

# CHANNEL VIEW, CARDIFF

## Soil Resource Survey

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## **CHANNEL VIEW, CARDIFF: Soil Resource Survey**

### **1. INTRODUCTION**

This report provides detailed information on the soils within the application boundary for Channel View, Cardiff centred on OS Grid Reference ST 179 741. This survey was carried out to ensure that all the soils within the site were identified and their physical characteristics determined. From the survey the protection measures required for soils to remain in-situ and the potential for re-use of soils which require moving during the construction phase of the project could be assessed.

### **2. SITE DESCRIPTION**

#### **2.1 Altitude & Relief**

The survey area lies at approximately 2 mAOD with the majority of the land being generally level.

#### **2.2 Published Soils Information**

The 1:250 000 scale reconnaissance soil map of the area (Soil Survey, 1983) shows the whole of the site to be mapped as Urban land.

#### **2.3 Land Use**

At the time of the survey the land in the west close to the roundabout on Ferry Road was trees and scrub. The majority of the land within the survey boundary comprised a park and playing fields. In the central strip and south of the survey area are buildings and roads with a number of small green spaces among the buildings.

### **3. SURVEY METHODS**

The survey was undertaken in May 2020. Soil profiles were examined using a hand auger and/or spade to a depth of 100 cm where possible. The fieldwork was conducted at a very detailed density (Figure 1 & Appendix I) according to the Defra

Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (2009). All descriptions of soil profiles were using the nomenclature of the Soil Survey Field Handbook (Hodgson, 1997).

#### 4. SOIL PHYSICAL CHARACTERISTICS

This survey showed the site to comprise a single main soil type which contained debris including house bricks, concrete, glass and metal fragments. Therefore the soils in the whole of the survey area had been previously disturbed and appears to be restored land. The soils were also very hard and compacted with relatively high stone contents which prevented the soil profile from being examined to 100 cm with the exception of a single sample location. A typical soil profile is:

0 - 25 cm	Medium clay loam or sandy clay loam  10YR4/2 (Dark greyish brown) or 10YR4/3 (Brown)  15% small to large stones. Including broken house bricks, concrete, glass, metal and ceramic tiles.
25+ cm	Clay  5YR5/4 (Reddish brown)  Often overlying or including 10YR2/1 (Black) very gritty clinker or coal washing type material. This horizon is very hard and contains larger inclusions which makes it impenetrable.

**5. CONCLUSION**

The website [cardiffparks.org.uk](http://cardiffparks.org.uk) states that in the early 1900s filling of ditches and levelling of the land at the area called The Marl took place. It also states that further filling to raise the land level at The Marl took place in the 1930s. The present survey found the whole of the survey area to have been subject to previous disturbance with all the soils unlikely to be in-situ material.

The topsoils and subsoils used to restore the survey area are of very low quality and contain deleterious materials such as concrete and glass which makes them unsuitable for reuse if stripped as part of any proposed scheme.

**6. REFERENCES**

Defra (2009)

Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.

Hodgson, J. M. (1997)

Soil Survey Field Handbook. Soil Survey Technical Monograph No. 5. Silsoe

Soil Survey of England and Wales (1983)

Sheet 5, Soils of Wales. 1 : 250 000 Scale. SSEW: Harpenden.

**APPENDIX I**

**Field Data: Hand Auger Borings**

<b>Field data : Hand Auger Borings</b>						
<b>Boring No.</b>	<b>Depth (cm)</b>	<b>Texture</b>	<b>Colour</b>	<b>Mottles</b>	<b>Stone content (%)</b>	<b>Comments</b>
1	0 – 22	SCL	10YR4/3	-	15	Brick, metal, glass and ballast
	22 - 50	C	5YR5/4	-	5	
	50 - 60	Gritty Clinker/coal washings?	10YR2/1	-	50	
	60+ Impenetrable					
2	0 – 52	SCL	10YR4/3	-	20	Brick, metal
	52+ Impenetrable					
3	0 – 48	MCL	10YR4/3	-	8	Bricks, rubble
	48 - 65	Gritty Clinker/coal washings?	10YR2/1	-	40	
	65+ Impenetrable					
4	0 – 25	MCL	10YR4/3	-	6	Bricks, rubble
	25 - 30	C	5YR5/4	-	20	
	30+ Impenetrable					
5	0 – 40	SCL	5YR4/2	-	12	Bricks, concrete, rubble
	40 - 45	Gritty Clinker/coal washings?	10YR2/1	-	40	
	45+ Impenetrable					
6	0 – 30	SCL	10YR4/2	-	40	Large concrete lumps, glass
	30+ Impenetrable					
7	0 – 30	SCL	10YR4/1	-	18	Brick, glass
	30+ Impenetrable					
8	0 – 19	SCL	10YR4/2	-	20	Bricks, glass
	19 - 30	Very mixed. Glass, bricks, clinker/coal washings?	Mixed colours			
	30+ Impenetrable				3	
9	0 – 16	SCL	10YR4/3	-	3	Bricks, rubble
	16 - 40	C	5YR5/4	-	5	
	40 - 100+	Gritty Clinker/coal washings?	10YR2/1	-	70	

Field data : Hand Auger Borings						
Boring No.	Depth (cm)	Texture	Colour	Mottles	Stone content (%)	Comments
10	0 – 25	MCL	10YR4/2	-	15	Glass, ash, rubble
	25+ Impenetrable					
11	0 – 15	C	10YR4/2	-	5	Bricks, glass
	15 - 30	C	5YR5/4	-	10	
	30 - 70	Very mixed. Glass, bricks, clinker/coal washings?	Mixed colours		50	
	70+ Impenetrable				3	
12	0 – 13	C	10YR4/2	-	15	Bricks, concrete, glass
	13 - 25	C + Gritty Clinker/coal washings?	5YR5/4 + 10YR2/1	-	35	
	25+ Impenetrable					
13	0 – 30	Mainly SCL but very mixed	10YR4/2	-	20	Bricks, glass, tiles
	30 - 35	Gritty Clinker/coal washings?	10YR2/1	-	35	
	35+ Impenetrable					
14	0 – 21	SCL + gritty clinker/coal washings?	10YR2/2	-	20	Bricks, glass
	21 - 50	Gritty Clinker/coal washings?	10YR2/1	-	35	
	50+ Impenetrable					
15	0 – 28	SCL	10YR4/1	-	30	Brick, glass, metal
	28+ Impenetrable					
16	0 – 25	SCL	10YR4/1	-	30	Brick, lots of glass
	25+ Impenetrable					
17	0 – 23	SCL + gritty clinker/coal washings?	10YR2/1	-	60	
	23+ Impenetrable	Rail ballast				
18	0 – 25	Gritty clinker/coal washings? + rail ballast	10YR2/1	-	60	
	25+ Impenetrable	Rail ballast				



Field data : Hand Auger Borings						
Boring No.	Depth (cm)	Texture	Colour	Mottles	Stone content (%)	Comments
19	0 – 15	SCL + gritty clinker/coal washings?	10YR2/1	-	60	
	15+ Impenetrable	Rail ballast				
20	0 – 30	MCL	10YR4/3	-	15	Bricks, rubble
	30 - 40	C	5YR5/4	-	15	
	40+ Impenetrable					
21	0 – 25	C	5YR5/4	-	10	No topsoil, subsoil only
	25+ Impenetrable					
22	0 – 12	MCL	10YR4/2	-	8	Metal, bricks
	12 - 25	MCL	7.5YR4/2	-	15	
	25+ Impenetrable					
23	0 – 23	MCL	7.5YR4/2	-	10	Bricks, glass
	23 - 30	Very mixed. C + Ash, clinker/coal washings?	Mixed colours			
	30+ Impenetrable				3	
24	0 – 15	SCL	10YR4/2	-	10	Plastic, concrete
	15 - 35	C	5YR5/4	-	15	
	35+ Impenetrable					
25	0 – 23	SCL	10YR4/2	-	12	Bricks, glass
	23 - 30	Very mixed	Mixed colours			
	30+ Impenetrable				3	
26	0 – 15	SCL	10YR4/4	-	10	Glass, bricks
	15+ Impenetrable					
27	0 – 30	SCL	10YR4/2	-	5	Ceramics, concrete
	30 - 37	C	5YR5/4	-	15	
	37+ Impenetrable					
28	0 – 25	MCL	10YR4/2	-	15	Cinder blocks, bricks
	25+ Impenetrable					
29	0 – 25	MCL	10YR4/2	-	15	Plastic, glass
	25+ Impenetrable					

<b>Field data : Hand Auger Borings</b>						
<b>Boring No.</b>	<b>Depth (cm)</b>	<b>Texture</b>	<b>Colour</b>	<b>Mottles</b>	<b>Stone content (%)</b>	<b>Comments</b>
30	0 – 25	MCL	10YR4/2	-	10	Cinder blocks, bricks
	25+ Impenetrable					

**Appendix I: Key**

- Textures:           MCL           Medium clay loam  
                           SCL           Sandy clay loam  
                           C             Clay
- Colours:           All colours are defined according to the Munsell soil colour system (Munsell Colour Company Inc. Baltimore, Maryland 21218, USA)
- Mottles:           No mottling was evident
- Stones:            Stones of natural origin were small to medium, occasionally large of mixed lithology, usually quartzite or sandstone

**FIGURE 1**

**Auger Boring Locations**



