

Waste allowance of muna building



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Introduction

Waste is any substance or object(s) the holder discards or intends to discard. Any material which is perceived to have no further use is waste. Waste becomes more a product because of the cost and location of aggregates and other new materials and also because of the cost of disposal. These two factors drive the definition of waste. If you have easy availability of landfill and large quantities of aggregate close at hand you will not get a premium on the use of recycled materials.

Concept of construction waste

Construction waste consists of unwanted material produced directly or incidentally by the construction or industries. This includes building materials such as insulation, nails, electrical wiring, and rebar. Much building waste is made up of materials such as bricks, concrete and wood damaged or unused for various reasons during construction. Observational research has shown that this can be as high as 10 to 15% of the materials that go into a building, a much higher percentage than the 2. 5-5% usually assumed by quantity surveyors.

Efficacy of waste allowance

The following benefits can be achieved if estimators use waste allowance while pricing:-

Ø Cost savings

Ø Financial benefits

Ø Financial benefits

Ø Identify the actual cost.

Ø Uses materials efficiently

Ø Uses materials efficiently

Ø Ensure that waste issues are considered and addressed

Ø Comparing against estimates and targets

(Reducing_Material_Wastage_in_Construction. 3b4442f9. 4711. pdf,
<http://www.longworthconsulting.co.uk>)

Encouraging Prevention of Construction Waste

In general the environmental advantages of using reclaimed or recycled materials are greatest if the material or product is used in the highest grade application possible. For example one should process demolition rubble and use it as aggregate for a new concrete rather than just using it for fill.

Waste arriving methods in construction materials

Flooring:- cutting of floor tiles to fit room layouts

Ceilings:- cutting of ceiling tiles and fixing to fit room layouts

Insulations: -cutting of insulation boards to fit openings

Tiling: -cutting of floor and wall tiles to suit design and rooms shapes

Paving::-cutting of paving slabs to fit layout

To reduce waste on construction sites certain general recommendations may be made, e. g.

Ø Need to critically assess the quantities ordered

Ø Review the ordering procedures

Ø Manage deliveries

Ø Protect materials during storage

Ø Only take the material that is needed

Ø Return surplus materials to stores

Ø Protect materials at the work-site

The Different Waste Types

Visible

What you see in the skip.

Waste

Process Waste

Badly designed procedures or working practices that lead to inefficiency, ineffectiveness and errors. Waiting and searching for someone/something/information is a big invisible waste.

Transaction Waste

Transactions are people-to-people activities such as

communications, excessive
planning/discussions and
delayed project handovers.

The idea of ‘lost time’ is an
invisible waste.

The waste produced by the construction industry is not just a burden on the environment and the ecological system, but it is also a huge cost to the industry itself.

For example:

Ø Transport cost of “ excess” material to site

Ø Cleaning and collection of “ excess” material and waste

Ø Transport of waste from the building site

Ø Waste disposal costs

Ø Better project planning: planning of material requirements (exact quantities), planning of material deliveries to site and planning of material usage

Ø Organized waste disposal

Ø Increasing the level of recycling of construction waste

Solving the problems of waste disposal touches many vendors involved in the construction project: the owner, designers, contractors, etc. It starts from making it a concern already at initial stages of the project planning and

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continuing it through the design phase. Contractors and sub-contractors can play their part by better project planning which will also reduce their material and waste disposal costs bringing them a direct financial benefit.

Reduce

Ø Reduce the amount of money spent on waste.

Ø Reduce waste disposal costs, e. g. handling charges, transport and taxes/levies.

Ø Reduce the amount of raw material used.

Ø Reduce the amount of waste on site.

Ø Reduce transport of waste movements to recycling centres or landfill.

Ø Reduce the amount of effort used to do a repetitive job.

Improve

Ø Improves efficiency on-site.

Ø Influence worker habits while a relative degree of choice exists for disposal costs/options.

Ø Better jobsite tidiness = improved health and safety.

Ø Improves the site image.

Ø Improves site management processes.

(Construction_waste,< [http:// www. wikipedia. org](http://www.wikipedia.org) >)

Table – 1 – Compare The Waste Allowance For Three Published Sources

WORKS	WESSE	SPON'	
	X PRICE BOOK(%)	LAXTONS PRICE BOOK(%)	S PRICE BOOK(%)
D Groundwork	5-10 %	5 – 40 %	Add in to total
E In situ concrete/Large precast concrete	2-12.5 %	2.5 – 15 %	Add in to total
F Masonry	1.5-5 %	2.5 – 15 %	Add in to total
G Structural/ Carcassing Metal/Timber	2.5-5 %	2.5 – 10 %	Add in to total
H Cladding/ Covering	2.5-10 %	2.5 – 10 %	Add in to total
J Waterproofing	2-10 %	2.5 – 20 %	Add in to total
K Linings/	2-10 %	2.5 – 20 %	Add in

	Sheathing/			
	Dry	%		to total
	partitioning			
L	Windows/	2. 5-10	2. 5 – 10	Add in
	Doors/Stairs	%	%	to total
M	Surface	2. 5-10		Add in
	finishes	%	5 – 50 %	to total
N	Furniture/	2. 5-10	2. 5– 25	Add in
	Equipment	%	%	to total
	Building			
P	fabric	2. 5-10	2. 5 – 20	Add in
	sundries	%	%	to total
	Paving/			
Q	Planting/	2. 5-10	2. 5 – 40	Add in
	Fencing/Site	%	%	to total
	furniture			
R	Disposal	2. 5-10		Add in
	systems	%	1 – 15 %	to total
S	Piped supply	2. 5-		Add in
	systems	10%	2 – 10 %	to total
T	Mechanical	2-10 %	1 – 5 %	Add in
	heating/Cooli			

U	ng/Refrigerat			to total
	ion systems			
U	Ventilation/			
	Air-			Add in
U	conditioning	5 %	2.5 %	to total
	systems			
V	Electrical		2.5 – 15	Add in
	systems	5%	%	to total
W	Security			Add in
	systems	2.5-5%	2.5 %	to total

Conclusion

Waste allowance, the third essential element of a bill of materials, is important because during construction a certain amount of material is wasted due to cutting, fitting, and handling. For example, lumber comes in standard lengths which seldom can be used without cutting and fitting. Sometimes the piece of lumber cut off is used, but more often it goes into the scrap heap. Another example is mortar sand which is normally stored at the job site. The sand on the bottom of the pile cannot be picked up without some earth getting in it. This generally makes the sand unusable and therefore wasted.

Waste allowance must be included in a bill of material to cover unavoidable losses. Allowance percentage is based on the function of the items, when

developing waste allowance multiply the total quantity of any one particular part.

Here spon's price book didn't mention waste allowance separately Because that ' s included in total all in rate.

Here my comparing purpose i used three published sources (Spon's Architects And Builders Price Book, Laxton's building price book, Wessex price book) for finished this task, If we consider all works there is slide different for all three sources. So I recommended percentage waste allowance is most reliable for building works.

Construction Industry Joint Council (CIJC) Working Rule Agreement

The Working Rules Agreement (WRA) is published by the Joint Council for the Building & Civil Engineering Industry (NI). The WRA contains the promulgated wages, allowances, holiday pay and pension entitlements together with a variety of other basic terms and conditions of employment. It forms the basic contract of employment for the industry. The WRA is incorporated by express reference in the standard Statement of Main Terms and Conditions of Employment.

The working rules

Part of the cost of labour is naturally the actual wages paid to the workers carrying out the productive work. The workers are generally referred to as operatives and we will return to the idea of productive work later in the chapter. The remainder of the cost of labour is made up of a number of payments which the builder must make and which are a direct result of employing operatives.

Table -2 -Type of works & relevant rules

Type	Rule
Work in difficult conditions	WR1
Bonus	WR2
Working hours	WR3
Overtime	WR4
Daily fare and travel allowance	WR5
Rotary shift working	WR6
Night work	WR7
Continuous working	WR8
Tide work	WR9
Tunnel work	WR 10
Refuelling, servicing&maintenance	WR 11
Storage of tools	WR12
Loss of clothing	WR 13
Transfer arrangements	WR14

Subsistence allowance	WR15
Period leave	WR16
Guaranteed miniweekly earnings	WR17
Annual holidays	WR18
Sick pay	WR20
Benefit schemes	WR21

For my comparing purpose here also i take three public sources (Spon's Architects And Builders Price Book, Laxton's building price book, Wessex price book). Here i mention Wessex price book example calculation (under Construction Industry Joint Council (CIJC) Working Rule Agreement)-

Table – 3 – Calculation of labour cost – CIJC award

Annual Cost of wages	Craftsm an	Labour er
1893, 8hrs, Flat time at 9. 00	17044. 20	at 12821. 6. 03 77

Non-productive	65.5	at	
overtime	hrs at 589.50	6.	443.44
	9.00	77	
Public holidays	63.0	at	
	hrs at 567.00	6.	426.51
	9.00	77	
Holiday pay allowance	176.0	at	
	hrs at 1584.00	6.	1191.52
	9.00	77	
Sick pay	5 days	at	
	at 18.93.60	18.93.60	
	72	72	
Plus rate	2022.3 hrs	At-	
	at 9.83	—	
		19878.30	14976.09
Employee's national insurance	12.80%	2544.42	12.80% 1916.94
Training	0.50%	99.39	At 74.88

		0.
allowance	of	50
	paye	%

22522.	16967.
11	91

Severance		2.
pay & other		
statutory	2. 00%	450. 44 00 339. 36
costs		%

22972.	17307.
56	27

Total cost of		2.
productive	2. 00%	459. 45 00 346. 15
hours		%

23432.	17653.
01	41

Total labour		
cost per hour	12. 625	9. 512

Effect of 10p/h pls		
rate on total cost pr	0. 1284	0. 1284
hr		

“ Wessex price book: 23rd edition” (2006), Wessex Electronic Publishing Limited”

Conclusion

The CIJC Working Rule Agreement will be recognized as Public Holidays for the purposes of the employees & Employer. WRA provide flexible working hrs , over time & bonus. If we calculating all in rate (plant, material & labour) we must follow the working rule agreement.