borrowed words and thoughts_

[List of references]



[11.1]_____RESOURCES CONSULTED

Alqufuf, A.S. 2010. *Janitor of the Queen street Mosque*, Queen street, Pretoria.Interview by author, 16 March 2010.

Branzi, A. 2006. *Weak and diffuse Modernity*. The world of projects at the beginning of the 21st Century. Italy: Skira

Boyle, G. 1996. *Renewable Energy, power for a sustainable future*. Open University press, Oxford.

Canals, J. 2008. Regenerating Hubs.

Internet: http://www.evolo.us/2010/01/05/ecological-skyscraper/ Retrieved: 29 March 2010.

Candara, K. 2010. Capture the rain.

Internet: http://www.archdaily.com/52671/capture-the-rain-h3ar/#more-52671 Retrieved: 12 March 2010.

Cilento, B. 2010. Efficient Living Machine.

Internet: http://delhi.quikr.com/tu62980198_2 Retrieved: 15 August 2010.

Community scale, 2006. Community scale of Raleigh.

Internet: http://sites.google.com/site/communityscale/ Retrieved 28 March 2010

Cooper, R, Evans, G, Boyko, C. 2009. *Designing sustainable cities*. United Kingdom: Blackwell Publishing Ltd.

de Jong, RC, van der Wall, GM, Heydenrych, DH, 1988, NZASM 100,

The Buildings, Steam Engines and Structures of the Netherlands South African
Railway Company, PRETORIA, Chris van Rensburg Publications (PTY) Ltd.

Dekker, F. 2010. *Tshwane Municipality waste and landfill administrator*, 1 von Wielligh str. Pretoria West. Interview by author. 10 March. Pretoria.

Dockrat, Y. 2010. <u>Shop Owner, Mogul Property</u>, Church street, Pretoria. Interview by author, 16 March 2010.

Docrat, A. 2010. *Manager, Fashion World*, van der Waldt street, Pretoria. Interview by author, 16 March 2010.

Durack, R. 2004. Shrinking Smart the promise of Landscape Urbanism, Cleveland Urban Design Collaborative Quarterly, 3:3/4 – Winter 2004 Internet: http://www.cudc.kent.edu/e-cudcQuarterly/viewpoint/durack4.html Retrieved 15 February 2010.

Eskom Demand Side Management, 2008. <u>Practical hints for saving electricity.</u>
Generation Communication Publishers, Johannesburg.

Geddes, P. 1968. Cities in Evolution. Ernest Benn Limited, London.

Govind, J. 2010. <u>Shop owner, Sanjiv investments</u>, Queen street, Pretoria. Interview by author, 16 March 2010.

Graham, S. 2001. <u>Splintering Urbanism: Networked Infrastructures</u>,
Technological Mobilities and the Urban Condition. Routledge, London.

Green Building Council of South Africa. 2008. Green star SA – <u>Office Design</u>

and <u>Office – As Built v1</u> 2008. 1st Edition. GBCSA

Grossberg, J. 2010. <u>Shop owner, Grossberg Military Outfitters and Camp Gear Traders</u>, Queen street, Pretoria.

Interview by author, 16 March 2010.

Hauck, T. *Infrastruktururbanismus*, Technische Universität München, Institute for Urban Design.

Internet: http://www.infrastruktururbanismus.de/Call.html Retrieved: 16 February 2010.

Haughton, G. 1994. <u>Sustainable Cities</u>, Jessica Kingsley Publishers and Regional Studies Association, London.

Holm, D. 1996. *Manual for energy conscious design*. Department of Minerals and Energy, Pretoria.

Jacob, S. 2009. Ceci N'Est Pas Une Pipe: Infrastructure as Architectural

Internet: http://www.strangeharvest.com/2009/01/ceci-nest-pas-une-pipe-infrast.php Retrieved: 28 April 2010.

Jones, P. 2009. *A Low Carbon Built Environment*. Indoor and Built Environment Editorial, 2009/vol. 18, (p.380–381).

Kumar, M. 2010. *Janitor*, *Fatima Centre*, Pretoria. Interview by author, 16 March 2010.

Le Roux, S & Botes, N. 1992. <u>Plekke en Geboue van Pretoria: n oorsig van hulle argitektoniese en stedelike belang</u>. Volume 2. Stadsraad van Pretoria, Pretoria.

Lues, D.J. 2010. *Tshwane Municipality water distribution manager*, Noordvaal Bldg. 225 Vermeulenstr. Interview by author. 10 March. Pretoria.

Malebye, W. 2010. <u>Security Officer, Regend Place</u>, Pretoria. Interview by author, 16 March 2010.

Marley, S. 2003. Architectural Framework: NASA /SCI.

Internet: http://www.opengroup.org/architecture/togaf9doc/arch/welcome.html Retrieved 21 February 2010.

Meinhold, B. 2009. Solar Parking Lot of the future does much more than park cars.

Internet: http://www.inhabitat.com/2009/11/12/parking-lot-of-the-future-does-more-than-park-cars/Retrieved: 14 March 2010.

______references [11]



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- Moalusi, P. 2010. <u>Student</u>, <u>Africa College of Excellence</u>, Navy House Building, Pretoria. Interview by author, 16 March 2010.
- Monageng, D. 2010. *Tshwane Municipality sanitation administrator*. Noordvaal Bldg. 225 Vermeulenstr. Interview by author. 10 March. Pretoria.
- Naude, W. 2010. *Tshwane Municipality electricity coordinator*, Sanlam Plaza East. Schoeman Str. Interview by author. 10 March. Pretoria.
- Nesbitt, K., 1996. <u>Theorising a new agenda for architecture, an anthology of architectural theory 1965-1995.</u> New York: Princeton Architectural Press.
- Ploeger, J. 1989. <u>Street and Place Names of Old Pretoria</u>. J. L van Schaiks Publishers. Pretoria.
- Powell, K. 2000. City transformed. London: Laurence King Publishing.
- Ray, S. 2010. Para City, skyscraper of the future.

Internet: http://www.bing.com/images/search?q=Solaris%2C+Singapore Retrieved: 15 August 2010.

- Richardson, N.H. 1989. *Land Use Planning and Sustainable Development in Canada*, Canadian Environmental Advisory Council, Ottawa.
- Roaf, S. 2005. <u>Adapting Buildings and Cities for climate change</u>. Elsevier Ltd, ltaly.
- Ruano, M. 1998. *Eco Urbanism, Sustainable human settlements: 60 case studies*. Barcelona: Editorial Gustavo Gili.
- Saieh, N. 2009. Multi-level Parking, Voestalpine.

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Internet: http://inhabitat.com/2010/05/25/temporary-dutch-parking-garage-is-as-green-as-it-looks/Retrieved: 17 june 2010.

Sebastian, J. 2010. Hugon Kowalski Sudanese Water tower.

Internet: http://www.archdaily.com/52910/watertower-hugon-kowalski/#more-52910 Retrieved: 15 March 2010.

- Spellman, C. 2003. *Re-Envisioning Landscape/Architecture*. Barcelona: Actar.
- Thomas, J. 2007. <u>The Light House: An Innovative Green Skyscraper.</u>
 Internet: http://www.treehugger.com/files/2007/05/the_lighthouse.php#1
 Retrieved: 14 March 2010.
- Tschumi, B., & Cheng, I. (2003). *The state of architecture at the beginning of the*21st century. Columbia books of architecture. New York, Monacelli Press.
- Tshwane Metro Municipality, 2004. Tshwane State of the Environment Report, 2001-2002.

Internet: www.tshwane.gov.za/documents/State_of_the_Environment_2004.pdf Retrieved: 12 March 2010.

Tshwane Metro Municipality. 2009. City of Tshwane population estimates,

March 2010.

Internet: http://www.sacities.net/cities/tshwane.stm

Retrieved 10 March 2010

University of Colorado, 2000. The Geographer's Craft.

Internet: http://www.colorado.edu/geography/gcraft/gloss/glossary.html, Retrieved 28 March 2010.

- University of Pretoria, 2009. *Heritage Field Academy.* Power Point presentation at student congress 2009. Pretoria.
- Venter, C. 2010. <u>Traffic Engineer</u>, Faculty of Road Engineering and Public Transport, University of Pretoria. Interview by author, 7 May 2010.
- Waldheim, C. 2006. <u>The Landscape Urbanism Reader</u>, Article: Mossop, E. Landscapes of Infrastructure (p163-178)

New York: Princeton Architectural Press

Waldheim, C. 2006. The Landscape Urbanism Reader, Article: Waldheim, C.

Landscape as Urbanism (p35-51)

New York: Princeton Architectural Press.

Waldheim, C. 2006. *The Landscape Urbanism Reader*, Article: Weller, R.

An art of instrumentality: Thinking through landscape urbanism (p68-87)

New York: Princeton Architectural Press.

Wennett, R. 2010. 1111 Lincoln Road.

Internet: http://www.dezeen.com/2010/04/19/1111-lincoln-road-by-herzon-de-meuron/

Retrieved: 16 July 2010.



_____references [11]

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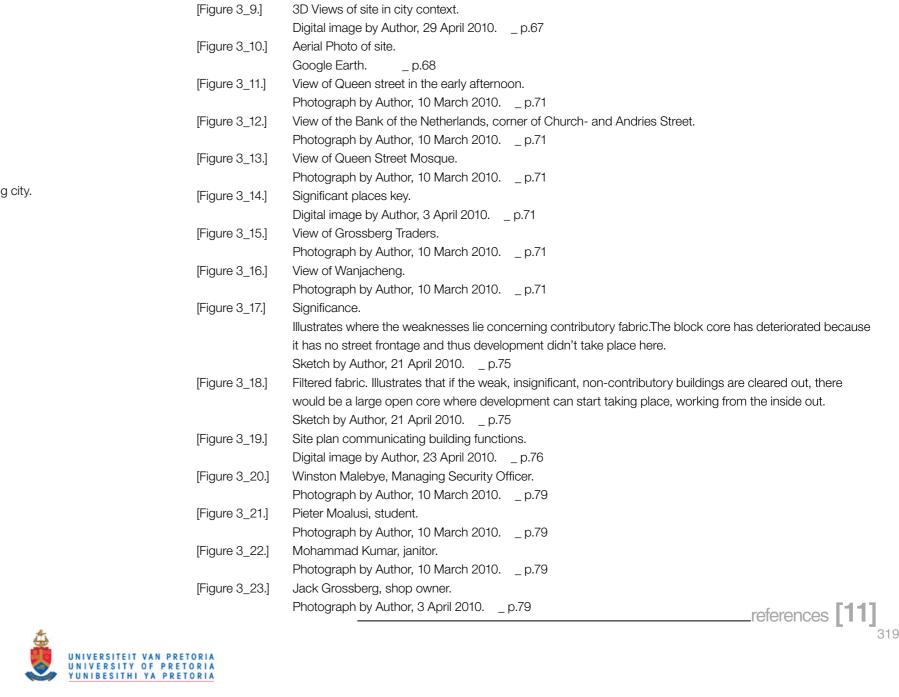
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