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140



+ Addendums

- Bibliography
- List of Tables
- List of Illustrations
- List of Figures
- Addendum A - SBAT
- Addendum B - Horizontal texture study

Bibliography

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List of Tables

- 5.2 Testing of guidelines against precedents, by Author
- 7.1 Advantages of using a concrete structure vs steel frame, by Author
- 7.10 Advantages of using pre-cast concrete slabs vs composite concrete slabs with permanent formwork, drawn by Author

List of Illustrations

- 2.1-5 Maps of various scales, sourced from www.worldatlas.com, accessed April 2011
- 2.6 Figure Ground map of Pretoria, Electronic copy accessed, March 2011
- 2.7 The station building with Time-Ball hill in the background to the left electronic folder, K Bakker, accessed March 2011
- 2.8 The first NZASM houses with the station in the background, electronic folder, K Bakker, accessed March 2011
- 2.9 Aerial view of the new Pretoria Railway Station, electronic folder, K Bakker, accessed March 2011
- 2.10 The row-houses of the "White" railway camp, electronic folder, K Bakker, accessed March 2011
- 2.11 The Proposed GAPP framework for Salvokop, 2003, electronic folder, K Bakker, accessed March 2011
- 2.12 The proposed Intersite Terminal with Salvokop in the left foreground, 2008, electronic folder, K Bakker, accessed March 2011
- 2.13 The Pretoria Station shortly after the blaze that destroyed in the roof in 2001. electronic folder, K Bakker, accessed March 2011
- 2.23-30 Site photos by Author
- 2.31 Panorama compiled by Author with site photos by Author
- 2.32-34 Photos of street furniture, by Author
- 3.1 City Scale, Source: http://www.us.am.joneslanglasalle.com/SiteCollectionImages/city_sketch.jpg, Accessed May 2011
- 3.2 Precinct Scale, Source: http://www.torontoneighbourhoods.net/regions/toronto_downtown/28.html, accessed May 2011
- 3.3 Unit Scale, Source: http://fyishowcase.com/blog/wp-content/uploads/2010/11/Regent-sketch_27.gif, accessed May 2011
- 5.3 The inconspicuous facade of the TAU building with shops opening up onto the street, by Author
- 5.4 The quiet green spaces at the back of the lot provides a peaceful breathing space in the city, by Author
- 5.6 Computer render showing unit interior, Roos Architects
- 5.10 View of the central courtyard space with parking and childrens' play area, with the nine-storey tower block in the background, by Author
- 5.11 Interface of the shop component of the live-work units along the sidewalk, by Author
- 5.13 Deserted courtyard spaces in-between housing blocks originally planned for landscaping, by Author
- 5.14 Units have a combination of access from inside and outside the courtyard, by Author
- 5.15 Courtyards are generally darker and used primarily used as clothing hanging space, by Author
- 5.16 The extensive installation of satellite dishes indicates the more middle class (as opposed to lower-class) parts of the development, by Author
- 5.17 Narrow roads between blocks allow for the circulation of vehicles but miss the opportunity to provide pleasant landscaped strips, by Author
- 5.19 A view of the entrance from the street, R Halbe, The Architectural Review April 2011
- 5.21 The paved and landscape courtyard at the heart of the block, R Halbe, The Architectural Review April 2011
- 5.24 Facade detail which over time will become animated by flourishing greenery, P. Raftery, The Architectural Review, October 2010
- 5.25 Grenoble context, housing block on the right of the street with the Alps in the background, P. Raftery, The Architectural Review, October 2010
- 5.26 Private housing block overlooking the courtyard at the centre of the development, P. Raftery, The Architectural Review, October 2010
- 5.29 View of housing units surrounding a green courtyard, source: http://www.ahh.nl/index_en.html, accessed September 2011
- 5.30 View of three of the towers and the linking bridges, source: <http://www.stevenholl.com>

- com/project-detail.php?type=housing&id=58&page=0, accessed October 2011
- 5.31 View of the first four floors demonstrating the public use on ground floor and residential units above. source: <http://www.stevenholl.com/project-detail.php?type=housing&id=58&page=0>, accessed October 2011
- 5.33 View of the street elevation, by Author
- 5.35 View of the various skin construction materials, by Author
- 5.36 View of the balcony from the street showing the roof support structure, by Author
- 5.37 View during construction showing the structural frame and infill, by Author
- 6.11 The Inkululeko Care Centre in Koch street, Salvokop Photo by Author
- 6.12-16 Activities of the Inkululeko Community Centre, Source: <http://www.tif.org.za/icc.htm> accessed: April 2011
- 7.5 Corobrick Country Classic Satin FBS http://www.corobrik.co.za/Country_Classic_Satin_FBS, accessed September 2011
- 7.6 Plastered wall finished with white paint, <http://www.polishedplastercompany.co.uk/polished-plaster-textured-white-233-p.asp>, accessed October 2011
- 7.7 View of the Freedom Park building, Sourced from bulding<http://www.specifile.co.za>, accessed September 2011
- 7.9 Typical Salvokop residence demonstrating facebrick and plaster finish, photo by Author
- 7.13 Colour and texture of natural Saligna, source: <http://www.protea-timbers.co.za/samples.htm>, accessed October 2011
- 8.1-2 Computer rendered perspectives of the exterior, by Author
- 8.3 Computer rendered perspectives of the exterior, by Author
- 8.4 Computer rendered perspectives of the exterior, by Author
- 8.5-6 Computer rendered perspectives of a one bedroom living unit, by Author
- 8.7 Computer rendered perspective of a one bedroom living unit from the north, by Author
- 8.8-12 Photographs of the final model, by Author

List of Figures

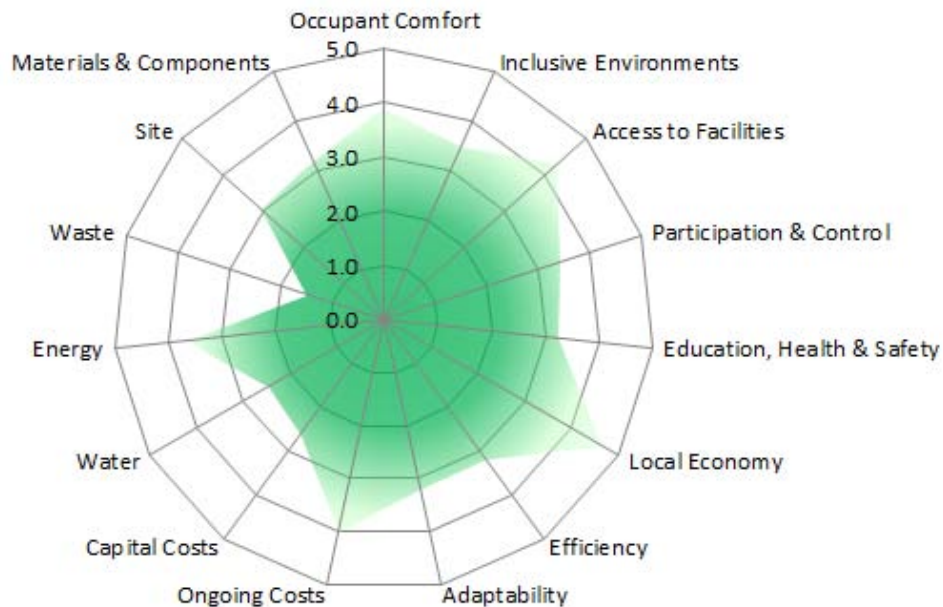
- 0.1 Sketch illustrating the combination of
- 0.2 Diagram showing the process of design, Drawn by Author
- 1.1 Five yearly incremental showing percent of South African urbanised population
Graphic: Author, Information: Human Science Research Council 1996
- 1.2 Apartheid city structure by M.Napier. Source: du Plessis and Landman (2002)
- 2.14-17 Aerial maps of Salvokop 1937, 1939, 1947 & 1991 Sourced from electronic folder, K Bakker, accessed 5 April 2011
- 2.18-21 Aerial maps of Salvokop 2001, 2005, 2007 & 2009 Sourced from electronic Google Earth, accessed 7 April 2011
- 2.22 Site map, Modified by Author, Original Source: Google Earth, Accessed April 2011
- 2.35 Existing section of Koch Street demonstrating the wasted space due to bollard placement, Sketch by Author
- 2.36 Map indicating analysed movement routes, edited Google earth map accessed 9 April 2011
- 2.37 Breakdown of Users, compiled by Author
- 2.38 Graph showing pedestrian frequency across the site in 15 minute intervals, drawn by Author
- 2.39 Possible use of Koch Street public space, sketch by Author
- 3.4 Natural relationship, sketch by Author
- 3.5 Small Change, sketch by Author
- 3.6 Structuring of theories, by Author
- 3.7-13 Hierarchy of building layers, by Author
- 3.14 Project Parti diagram, drawn by Author
- 4.1 Map of Pretoria with vibrant and potential nodes and public and private spaces mapped, by G. Di Monte
- 4.2-4 Character comparison, by M Teessen
- 4.5-6 Parti Diagrams, by Author
- 4.7 Connect Concept, by Author
- 4.8 Preserve concept, by Z. Khan
- 4.9 Gapp framework strengths and weaknesses, by G. Di Monte
- 4.10 Gapp framework connect and preserve, by G. Di Monte
- 4.11 TOSF strengths and weaknesses, by G. Di Monte
- 4.12 TOSF connect and preserve, by G. Di Monte
- 4.13 Re Kgabisa framework strengths and weaknesses, by G. Di Monte
- 4.14 Re Kgabisa framework connect and preserve, by G. Di Monte
- 4.15 Arup framework strengths and weaknesses, by G. Di Monte
- 4.16 Arup framework connect and preserve, by G. Di Monte
- 4.18 Map showing proposal, by Z. Khan
- 4.19 Section A-A before and after proposal implementation, by Author
- 4.20 Section B-B before and after proposal implementation, by M. Teessen
- 4.21 Diagram showing the formation of guidelines, drawn by Author
- 5.1 Montage of selection of precedents
- 5.5 North elevation of centre block (B), Roos Architects
- 5.7 Figure showing use allocation, Roos Architects
- 5.8 North-south Section, Roos Architects
- 5.9 Ground floor layout showing commercial spaces, offices, the creche, old age home and circulation spaces, Roos Architects
- 5.18 Drawings showing typical blocks of the three-storey walk-ups, JSA Architects
- 5.20 A progression of the building form due to various contributing factors, The Architectural Review April 2011
- 5.22 Ground floor plan, The Architectural Review April 2011
- 5.23 Plan of public reception space project, D. Dewar & R. Uitenboogaardt, 1991
- 5.27 Image showing the movement through the block and spill over from the housing into the green courtyard, source: http://www.ahh.nl/index_en.html, accessed September 2011
- 5.28 Plan showing the location of the residential development, source: http://www.ahh.nl/index_en.html, accessed September 2011
- 5.32 Diagram showing the relationship created between horizontal and vertical planes

- by using the linking bridge, source: <http://www.stevenholl.com/project-detail.php?type=housing&id=58&page=0>, accessed October 2011
- 5.34 Exploded perspective showing roof assembly
- 6.1 Location of site and relevance as an intermediate stop, drawn by Author
- 6.2 Vertical and horizontal variation resulting in choice, encouraging ownership and community, drawn by Author
- 6.3 Proportions of the site, drawn by Author
- 6.4 Utilised angles on site plan, by Author
- 6.5 Utilised angles of the site on section
- 6.6 Parti diagram applied to function, by Author
- 6.7 Highlighting the need for short-term accommodation close to the city's amenities, by Author
- 6.8 Illustration of important edges which can be activated to take advantage of pedestrian movement, by Author
- 6.9 Highlighting the possibility of creating a network between new and existing social facilities in Salvokop, by Author
- 6.10 Yeast city housing Logo, Sourced from www.ych.co.za, accessed 10 April 2011
- 6.18-21 Development of design with site influences
- 6.22 Visualised pedestrian routes and possible destinations, drawn by Author
- 6.23 Hierarchy of spaces, drawn by Author
- 6.24 Interaction between inside and outside spaces for retail and social facilities, drawn by Author
- 6.25 Location of new trees to enhance public space, drawn by Author
- 6.26 Location relative to important points nearby, by Author
- 6.27 Different densities, by Author
- 6.28 The various uses incorporated in the development, by Author
- 6.29 Framework and proposals for surrounding sites, by Author
- 6.30 Communal spaces, by Author
- 6.31 Pedestrian routes, by Author
- 7.2 Design features graphic, by Author
- 7.3 SBAT graph, by Author
- 7.4 Material composition, by Author
- 7.7 Map showing the red/tan colour of exposed earth Modified by Author, Original Source: Google Earth, Accessed April 2011
- 7.11 Computer generated image of timber pergola in summer, by Author
- 7.12 Computer generated image of timber pergola in winter, by Author
- 7.14 Bird's eye perspective view of a typical one bedroom unit, by Author

Addendum A - SBAT rating tool

SUSTAINABLE BUILDING ASSESSMENT TOOL (SBAT-P)

Project title: Germinate: Architecture of Growth Date: October 2011
 Location: c/o Skietpoort Avenue and Koch Street Undertaken by: Author
 Building type: Mixed-use residential



Social **3.7**
Economic **3.5**
Environmental **2.8**
Overall **3.3**

Classification: GOOD



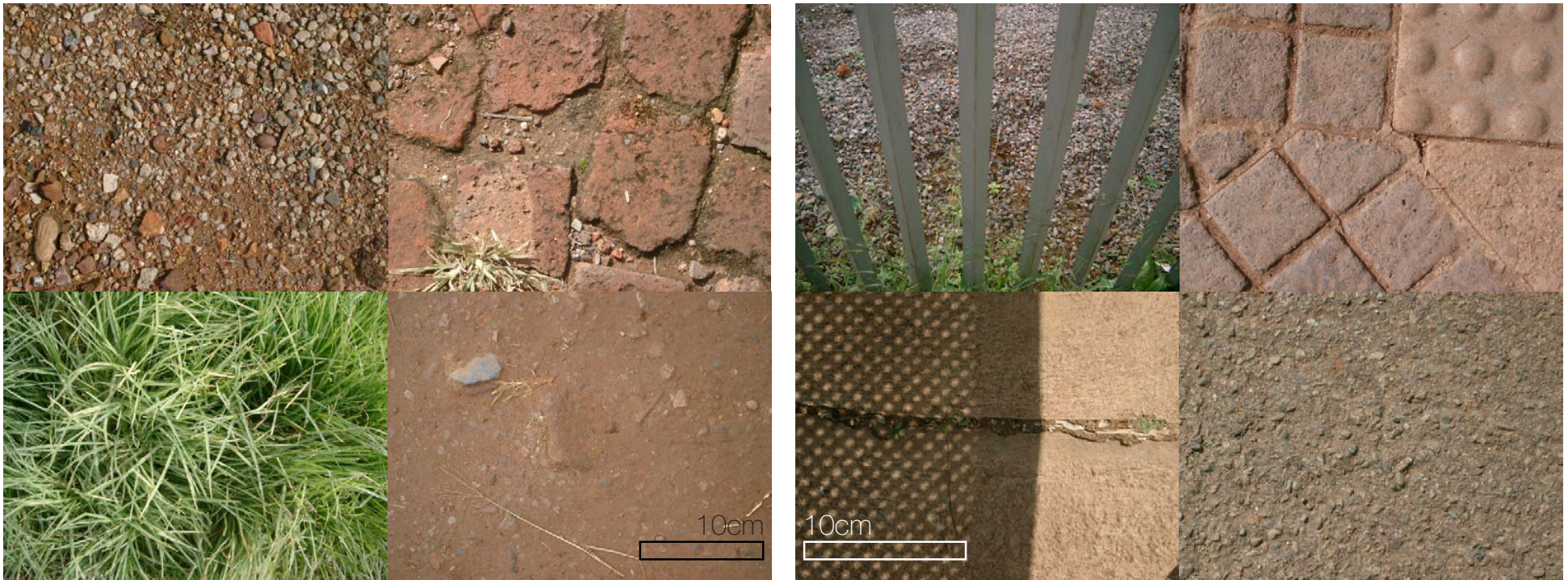
Building Performance - Social				
Criteria	Indicative performance measure	Measured	Points	
SO 1 Occupant Comfort			3.9	
SO 1.1 Daylighting	% of occupied spaces that are within distance 2H from window, where H is the height of the window or where there is good daylight from skylights	80	0.8	
SO 1.2 Ventilation	% of occupied spaces have equivalent of opening window area equivalent to 10% of floor area or adequate mechanical system, with unpolluted air source	100	1.0	
SO 1.3 Noise	% of occupied spaces where external/internal/reverberation noise does not impinge on normal conversation (50dbA)	60	0.6	
SO 1.5 Thermal comfort	Temperature of occupied space does not exceed 28 or go below 19°C for less than 5 days per year (100%)	50	0.5	
SO 1.5 Views	% of occupied space that is 6m from an external window (not a skylight) with a view	100	1.0	
SO 2 Inclusive Environments			3.5	
SO 2.1 Public Transport	% of building (s) within 400m of disabled accessible public transport	80	0.8	
SO 2.2 Information	High contrast, clear print signage in appropriate locations (100%)	70	0.7	
SO 2.3 Space	% of occupied spaces that are accessible to ambulant disabled / wheelchair users	40	0.4	
SO 2.4 Toilets	% of space with fully accessible toilets within 50m	100	1.0	
SO 2.5 Fittings & Furniture	% of commonly used furniture and fittings (reception desk, kitchenette, auditorium) fully accessible	80	0.6	
SO 3 Access to Facilities			4.3	
SO 3.1 Children	All users can walk (100%) / use public transport (50%) to get to their childrens' schools and creches	75	0.8	
SO 3.2 Banking	All users can walk (100%) / use public transport (50%) to get to banking facilities	75	0.8	
SO 3.3 Retail	All users can walk (100%) / use public transport (50%) to get to food retail	100	1.0	
SO 3.4 Communication	All users can walk (100%) / use public transport (50%) to get to communication facilities (post, telephone and internet)	80	0.8	
SO 3.5 Exercise	All users can walk (100%) / use public transport (50%) to get to recreation / exercise facilities	100	1.0	
SO 4 Participation & Control			3.5	
SO 4.1 Environmental control	% of occupied spaces able to control their thermal environment (adjacent to openable windows/thermal controls)	85	0.9	
SO 4.2 Involvement	% of users actively involved in the design process (workshops / meetings with models / large format drawings)	0	0.0	
SO 4.3 Social spaces	Social informal meeting spaces (parks / staff canteens / cafes) provided locally (within 400m) (100%)	100	1.0	
SO 4.4 Sharing facilities	5% of facilities shared with other users / organisations on a weekly basis (100%)	100	1.0	
SO 4.5 User group	Active representative user group involved in the management of the building / facilities / local environment (100%)	60	0.6	
SO 5 Education, Health & Safety			3.3	
SO 5.1 Education	Two percent or more space/facilities available for education (seminar rooms / reading / libraries) per occupied spaces (75%). Construction training provided on site (25%)	75	0.8	
SO 5.2 Safety	All well used routes in and around building well lit (25%), all routes in and around buildings (25%) visually supervised, secure perimeter and access control (50%), No crime (100%)	50	0.5	
SO 5.3 Awareness	% of users who can access information on health & safety issues (ie HIV/AIDS), training and employment opportunities easily (posters/personnel)	100	1.0	
SO 5.4 Materials	All materials/components used have no negative effects on indoor air quality (100%)	100	1.0	
SO 5.5 Accidents	Method in place for recording all occupational accidents and diseases and addressing these	0	0.0	

Building Performance - Economic				
Criteria	Indicative performance measure	Measured	Points	
EC 1 Local economy			4.7	
EC 1.1 Local contractors	% value of the building constructed by local (within 50km) small (employees<20) contractors	90	0.9	
EC 1.2 Local materials	% of materials (sand, bricks, blocks, roofing material) sourced from within 50km	95	1.0	
EC 1.3 Local components	% of components (windows, doors etc) made locally (in the country)	100	1.0	
EC 1.4 Local furniture/fittings	% of furniture and fittings made locally (in the country)	80	0.8	
EC 1.5 Maintenance	% of maintenance and repairs by value that can, and are undertaken, by local contractors (within 50km)	100	1.0	
EC 2 Efficiency			3.2	
EC 2.1 Capacity	% capacity of building used on a daily basis (actual number of users / number of users at full capacity*100)	55	0.6	
EC 2.2 Occupancy	% of time building is occupied and used (actual average number of hours used / all potential hours building could be used (24) *100)	50	0.5	
EC 2.3 Space per occupant	Space provision per user not more than 10% above national average for building type (100%)	85	0.9	
EC 2.4 Communication	Site/building has access to internet and telephone (100%), telephone only (50%)	80	0.8	
EC 2.5 Material & Components	Building design coordinated with material / component sizes in order to minimise wastage. Walls (50%), Roof and floors (50%)	50	0.5	
EC 3 Adaptability			3.8	
EC 3.1 Vertical heights	% of spaces that have a floor to ceiling height of 3000mm or more	100	1.0	
EC 3.2 External space	Design facilitates flexible external space use (100%)	100	1.0	
EC 3.3 Internal partition	Non loadbearing internal partitions that can be easily adapted (loose partitioning (100%), studwall (50%), masonry (25%))	25	0.3	
EC 3.4 Modular planning	Building with modular structure, envelope (fenestration) & services allowing easy internal adaptation (100%)	100	1.0	
EC 3.5 Furniture	Modular, limited variety furniture - can be easily configured for different uses (100%)	50	0.5	
EC 4 Ongoing costs			4.0	
EC 4.1 Induction	All new users receive induction training on building systems (50%), Detailed building user manual (50%)	50	0.5	
EC 4.2 Consumption & waste	% of users exposed on a monthly basis to building performance figures (water (25%), electricity (25%), waste (25%), accidents (25%))	75	0.8	
EC 4.2 Metering	Easily monitored localised metering system for water (25%) and energy (75%)	100	1.0	
EC 4.3 Maintenance & Cleaning	Building can be cleaned and maintained easily and safely using simple equipment and local non-hazardous materials (100%)	100	1.0	
SO 4.5 Procurement	% of value of all materials/equipment used in the building on a daily basis supplied by local (within the country) manufacturers	75	0.8	
EC 5 Capital Costs			2.6	
EC 5.1 Local need	Five percent capital cost allocated to address urgent local issues (employment, training etc) during construction process (100%)	100	1.0	
EC 5.2 Procurement	Tender / construction packaged to ensure involvement of small local contractors/manufacturers (100%)	50	0.5	
EC 5.3 Building costs	Capital cost not more than fifteen % above national average building costs for the building type (100%)	80	0.8	
EC 5.4 Sustainable	3% or more of capital costs allocated to new sustainable/indigenous technology (100%)	30	0.3	
EC 5.5 Existing Buildings	Existing buildings reused (100%)	0	0.0	
Building Performance - Environmental				
Criteria	Indicative performance measure	Measured	Points	
EN 1 Water			2.5	
EN 1.1 Rainwater	% of water consumed sourced from rainwater harvested on site	10	0.1	
EN 1.2 Water use	% of equipment (taps, washing machines, urinals showerheads) that are water efficient	90	0.9	
EN 1.3 Runoff	% of carparking, paths, roads and roofs that have absorbant/permeable surfaces (grassed/thatched/looselaid pavin/ absorbant materials)	20	0.2	
EN 1.4 Greywater	% of water from washing/relatively clean processes recycled and reused	40	0.4	
EN 1.5 Planting	% of planting (other than food gardens) on site with low / appropriate water requirements	85	0.9	
EN 2 Energy			3.7	
EN 2.1 Location	% of users who walk / use public transport to commute to the building	80	0.8	
EN 2.2 Ventilation	% of building ventilation requirements met through natural / passive ventilation	95	1.0	
EN 2.3 Heating & Cooling	% of occupied space which has passive environmental control (no or minimal energy consumption)	90	0.9	
EN 2.4 Appliances & fittings	% of appliances / lighting fixtures that are classed as highly energy efficient (ie energy star rating)	100	1.0	
EN 2.5 Renewable energy	% of building energy requirements met from renewable sources	0	0.0	
EN 3 Waste			1.5	
EN 3.1 Toxic waste	% of toxic waste (batteries, ink cartridges, fluorescent lamps) recycled	75	0.8	
EN 3.2 Organic waste	% of organic waste recycled	0	0.0	
EN 3.3 Inorganic waste	% of inorganic waste recycled.	75	0.8	
EN 3.4 Sewerage	% of sewerage recycled on site	0	0.0	
EN 3.5 Construction waste	% of damaged building materials / waste developed in construction recycled on site	0	0.0	
EN 4 Site			3.1	
EN 4.1 Brownfield site	% of proposed site already disturbed / brownfield (previously developed)	40	0.4	
EN 4.2 Neighbouring buildings	No neighbouring buildings negatively affected (access to sunlight, daylight, ventilation) (100%)	100	1.0	
EN 4.3 Vegetation	% of area of area covered in vegetation (include green roofs, internal planting) relative to whole site	25	0.3	
EN 4.4 Food gardens	Food gardens on site (100%)	100	1.0	
EN 4.5 Landscape inputs	% of landscape that does not require mechanical equipment (ie lawn cutting) and/or artificial inputs such as weed killers and pesticides	40	0.4	
EN 5 Materials & Components			3.2	
EN 5.1 Embodied energy	Materials with high embodied energy (aluminium,plastics) make up less than 1% of weight of building (100%)	100	1.0	
EN 5.2 Material sources	% of materials and components by volume from grown sources (animal/plant)	20	0.2	
EN 5.3 Ozone depletion	No materials and components used requiring ozone depleting processes (100%)	100	1.0	
EN 5.4 Recycled / reuse	% of materials and components (by weight) reused / from recycled sources	0	0.0	
EN 5.5 Construction process	Volume / area of site disturbed during construction less than 2X volume/area of new building (100%)	100	1.0	

Addendum B - Horizontal textures

Informal

Formal



Illustrations 2.32-39: Site photos by Author

Circulation is the fundamental informant for the condition of the vertical surfaces. Along routes where pedestrians are expected wide boulevards equipped with street furniture are empty, whilst the informal paths (often the shortest route available) where people do walk are bustling with activity and small stalls selling fruits and sweets.

The informal surfaces include (clockwise direction) loose gravel, old pavers, compressed sand and unkept grass. These surfaces (with the exception of the grass) are most frequently used by pedestrians travelling to and from the station. These surfaces are not maintained and evolve over time.

The formalised surfaces include (clockwise direction) gravel for parking, smaller and larger concrete pavers and asphalt for the roadway. These surfaces are considered formal due to their intentional nature. They are preserved through maintenance and the intention is for them not to change over time.

The formal surfaces are generally not appropriately located and are not therefore not used as intended whilst the informal

surfaces are created due to the informal circulation of pedestrians.

Any development, as proposed in this dissertation, should respond appropriately to the nature of the vertical surfaces. Informal areas that experience high levels of traffic could be developed and encouraged through the establishment of appropriate paving surfaces. The quality of the experience as seen from the user on a small scale should also be considered.

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