

D E V L A N D

a multi-service station in Armadale, Devland.

This document is submitted in partial fulfilment for the degree:
Master of Architecture (Professional)
at the University of the Witwatersrand, Johannesburg, South Africa in the year 2011.

if, all people in the world were not awaded the same advantages ...

F Scott Fitzgerald

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Declaration

I, Kevin Goncalves, student number 0504984G, am a student registered for the course Master of Architecture (Professional) in the year 2011. I hereby declare the following:

I am aware that plagiarism (the use of someone else's work without permission and / or without acknowledging the original sources) is wrong. I confirm that the work submitted for the assessment for the above course is my own unaided work except where I have stated otherwise. I have followed the required conventions in referencing thoughts, ideas, and visual materials of others. For this purpose, I have referred to the Graduate School of Engineering and the Built Environment style guide. I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my own work or that I have failed to acknowledge the source of the ideas or words in my own work.

Kevin Goncalves

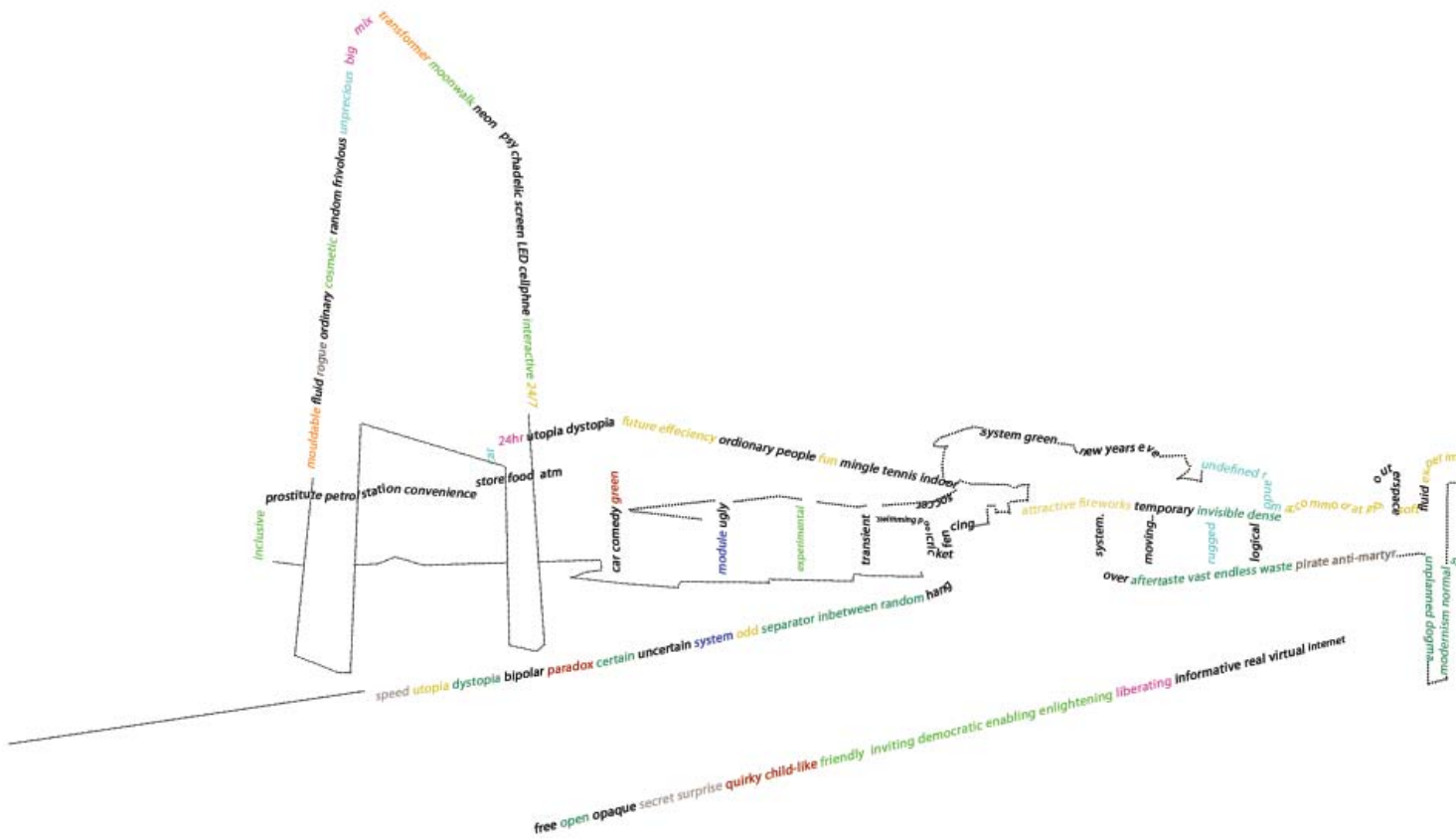
Acknowledgements

I would like to thank my family for their constant support, for always keeping me food (even in my absence) and for asking my opinion.

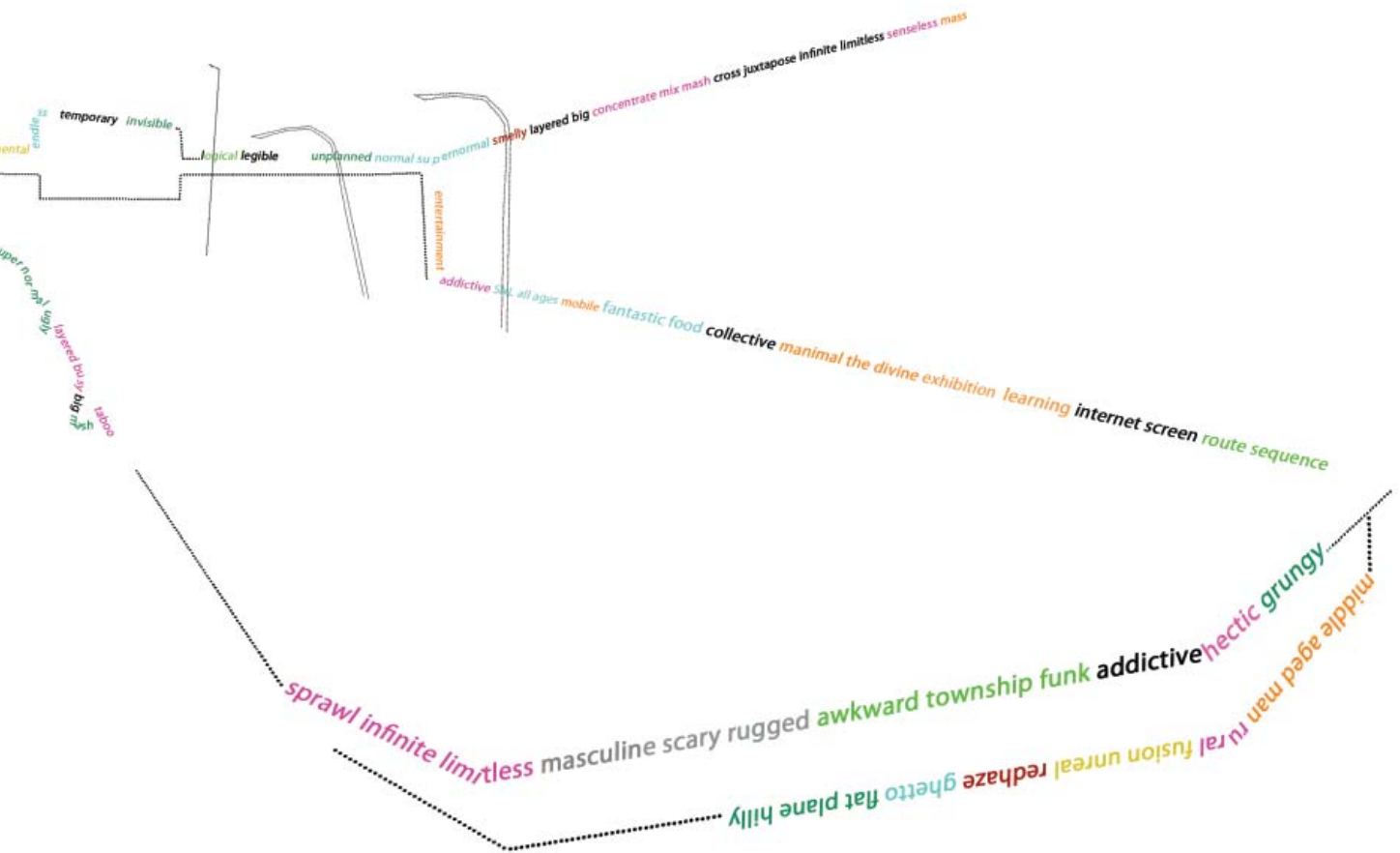
My few friends, both those who are in the course and especially those who are not, must be thanked for tolerating my shenanigans.

My supervisor, Kirsten Doermann, thank you for your patience and enthusiasm and especially for taking the time to understand what I was trying to do (even when I did not) and then referring me to someone who did it better.

Finally, to those whom I consulted and / or interviewed, thank you for your contributions and I hope that I translated your thoughts as you intended.



what can the Viking become now?



‘Seeing is knowing is making’

This phrase was coined by Svetlana Alpers, a Dutch Art critic, to describe Dutch Art. It is a critical¹ point of view that essentially means that anything that one can see in the world, including any man-made marvel or natural phenomena, can be understood or known - if the observer applies himself and all his resources to it. Alpers goes on to assert that the interpretations of the viewers observations can then be used to make something. This ‘something’ can be a piece of writing, a painting, a building, a... ‘anything’. This process is not linear, and can be used in reverse... that is, one can ‘understand’ or ‘know’ the origins of a product if you study it hard enough.

In this document, I have used her description to order my process which began with a question: ‘what can the Viking become now?’ It was based on an observation of a Johannesburg landmark that has since fallen into near dereliction.

The book has been divided into three sections: a ‘seeing’ chapter, a ‘knowing’ chapter and a ‘making’ chapter. The ‘seeing’ chapter is a series of observations, but ‘seeing’ one thing automatically implies excluding something other, hence the ‘seeing’ chapter is preceded by the ‘knowing’ chapter – where I frame the observations based on a the reality that the Viking was in an Apartheid Buffer Zone.

I shall therefore structure my book with the ‘knowing’ chapter first, which contains a theoretical essay, then the ‘seeing’ chapter, where the theoretical conclusions are tested by the sites realities and then the ‘making’ chapter, where I make something architectural from the knowledge I have gained from the previous chapters.

1 Creativity is understood almost as an empirical process of negotiation rather than an abstract act of genius on the part of a designer.

Fantastic Devland is an architectural thesis that explores the integrating potential of the Baragwanath Buffer Zone.

I will investigate the nature and role of in-between spaces over time.

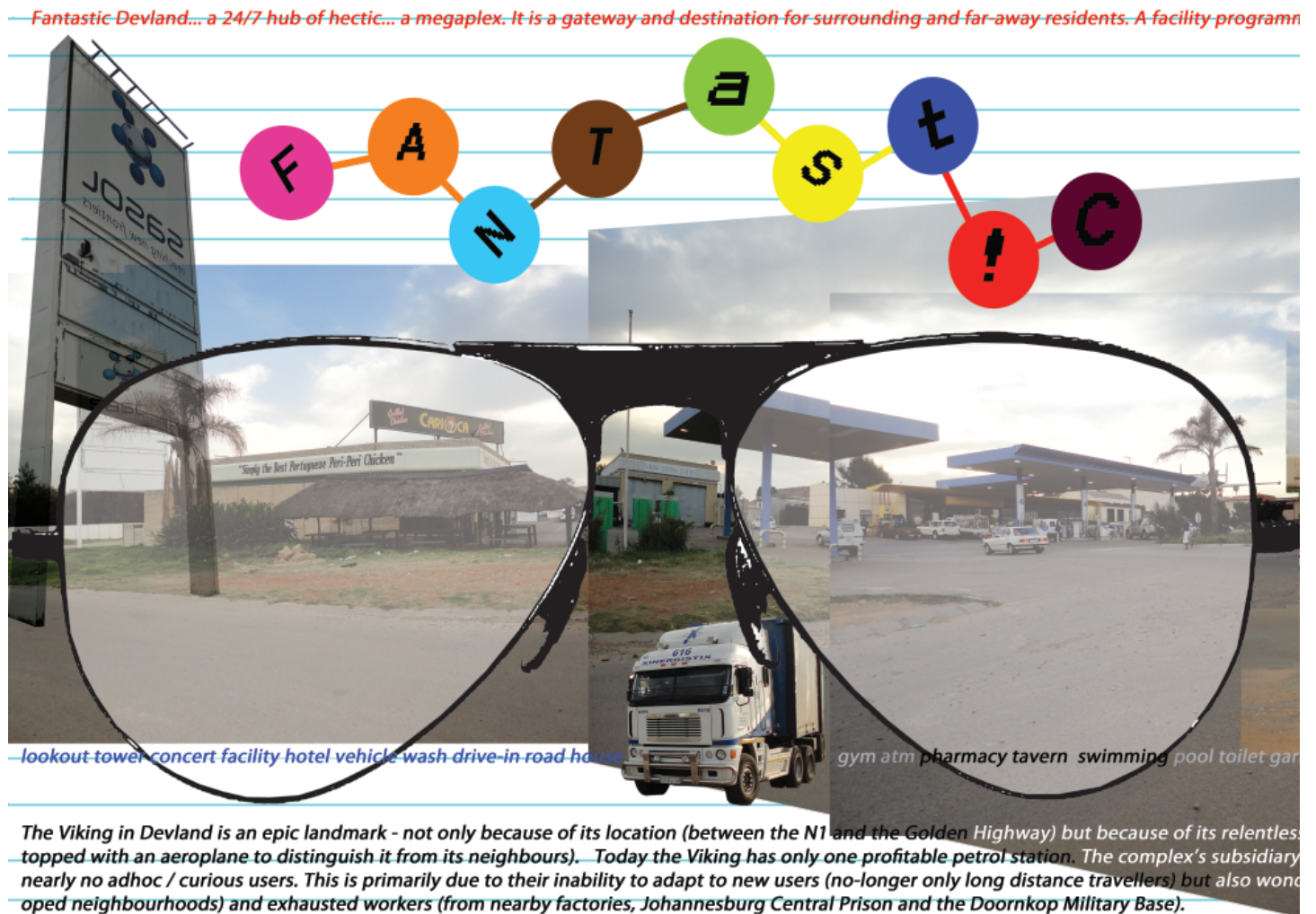
Internationally, in between spaces have received much attention in recent years, due to a broader understanding of 'local'. The economic decision to unify Europe into the European Union, for instance, meant that previously obscure spaces provincially or nationally became very strategic when considered continentally and as a result, on a spatial level, certain territories gained importance while others lost it (Lootsma, 2002).

In South Africa, the collapse of Apartheid in 1994 and the subsequent creation of the Republic of South Africa implied that, spatially (among other things), the buffer zone as a racially separating device became redundant. It also meant that previously exclusive spaces are to be integrated into exclusive neighbourhoods, accessible to all who are interested in being included.

Fantastic Devland proposes another Armadale, by trying to connect diverse scales, programmes and contexts through the re-interpretation of a series of existing petrol stations on the side of the Golden Highway (R553).

The 'first stab' Poster.

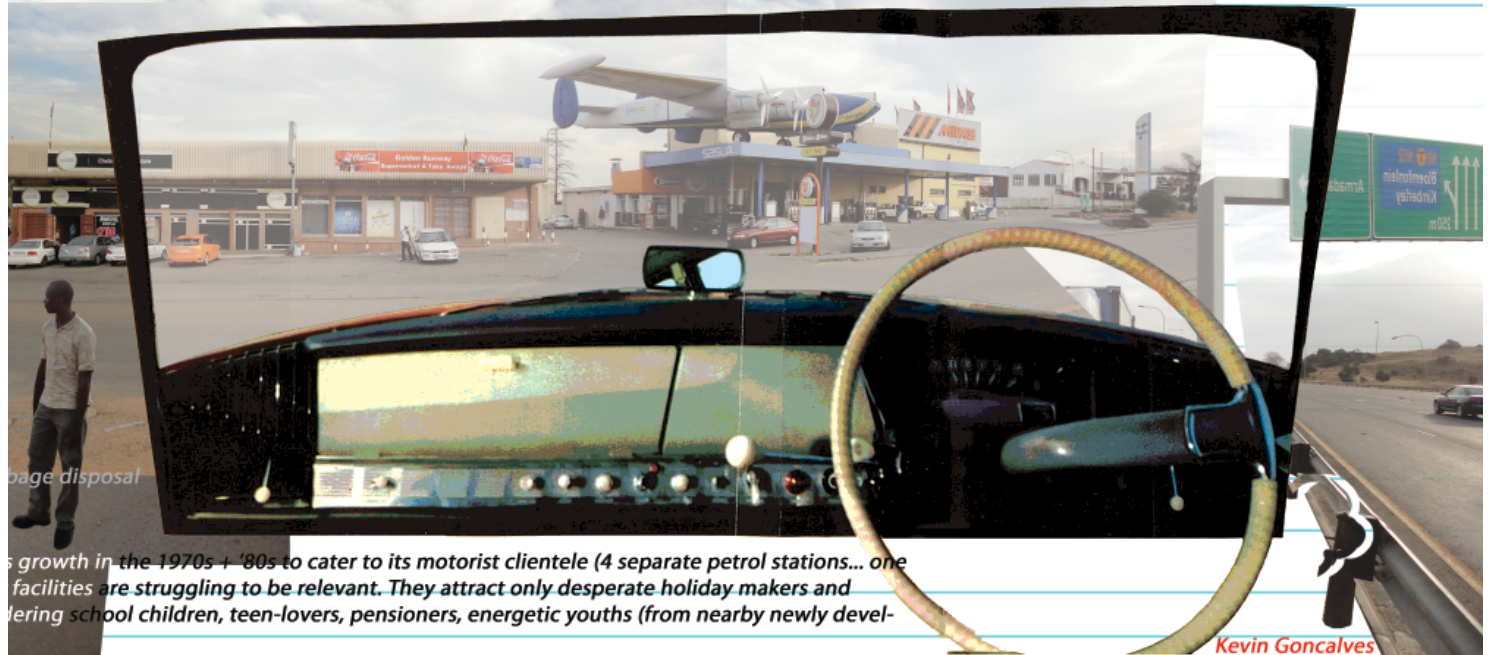
Submitted in March 2011. The poster was my first attempt at grasping the Viking.



ned around everydayness so users might re-inspect their surroundings and themselves to stimulate development in Devland.

DEVLAND

unleash the periphery... while-u-wait!



bage disposal

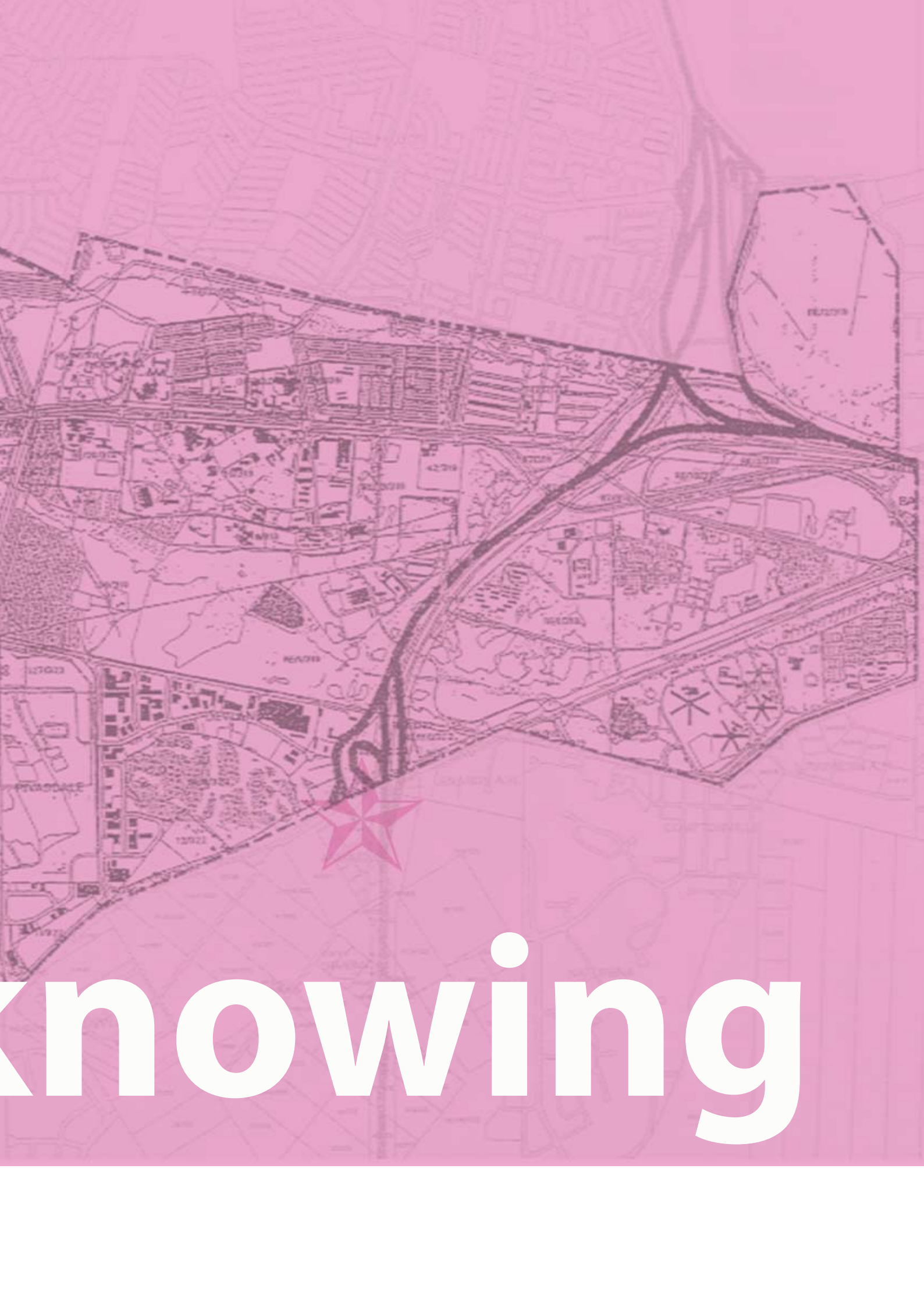
s growth in the 1970s + '80s to cater to its motorist clientele (4 separate petrol stations... one facilities are struggling to be relevant. They attract only desperate holiday makers and dering school children, teen-lovers, pensioners, energetic youths (from nearby newly devel-

Kevin Goncalves

To 'see' is to 'exclude' most other things. To frame is to focus on a particular thing, to articulate a singular condition. (Bunschoten *et al*: 2001,159).

This chapter ('knowing') is the theoretical frame. It outlines the assumptions that become the point of entry for the thesis exploration and its design process.





knowing

1. EMERGENCE OF THE IN-BETWEEN

why are these sites important

essential reasons

1.1. Economic Reasons

traditional sites have become expensive

so people have started to inhabit previously 'unattractive' spaces

REFERENCES: ALAN BERGER, (200) 'DROSSCAPE' and SASKIA SASSEN, (2011), 'WHEN

1.2. Political Reasons 2.2

in-between areas that have been inhabited can become important spaces for political revolution

REFERENCE USED: SASKIA SASSEN (2007) 'CITYNESS'.

Political / ideological revolutions

in South Africa, the demise of Apartheid, now the former Buffer Zones can be re-programmed

in-between

research the in-between because the Viking (my site) is an in-between site

definition: residual or leftover space.

If land was accessed based on a first-come first-serve basis, then the in-between is what those who arrive last have to settle with. Not good or bad, just the result of progress, therefore the type of land that is classified as in-between always changes.

4. CONCEPTUALISING THE IN-BETWEEN

how the theory might be used to generate an architectural concept

EXAMPLES OF IN-BETWEEN:

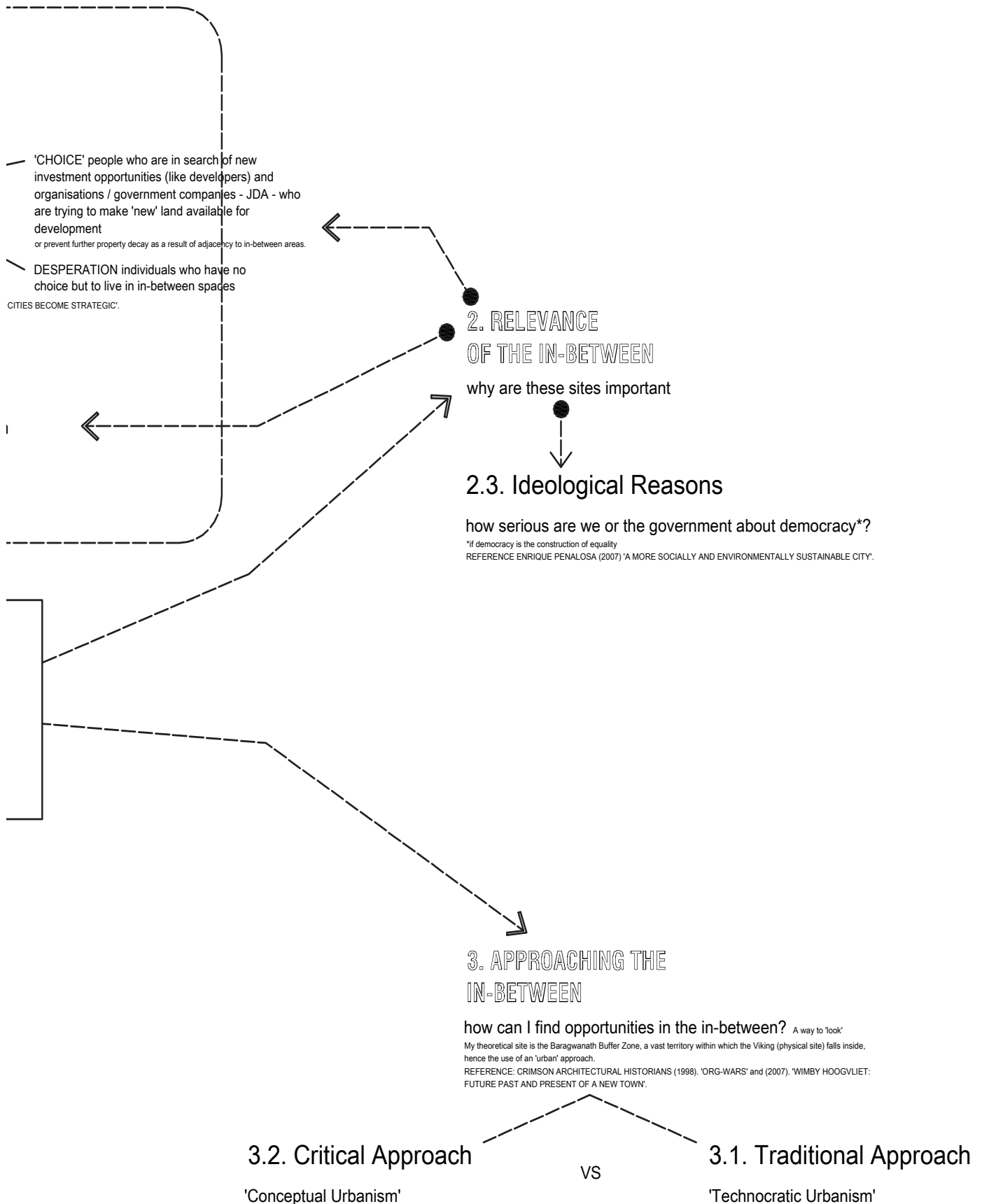
religious: the Middle East, Northern and the Republic of Ireland, ...

technological: the ocean (oil rigs), Antarctica (research labs), reclaimed lands like harbours or the Palm Island in Dubai, UAE

cultural: suburbia (we end up there because we are escaping something else ('congestion') or yearning for something ('distance') (Lerup, 2000)).

● THESE 'PHILOSOPHICAL IN-BETWEENS' ONLY 'EMERGE' WHEN THEY ARE LINKED WITH AN OR ALL OF THE 'ESSENTIAL REASONS' (POLITICS OR ECONOMICS).

essay/ argument: visual map



an inflection for the in-between

Apartheid's Group Areas Act (1950)¹ necessitated the presence of buffer zones. A buffer zone is a planning device that is used internationally to separate incompatible functions like heavy industry and residential areas. In Apartheid South Africa, they were used to separate the different races. The demise of Apartheid in 1994 meant the 'decommissioning' of the buffers as separating devices. This has rendered the buffers as vast tracts of waste lands either because they are totally contaminated or because of their vacancy.

In this essay, a piece of land is classified as 'in-between' based on its state of use (it being between uses, so in transition) or because of its location (it is the leftover residue from other developments or policies).

The previous buffer zones are therefore in-between spaces. This paper makes a case for the buffers as spaces with the potential to service the construction of equality – so democracy – by first arguing the theoretical significance of the in-between and then by demonstrating practical strategies for dealing with it.

The essay is divided into four parts. The first part outlines the emergence of the in-between as a space with economic potential based on its geographical location. The second part describes the relevance of the in-between as a political podium that can enable the vulnerable. The third part of the essay validates, by a comparison, Crimson Architectural Historians' 'Contextual Urbanism' as an implementable methodology for practitioners working in the in-between (2007). The argument is concluded by outlining a way to conceptualise South Africa's in-between spaces (buffer zones).

¹ The Group Areas Act of 1950 was a state policy that formally organised cities into racial enclaves. The central principle of the Act was that it defined areas of the city where people of a specific racial group could legally own land and property. (Wall, 1999: 8-11)

A candid reading of this title suggests 'we spare a thought for' or that the essay is a 'contemplation on' the in-between. This is due to the word 'inflection' and its phonetic closeness to the more familiar word 'reflection'. Hence a reader would assume that this paper is an inward reflection on the in-between. Such thoughts would not be incorrect, but they would overlook another meaning of the word 'inflection' and thus of the paper. An 'inflection', in grammar, is the affix (or letters) one adds to a word so it fits better into the sentence into which it is placed – the '-s' in 'dogs'¹. The affix should not change the meaning of the root word nor its part of speech, but rather articulate the sentence better. Likewise in this essay, while making a case for the in-between, I am also attempting to find a conceptual device (affix) to better articulate the in-between in its context (the sentence) without changing the in-between's character (meaning) or its purpose (part of speech).

In this essay, the in-between should be accepted as any space that is between two 'destinations' or the left-over (residue) from other developments. An in-between space is also one that is in transition or undergoing some form of change from its original intention. An 'in-between' or 'leftover' space should not be viewed as 'bad' or 'negative' but simply as a place that emerges as a result of progress (Berger, 2007).

A buffer zone is a separating device. Internationally, they would be used to separate incompatible functions like heavy industrial areas and residential areas. In Apartheid South Africa, they were also used to separate the different races.

Johannesburg's buffer zones were large tracts of mono-functional industrial areas, farming plots and / or contaminated waste lands (mine dumps), strategically placed southwest of the CBD between the black locations and 'white Johannesburg' to separate the city from the townships. Today, without their separating mandate, they await a new purpose.

This means, from the above definition of the in-between, that the former buffers are an example of an in-between space unique to SA on two counts: the buffers are placed between two 'destinations' (CBD and the townships) and they are in transition - their original function has expired or out of use.

The essay has been broken into four parts. The first half makes a theoretical case for the in-between, and the latter half demonstrates a way of working in these environments.

In 'the emergence of the in-between', I describe a reason for the recent international explosion in literature on 'the in-between'. I then link this generic in-between space specifically to South Africa, by showing that the Apartheid Buffer Zones are now also in-between spaces and therefore also in need of architectural theorisation. The next chapter, 'the relevance of the in-between', discusses how in-between spaces are linked to industrial firms requiring more intermediate services (like insurance, accounting, legal and consulting) and consequently why the in-between is an important political space, - both as an indicator of a country's commitment to democracy and as a stage-set for political revolution. In 'approaching the in-between', I explain why a critical approach is more applicable when working in 'my' in-between by comparing *Crimson Architectural Historians' Contextual Urbanism* (2007) to more conventional approaches. 'Conceptualising the in-between' is the final part of the essay. It outlines how the in-between is considered (in-line with the previous chapters) and is the precursor to the architectural concept that drives the building's design.

1. In the sentence, 'the dog are plenty in this town'. Adding the letter '-s' corrects the error of concord in the sentence, thus the sentence is more articulate, without changing the part of speech that the word 'dog' is in (common noun). This is an example of inflection. Adding the letters '-ged' to the word 'dog' however, will make the word 'dogged'. This change the meaning of the sentence from there are many canines in that town to there are many persistent people in that town, even-though 'dogged' is still a noun. This is therefore not an example of inflection.

2. This definition is based on Alan Berger's from his 2006 publication 'Drosscapes, Wasting Land in Urban America': 'Drosscapes (waste landscapes) are interstitial... (they) accumulate in the wake of the socio- and spatio-economic processes of deindustrialisation, post-fordism, and technological innovation. Dross (waste) is understood as a natural component of every dynamically evolving city'. (prologue).

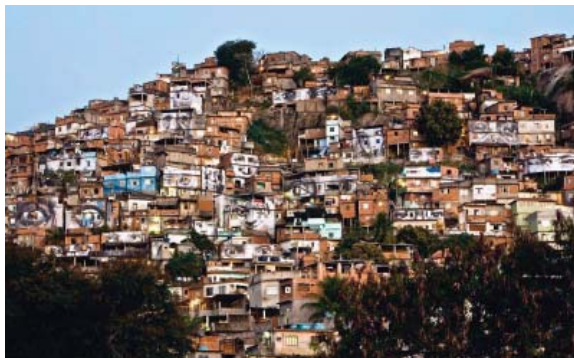
3. I am in search of an approach that will, by articulating the in-between, enhance the experience of the entire context; the same way inflection better articulates a word within and therefore the entire sentence (without diminishing any other part of the sentence).



Screen shot from Google Books (Google, 2011)



Some of the books I referenced when researching the in-between



JR's 'Faces of the Favelas' are street art murals in Morro da Providencia, a favela in Brazil. Favelas are an example of a Brazilian (so South American) in-between space.

In-between spaces receiving attention from artists. JR is the 2011 TED prize winner.

INTERNATIONALLY

In the last two decades, the 'in between' has gained increasing significance. This attention is not only because architects have grown tired of traditional 'sites' like the natural landscape or the CBD and are searching for newer, more interesting locales upon which to assert their architectural repertoire. This interest has emerged because 'in between' locations have become strategic geographically and so economically based on our larger or broader grasp of 'local' and because conventional sites are very expensive (shortage of 'conventional' sites). As a result, architectural commissions have transpired in these obscure situations resulting in architectural historians theorising them for the practitioners benefit.

Bart Lootsma argues, in 'Biomorphic Intelligence and Urban Landscape' (2003), that the unification of Europe into the European Union was fundamentally an economic decision. The intention of the EU was to create a trade friendly zone in all of Europe with a population large enough to compete with the other mega economies of the world – United States of America and those that are now known as BRIC nations (Brazil, Russia, India and China). This in-turn has meant a re-organisation of territories: 'in which some gain importance and others lose it... from a continent of competing countries, Europe will change into a continent of competing regions' (2003: 35) devoid of national borders. The economic decision to create the EU has scaled up Europe's 'local' from national to continental. Thus, the 'random' pieces of land between these newly created economic zones are unlocked as strategic sites for new linking infrastructure like mass transit transport interchanges conceived as complete cities.

emergence of the in-between

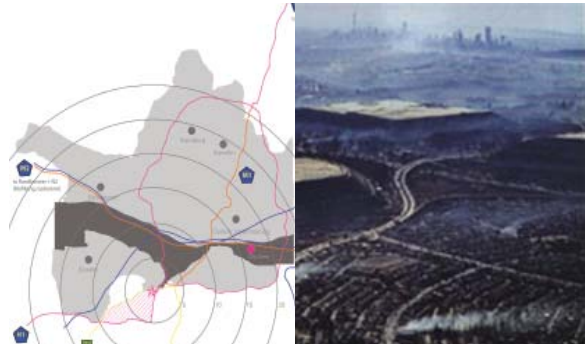
IN SOUTH AFRICA

The collapse of Apartheid in 1994 meant a fundamental shift in the way the South African landscape is understood. It would no-longer be viewed as an agglomeration of exclusive areas for the different race groups separated by natural barriers or the buffer zones, but as an inclusive collection of neighbourhoods celebrating the diverse population and providing equal access to opportunities to those interested in receiving them. Thus, the political revolution which brought democracy to South Africa has simultaneously 'unlocked' the former buffer zones as strategic spaces which are currently un-programmed but with the potential to become landscapes of integration and enablement.

The integration of previously 'independent' areas into one open environment means that there are conceptual similarities between the landscapes of the European Union and democratic South Africa (despite the motivation for the unification: for Europe it was economic; for South Africa it was political). This is so since the previously obscure territories between destinations have since emerged as very strategic spaces due to the economic potential of their geographical position in their new broader context. Augé's 'non-place' is an integrating place.



Aerial of the Johannesburg landscape in the 1950s. (AOC Geomatics).



'Organising' of the Buffers. Photograph shows Soweto in the foreground (black township), mine dumps in middle ground (buffer zones) and Johannesburg CBD in background. This image is the cover of Clive Chipkins 2008 book, 'Johannesburg Transition: Architecture and Society from 1950'.



Buffer zone in fore ground, Johannesburg CBD in background. The 'decommissioning of the buffers as separating devices' and the clearing of the mine dumps means many square kilometres of land will become available for development. Image Dorothy Tang (2011).



The recently completed FNB Stadium shows the potential of the former Buffer Zones. (source is unknown).

BACKGROUND

Saskia Sassen argues in her 2011 essay 'When Cities become Strategic' that in the 1980s cities regained the position they had in the 19th and early 20th century as, 'cauldrons within which new economies were made, where populations were hybridised and where struggles for social justice often succeeded' (126) from the government and mass manufacturing regions because of a 'deep structural transformation evident in all developed economies' (Ibid). Sassen then explains how this change in the structure of developed economies impacted on the creation of exclusive urban environments and led to the growth of the informal economy (inter-disciplinary collaborations for flexibility and growth in 'creative' professions) (127).

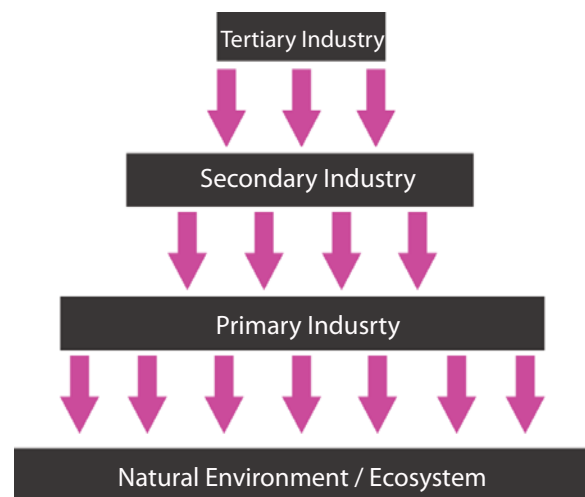
What I will take forward from Sassen's essay may be summated as follows: the 'glamour zone's' (city) development is directly related to it serving the changing needs of 'material firms' (industry). This boom in the city's economy translates spatially into the expansion of the 'modest spaces' and is due to the city's inability to accommodate its poorer citizens despite its dependence on them for the services they provide.

In this chapter I shall show that Sassen's 'modest spaces' can also be understood as the 'in-between' in South Africa's context (the buffers); how the 'fundamental structural change' (in South Africa also political) causes an invasion of in-between by desperate migrants and why the in-between is an important political space.

WHEN CITIES BECOME STRATEGIC

The reason for this 'deep structural change' is the evolution of economies from a total reliance on mass extraction and heavy industry to one based on services. These services are generally clustered in cities, simply because there is a greater concentration of people (potential customers) in these centres. 'At the heart of this deep structural trend is the fact that firms in the most material and non-urban economic sectors (mines, factories, transport systems, hospitals) are today buying more insurance, accounting, legal, financial, consulting, software programming and other such services. These intermediate services tend to be produced in cities.' (Sassen 2011, 126).

The urban environment then begins to reflect this new boom in the service-based economy, since the urban professionals start requiring more sophisticated built environments to be effective. '...in this re-making, urban space becomes one of the actors producing the outcome' (Sassen, 2011, 126). Those who are unable to participate in the boom (unable to compete financially for land in the city) get displaced. Gentrification is the 'outcome'. 'Each global city has a global slum' (Ibid). Hence the importance of the 'modest spaces' to re-absorb these displaced citizens, and in enabling them so they may have the choice to re-enter the economy or the threat of political revolution increases. 'In this mix of conditions lies a politics: the politics of the new city-users, a politics built in stone. But also the politics of claiming the rights to the city by the expelled.' (Sassen, 2011: 126)



Structure of Human System and the relationship to the Natural Condition. (Irrah, 2010)

The blocks are the various entities and the arrows describe the interdependencies of these sectors on each other. The industrial or extracting sector provides the initial stimulus for the development of a settlement (Primary industry: mining, forestry, etc). The firms which operate in these spheres begin to need additional professional services as they and their operations become more complex (Secondary Industry: lawyers, accountants, etc). These professional services are found in cities and consequently results in the growth of the professional class and their service firms who in turn provide work for each other (lawyer needs office, so he commissions architect, later architect needs legal advice and so the economy evolves as people create new ways to service the demands of others). Society then develops a 'conscious' or 'appetite' or begins to require more refined ways to service its wants (focus shifts from source 'capacity and scarcity' to dealing with the 'sink') and hence the emergence of the 'tertiary industry' or Sassen's 'Manufacturing Sector' which find their market in providing services like effective means of dealing with waste or 'greening the economy' or optimising existing industry.

SOUTH AFRICA'S CONTEXT

South African cities boomed as a result of the material firm's industrial activity. 'Thus even an economy centred on manufacturing or mining will feed the urban corporate services economy.' (Sassen, 2011: 126). But in South Africa, there are two major economic groups: the wealthy elite and the poor majority (no 'real' professional middle-class yet). Apartheid is one reason and a growing sense of entitlement amongst some members of this majority is another reason for this schism as explained by David Dewar, in 'The Potential Role of Housing Policy as a Broader Development Instrument in SA' (2009). Therefore, from above, the majority of the population falls into the group who are 'unable to participate in the boom' and consequently will be relegated to the 'modest spaces' (the townships) and / or 'marginal spaces' (in-between spaces).

Furthermore, in Johannesburg - one of Africa's global cities - along with the 'glamour zones' (Sandton and the northern suburbs) and the glamour zones' 'slums' (the townships which were purposely located well outside the city) there exists the geographically strategic former buffer zones (in-between areas).

These in-between spaces are often contaminated and yet they too have been squatted on, along with parts of the original CBD, since 1994 by migrants from both within and outside of South Africa's borders who are in search of work opportunities. Thus, the in-between areas can therefore also be understood as Sassen's 'modest spaces'.



Citizens inhabiting the in-between. Long abandoned mine workers' housing has been squatted-in by post 1994 work seekers'. (Tang, 2011: 16).

The inhabitation of in-between conditions by the vulnerable citizens is a further reason for the in-betweens' relevance in democratic South Africa. This is so because, if the definition of democracy is accepted as the 'construction of equality' (Peñalosa, 2011: 90), then the quality of the built environment of the inhabited in-between (which accommodates some of the poorest) then becomes the gauge of the accessibility and liveability of the entire country. It will also represent the governments' commitment to democracy (since the democratic assumption is that everyone is provided for equally). '...in the new economy, the most crucial element is people. Quality sidewalks show that citizens who walk are as important as those in cars' (Peñalosa, 2007: 199). Enrique Peñalosa was the Mayor of Bogotá, Colombia from 1998 to 2001.

'Cityness' is a word Saskia Sassen has created to describe the novelty that results out of mixing, regardless of how subtle or to what end, 'an intersection of differences that actually produces something new, whether good or bad, this intersection is consequential' (Sassen, 2005: 85). Likewise in the inhabited in-between, where migrants from an array of pasts intersect for survival, a newness will emerge. This newness is amplified where there the density of population and activity is greater - since it increases the chances of people meeting (or intersecting). The squatted in-between is very dense because of the scarcity of space relative to population, and there is a great array of activities present due to the urgency of survival. Hence the in-between can become a hot-bed of radical ideas which could easily translate into political action if channelled in that way.

Therefore, as a result of the fundamental structural change in the economy, the city develops and consequently cannot house its poor, who it needs for the services they provide. The 'modest spaces' (in-between spaces) expand. These in-between spaces become important political spaces for two reasons: firstly because - in a democracy, where all the citizens are classified as equal - the quality of housing afforded to the poor reflects a governments' commitment to equality; and secondly, because of the radical political action that can result from the 'cityness' of the squatted in-between.

In-between spaces, within the South African context, are relevant because they may take on the urgent role of further democratising our cities.

BACKGROUND

The 'in between' in this essay was described as that which is between, so both a site that is in transition from one state to another and the left over residue from other developments. To architecturally accommodate the 'in between' means building around activities as they occur to complement them. This implies that the found activity on a site is the active force and suggests that the architectural project is the passive one – the back drop.

According to Lootsma (2003), any architectural form intervenes in the organisation of life. This interference occurs regardless of the theoretical approach adopted by the architect (Lootsma sees buildings as autonomous units that are static). This means that the users of a structure inhabit it based on the building's functional organisation. But, for Lootsma, this interference should not be the architects' stumbling block, but his liberating device... if you know your scheme will alter life permanently, why limit the proposal to being the traditional 'simulation of life'? Why not try building a platform for enhancing life itself?

Such thinking is a fundamental shift from traditional approaches. It is now essential to explore a non-conventional or alternative approach if I am to try and construct a platform for enhancing life. 'In the end it is about building the ideal city, and about trusting on contemporary reality to supply us with its ingredients, instead of on the discipline of design or the power of state' Crimson Architectural Historians on the 'Red Haze' (1998).

From the above statement, it is fair to conclude that Crimson Architectural Historians believe that design can improve deprived areas and that their approach is less conventional...a reactive process based on observations of the existing.

Crimson believe the clues to improvement are already 'written' in the study area and not in the creative genius of the designer. The challenge then, is for the designer to interpret these cues ('ingredients') and express them through his professional expertise (the architect spatially, the writer poetically, the artist critically, and so on).

Crimson's stance embraces a multi-disciplinary approach and has been theorised by the authors as 'Contextual Urbanism'. This opportunistic approach is exemplified in their research work in Hoogvliet - where they used the existing characteristics and qualities, both physical and social, of the rundown post-war town to re-structure it. The products were a series of collaborative projects which range from architecture to socio-culture (2007).

It should be pointed out here that I am using an 'urban approach because buffer zones are so vast that they fall into the realm of an 'urban space', rather than 'an architectural site'.



Le Corbusier's 'Chaise Lounge' Enrique Miralles - Benedetta Tagliabue's 'Lungomare Bench' Christian Louboutin shoe Croc

A comparison of familiar objects (chairs and shoes) that either mimic or are 'built around' the activities they support. The Chaise Lounge chair represents the contours of a human body lying down or is a stylisation of that activity, while the Lungomare Bench moulds or is the actual cast of a person in numerous positions which together form a piece of furniture that people can enjoy however. Similarly, a high heel shoe props the wearers foot in a certain position while a 'croc' shoe is intended to mould to the shape of its owners foot.

CONTEXTUAL URBANISM

The simplest way to illustrate this approach is by comparing it to the prevailing one which they call, 'Technocratic Urbanism'.

Background

Crimson and Rottenberg¹ have observed that twentieth century urban designers always conceived the city² as a finite construct that can be inserted anywhere to obtain predictable economic and social goals. Further, the 'twentieth century professional' always created a direct connection between the 'city' - as a physical or spatial system - and the city's social problems. Therefore, the twentieth century urbanist believed that the social problems of the city can be 'fixed' by fixing the physical form of the city. (2007: 18).

Technocratic Urbanism

This reduction of the city into a generic, objective obtaining tool which is universally applicable is an approach to urbanism that Crimson describe as 'Technocratic Urbanism'. Technocratic Urbanism is the dominant mentality still present in today's urban renewal projects which are focussed on restructuring urban areas completed in 1950s and 1960s. Crimson have identified Technocratic Urbanism as the link between the twentieth century urban designer and the urban renewal authorities of today (2007:18). So, urban design authorities still have a technocratic outlook ('fix this social challenge with that spatial device') and therefore, their urban renewal projects' policies are out-of-date.

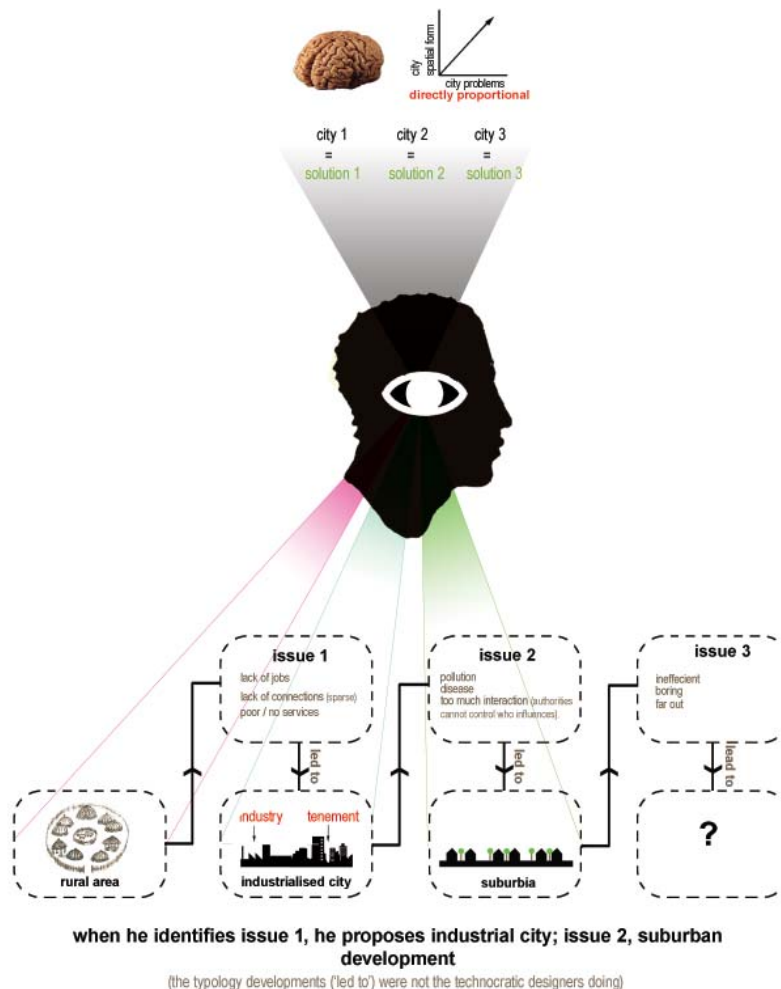


Diagram of the Technocratic Mentality

1. From here on referred to as 'Crimson'

2. 'City' here may be substituted for any built project: an individual building, a street, cluster development, whichever field the reader works in. The authors used the word 'city' perhaps because they are referring to the re-evaluation of an entire urban region.

Contextual Urbanism

Contextual Urbanism is the alternative and more critical approach which Crimson have identified. In this approach, the 'city' is accepted for what it is – a phenomenon which is shaped by a large variety of people – wherein which architectural interventions are placed according to the existing to make a particular agenda more apparent (2007).

This architectural project, although pragmatic, becomes a form of commentary on the existing situation. It highlights certain issues which the designer feels need to be addressed, rather than being understood as the 'solution' to the 'problem'. 'It formulates projects from the standpoint of the continuity of the city as analysed, and implements these projects as a series of more or less mutually independent interventions, of limited scale although with an impact on the whole' (Crimson, 2007: 21).

The fundamental difference in these two approaches is in the formulation of the architectural concept and the designer's subsequent attitude to 'correctness'. The technocratic urbanist generates his concept from preconceived notions of what will 'work' while the contextual urbanist extracts his concept from his analysis of the site and realises that his intervention is a momentary solution (since his proposal is based on his interpretation of the site's challenges). In the same breadth, the scheme is not hesitant or apologetic. The contextual designer is aware that his design will impact on life, he just tries to make that impact on the positive side of 'negative' (Whiting, 2007: 193) and Lootsma's comments which were quoted in 'approaching the in-between'.

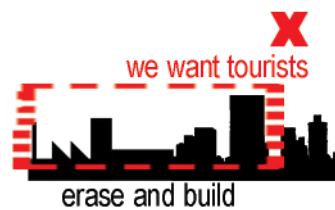
Approaching the in-between as a contextual urbanist can produce a project that enhances life because the architectural concept that emerges from this process is based on an actual reading of the site or relevant theory. This approach may even be argued as 'democratic' since as many of the site's influences get considered, but only some get represented spatially. It can also produce a project that contributes to architectural thinking on these in-between situations, because the project is to be understood as my 'spatialisation' of generic observations and analysis (another reader may add to my interpretations).

TECNOCRATIC URBANIST

'once and for all'



attempts to fix an identified problem permanently



remove 'unsightly'



place guggen

amendments usually require the removal of the existing system for the implementation of his system which will achieve specific outcomes.



CBD
formula based

solutions are formula based

VS

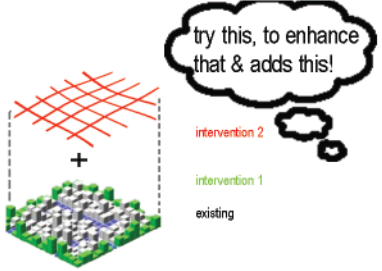


subur



he's got the whole world
in his hands...

Architectural knowledge is rational ('knowable')

	CONTEXTUAL URBANIST
	   continuous although also aspires to fix an identified problem, accepts that his intervention will not solve it once-off permanently, so works continuously.
 enheim system specific	  running repairs His proposal is usually the refinement of an existing system to align it with today's expectations. His intervention is conceived as a further contribution to the development of a more integrated strategy for dealing with the shortcomings of their inherited condition.
m... er! ia	 observation based interventions are unique to their condition they are addressing and have universal applicability, as prototypical examples
	 the route to our proposals architectural knowledge is criticism – the continuous conscious analysis of an idea.

1952

(these dates were analysed since they were the only dates with aerial data).



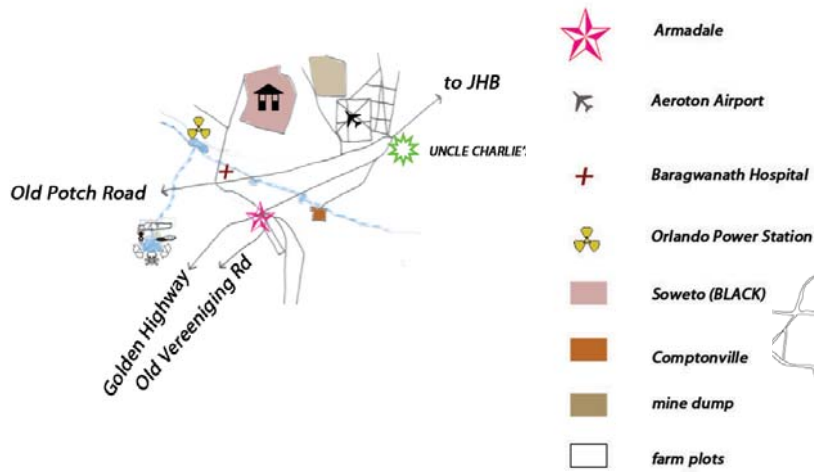


= \$2.970US per barre

John F Kennedy President of USA
Premiere Nikita Khrushchev General Secretary of Central Committee USSR
SA Independence BJ Vorster President of South Africa
Civil Rights Movement in USA
OPEC formed in 1965



Department of Rural Development and Land Reform





1961

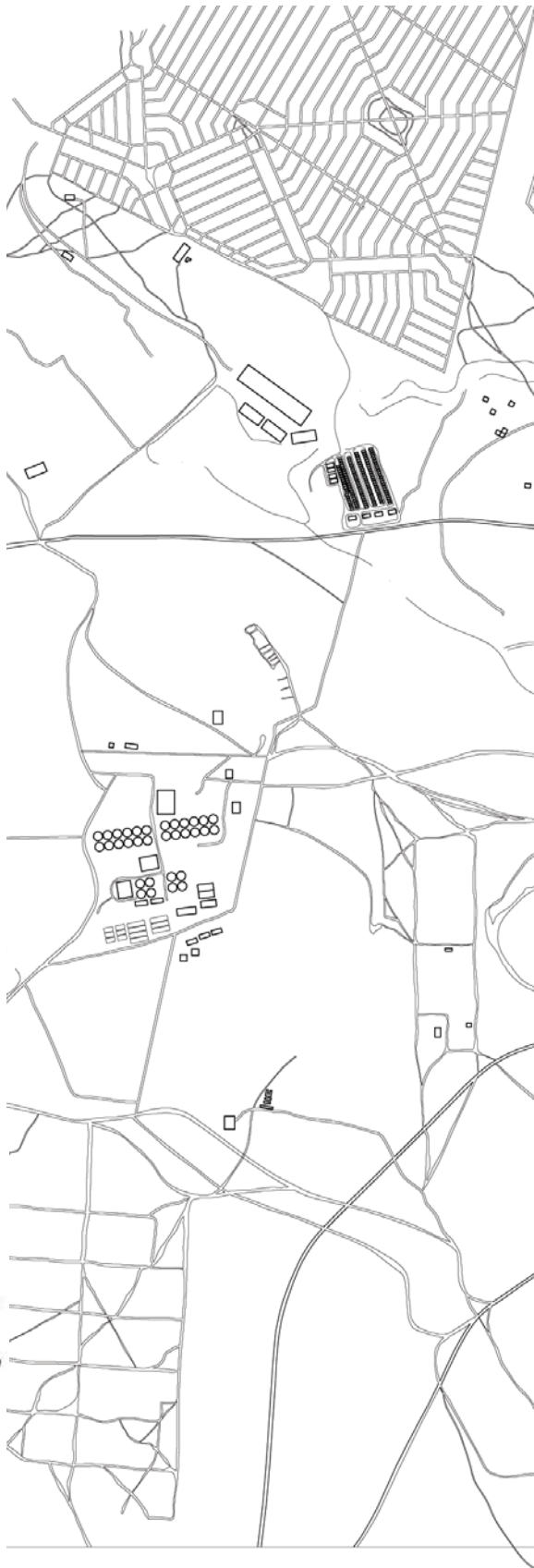
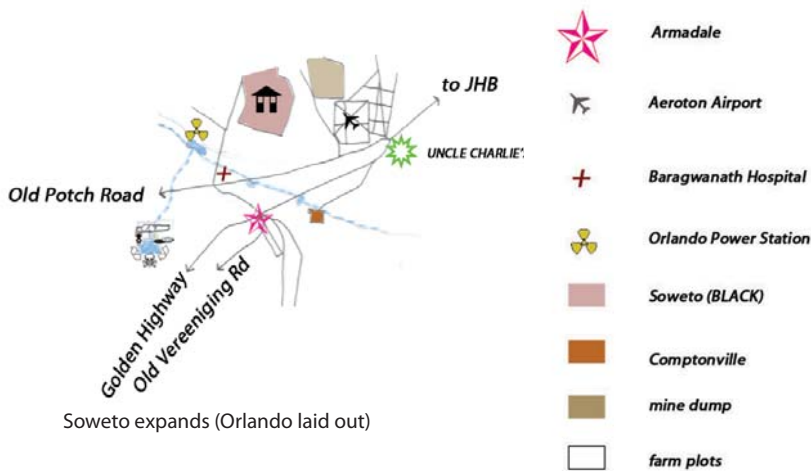


= \$2.970US per barre

John F Kennedy President of USA
Premiere Nikita Khrushchev General Secretary of Central Committee USSR
SA Independence BJ Vorster President of South Africa
Civil Rights Movement in USA
OPEC formed in 1965



Department of Rural Development and Land Reform





1976



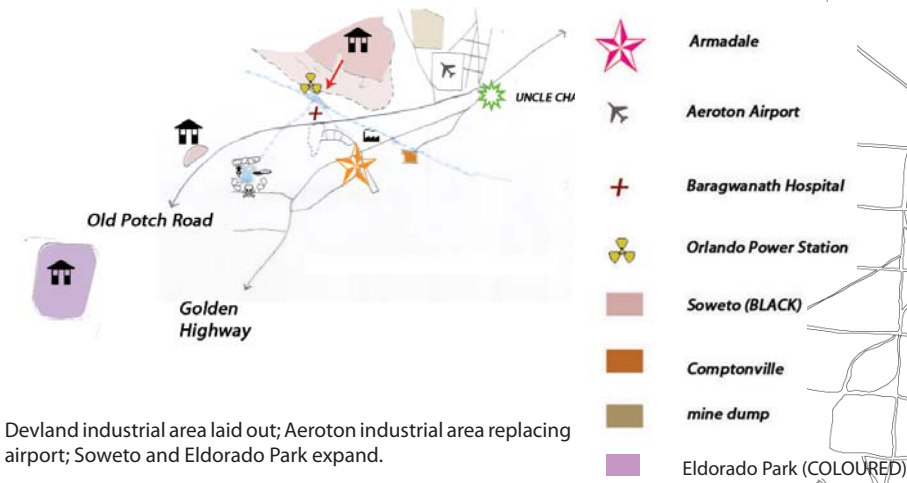
Watergate Scandal in USA - Richard Nixon resigns
Llenid Ilyich Breshev General Secretary of Central Committee USSR
Soweto Uprising
Queen, 'Bohemian Rhapsody' released
OPEC CRISIS



= \$13.900US per barrel



Department of Rural Development and Land Reform



Devland industrial area laid out; Aeroton industrial area replacing airport; Soweto and Eldorado Park expand.



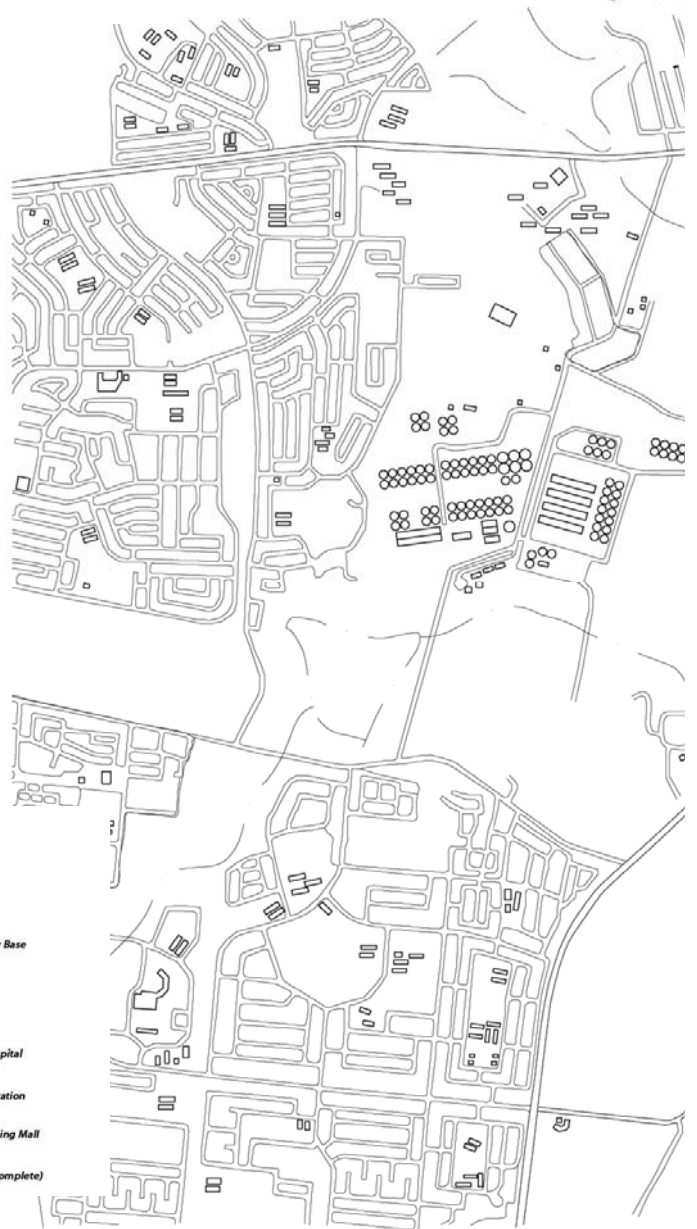
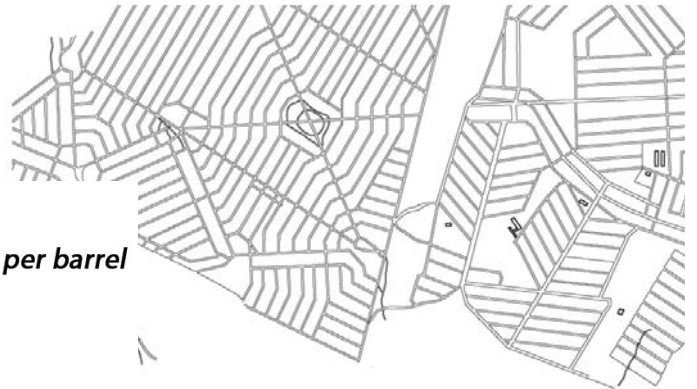


1984

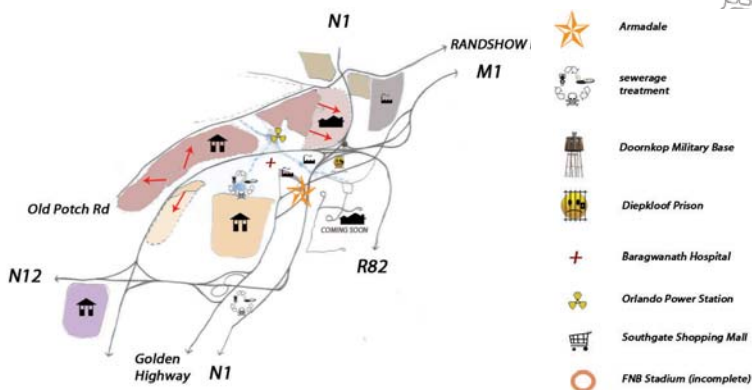


= \$25.429US per barrel

Ronald Reagan USA President
Margaret Thatcher UK Prime Minister
Robert Mugabe president of Zimbabwe
Michael Jackson 'Thriller' released



Department of Rural Development and Land Reform



N1, prison and military base completed Naturena (white), Diepkloof (black elite) and Bush Koppies (coloured elite) laid out.



1991

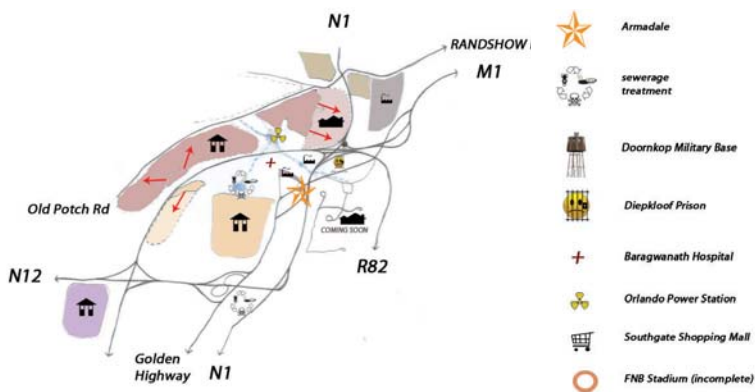


= \$21.688US per barrel

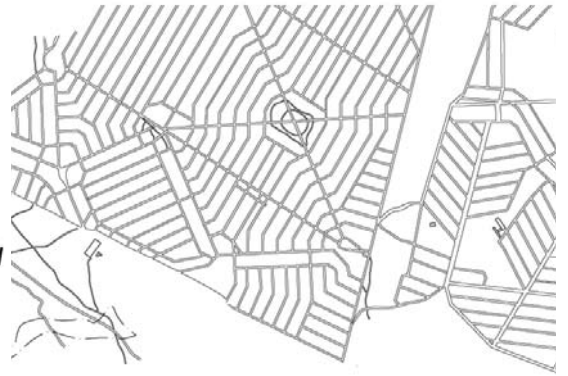
George HW Bush USA President
John Major UK Prime Minister
Nelson Mandela released
FW de Klerk SA President
Nirvana 'Scent of Teen Spirit' released
The Simpsons first episode airs in 1989



Department of Rural Development and Land Reform



land between N1, Golden highway and N12 vacant





2002

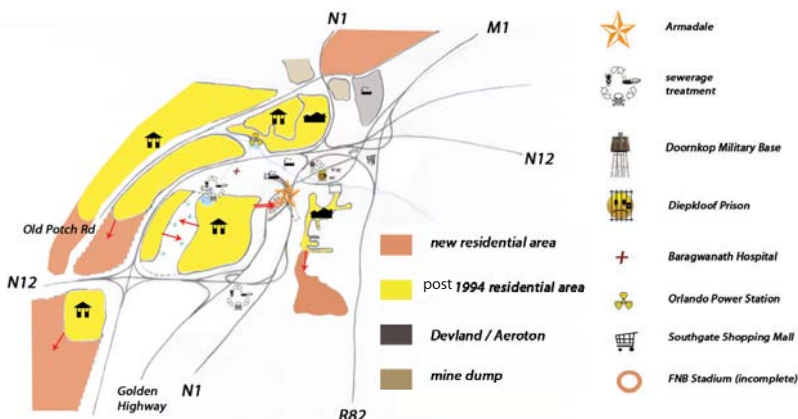


= \$26.940US per barrel

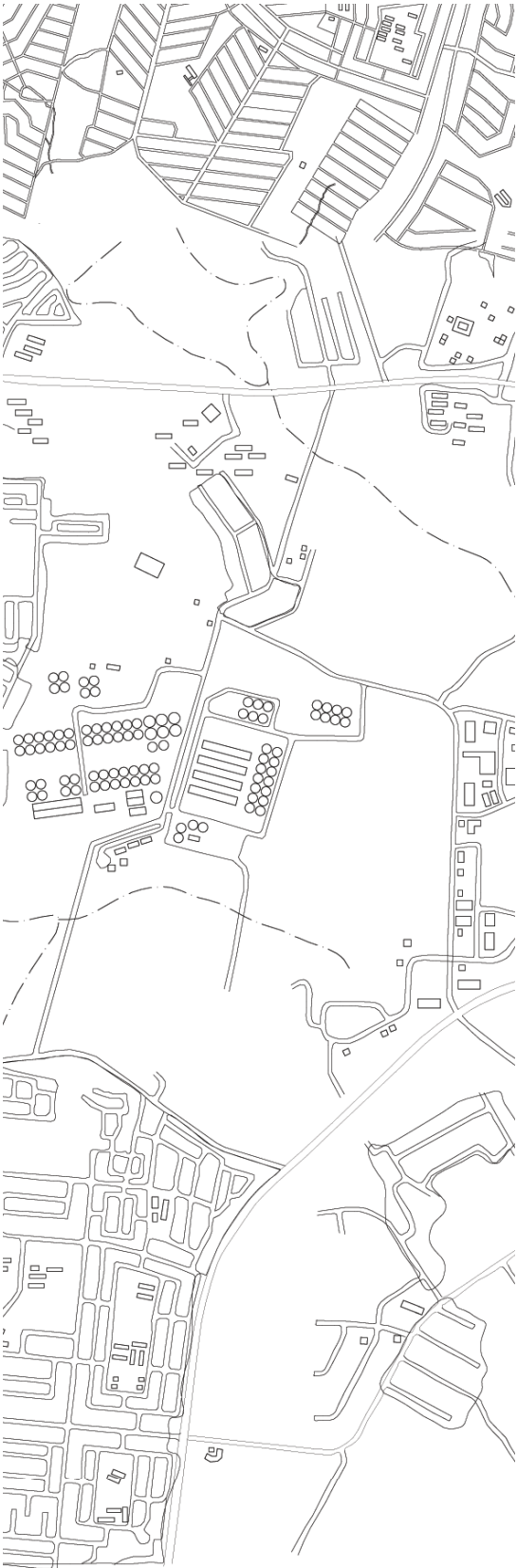
George W Bush USA President
Tony Blair UK Prime Minister
Thabo Mbeki SA President
September 11 in New York 2001



Department of Rural Development and Land Reform



land between N1, Golden highway and N12 partially squatted (between Golden Highway and Old Vereeniging Road - settlement known as 'Freedom Park').



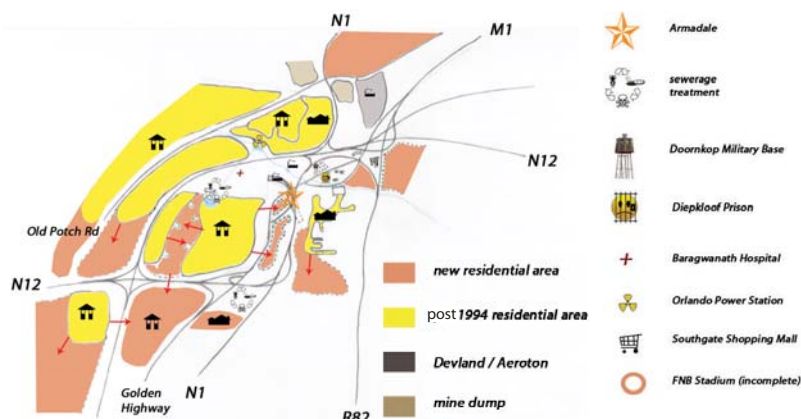
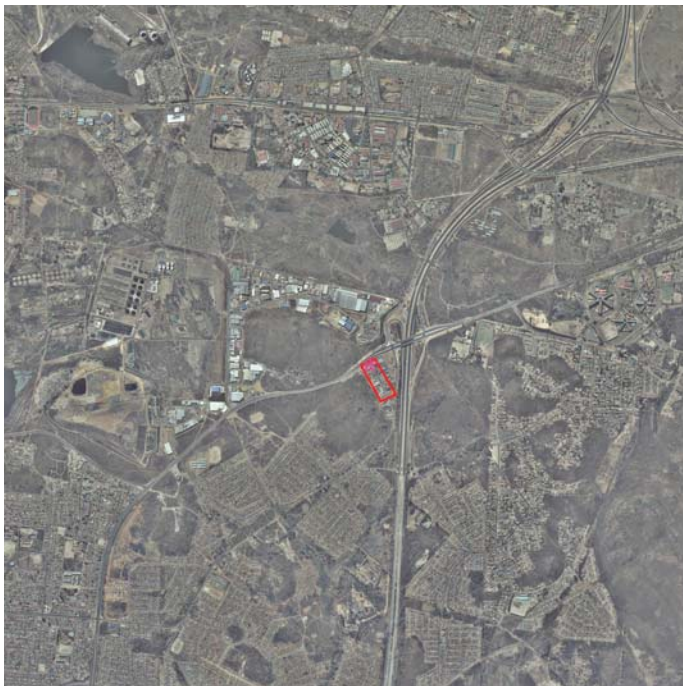


2010

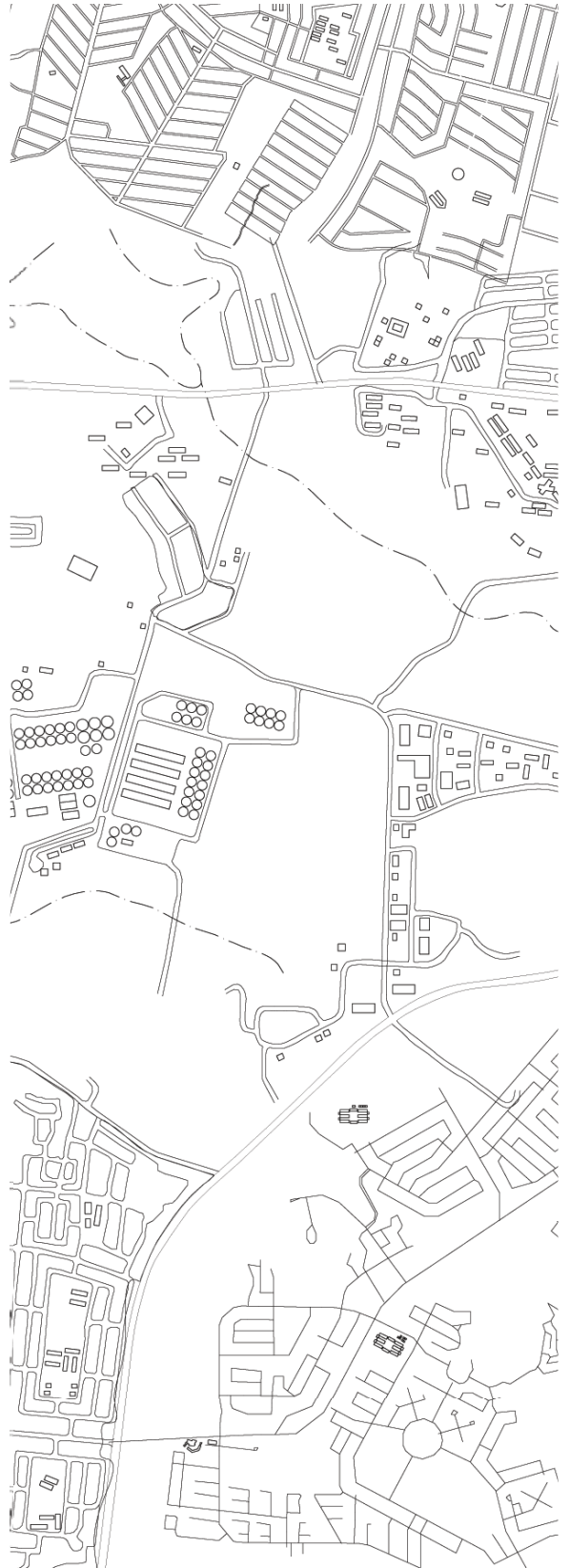


\$84.140US per barrel

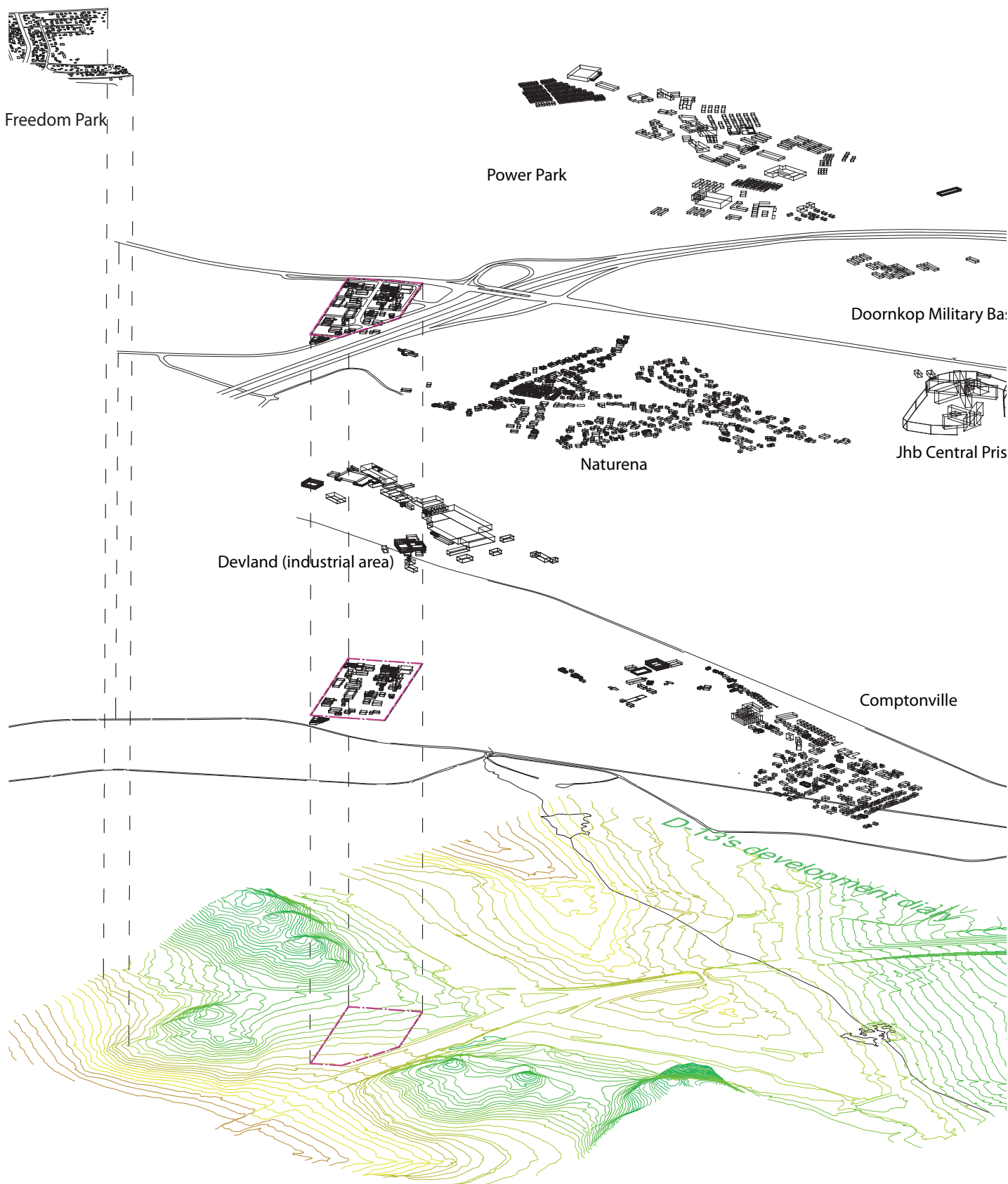
'yes we can' Barack Obama USA President
Gordon Brown UK Prime Minister
Jacob Zuma SA President
Fifa World Cup 2010 in South Africa



land between N1, Golden highway and N12 partially squatted
 (between Golden Highway and Old Vereeniging Road -
 settlement known as 'Freedom Park').







D-13 development summary

1994 - present

population: 60,000+
buffer zone inhabited by citizens.

Freedom Park, Naturena Extensions and Devland Extensions (residential areas) are proclaimed in 1994, 1999 and 2004.

1982

population: 5,000
N1, Naturena, Johannesburg Central Prison and Doornkop Military Base.

'...As a second option strong manmade barriers should be used (railway, highway, etc.). In the event of neither of these options being available, 'buffer zones' of open space should be employed as a divide.' Group Areas Act 1950

The Baragwanath Buffer employed all three separating devices as outlined by the Group Areas Act of 1950.

approximately 1976

population: negligible
Devland (industrial area) completed

from 1952

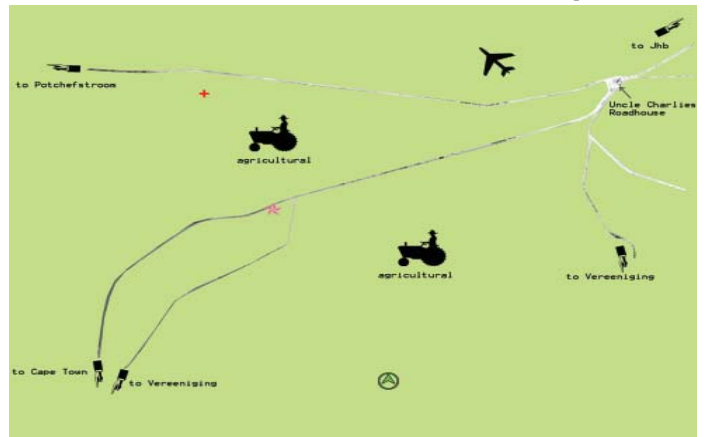
population: negligible
A small roadhouse or halfway house. Farms linked to cities by the Golden Highway, Old Potch Road and Old Vereeniging Road

from 1952

Koppies (height difference greater 100m), and there is a wetland

'The consolidated areas should where possible, be separated from each other by natural barriers (a river valley)...'
Group Areas Act 1950

pre 1976



population negligible

1991



population approximately 4,991 people

2010



population approximately 60,000 people

Opportunities of the in-between

The above chapters have made a claim for the in-between based on their strategic location and therefore economic potential as well as for their political significance.

My interpretation of the historical images has revealed that the Viking site has always been a site that has serviced: initially the farmers, then Johannesburg's motorists – holiday makers and migrant opportunists (petrol stations) – and suburbs (sewerage plant), then the states separating mandate (as a buffer zone with a military base, police training facility, prison and industrial area) and eventually the nearby townships (the expanded sewerage depot and landfill site). Hence, the former buffer zones as a 'service mecca'. Asserting this creates the question: what is a service mecca in a democratic society whose inhabitants require support or guidance to gain the full benefits they sought when arriving in Johannesburg city?

'Service' is an intentionally vague description of what the in-between can become because the service can change as society's needs evolve. It was chosen for this conceptual specificity ('it is not taking away from another but rather adding to it') and its conclusive 'fuzziness' ('servicing what? What is a service centre?'). Such a conceptualisation therefore resonates with the inflective goal of the essay. I shall elaborate.

'Service centres' vagueness stems from its root words' definition changing relative to the reader. 'Service' generally means doing something to another 'active' thing to make that 'active' thing perform 'better'... 'services' exist to enhance the active thing 'like a patch for a computer program'. Services provide the necessary assistance to the 'active' thing where it cannot for itself (for whatever reason – lack of expertise, lack of interest, anything). '...It inverts the historical relationship between services and manufacturing in that it serves service industries' (Sassen, 2011: 127)¹.

To say I am making a service centre could be a building which does anything. The description needs a further adjective to make it more specific:

¹ Sassen was referring specifically to the her manufacturing industry [like the 'green' companies that have arisen to green even traditional service industries (like architecture) from societies environmental consciousness] that emerges as a result of the city regaining its strategic importance.

'sexual –', 'cultural –', 'recreational –' and from there the audience can form their own opinion... brothel, opera hall, stadium. This specificity will come from my interpretation of the site and the people who inhabit or use it's wants and needs relative to the states' (and other role players in the areas) objectives.

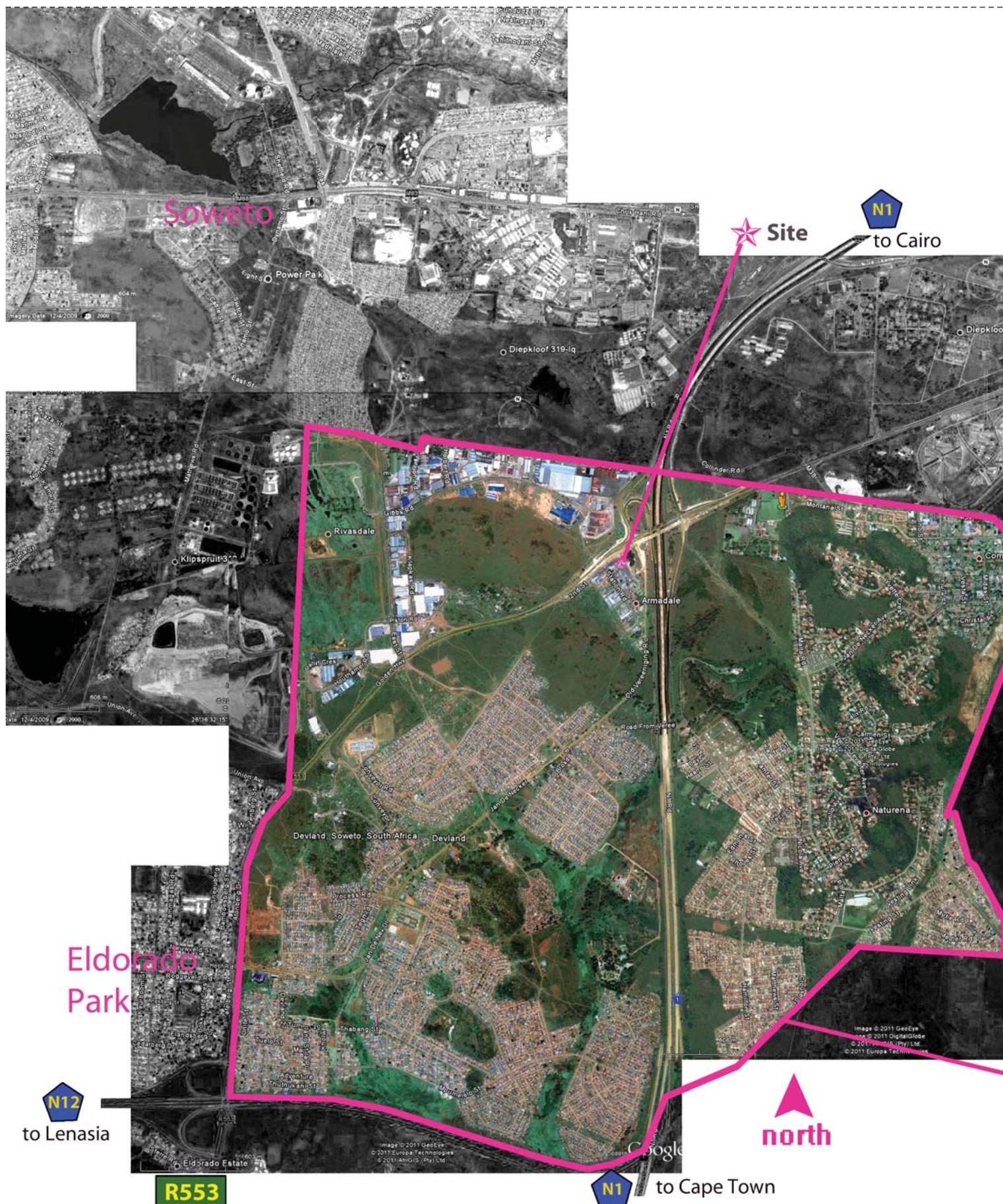
In this essay, I have shown why the in-between has emerged in architectural literature in recent times by linking it to global occurrences - like the formation of the European Union – and then related it to South Africa's context through the now 'decommissioned' Buffer Zones. I then discussed the relevance of the in-between as a political space since it becomes an enabling space for the vulnerable people who inhabit it and thus a yardstick of a governments' commitment to the construction of equality (democracy). Finally, I have attempted to demonstrate why Crimson Architectural Historians' 'Contextual Urbanism' is a more applicable approach for practitioners who are attempting to work in large-scale in-between spaces like buffer zones (without imposing something on the existing fabric) than traditional methods. Concluding by conceptualising the in-between as a service mecca is my way forward.

conceptualising the in-between

After 'framing' my question (what can the Viking become now?) in the 'knowing' chapter through various theoretical lenses, I began to look at the site - to accept what is there - so I could choose which versions of the sites presence are most suitable to be incorporated as 'design drivers'.

'An architect's approach is defined by his choice of reality'. Xaveer de Geyter in (Périphériques, 2002: 129).

seeing



Google Earth (2009). 'Devland, Soweto'
 Fantastic Devland: A Multi-Service Centre in Armadale, Devland



I began the thesis exploration knowing that my chosen site, the Viking, was in the former Baragwanath Buffer Zone. I now had to determine a 'study area' which could 'ground' my research, in order to lessen the amount of variables that are inherent in the broad question I posed for myself: what can the Viking become now?

Some of the variables are:

- How many people are you dealing with?
- Who are they?
- Where do they come from?
- What is it?
- Why would they go there?
- Why?
- Is it necessary?

I could not work in the Baragwanath Buffer Zone as it existed, because much of the programmed 'open space' is still vacant or occupied by the large private firms, state parastatals or the infrastructure as was intended by the Apartheid Planners. This meant that I could not get adequate data from which to base any assumptions and that I would still have too many variables.

Thus I decided to work in Sub-Region D-13 because it best captured the issues I had raised in the 'knowing' chapter (it includes the the buffer, it includes the Viking, and it has been invaded by the citizens post 1994), it had relatively little work done on it and for logistical reasons: I could get data for it from the City of Johannesburg since the City has identified it as one of its administrative planning regions. This made consultations with City Officials easier, as I simply said 'Sub-Region D-13' and they knew which part of the city I was referring to.

Framing is an essential component of any dynamic system. A part of a system, once framed, is able to model the whole. (Bunschoten, 2001:159).



the site then (in 1976)



Uncle Charlie's Roadhouse
(intersection R553 - Golden
Highway - and R68 - Old
Potch Road)

Before the construction of the N1 Motorway (the Johannesburg Prison and the Doornkop Military Base) the Baragwanath Buffer Zone was 'natural buffer'. The koppies and the wetland, both which are natural barriers for pedestrians, were employed for that reason as devices to create the desired distance between the races (Soweto for Blacks, Eldorado Park for coloureds and Naturena, Meredale and Ridgeway for whites).

Vic's Viking garage was in fact eclipsed by Uncle Charlie's Roadhouse at this time, which was better located (between Johannesburg, Potchefstroom, Vereeniging and motorist intending to go as far south as Cape Town - Bloemfontein, Swaziland, etc) on the intersection of the Golden Highway, Old Potch Road and Vereeniging Road.

early '60s



SA Museum

early '70s



(Poole, 1970s)

1987

1997



SA Museum



(Poole, 1997)



the site now (in 2011)



Uncle Charlie's Roadhouse is now Uncle Charlie's Interchange.

The roadhouse has closed down and the buildings are now used as storage garages by a storage company and a factory shop by a shelving company.

(intersection with M1 Motorway forming the R553 - Golden Highway - and R68 - Old Potch Road).

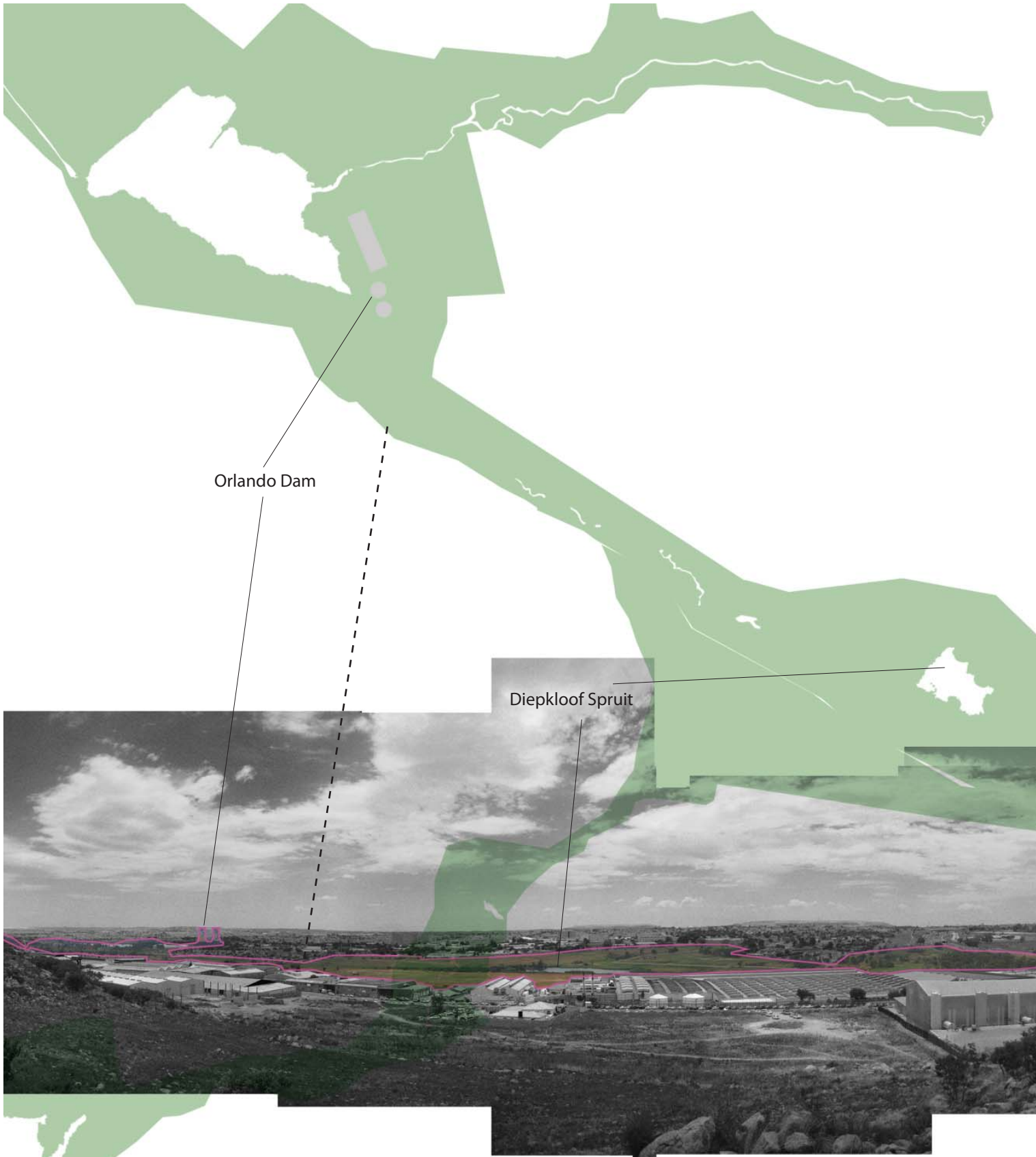
After the completion of the N1 Motorway in 1982 (the Johannesburg Prison and the Doornkop Military Base) the ground work was laid and the Baragwanath Buffer Zone 'began to form a red haze in the eyes of urbanistic practise'. (Crimson, 1998: Secrete), see 'Infrastructure' in this chapter below. The koppies and the wetlands' natural separating attributes were intensified by these new man-made additions. The 'placeless-ness' or 'in-between destinations -ness' buffer zone promoted and the Viking's location on the N1 motorway meant that Vic's Viking garage thrived now even as a truck stop (with its final expansion occurring in 1991). Uncle Charlie's, by contrast, became redundant, since the regional roads it serviced were replaced by the more efficient N1 and motor car technology improved.

The demise of Apartheid meant that the land immediately between the townships (Soweto - Eldorado Park) and the suburbs (Naturena, Meredale and Ridgeway) and regionally between Vereeniging and Johannesburg and on an international highway was now vacant... and the citizens (desperate to benefit from the opportunities the new democracy promised) exploited this reality by squatting on the land and forming Freedom Park in the process (See historical development in the 'Knowing' Chapter). The above mentioned suburbs and townships expanded radially outward to accommodate the influx of people, resulting in Viking losing its idyllic location as oasis in the veld and thus the motorists stopped visiting... 'The Viking is in Jo'burg, why stop there... plus its dodgy'.

Today, the Viking is a dormant icon - a hang-over from the past - visited by truckers, on-the-go residents refilling petrol for the day ('low basket station' Errol current owner of a garage at the Viking) and only the most desperate holiday-makers.



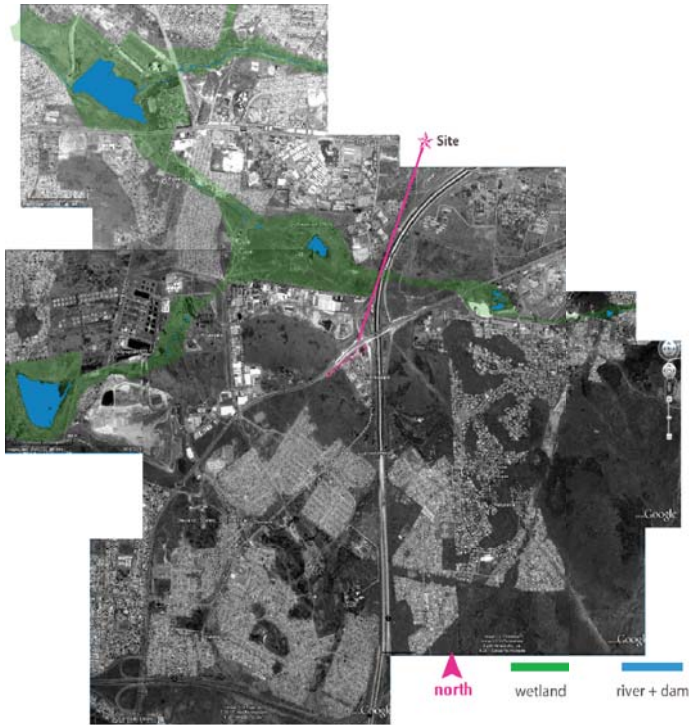




Google Earth (2009). 'Devland, Soweto'

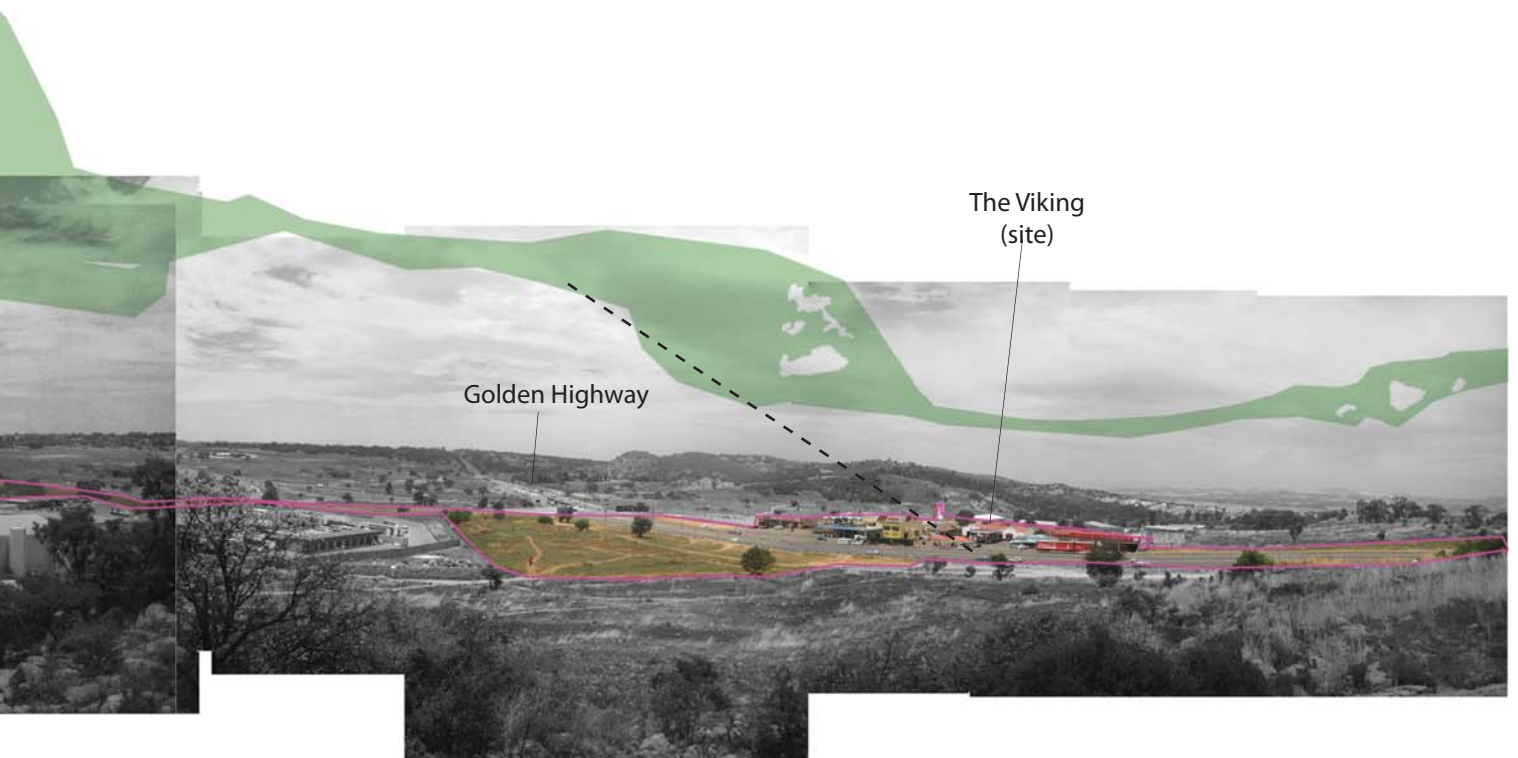
Fantastic Devland: A Multi-Service Centre in Armadale, Devland

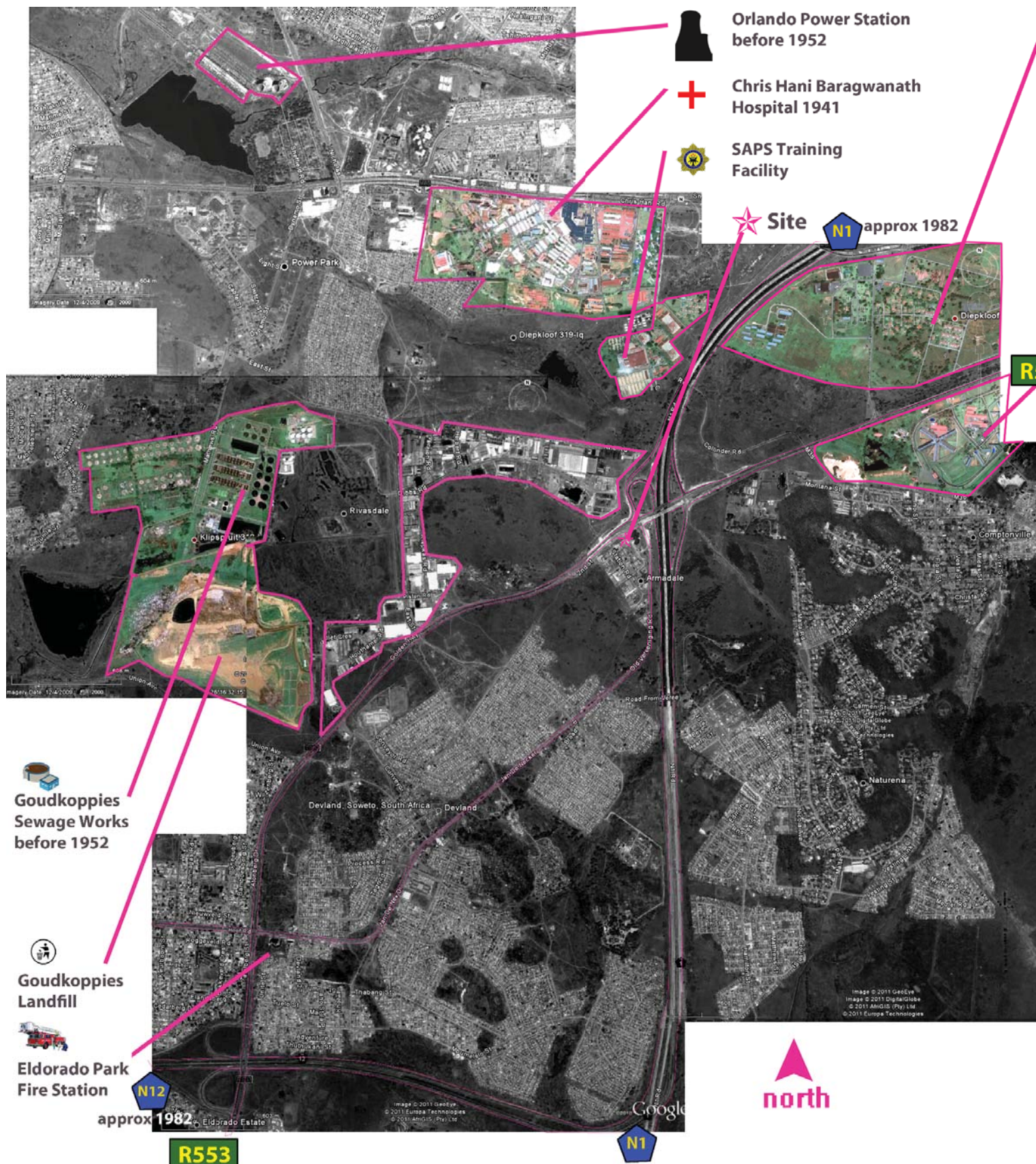
contaminated wetland through D-13



There is a Wetland that runs to the north of the Viking site. It flows through Soweto (Orlando Power Station) where it links to the Klipspruit Spruit which extends through Eldorado Park as far south as Lenasia. To the east, the wetland runs into the Suikerbosrand Nature Reserve in the Southern Suburbs.

This waterbody is contaminated. This is so because it was used as a resource for the large infrastructure that is located in the area (as a cooler for the Orlando Power Station and as a waste water 'reservoir' for the industrial areas of Devland, the Baragwanath Hospital and The Goudkoppies Sewerage Plant and the Orlando Power Station. The wetland was also used as a material storage facility and / or material source in the construction of the numerous infrastructures around the site.





Google Earth (2009). 'Devland, Soweto'

Fantastic Devland: A Multi-Service Centre in Armadale, Devland

 Doornkop Military Base
after 1976

 Johannesburg
Central Prison
1983

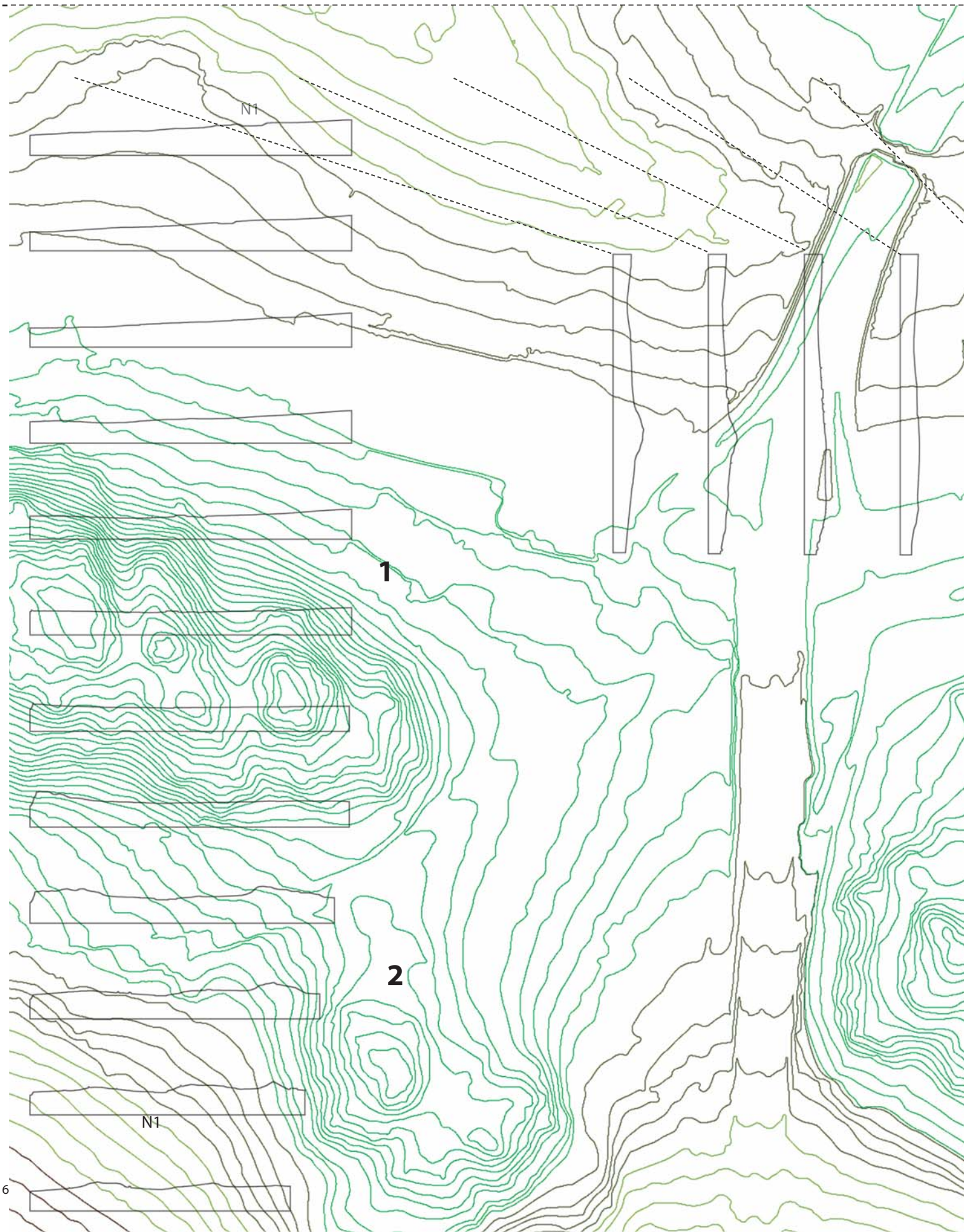
 553 before 1952



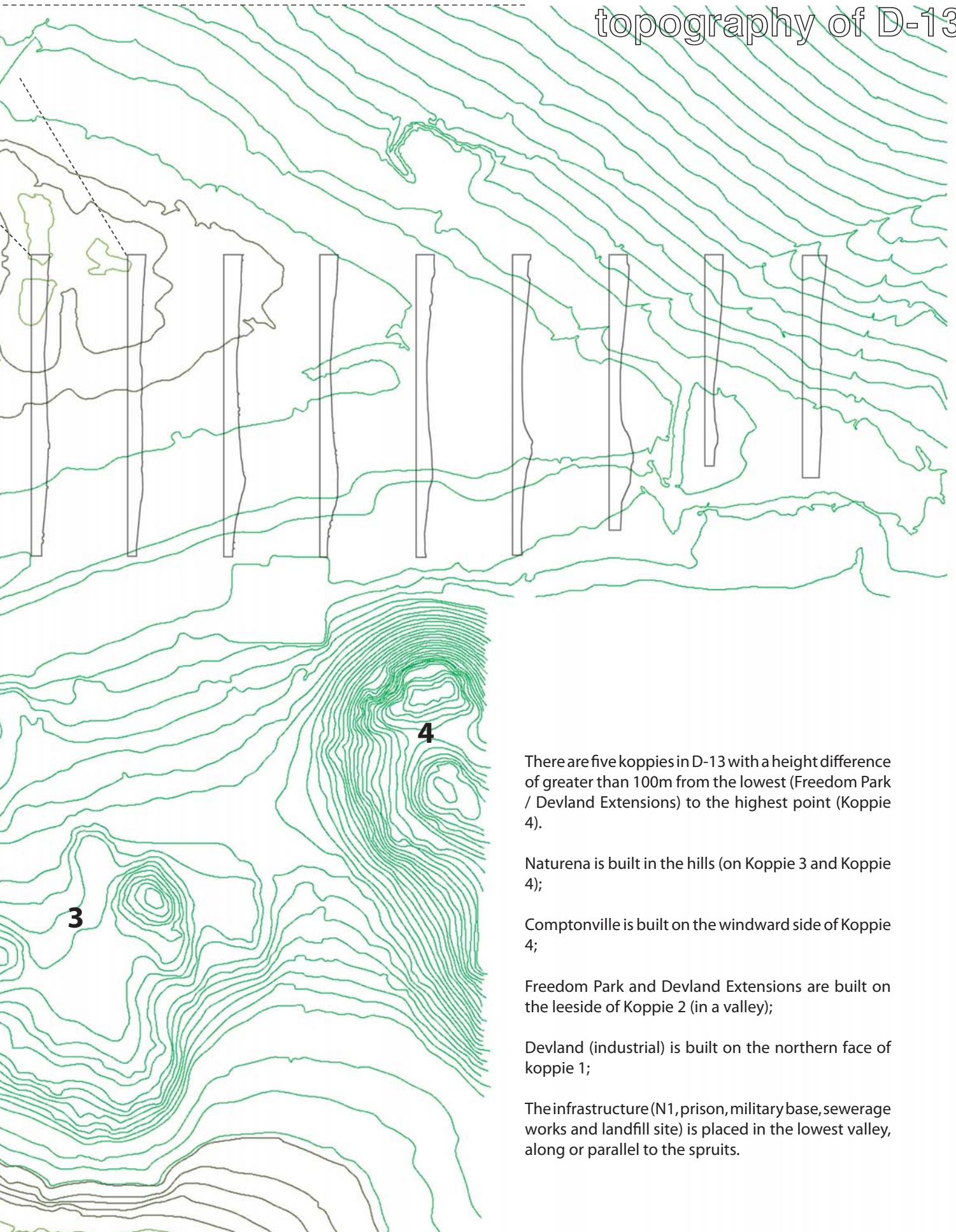
'It is here that we find the most maddening sedimentations of power, disguised as powerlessness, and the most exciting collection of possibilities, disguised as impossibilities... since nothing else can be put here, they slowly or quickly fill up with 'the rest'. In-between the clear cut territories... lie territories that do not derive their logic and filling from one single authority or owner, but from the fact that they are filled to the brim with the political, functional, and physical leftovers of the city... they perform the necessary function as a hiding place for all the bad things that are irreconcilable with the good idea of the city...' (Crimson, 1998: 1998).

The area that made up the Baragwanath Buffer Zone still houses much of the infrastructure that was designated there namely:

Johannesburg Central Prison, Doornkop Military Base, South African Police Service Training Facility, Chris Hani Baragwanath Hospital, the now dis-used Orlando Power Station, Goudkoppies Sewerage Works and the Goudkoppies Landfill and the Eldorado Park Fire Station (as well as the heavy industrial areas, Devland and Power Park).



topography of D-13



There are five koppies in D-13 with a height difference of greater than 100m from the lowest (Freedom Park / Devland Extensions) to the highest point (Koppie 4).

Naturena is built in the hills (on Koppie 3 and Koppie 4);

Comptonville is built on the windward side of Koppie 4;

Freedom Park and Devland Extensions are built on the leeward side of Koppie 2 (in a valley);

Devland (industrial) is built on the northern face of Koppie 1;

The infrastructure (N1, prison, military base, sewerage works and landfill site) is placed in the lowest valley, along or parallel to the spruits.

Ladies and Gentlemen, Armadale



are we there yet...



welcome



peek-a-boo, I see you

Armadale Works



inspector



team work



team walk

Armadale on-the-go!



Folks wagon



big wheel



over-size wheels

Armadale and Friends



I'm pretty well connected...there's:



...Naturena...



...Naturena Extension...



stuck trucker on foot, can you see me?



peek-a-boo



too sexy for a sign



walker



hawker



waiting



house-on-wheels



two wheels



no wheels



...Devland Extension...



Devland, Soweto... as far as your eye can see!



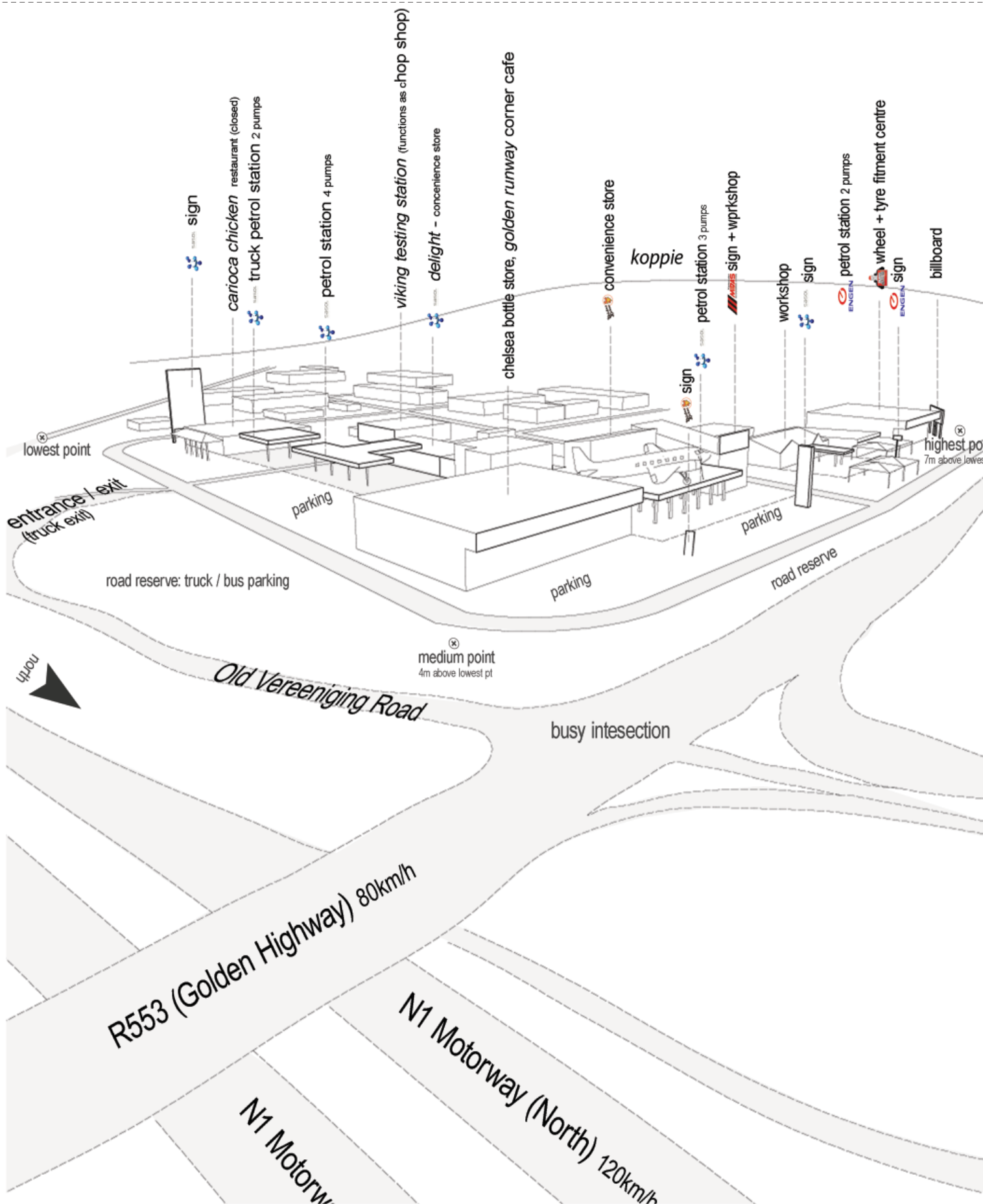
do you want a pice of me:)

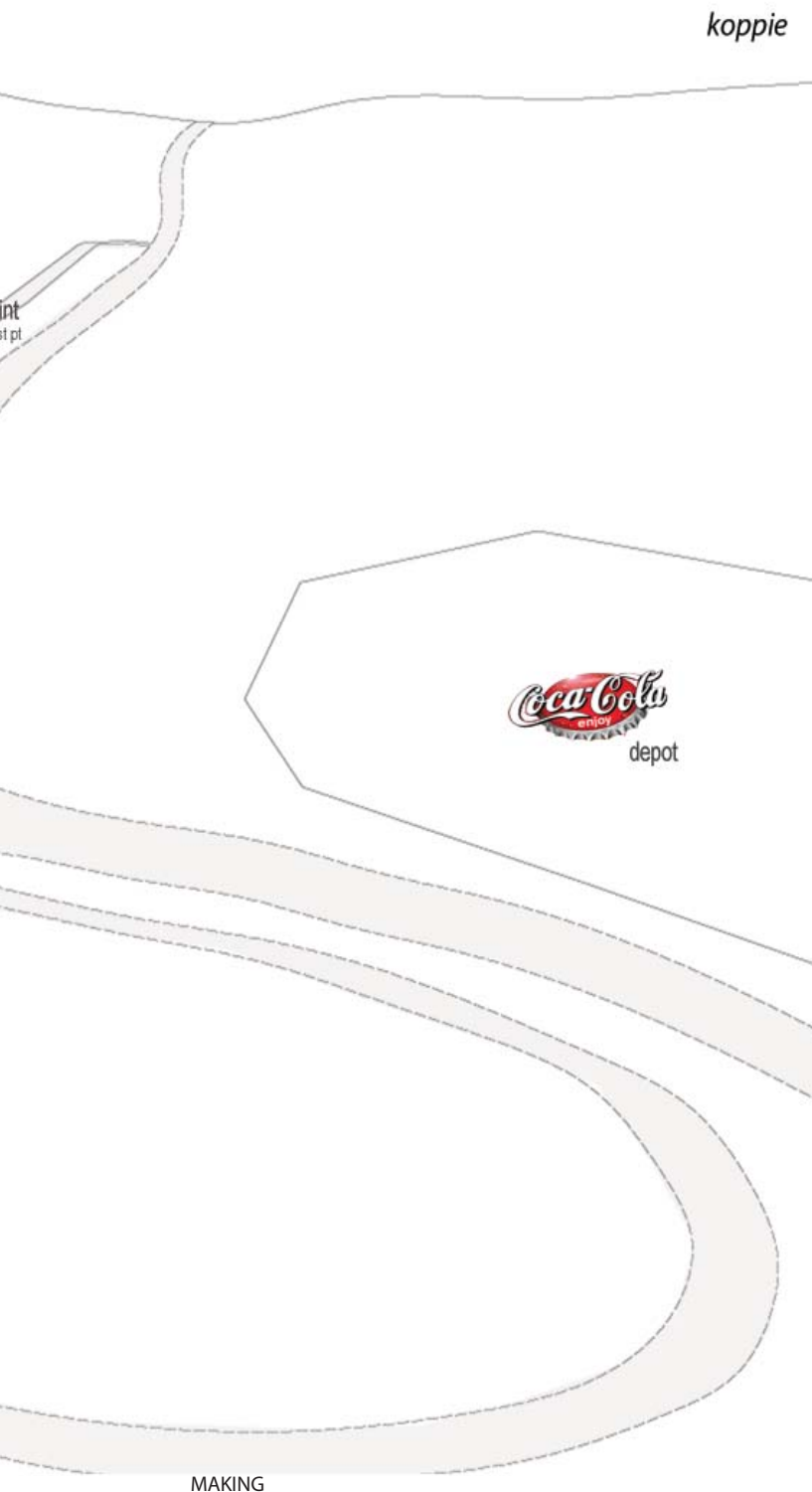
Knowing that the Viking is in a former Buffer Zone and that the site thrived particularly in the years between 1982 and 1996 because it was neatly sandwiched between Johannesburg and other industrial centres of Gauteng Province and on the N1 motorway; then realising that it is less than 100m from a wetland that links it to Soweto and the Southern Suburbs around the Suikerbosrand, surrounded by large state and private infrastructure and within five koppies gave me ample 'clues' from which I could 'make' something.

In this 'Making' chapter, I translate the knowledge gained from the 'knowing' and 'seeing' chapters into an architectural concept. This concept then informs the buildings function, programme, form and the technology that will be employed to construct it.



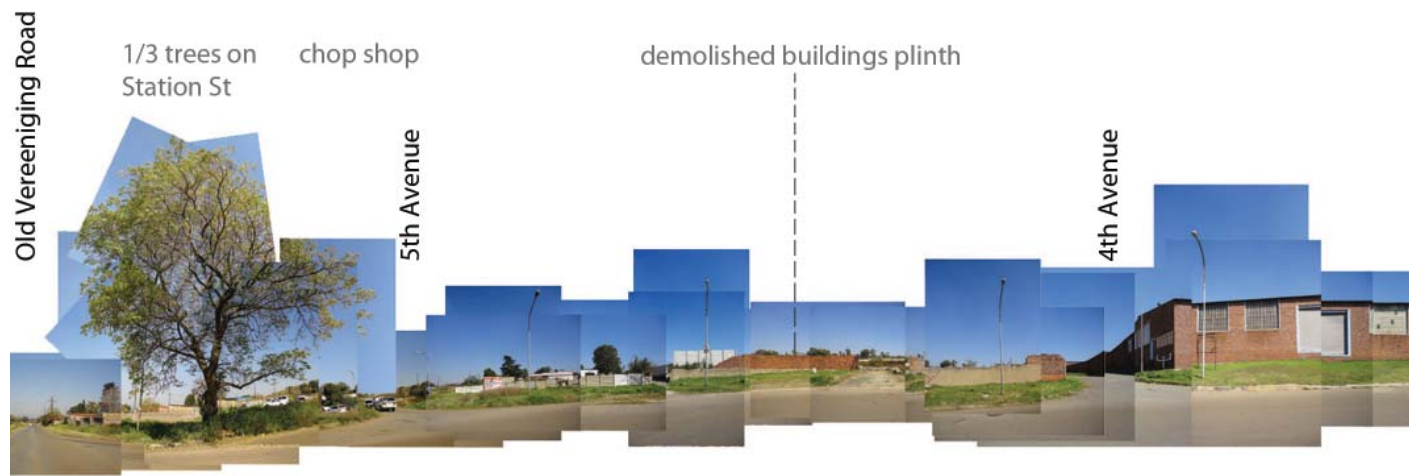
making





Armadales was proclaimed in the 1960s. It exists because of the Viking complex. Armadales began as a dormitory town for travellers and the staff of growing Viking complex. Later small businesses opened selling spare parts for cars and trucks which naturally grew into small repair shops (to fit the sold vehicle parts). Today it is a light industrial area which consists of a mish mash of the original 'farm' houses, workshops and small warehouses inhabited mainly by small businesses.

Station Street Analysis



WEST ELEVATION STATION STREET

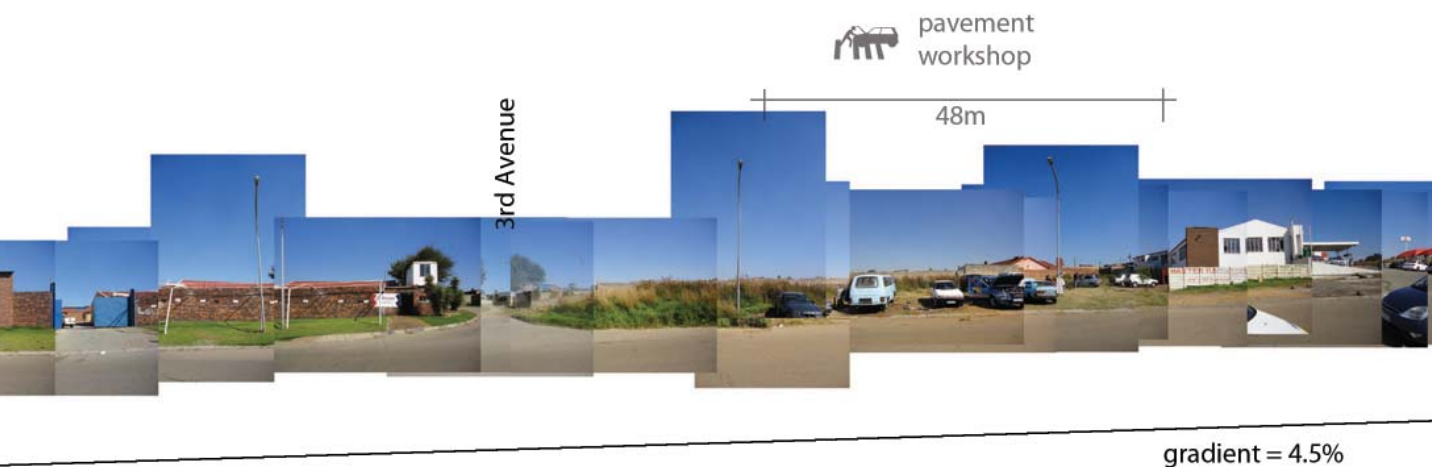
35



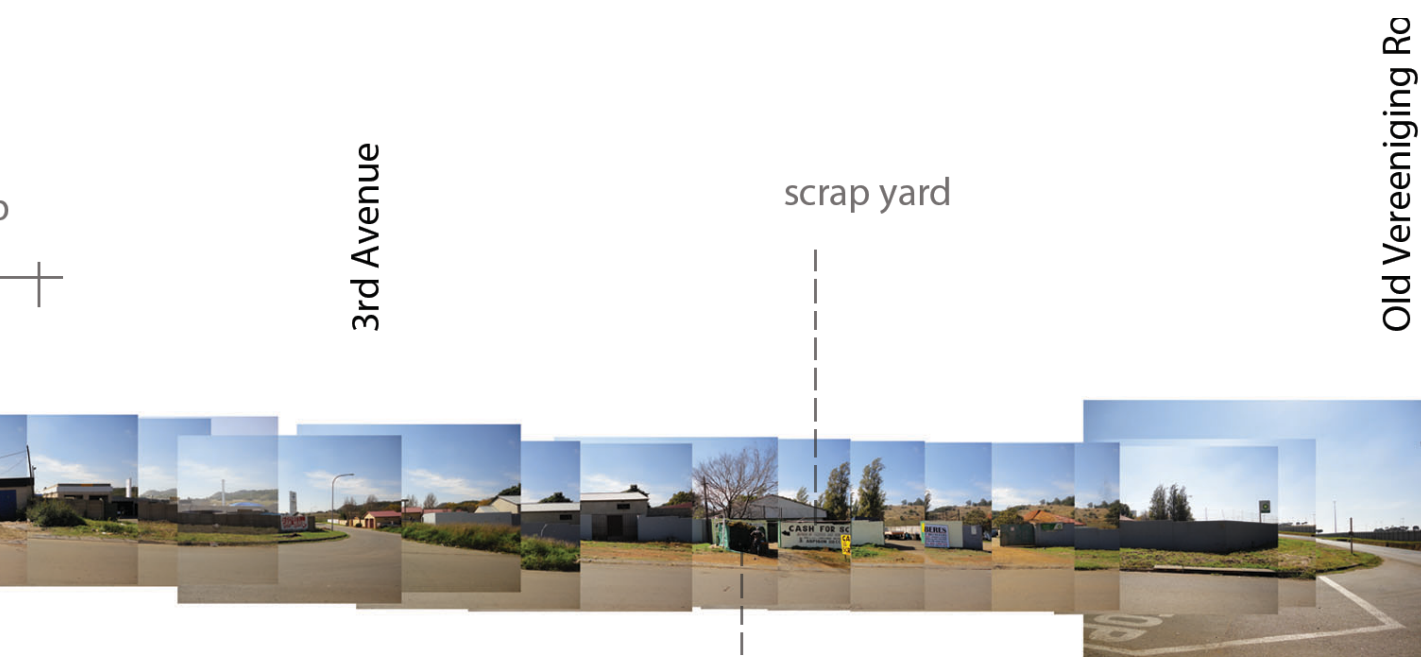
EAST ELEVATION STATION STREET

interview with a mechanic
_from Zambia and now lives inArmadale.
_lived in SA since 2008.
_came to Armadale to become a trucker, was not successful. now works fixing punctures
and car electrics, but can fix 'anything'.





53,37m



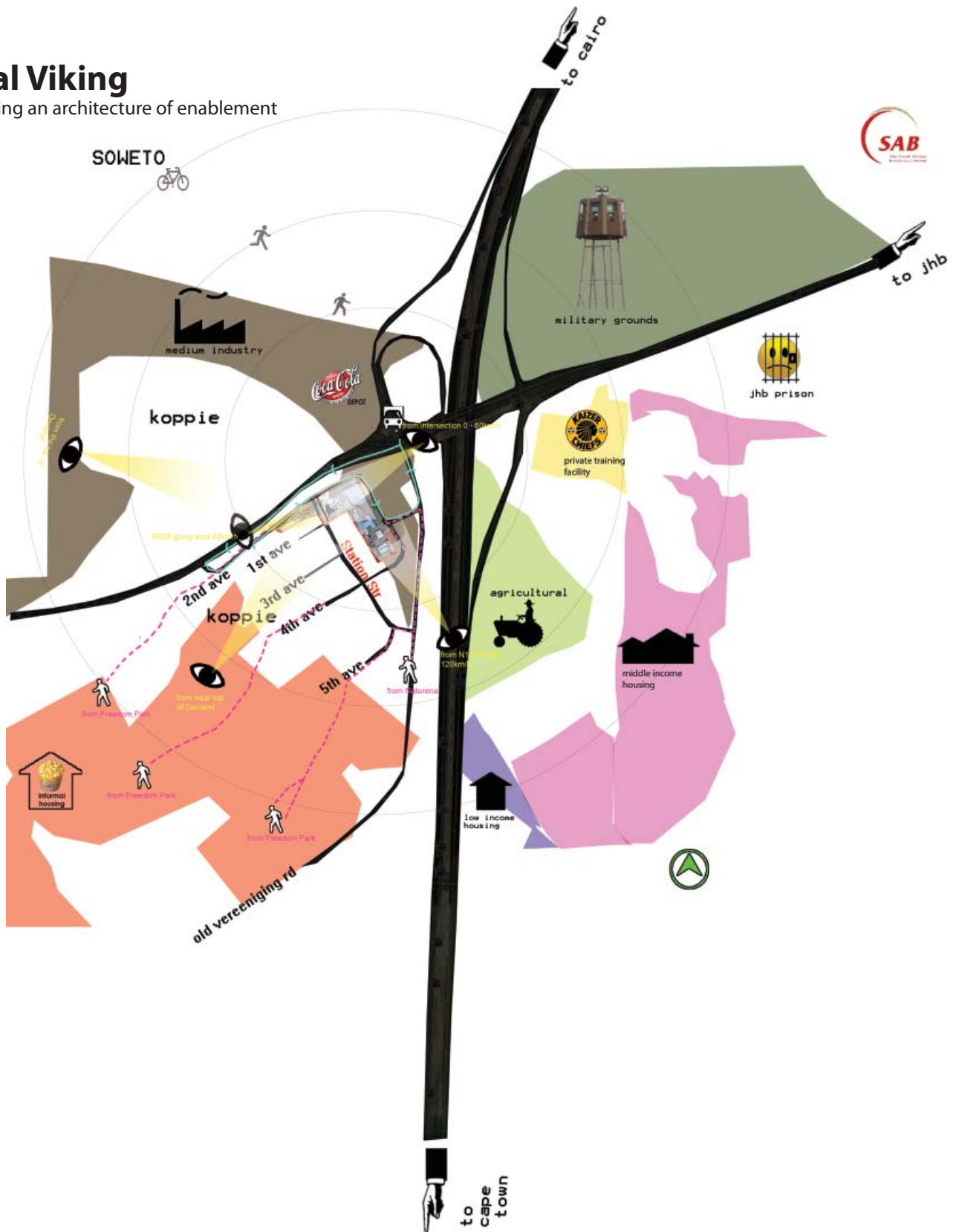
interview with Hawker

_lives in Freedom Park.
 _sells sweets and cigarettes to workers.
 _uses toilet at Sasol Convenience Shop.
 _arrives at 07h00, leaves at 15h00.
 not sure if she pays rent.



Local Viking

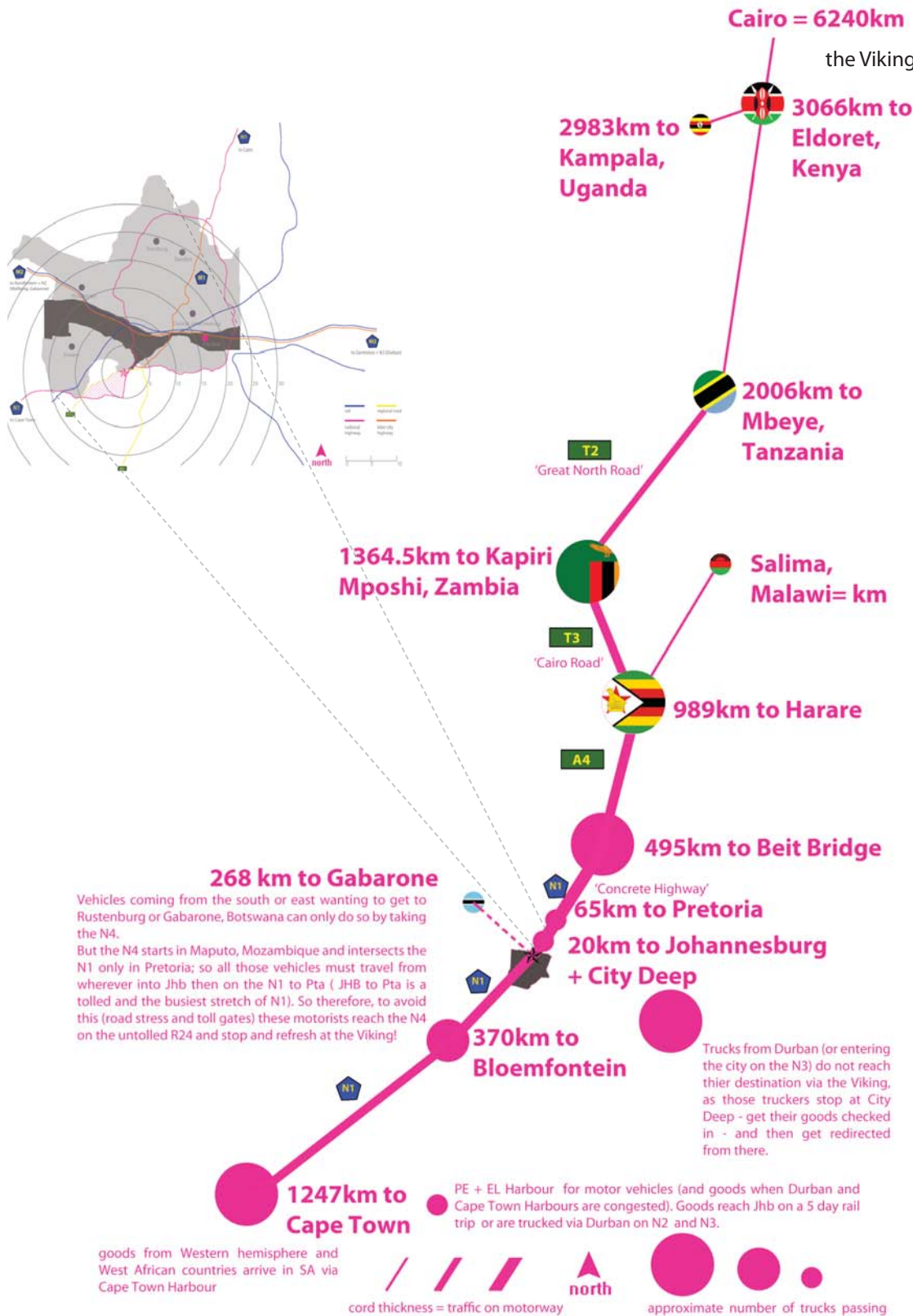
describing an architecture of enablement



Along with the Vikings proximity to the residential neighbourhoods of Sub Region D-13, it is also on the N1 motorway - an international highway that links Cape Town Harbour to Cairo (however the route is only 'drive-able' until Kenya in East Africa).

on International Truck Route

the Viking on International Truck Route



The Golden Highway offramp is just before the Diepkloof Interchange, which splits traffic east and west around Johannesburg forming a 'ring road' and the respective by-passes. Trucks which deliver goods (as far north as) to the Democratic Republic of Congo from (as far south as) Cape Town can do so via the Viking (site).





MAKING

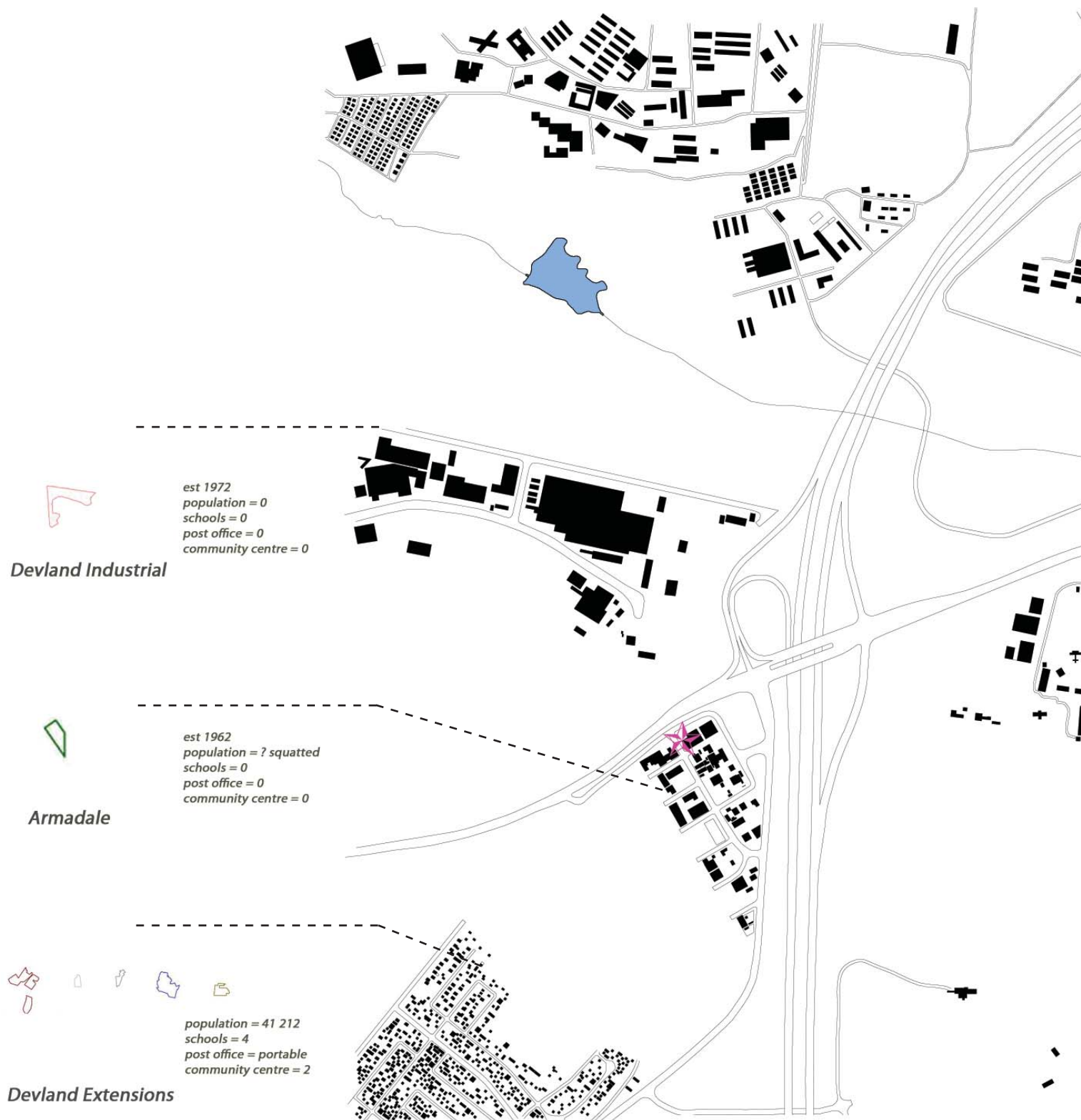
Inland Islands

The suburbs that make up D-13 are disjointed and fragmented. This discontinuity is in part due to the topography - the steepness of the koppies - as well as the large infrastructure and industry it contains, that need to be kept 'away' and the lack of a 'vision' for the region.

'...These areas form the spatial substance, secreted under the duress of urban transformation. These areas naturally reject urban design... they are always contradictory to the idea of a good city' (Crimson, 1998: Secrete).

The discontinuity becomes counter-productive however because D-13 has been inhabited by people. And therefore state provisions like a high school for instance get 'doubled-up' where one well located one would be more cost effective and promote mixing ('city-ness') among the scholars.

the 'Suburb States' of Sub Region D-13





The neighbourhoods around the Viking are fairly well 'provided for' by the City of Johannesburg, in terms of 'basic services'. The City's provisions are based on its implementation of 'The Red Book of Standards'. The 'Red Book of Standards' is the affectionate name for 'The Guidelines for Human Settlement Planning and Design' published in the year 2000 by the CSIR. It has been referred to as a 'Planners Bible' by planners.

It is this reliance on the 'Red Book' which may be perpetuating the 'placeless-ness' of Sub Region D-13 (see 'inland islands' above). Each suburb gets its own communal facilities (which are placed on available land in the particular area - not strategically based on maximum provision for the community - and that suburb is 'fixed'). This therefore allows each neighbourhood to function on its' own, independently, like the Medieval City-States of Europe. This results in, 'once you've provided everything by the Book, there's no more 'community' left'. Or, put differently, if you apply the 'Red Book of Standards' 'directly' (or not critically), eventually the neighbourhood will become saturated with facilities and the residents may stop taking ownership, through civil action, of these facilities because they will be 'given or provided by the government'. Hence, the 'community' disappears.

1. said by Thorsten Deckler, partner at Johannesburg architecture firm 26'10 South Architects, about Diepsloot, a Johannesburg informal settlement.

2. refer to David Dewar's 2009 paper in Architecture SA titled, 'The potential role of Housing Policy as a broader development instrument in SA'.

Comptonville

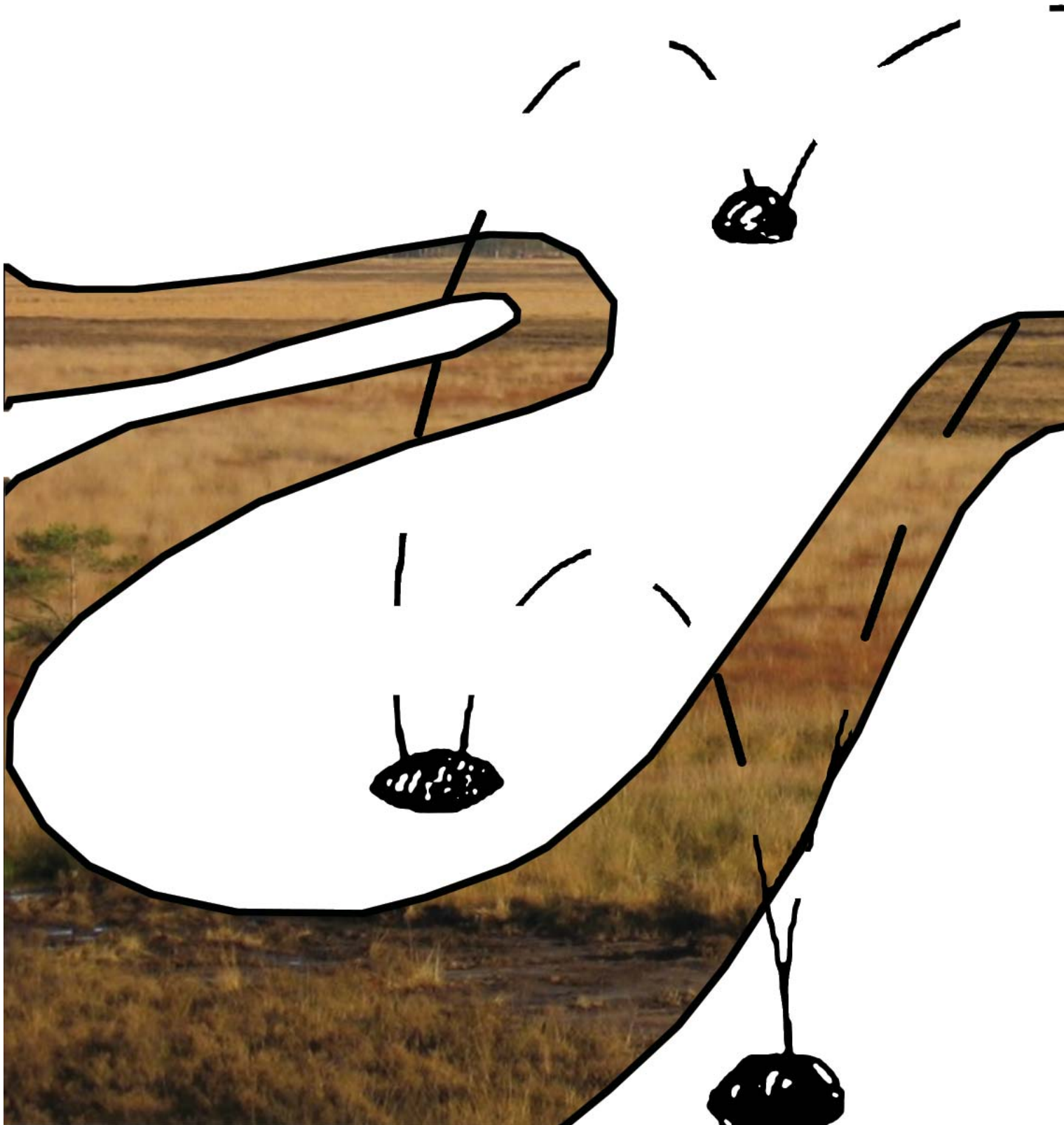
est 1957 + 2003
population 601
schools = 0
post office = 0
community centre = 0

Naturena + Exts

est 1982 + 1999
population = 16672
schools = 1
post office = 1
community centre = 1

the 'Jump Start' diagram

describing the architectural concept of enablement... enhancing the existing by servicing self-development.



architectural concept

In accordance with what was concluded in 'conceptualising the in-between' (Viking as Service Mecca) and the observations made thus far (D-13 is fragmented), the 'Jump Start' diagram describes my architectural concept of 'enablement' as enhancing the existing by servicing self-development.

The decision to service 'enablement' came from reading a book on Cedric Price and realising, from my observations thus far, that D-13's landscape could be more 'liveable' if its 'linked' or 'patched' (to be more productive financially and a more pleasant place to live in) and its residents - especially the entrepreneurs - needed to be shown what services are provided by the state and what is not. (For instance, the government will facilitate you getting a job by creating an environment which is suitable for employers to set up their enterprise in your particular place. The government will not however, get you a job - it creates an environment for employment. It benefits eventually from this through taxes). And, similarly, a means of informing the government what is needed by the people in their particular neighbourhood (to assist policy-makers).

This approach is not 'technocratic' as it is not a specific solution to any 'narrow problem' (I am not proposing 'this' to get 'that') but, I am rather designing a strategies to link the fragmented landscape to create a more pleasant space for life to unfold (the physical interventions are intended to facilitate integration).

The word 'enablement' was chosen because it implies 'assistance', without any patronising implications furthermore, the assistance is available only to those who feel they want it. Another reason 'enablement' was selected is because it is not politically charged like 'empowerment'.

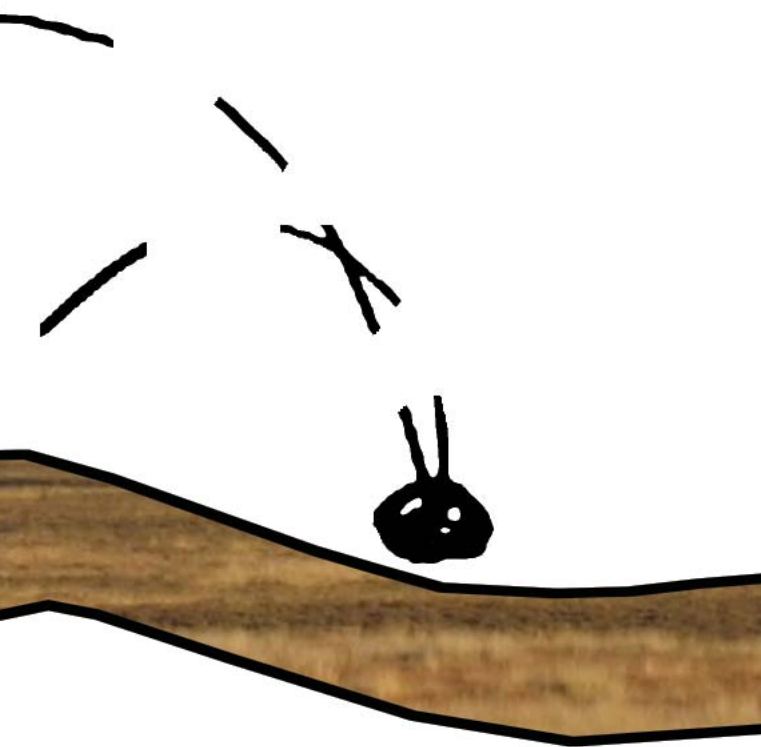
So, servicing the self development (enablement) of:

1. The landscape, by facilitating recovery of the contaminated wetland through controlled use (see Urban Framework: Double Up Diagram) and
2. The users (residents of D-13, entrepreneurs in Armadale and the truckers who use the Viking) by unlocking mutual opportunities through the servicing of user specific needs (information and recreation for residents, work and business space for Armadale's entrepreneurs and recuperation for the truckers)

through symbiotic relationships (building's programme).

from Price, C (1964). 'Potteries Thinkbelt'

77



Two interviews with Richard Mutyavaviri

purpose of the interviews were to find out what the City's plans for D-13 are.

From very early in the year, we were pressed by the academic staff at the University to 'choose what 'it' is... it can't be everything - 'mixed-use' isn't anything - 'it' must be something!

This pressure eventually lead me to the 10th floor in Metro Centre in Braamfontein, where the City's Town Planners are accommodated. I met Richard, a Senior Specialist for Strategic Urban Planning in the Development Planning and Facilitation Department. Richard focuses on Region D (Soweto). I met him to get clarity on the D-13. Below are the transcripts...

Wednesday, 8 June 2011



Monday, 20 June 2011

the main objectives of the Region are to promote industry and create viable housing in Naturena.

Develop additional residential areas.

Strengthen economic environment by providing related infrastructure.

Regional office requires good location and a need from a community.

Towns are provided for using the 'Red Book of Standards'.

Multiple uses on a piece of land requires township proclamation, while for single uses, ' zoning by consent' is suffice.

there is a document known as the 'Soweto Open Space Plan' which deals with the Soweto's green spaces.

There is a difference between a 'ward' and a 'region'. A 'ward' is a political boundary for areas. It's for municipal votes. A 'region' is a Town Planning boundary mainly for administration. Hence D-13 extends two Wards (24 and 119).

The only way to get population figures are via Census, but Census data is 'done' as per the Wards.

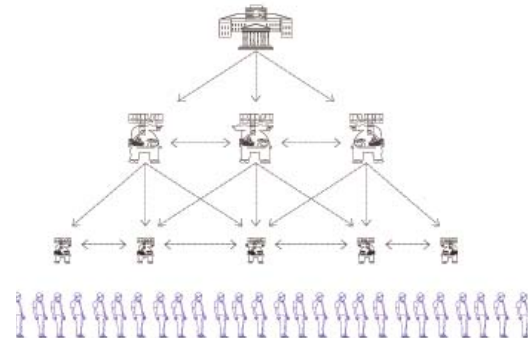
Peoples' Centre is a way for government to reach further into its community - 'the powers must be split' as per the Constitution of SA.

The City's plan for D-13 is to enhance what is already there, (they are not against the post 1994 settlements) to make it more 'livable' for the residents and more attractive for businesses so it may become more profitable for the City.

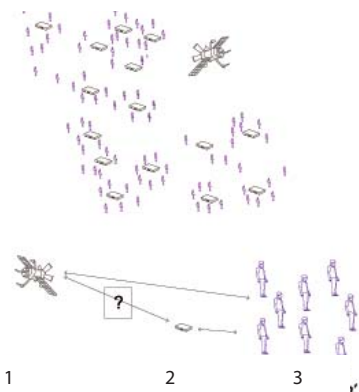
'...the powers must be split' clause that Richard mentioned and the consequent emergence of the Peoples' Centre got my attention.¹

I then diagrammed the relationship of power which must have lead to the penning of the sentence, 'the powers must be split'.

1. The concept of local communication is promoted in the below policies, thus providing platforms for interface between government and citizens to facilitate access and progress at a local level: Communication Task Report, 1996; White Paper on Transforming Public Service Delivery (Batho Pele), 1997; Cabinet Memorandum no.15, November 1999; President's State of the Nation Address, May 2004; Public Finance Management Act, 1999; Municipal Structures Act, 1998; Municipal System Act, 2000 Municipal Finance Management Act, 2003. (GCIS, 2007).



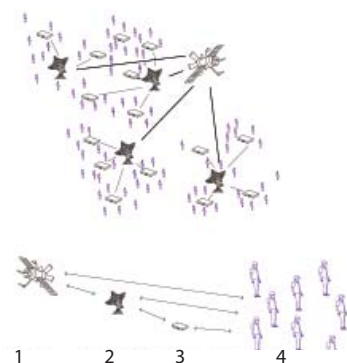
Former Bureaucracy 1-way communication = broken telephone effect



1-local authority;
2-neighbourhood centre (community centre, school, etc);
3-public

Broken 'web of communication'

-gives too much generic, not enough neighbourhood specific information
-too far (physical distance) from the residents it intends to serve.



1-local authority;
2-peoples' centre
3-neighbourhood centre (community centre, school, etc);
4-public

'Web of Communication'

+ gives area specific information.

My understanding of a 'Peoples' Centre' is that it occupies a position between the already present local authority (#1) and the neighbourhood facilities (#3). It enhances (not replaces) the communication between both the government and the people (the same way a satellite dish filters the signal between the satellite in space and the decoder/receiver in your house).

Thusong Service Centres



'Hub Type' Thusong Service Centre has a combination of 'Development Communication Approach' criteria (GCIS, 2007).



'Satellite' Type Thusong Service Centre has intermittent access to government services with a minimum level of identified services. (GCIS, 2007).



Thusong Service Centres are another synonym for a 'multi-purpose centre' or a 'peoples centre'. They were initiated in 1999 and are envisioned as 'one-stop service centres' providing 'face-to-face' integrated government information and services to communities 'to build a better quality of life for all'. These Centres are intended to be rolled out by 2014 (GCIS, 2007) and are interfaces where professionals serve the community's interests not governments.

A Thusong Service Centre is structured along the 'Development Communication Approach'. The 'Development Communication Approach' is a 'menu' which describes six block services that together compose an 'ideal' centre. That means, in reality, the Centres will only consist of those services that are relevant or needed by the particular community in which it is intended to serve. (A team of professionals and community members 'pick' what combination of services will best serve a specific community).

The criteria of the 'Development Communication Approach' are:

1. Government, social and administrative services. *personal grants, home applications, grants.*
2. Office Services. *Postal services, scanning, copying, faxing, etc.*
3. Education and skills development services.
4. Local economic development services (LED). *advice for small businesses, etc.*
5. Business services and community opportunities. *SMMEs and other private sector services (ATMs, etc)*
6. Information and communication services. *government information and on-site guidance regarding services and community information regarding services.*

Anchor services, present in all centre types.

There are three types of Thusong Centre: 'Hub' (Jabulani Peoples' Centre is an example), 'Satellite' (in Orlando) and 'Mobile' (none).

The main Criteria in the construction of TSC's is the travel distance of the potential users, and it 'plugging into existing service points and thresholds' (GCIS).

Truck Stop

A Truck Stop is commercial facility that services truckers (and motorists) (Arive Alive, 2011). The services they provide range from fuel and food sales, truck parking and ablution facilities to large megaplexes which accommodate medical facilities, truck tune-up and servicing centres and even clothing outlets. See 'Iowa 80' in the USA.

Truck Stops are generally located on major highways. The more successful ones are not only the most efficient ones (ie good, quick, reliable, 24 hour service with short ques and easy manoeuvrability) but also **the ones that provide a 'homely' environment for the drivers**, (who might struggle with loneliness due to the long periods of isolation typical of professional driving) because it is usually the same patrons who frequent the same stops.

TECHNICAL CONSIDERATIONS

To understand a truck stop, it is easiest to imagine what the person who requires the delivered goods wants. This person wants his goods to arrive as soon as possible and as 'new' (undamaged). Therefore, these 'individuals' select the logistics company that can deliver their goods to these specifications. Hence, the truck stop must meet those specifications (speed and manoeuvrability) to be successful.

The main criterions for a potential patron when contemplating where to stop are therefore, initially, pragmatic: his load and vehicle (so safety, manoeuvrability and speed), then himself (so the price of goods, cleanliness and service quality). But the swaying factor is how he feels when stopped there.

Forecourt

Should therefore provide pumps on both sides of the truck, to re-fuel both tanks simultaneously. The forecourt should be level and without too much height difference with the main road.

Parking

Should be secure.
Should allow for minor check-ups of the vehicle.
Should allow for maximum manoeuvrability, to minimise collisions, inconvenience and damage to property.

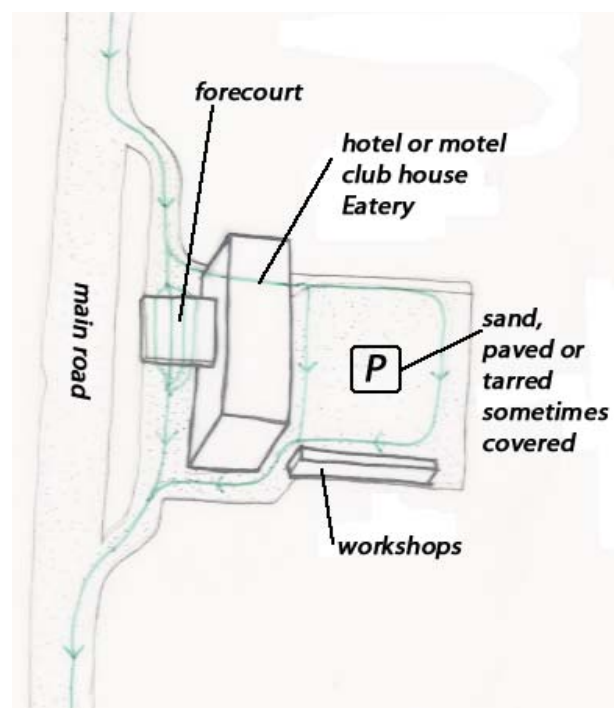
Ablutions

Should be clean to minimise disease spread
Could provide shower facilities
Could have a view of truck.

Eatery

Home style meals (that are or seem freshly prepared and minimise indigestion) are preferred by truckers. These spaces should be flexible enough to make them appear full when empty and empty when full, to enhance the dining experience (Littlefield, 2008, Part 18).

Sanral has built three truck stops on the N1 in the Free State towns of Smithsfield, Ventersburg and Winburg in partnership with local authorities. All are intended to improve community development and reduce road damage caused by truck accidents and informal sleeping on roadsides by truckers.



building type appraisal



The closest existing Peoples' Centres in Region D are located in Diepkloof and Jabulani, both in Soweto. The Satellite Centres are in Orlando East and West and will not be discussed as they are not intended to serve D-13 (although, the Satellite Service Centre at 1425 Sofasonke Street, Orlando East is the only identified 'Thusong Service Centre' in the Region).

I shall critique these centres using the 'patterns' described in 'A Collection of Patterns which generate Multi-Service Centres' by Christopher Alexander, Sara Ishikawa and Murray Silverstein (1974).

An important reality about Peoples' Centres is 'many people do not know that they exist or what they do.' (147). It is in this light that the following criticisms are made.

Both Peoples' Centres are poorly located relative to the +60 000 inhabitants of D-13 (the location of multi-service centres should be strategic to overcome outreach challenges, so: physical and visual accessibility must be prioritised and addressed). Secondly, both aim to service a population that is too large ("the MSC serves a target area with population of 34 000 +/- 20%' (141)). Therefore they are not suited to the specific needs of any community.

The Diepkloof Peoples' Centre

It is described as an 'admin office', this description is counter-productive, as it causes needless confusion.

It is poorly located, relative to the residents of D-13 (although 4km away by a vector distance, it is only accessible by car since the wetland - which could make the area 'walkable' - is currently a security risk and contaminated).

The Jabulani Peoples' Centre

It is too far from the residents of D-13 - the taxi fare to Jabulani is similar to that to get to the Johannesburg CBD, so a resident might as well go to Metro Centre in Braamfontein.

It is also overwhelmed by the suburbs of Soweto.

Therefore, placing a Peoples' Centre at the Viking in Sub Region D-13 would not nullify any existing infrastructure, infact it would enhance the situation.

A trucker at rests main want is the ability to make his own choices ('me' time, the freedom one experiences at 'home'). This want or desire is a reaction to the 'take it or leave it' reality of truck stops. Truck stops are the way they are because truck drivers are a captive market¹, and therefore there is no incentive to make them better unless key stakeholders who benefit from 'fitter' truckers demand more from these facilities. The stakeholders could be trucker unions, logistics companies, insurance companies, government or road management agencies and road accident funds.

The component that makes Nassiriyah Truck Stop an interesting study, for me, is that it endeavoured to cater to that rogue want of the trucker when he is at rest ('me' time) while not forfeiting a truck stops efficiency, see 'Technical Considerations' above.

The designers therefore chose to include local micro-grant businesses (as opposed to the traditional franchises that are usually placed in truck stops (especially American examples)) to afford the drivers the ability to make choices. This design decision uplifts both the trucker - he can choose what he wants to eat, for example, from a variety of individuals who might even be 'specialists' in that cuisine, and does not just have to eat what is left in the kitchen cause that is all that is available - and the community.

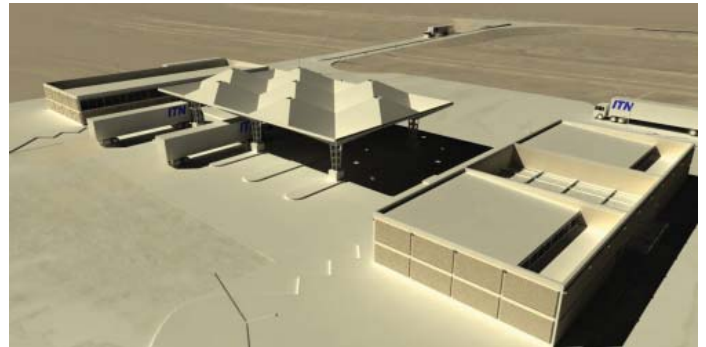
Furthermore, the truck stop is designed using a simple modulated system that can be constructed speedily and efficiently and is inverted and rotated to create variety in the elevations and therefore a landmark in the landscape. The modulated pyramidal system, when compounded, gives the roof an overall span of 17m, which is useful when one considers the turning circle of a truck.

¹ Truckers are a captive market because of the size of their vehicles, the 'odd' hours they work and the tight time schedules they must obey.

Nassiriyah Truck Stop

New World Design LLC

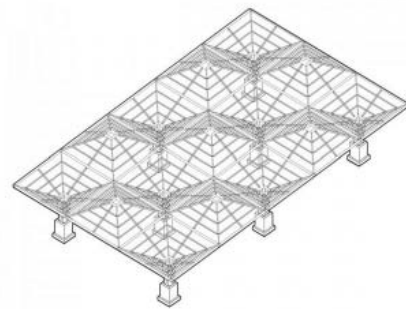
Nassiriyah, Iraq
in progress



The Overall Scheme (NWD, 2010)



A local family business benefitting trucker presence and the trucker from their expertise and competitive pricing (NWD, 2010)



Modulated light-weight Pyramid Canopy Structure gets inverted and rotated to create variety and compounded makes a 17m clear span (NWD, 2010)

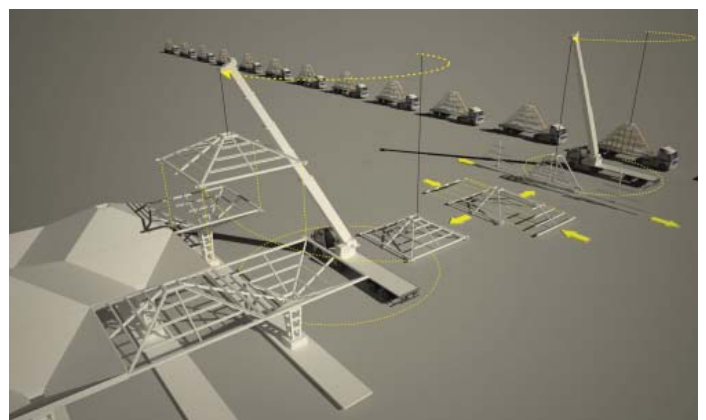


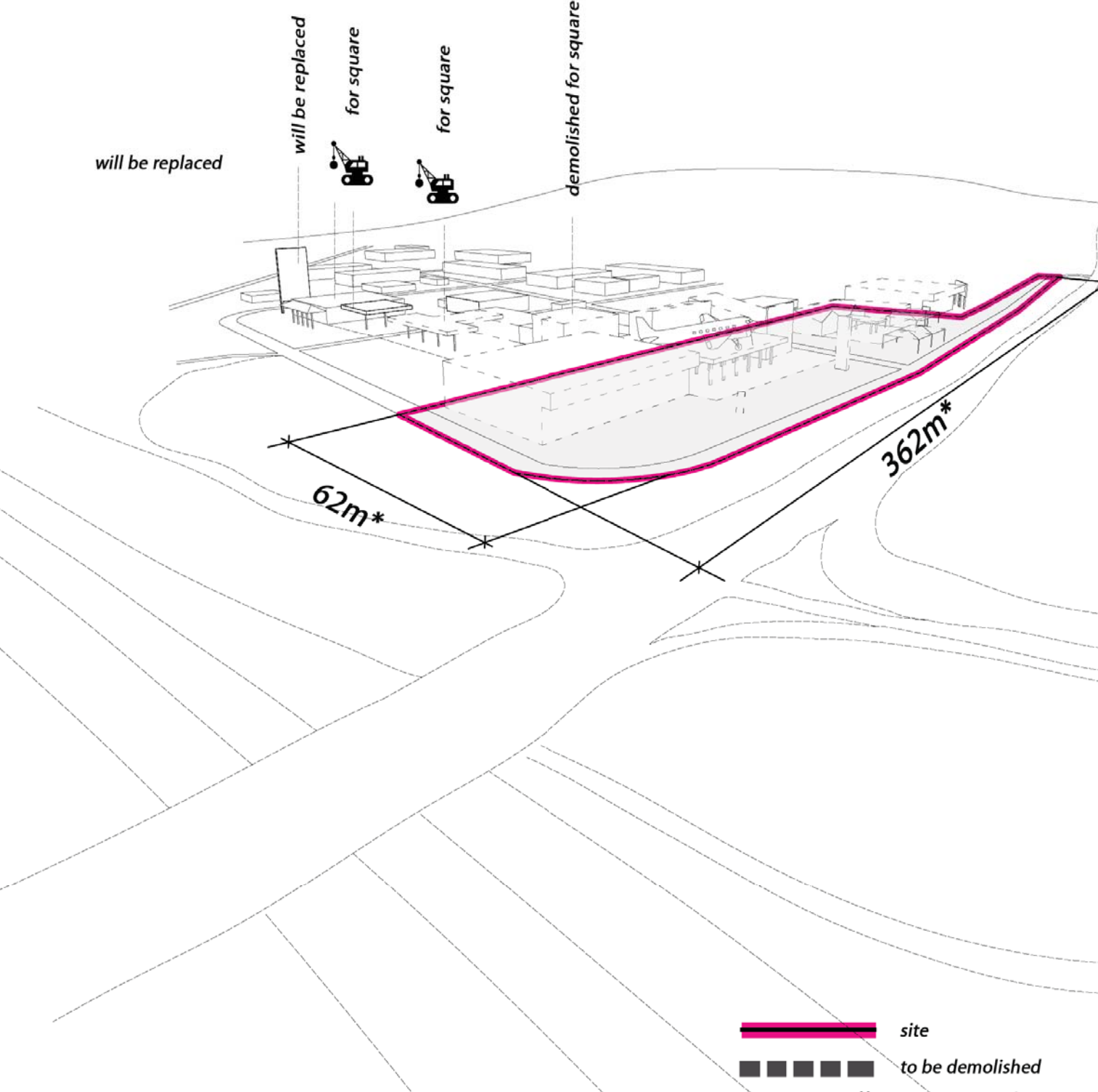
Diagram of the efficient construction process (NWD, 2010)

Design Brief

THE DESIGN OF A RESOURCE CENTRE TO REPLACE THE FOUR DERELICT PETROL STATIONS THAT MAKE UP THE SITE KNOWN AS THE VIKING IN ARMADALE, DEVLAND. THE BUILDING SHOULD INCORPORATE THE EXISTING USERS AND / OR INDUSTRIES THAT ARE PRESENT ON THE SITE AND SHOULD HAVE AN ATTITUDE TOWARDS THE ADJACENT CONTAMINATED WETLAND THAT LINKS ARMADALE WITH SOWETO AND THE SOUTHERN SUBURBS AROUND THE SUIKERBOSRAND. THE PROPOSED SCHEME SHOULD, IN SOME WAY, TAKE COGNISANCE OF THE SITE'S BROADER CONTEXT OF JOHANNESBURG IN WHICH IT IS PLACED.

Devland Service Station: A Multi-Service Centre in Armadale, Devland

Demolition Diagram



site confirmation and design explanation

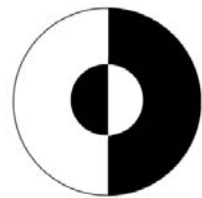


+



Truck Stop

=



Devland Service Station

THE BUILDING IS A TRUCK STOP.

The truckers provide the external economic stimulation that can 'jump-start' the local economy.

The truckers who arrive at the stop need services (food, toilets, minor vehicle servicing, rest, etc); the community can provide these services to the truckers in the building's lettable spaces (the community members now have an incentive to learn how to provide other absent services to the truckers that have not been imagined yet, but which will become apparent to the service provider when he interacts with the trucker in the structure).¹

THE BUILDING IS ALSO A MULTI-SERVICES OR PEOPLES' CENTRE.

A multi-service or peoples' centre serves the specific needs of a community - with assistance from professionals like architects, lawyers, accountants, social workers, etc - like skills training, but also providing more essential services that everyone requires - like a South African Revenue Services (tax) outpost, counselling facilities and offices of the elected community representatives (so public servants may receive suggestions and complaints directly from the community they serve).

The centre can therefore enable the community members with a better means of servicing the truckers, their own community and Johannesburg. This can help the community members uplift themselves.

¹ how these two user groups are combined is crucial to the project, to prevent unhealthy mixing like children and truckers or the community and human traffickers.

The building's programme is appraised according to the architectural concept of 'enablement'. Every programmatic function inserted in the building has to, in some way, promote enablement amongst either of the buildings users (D-13 residents, local entrepreneurs or the transient trucker community) or the landscape. 'Enablement' is the theoretical rule against which potential programmatic functions were measured against.



The Vehicle Service Centre

In this part of the building, the traditional programmes of a truck stop are combined with those that are found in a truck tune-up centre. The facilities are strung in series (vs the campus type usually followed, see 'Truck Stop' above) because the site is long. The service sequence is conceived as a 'conveyor belt'.

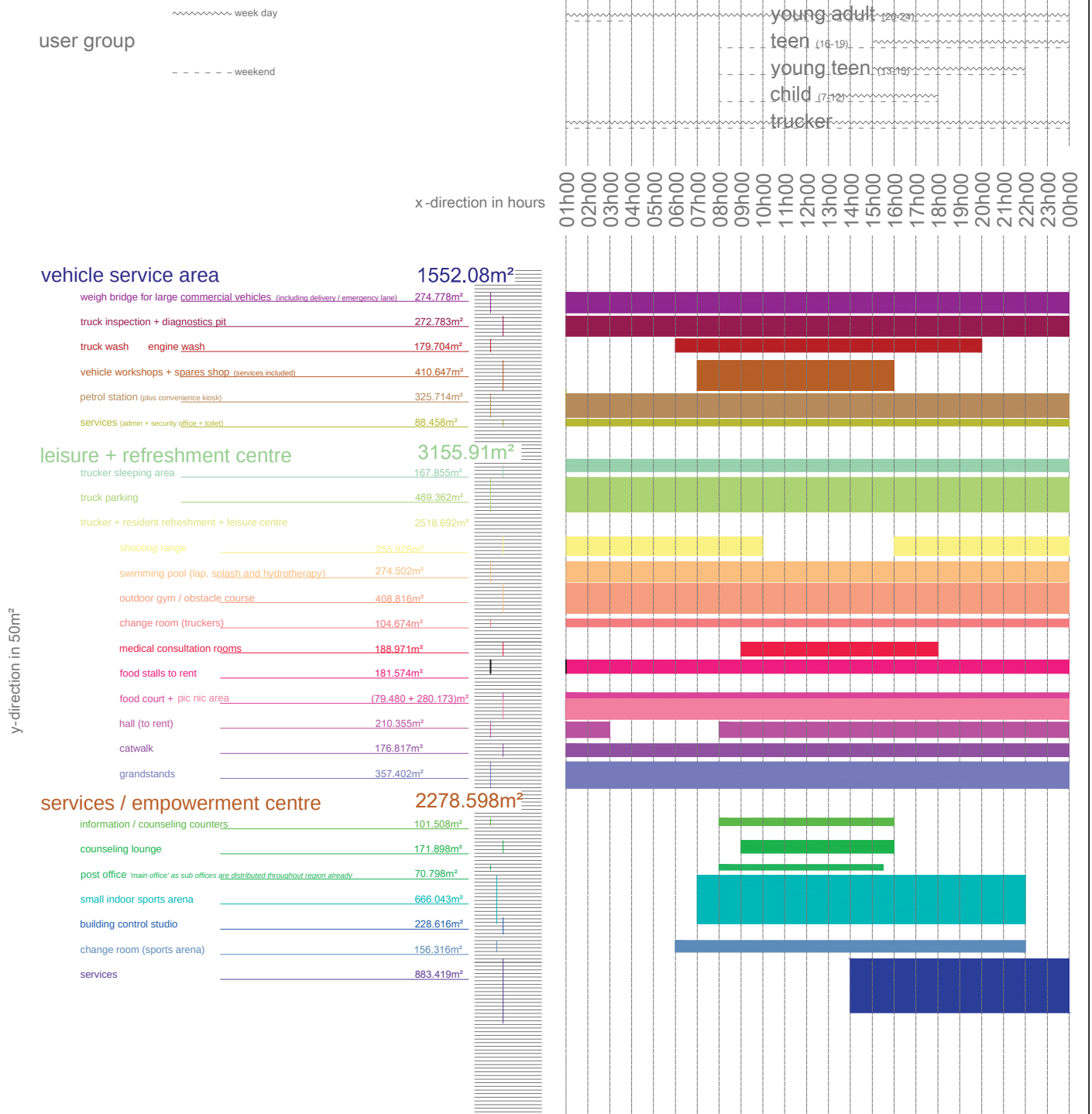
Leisure and Refreshment Centre

It is in this part of the building where 'controlled' meeting between the two user groups occurs: trucker and D-13 resident. Leisure is included in the programme because a trucker at rest might enjoy partaking in physical activity which will refresh him through distraction. Secondly, and more importantly, it is known that 'less than 10% of the poor go to multi-service centres' (Alexander, Ishikawa and Silverstein, 1974:150), but it is also known that a lot of the poor do go to soccer stadiums, for instance, to support their team or just a competitive match. 'Leisure' was therefore used as a 'bait' to lure the residents to the building, and once there, it is hoped that they will see all the services that are available to them - free of charge. The centre is a well located 'destination' enabling the community through fun.

Service or Empowerment Centre (Peoples' Centre)

This part of the building provides the services aimed particularly to the community (but not exclusively, truckers would be as welcome to gain advice from the counsellors or give suggestions, for instance). The services range from generic ones like a post office - for collecting irregular sized mailed objects - a SARS branch - for financial and tax assistance - and building control studio - for free design advice for residents - to counselling chambers to assist residents who are struggling with addictions, bad relationships, unemployment and slumlords, etc. The cubicles will be nameless, and visitors who are receiving post for example queue in and are attended to in the same place as those receiving counselling. This is to limit stigma associated with receiving help.

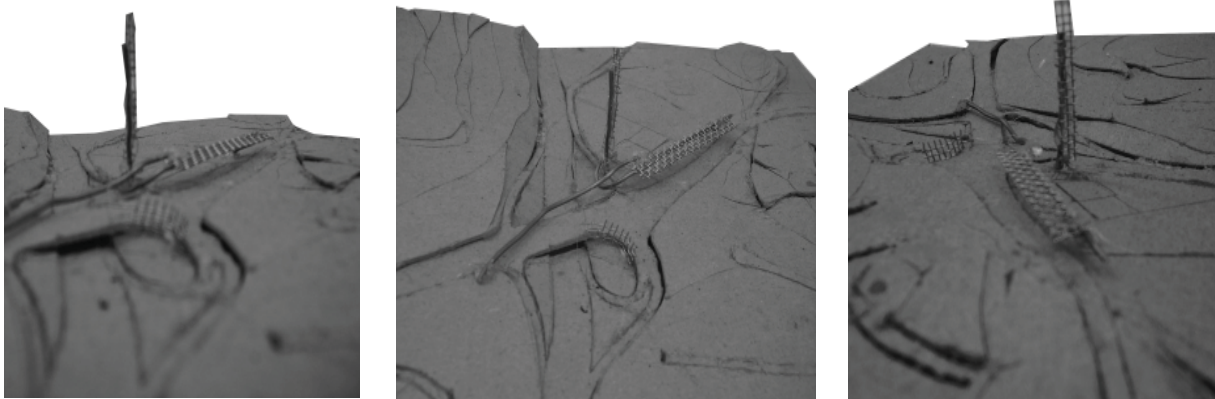
building programme



In this diagram, the length (horizontal x-value) of the rectangle represents the times in the day that that programme function will be available for use (in 1hr increments), while the breadth (vertical y-value) represents its floor area (in 50m² increments). (ie. the shaded rectangle represents a specific programme facility - vehicle workshop, post office, etc - the length in the x-direction of the rectangle = the time of day that it will be used; the breadth of the rectangle in the y-direction = the size of the programme in square meters). So, a rectangle with a deep breadth has a large footprint in square meters, and if it is long in y direction means its available for more time in the day!

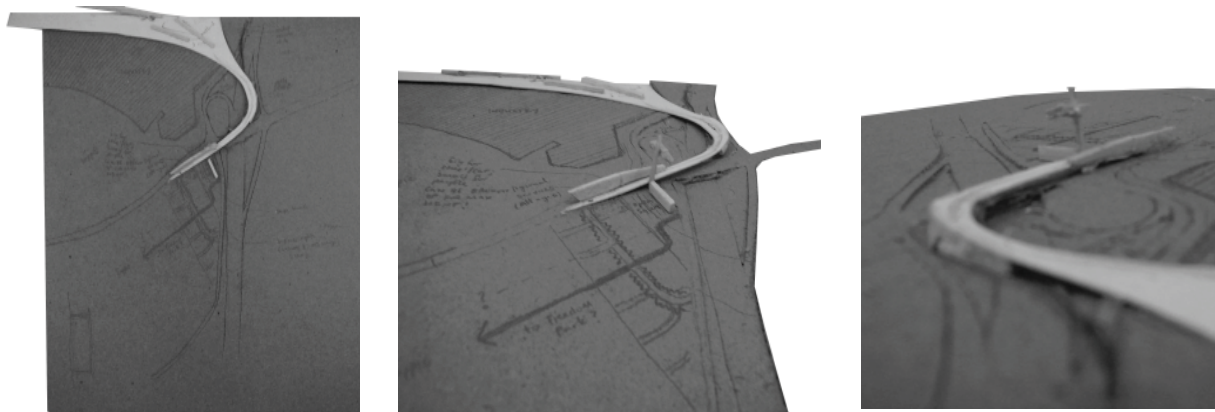
Early Schemes

These early schemes were created between writing my essay, when I got stuck.



The Viking ALL-IN-ONE

This scheme housed everything! What is important about this scheme is that it helped me get over my wild desire to accommodate everything as well as its tower - which reflected my desire to continue the iconicness that distinguishes the site. Initially the aeroplane provided this landmark, my tower would be a built manifestation of the Viking's aeroplane.



The Viking Interchange

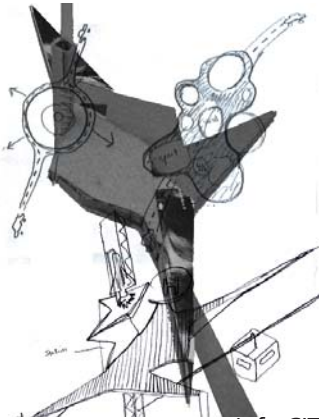
In this proposal, I have provided a new fly-over, thus upgrading the highway intersection into an interchange! The purpose of this was to link the fragmented bits of D-13 (which I then saw as the immediate areas around the site - Devland Industry, the Doornkop Military base Lenaron AH and Armadale) with a 'landscape'.

What is important about this scheme, in hind-sight, was the landscape principle (building is a landscape), the 'non-stop' loop I created for the truckers and the personification of the truck or the relationship I established between the two - 'while he is doing 'this', 'that' gets done to his truck'.

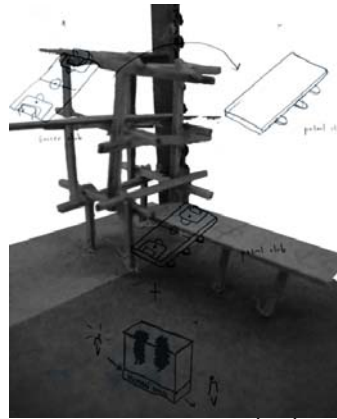
early design attempts and design charette

Design Charette

The Design Charette was a two week design workshop co-ordinated by recent graduates from the Wits School of Architecture and Planning. The purpose of the exercise was to facilitate the transition from 'theory' to 'design'. We had to translate the key abstract principles from our theory into architectural concepts by diagramming and modelling them. Below is a summation of the products.



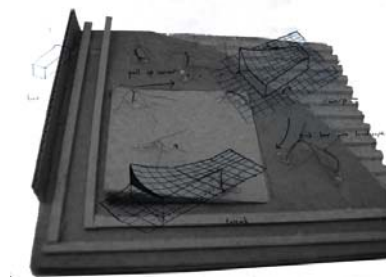
infraCITY



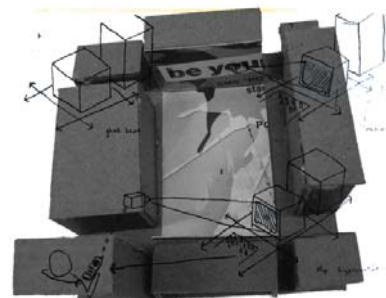
mashed use



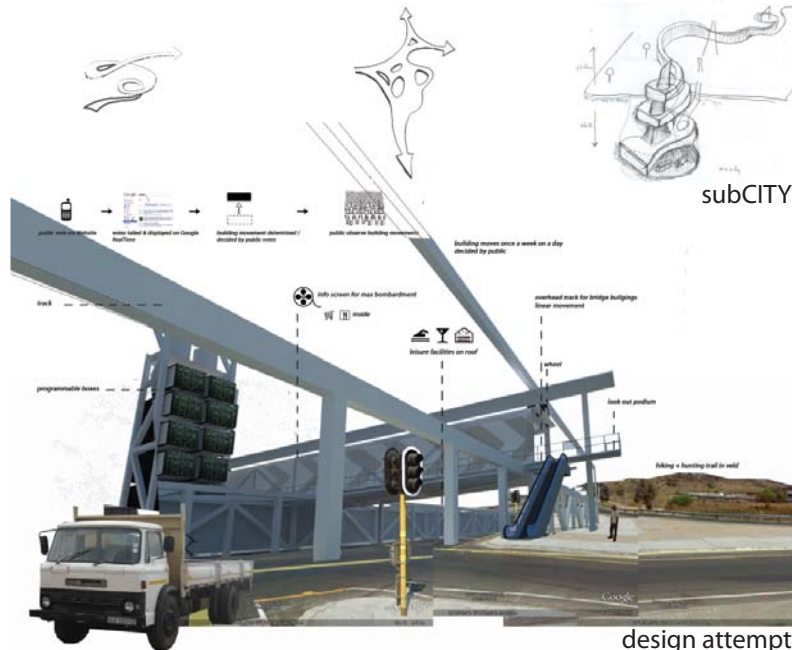
zipCITY



warp



my hyper CITY



design attempt

From these early attempts and particularly the Design Charette, it became very clear to me that I needed to establish 'rules' or a framework within which to work (A SCALE IT WAS ALSO HERE THAT I DECIDED TO WORK ONLY WITH SUB REGION D-13 AS MY USER GROUP). The 'limits had to be established because my chosen site (the Viking in Armadale, Devland) was not providing these explicitly enough for me (as is the case in more established contexts). See Demolition Diagram.

What follows are examples are the process of establishing 'rules'.

Designing Limits

Because I am proposing to demolish approximately 40% of Armadale's existing built fabric (see Demolition Diagram), and its remaining 60% also in a permanent transient state (continuously being altered by the existing inhabitants by self-build renovations'), it became clear that I could re-design every element of that suburbs built fabric - including even its grid - because nothing is 'fixed' or permanent, except for the minimum distance an access road can be from a busy/regional road intersection, like the Golden Highway and Old Vereeniging Road and the turning circles of the biggest vehicles.

This realisation led to the below exploration.

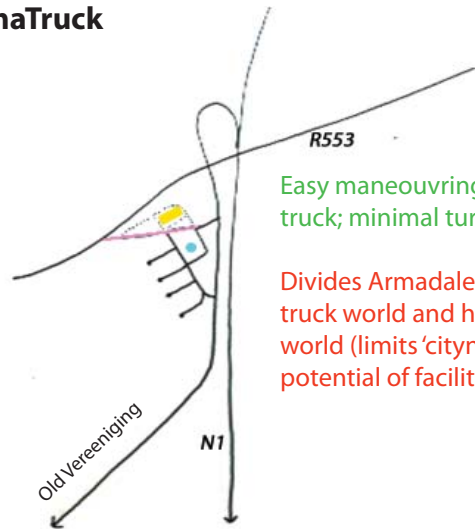
Truck Circulation

Existing Truck Circulation



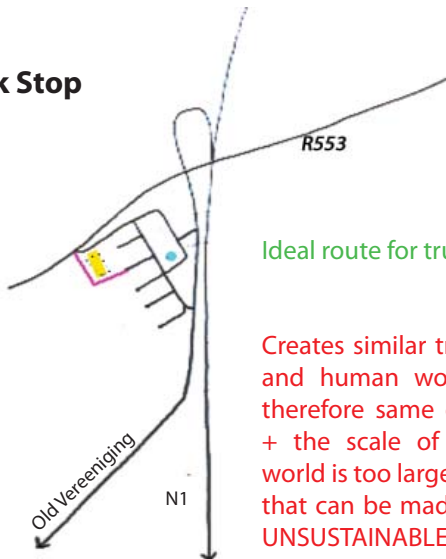
Efficient
Truck can go almost anywhere
Trucks dominate due to their size, because there are no restrictions on their movement.

ArmaTruck



Easy manoeuvring for truck; minimal turning.
Divides Armadale into truck world and human world (limits 'cityness' potential of facility).

Truck Stop



Ideal route for truck.
Creates similar truck world and human world as #1, therefore same challenges + the scale of the truck world is too large vs money that can be made from it - UNSUSTAINABLE.

Proposed Truck Loop: Conveyor Belt



EFFICIENT
can mix users 'cityness'
trucker needs to know or be familiar with the one-way circulation system

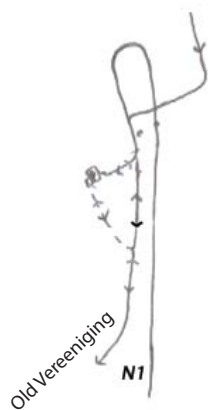
same as original, just one-way to 'control' trucks / make their circulation more predictable so other users can benefit (from their presence)

The purpose of the exercise was to create constraints for the design - by establishing the most ideal circulation loops for my identified users of the new building: truckers, motorists (cars and motor bikes) and non-motorised transport (bicycles and pedestrians).

Trucks were identified as ORDER 1 because of their size and manoeuvre-ability, cars as ORDER 2 and the non-motorists as ORDER 3. (This does not mean that I am prioritising truckers over pedestrians, it only means that I am dealing with trucks first because they are the least flexible of the identified users).

Car Circulation

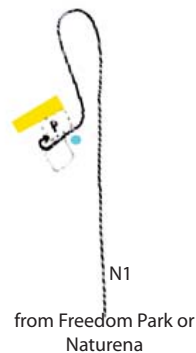
Existing Car Circulation



Efficient
Total freedom for car

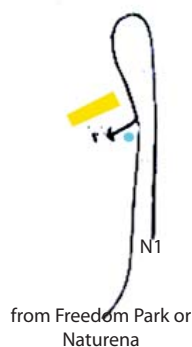
Because cars can go everywhere, pedestrians cannot walk comfortably (hazardous).

Sterile



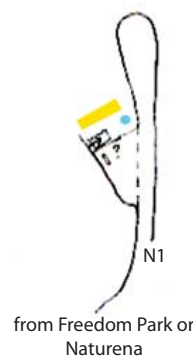
All modes of transport are separated, so easier to control
_Clash with exiting truck
_Destroy southern edge of square
_Total separation means no co-incidental meeting nor business opportunities.
_Is a basement necessary (are we promoting car use?)?

Hilbersheimer



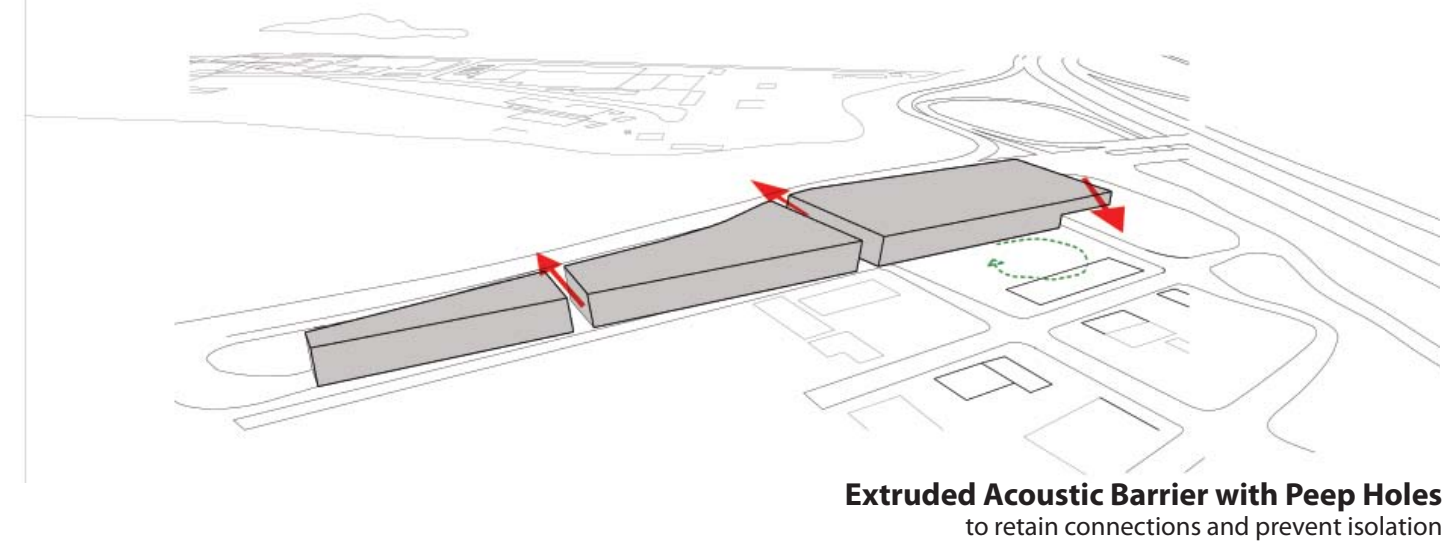
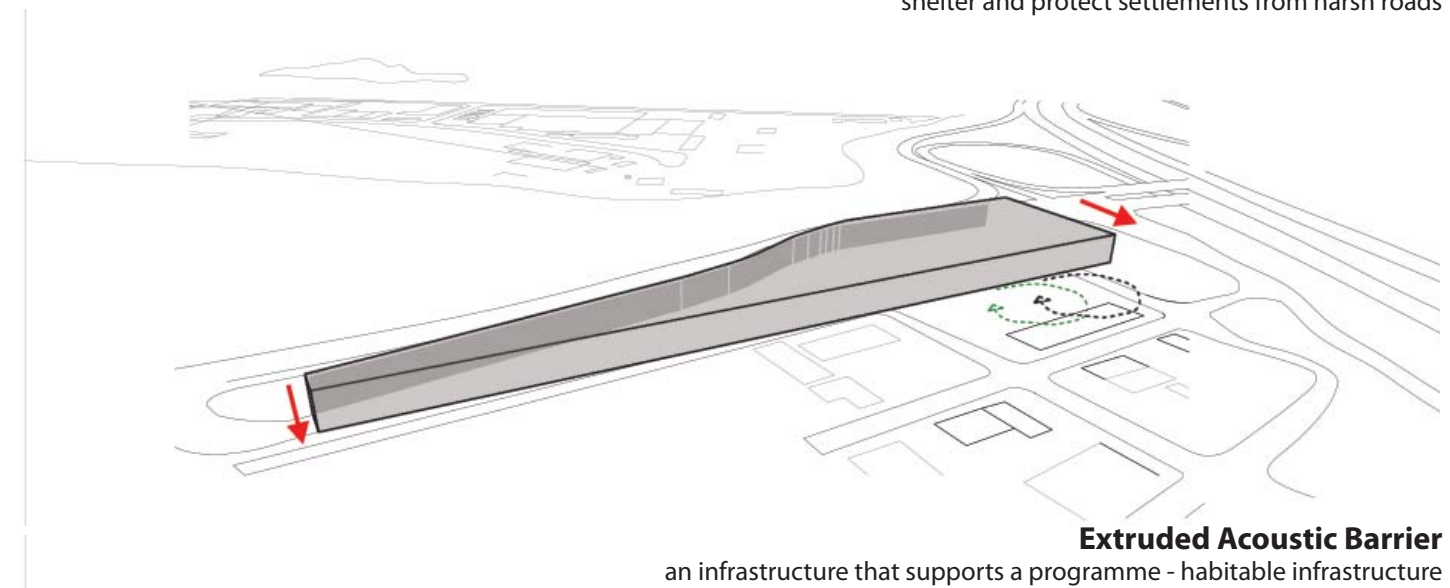
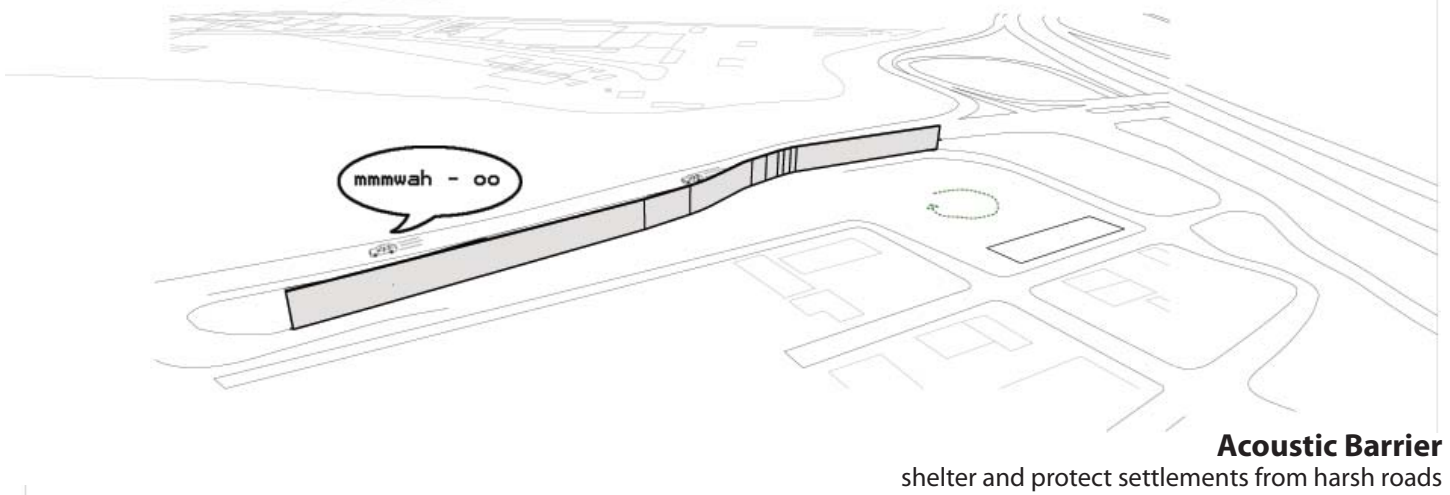
'Legible'
All modes of transport are separated; easier to control
_clash with exiting truck
_total separation means no co-incidental meeting nor business opportunities.
_is a basement necessary (are we promoting car use?)?

Proposed Car Loop: via Station Street



_Visiting cars drive through Armadale, and park on Station Street, thus activating Station Street: shops, etc.
_less pressure on Old Vereeniging Road
clash with exiting truck

Building's Rationale



typology appraisal and design development

Design Development

The circulation loops, the 'long-ness' of the site and the harsh-nature of the highways around the site validated the chosen typology versus, say, a sky scraper. Below are explorations of this typology.

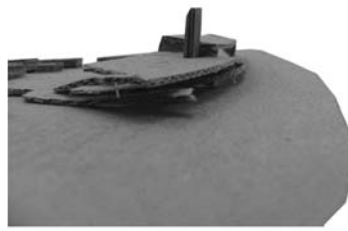
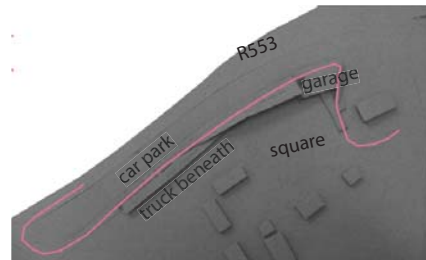
Carscapes

I was over-whelmed by vehicle circulation circuits.

In these schemes, cars the petrol station was on the first floor, with a car park and drive-thru service centre



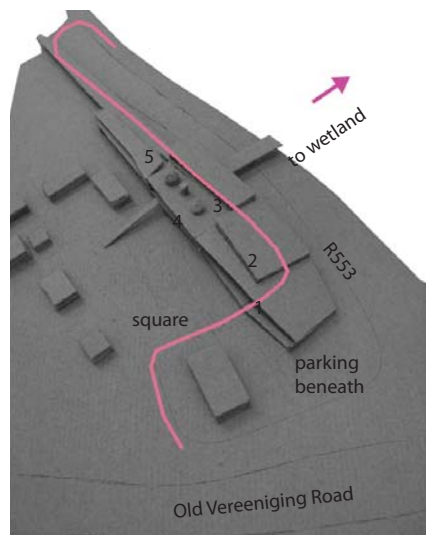
Street facade is 'built up' to 'protect' Armadale



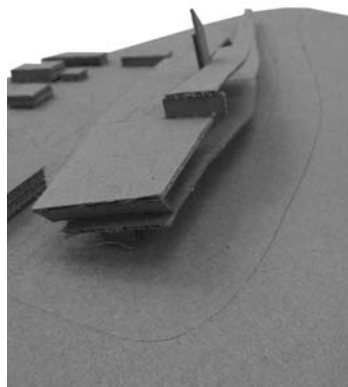
Square and multi-service centre on NGL.

ABNORMAL (e)

I was over-whelmed by the service requirements of the programme. In this scheme, cars, the petrol station, the car park and the buildings services are on ground floor, and the peoples' centre is 6m above the square.



1-Auditorium; 2-Sports Hall; 3-Building Control + Night Club (2nd fl); 4-Multi-Service Centre (1st fl); 5-Trucker Activity 'yard' (1st fl).



Scheme was stretched from the slipway in the west to the intersection of the R553 and Old Vereeniging Road in east to benefit from the prominence of that corner.



In this scheme, all the building's services (kitchen for the buildings cafeteria, mail sorting room, etc) were centralised and kept on ground floor. This meant the multi-service centre was raised to the 1st floor and that visitors had to ascend 6m on a ramp to get there. A thin strip of shops was proposed on the ground floor of the edge facing the square (behind the kitchen) to activate it. See Appendix.

Design Development

Topless

To amend the 'Abnormal' scheme (which was too big), I de-centralised the buildings services... I clustered them with their respective function (and not all grouped on ground floor). I then tried to place everything where it would want to be placed if it could put itself on the site (so multi-service centre, garage, trucks on NGL at various corners relative to sight lines, see 'mapping').

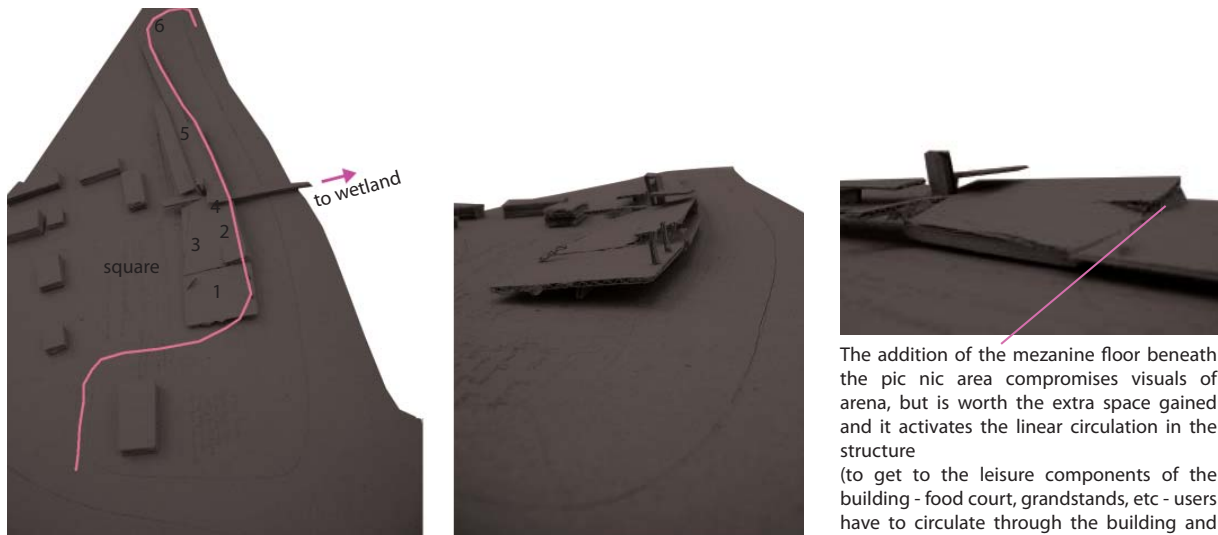
To reduce the scale of the scheme, I re-appraised the programme: large objects like the sports hall, auditorium, parking lot and cafeteria (and its kitchen) were re-interpreted into an 'open-air' arena, a grandstand, street parking on Station Street and a food court (with food stalls to let) respectively.

To improve the proportions of the building, I looked at earlier models I built and 'shaved' the new one's to meet those preferences.



1-sports arena; 2-grandstand; 3-food court; 4-trucker yard; 5-truck access. The Multi-service centre is beneath (on the squares level) with shops that open onto the square. The garage is beneath the arena.

The grand stand is adjusted to face the square (to activate it) and the foodcourts' eating area (pic nic area) overlooks the arena and the broader context (highway and koppies).



1-sports arena; 2-pic nic area; 3-grandstand; 4-food court; 5-trucker yard; 6-truck access. As above, the Multi-service centre is beneath (on the squares level) with shops that open onto the square. The garage is beneath the arena.

The addition of the mezzanine floor beneath the pic nic area compromises visuals of arena, but is worth the extra space gained and it activates the linear circulation in the structure (to get to the leisure components of the building - food court, grandstands, etc - users have to circulate through the building and thus see the facilities of the multi-service centre that are available to them, free of charge!

Technology

'Technology' here is to be understood as 'construction' or 'building'. In this chapter, I shall explore a means of 'constructing' the design through the use of an employment-intensive system, since that form of technology is most complementary with the architectural concept.

As described by the 'jump-start' diagram, the architectural concept is 'enablement'. This concept promotes self-help. As it stands, it is only related to the completed buildings effect on end users and on its topographical context. There is no reason why the concept of enablement cannot be extended to the construction phase of the building though. That is, promoting enablement before the occupation of the completed building – especially in Sub Region D-13, where poverty and unemployment are extremely high. So, I shall use 'construction' (or technology) to encourage enablement in the community and the landscape.

It is important to remember is that, although one does direct the highest percentage of construction costs to less-skilled workers in employment-intensive schemes, the objective is still to build matching other methods of construction in terms of cost, time, scope and quality. (Fitchett, 2009: 156). Therefore, when building using employment-intensive construction techniques, the role of the hands-on supervisor is essential. (This will be discussed later though).

The above principle was paraphrased from Anne Fitchett's doctoral thesis, 'Skills Development and Employment Creation through Small Public Buildings in South Africa', where she sought to find the parameters that would see a meaningful increase in employment through the design and construction of small public building (2009: iii). Her assumption is that the design and construction of small public buildings can create jobs, her challenge was in optimising the number of jobs that can be created. If one accepts her assumption and her findings ('that there is considerable potential for building to create employment'), then there is a scope to promote meaningful enablement in a community with a building. I shall therefore attempt to evolve my design into a more employment-intensive scheme... 'with employment-intensive methods as the 'design driver' (128) (eventhough mine is a 'big' building).

In this chapter I shall create a 'how-to build the Devland Service Station ('DIY Devlander'). The guide will roughly describe the process for constructing the building using employment-intensive techniques. It will therefore outline which components can be built by unskilled locals and which cannot (these may be procured to local enterprises). It will then describe how the team can progress using employment-intensive materials that can be manufactured on-site and how these materials can be implemented in the making of the Devland Service Station .

The goal is still to execute a good building, (this is the second important point); we are just reaching this end by involving the local community (to train the participants¹ in an array of building disciplines) rather than one private contractor. This is done so participants may eventually find and / or create work for themselves - meaningful enablement - '... it is important to re-iterate here that the primary objective is to create a valuable asset, through the medium of employment-intensive techniques, and not primarily to make jobs (as is the case with most poverty relief initiatives)' (Fitchett: 2009, 128).

Important criterions to consider when contemplating employment-intensive projects

According to Fitchett, a designer intending to design for employment-intensiveness should consider (2009, 18):

- The facilitation of a training programme for participants (to artisan or site manager level at minimum);
- The promotion of employment-intensive materials manufacture and construction methods;
- High quality architectural and engineering design;
- Environmental responsiveness and responsibility
- The social and cultural values, with respect for the recipients' aspirations

The employment-intensiveness must be bought into entirely by the entire project team, since contractually as it stands in this country, 'conventional procurement methods leave the process of construction entirely to the contractor...there is an entrenched divide between design and implementation'. (30)

1. One of the main issues in the construction industry today is the large number of informal contractors that are operating in the country (BIFSA, 2003). This is a problem not only because of the lack of protection of the public and these contractors in the case of disputes, nor because these unregulated contractors do not pay tax and make the other essential contributions (like to pension funds, medical schemes, etc) but because the inferior workmanship these contractors produce erodes the image of the building industry as a sector offering high-quality career opportunities. This perpetuates the identified skills shortage in the building industry, since potential artisans get lost to other professions (ILO 2001).

Selecting what can be done by employment-intensive techniques and what cannot (construction techniques)

This appraisal was done through consultations with Michael Sotiriou (a local engineer with ... years experience). From the consultations two solutions emerged: 'compromise' and 'total'.

1. Compromise:

In 'compromise' the building will be supported by a structure that is composed of columns (steel H-columns and segmented precast concrete super-columns - which support the pool - see design) and a pre-cast concrete super-floor deck (that will be assembled on-site from pre-cast concrete modules (like in culvert construction).

The pre-cast technique was selected rather than casting on site because on-site casting is a more expensive technique and is only feasible when the space beneath the structure that is to be completed is to be kept clear during construction phase - like when constructing a fly-over bridge across a working highway or flowing water-body.

Furthermore, this decision - to use pre-cast elements that will be assembled on site - is to lessen the time the specialists will be on the construction site and therefore allow for more time for the on-site training. The unskilled construction can now take place within the fixed and accurate parameters of the specialists' works.

2. Total:

In 'total', the building is constructed only using labour intensive techniques, without any specialist contractors - ie the super-structure is also made using employment-intensive techniques. So, the columns are made using 'brick shutters' and a centre filled with concrete. The column reaches its height over time, since it rises only 1m per day. The floors (including the super-floor) are made using the 'block-and-beam' floor system.

This construction technique, although very labour-intensive, was not selected because it will be too slow a process (take too long). Meaning, the construction period will be inefficient. As was the case for Anne Fitchett in her PhD, we want to optimise the amount of people that can be employed by the construction of the building without simply creating work.

Material Considerations

Fitchette adds that designers should incorporate the use of small components for their versatility or man-handling quality, that the design should be adjusted to suit the skill level of the workforce and promotes the use of stabilised earth, for its high thermal capacity relative to cost.

For these reason, the infill of the building will be of HydraForm Blocks - 'bricks' that are made on site from a mixture of the sites soil.

Training Programme / Quality of employment created

The opportunities that the project can create for prospective participants should be marketable for that particular member, 'is the objective of employment creation dominant, or is it low on the list of competing factors? Will the job opportunities last beyond the duration of the individual project?' (Fitchett: 2009, 29-30). One can assume that a project where employment-intensiveness is used as 'something of a slogan, to indicate social concern' that the emerging jobs might be patronising to those who receive them, since those who receive the work are doing the 'mindless tasks'.

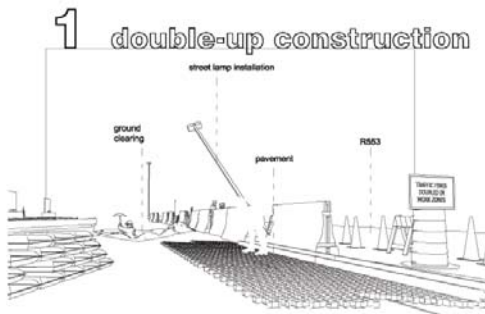
An important role in the training programme is that of the hands-on site supervisor, as mentioned in the introduction above. This role is critical, since this member translates the technical documentation (which is produced by the various professionals) into commands that those who are building on the ground understand and most importantly, he keeps the team motivated - 'since the emphasis is on efficiency and productivity' (156)).

The 'hands-on site supervisor' may be selected initially from the community leaders or by voting. This member then gets 'classroom' training followed by close site supervision and finally becomes an intern (on another site, perhaps through LITE).¹

The 'D-I-Y Devlanders' ('do it yourself') guide demonstrates how technology can be used to enable the community.

¹LITE (Labour Intensive Training and Engineering) is a non-profit organisation that is focussed on the training of 'hands-on supervisors'. Their curriculum is streamlined to grooming individuals who are capable 'hands-on site supervisors' and therefore is a combination of technical, managerial and entrepreneurial aspects'.

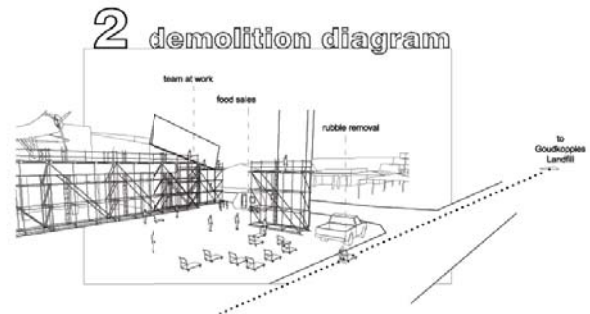
The practical training takes place after mandatory 'academic' classes, where the principles of the task are explained to participants. The tasks are implemented in a wave-like fashion. I.e. team 1 start, while others are being trained, then once team 1 has developed their task to a particular point, team 2 start behind them (eventhough team 1 is not completely finished) and so on.



Participants construct Phase 1 of the D-13 Double-Up*. Phase 1 is to the Goudkoppiies Landfill, so 'the Movers' (see below) team have an easier and safer route.

The D-13 Double-Up is a series of pedestrian routes that will be completed throughout D-13 to make the region more pedestrian friendly. It will also integrate D-13 with nearby townships (Soweto and Eldorado Park) and the Southern Suburbs.

*Double-Up is South African Township slang. It means 'short-cut' (usually referring to non-vehicular routes, like foot paths, etc).



Participants begin 'dismantling' the existing structures under the stewardship of the 'hands-on supervisor'.

The goods are taken to the scrap metal dealer on Station Street, provided that he employs additional staff from D-13, salvaged bricks are stored and re-used and rubble is transported by 'the Movers' team (see below) to Goudkoppiies Landfill (which is 300m away down hill).

5 block work team read this in conjunction with 'HydraForm Standard Manuel' (2004) which contains specific information for each task e.g like how soil is

The block work team contains between 9 - 11 people.

This team is then divided into 5 sub groups:

a. the (soil) extractors, b. the (soil and block) movers, c. the (soil) mixers, d. the (machine) operator and e. the (block) curer.

Each member of the team will get a chance to work in one another sub-group. This is co-ordinated by a rotation system to be arranged on-site based on progress, etc.

The block work tasks are divided into 7 activities:

1. soil extraction, 2. soil transfer, 3. soil mixing, 4. block-making, 5. block transfer and 6. block curing

task
sub group
responsible
page
reference
in
HydraForm
Manuel
(2009) .

5.1 soil extraction

a. THE EXTRACTORS

pg 20



Dig up soil.
Only soil from 1m below NGL is suffice for on-site block manufacture (remember, topsoil contains too much organic compounds) . The soil that is between 500mm and 1m deep gets stored and re-used for planting on the finished building.

NB! This soil extraction process is different from the initial 'earth works' phase, where the 400mm of contaminated topsoil is removed and dumped at a designated area of the Goudkoppiies Landfill site.

5.2 soil transfer

b. THE MOVERS (soil)



The extracted soil from deeper than 1m and cement bags are transported by the movers to the mixers' workstation.

Soil from between 500mm and 1m gets transported to storage area.

5.3 soil mixing

c. THE MIXERS

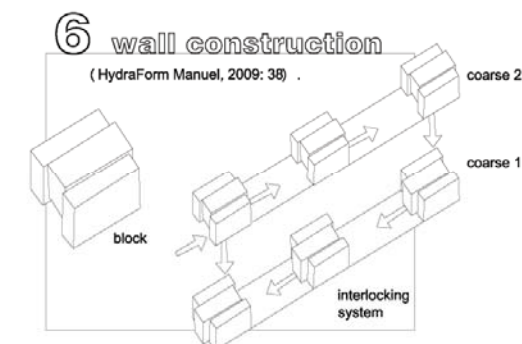
pg 27



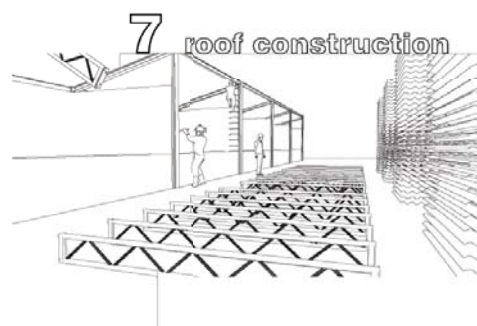
The extracted soil and cement is mixed in three steps:

1. extracted soil and cement get mixed (sand might be added if the extracted soil is too fine / clay-like).
2. add water with watering can to the dry mixture - remember, not in one go, but continuously as described in class
3. mix mixture until water is spread evenly.

*Consult Hands-on Supervisor who can seek advice from Geo-technical engineer)



The brick layers receive the cured bricks from the Movers and begin building the walls. Remember, start from corners with 'male' block, clean continuously and interlock.

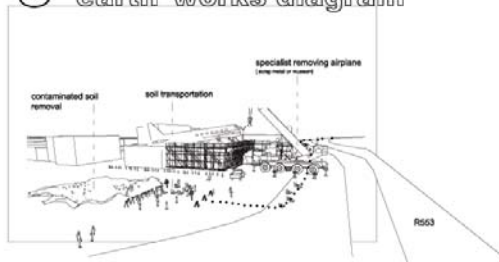


Tie the wall plate to the walls (remember to ensure this member absorbs any inconsistencies) then the pre-made mono-pitch trusses are hoisted into position and screwed to the wall plate. Finally screw the S-profile corrugated iron to the truss (using the correct screws) .

D-I-Y Devlanders

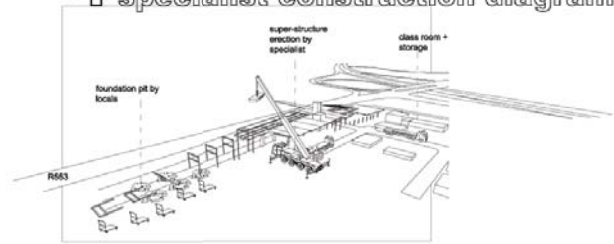


3 'earth' works diagram



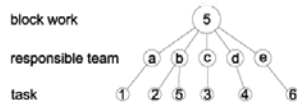
While one team continues the 'dismantling', another team begins removing the 500mm of contaminated top soil, as per specialists and again under the stewardship of the 'hands-on supervisor'. The contaminated soil is transported by 'the Movers' team to the Goudkoppies Landfill via the completed D-13 Double-Up.

4 specialist construction diagram



A team of specialist contractors are contracted to build the super-structure, while the contractors work, the community participants begin the block making process, see Step 5 below. (This is done so that there is no lag between the 7 - 14 day block curing period and the super-structure completion date) .

chosen



5.4 block making

d. THE OPERATOR

pg 9

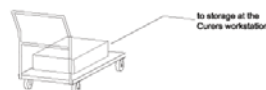


Only the designated operator may touch and operate the machine.

The Operator is also responsible for cleaning the machine at the end of the day.

5.5 block transfer

b. THE MOVERS (blocks)



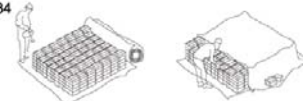
The extracted soil from deeper than 1m and cement bags are transported by the movers to the mixers' workstation.

Soil from between 500mm and 1m gets transported to storage area.

5.6 block curing and storage

e. THE CURER

pg 34



This is where the blocks strength and durability come from. Blocks are stored and allowed to cure for 7 - 14 days. The blocks must be watered twice daily: morning and evening during their curing period.

Storage
Blocks are stacked 5 high, minimum 7 wide. The blocks must be stored out of the sun and covered in a waterproof membrane. The blocks must be raised off the ground. The curer is responsible for watering, covering and stacking the blocks.

8 finishes



PLUMBING + ELECTRICS WILL BE EXECUTED BY LOCAL SPECIALISTS!
Painting, plastering, door hanging, balustrade installation, glazing and landscaping will be completed by the participants in their teams.

9 lessons



Participants will receive a letter of recommendation once the project has been completed, as well as basic accounting training (participants will receive payment for their services (wage or salary to be finalised) , rather than a meal ration or a stipend) . This is to further incentivise workers and enable them financially.

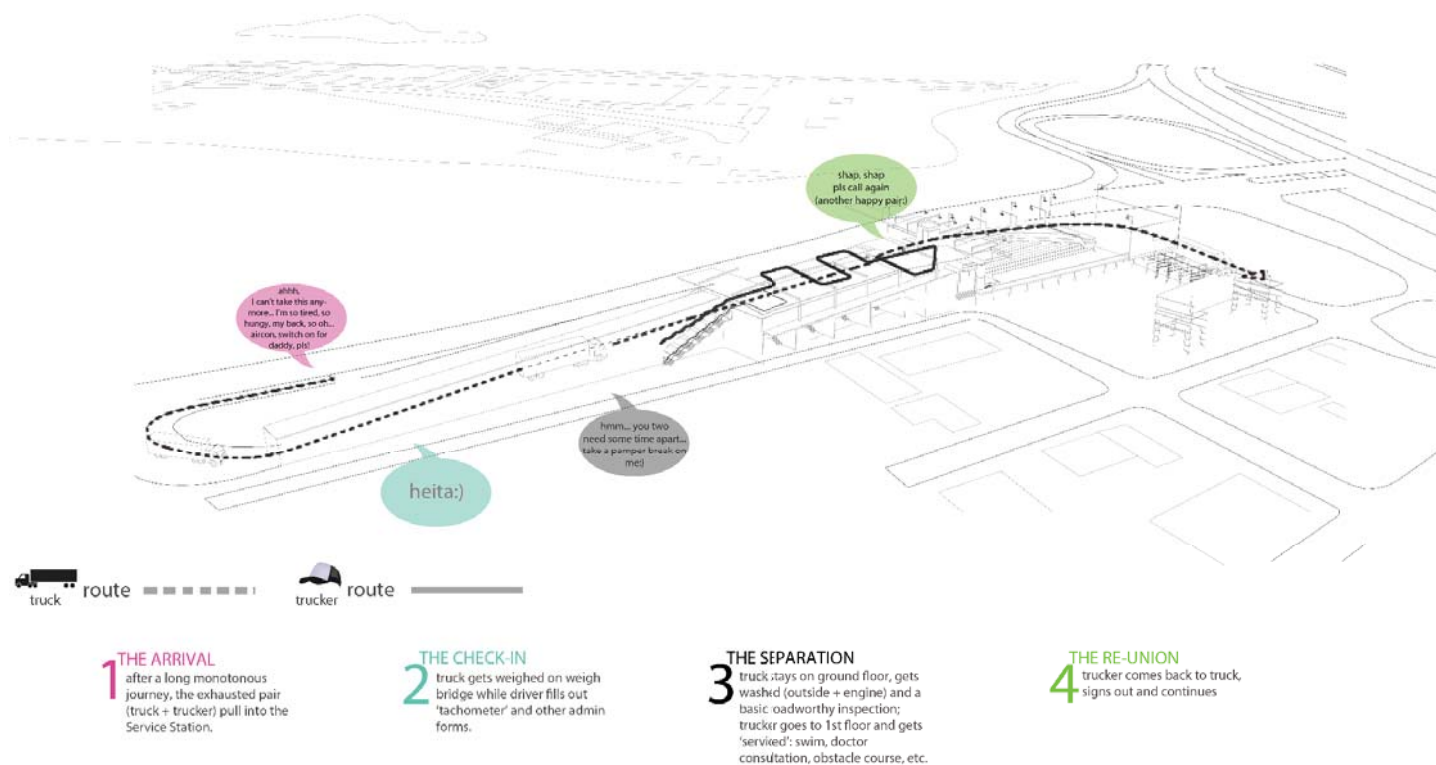
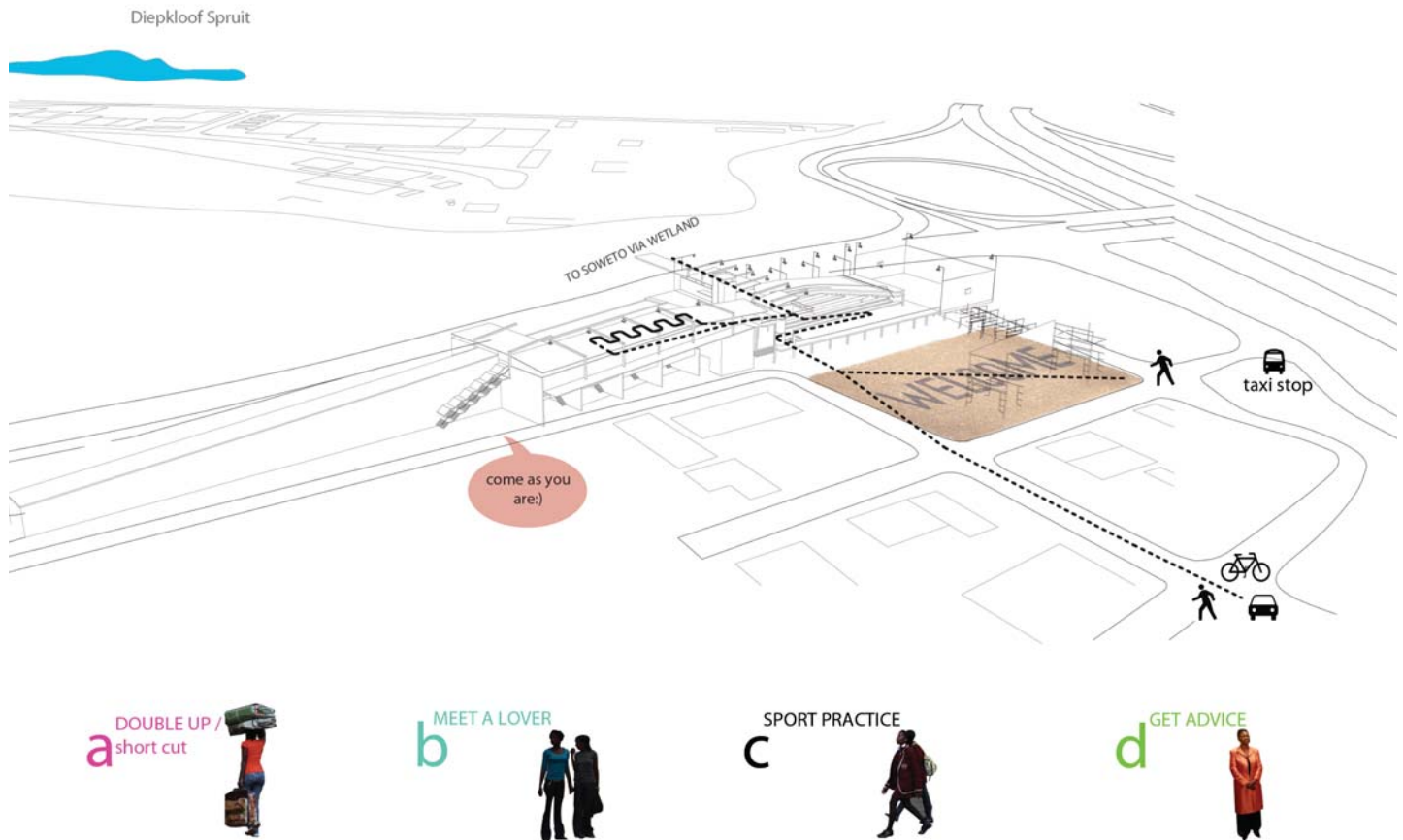


Diagram of Maximum Recovery

The 'truck stop + tune up centre' was conceived as a conveyor belt / production line.

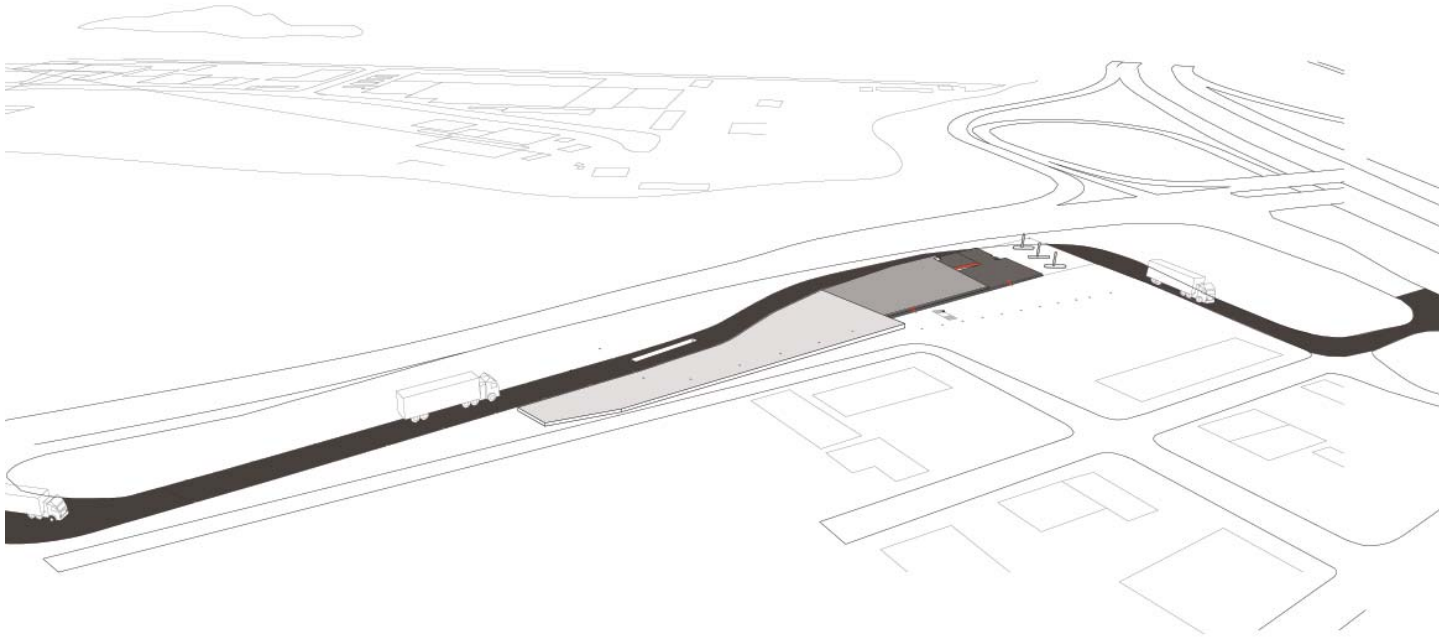
The truck + trucker enter structure and sign in. Trucker leaves his vehicle and proceeds upstairs to the roof where he gets 'serviced'; meanwhile his truck moves through the service / tune-up sequence. It is driven by a 'valet driver'. The two meet again (truck and trucker) at the end of the sequence and leave the Centre fully refreshed and ready to continue their journey.

a tachometer is for a truck what a 'black box' is for an aeroplane, only it only measures how often and how long the trucker stops (for rest and break periods). Tachometers are implemented by law in the USA, the EU and Japan. The tachometer technology was 'driven' by insurance companies and road accident funds, to reduce the payments these organisations had to make for accidents (especially those accidents caused by trucker fatigue). Truck driver fatigue is for the trucking industry what drunk driving is for private car transport. See Appendix.



Destination Diagram

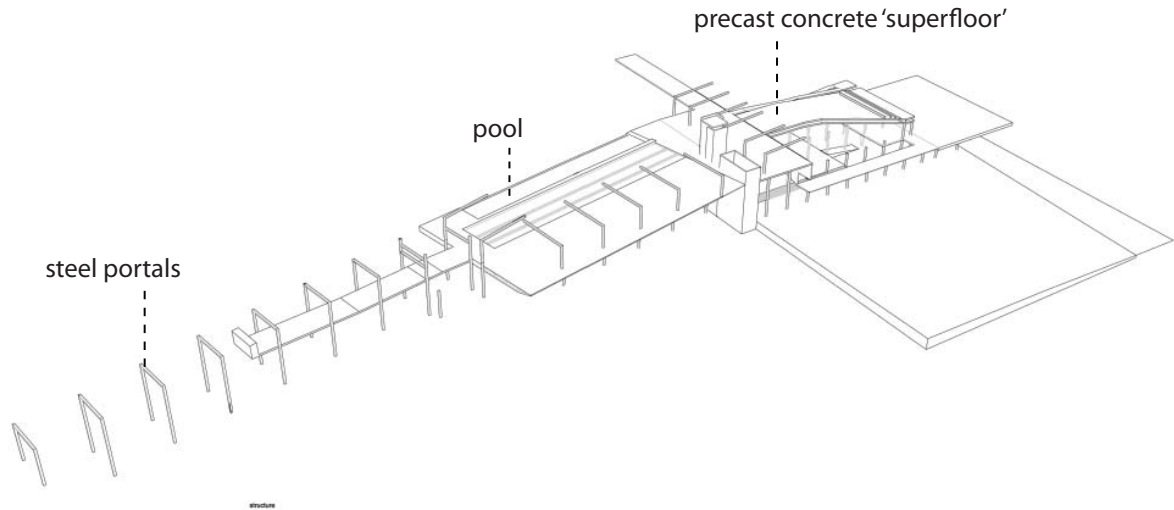
The Peoples'Centre is conceived as a thoroughfare, upon which information and leisure facilities are attached. Residents may come to the centre to participate in sports, for instance, get to the sports arena they must pass through the peoples' centre, and thereby see the services (counseling, post office, SARS outpost,...) that are available to them free of charge and in total privacy. (Whether a resident is visiting the Centre to collect his post or coming for addiction counseling, he will wait in the same queue and sit in the same cubicle. This way passers-by will not be able to know the reason for the visit. This strategy is employed to break-down the potential stigma that arises from visiting such a centre).



Ground Floor Level Diagram

Once all the contaminated soil has been removed and transported to the designated area in the Goudkoppies Landfill Site (see DIY Devlanders Leaflet) and the necessary soil extracted to create the block, the participants in the DIY programme will re-compact the soil so building may commence according to the slope of the site.

ground floor levels and Structural diagrams

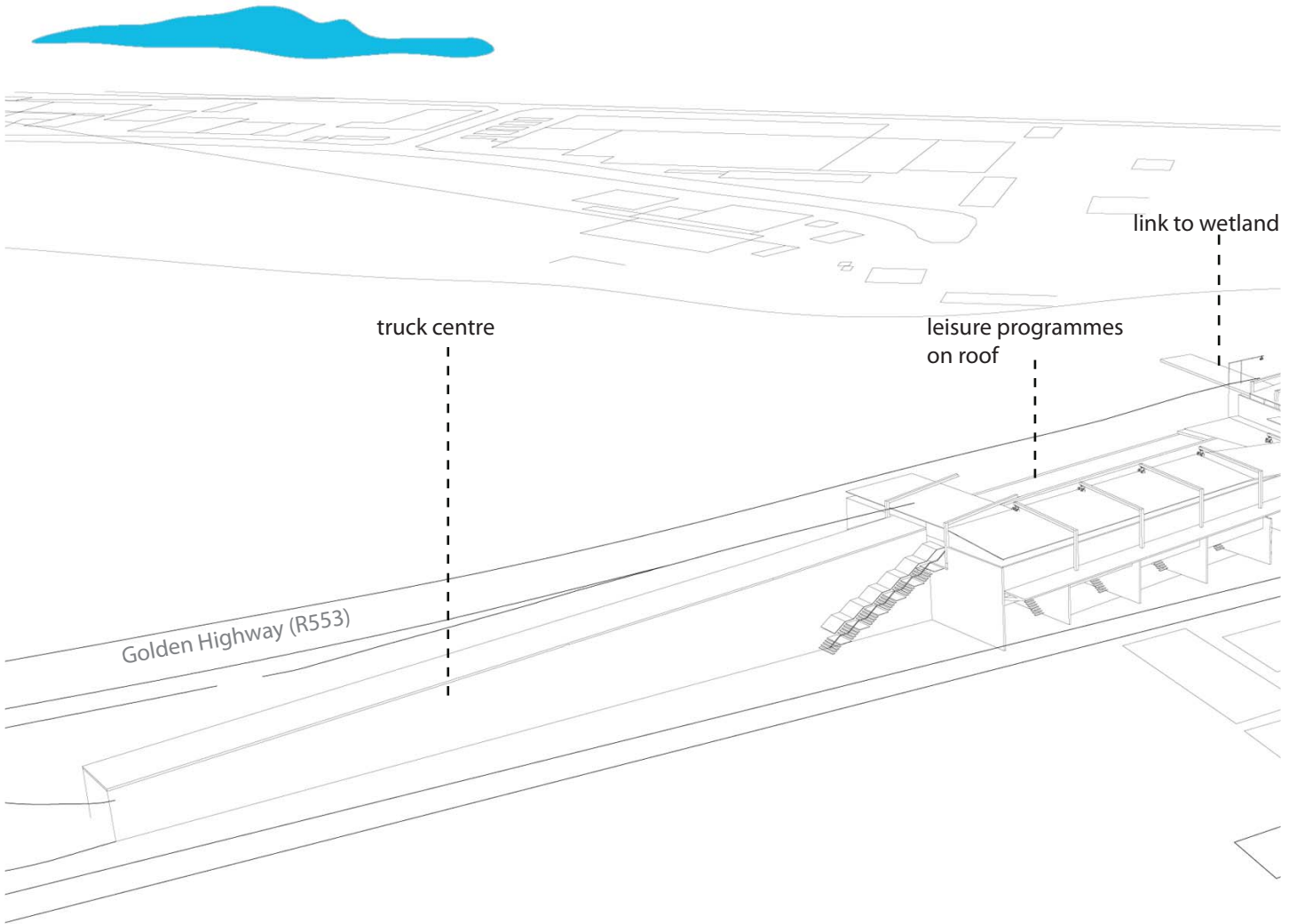


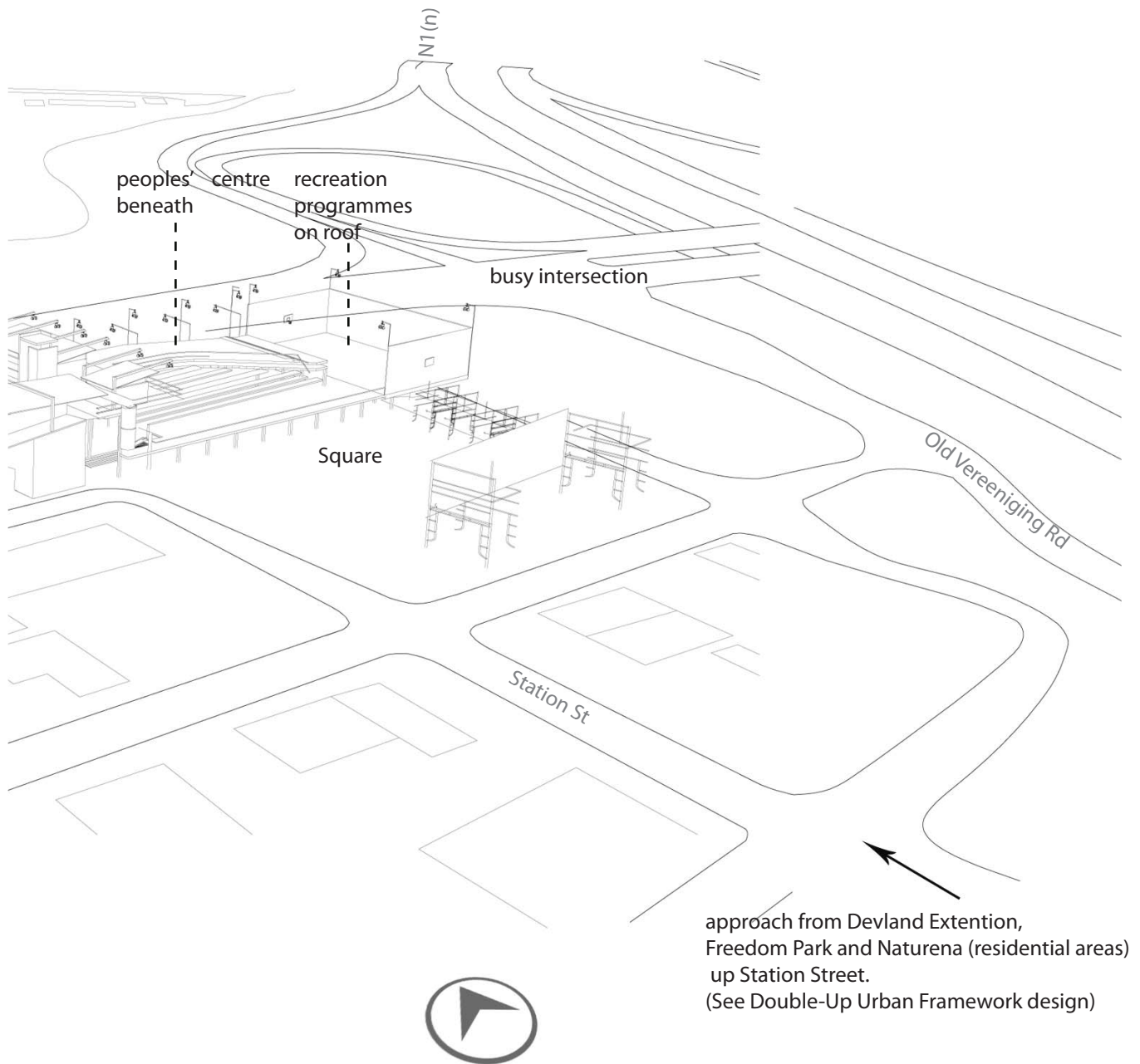
Structure Diagram

The structure of the building will be completed by professionals and the infill block work, and mezzanine floors completed by the participants of the DIY Devland programme.

The structure is composed of steel portals and a precast concrete super-floor (see 'Technology' in this 'Making' Chapter).

The 'superfloor' is supported by large precast concrete super columns (beneath the pool) and steel H-columns everywhere else.





the D-13 Double Up)

objects in D-13 are closer than they appear, when appreciated via the 'D-13 Double-Up'
integrates existing fragmented neighbourhoods of D-13, but facilitates open development of each individually.

The contaminated wetland which is 100m north of the Site links Sub Region D-13 with Soweto to the north-west, Eldorado Park to the south-west and the 'Southern Suburbs' around the Suikerbosrand Nature Reserve to the south-east.

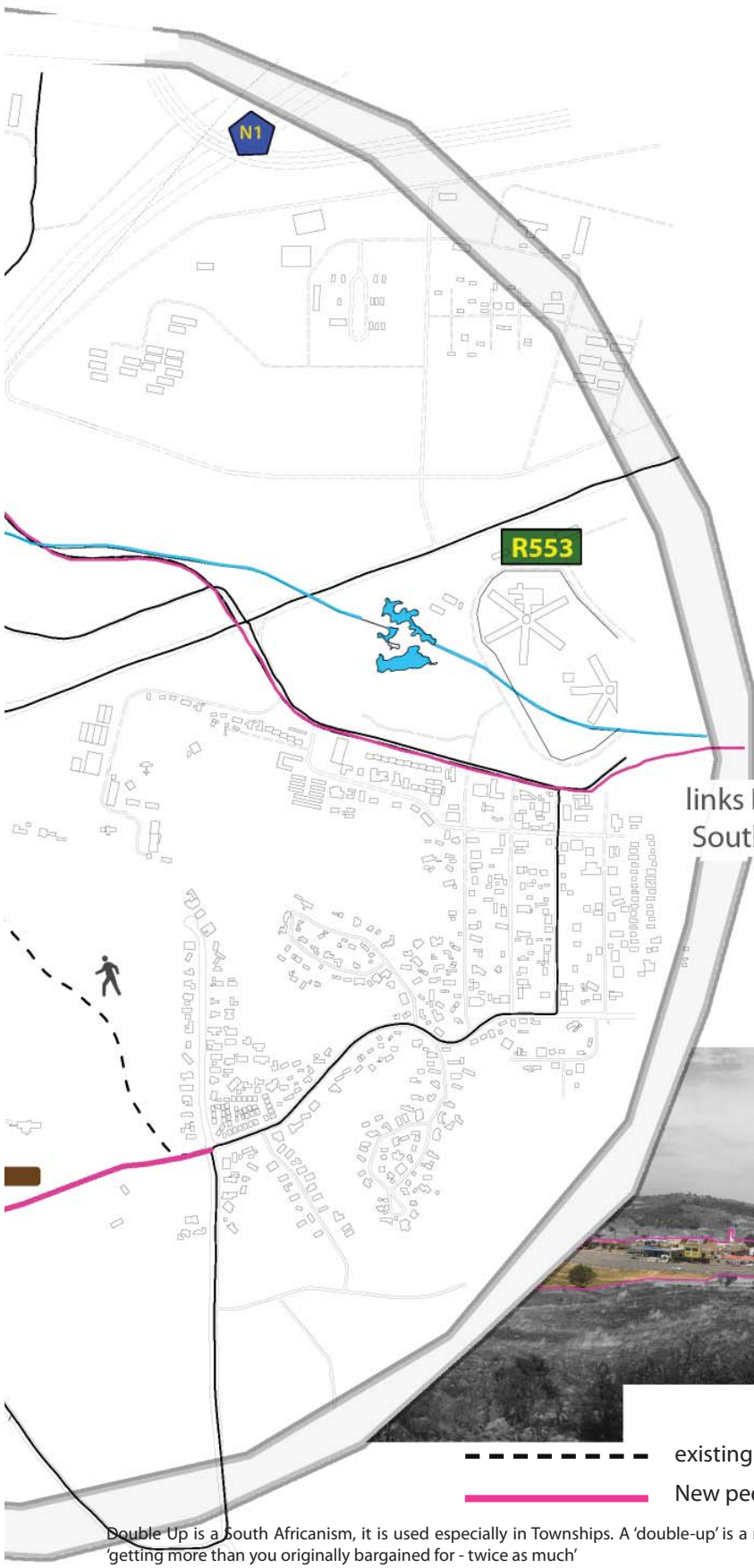
This wetland, if treated, can become a useful resource for D-13 by initially serving as a pedestrian walkway and eventually becoming an employment, leisure and educational source for the residents: work opportunities like: water sports companies, bird watching companies, outdoor sports companies, even food and travel enterprises could thrive on a functional wetland as well as residential developments like waterfront housing, and (with the necessary expertise) it could become a source of hydro-electric power and drinking water for D-13.

Essentially the 'Double-up' is about re-instating and then preserving and conserving the existing wetland to create a form of 'nature reserve' within D-13 that enables the region. With the wetland as a viable but still profitable green space, the residential neighbourhoods of D-13 (Freedom Park, Naturena, Devland Extensions and Comptonville) as well as the industrial areas (Power Park and Devland) can expand as they require for the various activities they support without 'worrying' about green space or destroying the appearance of D-13.

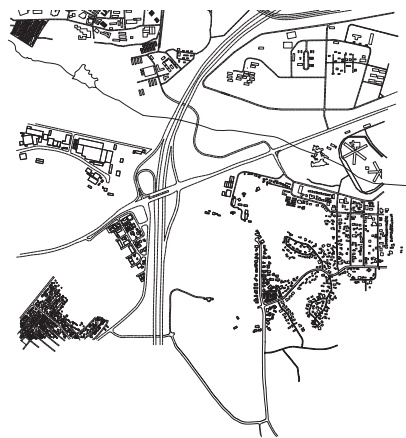
Hence D-13 becomes more live-able and profitable.



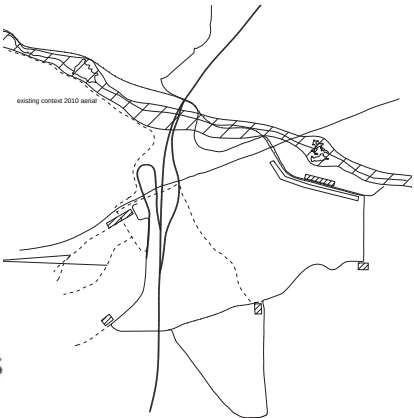
Urban Framework



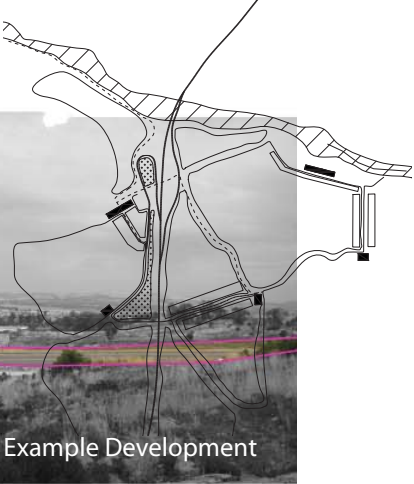
links D-13 to Southern Suburbs



D-13 Existing Figure Ground



New Strategic Sites on proposed route

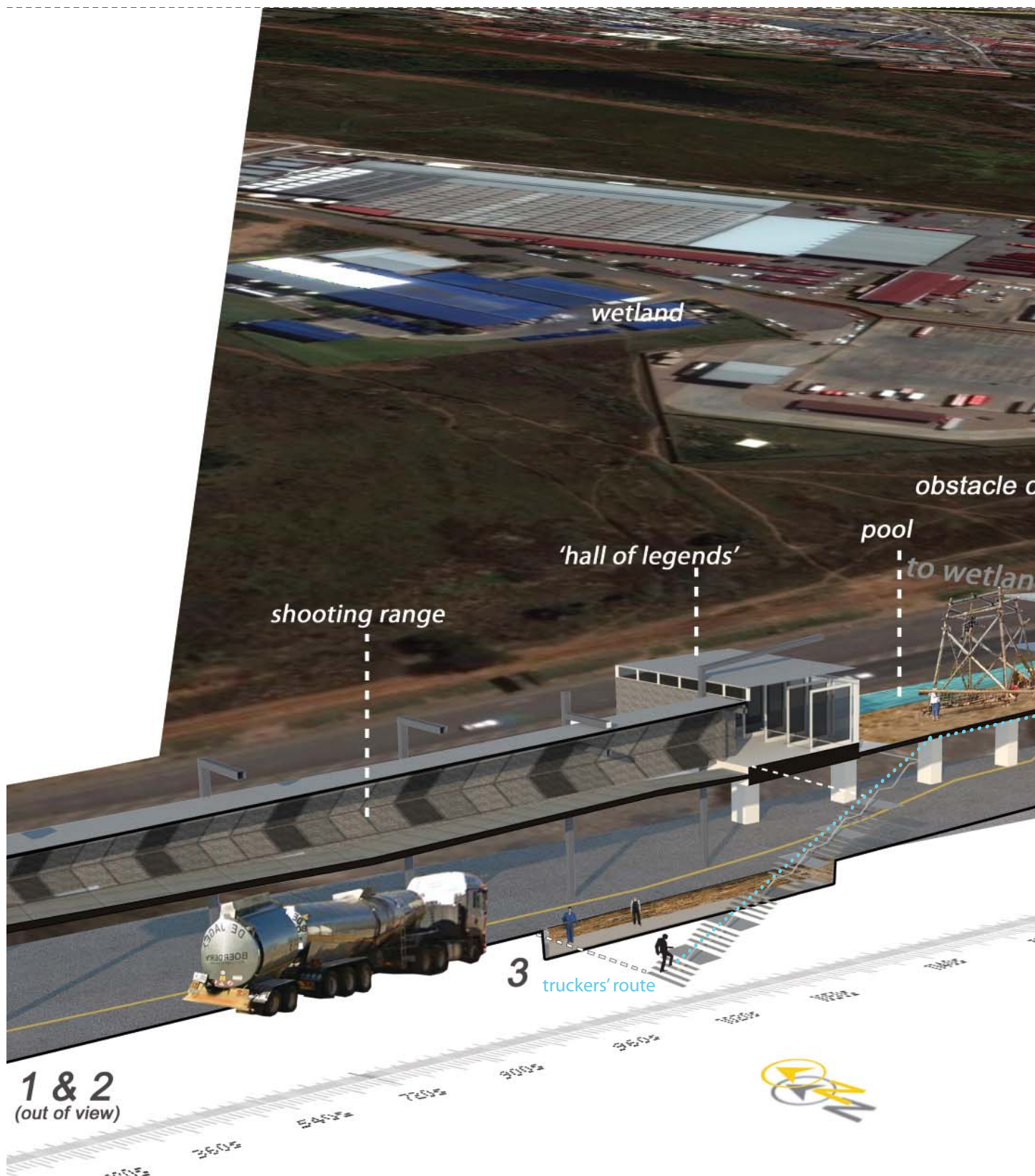


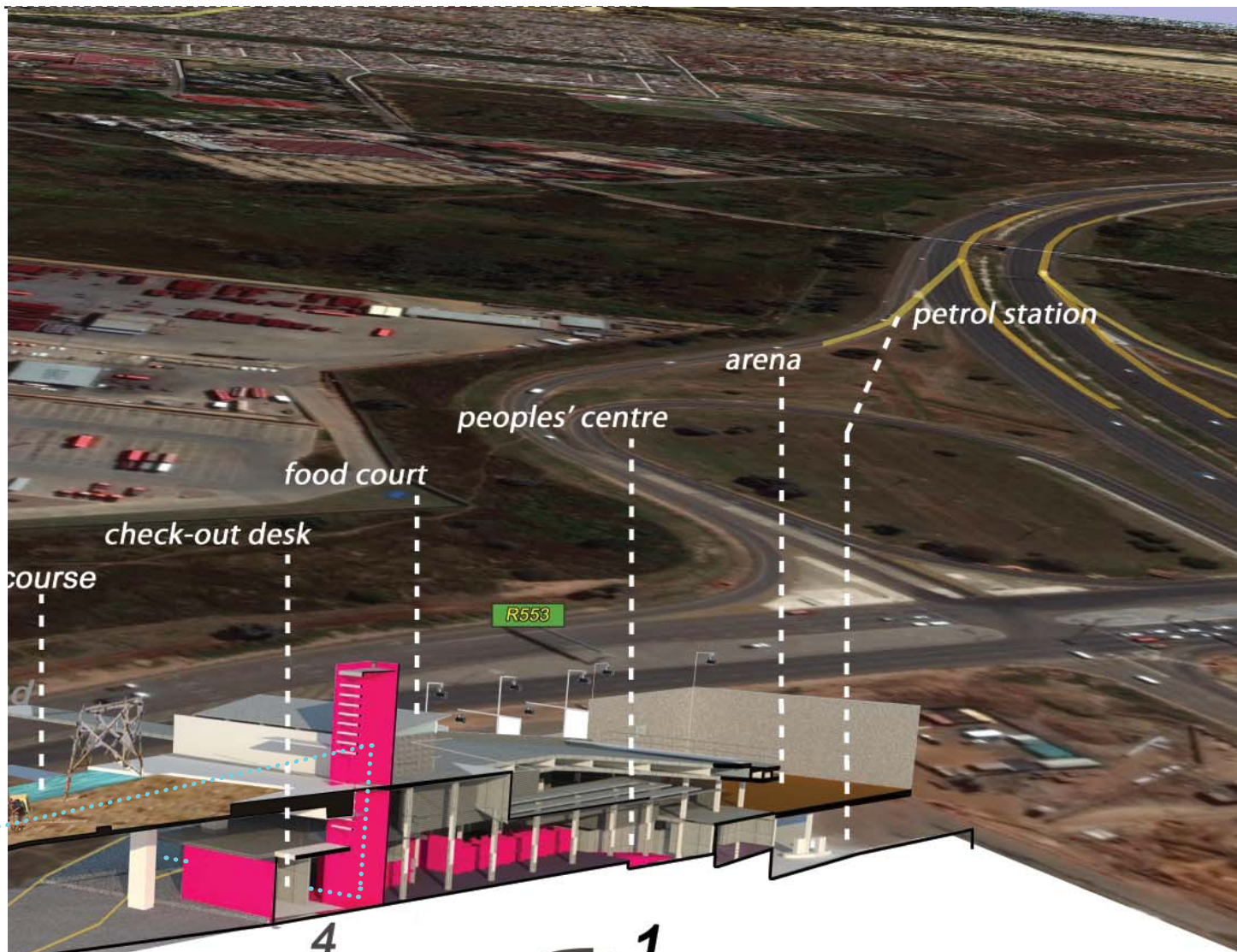
Example Development

- existing pedestrian paths
- New pedestrian + vehicle links

Double Up is a South Africanism, it is used especially in Townships. A 'double-up' is a non-vehicular short-cut. Double-Up also means 'bonus' or 'getting more than you originally bargained for - twice as much'. The D-13 Double Up is therefore a non-vehicular short-cut through D-13 that is also a profitable green space for the region.

MAKING





1
arrival
truck and trucker arrive at DSS together



2
check-in
the pair check-in. truckers tachometer stopped while truck gets weighed.



3
separation
trucker exits vehicle and goes to 1st floor and gets 'serviced' while truck gets 'serviced' (minor inspection) on ground by the DSS Crew.



4
the re-union
the two re-meet and continue on their journey fully refreshed.

site plan

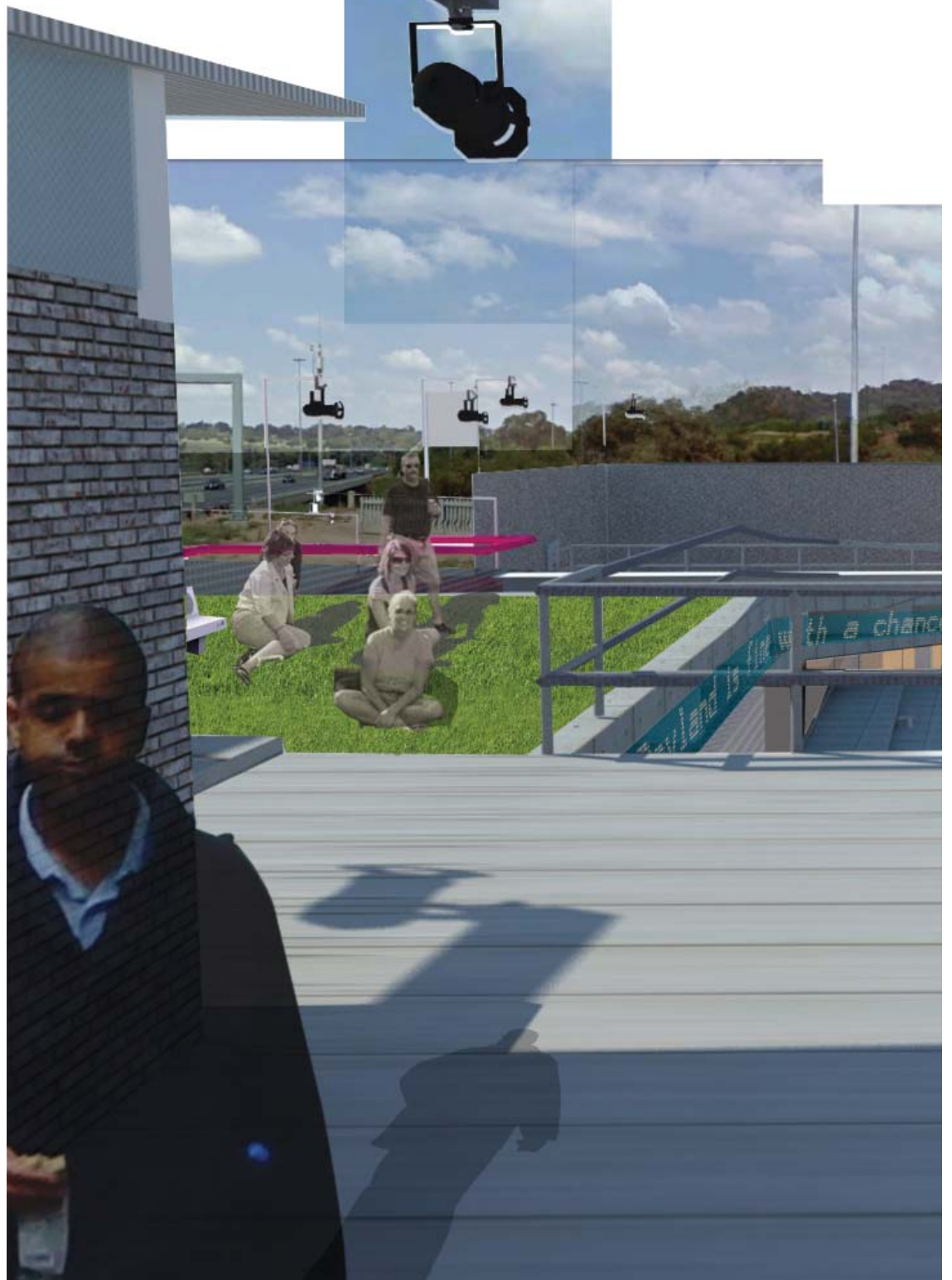
1 - rentable workshops (can be subdivided into smaller shops).

15 - fore court

A Community Services Community Empowerment Opportunities

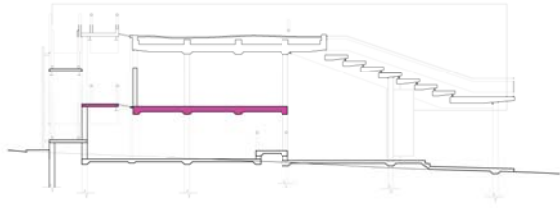


from trucker pits into food court



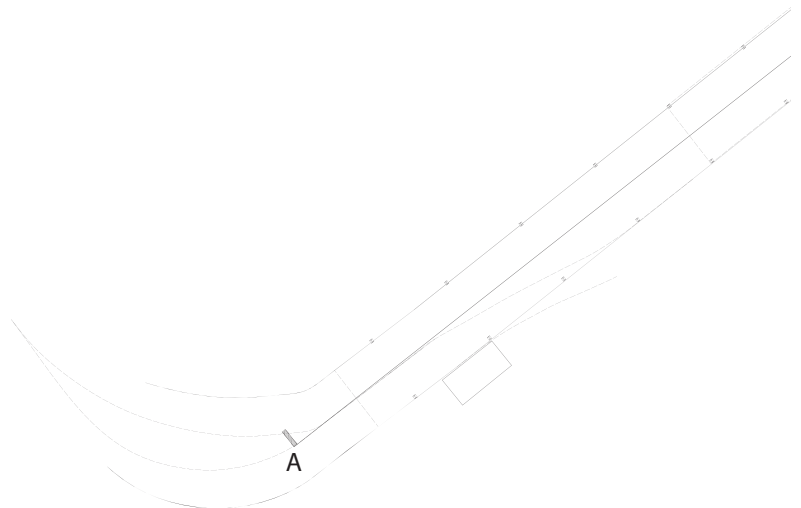


Mezzanine Floor Plan

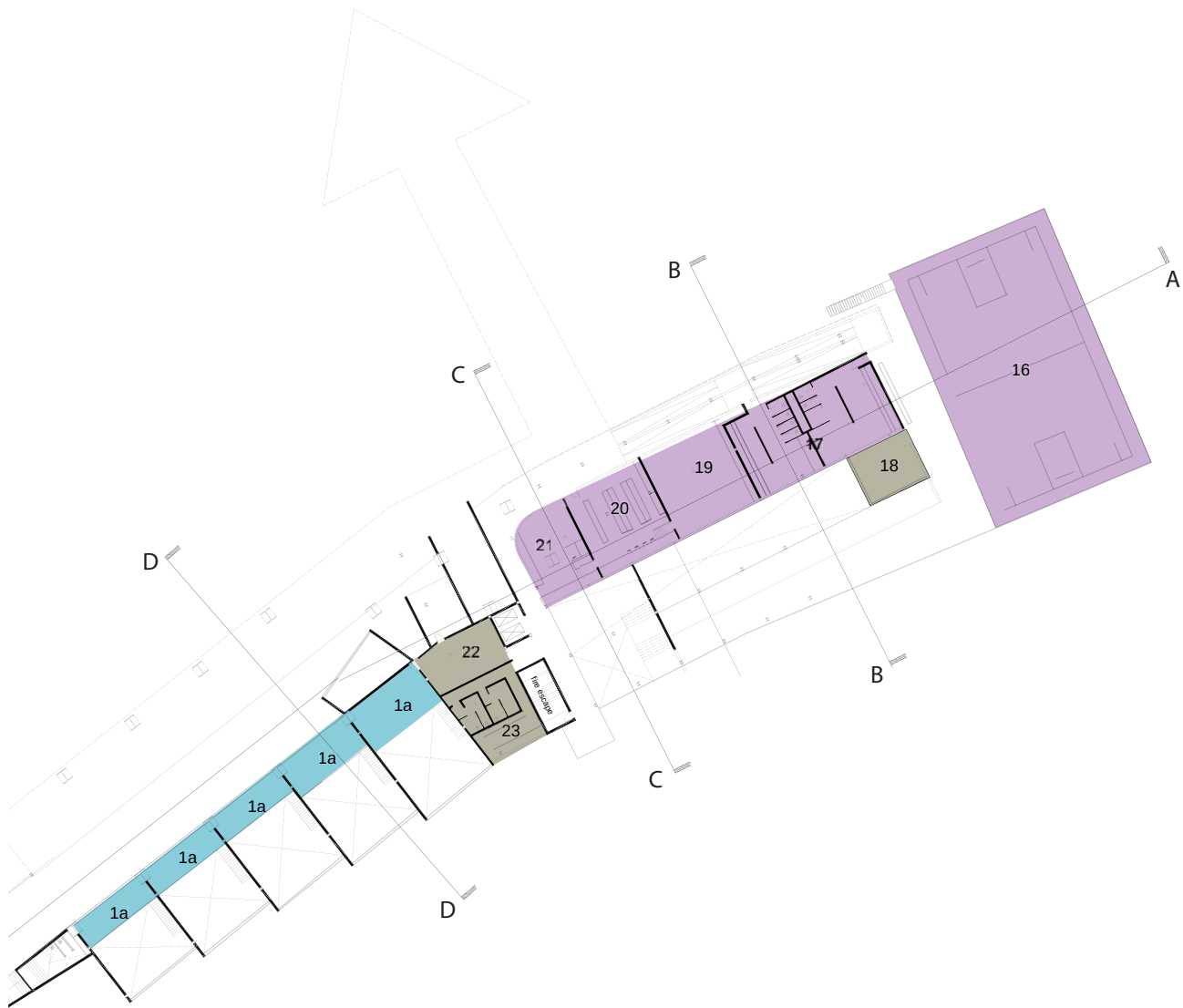


Plan Legend (contd)

- 16 - sports arena
- 17 - change room (arena)
- 18 - first aid and storage
- 19 - D-13 elected officials office
- 20 - D-13 archives
- 21 - building control
- 22 - staff room
- 23 - staff kitchenette



Community Services Community Empowerment Opportunities



Services

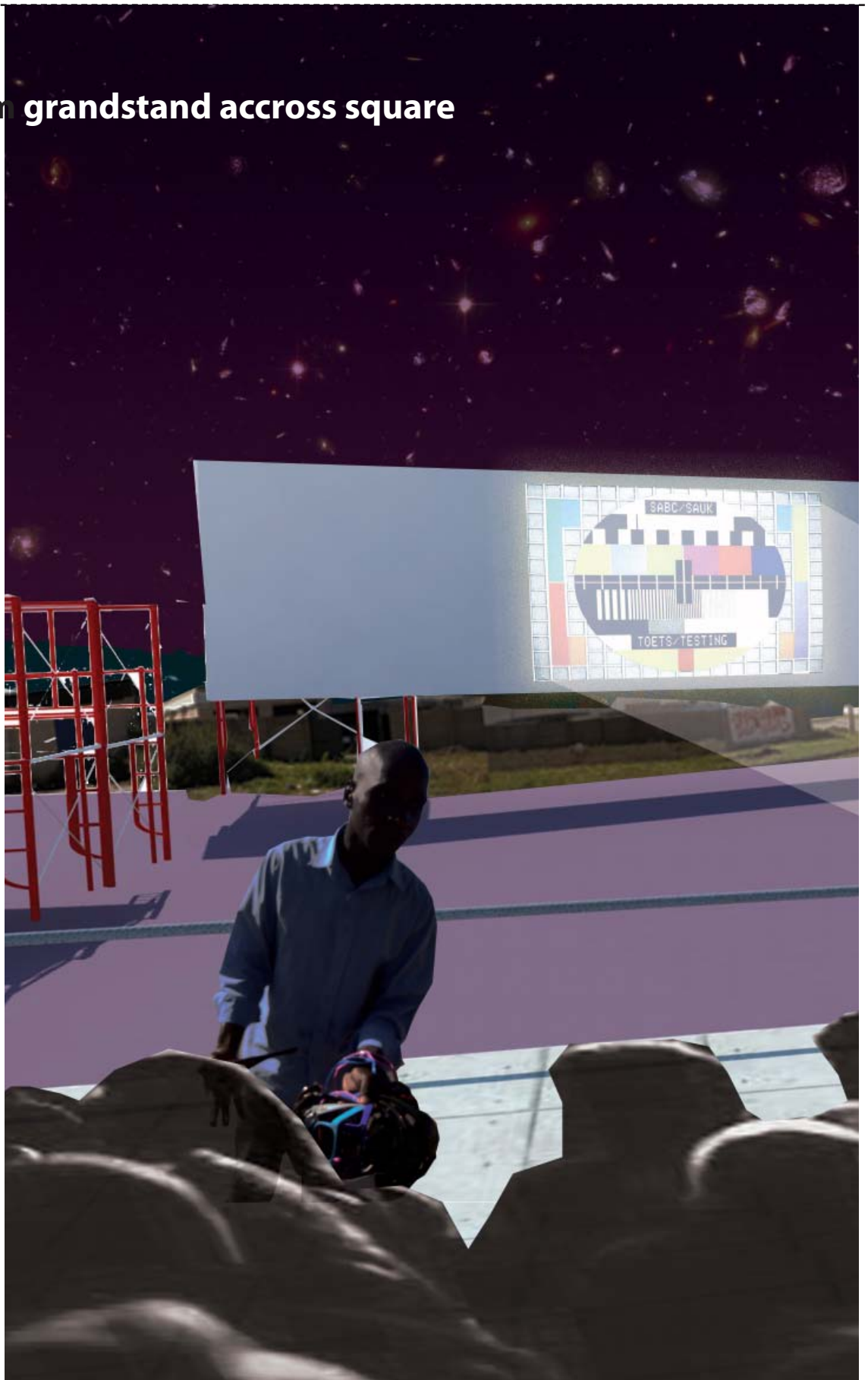
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

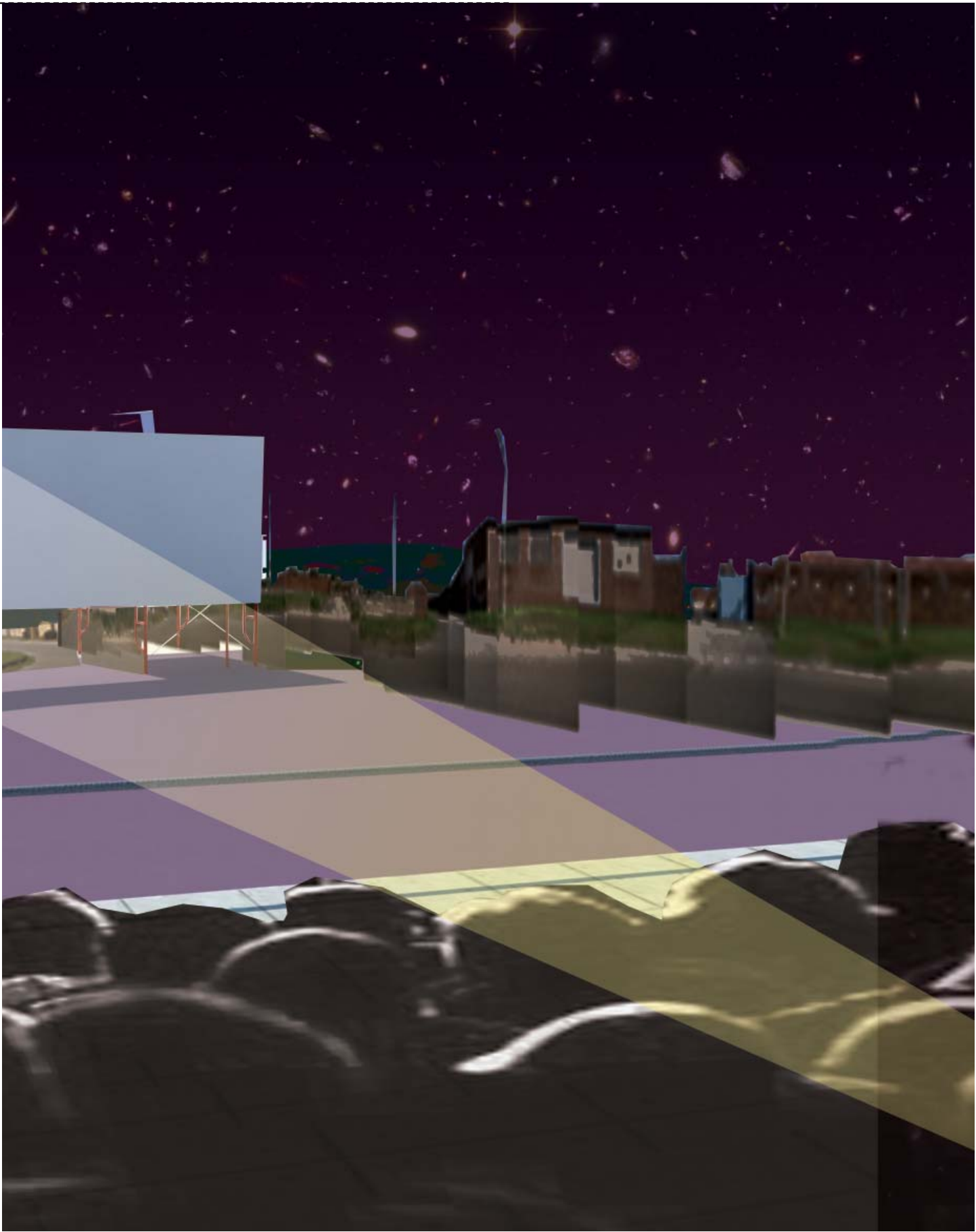
MAKING

Mezzanine Floor Plan

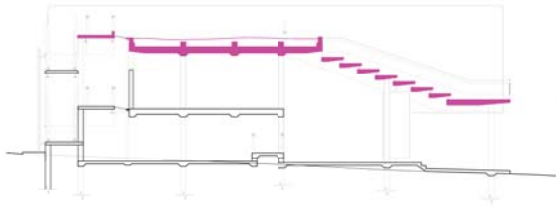


view from grandstand accross square





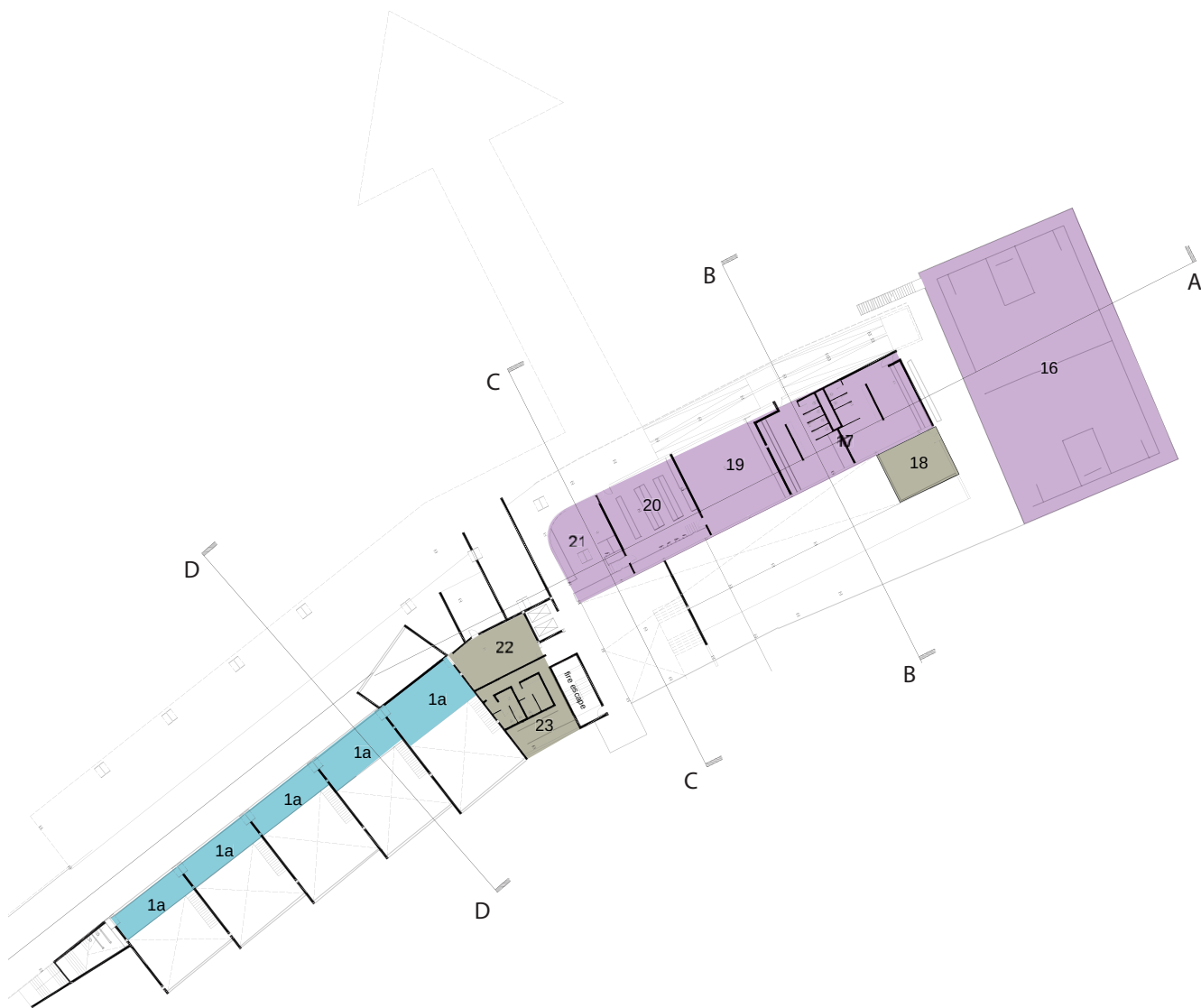
Roof Plan



Plan Legend (contd)

- 24 - 'open' riser grandstand
- 25 - grass grandstand / pic nic area
- 26 - food court
- 27 - rentable food stall
- 28 - obstacle course
- 29 - walkway
- 30 - swimming pool
- 31 - hall
- 32 - shooting range
- 33 - check-in
- 34 - laundry
- 35 - showers
- 36 - reproductive health research unit office
- 37 - doctors consultation rooms
- 38 - waiting room
- 39 - change room (trucker)





Services

MAKING

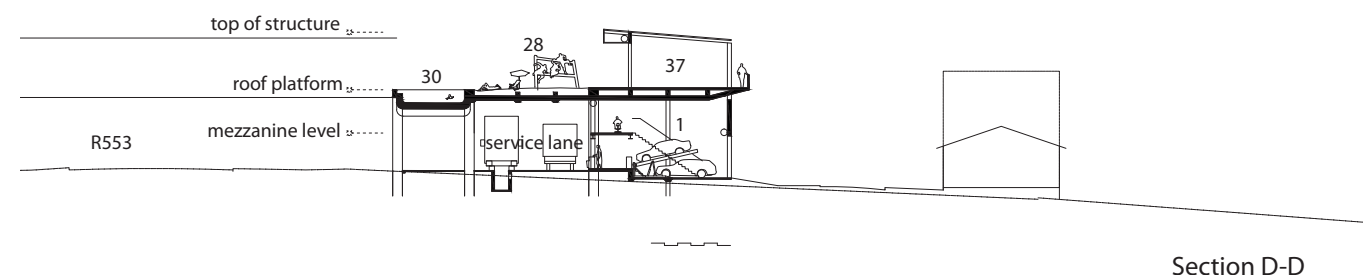
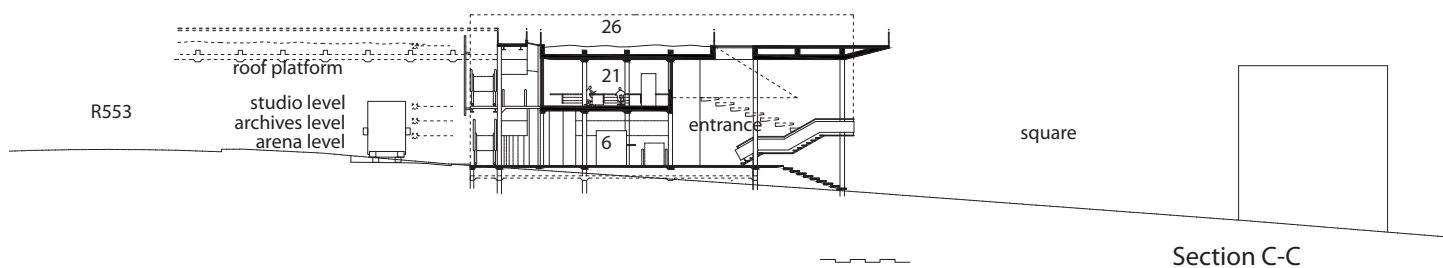
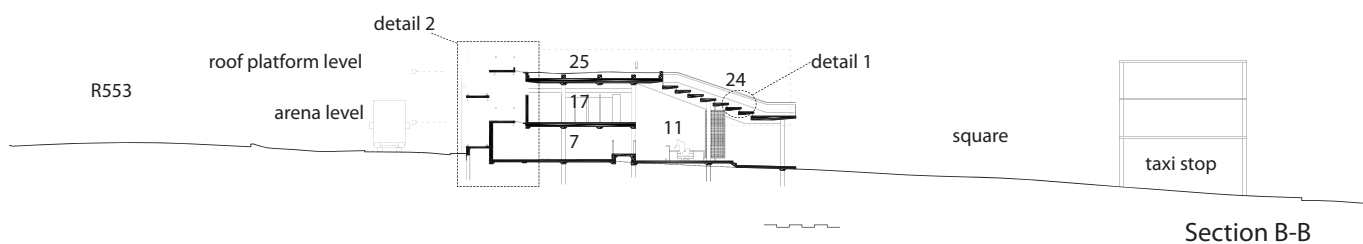
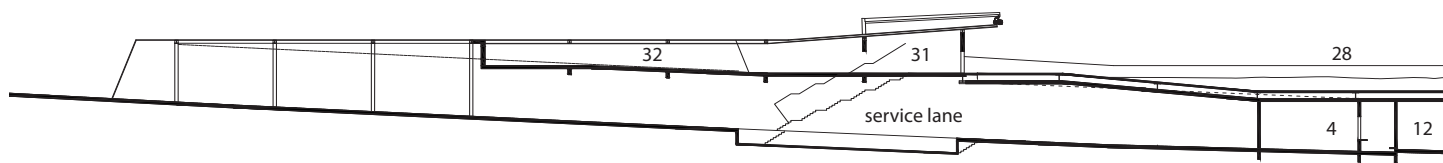
Mezzanine Floor F

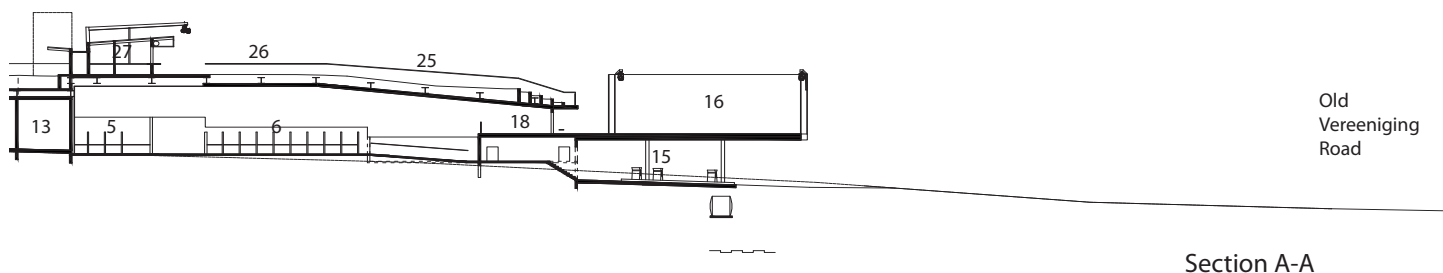


looking into trucker pits

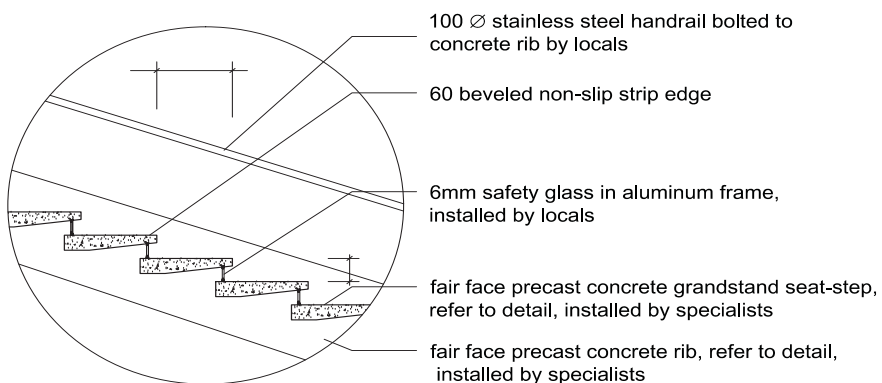




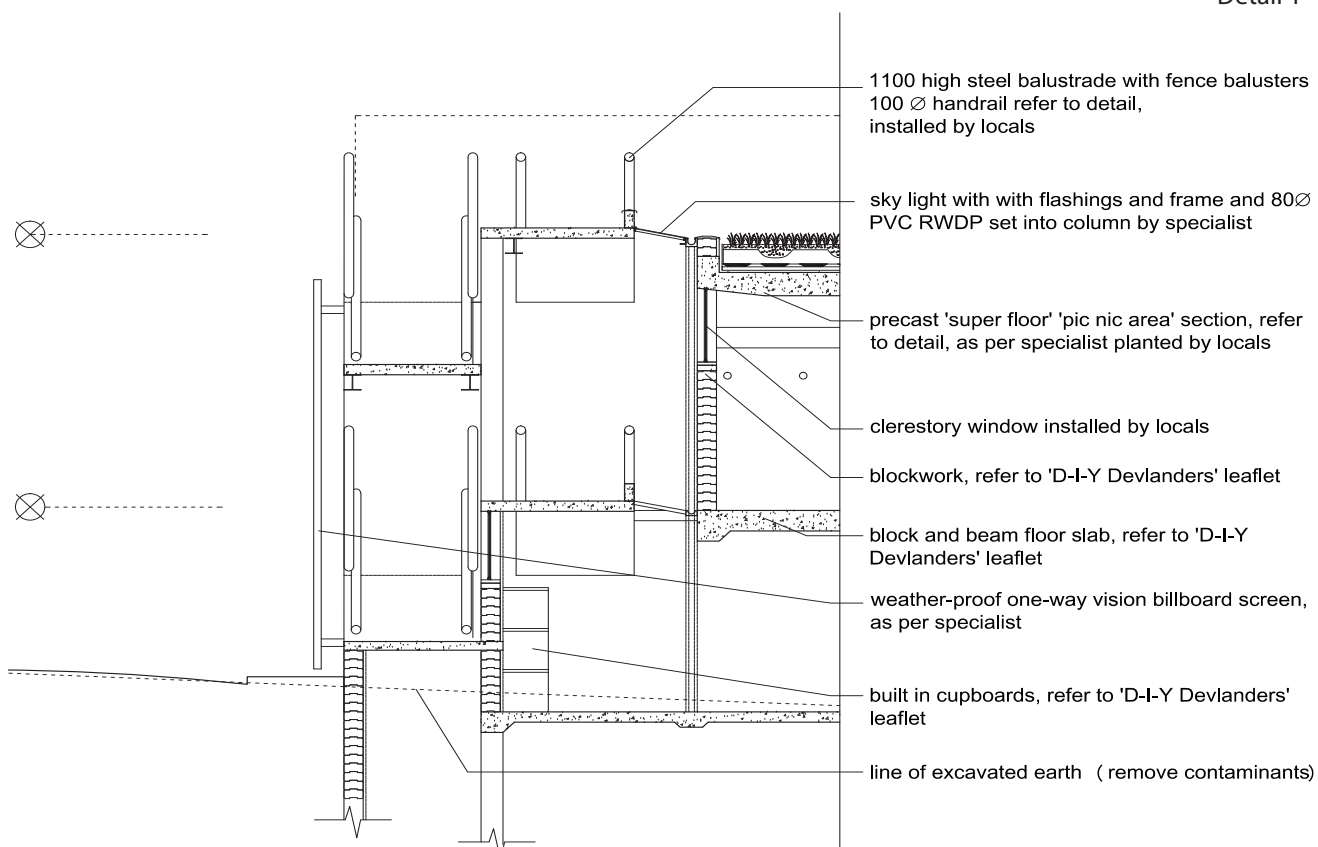




Section A-A



Detail 1



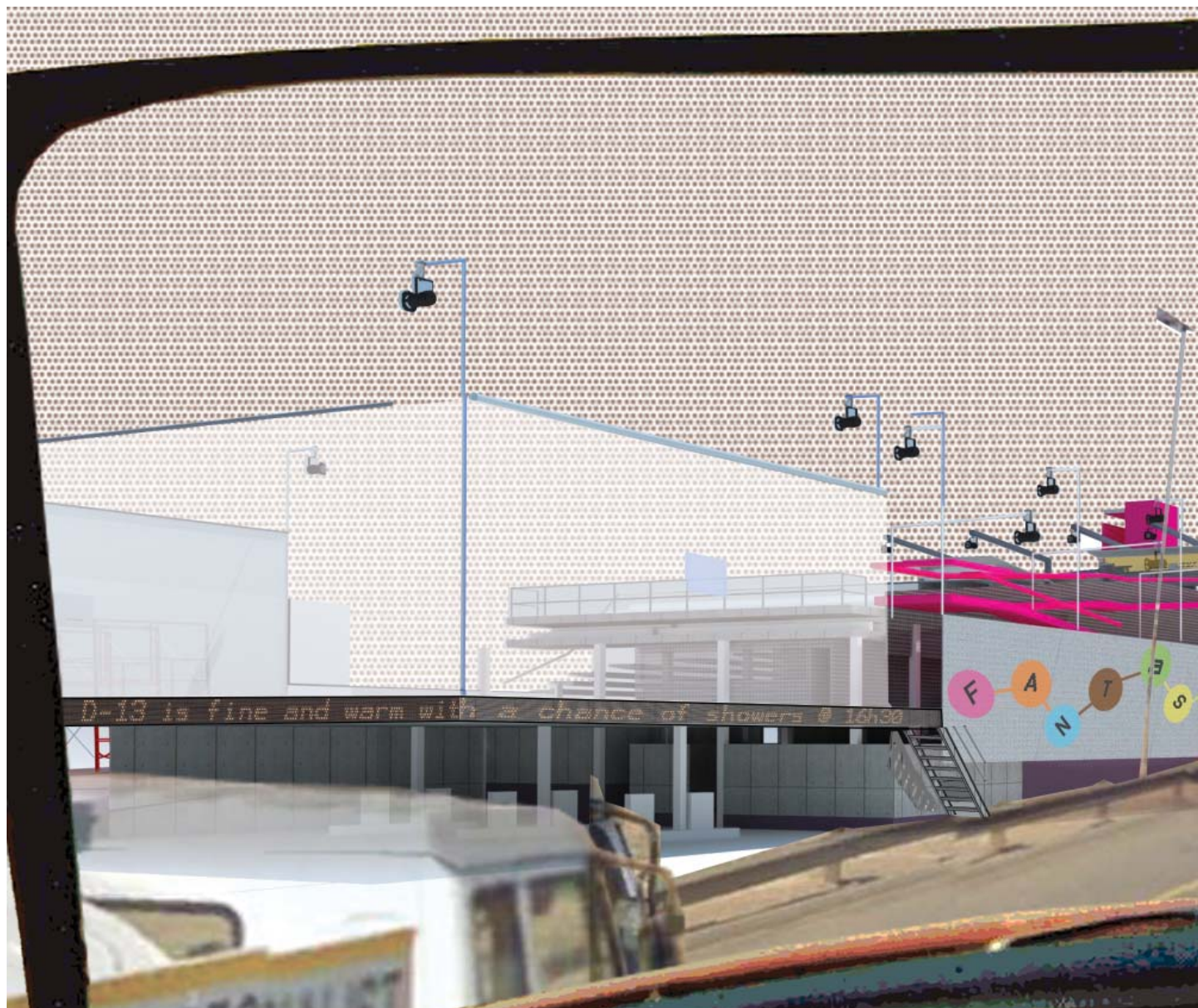
Detail 2

from foodcourt looking east

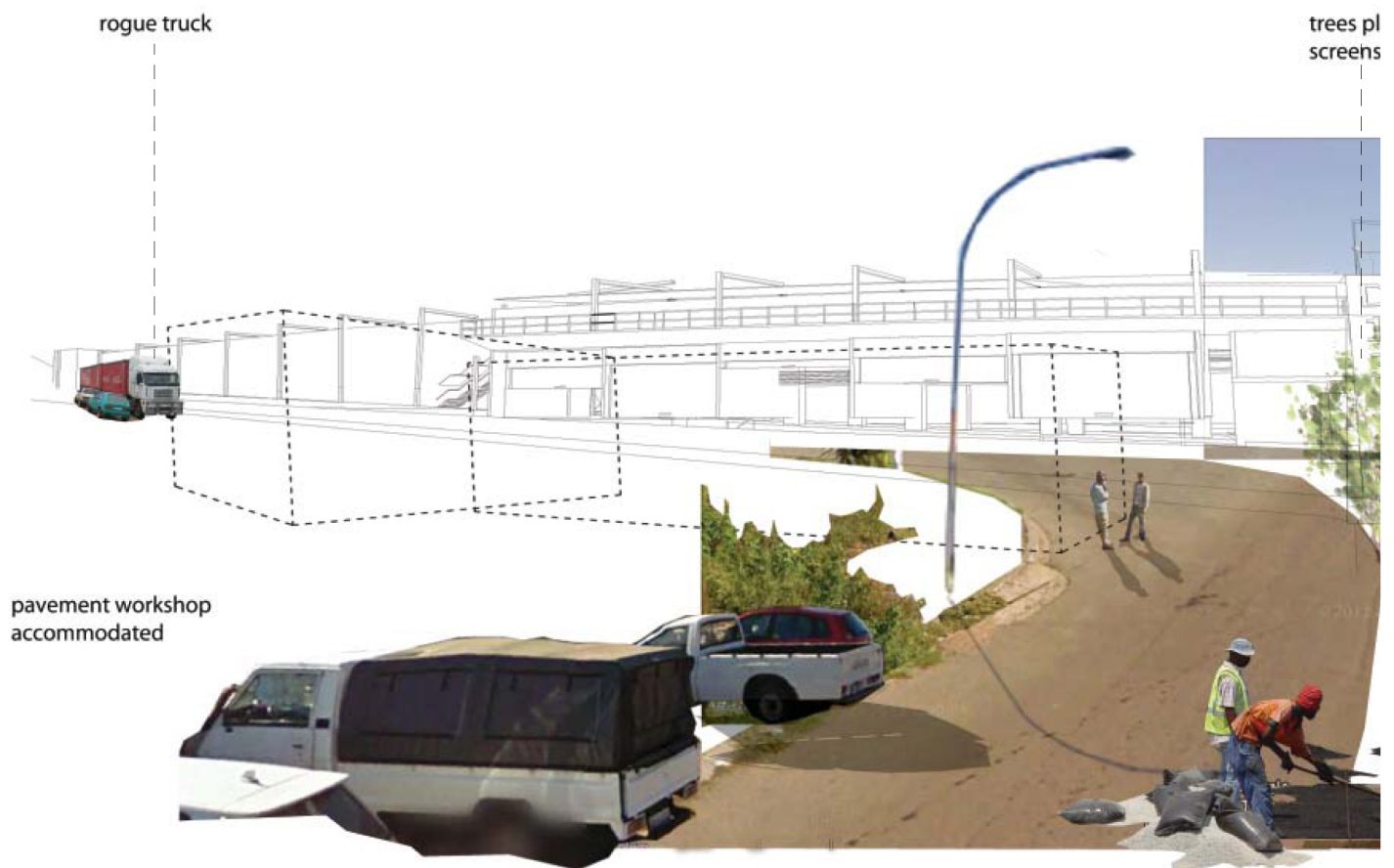


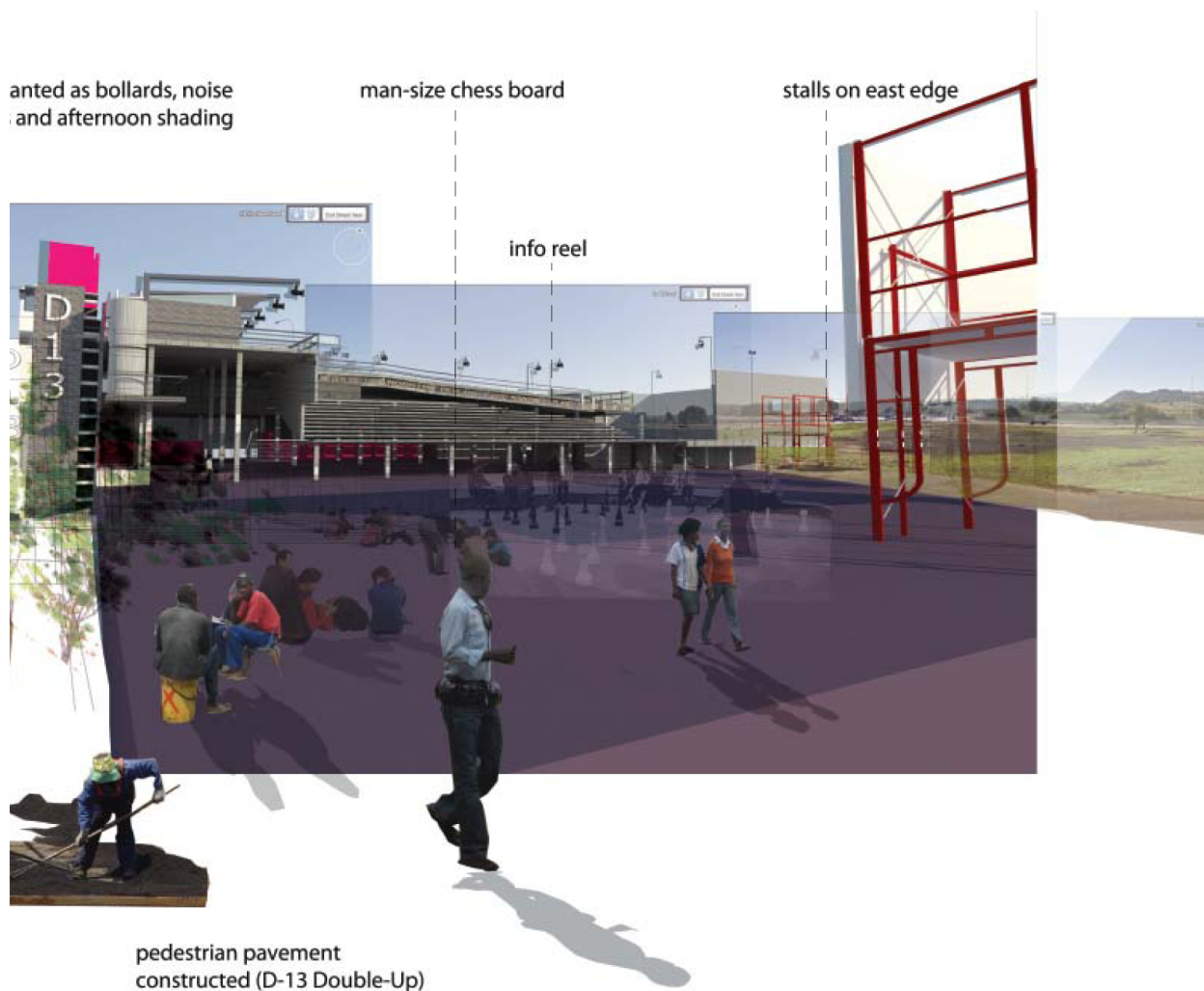


view from truck from R553

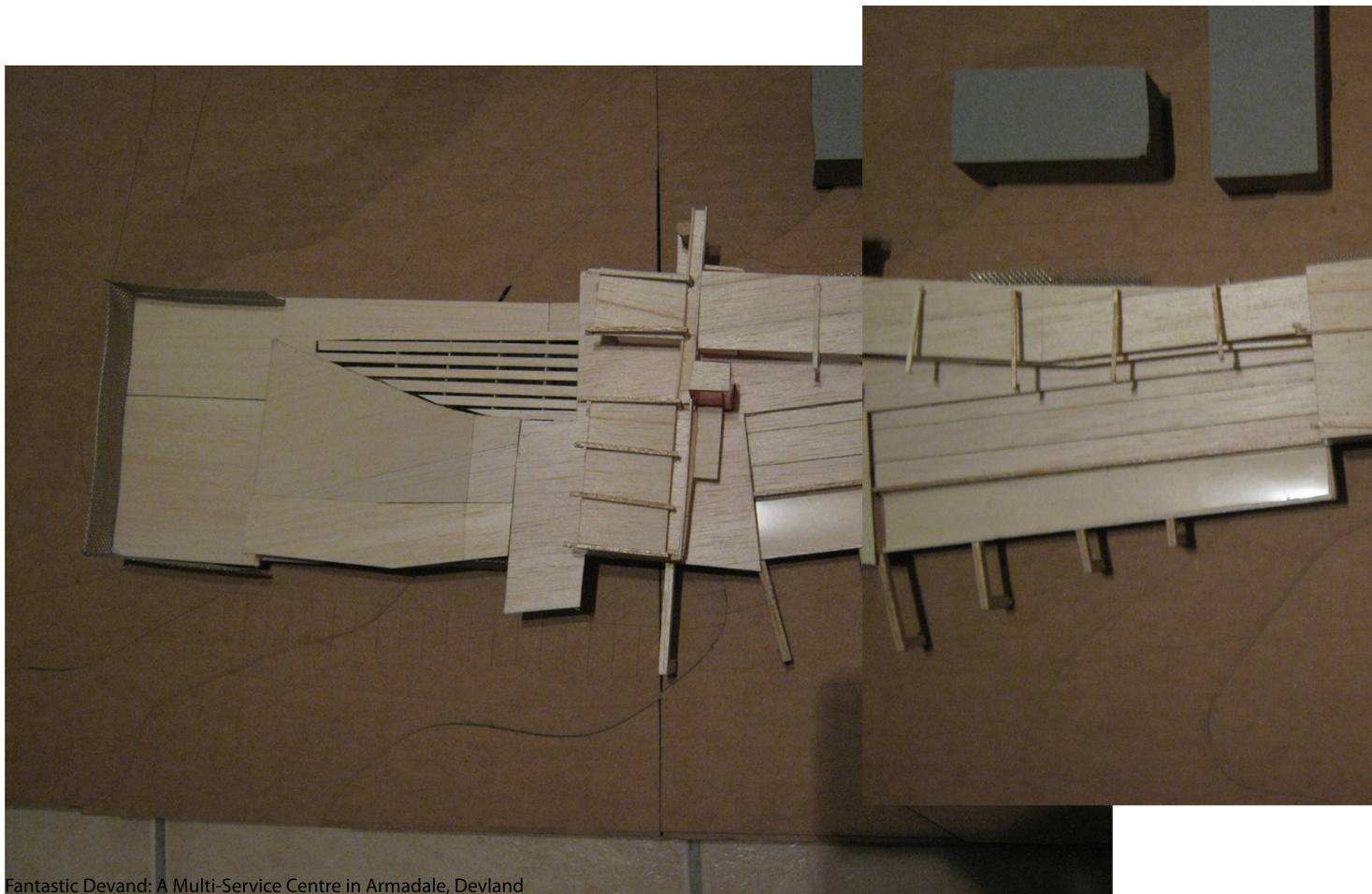
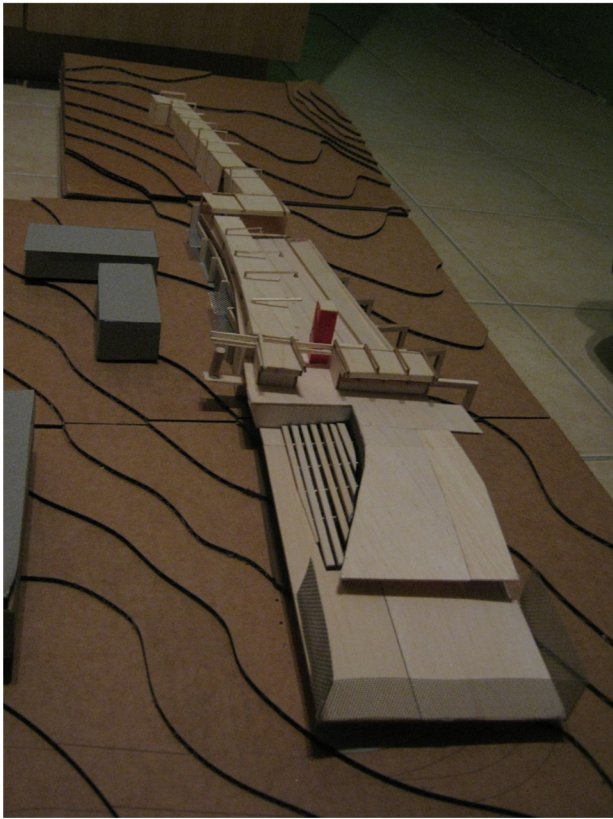




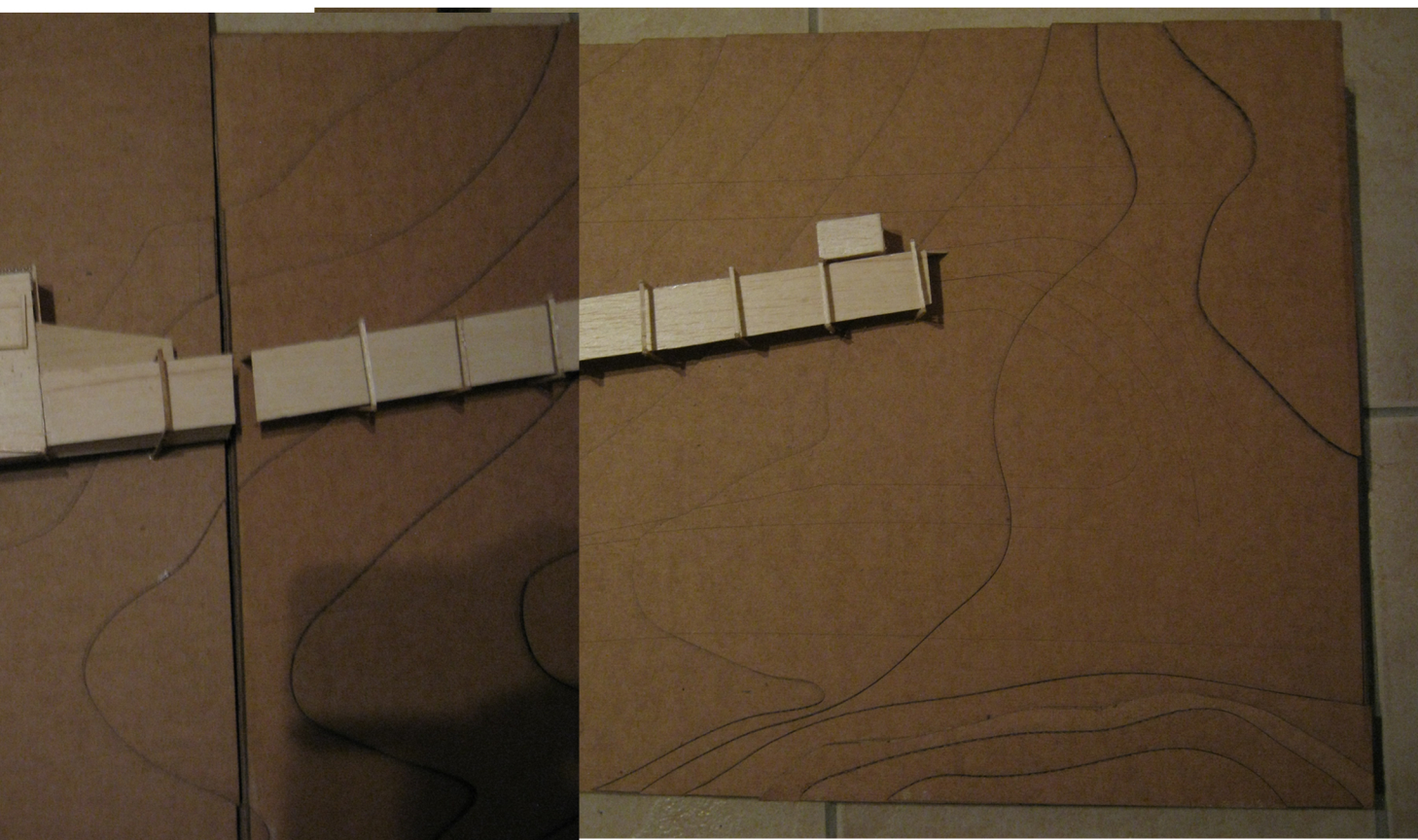
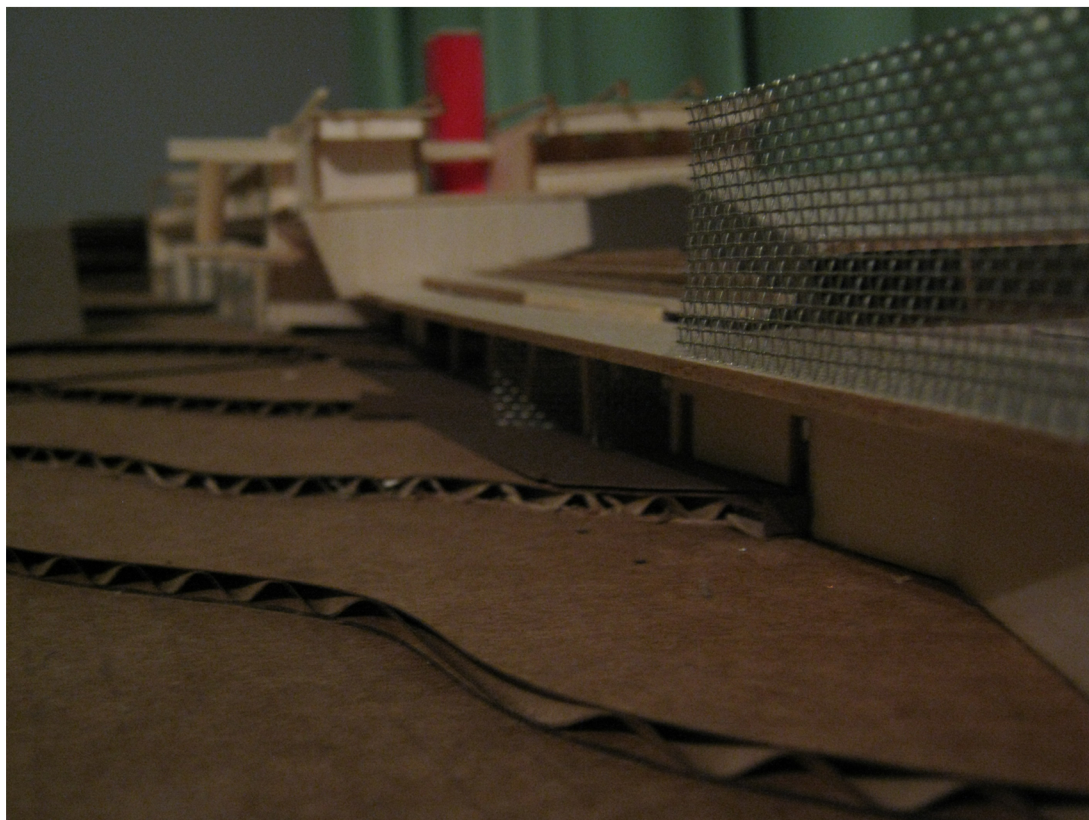




...then, the D-13 Service Staion attempts to facilitate rectifying this reality



Fantastic Devand: A Multi-Service Centre in Armadale, Devland



MAKING

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D-13 Population Calculations

It should be noted that these calculations are not correct, as I was using statistics that (although the most up-to-date I could find), must be out of date. That means, the population of D-13 is more than the figure I concluded with. These calculations were used by me to get a approximate numbers, so I could make more informed decisions.

If 1 hectare = 10000m^2 (100m x 100m)
and the typical number of people living in a household = 4.2 (Market Decisions, 2004: 7)

Then the total population of Naturena = 15 269.6828; density = 86.6082 people/ha since
'Original' Naturena (established 1982) = 12 units / hectare (counting houses in a hectare from aerial)
Therefore total number of households = houses per hectare x total area of 'original' Naturena (hectares)
= $12 \times 99,0358\text{ha}$
= 1188.4296 households
= 4991.40432 residents living in 'original' Naturena (total number of houses x people per house); Total area
= 99,0358ha
Density = 50.4 people per hectare

Naturena's Extensions (post 1999) = 36 units / hectare (counting houses in a hectare from aerial)
Therefore total number of households = houses per hectare x total area of Naturena Extensions (hectares)
Ext 19 = $36 \times 65.0564\text{ha}$
= 2342.0304 households
Ext 13 = $36 \times 0.4894\text{ha}$
= 17.6184 households
Ext 26 = $36 \times 11.7259\text{ha}$
= 422.1324 households
= $2342.0304 + 17.6184 + 422.1324 = 2342.0304$ households
= 10278.27848 residents living in Naturena's Extensions (total number of houses x people per house); Total
area = 77.2717 ($65.0564 + 0.4894 + 11.7259$)
Density = 133.0147 people per hectare

The total population of Comptonville = 601.03764; density = 25.2 people /ha
Comptonville = 6 units per hectare
Total number of households = houses per hectare x total area of Comptonville (hectares)
= $6 \times 23,8507\text{ha}$
= 143.1042 households
= 601.03764 residents living in Comptonville; density = 25.2 people / ha
The total population of Devland Industrial area = 0 (medium industrial area)

The total population of Armadale = ?
Armadale (PRE STAND CONSOLIDATION) = 20 units per hectare
Therefore total number of households = houses per hectare x total area of Armadale (ha)
= 20×7.1021
= 142.042 households
= 596.5764 potential residents living in Armadale; density = 84 people/ha
BUT, MANY OF ARMADALE'S STANDS HAVE BEEN CONSOLIDATED AND RE-DEVELOPED INTO WAREHOUSES OR
OTHER INDUSTRIAL BUILDINGS WHICH ARE NOW VACANT (AND ILLEGALLY SQUATTED IN). IT IS THEREFORE
DIFFICULT TO CALCULATE THE DENSITY OF THIS AREA.

The total population of Devland's Extensions = $12362.08512 + 2219.79744 + 2207.74848 + 18408.7995 + 6014.47392 = 41212.90446$; total households =
Freedom Park = approximately 32 houses per hectare

Therefore total number of households = houses per hectare x total area of Freedom Park (ha)
 = 32 x 91.9798ha
 = 2943.3536 households
 = 12362.08512 residents living in Freedom Park; density = 134.4 people / ha.

Devland Extension 32 = approximately 36 houses per hectare

Therefore total number of households = houses per hectare x total area of Devland Ext. 32
 = 36 x 14.6812 ha
 = 528.5232 households

= 2219.79744 residents living in Devland Ext. 32; density = 151.2 people /ha

Devland Extension 1 = approximately 32 houses per hectare

Therefore total number of households = houses per hectare x total area of Devland Ext. 1 (ha)
 = 32 x 16.4267 ha

= 525.6544 households

= 2207.74848 residents living in Devland Ext. 1; density = 134.4 people / ha.

Devland Extension 30 = approximately 65 houses per hectare

Therefore total number of households = houses per hectare x total area of Devland Ext. 30 (ha)
 = 65 x 67.4315 ha

= 4383.0475 households

= 18408.7995 residents living in Devland Ext 30; density = 273 people / ha.

Devland Extension 27 = approximately 48 houses per hectare

Therefore total number of households = houses per hectare x total areal of Devland Ext. 27 (ha)
 = 48 x 29.8337 ha

= 1432.0176 households

= 6014.47392 residents living in Devland Ext 27; density = 201.6 people / ha.

TOTAL POPULATION OF SUB REGION 13 (2010) = 15 269.6828 + 601.03764 + 41212.90446 = 57083.6249 (EXCLUDING ARMADALE)

Summary of Truck Driver Rest Periods and Breaks

Below is a summary of a law that has been implemented in the European Union which legislates trucker rest and break time. These Laws were 'pushed' by insurance companies and road accident funds of the various countries. The rest is monitored by a 'tachometer' the equivalent of a black-box in aeroplanes for trucks and enforced by traffic officials. No such law is in South Africa yet, but with the increase in road freight and truck accidents, one can imagine that it might soon.

Rest Periods and Breaks

Introduction

With the introduction of EC 561/06 the undermentioned contains those items of legislation that came into effect on 11th April 2007. Wherever possible we have tried to portray as accurately as possible the information regarding the changes and have taken care to outline the same in a brief but concise format with pictorial content to further assist where required.

- **Breaks**
- **Daily Rest Periods**
- **Double Manned Vehicles**
- **Rules for Transport by Ferryboat or Train**
- **Weekly Rest Periods**
- **Travelling Time**
- **Unforeseen events**

Breaks

After a driving period of no more than 4.5 hours, a driver must immediately take a break of at least 45 minutes unless he takes a rest period. A break taken in this way must not be interrupted. For example:

Drivers Break

Key Information

Remember Breaks may also be required under the separate Road Transport (Working Time) Regulations 2005.

A break is any period during which a driver may not carry out any driving or any other work and which is used exclusively for recuperation. A break may be taken in a moving vehicle, provided no other work is undertaken.

Alternatively, a full 45-minute break can be replaced by one break of at least 15 minutes followed by another break of at least 30 minutes. These breaks must be distributed over the 4.5-hour period. Breaks of less than 15 minutes will not contribute towards a qualifying break, but neither will they be counted as duty or driving time. The EU rules will only allow a split-break pattern that shows the second period of break being at least 30 minutes, such as in the following examples:

Drivers Split Break (Legal)

[\[back to top\]](#)

The following split-break pattern is illegal because the second break is less than 30 minutes.

Drivers Split Break (Illegal)

A driver 'wipes the slate clean' if he takes a 45-minute break (or qualifying breaks totalling 45 minutes) before or at the end of a 4.5 hour driving period. This means that the next 4.5 hour driving period begins with the completion of that qualifying break, and in assessing break requirements for the new 4.5-hour period, no reference is to be made to driving time accumulated before this point. For example:

Wiping the slate clean

Daily Rest Periods

A driver must take a daily rest period within each period of 24 hours after the end of the previous daily or weekly rest period. An 11- hour (or more) daily rest is called a regular daily rest period.

Regular Daily Rest Period

Alternatively, a driver can split a regular daily rest period into two periods. The first period must be at least **3 hours** of uninterrupted rest and can be taken at any time during the day. The second must be at least **9 hours** of uninterrupted rest, giving a total **minimum rest of 12 hours**; for example:

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Fantastic Devland: A Multi-Service Centre in Armadale, Devland

Split Daily Rest

A driver may reduce his daily rest period to no less than **9** continuous hours, but this can be done no more than **three times** between **any two weekly rest periods**; and **no compensation** for the reduction is required. A daily rest that is less than 11 hours but at least 9 hours long is called a reduced daily rest period.

Reduced Daily Rest Period

When a daily rest is taken, this may be taken in a	Key Information Key Information A rest is an uninterrupted period where a driver may freely dispose of his time. Time spent working in other employment or under obligation or instruction, regardless of the occupation type, cannot be counted as rest, including work where you are self-employed.
--	--

vehicle, as long as it has suitable sleeping facilities and is stationary.

To summarise, a driver who begins work at 06.00 on day 1 must, by 06.00 on day 2 at the latest, have completed either:

- a regular daily rest period of at least 11 hours; (A continuous period of at least 11 hours' rest.) **or**
- a split regular daily rest period of at least 12 hours; (A regular rest taken in two separate periods - the first at least 3 hours, and the second at least 9 hours.) **or**
- if entitled, a reduced daily rest period of at least 9 hours. (A continuous rest period of at least 9 hours but less than 11 hours.)

Double Manned Vehicles

'Multi-manning' is the situation where, during each period of driving between any two consecutive daily rest periods, or between a daily rest period and a weekly rest period, there are at least two drivers in the vehicle to do the driving. For the **first hour** of multi-

Periods and Breaks

manning the presence of another driver or drivers is **optional**, but for the remainder of the period it is **compulsory**. This allows for a vehicle to depart from its operating centre and collect a second driver along the way, providing that this is done within 1 hour of the first driver starting work.

If these strict conditions cannot be complied with, then drivers sharing duties on a journey will individually be governed by single manning rules and will not be able to use the following variation to the daily rest requirement - where a vehicle is manned by two or more drivers, each driver must have a daily rest period of at least **9** consecutive hours within the 30-hour period that starts at the end of the last daily or weekly rest period.

Organising drivers' duties and incorporating this concession enables a crew's duties to be spread over 21 hours. This is an example of how the duties of a two-man crew could be organised to take maximum advantage of multi-manning rules:

Example of Rosta for Multi-manning

The maximum driving time for a two-man crew taking advantage of this concession is 20 hours before a daily rest is required (although only if both drivers are entitled to drive 10 hours).

Under multi-manning, the 'second' driver in a crew may not necessarily be the same driver for the duration of the first driver's shift but could in principle be any number of drivers as long as the conditions are met. Whether these second drivers could claim the multi-manning concession in these circumstances would depend on their other duties.

On a multi-manning operation the first 45 minutes of a period of availability will be considered to be a break, so long as the co-driver does no work.

Rules for Transport by Ferryboat or Train

If a vehicle covers part of its journey by ferryboat or train, the following rules apply:

- The daily rest period may be interrupted, but only twice, allowing the vehicle to be driven on to a ferry and off at the end of the sea

ours/rest.html (4 of 8) [2011/06/22 08:37:04 PM]