

appendix b – waste water calculations...



EcoHomes 2006 software tool v1 - Wat 1 Internal Water Use

Job no: Waidegrave Arms
 Assessment date: 25th September 2007
 Issue (to client)
 version/ no: Version 1
 Issue date: 25th September 2007

Dwelling type	1 bed	2 bed												
No. of dwellings	6	16												

Please ensure that the no. of dwellings has been entered, as the final calculation requires these figures.

Installation type	Installation Item (indicate how many in each dwelling type)	No. within dwelling	No. within dwelling	No. within dwelling	No. within dwelling	No. within dwelling	No. within dwelling	No. within dwelling	No. within dwelling	No. within dwelling	No. within dwelling	No. within dwelling	No. within dwelling	No. within dwelling
WC	9 litre flush	9.5												
	7.5 litre flush	8												
	6 litre flush	6.5												
	6/4 litre flush	4.5	6	23										
	4 litre flush	4												
	4/2 litre flush	3												
Wash hand basin	0 litre flush	0												
	Regular taps	1												
	Taps with flow regulators	0.5	6	23										
	Auto shut off taps	0.5												
Shower	Aerating taps	0.5												
	>15 litre/min	112.5												
	12< flow rate 15	67.5												
	9 to 12	52.5												
	6 to 9	37.5	6	23										
Bath	4.5 to 6	26.5												
	less than 4.5	22.5												
	large >200	100												
Kitchen sink	standard 150~200	80	6	16										
	small <150	60												
White goods	Typical use no dishwasher	17												
	Typical use with dish washer	12	6	16										
	Washing machine - typical 60	60												
	Washing machine - best 40	40	6	16										
	Washing machine - User input													
	Dishwasher - typical 25	25												
Dishwasher - best 12	12	6	16											
Dishwasher - User input														

Is grey water collected within this dwelling?

It is assumed that grey water is recycled for WC flushing only

No	No	No	No	No	No	No	No	No	No	No	No
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Select where grey water is collected from (Yes/ No)

Wash hand basin

Shower

Bath

Grey water collected

Percentage Collected

--	--	--	--	--	--	--	--	--	--	--	--

Is rain water collected for internal use?

No	No	No	No	No	No	No	No	No	No	No	No
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Rain water collection area m²

Average rainfall m/yr

Percentage collected

Rainwater collected

Select where rainwater is reused

Toilet Flushing

Washing Machines

Dishwashers

Total internal consumption	40.24	40.24									
Total (- Recycled water)	40.24	40.24									

Average Water Consumption **40.24** m³/bedspace/year

3 credits

MTT/SUSTAIN

Site Waste Management Plan - Indicative Requirements

Project: Waldegrave Arms Job Number: 3066
 Subject: Site Waste Management Plan Sheet Number: 1 of 6
 Engineer: Caroline Stanton Date: 20th September 2007
 Checked By: Jodi Willis Date: 20th September 2007

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MTT/SUSTAIN

Site Waste Management Plan - Indicative Requirements

Project: Waldegrave Arms Job Number: 3066
 Subject: Site Waste Management Plan Sheet Number: 2 of 6
 Engineer: Caroline Stanton Date: 20th September 2007
 Checked By: Jodi Willis Date: 20th September 2007

SITE WASTE MANAGEMENT PLAN - KEY REQUIREMENTS

PRELIMINARY ISSUES
 The Main Contractor shall adopt a Site Waste Management Plan. Relevant sub-contractors producing significant wastes streams shall be identified. The Client and identified sub-contractors shall sign the Site Waste Management Plan.

PROCUREMENT
 A careful evaluation of materials shall be made so that over-ordering and site wastage is reduced. Full consideration shall be given to the use of secondary and recycled materials. Provision shall be made for unwanted packaging to be returned to the supplier for recycling or re-use. Provision shall be made for unused materials be returned to purchaser or used on another job.

PROJECT PLANNING
 Responsibility for waste management planning and compliance with environmental legislation shall be assigned to a named individual at both main contractor and identified sub-contractors. A project programme shall be developed to include likely waste arisngs (how much, when, and what types). An area of the site shall be designated for waste management, including segregation of waste.

PROJECT PLANNING
 Targets shall be set for the different types of waste likely to arise from the project. Measures shall be put in place to deal with expected (and unexpected) hazardous waste. Disposal of liquid wastes such as wash-down water and lubricants shall be considered. Where relevant, a discharge consent shall be obtained from the Environment Agency. An agreement shall be sought from the sewerage company for trade effluent discharge. Opportunities shall be considered for re-use of materials on-site. Opportunities shall be considered for re-use of materials off-site. Opportunities shall be considered for on-site processing and re-use of materials. Opportunities shall be considered for reprocessing materials off-site. Consideration shall be given to the most appropriate sites for disposal of residual waste from the project. Opportunities shall be considered for reducing disposal costs from waste materials which may have residual value.

ON-SITE OPERATIONS
 Responsibility for waste on-site / compliance with environmental legislation shall be assigned to a named person. Toolbox talks shall be planned for all site personnel about waste management on-site. Selected waste materials shall be segregated to allow best value to be obtained from good waste practices. Containers/skips clearly shall be labelled to avoid confusion.

OFF-SITE OPERATIONS
 Duty of Care procedures shall be complied with, including provision of transfer notes and checking authorisation of registered carriers, registered exempt sites and licensed waste management facilities. Checks shall be made that excavation waste is received at the intended site. Implementation of agreed waste management procedures shall be monitored. Reports shall be regularly produced regarding waste quantities and treatment/disposal routes, and costs incurred. During site operations, barriers to good waste management practice shall be considered and noted for incorporation into the post-completion review.

POST COMPLETION
 A final report of use of recycled and secondary materials, waste reduction, segregation, recovery and disposal, with costs and savings identified, shall be completed. The final report shall be signed by the relevant sub-contractors and the Client.



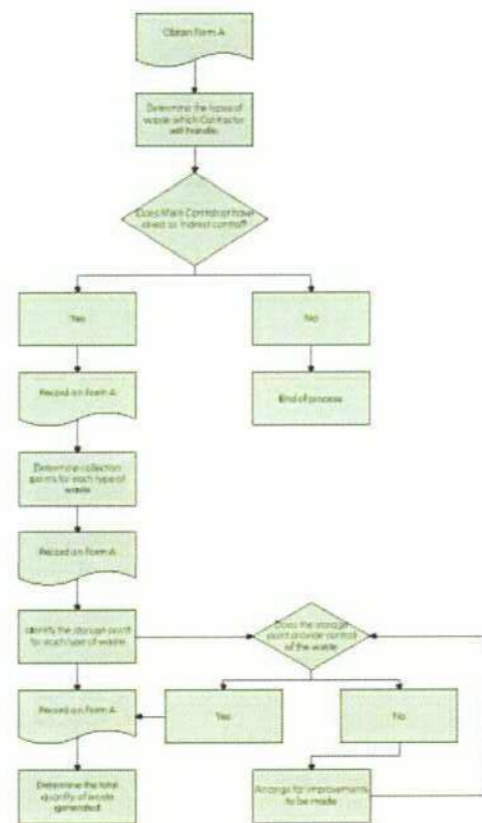
appendix c – site waste management plan...

MTT/SUSTAIN

Site Waste Management Plan - Indicative Requirements

Project: Waldegrave Arms Job Number: 3066
 Main Contractor: Sheet Number: 3 of 6
 Person Responsible for SWMP: Date: 20th September 2007
 Form Completed By: Date: 20th September 2007

PROCESS CHART (1 OF 2)



NOTES

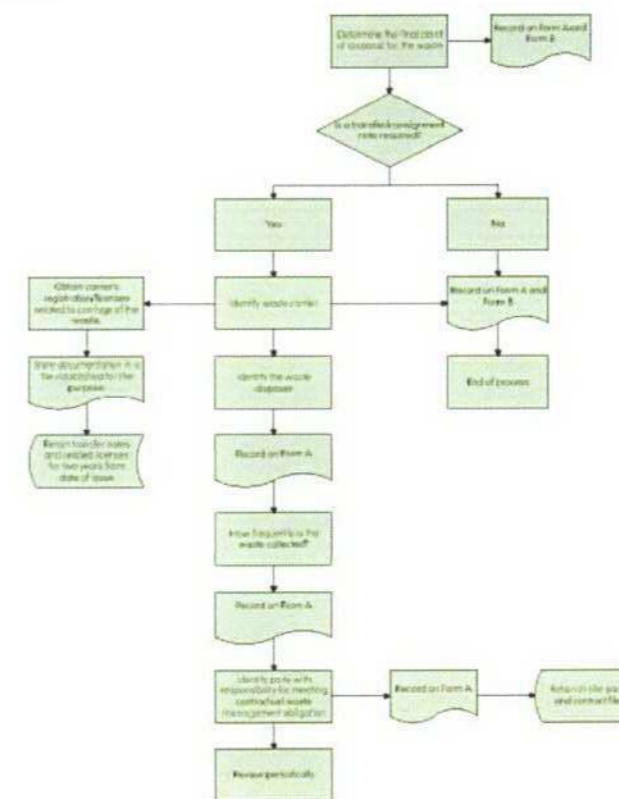
At the tender stage of the contract, Main Contractor will determine his responsibilities with regard to the Environmental Protection (Duty of Care Regulations)
 The waste disposal matrix, Form A, is to be completed for all waste disposal activities where the Main Contractor has responsibility for managing the disposal of waste from a site or contract.
 Waste includes all solid, liquid and airborne emissions from a process, site or contract.
 Direct control is where The Main Contractor has responsibility for the final disposal of the waste.

MTT/SUSTAIN

Site Waste Management Plan - Indicative Requirements

Project: Waldegrave Arms Job Number: 3066
 Main Contractor: Sheet Number: 4 of 6
 Person Responsible for SWMP: Date: 20th September 2007
 Form Completed By: Date: 20th September 2007

PROCESS CHART (2 OF 2)



NOTES

Final point of disposal could be landfill, incineration, recycling, sewage treatment or watercourse
 Consignment notes are required for special waste
 Transfer notes are required for controlled waste

Job Number: 3066
 Sheet Number: 5 of 6
 Date: 20th September 2007
 Date: 20th September 2007

Transfer / Consign. Note Req.	Waste Carrier	Waste Disposer	Frequency of Collection	Person or Group Respons.

Site Waste Management Plan - Indicative Requirements

Project: Waldegrave Arms
 Main Contractor:
 Person Responsible for SWMP:
 Form Completed By:

Job Number: 3066
 Sheet Number: 6 of 6
 Date: 20th September 2007
 Date: 20th September 2007

TYPES OF WASTE ARISING - PROFORMA

Material	Quantity in m3						
	Re-used on site	Re-used off-site	Recycled for use on-site	Recycled for use off-site	Sent to recycling facility	Sent to WML exempt site	Disposal to land fill
Inert							
Active							
Hazardous							
Totals (in m ³)							
Performance score as %							
SWMP Target %							

LONDON BOROUGH OF
 RICHMOND UPON THAMES
 05 OCT 2007
 PLANNING

Calculation Sheet

Project: Waldegrave Arms, Teddington
Subject: Renewable Energy Assessment
Engineer: Caroline Stanton
Checked By: Martin Lawless

Job Number: 3066
Sheet Number: 1 of 40
Date: 24th September 2007
Date: 24th September 2007

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Calculation Sheet

Project: Waldegrave Arms, Teddington
Subject: Renewable Energy Assessment
Engineer: Caroline Stanton
Checked By: Martin Lawless

02 METHODOLOGY

Stage	Content
1	Draw up a shortlist of renewable technologies to study
	Consider the site location and the types of buildings in the p Renewable Energy Assessment technologies that will be the p in section 4.13 will give you a quick idea of which technology provides simple flowcharts to highlight the major issues the planning stage (section 4.1) and brief guides on each Renew
2	Calculate the annual predicted energy demand of the sit application of suitable energy efficiency measures and th
	Brief details on the areas where energy efficiency can be do delivered energy benchmarks for a range of building types I and preferred methods for estimating building energy dem appropriate.
3	Calculate the baseline Carbon Emissions of the develop predicted use of energy in all the buildings, structures an
	The toolkit provides guidance on the selection and use of C
4	Calculate the contribution of each proposed Renewable Carbon Emissions of the development
	The toolkit suggests a calculation method (section 4.5) for ec technology guide. Alternatively, default figures provided in th insufficient detail is known to do full calculations, providing c
5	Calculate the costs of technically feasible renewable tech
	The toolkit provides indicative cost information for the seven tables indicate the likely impact of renewables costs on total developers gain an early idea of where to steer their efforts I feel for cost implications of renewables in different scenarios available for renewables and likely sources of future grants.
6	Assess the benefits of technically feasible renewable tech
	Developers should consider the potential benefits of renewa deciding which technologies to include in development prop including in-use cost savings for eventual building occupiers