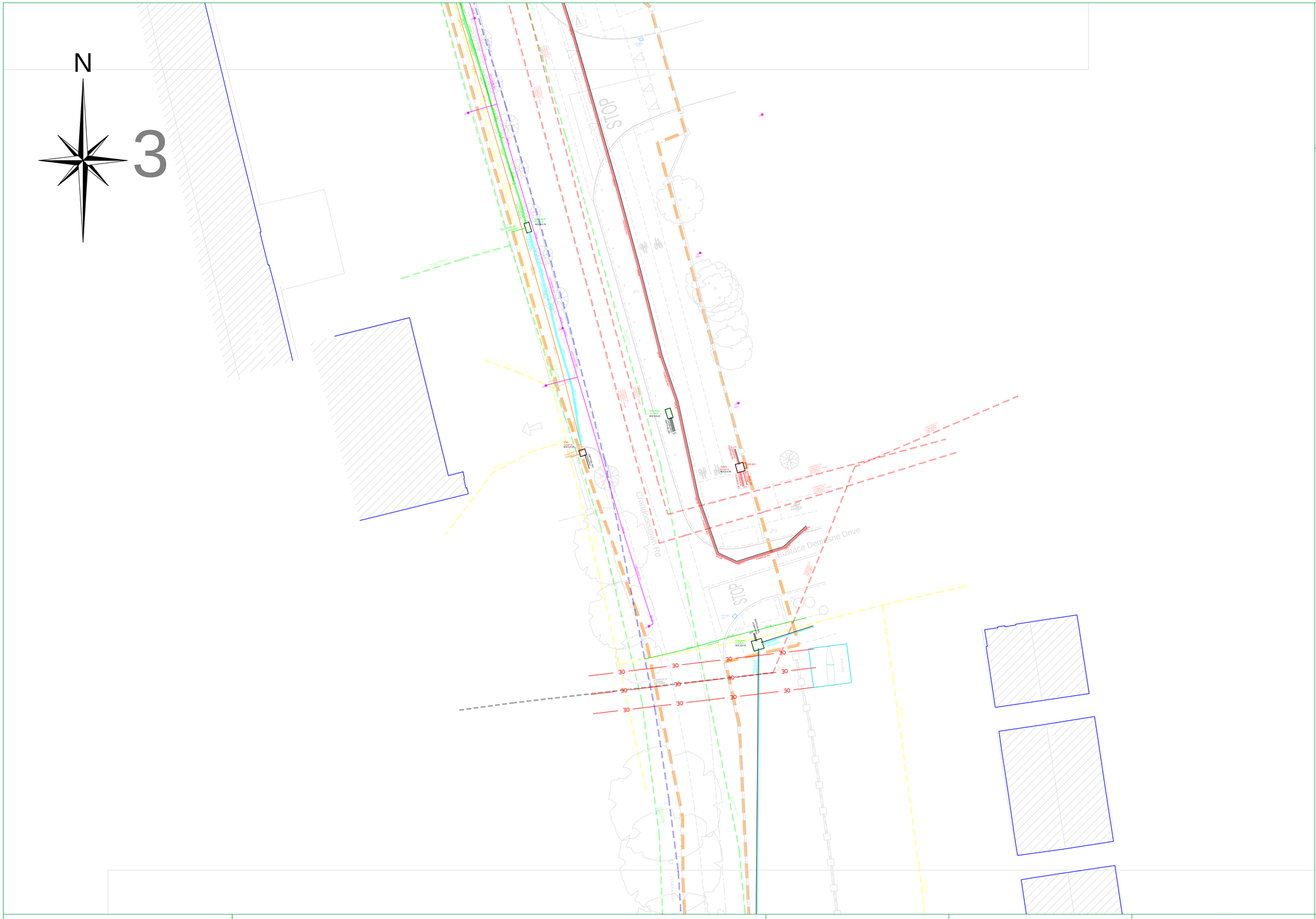

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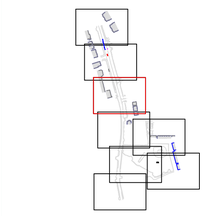
SOFFIT LEVEL	+ SL101.50	SPOT LEVEL	+ 101.50
TOP OF WALL LEVEL	+ TOW101.50	WATER LEVEL	+ WL101.50
SURVEY CONTROL STATION			

UNDERGROUND LEGEND :

WATER MAIN	WATER	GAS MAIN	GAS
STORM DRAIN	STORM	FOUL SEWER	FOUL
COMBINED SEWER	COMB	ELECTRIC CABLE	POWER
ELECTRIC LIGHTING	LIGHTING	EIRCOM	EIRCOM
FIBRE OPTIC CABLE	F.OPTIC	BROADBAND	BROADBAND
CABLE TV	TV	TRAFFIC AND SIGNAL CABLE	TRAFFIC
CCTV	CCTV	IRRIGATION PIPE	IRRIGATION
EMPTY DUCT	EMPTY	GPR ANOMALY	ANOMALY
UNKNOWN CABLE	CABLE	O/HEAD ELECTRICITY	OE
O/HEAD TELECOM	OT		

SHEET LAYOUT :



PLAN PRODUCED BY:

APEX SURVEYS

CONTACT INFORMATION:

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info@apexsurveys.ie
00353 1 691 0156

CLIENT:

Hayes Higgins Partnership

PROJECT:

Craddockstown Road, Naas
Co. Kildare

GRID SYSTEM:	Irish Transverse Mercator
DATUM:	Malin Head (OSGM15)
NOTES:	Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing

SCALE :	1/200 A1
DRG No:	6392
SHEET:	3 of 8
DATE :	20/06/2024
DESCRIPTION :	2D Utilities
SURVEYED BY :	G.L. & G.F.
PROCESSED BY :	A.B.
CHECKED BY :	A.B.

PAS 128: 2014 (Quality of Survey Level Outputs):

DESKTOP UTILITY RECORDS SEARCH

QL-D	Drafted from utility records

SITE RECONNAISSANCE

QL-C	Location Demonstrated by visual reference to street furniture or evidence of previous streetworks, ie - reinstatement scars

DETECTION

QL-B4	A segment of utility suspected to exist but has not been detected by a geophysical technique
QL-B3	Horizontal location only of the utility detected by one of the geophysical techniques used
QL-B2	Horizontal and vertical location of the utility detected by one of the geophysical techniques used
QL-B1	Horizontal and vertical location of the utility detected by multiple geophysical techniques

VERIFICATION

QL-A	Horizontal and vertical location of the top and/or bottom of the utility

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STREET FURNITURE :

BOLLARDS	BD
BUS STOP	BS
CRASH BARRIER	CB
GATE	
ELECTRICITY POLE	EP
TELEPHONE POLE	TP
EARTHING ROD	ER
LAMP POST	LP
MARKER POST	MKR
SIGN POST	SIGN
TRAFFIC LIGHT	TL
TELEPHONE BOX	TB
POST	POST
POST BOX	POST BOX
ROADSIGN	RS · RS
BORE HOLE	BH
TRIAL PIT	TPIT
BOTTOM OF CHAMBER	BOC
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CONCRETE	CONC
DIAMETER	DIA

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AIR VALVE	AV
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CABLE TV IC	CATV
COVER LEVEL	CL
EIRCOM COVER	EIRCOM
EIRCOM JUNCTION BOX	EIRCOM BOX
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WATER METER	WM

LEVELS :

BED LEVEL	BED101.50
FLOOR LEVEL	FL101.50
INVERT LEVEL	IL101.50
ROAD LEVEL	101.50
SOFFIT LEVEL	SL101.50
SPOT LEVEL	101.50
TOP OF WALL LEVEL	TOW101.50
WATER LEVEL	WL101.50
SURVEY CONTROL STATION	
START OF RUN	SOR
UNABLE TO OPEN	UTO
UNABLE TO TRACE	UTT

UNDERGROUND LEGEND :

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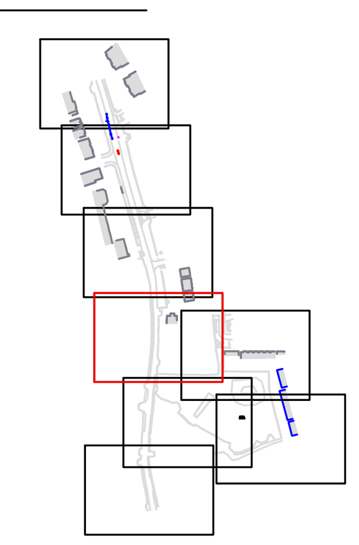
SHEET LAYOUT :



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REVISIONS:

No.	Date	Description
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SCALE :	1/200 A1	DATE :	20/06/2024
DRG No:	6392	DESCRIPTION :	2D Utilities
		SURVEYED BY :	G.L. & G.F.
SHEET:	4 of 8	PROCESSED BY :	A.B.
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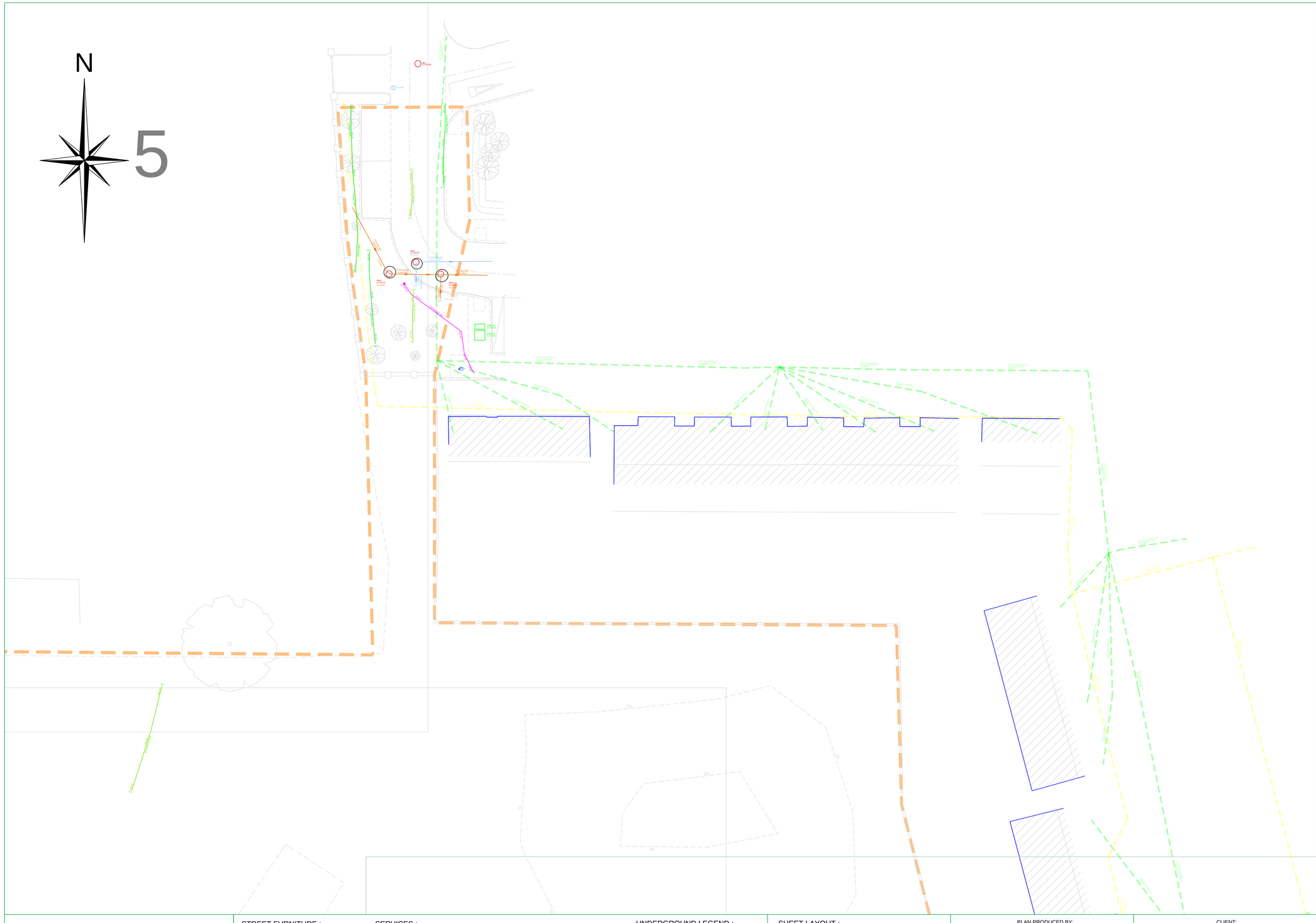

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BOLLARDS	BD •
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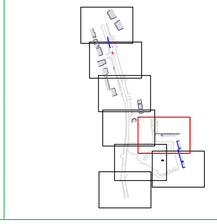

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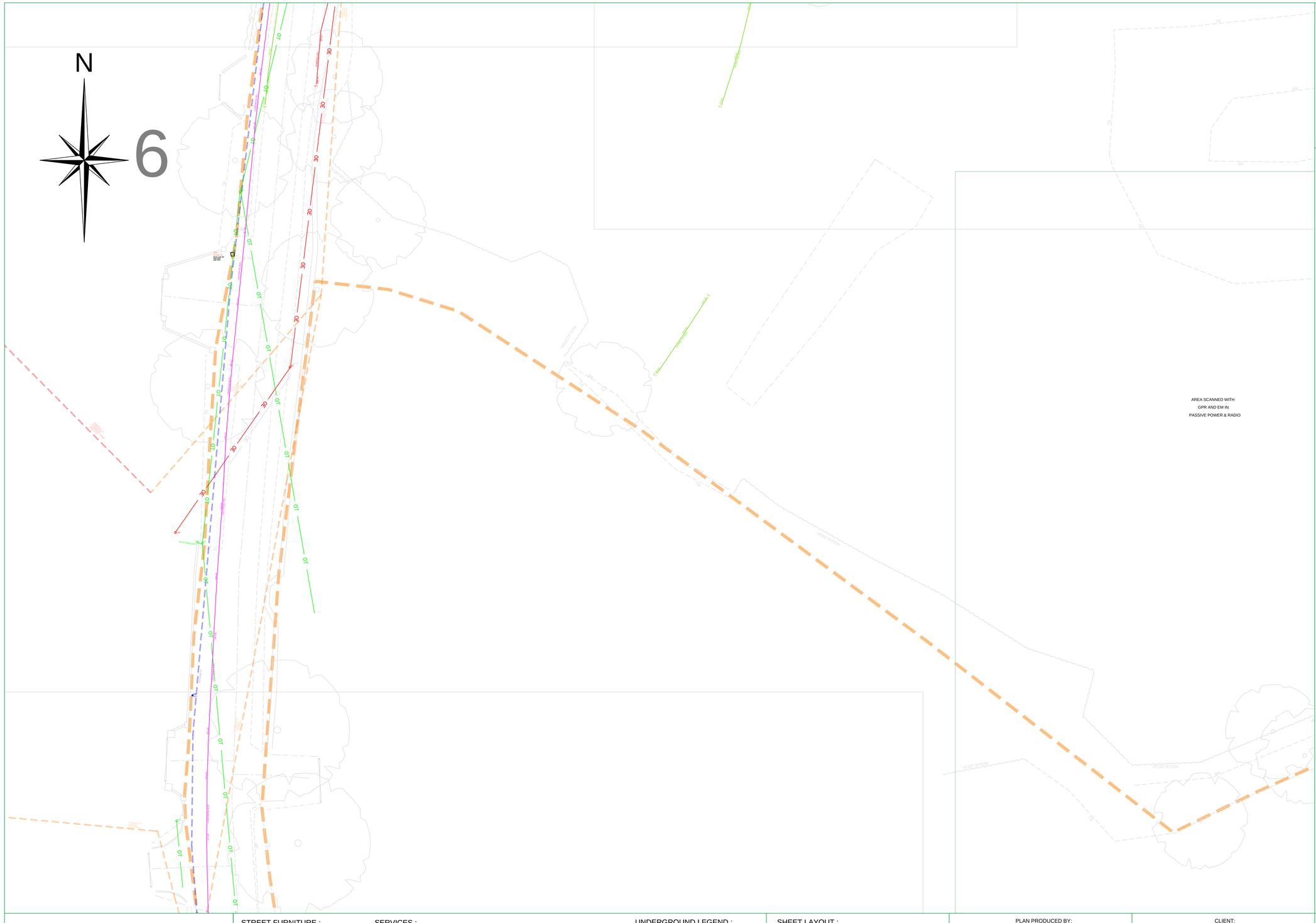

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STREET FURNITURE :

BOLLARDS	BD •
BUS STOP	BS •
CRASH BARRIER	CB
GATE	GT
ELECTRICITY POLE	EP •
TELEPHONE POLE	TP •
EARTHING ROD	ER +
LAMP POST	LP •
MARKER POST	MKR +
SIGN POST	SIGN
TRAFFIC LIGHT	TL •
TELEPHONE BOX	TB
POST	POST ○
POST BOX	POST BOX
ROADSIGN	RS-RS
BORE HOLE	BH +
TRIAL PIT	TRIAL +

BOTTOM OF CHAMBER	BOC
CAST-IRON	C/I
CONCRETE	CONC
DIAMETER	DIA

SERVICES :

AIR VALVE	AV
ARMSTRONG JUNCTION	AJ
CABLE TV IC	CATV
COVER LEVEL	CL
EIRCOM COVER	EIRCOM
EIRCOM JUNCTION BOX	EIRCOM BOX
ELECTRICAL CABLE PIT	ECP
ESAT COVER	ESAT
ESB COVER	ESB
ESB JUNCTION BOX	ESB BOX
FIRE HYDRANT	FH
GAS VALVE	GV
GULLY	G
INSPECTION COVER	IC
MANHOLE	MH
SEPTIC TANK	SEPTIC
SLUICE VALVE	SV •

DOWNPIPE	DP
EARTHENWARE	E/W
NO FURTHER TRACE	NFT
OFFSITE	O/S

STOPCOCK	ST •
SERVICE BOX (UNKNOWN)	BOX
TRAFFIC COVER	TLIC
VENT	VENT •
WATER METER	WM +

LEVELS :

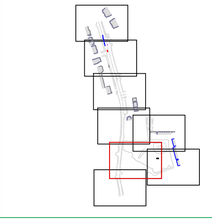
BED LEVEL	+ BED101.50
FLOOR LEVEL	+ FL101.50
INVERT LEVEL	+ IL101.50
ROAD LEVEL	+ 101.50
SOFFIT LEVEL	+ SL101.50
SPOT LEVEL	+ 101.50
TOP OF WALL LEVEL	+ TOW101.50
WATER LEVEL	+ WL101.50
SURVEY CONTROL STATION	

START OF RUN	SOR
UNABLE TO OPEN	UTO
UNABLE TO TRACE	UTT

UNDERGROUND LEGEND :

WATER MAIN	WATER
GAS MAIN	GAS
STORM DRAIN	STORM
FOUL SEWER	FOUL
COMBINED SEWER	COMB
ELECTRIC CABLE	POWER
ELECTRIC LIGHTING	LIGHTING
EIRCOM	EIRCOM
FIBRE OPTIC CABLE	F.OPTIC
BROADBAND	BROADBAND
CABLE TV	TV
TRAFFIC AND SIGNAL CABLE	TRAFFIC
CCTV	CCTV
IRRIGATION PIPE	IRRIGATION
EMPTY DUCT	EMPTY
GPR ANOMALY	ANOMALY
UNKNOWN CABLE	CABLE
O/HEAD ELECTRICITY	OE
O/HEAD TELECOM	OT

SHEET LAYOUT :



PLAN PRODUCED BY:

APEX SURVEYS

CONTACT INFORMATION:

Apex Surveys
Unit 78 Dunboyne Business Park
Dunboyne, Co. Meath, Ireland
www.apexsurveys.ie
info@apexsurveys.ie
00353 1 691 0156

CLIENT:

Hayes Higgins Partnership

GRID SYSTEM:	Irish Transverse Mercator
DATUM:	Malin Head (OSGM15)
NOTES:	Drawing Contains Scale Factor

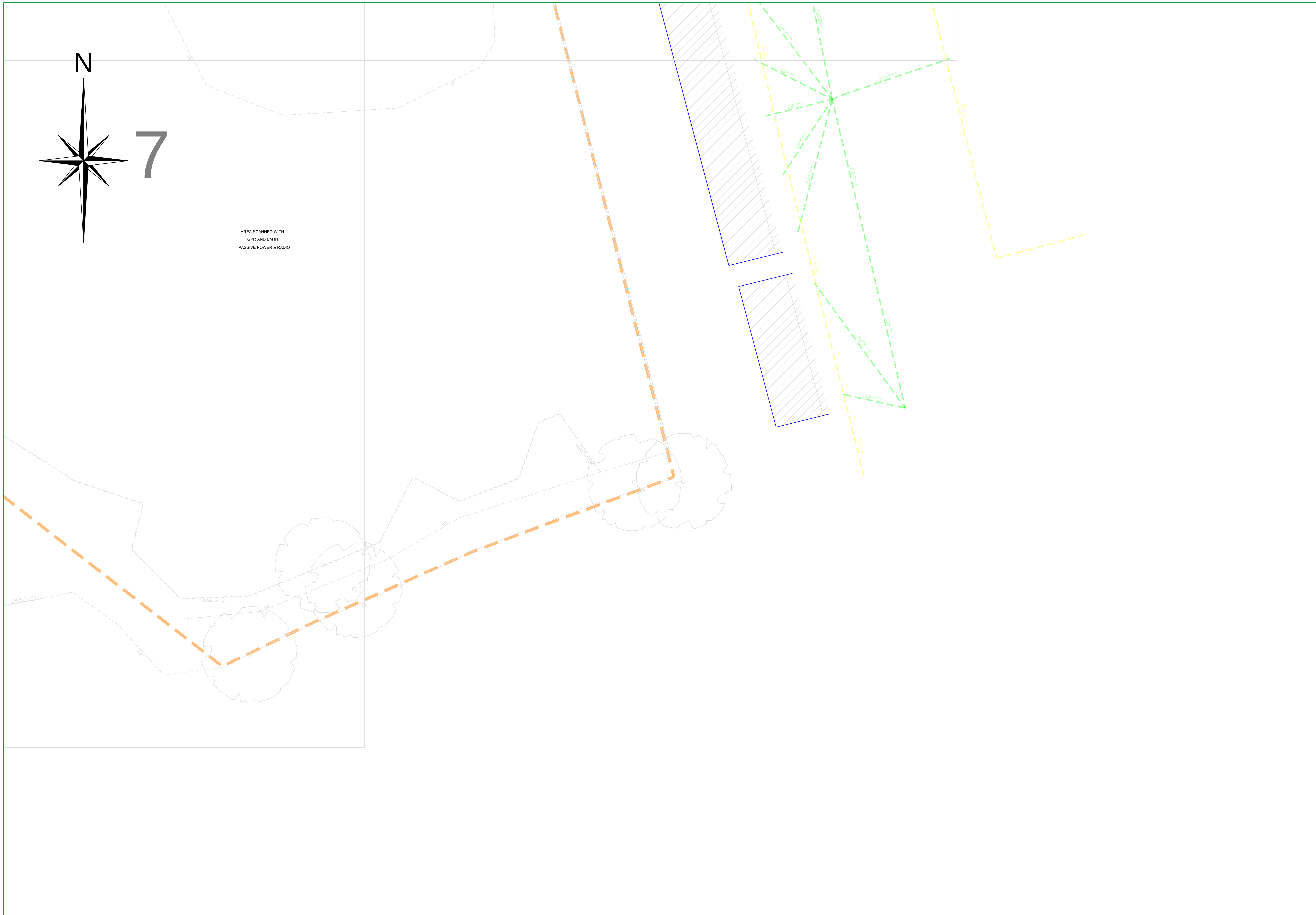
REVISIONS:

No.	Date	Description
001	N/A	Original Drawing

PROJECT:

Craddockstown Road, Naas Co. Kildare

SCALE :	1/200 A1	DATE :	20/06/2024
DRG No:	6392	DESCRIPTION :	2D Utilities
		SURVEYED BY :	G.L. & G.F.
SHEET:	6 of 8	PROCESSED BY :	A.B.
		CHECKED BY :	A.B.



PAS 128: 2014 (Quality of Survey Level Outputs):

DESKTOP UTILITY RECORDS SEARCH

QL-D	Drafted from utility records

SITE RECONNAISSANCE

QL-C	Location Demonstrated by visual reference to street furniture or evidence of previous streetworks, ie - reinstatement scars

DETECTION

QL-B4	A segment of utility suspected to exist but has not been detected by a geophysical technique
QL-B3	Horizontal location only of the utility detected by one of the geophysical techniques used
QL-B2	Horizontal and vertical location of the utility detected by one of the geophysical techniques used
QL-B1	Horizontal and vertical location of the utility detected by multiple geophysical techniques

VERIFICATION

QL-A	Horizontal and vertical location of the top and/or bottom of the utility

Apex Surveys Ltd. Disclaimer - Utility Survey

The interpretative nature and the non-intrusive, indirect and non-destructive survey methods must be taken into account when considering the results of the surveys. Therefore Apex Surveys, while using appropriate practice to execute, interpret and present the data, gives no guarantees that all underground utilities and underground structures will be located and mapped. Furthermore, Apex Surveys cannot guarantee the accuracy of the utility depths annotated on the survey drawings.
Apex Survey shall not be liable for any omissions or inaccuracies in the survey which arise due to the limitations of the service. No liability shall attach to Apex Surveys, in any circumstances, howsoever arising, in respect of any consequential loss or damages suffered by the Client.

The following is a non-exhaustive list of the limitations of utility surveys:

The Survey aims to map existing utilities subsurface utilities and provide information with respect to pipe size, material type and drainage connectivity. However utility surveying is limited by the following guidelines and it may not be possible to accurately survey, define and locate all services and sub-surface features.

- Depth of Utility: The depth and size of a utility affect the signal response and the degree with which a utility can be located. Due to attenuation of the radar signal with depth, resolution is restricted, hence making identification of utilities more difficult with increasing depth.
- Size of Utility: The smaller the diameter of a utility the more difficult it is to locate. This difficulty increases with depth.
- Ground Conditions: The depth penetration and quality of the data depends on the ground conditions of the site. GPR Surveying works best within high resistivity material. Clay overburden can impair GPR Surveying. Poor data may be a result of areas with high conductivity.
- Utility Congestion: Where different utilities converge together into a service corridor or cross paths it becomes difficult to isolate a specific utility and to map its route. The reflected signal will display a single response to multiple utilities. Therefore multiple utilities may appear to be a single utility. Where similar services run on close proximity, separation may be impossible.
- Signal Jumping: Signal from surrounding services may 'jump' to a highly conductive line masking its true identity.
- Shadowing: (of deeper utilities by shallower objects) Shallow utilities will mask the existence of deeper utilities where they are in close proximity. Also, high reflective materials close to the surface i.e rebar may hide deeper anomalies.
- Surface Obstructions: The GPR system relies on a relatively flat and even surface on which to perform radar passes. If ground obstructions such as vehicles, organic material (long grass, scrub) or undulating ground surface are present then the acquired data will be of lower resolution and in some cases not viable.
- Loss of signal: It is not always possible to trace the entire length of each underground service.
- Connections between manholes: Connections between manhole chambers are assumed to be straight.
- Non-metallic objects: Nonmetallic objects are amongst the most difficult to trace therefore successful tracing of non-metallic pipes/ utilities may be limited.
- Fiber Optic Cables: Fiber optic cables may not be possible to locate except where laid with a built in tracer wire or similar conductor system.
- Defective / flooded manholes or pipework: It may not be possible to establish connections between flooded or defective manholes or pipework.
- Acute bends in pipework: It may not be possible to trace a pipe past an acute bend.

Accuracy estimates:

- Locational accuracy is determined by referring to the manufacturers guidelines for the detector used.
- In ideal conditions the spatial accuracies for the underground utilities may be +/- 5% for Radiodetection and +/- 10% of depth for the GPR to 2.5m deep. However variations within the subsurface, depth below the ground, close proximity of other services and local magnetic, atmospheric or ground conditions, bends, lateral service connections and any of the other limitations listed in this disclaimer may alter this estimated accuracy.
- Plan accuracies of + or - 150mm may be achieved but this figure will depend on the depth of service below ground level. However variations within the subsurface subsurface, depth below the ground, close proximity of other services and local magnetic, atmospheric or ground conditions, bends, lateral service connections and any of the other limitations listed in this disclaimer may alter this estimated accuracy.
- DP represents distance from the surface level to the top of the service/ target
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Record Drawing Information

- Services which have been untraceable are shown from records where possible or available. These lines are annotated as “Taken From Records” or “From Records”.
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- Lifting manholes which require longer than 10 minutes effort using standard heavy duty apparatus.

All works carried out be Apex Surveys conforms to the guidelines set out by The Survey Association (TSA) and PAS:128 Standard for utility mapping

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info@apexsurveys.ie
00353 1 691 0156

STREET FURNITURE :

BOLLARDS	BD
BUS STOP	BS
CRASH BARRIER	CB
GATE	
ELECTRICITY POLE	EP
TELEPHONE POLE	TP
EARTHING ROD	ER
LAMP POST	LP
MARKER POST	MKR
SIGN POST	SIGN
TRAFFIC LIGHT	TL
TELEPHONE BOX	TB
POST	POST
POST BOX	POST BOX
ROADSIGN	RS · RS
BORE HOLE	BH
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BOTTOM OF CHAMBER	BOC
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GULLY	G
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DOWNPIPE	DP
EARTHENWARE	E/W
NO FURTHER TRACE	NFT
OFFSITE	O/S

STOPCOCK	ST
SERVICE BOX (UNKNOWN)	BOX
TRAFFIC COVER	TLIC
VENT	VENT
WATER METER	WM

LEVELS :

BED LEVEL	BED101.50
FLOOR LEVEL	FL101.50
INVERT LEVEL	IL101.50
ROAD LEVEL	101.50
SOFFIT LEVEL	SL101.50
SPOT LEVEL	101.50
TOP OF WALL LEVEL	TOW101.50
WATER LEVEL	WL101.50
SURVEY CONTROL STATION	
START OF RUN	SOR
UNABLE TO OPEN	UTO
UNABLE TO TRACE	UTT

UNDERGROUND LEGEND :

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UNKNOWN CABLE	CABLE
O/HEAD ELECTRICITY	OE
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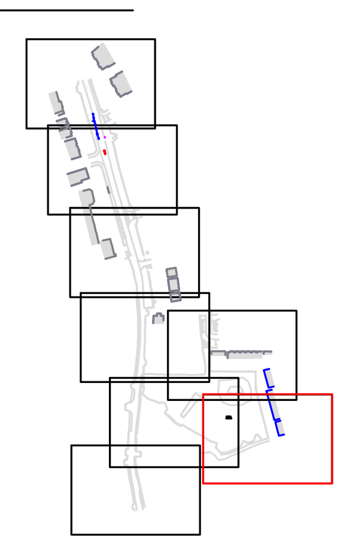
SHEET LAYOUT :



PLAN PRODUCED BY:

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00353 1 691 0156

CLIENT:

Hayes Higgins Partnership

PROJECT:

Craddockstown Road, Naas Co. Kildare

GRID SYSTEM:	Irish Transverse Mercator
DATUM:	Malin Head (OSGM15)
NOTES:	Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing

SCALE :	1/200 A1	DATE :	20/06/2024
DRG No:	6392	DESCRIPTION :	2D Utilities
		SURVEYED BY :	G.L. & G.F.
SHEET:	7 of 8	PROCESSED BY :	A.B.
		CHECKED BY :	A.B.

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APEX SURVEYS

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00353 1 691 0156

STREET FURNITURE :

BOLLARDS	BD •
BUS STOP	BS •
CRASH BARRIER	CB
GATE	
ELECTRICITY POLE	EP •
TELEPHONE POLE	TP •
EARTHING ROD	ER •
LAMP POST	LP •
MARKER POST	MKR •
SIGN POST	SIGN
TRAFFIC LIGHT	TL •
TELEPHONE BOX	TB
POST	POST •
POST BOX	POST BOX
ROADSIGN	RS • RS
BORE HOLE	BH •
TRIAL PIT	TPIT •

SERVICES :

AIR VALVE	AV
ARMSTRONG JUNCTION	AJ
CABLE TV IC	CATV
COVER LEVEL	CL
EIRCOM COVER	EIRCOM
EIRCOM JUNCTION BOX	EIRCOM BOX
ELECTRICAL CABLE PIT	ECP
ESAT COVER	ESAT
ESB COVER	ESB
ESB JUNCTION BOX	ESB BOX
FIRE HYDRANT	FH
GAS VALVE	GV
GULLY	G (S)
INSPECTION COVER	IC
MANHOLE	MH
SEPTIC TANK	SEPTIC
SLUICE VALVE	SV •

STOPCOCK	ST •
SERVICE BOX (UNKNOWN)	BOX
TRAFFIC COVER	TLIC
VENT	VENT •
WATER METER	WM +

LEVELS :

BED LEVEL	+ BED101.50
FLOOR LEVEL	+ FL101.50
INVERT LEVEL	+ IL101.50
ROAD LEVEL	+ 101.50
SOFFIT LEVEL	+ SL101.50
SPOT LEVEL	+ 101.50
TOP OF WALL LEVEL	+ TOW101.50
WATER LEVEL	+ WL101.50
SURVEY CONTROL STATION	X

BOTTOM OF CHAMBER	BOC
CAST-IRON	C/I
CONCRETE	CONC
DIAMETER	DIA
DOWNPIPE	DP
EARTHENWARE	E/W
NO FURTHER TRACE	NFT
OFFSITE	O/S
START OF RUN	SOR
UNABLE TO OPEN	UTO
UNABLE TO TRACE	UTT

UNDERGROUND LEGEND :

WATER MAIN	WATER
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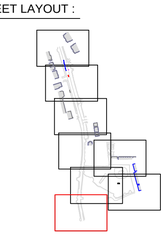
BROADBAND	BROADBAND
CABLE TV	TV
TRAFFIC AND SIGNAL CABLE	TRAFFIC
CCTV	CCTV
IRRIGATION PIPE	IRRIGATION
EMPTY DUCT	EMPTY
GPR ANOMALY	ANOMALY
UNKNOWN CABLE	CABLE
O/HEAD ELECTRICITY	OE
O/HEAD TELECOM	OT

SHEET LAYOUT :



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CLIENT:

Hayes Higgins Partnership

GRID SYSTEM:	Irish Transverse Mercator
DATUM:	Malin Head (OSGM15)
NOTES:	Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing

PROJECT:

Craddockstown Road, Naas Co. Kildare

SCALE :	1/200 A1	DATE :	20/06/2024
DRG No:	6392	DESCRIPTION :	2D Utilities
		SURVEYED BY :	G.L. & G.F.
SHEET:	8 of 8	PROCESSED BY :	A.B.
		CHECKED BY :	A.B.

APEX SURVEYS

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RURAL/NATURAL FEATURES :

BUSH	
SAPLING	
TREE	
HEDGE	
TROUGH	TR
CATTLE GRID	GRID

LINEWORK:

EMBANKEMENT TOP	101.50
DRAIN	101.50
BREAKLINE	101.50
BUILDING	101.50
KERB BOTTOM	101.50
WALL	101.50
PATH/CHANGE SURFACE	101.50
O/HEAD ELECTRICITY	OE
O/HEAD TELECOM	OT

STREET FURNITURE :

BOLLARDS	BD
BORE HOLE	BH
BUS STOP	BS
CRASH BARRIER	CB
ELECTRICITY POLE	EP
EARTHING ROD	ER
GATE	
GROUND LIGHT	LT
ILLUMINATED BOLLARD	BOL
LAMP POST	LP
MARKER POST	MKR
POST	POST
POST BOX	POST BOX
ROADSIGN	RS RS
SIGN POST	SIGN
TELEPHONE BOX	TB
TELEPHONE POLE	TP
TRAFFIC LIGHT	TL
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SERVICES :

AIR VALVE	AV
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GAS VALVE	GV
GULLY	G
INSPECTION COVER	IC
MANHOLE	MH
SEPTIC TANK	SEPTIC
SLUICE VALVE	SV
STOPCOCK	ST

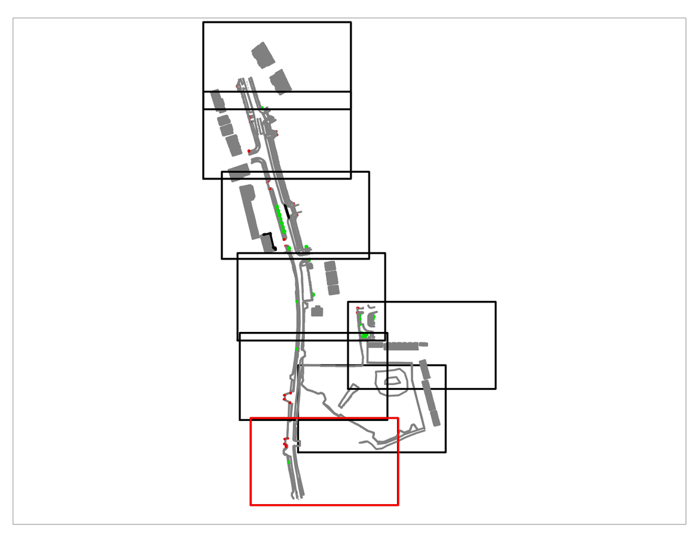
SERVICES :

SERVICE BOX (UNKNOWN)	BOX
TRAFFIC COVER	TLIC
VENT	VENT
WATER METER	WM
UNABLE TO LIFT	UTO

LEVELS :

BED LEVEL	BED101.50
EAVE LEVEL	E101.50
FLOOR LEVEL	FL101.50
INVERT LEVEL	IL101.50
ROAD LEVEL	101.50
RIDGE LEVEL	R101.50
SOFFIT LEVEL	SL101.50
SPOT LEVEL	101.50
TOP OF FENCE LEVEL	TOF101.50
TOP OF WALL LEVEL	TOW101.50
WATER LEVEL	WL101.50
SURVEY CONTROL STATION	

SHEET LAYOUT :



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CLIENT:

Hayes Higgins

PROJECT:

Craddockstown Road, Naas

GRID SYSTEM:	Irish Transverse Mercator
DATUM:	Malin Head (OSGM15)
NOTES:	Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing

SCALE :	1/200 A1	DATE :	24/06/2024
DRG No:	6392	DESCRIPTION :	2D Topographical
		SURVEYED BY :	C.F. & M.L.
SHEET:	1 of 8	PROCESSED BY :	F.S.
		CHECKED BY :	A.B.

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RURAL/NATURAL FEATURES :

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SAPLING
TREE
HEDGE
TROUGH — TR
CATTLE GRID — GRID

LINEWORK:

EMBANKEMENT TOP — 101.50
DRAIN — 101.50
BREAKLINE — 101.50
BUILDING — 101.50
KERB BOTTOM — 101.50
WALL — 101.50
PATH/CHANGE SURFACE — 101.50
O/HEAD ELECTRICITY — OE
O/HEAD TELECOM — OT

STREET FURNITURE :

BOLLARDS	BD
BORE HOLE	BH
BUS STOP	BS
CRASH BARRIER	CB
ELECTRICITY POLE	EP
EARTHING ROD	ER
GATE	
GROUND LIGHT	LT
ILLUMINATED BOLLARD	BOL
LAMP POST	LP
MARKER POST	MKR
POST	POST
POST BOX	POST BOX
ROADSIGN	RS RS
SIGN POST	SIGN
TELEPHONE BOX	TB
TELEPHONE POLE	TP
TRAFFIC LIGHT	TL
TRIAL PIT	TPIT

SERVICES :

AIR VALVE	AV
ARMSTRONG JUNCTION	AJ
CABLE TV IC	CATV
COVER LEVEL	CL
EIRCOM COVER	EIRCOM
EIRCOM JUNCTION BOX	EIRCOM BOX
ELECTRICAL CABLE PIT	ECP
ESAT COVER	ESAT
ESB COVER	ESB
ESB JUNCTION BOX	ESB BOX
FIRE HYDRANT	FH
GAS VALVE	GV
GULLY	G
INSPECTION COVER	IC
MANHOLE	MH
SEPTIC TANK	SEPTIC
SLUICE VALVE	SV
STOPCOCK	ST

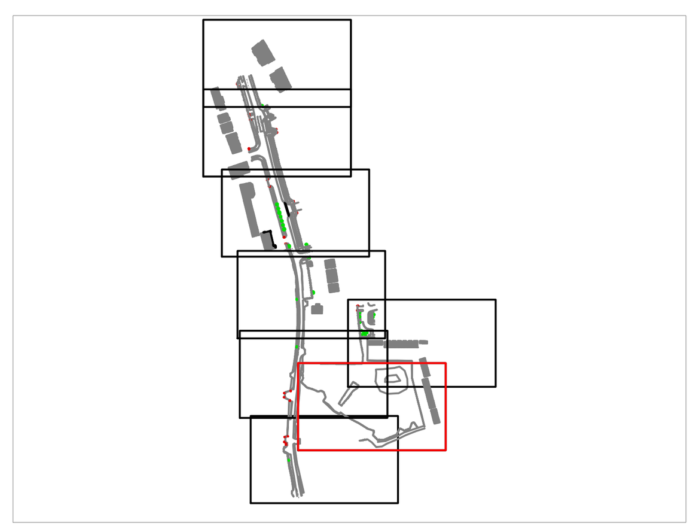
SERVICES :

SERVICE BOX (UNKNOWN)	BOX
TRAFFIC COVER	TLIC
VENT	VENT
WATER METER	WM
UNABLE TO LIFT	UTO

LEVELS :

BED LEVEL	BED101.50
EAVE LEVEL	E101.50
FLOOR LEVEL	FL101.50
INVERT LEVEL	IL101.50
ROAD LEVEL	101.50
RIDGE LEVEL	R101.50
SOFFIT LEVEL	SL101.50
SPOT LEVEL	101.50
TOP OF FENCE LEVEL	TOF101.50
TOP OF WALL LEVEL	TOW101.50
WATER LEVEL	WL101.50
SURVEY CONTROL STATION	

SHEET LAYOUT :



PLAN PRODUCED BY:

APEX SURVEYS

CONTACT INFORMATION:

Apex Surveys
Unit 78 Dunboyne Business Park
Dunboyne, Co. Meath, Ireland
www.apexsurveys.ie
info@apexsurveys.ie
00353 1 691 0156

CLIENT:

Hayes Higgins

PROJECT:

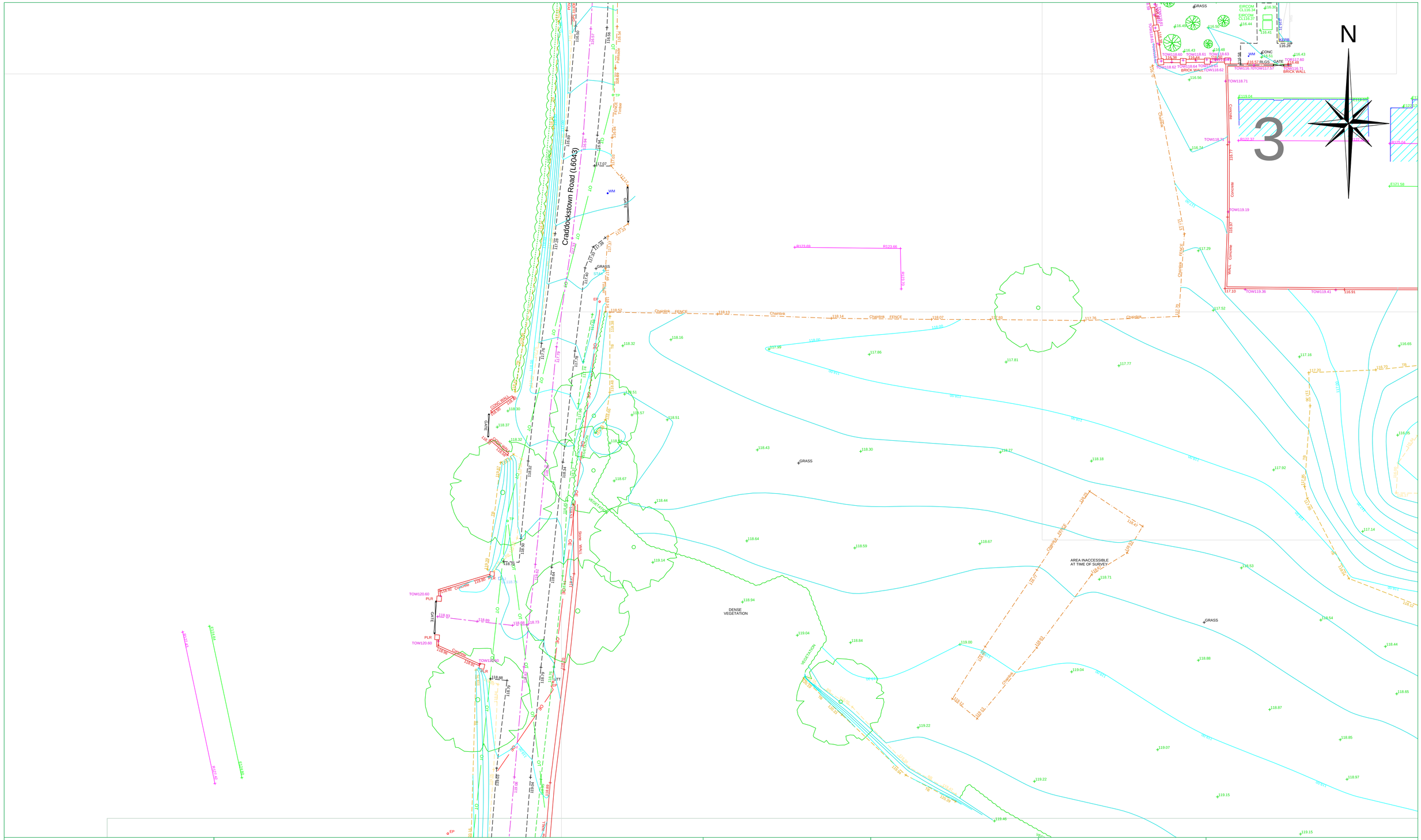
Craddockstown Road, Naas

GRID SYSTEM: Irish Transverse Mercator
DATUM: Malin Head (OSGM15)
NOTES: Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing

SCALE : 1/200 A1
DATE : 24/06/2024
DRG No: 6392
SHEET: 2 of 8
DESCRIPTION : 2D Topographical
SURVEYED BY : C.F. & M.L.
PROCESSED BY : F.S.
CHECKED BY : A.B.



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RURAL/NATURAL FEATURES :

BUSH
SAPLING
TREE
HEDGE
TROUGH
CATTLE GRID

LINEWORK:

EMBANKEMENT TOP 101.50
DRAIN 101.50
BREAKLINE 101.50
BUILDING 101.50
KERB BOTTOM 101.50
WALL 101.50
PATH/CHANGE SURFACE 101.50
O/HEAD ELECTRICITY OE
O/HEAD TELECOM OT

STREET FURNITURE :

BOLLARDS	BD
BORE HOLE	BH+
BUS STOP	BS
CRASH BARRIER	CB
ELECTRICITY POLE	EP
EARTHING ROD	ER +
GATE	
GROUND LIGHT	LT
ILLUMINATED BOLLARD	BOL
LAMP POST	LP
MARKER POST	MKR +
POST	POST
POST BOX	POST BOX +
ROADSIGN	RS RS
SIGN POST	SIGN
TELEPHONE BOX	TB
TELEPHONE POLE	TP
TRAFFIC LIGHT	TL
TRIAL PIT	TPIT +

SERVICES :

AIR VALVE	AV+
ARMSTRONG JUNCTION	AJ
CABLE TV IC	CATV
COVER LEVEL	CL
EIRCOM COVER	EIRCOM
EIRCOM JUNCTION BOX	EIRCOM BOX
ELECTRICAL CABLE PIT	ECP
ESAT COVER	ESAT
ESB COVER	ESB
ESB JUNCTION BOX	ESB BOX
FIRE HYDRANT	FH
GAS VALVE	GV
GULLY	G
INSPECTION COVER	IC
MANHOLE	MH
SEPTIC TANK	SEPTIC
SLUICE VALVE	SV
STOPCOCK	ST

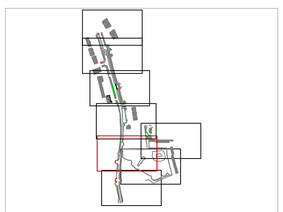
SERVICES :

SERVICE BOX (UNKNOWN)	BOX
TRAFFIC COVER	TLIC
VENT	VENT
WATER METER	WM+
UNABLE TO LIFT	UTO

LEVELS :

BED LEVEL	+ BED101.50
EAVE LEVEL	+ E101.50
FLOOR LEVEL	+ FL101.50
INVERT LEVEL	+ IL101.50
ROAD LEVEL	+ 101.50
RIDGE LEVEL	+ R101.50
SOFFIT LEVEL	+ SL101.50
SPOT LEVEL	+ 101.50
TOP OF FENCE LEVEL	+ TOF101.50
TOP OF WALL LEVEL	+ TOW101.50
WATER LEVEL	+ WL101.50
SURVEY CONTROL STATION	

SHEET LAYOUT :



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CLIENT:

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PROJECT:

Craddockstown Road, Naas

GRID SYSTEM: Irish Transverse Mercator
DATUM: Malin Head (OSGM15)
NOTES: Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing

SCALE : 1/200 A1

DATE : 24/06/2024

DRG No: 6392

SHEET: 3 of 8

DESCRIPTION : 2D Topographical
SURVEYED BY : C.F. & M.L.
PROCESSED BY : F.S.
CHECKED BY : A.B.

APEX SURVEYS

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RURAL/NATURAL FEATURES :

BUSH	
SAPLING	
TREE	
HEDGE	
TROUGH	TR
CATTLE GRID	GRID

LINEWORK:

EMBANKEMENT TOP	101.50
DRAIN	101.50
BREAKLINE	101.50
BUILDING	101.50
KERB BOTTOM	101.50
WALL	101.50
PATH/CHANGE SURFACE	101.50
O/HEAD ELECTRICITY	OE
O/HEAD TELECOM	OT

STREET FURNITURE :

BOLLARDS	BD
BORE HOLE	BH
BUS STOP	BS
CRASH BARRIER	CB
ELECTRICITY POLE	EP
EARTHING ROD	ER
GATE	
GROUND LIGHT	LT
ILLUMINATED BOLLARD	BOL
LAMP POST	LP
MARKER POST	MKR
POST	POST
POST BOX	POST BOX
ROADSIGN	RS · RS
SIGN POST	SIGN
TELEPHONE BOX	TB
TELEPHONE POLE	TP
TRAFFIC LIGHT	TL
TRIAL PIT	TPIT

SERVICES :

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ARMSTRONG JUNCTION	AJ
CABLE TV IC	CATV
COVER LEVEL	CL
EIRCOM COVER	EIRCOM
EIRCOM JUNCTION BOX	EIRCOM BOX
ELECTRICAL CABLE PIT	ECP
ESAT COVER	ESAT
ESB COVER	ESB
ESB JUNCTION BOX	ESB BOX
FIRE HYDRANT	FH
GAS VALVE	GV
GULLY	G
INSPECTION COVER	IC
MANHOLE	MH
SEPTIC TANK	SEPTIC
SLUICE VALVE	SV
STOPCOCK	ST

SERVICES :

SERVICE BOX (UNKNOWN)	BOX
TRAFFIC COVER	TLIC
VENT	VENT
WATER METER	WM
UNABLE TO LIFT	UTO

LEVELS :

BED LEVEL	BED101.50
EAVE LEVEL	E101.50
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INVERT LEVEL	IL101.50
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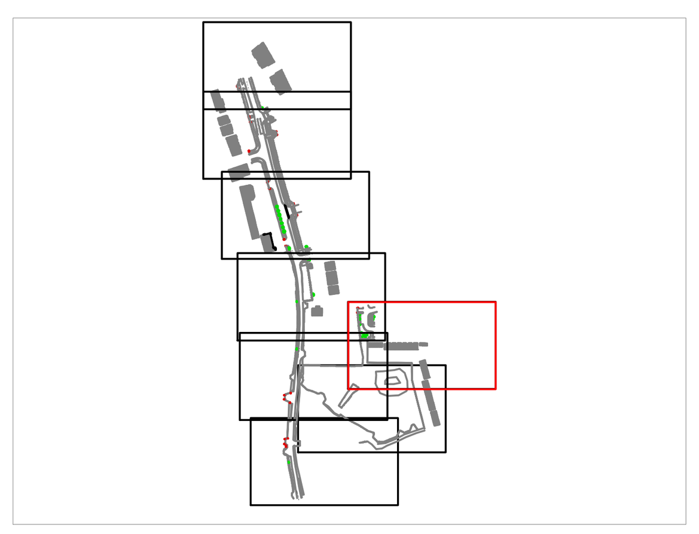
RIDGE LEVEL	R101.50
SOFFIT LEVEL	SL101.50
SPOT LEVEL	101.50
TOP OF FENCE LEVEL	TOF101.50
TOP OF WALL LEVEL	TOW101.50
WATER LEVEL	WL101.50
SURVEY CONTROL STATION	

SHEET LAYOUT :



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CLIENT:

Hayes Higgins

PROJECT:

Craddockstown Road, Naas

GRID SYSTEM: Irish Transverse Mercator
DATUM: Malin Head (OSGM15)
NOTES: Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing

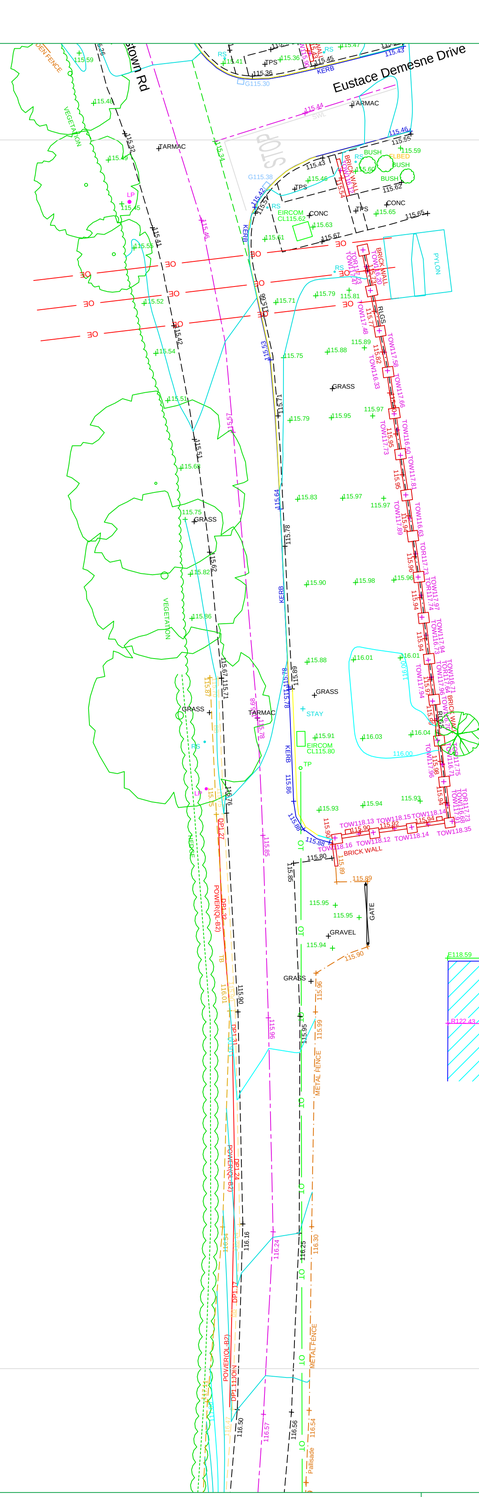
SCALE : 1/200 A1

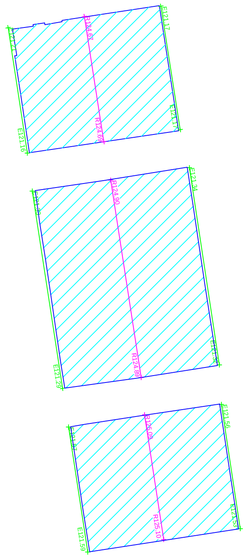
DATE : 24/06/2024

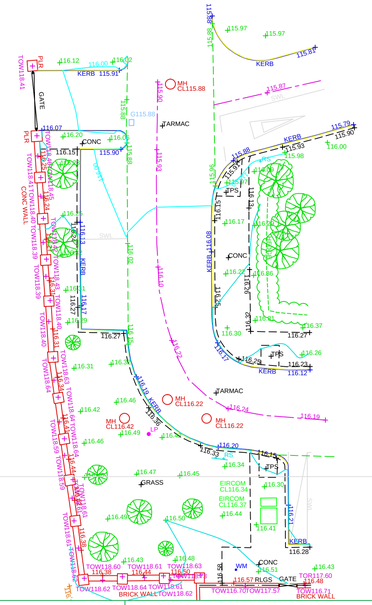
DRG No: 6392

SHEET: 4 of 8

DESCRIPTION : 2D Topographical
SURVEYED BY : C.F. & M.L.
PROCESSED BY : F.S.
CHECKED BY : A.B.







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N

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RURAL/NATURAL FEATURES :

BUSH
SAPLING
TREE
HEDGE
TROUGH
CATTLE GRID

LINEWORK:

EMBANKEMENT TOP
DRAIN
BREAKLINE
BUILDING
KERB BOTTOM
WALL
PATH/CHANGE SURFACE
O/HEAD ELECTRICITY
O/HEAD TELECOM

STREET FURNITURE :

BOLLARDS	BD
BORE HOLE	BH
BUS STOP	BS
CRASH BARRIER	CB
ELECTRICITY POLE	EP
EARTHING ROD	ER
GATE	
GROUND LIGHT	LT
ILLUMINATED BOLLARD	BOL
LAMP POST	LP
MARKER POST	MKR
POST	POST
POST BOX	POST BOX
ROADSIGN	RS
SIGN POST	SIGN
TELEPHONE BOX	TB
TELEPHONE POLE	TP
TRAFFIC LIGHT	TL
TRIAL PIT	TPIT

SERVICES :

AIR VALVE	AV
ARMSTRONG JUNCTION	AJ
CABLE TV IC	CATV
COVER LEVEL	CL
EIRCOM COVER	EIRCOM
EIRCOM JUNCTION BOX	EIRCOM BOX
ELECTRICAL CABLE PIT	ECP
ESAT COVER	ESAT
ESB COVER	ESB
ESB JUNCTION BOX	ESB BOX
FIRE HYDRANT	FH
GAS VALVE	GV
GULLY	G
INSPECTION COVER	IC
MANHOLE	MH
SEPTIC TANK	SEPTIC
SLUICE VALVE	SV
STOPCOCK	ST

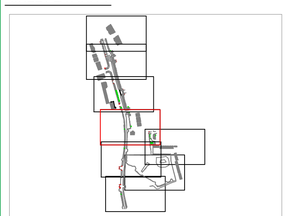
SERVICES :

SERVICE BOX (UNKNOWN)	BOX
TRAFFIC COVER	TLIC
VENT	VENT
WATER METER	WM
UNABLE TO LIFT	UTO

LEVELS :

BED LEVEL	+ BED101.50
EAVE LEVEL	+ E101.50
FLOOR LEVEL	+ FL101.50
INVERT LEVEL	+ IL101.50
ROAD LEVEL	+ 101.50
RIDGE LEVEL	+ R101.50
SOFFIT LEVEL	+ SL101.50
SPOT LEVEL	+ 101.50
TOP OF FENCE LEVEL	+ TOF101.50
TOP OF WALL LEVEL	+ TOW101.50
WATER LEVEL	+ WL101.50
SURVEY CONTROL STATION	

SHEET LAYOUT :



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CONTACT INFORMATION:

Apex Surveys
Unit 78 Dunboyne Business Park
Dunboyne, Co. Meath, Ireland
www.apexsurveys.ie
info@apexsurveys.ie
00353 1 691 0156

CLIENT:

Hayes Higgins

PROJECT:

Craddockstown Road, Naas

GRID SYSTEM:	Irish Transverse Mercator
DATUM:	Malin Head (OSGM15)
NOTES:	Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing

SCALE : 1/200 A1

DATE : 24/06/2024

DRG No: 6392

DESCRIPTION : 2D Topographical

SURVEYED BY : C.F. & M.L.

SHEET: 5 of 8

PROCESSED BY : F.S.

CHECKED BY : A.B.

RURAL/NATURAL FEATURES :

BUSH
SAPLING
TREE
HEDGE
TROUGH — TR
CATTLE GRID — GRID

LINEWORK:

EMBANKEMENT TOP — 101.50
DRAIN — 101.50
BREAKLINE — 101.50
BUILDING — 101.50
KERB BOTTOM — 101.50
WALL — 101.50
PATH/CHANGE SURFACE — 101.50
O/HEAD ELECTRICITY — OE
O/HEAD TELECOM — OT

STREET FURNITURE :

BOLLARDS	BD
BORE HOLE	BH
BUS STOP	BS
CRASH BARRIER	CB
ELECTRICITY POLE	EP
EARTHING ROD	ER
GATE	
GROUND LIGHT	LT
ILLUMINATED BOLLARD	BOL
LAMP POST	LP
MARKER POST	MKR
POST	POST
POST BOX	POST BOX
ROADSIGN	RS · RS
SIGN POST	SIGN
TELEPHONE BOX	TB
TELEPHONE POLE	TP
TRAFFIC LIGHT	TL
TRIAL PIT	TPIT

SERVICES :

AIR VALVE	AV
ARMSTRONG JUNCTION	AJ
CABLE TV IC	CATV
COVER LEVEL	CL
EIRCOM COVER	EIRCOM
EIRCOM JUNCTION BOX	EIRCOM BOX
ELECTRICAL CABLE PIT	ECP
ESAT COVER	ESAT
ESB COVER	ESB
ESB JUNCTION BOX	ESB BOX
FIRE HYDRANT	FH
GAS VALVE	GV
GULLY	G
INSPECTION COVER	IC
MANHOLE	MH
SEPTIC TANK	SEPTIC
SLUICE VALVE	SV
STOPCOCK	ST

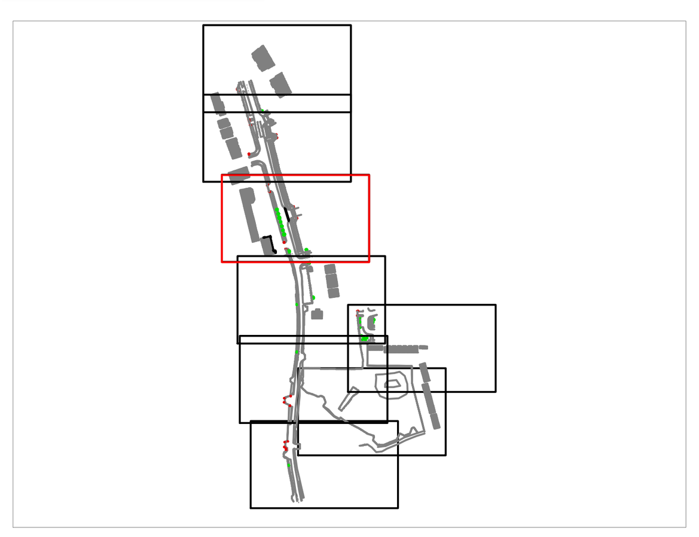
SERVICES :

SERVICE BOX (UNKNOWN)	BOX
TRAFFIC COVER	TLIC
VENT	VENT
WATER METER	WM
UNABLE TO LIFT	UTO

LEVELS :

BED LEVEL	BED101.50
EAVE LEVEL	E101.50
FLOOR LEVEL	FL101.50
INVERT LEVEL	IL101.50
ROAD LEVEL	101.50
RIDGE LEVEL	R101.50
SOFFIT LEVEL	SL101.50
SPOT LEVEL	101.50
TOP OF FENCE LEVEL	TOF101.50
TOP OF WALL LEVEL	TOW101.50
WATER LEVEL	WL101.50
SURVEY CONTROL STATION	

SHEET LAYOUT :



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www.apexsurveys.ie
info@apexsurveys.ie
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PLAN PRODUCED BY:

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CLIENT:

Hayes Higgins

PROJECT:

Craddockstown Road, Naas

GRID SYSTEM: Irish Transverse Mercator
DATUM: Malin Head (OSGM15)
NOTES: Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing

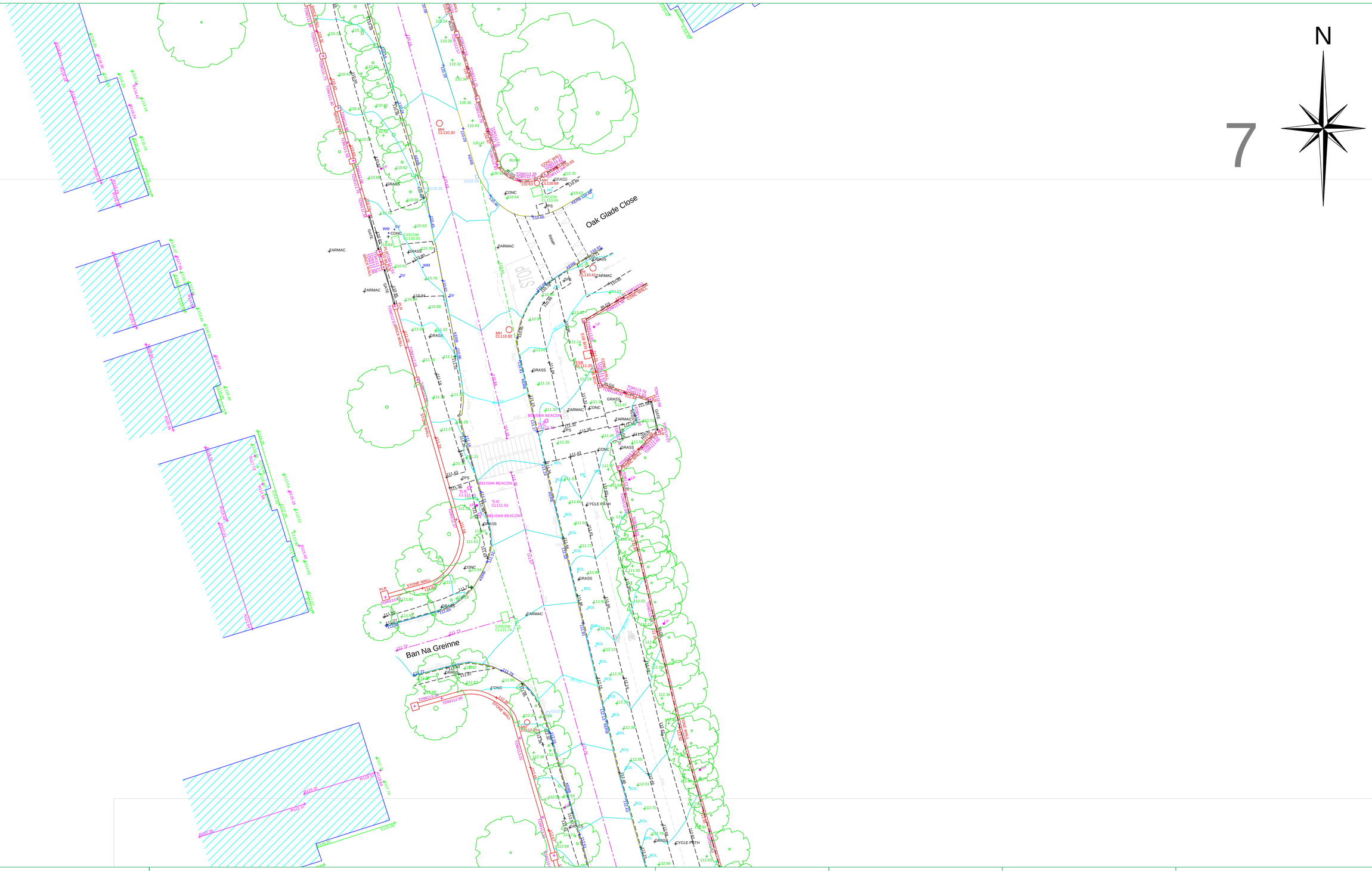
SCALE : 1/200 A1

DATE : 24/06/2024

DRG No: 6392

SHEET: 6 of 8

DESCRIPTION : 2D Topographical
SURVEYED BY : C.F. & M.L.
PROCESSED BY : F.S.
CHECKED BY : A.B.



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RURAL/NATURAL FEATURES :

BUSH
SAPLING
TREE
HEDGE
TROUGH
CATTLE GRID

LINEWORK:

EMBANKEMENT TOP 101.50
DRAIN 101.50
BREAKLINE 101.50
BUILDING 101.50
KERB BOTTOM 101.50
WALL 101.50
PATH/CHANGE SURFACE 101.50
O/HEAD ELECTRICITY OE
O/HEAD TELECOM OT

STREET FURNITURE :

BOLLARDS	BD
BORE HOLE	BH +
BUS STOP	BS
CRASH BARRIER	CB
ELECTRICITY POLE	EP
EARTHING ROD	ER +
GATE	
GROUND LIGHT	LT
ILLUMINATED BOLLARD	BOL
LAMP POST	LP
MARKER POST	MKR +
POST	POST
POST BOX	POST BOX +
ROADSIGN	RS RS
SIGN POST	SIGN
TELEPHONE BOX	TB
TELEPHONE POLE	TP
TRAFFIC LIGHT	TL
TRIAL PIT	TPIT +

SERVICES :

AIR VALVE	AV +
ARMSTRONG JUNCTION	AJ
CABLE TV IC	CATV
COVER LEVEL	CL
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SEPTIC TANK	SEPTIC
SLUICE VALVE	SV
STOPCOCK	ST

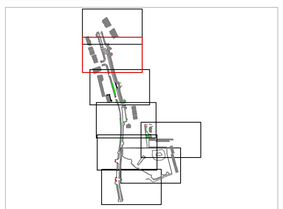
SERVICES :

SERVICE BOX (UNKNOWN)	BOX
TRAFFIC COVER	TLIC
VENT	VENT
WATER METER	WM +
UNABLE TO LIFT	UTO

LEVELS :

BED LEVEL	+ BED101.50
EAVE LEVEL	+ E101.50
FLOOR LEVEL	+ FL101.50
INVERT LEVEL	+ IL101.50
ROAD LEVEL	+ 101.50
RIDGE LEVEL	+ R101.50
SOFFIT LEVEL	+ SL101.50
SPOT LEVEL	+ 101.50
TOP OF FENCE LEVEL	+ TOF101.50
TOP OF WALL LEVEL	+ TOW101.50
WATER LEVEL	+ WL101.50
SURVEY CONTROL STATION	

SHEET LAYOUT :



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CLIENT:

Hayes Higgins

PROJECT:

Craddockstown Road, Naas

GRID SYSTEM:	Irish Transverse Mercator
DATUM:	Malin Head (OSGM15)
NOTES:	Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing

SCALE : 1/200 A1

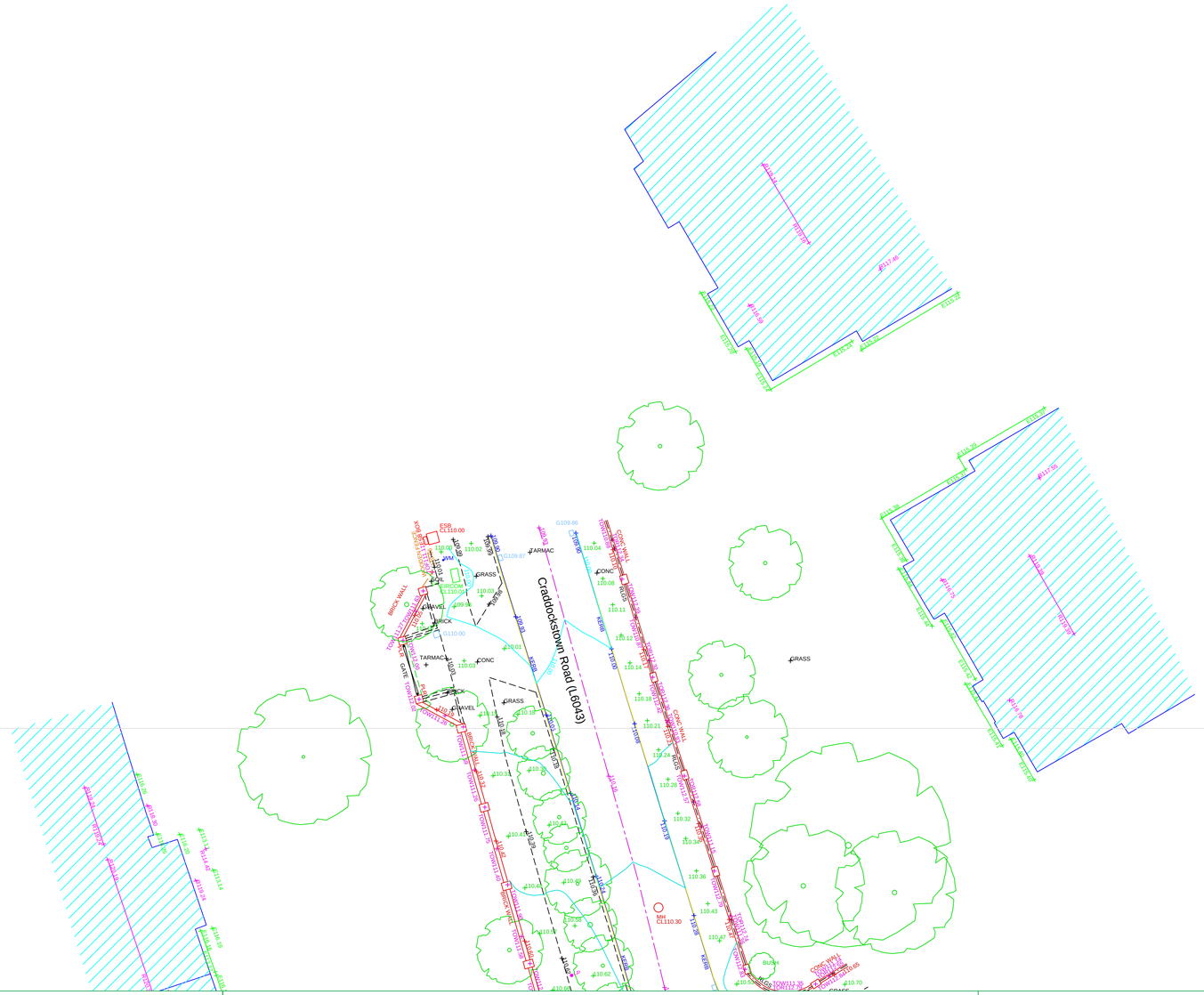
DATE : 24/06/2024

DRG No: 6392

SHEET: 7 of 8

DESCRIPTION : 2D Topographical
SURVEYED BY : C.F. & M.L.
PROCESSED BY : F.S.
CHECKED BY : A.B.

N



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LINEWORK:

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DRAIN 101.50
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BUILDING 101.50
KERB BOTTOM 101.50
WALL 101.50
PATH/CHANGE SURFACE 101.50
O/HEAD ELECTRICITY OE
O/HEAD TELECOM OT

STREET FURNITURE :

BOLLARDS	BD *
BORE HOLE	BH +
BUS STOP	BS *
CRASH BARRIER	CB
ELECTRICITY POLE	EP *
EARTHING ROD	ER +
GATE	
GROUND LIGHT	LT *
ILLUMINATED BOLLARD	BOL
LAMP POST	LP *
MARKER POST	MKR +
POST	POST *
POST BOX	POST BOX +
ROADSIGN	RS * RS
SIGN POST	SIGN
TELEPHONE BOX	TB
TELEPHONE POLE	TP *
TRAFFIC LIGHT	TL *
TRIAL PIT	TPIT +

SERVICES :

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FIRE HYDRANT	FH *
GAS VALVE	GV
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INSPECTION COVER	IC
MANHOLE	MH
SEPTIC TANK	SEPTIC
SLUICE VALVE	SV *
STOPCOCK	ST *

SERVICES :

SERVICE BOX (UNKNOWN)	BOX
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VENT	VENT *
WATER METER	WM +
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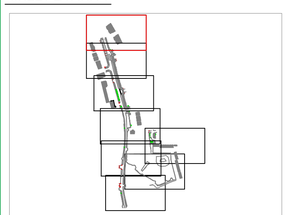
TOP OF WALL LEVEL	+ TOW101.50
WATER LEVEL	+ WL101.50
SURVEY CONTROL STATION	

SHEET LAYOUT :



APEX SURVEYS
www.apexsurveys.ie
info@apexsurveys.ie
00353 1 691 0156

PLAN PRODUCED BY:

APEX SURVEYS

CONTACT INFORMATION:
Apex Surveys
Unit 78 Dunboyne Business Park
Dunboyne, Co. Meath, Ireland
www.apexsurveys.ie
info@apexsurveys.ie
00353 1 691 0156

CLIENT:

Hayes Higgins

PROJECT:

Craddockstown Road, Naas

GRID SYSTEM:	Irish Transverse Mercator
DATUM:	Malin Head (OSGM15)
NOTES:	Drawing Contains Scale Factor

REVISIONS:

No.	Date	Description
001	N/A	Original Drawing

SCALE : 1/200 A1

DATE : 24/06/2024

DRG No: 6392

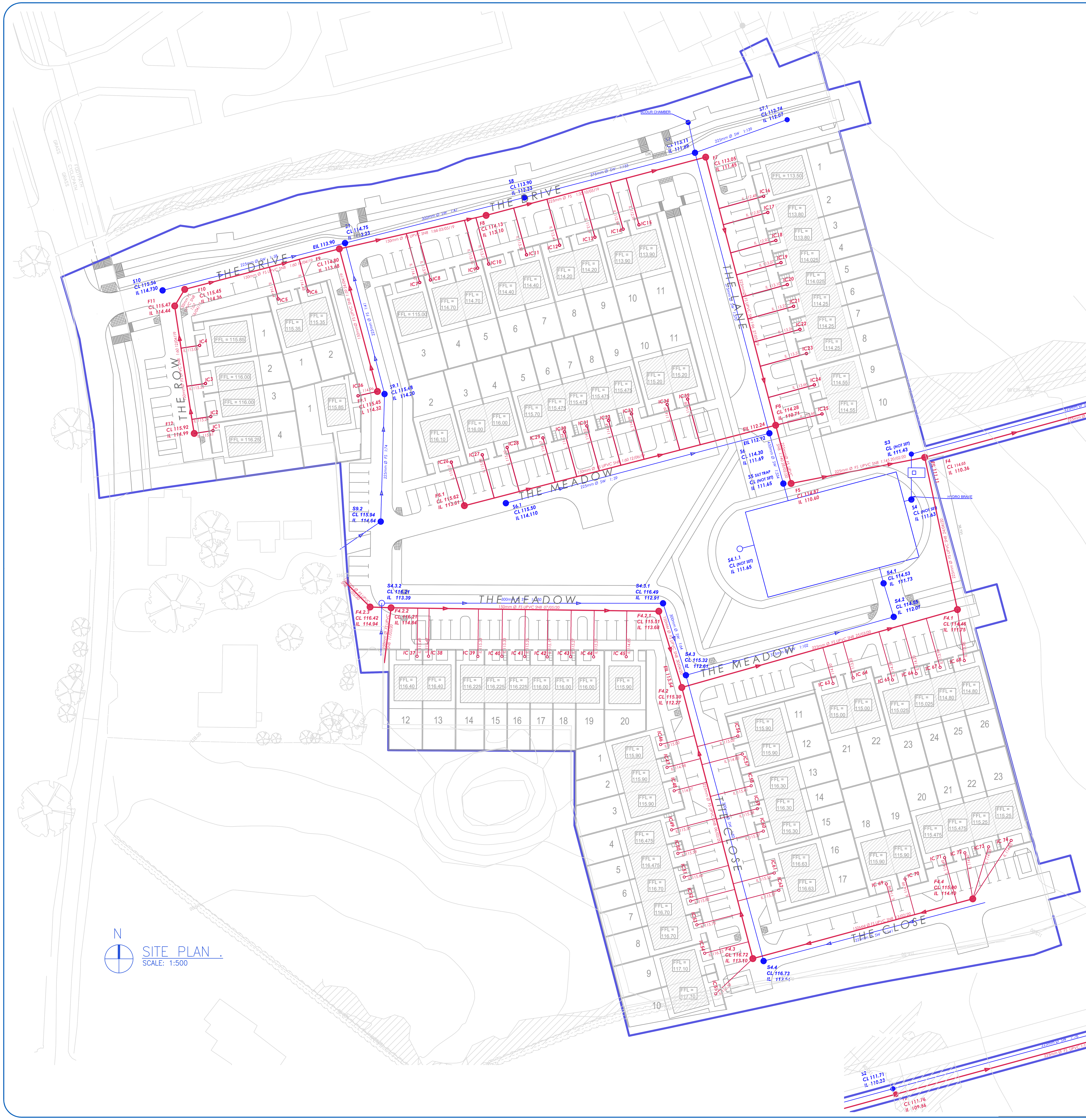
DESCRIPTION : 2D Topographical

SURVEYED BY : C.F. & M.L.

SHEET: 8 of 8

PROCESSED BY : F.S.

CHECKED BY : A.B.



FW MANHOLE SCHEDULE					
MH REF	COVER LEVEL	INVERT LEVEL	MH DEPTH	EASTING	NORTHING
F0	110.80	109.20	1.60	290580,91	218161,09
F1	110.90	109.37	1.53	290556,76	218158,24
F2	111.76	109.86	1.90	290470,76	218134,81
F4	114.03	110.36	3.67	290386,95	218111,84
F4.1	114.46	111.75	2.71	290395,32	218072,84
F4.2	115.30	112.27	3.03	290324,74	218052,89
F4.2.1	115.51	113.68	1.83	290318,85	218072,43
F4.2.2	116.21	114.84	1.37	290250,28	218073,31
F4.2.3	116.42	114.94	1.48	290244,90	218073,51
F4.3	116.72	113.10	3.62	290342,95	217983,45
F4.4	115.00	114.10	0.90	290399,26	217998,74
F5	114.87	110.60	4.27	290352,74	218105,18
F6	114.28	110.71	3.57	290348,77	218120,07
F6.1	115.62	113.61	2.01	290269,05	218099,48
F7	113.05	111.45	1.60	290330,84	218188,75
F8	114.13	113.10	1.03	290274,62	218173,83
F9	114.80	113.68	1.12	290237,04	218165,25
F9.1	115.45	114.32	1.13	290246,79	218128,73
F10	115.45	114.36	1.09	290197,42	218154,87
F11	115.47	114.44	1.03	290194,86	218150,64
F12	115.92	114.99	0.93	290199,87	218117,98

IC SCHEDULE		
MH REF	EASTING	NORTHING
IC1	290204,67	218118,69
IC2	290204,09	218122,3
IC3	290202,75	218130,77
IC4	290201,24	218140,52
IC5	290221,37	218152,42
IC6	290229,00	218154,44
IC7	290257,61	218156,64
IC8	290260,36	218157,29
IC9	290272,45	218160,32
IC10	290275,27	218161,37
IC11	290284,97	218163,73
IC12	290293,44	218166,19
IC13	290302,49	218168,25
IC14	290309,71	218170,31
IC15	290313,77	218171,42
IC16	290345,70	218178,73
IC17	290346,77	218174,58
IC18	290348,83	218167,41
IC19	290350,15	218161,74
IC20	290351,76	218156,11
IC21	290353,37	218150,55
IC22	290355,00	218144,63
IC23	290356,65	218138,43
IC24	290358,67	218130,41
IC25	290360,65	218122,97
IC26	290265,69	218110,62
IC27	290273,64	218112,50

IC SCHEDULE		
MH REF	EASTING	NORTHING
IC28	290280,00	218114,39
IC29	290289,17	218116,83
IC30	290294,67	218118,38
IC31	290300,43	218119,90
IC32	290305,98	218121,28
IC33	290311,86	218123,00
IC34	290321,00	218125,40
IC35	290326,24	218126,78
IC36	290246,79	218128,73
IC37	290256,94	218060,88
IC38	290259,86	218060,91
IC39	290272,51	218060,85
IC40	290278,66	218060,87
IC41	290284,50	218060,83
IC42	290290,27	218060,73
IC43	290296,26	218060,78
IC44	290302,16	218060,73
IC45	290310,51	218060,76
IC46	290319,31	218038,29
IC47	290320,95	218032,42
IC48	290322,79	218026,43
IC49	290322,14	218016,42
IC50	290323,73	218010,40
IC51	290325,36	218004,33
IC52	290326,99	217998,20
IC53	290328,59	217992,09
IC54	290330,59	217984,80
IC55	290333,43	217974,44
IC56	290339,09	218040,47
IC57	290340,23	218035,83
IC58	290342,51	218027,71
IC59	290344,09	218021,84
IC60	290345,61	218016,10
IC61	290348,41	218005,36
IC62	290349,61	218000,93
IC63	290363,46	218053,92
IC64	290368,63	218055,35
IC65	290378,70	218054,82
IC66	290384,76	218056,44
IC67	290390,89	218058,05
IC68	290397,09	218059,78
IC69	290377,11	218002,59
IC70	290381,92	218003,83
IC71	290392,04	218009,29
IC72	290397,23	218010,55
IC73	290403,31	218012,07
IC74	290409,08	218013,71

LEGEND:

- SITE BOUNDARY
- MAIN FOUL SEWER
- FOUL SERVICE DRAIN
- FOUL SEWER MANHOLE
- PLOT INSPECTON CHAMBER
- STORM SEWER MANHOLE

CDS TRACKER- 24847563

REV:	DESCRIPTION:	BY:	DATE:
C			
B	UPDATED TO SUIT IW COMMENTS	KGO	09/07/20
A	AS BUILT RECORD DRAWING	COS	24.06.20

STATUS: ASBUILT ISSUE

John Sisk & Son Ltd
Wilton Works
Naas Road
Clondalkin
Dublin22
www.johnsiskandson.com

DEVELOPER: COMHAR HOUSING
MACQUARIE CAPITAL GROUP LTD
CONNAUGHT HOUSE, NO.1 BURLINGTON ROAD
DUBIN 4, D04C5Y6

CONSULTANT: DBFL CONSULTING ENGINEERS
ORMOND HOUSE
UPPER ORMOND QUAY
DUBLIN 7, D07W704

SITE: EUSTACE DEMENSE
CRADDOCKSTOWN

TITLE: DRAINAGE AS-BUILT (FW)
SITE LAY-OUT SHEET 1/1

SCALE AT A1:	DATE:	DRAWN:	CHECKED:
1:500	09/07/20	KGO	SMM
PROJECT NO:	DRAWING NO:		REVISION:
1407	AB/002		B