9.0.1 CONCLUSION

Although the dissertation process began as an investigation into the social role of buildings in developing contexts and their roles within, it ended quite solidly with a spatial and structural problem.

The problem lay in what does one provide as support, what as infill and who controls what at which times.

A project of this nature that does not clearly address or identify this issue will surely fail as this social programming of space through architectural techniques is essentially the core of what South African spatial professionals need to address in today’s developmental climate.

The dissertation process revealed an undercurrent of uncertainty in this specific field of architectural intervention. Feedback from professionals who were involved in the process could not comment on the nature of the dissertation design in architectural terms.

The actual architecture was more of a service engineering with social aspects than the spatial and structural programming of traditional architectural projects.

Nonetheless, what emerged in the end was an understanding of what questions architects need to be asking in these types of contexts.

FULL SUMMARY OF DISSERTATION PROCESS AND CURRENT PROJECTS CAN BE VIEWED @ WWW.JHONOBENNED.COM
9.0.2 REFLECTION

The dissertation revealed a key question in regard to Architecture of developing areas - WHAT IS THE ROLE OF ARCHITECTURE IN FACILITATING DEVELOPMENT?

INFRASTRUCTURE AS ARCHITECTURE - INFRA-TECTURE

The initial premise of the dissertation was to re-interpret the type of Architectural intervention that would facilitate growth in a developing context, in this case Pienaarspoort, Extension 12.

The issue with proposing an Architectural intervention in a developing context is that in order to truly facilitate development bulk infrastructure is needed in the form of roads, services e.t.c. Without these elements it is very difficult to meet the needs of any users in this context.

The dissertation process led to a hybrid of infrastructure and Architectural possibility, not a traditional building as such, but rather a building system. This is only problematic in that a resolved and detailed Architectural product is required to complete the MArch Prof. degree.

The Author sought to resolve this by then exploring the Infra-TECTure piece Architecturally in context. But, due to time constraints the author feels that the Architectural product did not reflect the year’s process, as well as drawing attention away from the true product of the engagement process - the Infra-TECTure Unit.

The Infra-TECTure Unit could have been explored in more depth, but now has the opportunity to be taken further in practice and explored outside of academic constraints and discipline specific outcomes.

RESEARCH VS. PRODUCT

Although the process of engagement and subsequent research was crucial in order to determine an appropriate design solution, it took up more than half of the allocated time for the dissertation year. The time spent on research left minimal time for product resolution.

This could have been resolved by a more clear identification of what exactly was expected from the research rather than an open ended question of engagement.

9.0.3 APPENDIX SECTIONS

Working in a context such as Mamelodi has a richness and depth-of-place that required full immersion into what was an unfamiliar environment for the author.

As a result, the research and analysis process entailed more than what could be included in the typical narrative of the book and have been included in the appendix.

References to these sections have been made throughout the dissertation.

APPENDIX SECTION A: INTERVIEW SUMMARY

A detailed overview of all interviews, data and analysis from the formal interviews conducted on-site during April 19-25 2011.

APPENDIX SECTION B: ON-SITE ANALYSIS

Several diagrams of analysis, further detailed to expand on the social, spatial and tectonic observations and analysis during the dissertation year.

APPENDIX SECTION C: DESIGN OPTIONS AND FURTHER ANALYSIS

A further diagrammatic breakdown of the various process taken to explore the possibilities that guided the dissertation process.

APPENDIX SECTION D: SHORT FILM COMPETITION

The storyboard submitted as a short film for CnCl competition of 2011 where the concepts and themes from the site analysis were expressed and summarized.

APPENDIX SECTION E: RESEARCH TRIP

A research trip, looking into the functions of buildings in developing contexts across South Africa was undertaken in December/January 2010.
9.1.1 INTERVIEW SUMMARY: BRICK MAKER PROFILES

Appendix Illus: 1  On-site interview map used for analysis of Extension 12 & Pienaarspoort (Author, 2011)

Appendix Illus: 2  Photographic journal of interviews (Author, 2011)
Appendix Illus: 3  On-site interview map used for analysis of brick makers and supply networks (Author, 2011)
9.1.2 INTERVIEW SUMMARY: BRICK MAKER DATA

APPENDIX SECTION A: INTERVIEW SUMMARY
**TRANSPORT**
Who transports your bricks?
- All operations had their own delivery trucks
Who drives these cars?
- All operations had their own drivers
Who fixes your cars?
- Most fixed them themselves, others used associates
Where do you get petrol?
- Anywhere in Mamelodi, not one specific

**BRICKS**
How many brick types do you have?
- Mixed Hollow Block
- Mixed Hollow Block
- Mixed Block
- Mixed Block (MDP)
- Mixed Brick (2 Bricks)

What are they?
- Mixed Hollow Block
- Mixed Hollow Block
- Mixed Block
- Mixed Block (MDP)
- Mixed Brick (2 Bricks)

How much do you charge per brick?
- Mixed Hollow Block: R8.00
- Mixed Hollow Block: R8.50
- Mixed Block (MDP): R7.50
- Mixed Brick (2 Bricks): R7.50

**PRODUCT**
Who buys these bricks?
- Generally people from their immediate area, 5 km radius

Where do they use them?
- Home additions, building rental units, making taverns, or spas

Why don't they use other bricks?
- These are cheaper, and more readily available with transport included

**ALTERNATIVE**
Why Comart bricks?
- Easy to make, almost no infrastructure, can pick and move at any time.

Why not earth bricks?
- Most haven't seen or heard of them

Where do the workers stay?
- Most stayed with 5 km radius, or on site

Where do you get lunch?
- From 'hiliated' around site

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Appendix Illus: 5  Graphic representation of questionnaire: 2 (Author, 2011)
9.1.3 INTERVIEW SUMMARY: BRICK MAKER PROFILES

Profiles of various brick makers: 1 (Author, 2011)
Profiles of various brick makers: 2 (Author, 2011)
9.2.1 STUDY OF PROCESS OF BRICK MANUFACTURE WITHIN THE NETWORK

Appendix Illus: 8  Graphic summary of process of production undertaken by the brick makers: 1 (Author, 2011)
Appendix illus: 9  Graphic summary of Process of Production undertaken by the brick makers: 2  (Author, 2011)
9.2.2 ON-SITE OBSERVATION OF CONTAINER APPROPRIATION

SUMMARY OF CONTAINER RETAIL, STORAGE AND LIVING (Author, 2011)
APPENDIX SECTION B: ON-SITE ANALYSIS

AGENTS OF OWNERSHIP

APPROPRIATION OF SHIPPING CONTAINERS BY RETAIL VENDORS AND PROSPECTIVE BUSINESS’S: CEMENT & BUILDING MATERIAL RETAIL

EDGE APPROPRAITION

SECONDARY RETAIL ITEM

STOCK OWNER & MANAGER

RETAILER

STORE FRONT FACING MAJOR MOBILITY ROUTE

EASE OF SECURITY AND SHELTER IN MOBILE AND TEMPORARY STRUCTURE

PRIMARY RETAIL ITEM

SECONDARY RETAIL ITEM

Summary of agents of ownership in container form. (Author, 2011)
9.2.3 ON-SITE OBSERVATION OF CONTAINER SPATIAL CONDITION

Appendix Illus: 12  Spatial exploration of container appropriation: 1 (Author, 2011)
Appendix III: Spatial exploration of container appropriation: 2 (Author, 2011)

APPENDIX SECTION B: ON-SITE ANALYSIS
9.3.1 Spatial and Structural Research on Lifting

Appendix Illus. 14  Diagrammatic exploration of cranes to support manual mechanical lifting (Author, 2011)
9.3.2 HISTORIC SUMMARY OF FRAME AND INFILL

9.3.3 CONDITIONS BETWEEN BRICK MAKERS AND HOUSING

Appendix Illus: 15  
Historic breakdown of frame and infill structure  (Author, 2011)

Appendix Illus: 16  
Summary of observed conditions in Mamelodi  (Author, 2011)
**9.3.4 ORIGINAL CONCEPTION OF UNIT OF GROWTH**

APPENDIX SECTION C: DESIGN OPTIONS & FURTHER ANALYSIS

Appendix Illus: 17  The use of containers to create spaces of appropriation for hierarchy of control and ownership (Author, 2011)

9.3.4 Original conception of unit of growth

Chapter 9: Conclusion & Appendix

APPENDIX SECTION C: DESIGN OPTIONS & FURTHER ANALYSIS

Appendix Illus: 19  Original Concept for Unit Of Growth (Author, 2011)

INFRASTRUCTURAL SUPPORT UNIT

CONNECTS WITH CONTAINER UNIT TO PROVIDE SERVICES

MOVE (A)

MOVE (B)

MOVE (C)

AUTONOMOUSLY SERVICED
9.3.5 FURTHER EXPLANATION OF UNIT OF GROWTH
9.3.6 SUMMARY OF UNIT OF GROWTH

Appendix Illus. 22  Summary of form, process and history of form (Author, 2011)
9.4.1 STORY BOARD TO CNCI FILM COMPETITION

Appendix Iills: 23  The story board for the CnCI Moving Spaces film competition (Author, 2011)
Appendix Section D: Short Film Competition
9.5.1 RESEARCH TRIP SUMMARY

During the December/January 2011 period the author undertook a countrywide architectural field research trip to focus on architecture in developing contexts in South Africa.

The focus of the trip began as a quite broad look into contemporary Architecture in developing settlements of South Africa - I had no specific question to answer, I felt the journey was more a search for a question rather than a search for an answer.

From the trip a set of intangible lessons of good programming, bad materiality and spatial conditions as well as interesting conditions in unexpected places.
9.5.1 Research Trip Summary

Chapter 9: Conclusion & Appendix

APPENDIX SECTION E: RESEARCH TRIP

Summary of research trip: Kwa-Zulu Natal & Eastern Cape (Author, 2011)

Summary of research trip: Gauteng (Author, 2011)
**References**

**BOOKS**


**SOUTH AFRICAN PUBLISHED ARTICLES & PAPERS**


Kevin R. Cox (with David Hemson and Alison Todes), *Urbanization in South Africa and the Changing Character of Migrant Labor*. Department of Geography. Ohio


**SOUTH AFRICAN LEGISLATURE AND REPORTS**

Cornelia Ellis & Whynie Adams. 2009. *Families, households and children.* South Africa: Department of Social Development;


**PUBLISHED FRAMEWORK PROPOSALS**


**INTERNATIONAL REPORTS**


**ONLINE RESOURCES**

CoT. City of Tshwane Municipal Website. www.tshwane.gov.za

Accessed 08_10_2011: 22:14 pm

