

# Male toilets (east)

Usage: Male toilets

1st half furnishings; Toilet facilities 8 hand basins and 10 cubicles

2nd half furnishings:

Item	No.	Sum	Unit	Notes / Assumptions
General	<u>'</u>		,	
Floor space area (GIA)		69.3	m2	Total Floor area - approximate based on Matterport surevy
Tunnel bore height (including concrete floor)		2.5	m	Measurement from floor to roof of tunnel bore
Length of Tunnel		19.8	m	Length of tunnel
Diameter of Tunnel		3.5	m	Average width assumed constant throughout tunnel
Radius of tunnel		1.8	m	Width halved
Floor width		3.5	m	floor width within bottom 10th of tunnel bore
Total internal surface area of tunnel minus floor space area		167.7	m2	2x πr2 Plus 2πr2xL
Concrete				
Area of Dividing Blockwork walls		49.5	m2	tunnel length x height
		21.1		Approximate concrete within base of tunnel bore, not accounting for
Total volume concrete floor		31.1	m3	drainage and or service ducting - assumed removal of 50%
Total volume of concrete walls		7.4	m3	Wall thickness measured from matteport survey 0.15
Total concrete (in situ quantities pre processing)		38.5	m3	Based on the above assumptions and calculations - Tonnes conversion
Processed concrete volume (inc bulking factor)		65.5	m3	factors based on referenced websites and standard guidance (Bulk density
Concrete tonnes conversation		88.6	Tonnes	of 2300kg/m3)
Miscallaneous Office Equipment & Hard furnishings (soft strip malterial)				
Toilets and hand basins	10	0.4	Tonnes	Matterport survey indicates 10 toilet and 8 wash facilities
Floor Tiles (Ceramic)				
Tiled floor space per floor		69.3	m2	Assumption that the floor space is tiling
Total Volume of floor Tiles	0.05	3.5	m3	Thickness assumption based on average thickness of commercial tiles
Total volume of moor files	0.03	3.3	IIIS	(0.05m)
Tile tonnes	2.4	8.3	Tonnes	weight conversion based on referenced websites
Water pipework				
Water pipework	0.015	23.3	m	Length of tunnel plus width in m. based on assumptions. 0.015m based on
water pipework	0.013	23.3		referenced websites.
Steel Pipework	0.96	0.3	Tonnes	1m steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)
Planting				
Electrical		70.2		la late de constant de la late de late de late de la late de la late de la late de
LV Electrical cables	0.04	79.2 3.2	m	Assumed 4 lengths off tunnel for distribution
Volume in m3 for LV Electrical cables	0.04		m3	Assumption based on referenced websites
Volume in tonnes for LV electrical cables	0.015	0.0	Tonnes	
Fluorescent Lighting per floor		20.0	No.	Based on assumptions
Total volume Florescent Lighting		0.0	Tonnes	95g each flourescent tube aprox
Doors		100	1	1
Doors		10.0	No.	Assumption from matterport survey
Weight of doors tonnes	0.04	0.4	Tonnes	Weight based on referenced website average 40kg per door - 1m3 =
<u> </u>				1000kg



# Female toilets (West)

Usage: Female toilets

1st half furnishings; Toilet facilities 6 hand basins and 9 cubicles

2nd half furnishings:

Item	No.	Sum	Unit	Notes / Assumptions
General				
Floor space area (GIA)		38.5	m2	Total Floor area - approximate based on Matterport surevy
Tunnel bore height (including concrete floor)		2.5	m	Measurement from floor to roof of tunnel bore
Length of Tunnel		13.5	m	Length of tunnel
Diameter of Tunnel		3.5	m	Average width assumed constant throughout tunnel
Radius of tunnel		1.8	m	Width halved
Floor width		2.9	m	floor width within bottom 10th of tunnel bore
Total internal surface area of tunnel minus floor space area		129.2	m2	2x πr2 Plus 2πr2xL
Concrete			•	
Area of Dividing Blockwork walls		33.8	m2	tunnel length x height
		21.2		Approximate concrete within base of tunnel bore, not accounting for
Total volume concrete floor		21.2	m3	drainage and or service ducting - assumed removal of 50%
Total volume of concrete walls		5.1	m3	Wall thickness measured from matteport survey 0.15
Total concrete (in situ quantities pre processing)		26.3	m3	Based on the above assumptions and calculations - Tonnes conversion
Processed concrete volume (inc bulking factor)		44.7	m3	factors based on referenced websites and standard guidance (Bulk density
Concrete tonnes conversation		60.4	Tonnes	of 2300kg/m3)
Miscallaneous Office Equipment & Hard furnishings (soft strip malterial)				
Toilets and hand basins	9	0.3	Tonnes	Matterport survey indicates 9 toilet and 6 wash facilities
Floor Tiles (Ceramic)				
Tiled floor space per floor		38.5	m2	Assumption that the floor space is tiling
Total Volume of floor Tiles	0.05	1.9	m3	Thickness assumption based on average thickness of commercial tiles (0.05m)
Tile tonnes	2.4	4.6	Tonnes	weight conversion based on referenced websites
Water pipework				
Water pipework	0.015	17.0	т	Length of tunnel plus width in m. based on assumptions. 0.015m based on referenced websites.
Steel Pipework	0.96	0.3	Tonnes	1m steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)
Electrical			<u> </u>	
LV Electrical cables		54.0	m	Assumed 4 lengths off tunnel for distribution
Volume in m3 for LV Electrical cables	0.04	2.2	m3	Assumption based on referenced websites
Volume in tonnes for LV electrical cables	0.015	0.0	Tonnes	
Fluorescent Lighting per floor		20.0	No.	Based on assumptions
Total volume Florescent Lighting		0.0	Tonnes	95g each flourescent tube aprox
Doors				
Doors		10.0	No.	Assumption from matterport survey
Weight of doors tonnes	0.04	0.4	Tonnes	Weight based on referenced website average 40kg per door - 1m3 = 1000kg



# male toilets (West)

Usage: male toilets

1st half furnishings; Toilet facilities 8 hand basins and 9 cubicles

2nd half furnishings:

Item	No.	Sum	Unit	Notes / Assumptions
General				
Floor space area (GIA)		57.0	m2	Total Floor area - approximate based on Matterport surevy
Tunnel bore height (including concrete floor)		2.5	m	Measurement from floor to roof of tunnel bore
Length of Tunnel		20.0	m	Length of tunnel
Diameter of Tunnel		3.5	m	Average width assumed constant throughout tunnel
Radius of tunnel		1.8	m	Width halved
Floor width		2.9	m	floor width within bottom 10th of tunnel bore
Total internal surface area of tunnel minus floor space area		182.2	m2	2x πr2 Plus 2πr2xL
Concrete				
Area of Dividing Blockwork walls		50.0	m2	tunnel length x height
		31.4		Approximate concrete within base of tunnel bore, not accounting for
Total volume concrete floor		31.4	m3	drainage and or service ducting - assumed removal of 50%
Total volume of concrete walls		7.5	m3	Wall thickness measured from matteport survey 0.15
Total concrete (in situ quantities pre processing)		38.9	m3	Based on the above assumptions and calculations - Tonnes conversion
Processed concrete volume (inc bulking factor)		66.2	m3	factors based on referenced websites and standard guidance (Bulk density
Concrete tonnes conversation		89.5	Tonnes	of 2300kg/m3)
Miscallaneous Office Equipment & Hard furnishings (soft strip malterial)				
Toilets and hand basins	8	0.3	Tonnes	Matterport survey indicates 9 toilet and 6 wash facilities
Floor Tiles (Ceramic)				
Tiled floor space per floor		57.0	m2	Assumption that the floor space is tiling
Total Volume of floor Tiles	0.05	2.9	m3	Thickness assumption based on average thickness of commercial tiles (0.05m)
Tile tonnes	2.4	6.8	Tonnes	weight conversion based on referenced websites
Water pipework				
Water pipework	0.015	23.5	m	Length of tunnel plus width in m. based on assumptions. 0.015m based on referenced websites.
Steel Pipework	0.96	0.4	Tonnes	1m steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)
Electrical				
LV Electrical cables		80.0	m	Assumed 4 lengths off tunnel for distribution
Volume in m3 for LV Electrical cables	0.04	3.2	m3	Assumption based on referenced websites
Volume in tonnes for LV electrical cables	0.015	0.0	Tonnes	
Fluorescent Lighting per floor		20.0	No.	Based on assumptions
Total volume Florescent Lighting		0.0	Tonnes	95g each flourescent tube aprox
Doors				
Doors		10.0	No.	Assumption from matterport survey
Weight of doors tonnes	0.04	0.4	Tonnes	Weight based on referenced website average 40kg per door - 1m3 = 1000kg



## Kingsway Tunnels - North Street West

Usage: Canteen/Mess hall and Kitchen 2 half Vent plant and Stores

Furnishings Canteen: Bakelite wall pannels, metal clad strips on roof, mirror and canteen hatch in the canteen, vinyl floor Furnishings stores: Bakelite clad Nissen hut construction with brick partition walls within tunnel bore, Tiled ceramic floor Furnishings vent plant: Bare tunnel bore, ducting & Cyclone fan Air moving Unit, Tiled ceramic floor

Seneral	Item	No.	Sum	Unit	Notes / Assumptions
Tunnel bore height (including concrete floor) Length of Tunnel Length of Tunnel Si.0 m Midth halved Saved of tunnel bore Save did this halved Save do the habove assumptions and aclustations - Tonnes conversion factors Concrete Floor Six	General	_			
Length of Tunnel   81.0 m   Length of Tunnel   82.0 m   Mortage width assumed constant throughout tunnel   82.5 m   Width halved	Floor space area (GIA)		348.3	m2	Total Floor area - approximate based on Matterport surevy
Dameter of Tunnel Dameter of Tunnel Dameter of Tunnel Radius of tunnel bore Radius of tunnel bore, not accounting for drainage and or service ducting. Assumed removal of 50% Radius of tunnel bore, not accounting for drainage and or service ducting. Assumed removal of 50% Radius of tunnel bore, not accounting for drainage and or service ducting. Assumed removal of 50% Radius of tunnel bore, not accounting for drainage and or service ducting. Assumed removal of 50% Radius of tunnel bore, not accounting for drainage and or service ducting. Assumed removal of 50% Radius of tunnel bore, not accounting for drainage and or service ducting. Assumed centre developed on searchic developed on seasonic developed on searchic d	Tunnel bore height (including concrete floor)		4.1	m	
Radius of tunnel Floor width Floor width Floor width halved Floor width Floor width within bottom 10th of tunnel bore Total internal surface area of tunnel minus floor space area 974.1 m2 2xr2 Plus 2rr2xL  Total internal surface area of tunnel minus floor space area 974.1 m2 2xr2 Plus 2rr2xL  Total internal surface area of tunnel minus floor space area 974.1 m2 2xr2 Plus 2rr2xL  Total internal surface area of tunnel minus floor space area 974.1 m2 2xr2 Plus 2rr2xL  Total concrete floor  Total concrete floor (in situ quantities pre-processing) 104.1 m3 Approximate concrete within base of tunnel bore, not accounting for drainage and or service ducting - assumed removal of 50%  Processed concrete volume (inc bulking factor) 170 m9  The space conversation 170 m9  The space conversation 180 m3  Tonnes 180 m4  Approximate concrete within base of tunnel bore, not accounting for drainage and or service ducting - assumed removal of 50%  Processed concrete volume (inc bulking factor) 170 m9  The space conversation 180 m3  Tonnes 180 m4  Tonnes 180 m4  Tonnes 180 m5  Tonnes 180 m4  Tonnes 180 m5  Tonnes 180 m6  Tonnes 180 m6	Length of Tunnel		81.0	m	Length of tunnel
Floor width 10tal internal surface area of tunnel minus floor space area   974.1 m2   2x rt/2 Plus 2tr/2xt.  Total concrete floor (in situ quantities pre-processing)   104.1 m3   Approximate concrete within base of tunnel bore, not accounting for drainage and or service ducting - assumed removal of 50%.  Processed concrete volume (inc bulking factor)   176.9 m3   Based on the above assumptions and calculations - Tonnes conversion factors based on referenced websites and standard guidance (Bulk density of 2300kg/m3)   Mixed appliance stainless steel kitchen   1.2   Tonnes   Mixed appliance stainless steel kitchen	Diameter of Tunnel		5.0	m	Average width assumed constant throughout tunnel
Total internal surface area of tunnel minus floor space area  Concrete Floor  Total concrete floor (in situ quantities pre-processing)  104.1  m3  Approximate concrete within base of tunnel bore, not accounting for drainage and or service ducting - assumed removal of 50%  Processed concrete volume (inc bulking factor)  239.4  70nnes  Miscallaneous Furishings & Hard furnishings (soft strip malterial)  Small Catering Richen  Floor Tiles (Viny)  Tiled floor space per floor  104.1  Tonnes  129.4  Tonnes  Mixed appliance stainless steel kitchen  Floor Tiles (Viny)  Tile tonnes  10.0026  10.9  Tonnes  Ton	Radius of tunnel		2.5	m	Width halved
Total concrete floor (in situ quantities pre-processing)  104.1 m3 Approximate concrete within base of tunnel bore, not accounting for drainage and or service ducting - assumed removal of 50%  Processed concrete volume (inc bulking factor)  239.4 70nnes  Based on the above assumptions and calculations - Tonnes conversion factors based on referenced websites and standard guidance (Bulk density of 2300kg/m3)  Miscalianeous trushings & Hard furnishings (soft strip malterial)  Small Catering kitchen  1.2 70nnes  Mixed appliance stainless steel kitchen  Floor Tiles (Vinyl)  Tiled floor space per floor  348.3 m2 Vinyl flooring (Western portion) (2.6kg per m2)  Thickness assumption based on average thickness of commercial tiles (0.003m)  Tile tonnes  0.0026 0.9 70nnes  Floor Tiles (Assumed ceramic tile)  Tiled floor space per floor  348.3 m2 Ceramic flooring (Eastern portion) (14kg per m2)  Total Volume of floor Tiles  0.006 2.1 m3 Thickness assumption based on average thickness of commercial tiles (0.006m)  Tile tonnes  0.014 4.9 70nnes  Weight conversion based on average thickness of commercial tiles (0.006m)  Tile tonnes  0.014 4.9 70nnes  Weight conversion based on referenced websites (2.6kg per m2)  Thickness assumption based on average thickness of commercial tiles (0.006m)  Tile tonnes  0.014 4.9 70nnes  Weight conversion based on referenced websites (2.6kg per m2)  Total Volume of (western Half)  276.2 m2 Assumption hat metal siat roof (western Portion)  Total Volume of Celling Tiles  0.0015 0.4 m3 Thickness assumption based on average thickness of celling tiles (0.0015m)  Tile tonnes  0.04 0.1 70nnes  Weight conversion based on referenced websites  Water pipework  Water distribution pipework  86.0 m referenced websites  Im steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)  Electrical  IV Electrical Electrical	Floor width		4.3	m	floor width within bottom 10th of tunnel bore
Total concrete floor (in situ quantities pre-processing)  104.1 m3 Approximate concrete within base of tunnel bore, not accounting for drainage and or service ducting - assumed removal of 50% assumed as a date of the above assumption sand calculations - Tonnes conversion factors and calculations - Tonnes to assume on reference websites (2.6kg per m2) assumed on reference websites (2.6kg per m2) assumed on average thickness of commercial tiles (0.003m). The foreign test of the form of floor files assumed the form of floor files (2.6kg per m2). Thickness assumption based on average thickness of ceiling tiles (0.006m) and files for floor files assumed the form of floor files (2.6kg per m2)	Total internal surface area of tunnel minus floor space area		974.1	m2	2x πr2 Plus 2πr2xL
or service ducting - assumed removal of 50%  Processed concrete volume (inc bulking factor)  176.9 m3 Based on the above assumptions and calculations - Tonnes conversion factors  Concrete tones conversation  Miscalaneous Furishings & Hard furnishings (soft strip malterial)  Small Catering kitchen  Floor Tiles (Vinyl)  Tiled floor space per floor  10.003 1.0 m3 Thickness assumption based on average thickness of commercial tiles (0.003m)  Tile tonnes  10.006 0.9 Tonnes  Tiled floor Tiles  10.006 2.1 m3 Thickness assumption based on referenced websites (2.6kg per m2)  Total Volume of floor Tiles  10.006 2.1 m3 Thickness assumption based on referenced websites (2.6kg per m2)  Total Volume of floor Tiles  10.006 2.1 m3 Thickness assumption based on referenced websites (2.6kg per m2)  Total Volume of floor Tiles  10.006 2.1 m3 Thickness assumption based on referenced websites (2.6kg per m2)  Total Volume of floor Tiles  10.006 2.1 m3 Thickness assumption based on average thickness of commercial tiles (0.006m)  Tile tonnes  10.006 2.1 m3 Thickness assumption based on average thickness of commercial tiles (0.006m)  Tile tonnes  10.006 2.1 m3 Thickness assumption based on referenced websites (2.6kg per m2)  Total Volume of floor Tiles  10.001 4.9 Tonnes weight conversion based on referenced websites (2.6kg per m2)  Total Volume of Gelling Tiles  10.001 4.9 Tonnes  10.001 4.9 Tonnes  10.001 5.0 4 m3 Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Total Volume of Ceiling Tiles  10.001 5.0 4 m3 Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Tile tonnes  10.001 5.0 4 m3 Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Thickness assumption base	Concrete Floor				
or service ducting - assumed removal of 50%  Processed concrete volume (inc bulking factor)  176.9 m3 Based on the above assumptions and calculations - Tonnes conversion factors  Concrete tones conversation  Miscalaneous Furishings & Hard furnishings (soft strip malterial)  Small Catering kitchen  Floor Tiles (Vinyl)  Tiled floor space per floor  10.003 1.0 m3 Thickness assumption based on average thickness of commercial tiles (0.003m)  Tile tonnes  10.006 0.9 Tonnes  Tiled floor Tiles  10.006 2.1 m3 Thickness assumption based on referenced websites (2.6kg per m2)  Total Volume of floor Tiles  10.006 2.1 m3 Thickness assumption based on referenced websites (2.6kg per m2)  Total Volume of floor Tiles  10.006 2.1 m3 Thickness assumption based on referenced websites (2.6kg per m2)  Total Volume of floor Tiles  10.006 2.1 m3 Thickness assumption based on referenced websites (2.6kg per m2)  Total Volume of floor Tiles  10.006 2.1 m3 Thickness assumption based on average thickness of commercial tiles (0.006m)  Tile tonnes  10.006 2.1 m3 Thickness assumption based on average thickness of commercial tiles (0.006m)  Tile tonnes  10.006 2.1 m3 Thickness assumption based on referenced websites (2.6kg per m2)  Total Volume of floor Tiles  10.001 4.9 Tonnes weight conversion based on referenced websites (2.6kg per m2)  Total Volume of Gelling Tiles  10.001 4.9 Tonnes  10.001 4.9 Tonnes  10.001 5.0 4 m3 Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Total Volume of Ceiling Tiles  10.001 5.0 4 m3 Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Tile tonnes  10.001 5.0 4 m3 Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Thickness assumption base	Total constant (for all the state of the sta		1011		Approximate concrete within base of tunnel bore, not accounting for drainage and
Processed concrete volume (inc bulking factor)   176.9   m3   Based on the above assumptions and calculations - Tonnes conversion factors   239.4   Tonnes   based on referenced websites and standard guidance (Bulk density of 2300kg/m3)	lotal concrete floor (in situ quantities pre-processing)		104.1	m3	1
239.4   Tonnes   based on referenced websites and standard guidance (Bulk density of 2300kg/m3)   Miscallaneous Furishings & Hard furnishings (soft strip malterial)	Processed concrete volume (inc bulking factor)		176.9	m3	
Miscallaneous Furishings & Hard furnishings (soft strip malterial)   Small Catering kitchen   1.2   Tonnes   Miscal appliance stainless steel kitchen   Floor Tiles (Vinyl)			239.4	Tonnes	<del>-</del>
Floor Tiles (Vinyl) Tiled floor space per floor  Total Volume of floor Tiles  0.003  1.0  m3  Thickness assumption based on average thickness of commercial tiles (0.003m) Tile tonnes  0.0026  0.9  Tonnes  weight conversion based on referenced websites (2.6kg per m2)  Floor Tiles (Assumed ceramic tile)  Tiled floor space per floor  Total Volume of floor Tiles  0.006  2.1  m3  Thickness assumption based on referenced websites (2.6kg per m2)  Floor Tiles (Assumed ceramic tile)  Tiled floor space per floor  0.006  2.1  m3  Thickness assumption based on average thickness of commercial tiles (0.006m) Tile tonnes  0.0014  4.9  Tonnes  Weight conversion based on referenced websites (2.6kg per m2)  Ceiling Tiles  Wetal Slat roof (western Half)  Total Volume of Ceiling Tiles  0.0015  0.4  m3  Thickness assumption based on referenced websites (2.6kg per m2)  Total Volume of Ceiling Tiles  Water pipework  Water pipework  Water distribution pipework  86.0  m  length of tunnel plus width in m. based on assumptions. 0.015 m hased on referenced websites.  Electrical  LV Electrical cables  m  Assumed 4 lengths off tunnel for distribution	Miscallaneous Furishings & Hard furnishings (soft strip malterial	1			6 7
Tiled floor space per floor  Total Volume of floor Tiles  0.003  1.0  m3  Thickness assumption based on average thickness of commercial tiles (0.003m)  Tile tonnes  0.0026  0.9  Tonnes  Weight conversion based on referenced websites (2.6kg per m2)  Floor Tiles (Assumed ceramic tile)  Tiled floor space per floor  Total Volume of floor Tiles  0.006  2.1  m3  Thickness assumption based on referenced websites (2.6kg per m2)  Total Volume of floor Tiles  0.006  2.1  m3  Thickness assumption based on average thickness of commercial tiles (0.006m)  Tile tonnes  0.014  4.9  Tonnes  Weight conversion based on average thickness of commercial tiles (0.006m)  Thickness assumption based on average thickness of commercial tiles (0.006m)  Total Volume of Ceiling Tiles  Wetal Slat roof (western Half)  Total Volume of Ceiling Tiles  0.0015  0.4  m3  Thickness assumption that metal slat roof (western Portion)  Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Thickness assumption based on referenced websites  Water pipework  Water distribution pipework  86.0  m  length of tunnel plus width in m. based on assumptions. 0.015m based on referenced websites.  Steel pipework  0.0015  0.1  Tonnes  In steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)  Electrical  LV Electrical cables  324.0  m  Assumed 4 lengths off tunnel for distribution	Small Catering kitchen		1.2	Tonnes	Mixed appliance stainless steel kitchen
Total Volume of floor Tiles  0.003  1.0  1.0  Thickness assumption based on average thickness of commercial tiles (0.003m)  Tile tonnes  Floor Tiles (Assumed ceramic tile)  Tiled floor space per floor  348.3  m2  Ceramic flooring (Eastern portion) (14kg per m2)  Total Volume of floor Tiles  0.006  2.1  m3  Thickness assumption based on average thickness of commercial tiles (0.006m)  Tile tonnes  0.014  4.9  Tonnes  Weight conversion based on referenced websites (2.6kg per m2)  Total Volume of floor Tiles  Weight conversion based on referenced websites (2.6kg per m2)  Ceiling Tiles  Metal Slat roof (western Half)  276.2  m2  Assumption that metal slat roof (western Portion)  Total Volume of Ceiling Tiles  0.0015  0.4  m3  Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Tile tonnes  0.34  0.1  Tonnes  Weight conversion based on referenced websites  Water pipework  Water pipework  Water pipework  Water distribution pipework  86.0  m  length of tunnel plus width in m. based on assumptions. 0.015m based on referenced websites.  Steel pipework  1 Tonnes  1 T	Floor Tiles (Vinyl)				
Tile tonnes  Floor Tiles (Assumed ceramic tile)  Tiled floor space per floor  Total Volume of floor Tiles  Metal Slat roof (western Half)  Total Volume of Ceiling Tiles  Metal Slat roof (western Half)  Total Volume of Ceiling Tiles  Metal Slat roof (western Half)  Total Volume of Ceiling Tiles  Metal Slat roof (western Half)  Total Volume of Ceiling Tiles  Metal Slat roof (western Half)  Total Volume of Ceiling Tiles  Metal Slat roof (western Half)  Total Volume of Ceiling Tiles  Doubt Water pipework  Water pipework  Water pipework  Water pipework  Water distribution pipework  Doubt Water Malfor Tonnes  Total Volume of Ceiling Tiles on State on Tiles on State of Ceiling Tiles on State of Ceiling Tiles on State	Tiled floor space per floor		348.3	m2	Vinyl flooring (Western portion) (2.6kg per m2)
Floor Tiles (Assumed ceramic tile)  Tiled floor space per floor  Total Volume of floor Tiles  Total Volume of Ceiling Tiles  Metal Slat roof (western Half)  Total Volume of Ceiling Tiles  Total Volume of Mestern Half)  Total Volume of Ceiling Tiles  Tile tonnes  Total Volume of Ceiling Tiles  Total Volume of Mestern Half)  Tile tonnes  Total Volume of Ceiling Tiles  Total Volum	Total Volume of floor Tiles	0.003	1.0	m3	Thickness assumption based on average thickness of commercial tiles (0.003m)
Tiled floor space per floor  348.3 m2 Ceramic flooring (Eastern portion) (14kg per m2)  Total Volume of floor Tiles  0.006  2.1 m3 Thickness assumption based on average thickness of commercial tiles (0.006m)  Tile tonnes  Weight conversion based on referenced websites (2.6kg per m2)  Wetal Slat roof (western Half)  70 call Volume of Ceiling Tiles  Total Volume of Ceiling Tiles  0.0015  0.4 m3 Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Tile tonnes  0.34  0.1 Tonnes  Weight conversion based on referenced websites (2.6kg per m2)  Water pipework  Water pipework  Water distribution pipework  Steel pipework  0.0015  0.1 Tonnes  In steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)  Electrical  LV Electrical cables  M Assumed 4 lengths of tunnel for distribution	Tile tonnes	0.0026	0.9	Tonnes	weight conversion based on referenced websites (2.6kg per m2)
Total Volume of floor Tiles  0.006  2.1  m3 Thickness assumption based on average thickness of commercial tiles (0.006m)  Tile tonnes  0.014  4.9  Tonnes  Weight conversion based on referenced websites (2.6kg per m2)  Ceiling Tiles  Metal Slat roof (western Half)  276.2  m2 Assumption that metal slat roof (western Portion)  Total Volume of Ceiling Tiles  0.0015  0.4  m3 Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Tile tonnes  Weight conversion based on referenced websites  In steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)  Electrical  LV Electrical cables  324.0  M Assumed 4 lengths off tunnel for distribution	Floor Tiles (Assumed ceramic tile)				
Tile tonnes 0.014 4.9 Tonnes weight conversion based on referenced websites (2.6kg per m2)  Ceiling Tiles  Metal Slat roof (western Half) 276.2 m2 Assumption that metal slat roof (western Portion)  Total Volume of Ceiling Tiles 0.0015 0.4 m3 Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Tile tonnes 0.34 0.1 Tonnes Weight conversion based on referenced websites  Water pipework  Water distribution pipework 86.0 m length of tunnel plus width in m. based on assumptions. 0.015m based on referenced websites.  Steel pipework 0.0015 0.1 Tonnes Im steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)  Electrical  LV Electrical cables 324.0 m Assumed 4 lengths off tunnel for distribution	Tiled floor space per floor		348.3	m2	Ceramic flooring (Eastern portion) (14kg per m2)
Ceiling Tiles         Metal Slat roof (western Half)       276.2       m2       Assumption that metal slat roof (western Portion)         Total Volume of Ceiling Tiles       0.0015       0.4       m3       Thickness assumption based on average thickness of ceiling tiles (0.0015m)         Tile tonnes       0.34       0.1       Tonnes       Weight conversion based on referenced websites         Water pipework       weight of tunnel plus width in m. based on assumptions. 0.015m based on referenced websites.         Steel pipework       0.0015       0.1       Tonnes       Im steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)         Electrical       324.0       m       Assumed 4 lengths off tunnel for distribution	Total Volume of floor Tiles	0.006	2.1	m3	Thickness assumption based on average thickness of commercial tiles (0.006m)
Metal Slat roof (western Half)  Total Volume of Ceiling Tiles  0.0015  0.4  m3  Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Tile tonnes  0.34  0.1  Tonnes  Weight conversion based on referenced websites  Water pipework  Water distribution pipework  86.0  m  length of tunnel plus width in m. based on assumptions. 0.015m based on referenced websites.  Steel pipework  0.0015  0.1  Tonnes  In steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)  Electrical  LV Electrical cables  324.0  m  Assumed 4 lengths off tunnel for distribution	Tile tonnes	0.014	4.9	Tonnes	weight conversion based on referenced websites (2.6kg per m2)
Total Volume of Ceiling Tiles  0.0015  0.4  m3  Thickness assumption based on average thickness of ceiling tiles (0.0015m)  Tile tonnes  Weight conversion based on referenced websites  Water pipework  Water distribution pipework  Steel pipework  0.0015  0.1  Tonnes  Weight conversion based on referenced websites  Weight conversion based on referenced websites  In steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)  Electrical  LV Electrical cables  324.0  m  Assumed 4 lengths off tunnel for distribution	Ceiling Tiles				
Tile tonnes 0.34 0.1 Tonnes Weight conversion based on referenced websites  Water pipework  Water distribution pipework 86.0 m length of tunnel plus width in m. based on assumptions. 0.015m based on referenced websites.  Steel pipework 0.0015 0.1 Tonnes 1m steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)  Electrical  LV Electrical cables 324.0 m Assumed 4 lengths off tunnel for distribution	Metal Slat roof (western Half)		276.2	m2	Assumption that metal slat roof (western Portion)
Water pipework     86.0     m     length of tunnel plus width in m. based on assumptions. 0.015m based on referenced websites.       Steel pipework     0.0015     0.1     Tonnes     1m steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)       Electrical     UV Electrical cables     324.0     m     Assumed 4 lengths off tunnel for distribution	Total Volume of Ceiling Tiles	0.0015	0.4	m3	Thickness assumption based on average thickness of ceiling tiles (0.0015m)
Water distribution pipework  86.0  m length of tunnel plus width in m. based on assumptions. 0.015m based on referenced websites.  Steel pipework  0.0015  0.1  Tonnes  Im steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)  Electrical  LV Electrical cables  324.0  m Assumed 4 lengths off tunnel for distribution	Tile tonnes	0.34	0.1	Tonnes	Weight conversion based on referenced websites
Water distribution pipework     86.0     m     referenced websites.       Steel pipework     0.0015     0.1     Tonnes     1m steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)       Electrical     LV Electrical cables     324.0     m     Assumed 4 lengths off tunnel for distribution	Water pipework				
Electrical  LV Electrical cables 324.0 m Assumed 4 lengths off tunnel for distribution	Water distribution pipework		86.0	m	i i
LV Electrical cables 324.0 m Assumed 4 lengths off tunnel for distribution	Steel pipework	0.0015	0.1	Tonnes	1m steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)
	Electrical				
Volume in m3 for LV Electrical cables 0.04 13.0 m3 Assumption based on referenced websites	LV Electrical cables		324.0	m	Assumed 4 lengths off tunnel for distribution
	Volume in m3 for LV Electrical cables	0.04	13.0	m3	Assumption based on referenced websites

Volume in tonnes for LV electrical cables	0.015	0.2	Tonnes	
Flourescent Lighting	100	100.0	Units	Assume that consistent throughout tunnel
Total volume Florescent Lighting		0.1	Tonnes	95g each flourescent tube aprox
Bakerlite pannels (Identified in asbestos management survey)				
Total Bakerlite panneling		487.1	m2	Assumptions from Matterport survey Bakerlite pannel weight = 1250kg / m3 (Western half of tunnel)
Bakerlite panneling m3	0.002	1.0	m3	Bakerlite pannel thickness 2mm
Bakerlite panneling tonnes	1.25	1.2	tonnes	
Doors				
Fire Doors		4.0	No.	Assumptions from matterport surevy
Weight of doors tonnes	0.04	0.2	Tonnes	Weight based on referenced website average 40kg per door - 1m3 = 1000kg
Ventilation ducting				
Ductwork for Air handling units		1.2	Tonnes	Approximately 1 lengths of the tunnel (15kg/m)
Additional Plant				
Air Handling Unit	1	2.1	Tonnes	weight taken from a modern modular packaged air handling unit (NuAire - NA17-220/130 - 2.13 tonnes per unit)
Total		2.1	Tonnes	



#### South Street West

Usage: 1st half Recreational room with bar, 2nd half separate rooms and 2 diesel generators 1st half furnishings; clad (AIB) - Vynil floor,Bakelite cladding

2nd half furnishings: Offices on one side of tunnel, Brick partition walls with bakelite panelled walls, ceramic tiles, Engine room bare tunnel shield and ducting

Furnishings

Item	No.	Sum	Unit	Notes / Assumptions
General				
Floor space area (GIA)		401.8	m2	Total Floor area - approximate based on Matterport surevy
Tunnel bore height (including concrete floor)		4.1	m	Measurement from floor to roof of tunnel bore
Length of Tunnel		98.0	m	Length of tunnel
Diameter of Tunnel		5.0	m	Average width assumed constant throughout tunnel
Radius of tunnel		2.5	m	Width halved
Floor width		4.1	m	floor width within bottom 10th of tunnel bore
Total internal surface area of tunnel minus floor space area		1189.8	m2	2x πr2 Plus 2πr2xL
Concrete & blockwork tonnes conversation				
Area of Dividing Blockwork walls		200.9	m2	50% of the south street west tunnel x height
Total concrete floor (in situ quantities pre-processing)				Approximate concrete within base of tunnel bore, not accounting for
Total concrete 11001 (111 situ quantities pre-processing)		125.9	m3	drainage and or service ducting - assumed removal of 50%
Total volume of concrete & brick work partition walls	0.15	30.1	m3	Wall thickness measured from matteport survey 0.15
Total concrete (in situ quantities pre processing)		231.0	m3	Based on the above assumptions and calculations - Tonnes conversion
Processed concrete & blockwork volume (inc bulking factor)		445.1	m3	factors based on referenced websites and standard guidance (Bulk density
Concrete & blockwork tonnes conversation		520.7	Tonnes	of 2300kg/m3)
Floor Tiles (Assumed ceramic tile)				
Tiled floor space per floor		100.5	m2	Ceramic flooring (Eastern portion) (14kg per m2)
Total Volume of floor Tiles	0.05	5.0	m3	Thickness assumption based on average thickness of commercial tiles (0.006m)
Tile tonnes	0.026	2.6	Tonnes	weight conversion based on referenced websites (2.6kg per m2)
Floor Tiles (Vinyl)				
Tiled floor space per floor		40.2	m2	Vinyl flooring 10% of tunnel floor space (Western portion) (2.6kg per m2)
Total Volume of floor Tiles	0.003	0.1	m3	Thickness assumption based on average thickness of commercial tiles (0.003m)
Tile tonnes	0.0026	0.1	Tonnes	weight conversion based on referenced websites (2.6kg per m2)
Carpets				
Total area of carpet		301.4	m2	Assumption that carpet covers 3/4 of the floor space within tunnels
Carpet Tonnes	0.0055	0.0	Tonnes	Online sources show 550g per m2
Water pipework				
Water pipework		103.0	m	length of tunnel plus width in m. based on assumptions.
Steel Pipework	0.015	1.5	Tonnes	1m steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)
Electrical				
LV Electrical cables		392.0	m	Assumed 4 lengths off tunnel for distribution

Total volume in m3 for Electrical cables	0.04	15.7	m3	Assumption based on referenced websites
Total volume in tonnes for electrical cables	0.015	0.2	Tonnes	
Flourescent Lighting	90			Assumptions from matterport surevy
Total volume Florescent Lighting		1.0	Tonnes	95g each flourescent tube aprox
Bakerlite pannels (Identified in asbestos management survey)				
Total Bakerlite panneling		892.3	m2	Assumptions from Matterport survey Bakerlite pannel weight = 1250kg / m3 (100% coverage Western half of tunnel/ 50% mid tunnel)
Bakerlite panneling m3	0.002	1.8	m2	Bakerlite pannel thickness 2mm
Bakerlite panneling tonnes	1.25	2.2	tonnes	
Doors				
Doors		12.0	No.	Assumptions from matterport surevy
Weight of doors tonnes	0.04	0.5	Tonnes	Weight based on referenced website average 40kg per door - 1m3 = 1000kg
Ventilation ducting				
Ductwork for Air handling units	0	1.5	Tonnes	Approximately 1 lengths of the tunnel (15kg/m)
Plant Room				
2 x Large 6 cylinder Diesel generators		16.0	Tonnes	Assumption from matter port survey as a 6-cylinder Ruston 6APC engine - 8 tonnes
Total		16.0	Tonnes	



#### North Street Centre

Usage: 1st half of tunnel utilised as power & air movement plant with battery storage rooms & transformer enclosures x 4. 2nd half formed of offices containing electical IT equipment

1st half furnishings; Generators and air movement units with associated ducting within bare tunnel lining, battery storage rooms formed of masonry, transformer enclosures x4 constructed of single course brick. Ceramic tiles throughout

2nd half furnishings: Bakelite panels and room divides with suspended roof tiles and wooden doors, fitted out with verticle walls to form conventional office space Vynil floor tiles and carpet 50/50

Item	No.	Sum	Unit	Notes / Assumptions
General				
Floor space area (GIA)		765.6	m2	Total Floor area - approximate based on Matterport surevy
Tunnel bore height (including concrete floor)		4.1	m	Measurement from floor to roof of tunnel bore
Length of Tunnel		196.3	m	Length of tunnel
Diameter of Tunnel		5.0	m	Average width assumed constant throughout tunnel
Radius of tunnel		2.5	m	Width halved
Floor width		3.9	m	floor width within bottom 10th of tunnel bore
Total internal surface area of tunnel minus floor space area		2382.5	m2	2x πr2 Plus 2πr2xL
Concrete				
Total concrete floor (in situ quantities pre-processing)		251.8		Approximate concrete within base of tunnel bore, not accounting for
Total concrete moor (in situ quantities pre-processing)		251.8	m3	drainage and or service ducting - assumed removal of 50%
Area of Dividing Blockwork walls		201.2	m2	25% of South street centre length X height
Total volume of concrete & brick work partition walls		30.2	m3	Wall thickness measured from matteport survey 0.15
Total concrete (in situ quantities pre processing)		282.0	m3	Based on the above assumptions and calculations - Tonnes conversion
Processed concrete volume (inc bulking factor)		479.4	m3	factors based on referenced websites and standard guidance (Bulk density
Concrete tonnes conversation		648.7	Tonnes	of 2300kg/m3)
Miscallaneous Office Equipment & Hard furnishings (soft strip malterial)				
Desks / Chairs /Msc fixtures and fittings /Furnitures		2.8	Tonnes	Estimated value based on 50% South Street Centre fitted out as office space
Floor Tiles (Assumed ceramic tile)	,			
Tiled floor space per floor		267.9	m2	The assumption that 1/3 of the floor space is ceramic tiling (14kg per m2)
Total Volume of floor Tiles	0.05	13.4	m3	Thickness assumption based on average thickness of commercial tiles (0.05m)
Tile tonnes	0.014	3.8	Tonnes	weight conversion based on referenced websites
Floor Tiles (Vinyl)				
Tiled floor space per floor		267.9	m2	Vinyl flooring (Western portion) (2.6kg per m2)
Total Volume of floor Tiles	0.003	0.8	m3	Thickness assumption based on average thickness of commercial tiles (0.003m)
Tile tonnes	0.0026	0.7	Tonnes	weight conversion based on referenced websites (2.6kg per m2)
Ceiling Tiles (Mineral Fibre acoustic boards)			•	
Mineral Fibre Ceiling tiles		1.4	m2	The assumption that 1/3 of the ceiling is office tiling
Total Volume of Ceiling Tiles	0.0015	0.0	m3	Thickness assumption based on average thickness of ceiling tiles (0.0015m)
Tile tonnes	0.0034	0.0	Tonnes	Weight conversion based on referenced websites (1m2=3.47kg)

Carpets				
Total area of carpet		1.4	m2	Assumption that carpet covers 1/3 of the floor space (Office fit out)
Carpet thickness	0.01	0.0	m3	
Carpet Tonnes	0.0055	0.0	Tonnes	Online sources show 550g per m2
Water pipework				
Water pipework	0.015	201.3	m	length of tunnel plus width in m. based on assumptions. 0.015m based on referenced websites.
Steel Pipework	0.96	3.0	Tonnes	1m steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)
Electrical				
LV Electrical cables		785.2	m	Assumed 4 lengths off tunnel for distribution
Volume in m3 for LV Electrical cables	0.04	31.4	m3	Assumption based on referenced websites
Volume in tonnes for LV electrical cables	0.015	0.5	Tonnes	
Fluorescent Lighting per floor		15.0	No.	Based on assumptions
Total volume Florescent Lighting		0.0	Tonnes	95g each flourescent tube aprox
Bakerlite pannels (Identified in asbestos management survey)				
Total Bakerlite panneling		1786.9	m2	Assumptions from Matterport survey Bakerlite pannel weight = 1250kg / m3 (100% coverage Western half of tunnel/ 50% mid tunnel)
Bakerlite panneling m3	0.002	3.6	m3	Bakerlite pannel thickness 2mm
Bakerlite panneling tonnes	1.25	4.5	Tonnes	
Doors				
Doors		20.0	No.	Assumptions from matterport surevy
Weight of doors tonnes	0.04	0.8	Tonnes	Weight based on referenced website average 40kg per door - 1m3 = 1000kg
Ventilation ducting				
Ductwork for Air handling units	0	2.9	Tonnes	Approximately 1 lengths of the tunnel (15kg/m)
Additional Plant				
Generator equipment and AC/DC inverter	1	8.0	Tonnes	8 tonnes for unit Assumption
HV electical transformers	4	11.4	Tonnes	Assumption taken from matterport survey of 2,860kg per unit
Total		19.4	Tonnes	



### **South Street Centre**

Usage: 1st half Power plant (2 diesel engines) and switchgear with associated transformers and distribution equipment with occasional office room.

2nd half: Offcie rooms with access to 1-4th Avenue, Batteries and Air movement plant

1st half furnishings; diesel engines and bare tunnel lining,

2nd half furnishings: Rooms diveded with Masonry walls and bakelite wall panels on half tunnel

Item	No.	Sum	Unit	Notes / Assumptions
General				
Floor space area (GIA)		741.0	m2	Total Floor area - approximate based on Matterport surevy
Tunnel bore height (including concrete floor)		4.1	m	Measurement from floor to roof of tunnel bore
Length of Tunnel		190.0	m	Length of tunnel
Diameter of Tunnel		5.0	m	Average width assumed constant throughout tunnel
Radius of tunnel		2.5	m	Width halved
Floor width		3.9	m	floor width within bottom 10th of tunnel bore
Total internal surface area of tunnel minus floor space area		2307.3	m2	2x πr2 Plus 2πr2xL
Concrete & blockwork tonnes conversation				
Total concrete floor (in situ quantities pre-processing)		244.1	m3	Approximate concrete within base of tunnel bore, not accounting for drainage and or service ducting - assumed removal of 50%
Area of Dividing Blockwork walls		194.8	m2	25% of South street centre length X height
Total volume of concrete & brick work partition walls		29.2	m3	Wall thickness measured from matteport survey 0.15
Total concrete (in situ quantities pre processing)		273.3	m3	Based on the above assumptions and calculations - Tonnes conversion
Processed concrete volume (inc bulking factor)		464.7	m3	factors based on referenced websites and standard guidance (Bulk density
Concrete tonnes conversation		628.7	Tonnes	of 2300kg/m3)
Miscallaneous Office Equipment & Hard furnishings (soft strip malterial)				
Desks / Chairs /Msc fixtures and fittings /Furnitures		2.8	Tonnes	Estimated value based on 50% South Street Centre fitted out as office space
Floor Tiles (Assumed ceramic tile)				
Tiled floor space per floor		555.8	m2	The assumption that 2/3 of the floor space is ceramic tiling (14kg per m2)
Total Volume of floor Tiles	0.05	27.8	m3	Thickness assumption based on average thickness of commercial tiles (0.05m)
Tile tonnes	0.014	7.8	Tonnes	weight conversion based on referenced websites
Floor Tiles (Vinyl)				
Tiled floor space per floor		259.4	m2	Vinyl flooring (Western portion) (2.6kg per m2) 3rd of floor space
Total Volume of floor Tiles	0.003	0.8	m3	Thickness assumption based on average thickness of commercial tiles (0.003m)
Tile tonnes	0.0026	0.7	Tonnes	weight conversion based on referenced websites (2.6kg per m2)
Water pipework				, , ,
Water pipework	0.015	195.0	m	length of tunnel plus width in m. based on assumptions. 0.015m based on referenced websites.
Steel Pipework	0.96	2.9	Tonnes	1m steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)
Electrical				

LV Electrical cables		760.0	l m	Assumed 4 lengths off tunnel for distribution
Volume in m3 for LV Electrical cables	0.04	30.4	m3	Assumption based on referenced websites
Volume in tonnes for LV electrical cables	0.015	0.5	Tonnes	
Electrical switchgear and circuit breakers	25	7.5	Tonnes	25 switchgear cabinets - Assumption of 300kg per unit
Transformers	10	28.0	Tonnes	2 transformers, winding weight unknown from Matterport survey. assume 2,860kg from modern units
Fluorescent Lighting per floor	50		No.	Based on assumptions
Total volume Florescent Lighting		0.0	Tonnes	95g each flourescent tube aprox
Bakerlite pannels (Identified in asbestos management survey)				
Total Bakerlite panneling		807.6	m2	Assumptions from Matterport survey Bakerlite pannel weight = 1250kg / m3 ( 50% coverage eastern portion of tunnel)
Bakerlite panneling m3	0.002	1.6	m3	Bakerlite pannel thickness 2mm
Bakerlite panneling tonnes	1.25	2.0	Tonnes	
Doors				
Doors		16.0	No.	Assumption from matterport survey
Weight of doors tonnes	0.07	1.1	Tonnes	
Ventilation ducting				
Ductwork for Air handling units		2.9	Tonnes	Approximately 1 lengths of the tunnel (15kg/m)
Additional Plant				
DC lead batteries 23 cells within 1 rack		0.7		Assumptions from Matterport survey DC battery rack weight aprox 720kg
Air Handling Unit	1	2.1	Tonnes	weight taken from a modern modular packaged air handling unit (NuAire - NA17-220/130 - 2.13 tonnes per unit)
2 x Large 6 cylinder Diesel generators		16.0	Tonnes	Assumption from matter port survey as a 6-cylinder Ruston 6APC engine - 8
Total		18.9	Tonnes	tonnes



### North Street East

Usage: empty 2nd half: Empty

1st half furnishings; Bakelite roof pannels

2nd half furnishings: bakelite panels on tunnel walls and roof

Item	No.	Sum	Unit	Notes / Assumptions
General				
Floor space area (GIA)		436.8	m2	Total Floor area - approximate based on Matterport surevy
Tunnel bore height (including concrete floor)		4.1	m	Measurement from floor to roof of tunnel bore
Length of Tunnel		112.0	m	Length of tunnel
Diameter of Tunnel		5.0	m	Average width assumed constant throughout tunnel
Radius of tunnel		2.5	m	Width halved
Floor width		3.9	m	floor width within bottom 10th of tunnel bore
Total internal surface area of tunnel minus floor space area		1376.5	m2	2x πr2 Plus 2πr2xL
Concrete	•			
Total concrete floor (in situ quantities pre-processing)		143.9		Approximate concrete within base of tunnel bore, not accounting for
Trotal concrete moor (in situ quantities pre-processing)		143.9	m3	drainage and or service ducting - assumed removal of 50%
Total concrete (in situ quantities pre processing)		143.9	m3	Based on the above assumptions and calculations - Tonnes conversion
Processed concrete volume (inc bulking factor)		244.6	m3	factors based on referenced websites and standard guidance (Bulk density
Concrete tonnes conversation		331.0	Tonnes	of 2300kg/m3)
Floor Tiles (Assumed ceramic tile)				
Tiled floor space per floor		436.8	m2	The assumption that the floor space is ceramic tiling (14kg per m2)
Total Volume of floor Tiles	0.003	1.3	m3	Thickness assumption based on average thickness of commercial tiles (0.003m)
Tile tonnes	0.0026	1.1	Tonnes	weight conversion based on referenced websites (2.6kg per m2)
Water pipework				
Water pipework	0.015	117.0	m	Length of tunnel plus width in m. based on assumptions. 0.015m based on referenced websites.
Steel Pipework	0.96	1.8	Tonnes	1m steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)
Electrical	•			
LV Electrical cables		448.0	m	Assumed 4 lengths off tunnel for distribution
Volume in m3 for LV Electrical cables	0.04	17.9	m3	Assumption based on referenced websites
Volume in tonnes for LV electrical cables	0.015	0.3	Tonnes	
Fluorescent Lighting per floor		15.0	No.	Based on assumptions
Total volume Florescent Lighting		0.0	Tonnes	95g each flourescent tube aprox
Bakerlite pannels (Identified in asbestos management survey)				
Total Bakerlite panneling		344.1	m2	Assumptions from Matterport survey Bakerlite panel weight = 1250kg / m3 ( 25% coverage, just roof of tunnel)
Bakerlite panneling m3	0.002	0.7	m3	Bakerlite pannel thickness 2mm
Bakerlite panneling tonnes	1.25	0.9	Tonnes	
Ventilation ducting				

Ductwork for Air handling units	1.7	Tonnes	Approximately 1 lengths of the tunnel (15kg/m)



### South Street East

Usage: empty 2nd half: Empty

1st half furnishings; Bakelite pannels on walls and roof

2nd half furnishings: Bakelite panels on tunnel walls and roof

Item	No.	gs: Bakelite panels on t	Unit	Notes / Assumptions		
General	140.	Juili	Oilit	Notes / Assumptions		
Floor space area (GIA)	Ι	436.8	m2	Total Floor area - approximate based on Matterport surevy		
Tunnel bore height (including concrete floor)		4.1	m	Measurement from floor to roof of tunnel bore		
Length of Tunnel		112.0	m	Length of tunnel		
Diameter of Tunnel		5.0	m	Average width assumed constant throughout tunnel		
Radius of tunnel		2.5	m	Width halved		
Floor width		3.9	m	floor width within bottom 10th of tunnel bore		
Total internal surface area of tunnel minus floor space area		1376.5	m2	2x πr2 Plus 2πr2xL		
Concrete		1370.3	1112	ZX XII Z FIUS ZXII ZXL		
Concrete				Approximate concrete within base of tunnel bore, not accounting for		
Total volume concrete floor		143.9	m3	drainage and or service ducting - assumed removal of 50%		
Total concrete (in situ quantities pre processing)		143.9	m3	Based on the above assumptions and calculations - Tonnes conversion		
Processed concrete volume (inc bulking factor)		244.6	m3	factors based on referenced websites and standard guidance (Bulk density		
Concrete tonnes conversation		331.0	Tonnes	of 2300kg/m3)		
Floor Tiles (Assumed ceramic tile)		331.0	Tonnes	OF 2300kg/1113)		
Tiour files (Assumed Ceraniic tile)						
Tiled floor space per floor		436.8	m2	The assumption that the floor space is ceramic tiling (14kg per m2)		
Total Volume of floor Tiles	0.003	1.3	m3	Thickness assumption based on average thickness of commercial tiles (0.003m)		
Tile tonnes	0.0026	1.1	Tonnes	weight conversion based on referenced websites (2.6kg per m2)		
Water pipework						
				Length of tunnel plus width in m. based on assumptions. 0.015m based on		
Water pipework	0.015	117.0	m	referenced websites.		
Steel Pipework	0.96	1.8	Tonnes	1m steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)		
Electrical						
LV Electrical cables		448.0	m	Assumed 4 lengths off tunnel for distribution		
Volume in m3 for LV Electrical cables	0.04	17.9	m3	Assumption based on referenced websites		
Volume in tonnes for LV electrical cables	0.015	0.3	Tonnes			
Fluorescent Lighting per floor		15.0	No.	Based on assumptions		
Total volume Florescent Lighting		0.0	Tonnes	95g each flourescent tube aprox		
Bakerlite pannels (Identified in asbestos management survey)						
Total Pakarlita nannaling		1376.5	m2	Assumptions from Matterport survey Bakerlite panel weight = 1250kg /		
Total Bakerlite panneling	arricing 13/0.5	15/0.5	IIIZ	m3 (Wall and roof coverage)		
Bakerlite panneling m3	0.002	7.2	m3	Bakerlite pannel thickness 2mm		
Bakerlite panneling tonnes	1.25	8.9	Tonnes			
Doors						
Doors	16	4.0	No.	Assumption from matterport survey		

Weight of doors tonnes	0.04	0.2	Ionnes	Weight based on referenced website average 40kg per door - 1m3 =	
				1000kg	
Ventilation ducting					
Ductwork for Air handling units		1.7	Tonnes	Approximately 1 lengths of the tunnel (15kg/m)	



## Forth Avenue

Usage: empty 2nd half: Empty

1st half furnishings; Bakelite pannels on walls and roof Ceramic floor tiles

2nd half furnishings: Bakelite panels on tunnel walls and roof Ceramic floor tiles

tem	No.	Sum	Unit	Notes / Assumptions			
General							
Floor space area (GIA)		560	m2	Total Floor area - approximate based on Matterport surevy			
Tunnel bore height (including concrete floor)		5.73	m	Measurement from floor to roof of tunnel bore			
Length of Tunnel		80	m	Length of tunnel			
Diameter of Tunnel		7.2	m	Average width assumed constant throughout tunnel			
Radius of tunnel		3.6	m	Width halved			
Floor width		7	m	floor width within bottom 10th of tunnel bore			
Total internal surface area of tunnel minus floor space area		1330.98745	m2	2x πr2 Plus 2πr2xL			
Concrete							
		238.816645		Approximate concrete within base of tunnel bore, not accounting for			
Total volume concrete floor		238.810043	m3	drainage and or service ducting - assumed removal of 50%			
Total concrete (in situ quantities pre processing)		238.816645	m3	Based on the above assumptions and calculations - Tonnes conversion			
Processed concrete volume (inc bulking factor)		405.9882965	m3	factors based on referenced websites and standard guidance (Bulk density			
Concrete tonnes conversation		549.2782835	Tonnes	of 2300kg/m3)			
Floor Tiles (Assumed ceramic tile)							
Tiled floor space per floor		560	m2	The assumption that the floor space is ceramic tiling (14kg per m2)			
Total Volume of floor Tiles	0.003	1.68	m3	Thickness assumption based on average thickness of commercial tiles (0.003m)			
Tile tonnes	0.0026	1.456	Tonnes	weight conversion based on referenced websites (2.6kg per m2)			
Water pipework							
Water pipework	0.015	87.2	m	Length of tunnel plus width in m. based on assumptions. 0.015m based on referenced websites.			
Steel Pipework	0.96	1.308	Tonnes	1m steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)			
Electrical							
LV Electrical cables		320	m	Assumed 4 lengths off tunnel for distribution			
Volume in m3 for LV Electrical cables	0.04	12.8	m3	Assumption based on referenced websites			
Volume in tonnes for LV electrical cables	0.015	0.192	Tonnes				
Fluorescent Lighting per floor		15	No.	Based on assumptions			
Total volume Florescent Lighting		0.0143	Tonnes	95g each flourescent tube aprox			
Bakerlite pannels (Identified in asbestos management survey)							
Total Bakerlite panneling		1330.98745	m2	Assumptions from Matterport survey Bakerlite panel weight = 1250kg / m3 (Wall and roof coverage)			
Bakerlite panneling m3	0.002	2.6619749	m3	Bakerlite pannel thickness 2mm			
Bakerlite panneling tonnes	1.25	3.33	Tonnes				

Doors	16	8	No.	Assumption from matterport survey	
Weight of doors tonnes	0.04	0.32	ionnes	Weight based on referenced website average 40kg per door - 1m3 = 1000kg	
Ventilation ducting					
Ductwork for Air handling units		1.20	Tonnes	Approximately 1 lengths of the tunnel (15kg/m)	



### Third Avenue

Usage: empty 2nd half: Empty

1st half furnishings; Bakelite pannels on walls and roof Ceramic floor tiles

2nd half furnishings: Bakelite panels on tunnel walls and roof Ceramic floor tiles

Item	No.	Sum	Unit	Notes / Assumptions			
General Control of the Control of th							
Floor space area (GIA)		560.0	m2	Total Floor area - approximate based on Matterport surevy			
Tunnel bore height (including concrete floor)		5.7	m	Measurement from floor to roof of tunnel bore			
Length of Tunnel		80.0	m	Length of tunnel			
Diameter of Tunnel		7.2	m	Average width assumed constant throughout tunnel			
Radius of tunnel		3.6	m	Width halved			
Floor width		7.0	m	floor width within bottom 10th of tunnel bore			
Total internal surface area of tunnel minus floor space area		1331.0	m2	2x πr2 Plus 2πr2xL			
Concrete							
		220.0		Approximate concrete within base of tunnel bore, not accounting for			
Total volume concrete floor		238.8	m3	drainage and or service ducting - assumed removal of 50%			
Total concrete (in situ quantities pre processing)		238.8	m3	Based on the above assumptions and calculations - Tonnes conversion			
Processed concrete volume (inc bulking factor)		406.0	m3	factors based on referenced websites and standard guidance (Bulk density			
Concrete tonnes conversation		549.3	Tonnes	of 2300kg/m3)			
Floor Tiles (Assumed ceramic tile)		•					
Tiled floor space per floor		560.0	m2	The assumption that the floor space is ceramic tiling (14kg per m2)			
Total Volume of floor Tiles	0.003	1.7	m3	Thickness assumption based on average thickness of commercial tiles (0.003m)			
Tile tonnes	0.0026	1.5	Tonnes	weight conversion based on referenced websites (2.6kg per m2)			
Water pipework							
Water pipework	0.015	87.2	m	Length of tunnel plus width in m. based on assumptions. 0.015m based on referenced websites.			
Steel Pipework	0.96	1.3	Tonnes	1m steel pipe = 0.0015 tonnes (25mm dia pipe with 2.5mm thick walls)			
Electrical							
LV Electrical cables		320.0	m	Assumed 4 lengths off tunnel for distribution			
Volume in m3 for LV Electrical cables	0.04	12.8	m3	Assumption based on referenced websites			
Volume in tonnes for LV electrical cables	0.015	0.2	Tonnes				
Fluorescent Lighting per floor		15.0	No.	Based on assumptions			
Total volume Florescent Lighting		0.0	Tonnes	95g each flourescent tube aprox			
Bakerlite pannels (Identified in asbestos management survey)							
Total Bakerlite panneling		1331.0	m2	Assumptions from Matterport survey Bakerlite panel weight = 1250kg / m3 (Wall and roof coverage)			
Bakerlite panneling m3	0.002	2.7	m3	Bakerlite pannel thickness 2mm			
Bakerlite panneling tonnes	1.25	3.3	Tonnes				
Ventilation ducting							
Ductwork for Air handling units		1.2	Tonnes	Approximately 1 lengths of the tunnel (15kg/m)			



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