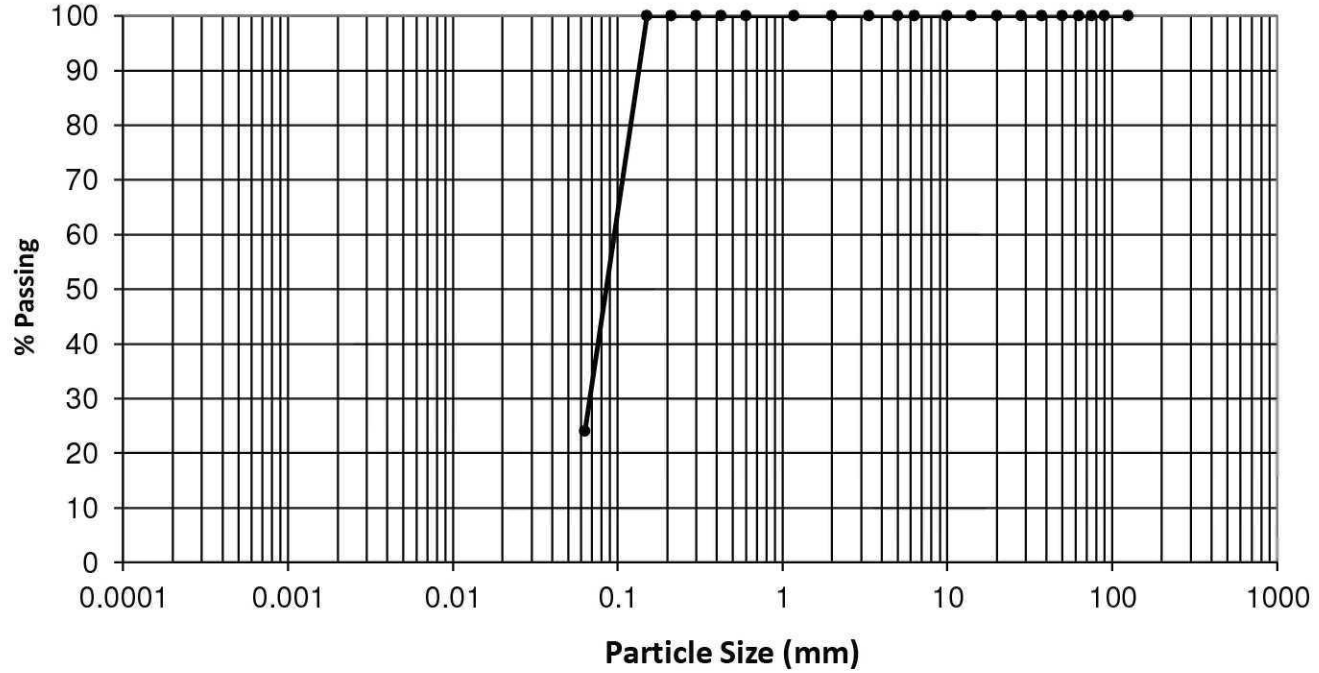
APPENDIX C

Laboratory Test Results - Geotechnical

B.S.1377 1990 PART 2 PARTICLE SIZE ANALYSIS



Sieve Size	Percentage Passing	Group % retained
125	100	Cobbles
90	100	
75	100	
63	100	0
50	100	Gravel
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	0
2	100	Sand
1.18	100	
0.6	100	
0.425	100	
0.3	100	
0.212	100	
0.15	100	
0.063	24	76
		Fines 24

Key: F - Fine; M - Medium; C - Coarse

N.C.A	Site Ref: Monkhouse Primary School, Spalding	Job No: G14223-01	Hole No. WS2	Sample No: B5	Depth (m): 1.20-2.00	Date: 30/09/2014

TEST RESULTS SUMMARY SHEET

SITE: Monkhouse School, Spalding

NATURAL MOISTURE CONTENT AND ATTERBERG LIMIT TEST RESULTS

Tests carried out in accordance with B.S.1377:Part 2: 1990

Hole No.	Depth (m)	Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 µm Sieve (%)	Group Symbol
WS2	0.60-0.70	25	43	20	23	100	Cl

WS = Window Sample Borehole

NICHOLLS COLTON GEOTECHNICAL

Report No: G14223
Date: October 2014

APPENDIX D

Laboratory Test Results - Soil Contamination

Nicholls Colton Analytical
7 - 11 Harding Street
Leicester
LE1 4DH

Nicholls Colton Geotechnical
7-11 Harding Street
Leicester
LE1 4DH

Analytical Test Report: G14223-01/001

Your Project Reference:	**Monkhouse School, Spalding**	Samples Received on:	22.09.2014
Your Order Number:	G14223-01	Testing Instruction Received:	22.09.2014
Report Issue Number:	1	Sample Tested:	22 to 30.09.2014
Samples Analysed:	7 Soils	Report issued:	30.09.2014

Signed

James Gane
Manager - Data Logistics
Nicholls Colton Analytical

Notes:

General

Please refer to Methodologies tab for details pertaining to the analytical methods undertaken.

Samples will be retained for 14 days after issue of this report.

Moisture Content was determined in accordance with NCA method statement MS - CL - Sample Prep, oven dried at <30°C.

Moisture Content is reported as a percentage of the dry mass of soil, this calculation is in accordance with BS1377, Part 2, 1990, Clause 3.2

Stone Content was determined in accordance with NCA method statement MS - CL - Sample Prep and refers to the percentage of stones retained on a 10mm BS test sieve.

With the exception of Sulphate, Sulpur and LoI which are crushed over the 2mm test sieve, concentrations are reported as a percentage mass of the dry soil passing the 10mm BS test sieve. As received samples have been corrected for moisture content but not stone content.

Samples were supplied by customer.

Deviant Samples

Samples were received in suitable containers	**Yes**
A date and time of sampling was provided	**Yes**
Some sample handling times were exceeded prior to analysis of determinants	**Yes**

Where samples do not meet one or more of the above criteria they will be classed as deviant, this means data may not be representative of the sample at the time of sampling and it is possible that results provided may be compromised.

WAC Testing

Samples were leached in accordance with BS EN 12457-2: 2002.

Eluate Results are reported as L/S 10. These results have been calculated in accordance with BS EN 12457-2:2002.

Comparative values are taken from the Environment Agency document "Guidance for waste destined for disposal in landfills", Version 2, June 2006.

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LE1 4DH

G14223-01/001

Project Reference - Monkhouse School, Spalding

Analytical Test Results - NCG Soil Suite

NCA Reference			14-31299	14-31300	14-31301
Client Sample Reference			E1	E2	E2
Client Sample Location			WS1	WS1	WS2
Depth (m)			0.50	0.80	0.35
Date of Sampling			18.09.2014	18.09.2014	18.09.2014
Time of Sampling			AM	AM	AM
Sample Matrix			Clay	Clay	Clay
Determinant	**Units**	**Accreditation**			
Arsenic	(mg/kg)	MCERTS	< 10	< 10	10.3
Cadmium	(mg/kg)	MCERTS	0.5	0.4	0.9
Chromium (Total)	(mg/kg)	MCERTS	11.7	12.0	19.1
Copper	(mg/kg)	MCERTS	9.4	8.0	10.5
Lead	(mg/kg)	MCERTS	13.8	14.7	26.0
Mercury	(mg/kg)	UKAS	< 2.5	< 2.5	< 2.5
Nickel	(mg/kg)	MCERTS	17.2	16.9	23.9
Zinc	(mg/kg)	MCERTS	48.2	45.3	65.0
Phenols (Total)	(mg/kg)	MCERTS	<1.2	<1.2	<1.2
pH	pH Units	MCERTS	7.0	8.4	8.1
Acenaphthene	(mg/kg)	MCERTS	<0.1	<0.1	<0.1
Acenaphthylene	(mg/kg)	UKAS	<0.1	<0.1	<0.1
Anthracene	(mg/kg)	UKAS	<0.1	<0.1	<0.1
Benzo (a) anthracene	(mg/kg)	MCERTS	<0.1	<0.1	0.2
Benzo (a) pyrene	(mg/kg)	MCERTS	<0.1	<0.1	<0.1
Benzo (b) fluoranthene	(mg/kg)	MCERTS	<0.1	<0.1	0.2
Benzo (g, h, i) perylene	(mg/kg)	MCERTS	<0.1	<0.1	0.1
Benzo (k) fluoranthene	(mg/kg)	MCERTS	0.2	<0.1	0.5
Chrysene	(mg/kg)	MCERTS	0.1	<0.1	0.3
Dibenzo (a,h) anthracene	(mg/kg)	MCERTS	<0.1	<0.1	<0.1
Fluoranthene	(mg/kg)	MCERTS	0.3	0.1	0.4
Fluorene	(mg/kg)	MCERTS	<0.1	<0.1	<0.1
Indeno (1, 2, 3,-cd) pyrene	(mg/kg)	MCERTS	<0.1	<0.1	0.1
Naphthalene	(mg/kg)	MCERTS	<0.1	<0.1	<0.1
Phenanthrene	(mg/kg)	MCERTS	0.2	0.2	0.2
Pyrene	(mg/kg)	MCERTS	0.2	0.1	0.4
Total PAH (Sum of USEPA 16)	(mg/kg)	UKAS	2.0	1.7	3.0

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Leicester
LE1 4DH

G14223-01/001

Project Reference - Monkhouse School, Spalding

Analytical Test Results - BRE Suite

NCA Reference			14-31302	14-31303	14-31304	14-31305
Client Sample Reference			B4	D6	D3	D6
Client Sample Location			WS1	WS1	WS2	WS2
Depth (m)			2.2-3.0	4.0-4.9	0.6-0.7	2.0-2.5
Date of Sampling			18.09.2014	18.09.2014	18.09.2014	18.09.2014
Time of Sampling			AM	AM	AM	PM
Sample Matrix			Sand	Sand	Clay	Clay
Determinant	**Units**	**Accreditation**				
Water soluble sulphate	(mg/l)	None	130	12	25	87
Acid Soluble Sulphate	(%)	None	0.07	0.03	0.03	0.05
Total Sulphur	(%)	None	0.15	0.02	0.01	0.06
pH Value	pH Units	MCERTS	8.0	8.4	8.4	7.5

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G14223-01/001

Project Reference - Monkhouse School, Spalding

Certificate Of Analysis - WAC Suite

NCA Reference	14-31301
Client Sample Reference	E2, WS2
Sample Description	Dark brown silty clay.
Depth (m)	0.35
Date of Sampling	18.09.2014
Time of Sampling	AM
Sample Matrix	Clay
Moisture Content (%)	19
Stone content (%)	0

			Determined Result	Inert Waste Landfill	Stable non reactive hazardous waste in a non hazardous landfill	Hazardous Waste Landfill
Solid Analysis						
Total Organic Carbon	%	MCERTS	1.4	3.0	5.0	6.0
Loss on Ignition	%	UKAS	3.0	-	-	10.0
BTEX	mg/kg	MCERTS	<0.3	6.00	-	-
PCB's (7 Congeners)	mg/kg	-	<0.04	1.00	-	-
Mineral Oil ($>C_{10}$ to C_{40})	mg/kg	-	89	500	-	-
PAH	mg/kg	-	3.1	100	-	-
pH	units	MCERTS	8.1	-	> 6	-
Eluate Analysis						
Arsenic	mg/kg	-	0.04	0.50	2	25
Barium	mg/kg	-	0.31	20	100	300
Cadmium	mg/kg	-	< 0.03	0.04	1	5
Chromium (total)	mg/kg	-	< 0.03	0.5	10	70
Copper	mg/kg	-	< 0.10	2.0	50	100
Mercury	mg/kg	-	< 0.01	0.01	0.2	2
Molybdenum	mg/kg	-	0.08	0.5	10.0	30
Nickel	mg/kg	-	< 0.03	0.4	10.0	40
Lead	mg/kg	-	< 0.10	0.5	10.0	50
Antimony	mg/kg	-	< 0.01	0.06	0.7	5
Selenium	mg/kg	-	< 0.10	0.1	0.5	7
Zinc	mg/kg	-	< 0.10	4	50	200
Chloride	mg/kg	-	28	800	15000	25000
Fluoride	mg/kg	-	21.9	10	150	500
Sulphate (as SO_4)	mg/kg	-	23	1000	20000	50000
Phenol Index	mg/kg	-	< 1.0	1	-	-
Dissolved Organic Carbon	mg/kg	-	109	500	800	1000

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G14223-01/001

Project Reference - Monkhouse School, Spalding

Sample Descriptions

NCA Reference	Client Sample Reference	Sample Location	Description	Moisture Content (%)	Stone Content (%)
14-31299	E1	WS1	Brown clay.	24	0
14-31300	E2	WS1	Brown clay.	23	0
14-31301	E2	WS2	Dark brown silty clay.	19	0

NCA Reference	Client Sample Reference	Sample Location	Description	% Passing 2mm BS test sieve
14-31302	B4	WS1	Brown silty sand.	100
14-31303	D6	WS1	Brown sand.	100
14-31304	D3	WS2	Brown clay.	100
14-31305	D6	WS2	Brown clay.	100

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G14223-01/001

Project Reference - Monkhouse School, Spalding

Analysis Methodologies

Matrix	Determinant	Sample condition for analysis	Test Method used
Soil	Metals	Air Dried	In house method statement - MS - CL - ICP metals
Soil	PAH	Air Dried	In house method statement - MS - CL - PAH
Soil	Phenols	As Received	In house method statement - MS - CL - Phenols (Skalar)
Soil	pH	As Received	In house method statement - MS - CL - pH (Soil)
Soil	Sulphate	Air Dried	In house method statement - MS - CL - Anions (Aquakem)
Soil	Acid Sulphate	Air Dried	In house method statement - MS - CL - BRE
Soil	Total Sulphur	Air Dried	In house method statement - MS - CL - BRE

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Project Reference - Monkhouse School, Spalding

WAC Analysis Methodologies

Matrix	Determinant	Sample condition for analysis	Test Method used
Soil	TOC	Air Dried	In house method statement - MS - CL - TOC
Soil	LoI	Air Dried	BS 1377, Part 3, 1990
Soil	BTEX	As Received	In house method statement - MS - CL - VOC and BTEX
Soil	PCB	As Received	In house method statement - MS - CL - PCB
Soil	Mineral Oil	As Received	In house method statement - MS - CL - TPH
Soil	PAH	Air Dried	In house method statement - MS - CL - PAH
Soil	pH	Air Dried	In house method statement - MS - CL - pH (Soil)
Eluate	Metals	Leached	In house method statement - MS - CL - Water Metals
Eluate	Anions	Leached	In house method statement - MS - CL - Anions (Aquakem)
Eluate	Phenol Index	Leached	In house method statement - MS - CL - Phenols (Skalar)
Eluate	DOC	Leached	In house method statement - MS - CL - DOC

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APPENDIX E

Laboratory Test Results – Waste Acceptance Criteria

Nicholls Colton Analytical
7 - 11 Harding Street
Leicester
LE1 4DH

G14223-01/001

Project Reference - Monkhouse School, Spalding

Certificate Of Analysis - WAC Suite

NCA Reference	14-31301
Client Sample Reference	E2, WS2
Sample Description	Dark brown silty clay.
Depth (m)	0.35
Date of Sampling	18.09.2014
Time of Sampling	AM
Sample Matrix	Clay
Moisture Content (%)	19
Stone content (%)	0

			Determined Result	Inert Waste Landfill	Stable non reactive hazardous waste in a non hazardous landfill	Hazardous Waste Landfill
Solid Analysis						
Total Organic Carbon	%	MCERTS	1.4	3.0	5.0	6.0
Loss on Ignition	%	UKAS	3.0	-	-	10.0
BTEX	mg/kg	MCERTS	<0.3	6.00	-	-
PCB's (7 Congeners)	mg/kg	-	<0.04	1.00	-	-
Mineral Oil ($>C_{10}$ to C_{40})	mg/kg	-	89	500	-	-
PAH	mg/kg	-	3.1	100	-	-
pH	units	MCERTS	8.1	-	> 6	-
Eluate Analysis						
Arsenic	mg/kg	-	0.04	0.50	2	25
Barium	mg/kg	-	0.31	20	100	300
Cadmium	mg/kg	-	< 0.03	0.04	1	5
Chromium (total)	mg/kg	-	< 0.03	0.5	10	70
Copper	mg/kg	-	< 0.10	2.0	50	100
Mercury	mg/kg	-	< 0.01	0.01	0.2	2
Molybdenum	mg/kg	-	0.08	0.5	10.0	30
Nickel	mg/kg	-	< 0.03	0.4	10.0	40
Lead	mg/kg	-	< 0.10	0.5	10.0	50
Antimony	mg/kg	-	< 0.01	0.06	0.7	5
Selenium	mg/kg	-	< 0.10	0.1	0.5	7
Zinc	mg/kg	-	< 0.10	4	50	200
Chloride	mg/kg	-	28	800	15000	25000
Fluoride	mg/kg	-	21.9	10	150	500
Sulphate (as SO_4)	mg/kg	-	23	1000	20000	50000
Phenol Index	mg/kg	-	< 1.0	1	-	-
Dissolved Organic Carbon	mg/kg	-	109	500	800	1000

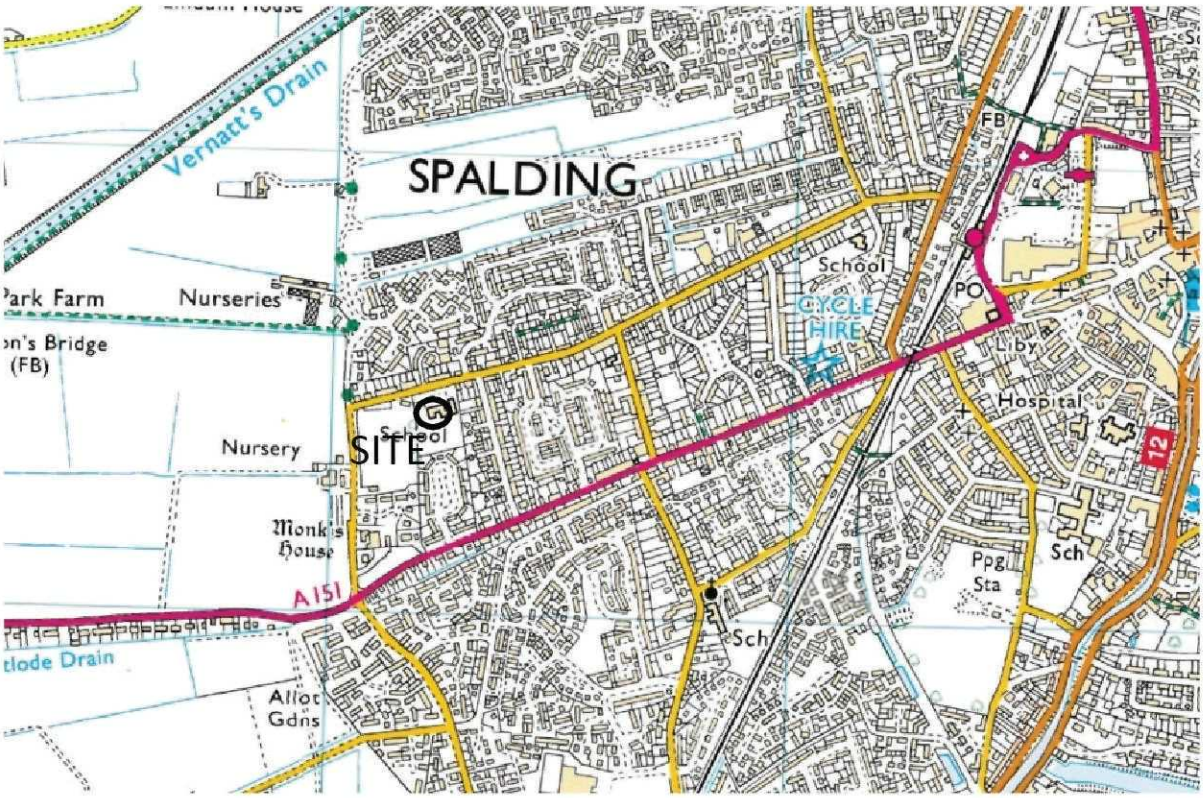
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DRAWINGS

G14223-IR/1 Site Location Plan

G14223-IR/2 Exploratory Hole Location Plan

North



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NICHOLLS COLTON GEOTECHNICAL 7-11 Harding Street Leicester LE1 4DH	Client: Waldeck
Project: Monkhouse School, Spalding, Lincolnshire	

Drawing No: G14223-IR/01	Title: Site Location Plan	Date: October 2014



Key:

Trial Pit

Window Sample Borehole

NICHOLLS COLTON GEOTECHNICAL		Client. Waldeck	
		Project no. G14223	
Project. Monkhouse School, Spalding, Lincolnshire			
Drawing No. G14223-IR/02	Title. Exploratory Hole Location Plan	Scale. NTS	Date. October 2014

Appendix G

Welland & Deeping IDB Response

Garry Dunnett

From: Nick Morris <Nick@wellandidb.org.uk>
Sent: 22 August 2014 10:56
To: Garry Dunnett
Subject: RE: 14-3072 Monkhouse Primary School, Spalding
Attachments: SKMBT_C22014082210360.pdf

Morning Garry
The Boards piped Pennygate Road Drain runs along the southside of Pennygate and along the northern frontage of Monkshouse Primary School – see attached plan.
We have no records of any recent (or historical)flooding within this area.
I hope this information is of use to you.
Best wishes,

Nick

From: Garry Dunnett [mailto:garry.Dunnett@waldeckconsulting.com]
Sent: 20 August 2014 11:20
To: Nick Morris
Subject: 14-3072 Monkhouse Primary School, Spalding

F.A.O. Nick Morris

Dear Sir,

We are Consulting Engineers appointed to undertake a flood risk assessment for a proposed extension at the above mentioned site.

Therefore it would be much appreciated if you could supply us with any records of recent (or historical) flooding that may have occurred within the area in question.

If there is a fee for the supply of the requested information, please could you inform us prior to sending us the relevant information.

I have attached a copy of a site location plan for your assistance, but should you have any queries regarding the above, please do not hesitate to call.

Regards,

Garry

Garry Dunnett
Project Engineer

For and on behalf of Waldeck
T: 01733 807313
E: garry.Dunnett@waldeckconsulting.com
A: Waldeck, 21 Cross Street Court, Cross Street, Peterborough, PE1 1XA

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Nick Morris
Operations Engineer

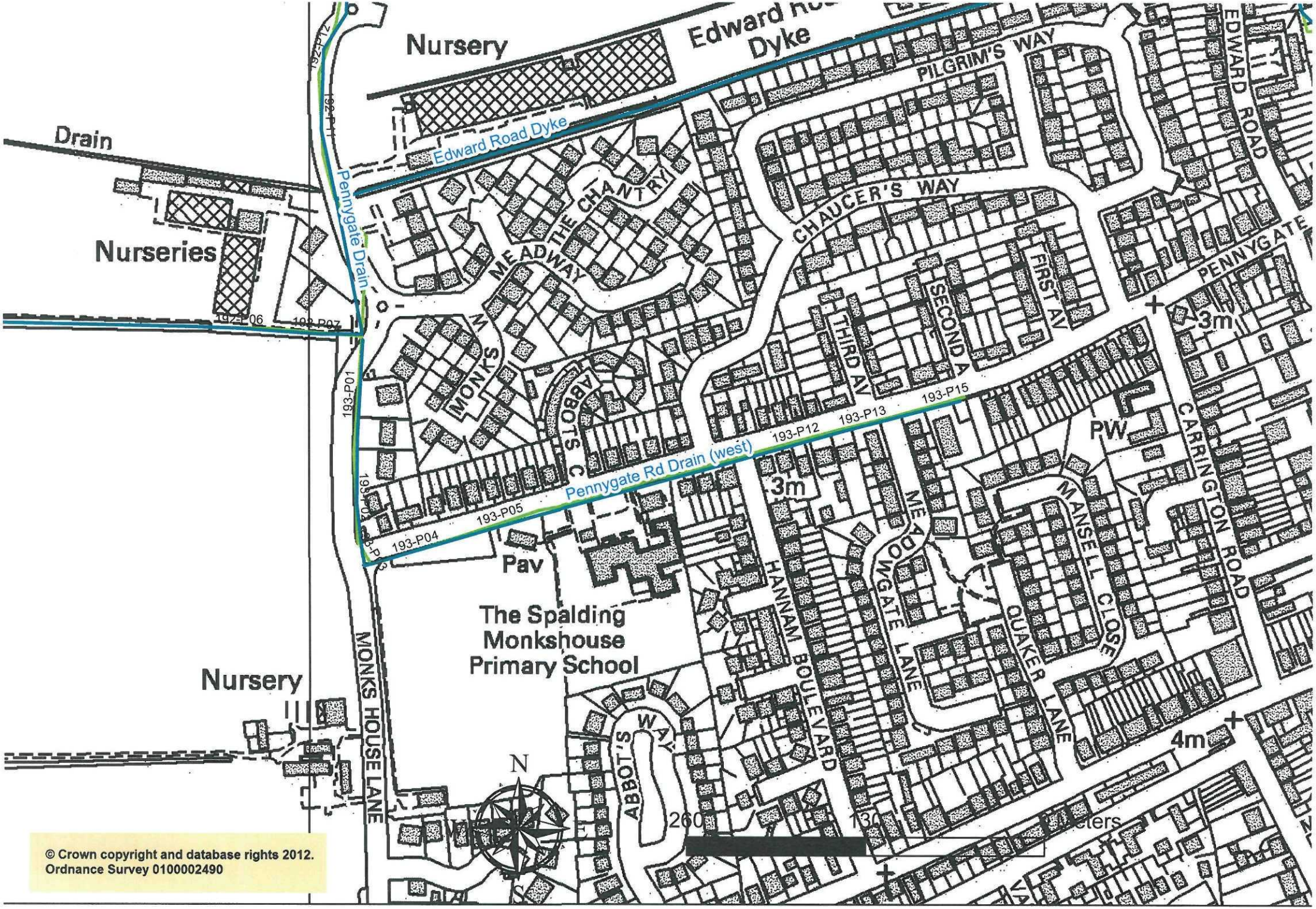
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Internal Drainage Board

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Nursery
Edward Road Dyke
Drain
Edward Road Dyke
Pennygate Drain
Nurseries
PILGRIM'S WAY
EDWARD ROAD
THE CHANTRY
MEADWAY
CHAUCER'S WAY
PENNYGATE
FIRST AV
SECOND A
THIRD AV
MONKS
ABBOTS
3m
193-P01
193-P15
193-P13
193-P12
Pennygate Rd Drain (west)
193-P05
193-P04
PW
CARRINGTON ROAD
MEADGATE LANE
MANSELL CLOSE
Pav
The Spalding Monkshouse Primary School
HANNAM BOULEVARD
QUAKER LANE
Nursery
MONKS HOUSE LANE
ABBOT'S WAY
4m
N
260
130
Meters
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