
FRANKENWALD UDF: PHASE 2: COMMENTS ON DRAFT URBAN DESIGN FRAMEWORK

Submitted on behalf of Frankenwald Development Committee (FDC) by Urban Infinity Consultants

5 February 2021



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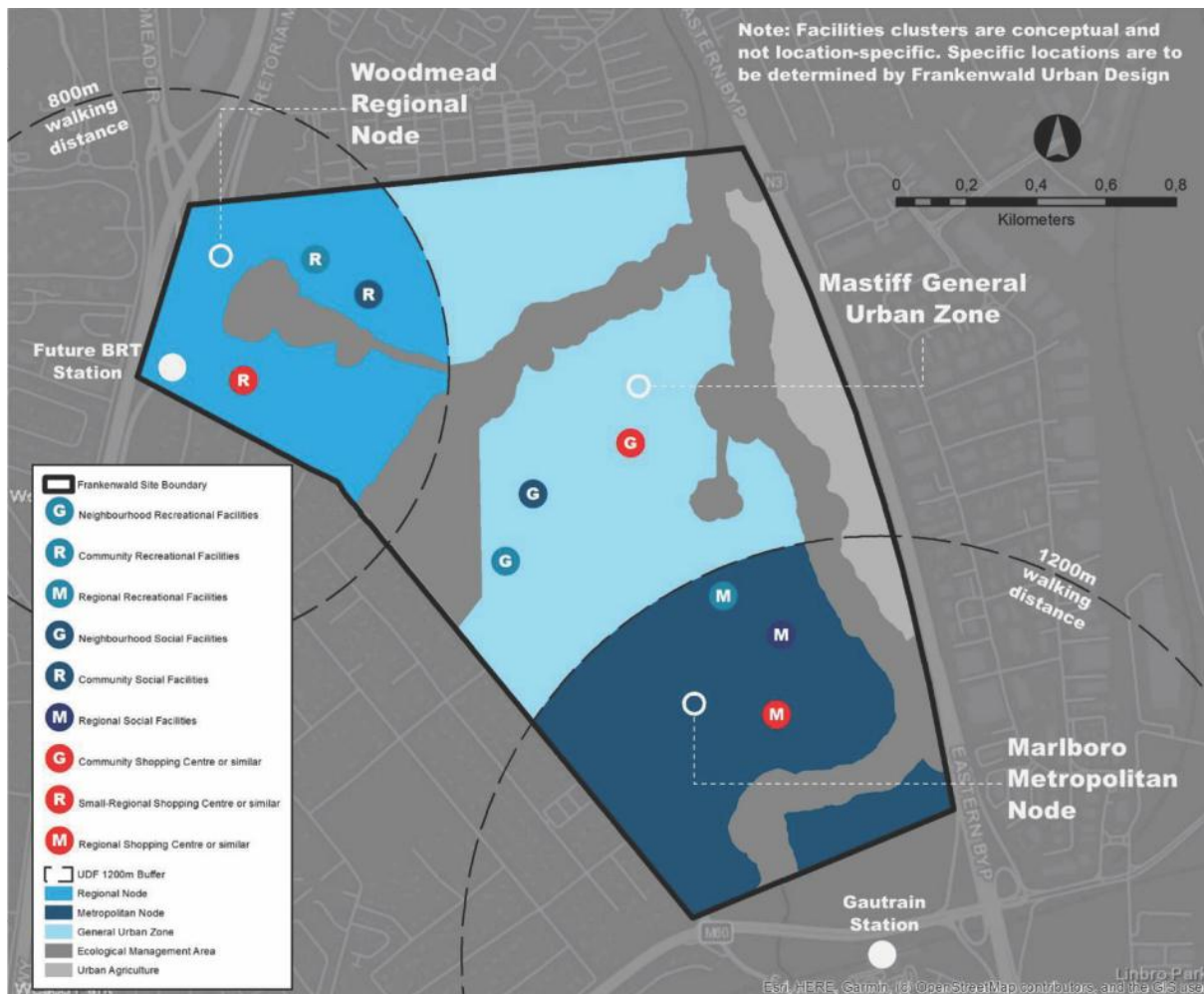
Introduction

The overarching purpose of the Urban Development Framework is to guide spatial, social, economic, environmental and infrastructural input, as well as to provide a consolidated document that records and establishes the vision and development plan for the precinct. This development framework should be used as a common source of reference and as a point of departure for decision making by the municipality, government and the private sector. It serves as the primary spatial development and management plan, which identifies projects and directs budgetary resources.

A three-stage process is followed to engage the public with regard to the Frankenwald UDF. This first stage involved preparing and submitting the draft Frankenwald UDF Status Quo report for public comment. This was done during the second half of 2020 where the majority of public inputs and concerns were formally submitted to be incorporated into the spatial logic of the development. The Frankenwald Development Committee had given input and comments pertaining to the status quo. The comments submitted should be used by the design team as a resident and users understanding of the area. The comments submitted play a major role in creating and proposing a development that will enable and sustain social cohesion within and around Frankenwald.

We are now embarking on the second stage, whereby the Draft Frankenwald UDF, comprising both the Status Quo report and Framework UDF report is submitted for public comment. This second stage process will delve into the details of the structural elements of the proposed policy that would shape the development and its relevant urban design component. It should also ensure that the concerns raised by the communities are captured in some way and form part of the objectives and spatial rationale of the development.

Nodal Review



Map 1: Proposed Nodes in Frankenwald in accordance with Nodal Review. (Source- Frankenwald UDF, fig 22).

The Johannesburg Nodal review Policy 2020 is used to calculate and propose relevant densities within existing built up areas. As per the Nodal Review, existing developments have been classified and given a nodal character. An important factor to consider is that the surrounding areas fall within nodes that are more suburban in character and have very low densities and height restrictions. Due to the nature of these nodes, owners and developers cannot maximise the development potential of their properties. With the development of Frankenwald a question arises as to whether such allowances will be given to the existing surrounding areas. Along with this, the nodal review makes specific reference to account for surrounding areas. As per the proposed general urban zone on Frankenwald, the neighbourhoods Kelvin and Buccleuch have been considered to some extent however the density relationship does still not create a transition from one area to the next. Since Kelvin and Buccleuch are predominantly suburban areas, the maximum height would be 2 storeys whereas the UDF makes

reference to 5 storeys as the maximum. It is of interest to surrounding land owners that the heights be adjusted to the minimum within the transition zones so that there is less visual distortion for users.

This section of the comments will delve into the nodes being proposed and how these may affect existing areas and users. The Frankenwald UDF proposes the following nodes:

General Urban Zone

With regards to this particular zone, the area being proposed and its respective proposed uses can allow it to be considered as a general urban zone. Within this zone the mix of uses and increased densities compared to surrounding areas will allow for the Council to classify the area as a general urban zone. It is however of paramount importance that the neighbouring areas be taken into account in these proposals. It is imperative that the areas of Kelvin and Buccleuch be considered when proposing increased densities and heights. Both suburbs adjacent to the site are predominantly built as single story residential and should be maintained or alternatively propose a minimum increase within Frankenwald. This transition would be easier, however the UDF should increase the densities inward gradually instead of a major shift between the existing and proposed. By increasing heights minimally along borders shared with neighbouring areas, existing users and owners find it easy to adapt to the change in urban-scape. By increasing heights and densities drastically, the areas do not tie well with each other and may cause a barrier or tunnel effect that makes the spaces uncomfortable to the user. This is a major consideration that should be taken into account.

Regional Node

Regional Nodes are high intensity mixed use spaces. The intensity and frequency of use on the site is drastically increased compared to the general urban zone. Within these regional nodes, a large amount of residents and users keep the site active at all times. In terms of the UDF, the regional node will be situated at the north western corner of the site due to the proposed BRT station position. One should consider the viability and question whether the BRT will be extended to this area before making proposals that are totally dependent on it being built. Along with this, the Woodmead node is situated to the north-east of Frankenwald and this is already classified as a regional node. Due to the close proximity of Kelvin and Buccleuch to the node, one should also look into the workings of the traffic on the intersection of Old Pretoria main road and Northway. Higher densities once again should also be considered due to the drastic change between Kelvin, Buccleuch and proposed Frankenwald. It would be viable for the node to shift toward the east so that it can link up closer with the Woodmead node and take off some pressure from existing suburban Kelvin. Alternatively, this area of Frankenwald should include proposals of lower intensity but allow for increased frequency of use (i.e, there should be more passive uses like a park and social facilities situated with residential). In this way there will be

usage of the space, residential units will be developed but also the existing areas will not have to endure constant movement and tussle for usage within that specific space.

Metropolitan Node

The Metropolitan Node has active, diverse ground floors areas containing shops, restaurants, offices, services, and has minimal setbacks. The intensity and frequency of use in these nodes are very high and can be considered as lower order to the inner city node. In terms of proposing this node in Frankenwald, it would allow for the site to be frequently used by residents and visitors. The anchoring factor that allows for the classification of this node is the close proximity to the Gautrain station. In terms of this, it would be necessary for the developer to ascertain the users of the Gautrain in order to supply residential units that would be suited to them. The FDC further points out that the station should not be used as a motivation for increased densities in typologies for users who would not be able to afford this service. The proposal for a metropolitan node in this area also makes sense due to the industrial uses across the highway which allows for economies of scale. In this regard, the Mastiff road link plays a pivotal role in connecting the site to the existing Frankenwald industrial area. The proposal of this link road also alleviates the pressure of trucks and heavy vehicles from using Northway road which will be the only other entrance and exit into Frankenwald. It is once again imperative that the densities within this node be considered closer to the existing areas. As mentioned earlier, the proposed densities play a major role in creating a usable comfortable urban space, it would be a fallacy to develop large structures to provide opportunities to new entrants in the area, yet take away the ease and comfort from existing residents and users. Hence the densities should be carefully considered and should also justify increased engineering, social and economic benefits for all users, existing and proposed.

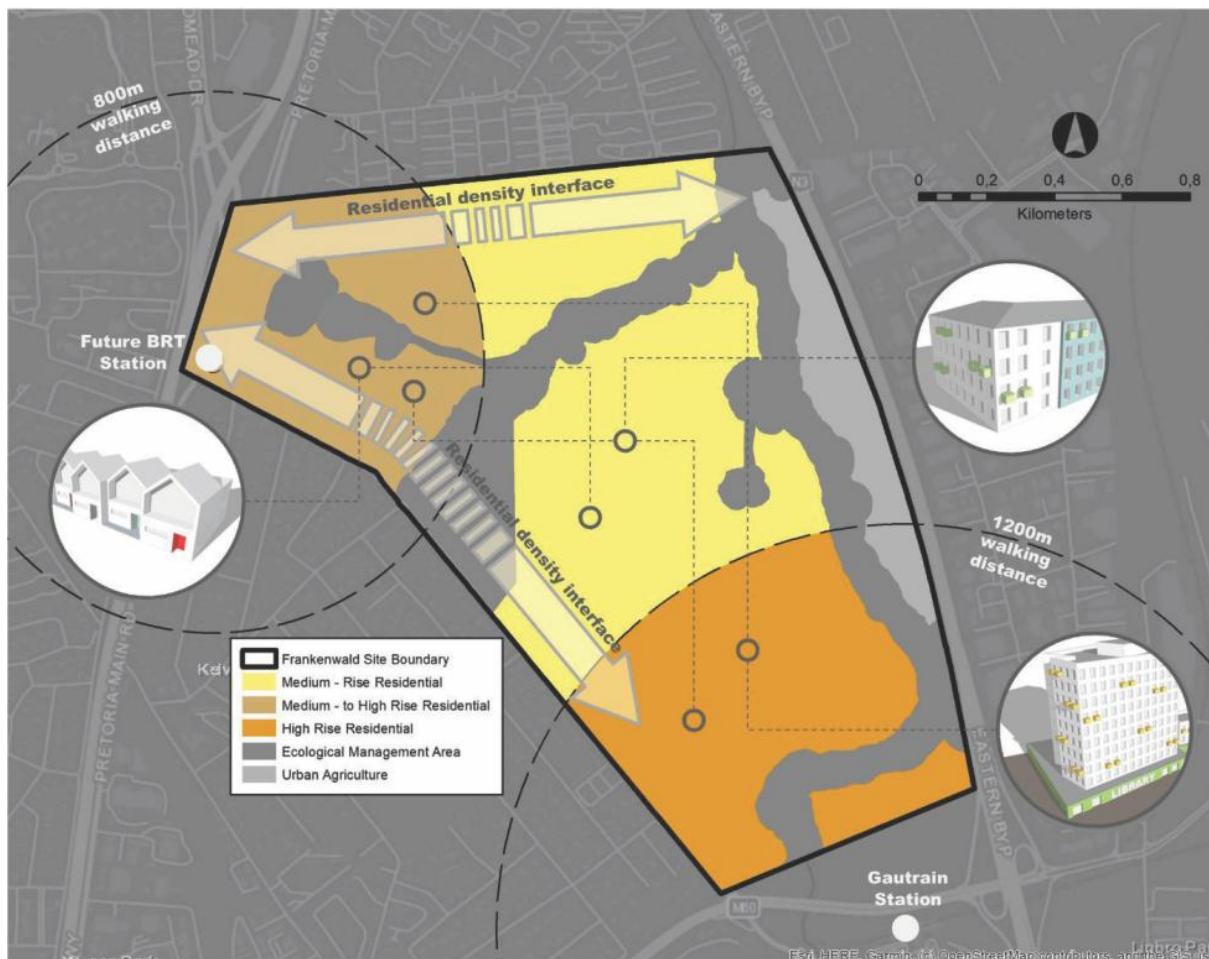
In conclusion the UDF makes reference to the following:

“A ‘Transect Approach’, as used the Nodal Review 2020, will be incorporated into the design of the General Urban Zone. Applied, this transect approach will seeks to create a density gradient transition within the General Urban Zone, ranging from higher-densities next to the Metropolitan and Regional Nodes, to lower-densities near Kelvin and Buccleuch. This will enable a density interface between Frankenwald, Kelvin and Buccleuch.”

The FDC would like to make it known that this intention should follow through in all subsequent plans and carried out in the construction process. It is important that the proposal and introduction of these nodes within an existing urban area take into account the workings of these communities and

societies. Along with this, the nodes should serve to benefit the existing communities rather than marginalise them. Lastly, it is important that the surround areas namely Kelvin and Buccleuch benefit from the development of Frankenwald and allow for further upward expansion in these areas in a coherent rational manner. The proposed development should take into account all social and economic factors and living conditions so as to avoid any community unrest in the future.

Density Allocation



Map 2: Proposed Housing Densities in Frankenwald. (Source- Frankenwald UDF, fig 23).

It is understood by the FDC that the following residential typologies are being proposed:

- Detached housing
- Cluster Housing
- Semi-Detached Housing
- Row Housing
- Walk-ups
- Flats

The typologies are directly dependent on the tenure types which is also linked to income groups. An integration of tenures, typologies and income groups is what is being proposed by the UDF. The importance of this understanding is so that the surrounding residents are aware off and accept the proposals being made. In many instances, policies and guideline documents are crafted yet delivery

thereof is not achieved. It is imperative that the comments, needs and interests of the surrounding residents be taken into account so that the proposals in the guidelines are brought to reality.

The UDF makes reference to the following:

“Apart from supporting public transport, the development of higher-density housing must lead to the development of sustainable communities by incorporating the economic opportunities, community facilities and open space needed to support these higher density housing developments. This requires an integrated approach to higher-density residential development; whereby mixed land use development and public transportation are developed as part and parcel of high-density residential development. Such an integration leads to true urbanity, as opposed to merely creating higher-density dormitory towns.”

Bearing this in mind, the UDF points out that the development of Frankenwald should encompass all services, facilities, amenities and opportunities aimed at providing a better life for residents of Frankenwald. It is important to note that these benefits should extend outward to the surrounding neighbouring areas. The development should also occur in a manner that would not uproot the lives and routines set by the existing surrounding residents. In terms of the Frankenwald development, the surrounding residents are afraid that this development could pan out in the same manner as projects of a similar nature in Johannesburg. The UDF aims to change this norm by proposing a development or urban core that would always be active and would not result in a white elephant. Due to this, it is important that the UDF also points out the possible ripple effects that the centrifugal force from Frankenwald may cause. These may have positive benefits for those surrounding areas where owners would like to develop further, however it would be problematic for those who aim to establish their lives and maintain a suburban feel in their area of residence.

It is furthermore understood that the delivery of housing on Frankenwald will be in the form of “affordable housing” which would include the typologies stated above. The FDC is of the opinion that the nature of this project will be aimed at more subsidised and inclusionary types of residential development. It should be noted that the surrounding communities would need a better view of the actual design of Frankenwald as well as the architectural designs of buildings in close proximity to them. As mentioned earlier, Northway Road is the most important transport route in the area for most of the existing residents as well as travellers passing through daily. The UDF makes reference to the interface to be established. This interface should not only account for the density and architectural styles but also the edge conditions and the manner in which the current houses will be accommodated

along a larger road (upgraded Northway Road) abutted by larger residential structures. In terms of the interface being proposed, the UDF stipulates that:

“Create an interface between high- and low-density residential areas. Step-downs densities (or density interface) must be utilised in Frankenwald to make higher-density residential buildings (such as walk-ups) compatible with neighbouring, lower-density residential buildings. Applying a housing typology mix in Frankenwald will, for example, enable the design of Frankenwald to create a better interface between an affordable housing development and neighbouring land uses. In addition to density interface measures, the design of Frankenwald will require architectural compatibility between neighbouring buildings within Frankenwald, as well as between Frankenwald and neighbouring residential areas. As can be determined by the above, the location of high-density residential buildings and its interface with neighbouring residential areas will largely be addressed in the Urban Design Framework for Frankenwald, which will follow the Frankenwald UDF. The Frankenwald UDF (being a strategic-level policy document) aims to allow a relatively broad residential density range to enable the Urban Design Framework to achieve suitable residential interfaces.”

This is an imperative exercise which will play a major role in creating physical and social cohesion between the areas and the users. The UDF makes reference to these principles and ideologies, however it is of utmost importance to the FDC that these principles are followed through until the construction process. It would be senseless to create a guiding document which will be considered a policy yet developers deviate from the actual intentions laid out in the UDF.

Developments in the past have provided housing to the poor and deserving under fully subsidized models. However, the successes of these developments is questionable. The UDF points out the notion of sub-letting which is something that should not be allowed in any way if the properties are being given out for free. The issue of sub-letting only exacerbates the influx and constant increase of informal settlements in Johannesburg. The FDC would like to point out that it will not be in agreement of fully subsidised units which are free-standing or capable of allowing recipients the option of backyard shacking. This has been the downfall of most, if not all, government aided housing projects. It cannot be an accepted form of development and is considered illegal if the structures do not conform to the standards laid out by the city of Johannesburg (CoJ). The FDC is making it clear that all fully subsidised housing be provided within walk ups and flats to avoid the unsightly and unwanted

notion of backyard shacks. If subsidised housing is integrated with market rentals and social housing, management mechanisms as well as funding mechanisms become easier to implement and achieve. This is after all the intention behind an integrated development. It is also in line with spurring on an intention for low income earners and informal settlers to create a better life for themselves and to aspire moving up the different tenure types. The provision of state funded housing and subsidised housing should carry an enablement effect that would allow residents to make their own lives better instead of relying on the state. Much research and ongoing investigation on the ground needs to be carried out in order to fix the housing delivery problems faced by the country. However, for the purposes of Frankenwald, it should be noted that the FDC would like to see that the UDF can make a difference in housing delivery projects.

The FDC would like to point out the following:

- All fully subsidized housing should not be built with typologies that can allow backyard shacks/ Shack Farming.
- It would be preferred that bonded and rental units be situated closer to the existing suburban areas so that these may add to the rates base instead of taking from it as these ownership types are generally better well-kept than fully subsidised units who generally fall into disrepair due to body corporate failure or lack thereof.
- Densities should be minimally increased from the existing densities within the interface zones.
- All buildings that are proposed should take into account architectural styles of the surroundings.
- Edge conditions should be carefully looked at so that the development is inclusive of surrounding areas rather than shutting them out.
- Facilities, services and amenities should be looked at in greater detail for surrounding areas.
- The UDF should also include some of the possible ripple effects that can be caused in surrounding areas due to the development of Frankenwald.

In conclusion it can be said that the development of Frankenwald should be looked at as an enablement tool for the future residents as well as the surrounding existing residents. It is a fallacy that services like the BRT and Gautrain only become more accessible by virtue of new larger developments rather than for those existing for many years. Along with this, engineering services are in dire need of upgrade and has not been assessed nor budgeted for in the recent past. The FDC would

like to make it clear that if these services can be upgraded and confirmed capacity is available before the development of Frankenwald.

Development Controls



Map 3: Proposed Zonings in Frankenwald. (Source- Frankenwald UDF, fig 24).

Broad Land Use Category	Land Use Category	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
		Core Biodiversity Area	Environmental Buffer Area	Urban Agricultural Area	General Urban Zone	Regional Node	Metropolitan Node	Commercial Area
Residential	Low-density				(4)			
	Medium-density							
	High-density							
Institutional	Accommodation							
	Educational		(1)					
	Medical							
Business	Social							
	Retail							
	Big Box Retail							
Institutional	Office							
	Entertainment							
	Motor trade							
Institutional	Micro enterprise (SMMEs)			(1)				
	Municipal							
	Government							
Industrial	Light Industrial							
	Commercial				(4)			
Environment	Active Open Space (2)							
	Passive Open Space (3)							
Agriculture	Urban Agriculture		(1)	(1)				
	Environmental Research			(1)				
	Min Residential Density per Erf	n/a	n/a	n/a	60u/ha	60u/ha	120u/ha	n/a
	Min Average Residential Density per Township	n/a	n/a	n/a	120u/ha	150u/ha	180u/ha	n/a
	Max Residential Density per Erf	n/a	n/a	n/a	240u/ha	n/a	n/a	n/a
	Min FAR	n/a	n/a	n/a	n/a	0.6	0.8	n/a
	Max FAR	n/a	n/a	n/a	2.4	5.6	12.0	1.5
	Max Coverage	n/a	n/a	n/a	60%	80%	100%	50%
	Max Height	n/a	n/a	n/a	4 storeys	10 storeys	20 storeys	3 storeys

Source: Urban Dynamics Gauteng, 2020

Notes: 1. Subject to environmental approvals.

2. Active Open Space refers to open space for sport and recreation activities.

3. Passive Open Space refers to open space for the management of natural resources.

4. Subject to it establishing a suitable density and design interface with neighbouring buildings and/ or properties.

Table 1: Proposed Zonings in Frankenwald. (Source- Frankenwald UDF, table 6.4).

Zone 1: Core Biodiversity Area

“The aim of Zone 1 is to manage sensitive environmental areas containing critical biodiversity areas. These biodiversity areas comprise terrestrial and aquatic features critical for conserving biodiversity and maintaining ecosystem functioning. Zone 1 includes environmental features, such as the Jukskei River and its associated wetlands. These core biodiversity areas must thus remain in their natural state. Therefore, Zone 1 is excluded from all forms of urban development, bar certain passive activities, such as hiking and environmental education activities.”

In principle based on the flow of the Jukskei, the proposed zone and its controls are acceptable, however the detailed environmental studies were not made available to correlate the demarcated areas to the expert analysis in respect of not only the Jukskei but the protection of the Egoli Grassland as well.

Zone 2: Environmental Buffer Area

“The aim of Zone 2 is to protect the 32m buffer zones surrounding the Zone 1 Core Biodiversity Areas, as well as the connecting corridors linking these Core Biodiversity Areas. Zone 2 also prohibits urban development within the 1:100-year flood line area, where this flood line extends beyond the Core Biodiversity Area. Zone 2 can accommodate low-impact urban infrastructure, such as stormwater management infrastructure, pedestrian walkways, and bicycle routes. Urban agriculture can be practiced within this Zone 2 and schools can use these areas for its sports facilities. However, it is important to note that such uses can only occur within Zone 2 subject to environmental approvals by the City of Johannesburg, and should therefore not be assumed when designing the Frankenwald Township Layout.”

The Buffer area is acceptable in principle however one has to ask the respective question as to whether the 32m buffer is large enough to accommodate flash flooding as well as NMT infrastructure such as such walkways/cycle lanes. This is an important aspect with regards to the quality of life for the new residents as well as safety concerns for their children. The consideration of what urban design techniques shall be utilised to protect these buffer zones from informal settlements taking route along the river remains a constant concern.

Zone 3: Urban Agricultural Area

“Zone 3 can be used for cultivating, processing, and distributing food in the city and can include soil-based urban gardens, hydroponic or aquaponic indoor production, and even urban beekeeping. Zone 3 can also comprise small commerce and sales outlets associated within urban agriculture. Zone 3 can also be used for environmental research purposes, such as the monitoring of the restoration rates, biodiversity compositions and changes of Egoli Granite Grassland within urban areas. All buildings and building locations associated with urban agriculture and environmental research will be subject to environmental approval by the City of Johannesburg.”

Zone 3 relative to the development seems to be the smallest area dedicated to urban food production. The wording of above zone implies that the zone shall comprise of urban agriculture together with the preservation of the Egoli Granite Grassland. This would be problematic in future as the grassland could be ‘gardened out’ should there not sufficient control and management of the urban agricultural

precinct. The urban design should incorporate the specific protection of the grassland and separate the urban farming zone.

Zone 4: General Urban Zone

“The primary aim of Zone 4 is to create a multi-faceted living environment that includes a variety of residential options that accommodate a wide range of affordability options, as well as residential-supporting uses, such as schools, community facilities, local businesses and purposes a high-quality recreational environment. Typical residential building types within Zone 4 can include row housing and walk-ups up to 4 storey in height to achieve residential densities in excess of 60u/ha.

Row housing can be used as a density interface and use. Importantly, the minimum average residential density for the entire Zone 4 is limited to 120u/ha to ensure the residential densities remains well within the minimum requirements stipulated by the Johannesburg Nodal Policy 2020. A maximum residential density of 240u/ha is supported within Zone 4. Despite the emphasis on residential uses, Zone 4 must aim to establish a medium-intensity, well-scattered land use mix. This mix can include small shopping centres, local shops and businesses that are mixed throughout the area, but concentrated on high streets and within neighbourhood nodes. Coverage of up to 60% is permitted within Zone 4, with a maximum FAR of 2.4.”

This zone makes up the bulk of the development. The densities and locality of this particular land-use make sense in respect of the surrounding uses. The urban design framework should reflect the proposed densities and specifically exclude any single dwelling residential erven. Access to zone should be clearly identified in the urban design. Detailed commentary on this node is captured previously under the Node section of this document.

Zone 5: Regional Node

“The aim of Zone 5 is to create a compact, mixed-use business center, comprising office, retail and other economic uses. Typical building types in Zone 5 include shopping centres,

big-box retail, motor showrooms, multi-storey office buildings, and mixed-use buildings that contain retail and other uses on the ground floor and residential units and office space on upper floors. Residential building types that are appropriate within Zone 5 include row housing, walk-ups and flats. Zone 5 needs to be developed as a fairly high-intensity land use environment, of a similar quality, but lower intensity, than Zone 6 (Metropolitan Node). For example, Zone 5 allows expansive big-box retail to form part of the land use mix, thus allowing a lesser land use intensity than is encouraged in Zone 6. To create this compact, mixed-use business center, a minimum FAR of 0.6 and a maximum FAR of 5.6 is allowed within Zone 5. A minimum residential density of 60du/ha is allowed within Zone 5 to allow residential density interface buildings, such as row housing, to be developed along the edges of this zone. Importantly, the minimum average residential density for the entire Zone 5 is limited to 150u/ha to ensure the residential densities remain well within the minimum requirements stipulated by the Johannesburg Nodal Policy 2020. A maximum residential density is not stipulated within Zone 5, but is instead regulated by the maximum FAR of 5.6 and building height of 10 storeys.”

With zone 5 been the most commercially viable and probably the first point of development due to its location of been close to Woodmead and the recently upgraded interchange, access to and from the zone needs to be clearly articulated in the urban design plan as the intense land uses could clog up the recently upgraded Woodmead interchange. Higher densities are supported in this particular zone due to the direct highway access ie. Woodmead. Detailed commentary on this node is captured previously under the Node section of this document.

Zone 6: Metropolitan Node

“The primary aim of Zone 6 is to create a vibrant destination or ‘Town Centre’ built around the Marlboro Gautrain Station. With this in mind, Zone 6 needs to be developed as a truly mixed-use environment that will cater to all aspects of community life, including offices, retail, residential, community facilities, SMMEs, and hotels; all mixed within a walking distance of an intermodal public transport facility. Residential building types located within Zone 6 need to vary, but will generally include walk-up, multi-story flats, and mixed-use buildings that contain retail uses on the ground floor and residential units on its upper floors.

Creating a precinct with active and diverse ground floors areas, containing shops, restaurants, offices and social services, which are located on properties with minimal setbacks, is a primary objective of Zone 6. Street-front retail needs to be enabled; be it by developing a typical 'High-Street' or by allowing a percentage of a shopping centre's outlets to face and line the street edge. Vertical mixed-use buildings can also be used to achieve this, by allocating retail and other uses (such as motor showrooms) on the ground floor level of these buildings. Entertainment uses can and needs to form an integral part of the land use mix of Zone 6. Micro enterprises can be established in Zone 6 and can be located within covered markets, at transport interchanges, along high-streets, and as formal curbside trading to support and promote SMME development within Frankenwald.

Zone 6 needs to be developed as a high-intensity land use environment to enable Transit Oriented Development (TOD) development and the efficient support of the Marlboro Gautrain station in particular. Vertical land use mix is encouraged in Zone 6, where buildings typically include ground-level retail and up to 20 storeys of office, accommodation, and/ or residential uses. To enable this, a minimum FAR of 0.8 and a maximum FAR of 12.0 is allowed within Zone 5. This development intensity is further encouraged through a maximum 100% coverage that is allowed within Zone 6. A minimum residential density of 120du/ha is allowed within Zone 6 to allow a limited number of residential density interface buildings, such 3- storey walkups, to be developed along the edges of this zone. Importantly, the minimum average residential density for the entire Zone 6 is limited to 180u/ha to ensure the residential densities remain well within the minimum requirements stipulated by the Johannesburg Nodal Policy 2020. A maximum residential density is not stipulated within Zone 6, but is instead regulated by the maximum FAR of 12.0 and building height of 20 storeys. Amongst others, this generous maximum FAR can be utilised to create a landmark building near the Marlboro Gautrain Station to spatially signify the location of this public transport facility and the core location of the Frankenwald development."

The linkages to the Gautrain Station in Marlboro is highly encouraged in order to receive the required densities. As mentioned previously the direct link to the station remains paramount for the successful implementation of the development of this particular zone. While 100% coverage is allowed in this zone, it should be noted that occasional flooding occurs where the Jukskei makes a 90 degree turn. This particular zone from the extract seems to take on the envisioned urban form of the nearby

Melrose Arch development. Should this be the intent, the Urban design layout should reflect the form in a coherent manner while been able to scale up and draw in investment for such a development. Detailed commentary on this node is captured previously under the Node section of this document.

Zone 7: Commercial Area

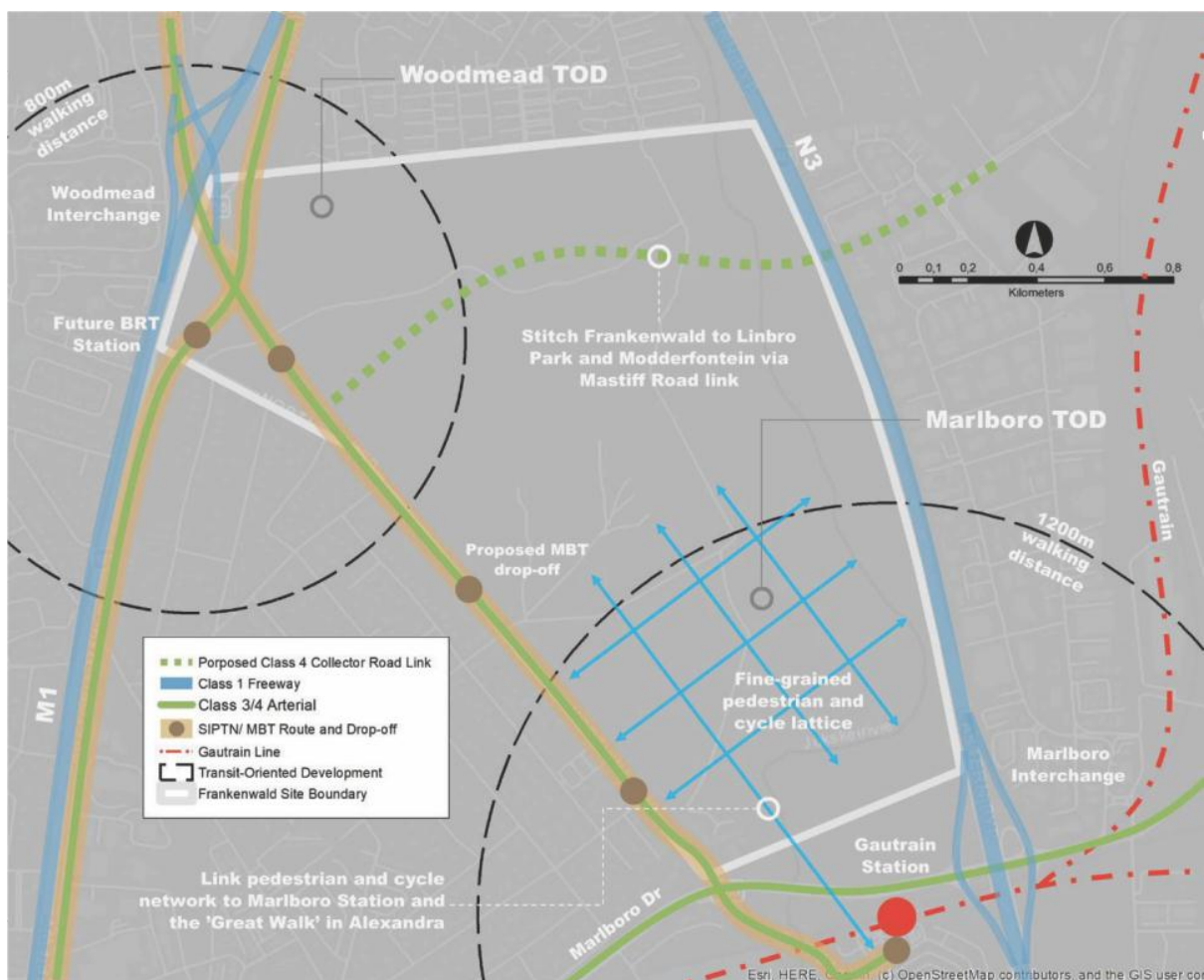
“The primary aim of Zone 7 is to provide space for commercial and light industrial activities. Commercial developments, such as distribution centres, storage, wholesale and warehousing can be encouraged within this zone. Stringent development controls must be implemented within this zone to ensure an acceptable interface between this zone and neighbouring residential areas. For the same reason, heavy noxious industries are excluded from this zone. Other land uses to be encouraged within Zone 7 include offices uses associated with the commercial and light industrial uses, motor trade uses, and institutional uses, such as Government and Municipal depots. A maximum FAR of 1.5 is allowed within Zone 7.”

Zone 7 is adequately placed along Mastiff road and seems to be an extension of the Frankenwald industrial park across the highway. Light industrial/Commercial/Logistics is welcomed in this particular zone.

Transportation

Frankenwald is located near the Marlboro Gautrain Station, but is not directly connect to the station. It is also not located within walking distance of the Louis Botha BRT route and this BRT route needs to be extended northwards for Frankenwald to get access to it. Thus, significant investment in public transport infrastructure will be required to unlock the full development potential of the site. Even the existing strategic road network, which is one of the site's primary strengths, poses a challenge. The M1 and N3 freeways form a barrier between Frankenwald and neighbouring areas and offer few opportunities for access due to interchange spacing limitations.

Frankenwald has the potential to contribute to the development of an integrated public transport network incorporating BRT, Gautrain midi-buses, NMT and new demand responsive mobility options (such as Uber), which will benefit the region at large. This network should be shown within the urban design framework.



Map 4: Proposed Transportation Network in Frankenwald. (Source- Frankenwald UDF, fig 19).

North Way Road upgrading

The following is an extract from Page 232 of the proposed draft framework and has been extensively quoted due to its relevant importance for the residents of Northway.

“Most of the strategic road network serving and giving access to Frankenwald has been developed. However, these roads only give access to the Frankenwald site via freeway interchanges and an intersection off Marlboro Drive. The only lower order strategic road giving access to Frankenwald is North Way Road. This road, which forms the western boundary of the Frankenwald site, is a Class 3, two-lane road, with frequent intersections to the Frankenwald site and Kelvin. North Way Road has been developed many years ago to serve the low-density residential areas of Kelvin and Buccleuch.

Consequently, this road in is need to repair and upgrading to serve as an access road to the envisaged Frankenwald development. Taking into account the movement network option preferred by the Frankenwald development, North Way Road will also function as a Mini-Bus Taxi (MBT) route, connecting the Woodmead Interchange and proposed Woodmead TOD, located on the northern boundary of Frankenwald, to Marlboro Drive and the proposed Marlboro TOD (centered on the Marlboro Gautrain Station), and Alexandra. North Way Road connects to Far East Bank Drive in Alexandra, passing under the Sandton to OR Tambo Gautrain railway line, allowing the proposed North Way MBT route to extend into Alexandra. This will also provide an opportunity to directly link this MBT route with the Marlboro Gautrain Station, thus enabling modal transfer between MBT and Gautrain. Such a solution would give Frankenwald a flexible and well established public transport system, which would not require extensive capital injections for the City to implement. To ensure North Way Road can function as a MBT road, as well as integrate it sufficiently with the NMT-oriented street network of Frankenwald, is its proposed that this road be developed as a Class 3 road with 450 intersection spacing, as depicted conceptually depicted on Table 43.

It is important to note that the route alignment of North Way is not considered to be fixed in the Frankenwald UDF. Instead, the alignment of the road can be changed during the Urban Design and Township Establishment phases, if a better road alignment can be determined during those project phases. A number of considerations can cause the alignment of North

Way to be changed. For example, the current alignment of North Way is on the western boundary of the Frankenwald site.

This means that the public transport route will only have medium to high density on one side (the Frankenwald side), as there are low-density single-family units on the western side of the road (in Kelvin). A preferred option for a route like this would be high-density development on both sides of the road to allow walking distance access to this public transport route for the maximum number of people. In order to do this, the road should be aligned through the centre of the Frankenwald site and not on its edge. On the other hand, a public transport route through the Frankenwald site would divide the site and make pedestrian connectivity difficult. Taking into account the above, it is important to consider various options for the alignment of Northway to determine the best solution. This needs to be done during the Urban Design and Township Establishment phases of the project. Thus, the amendment of the alignment of North Way is not restricted by the Frankenwald UDF, but is left to the Urban Design and Township Establishment phases of the project.”

With regards to the upgrade of Northway together with the preferred alignment it is requested that these design options are fixed and subsequently proclaimed within the urban design framework as the land parcel is currently owned by one entity and will in all likelihood be developed by one entity. According to the UDF, Northway road is proposed to be a CLASS 3-Minor Arterial (600m spacing) which makes it a tier lower than a highway. The finality placed within the detail design-urban design framework should provide much needed affirmation to the FDC and land owners abutting Northway on the status and future prospects of their properties. With the uncertainty of the BRT and the insistence on the UDF touting Northway as a Mini-Bus Taxi Route, it would only be prudent that Northway is finalised and should be one of the first major upgrades that should take place prior to any development as it seems that it may be the main and only entrance to Frankenwald (apart from the future Mastiff road).

Given the potential density of the development, as well as the potential for business and industrial traffic, the FDC is concerned that one access route into Frankenwald is insufficient and will be overly burdensome on Frankenwald residents and business users and visitors as well as the current residents of Kelvin. The FDC requires that an additional access route be fully investigated in the detailed design of the site. Since the proposed densities demand the need for infrastructure capability, an additional access into and exiting Frankenwald will alleviate some of the existing traffic that residents currently

already complain about and future traffic from the development. The width and spec of the upgrade should also be thoroughly discussed with the FDC as well as other abutting landowners in order to adequately cater for the additional traffic impact on the low density suburb of Kelvin. Residents have noticed a spike in hijackings, attempted hijackings and smash-and-grab incidents along Northway due to the waiting time at the traffic lights on Old Pretoria Main Road and are very concerned that additional traffic without a well-planned upgrade, together with the limitation of only one access route into Frankenwald, will exacerbate the traffic and crime at the intersection.

The development and upgrade of Northway is the single most important upgrade that would directly affect the residents of Kelvin in respect of additional traffic and the road closures for the suburb which is a red line for the community. Should the upgrade impact on the road closures in place, the Kelvin community will contest the development since it threatens their safety, hence the importance on resolving and setting in stone the Northway upgrade and alignment.

BRT

The key consideration around the implementation of the BRT within Frankenwald would be the programming thereof as well as utilising the BRT as a structuring element. Should the TOD concept hold true, it would be imperative that the Urban Design framework realign Northway within Frankenwald in order to isolate and reserve the required densities along the future BRT which would run through the development thus minimising the impact on Northway residents while capturing the maximum densities on both sides of the newly realigned Northway. It is noted that the BRT is planned for the outer years beyond 15 years.

MBT

It has been noted that the draft UDF relies heavily on the mini bus taxi, to provide the required localised trips to justify the respective densities as the BRT would not be built within the next 10 to 15 years or even longer. This provides more impetus to realign Northway and upgrade the route timeously in order to minimise objectives to the development. The FDC would like to specifically identify and understand how mini bus taxis will be incorporated within the urban design through respective routes and facilities made available to this critical service.

Gautrain

Linkages to the Gautrain have been mentioned via a possible proposed foot bridge. This linkage should be explicitly mentioned and shown within the Urban Design. It is also imperative that the developments linked to Gautrain station are commercially viable for the success of the entire development.

NMT

NMT has been mentioned as playing a major role within the development as well as linkages to Alexandra to the south. It would be pertinent to investigate the movement patterns of people coming across from Wendywood through Kelvin (Via Sunnyway) across Marlboro into Alexandra. The incorporation of this movement pattern together with a bona fide Taxi rank with Frankenwald would assist in cutting short the relevant journey and movement patterns of many of these people walking daily on foot to their respective places of work. This should be expressed as much as possible within the Urban Design framework as it would assist the Kelvin Residents Association on how to plan and develop their relevant access control security features.

The section above points out the concerns raised by the residents of the FDC. Although these concerns have been pointed out and noted in this phase of the UDF, it is imperative that the solutions and proposals are carried through. In addition to Northway, Marlboro, Pretoria main roads, Buccleuch residents have also raised concern that the road connection points between Buccleuch and Frankenwald e.g. Fife Street will lead to additional vehicles accessing Buccleuch and impacting on our congested road network. These smaller road networks should also be studied in greater detail to adequately provide for the future development of the entire area. In the final phase of the UDF the document should make reference to these concerns and how they will be enforced prior to development occurs.

Environmental

From an environmental perspective, Frankenwald is traversed by the Jukskei River, which will need to be managed in terms of flooding and pollution. Frankenwald also has other environmental features, such as Egoli Granite Grassland and seepage areas associated with the Jukskei River. These environmental areas will all impact on the land available for development on the Frankenwald site.



Map 5: Environmental landscape in Frankenwald. (Source- Frankenwald UDF, fig 20).

Environmental Objectives

The following environmental objectives are proposed for the Frankenwald UDF:

- Comprehensive ecological management.
- Biodiversity restoration.
- Sustainable resource utilisation.

- Stormwater management and erosion control.
- Sustainable use of ecological management areas.
- Pollution management.
- Ecosystem service.

The environmental objectives proposed by the UDF are extensive and would cover the majority of concerns relayed by the FDC and their relevant constituents as put forward through the previous comments.

Environmental Considerations

The following environmental considerations were taken into account:

- Environment must be the structuring element for the proposal.
- Take into account stormwater management.
- Take into account geohydrology and wetlands.
- West-east wetland corridor must be taken into account.
- Management and clean-up of the Jukskei must remain paramount.
- Make the Jukskei River a community asset.

The Environmental considerations have taken into account the majority of concerns as previously communicated in the first round of comments.

The FDC however does raise the point that the above mitigating factors should be incorporated into the next phase the land use development framework.

It is also important that the Jukskei River be rehabilitated and maintained in its natural setting. There should be no construction of any canals or built structures that will alter the natural character of the Jukskei. However it must seriously be considered that annual, repeated flooding, significant river-borne litter and sewage contamination from upstream are major issues for Buccleuch. The litter encompasses everything from plastics and paper products to nappies and mattresses. The litter is an eyesore and a danger as it blocks the culverts under the low bridge, and contaminates the river. This should definitely be a point of departure for the sustainability of the river. Along with this, the low bridge across the Jukskei on Bridge Road is flooded every time there is high rainfall upriver, making access to Buccleuch a challenge and posing an ongoing danger to residents. The Buccleuch residents suggest and request that attenuation dam/s be built to prevent flooding downriver in Buccleuch. Apart

from these issues, other solutions like litter traps being installed was previously proposed by the Buccleuch residents and should be adopted in the rehabilitation plan.

Clarification on the proposed EIA and WULA for Listed Activities to be undertaken

Running alongside the UDF process, the Frankenwald Development Company has appointed environmental practitioners to undertake an EIA process for various listed activities. The following listed activities that are of a concern to the FDC are the following:

Indicate the number and date of the relevant notice:	Activity No (s) (in terms of the relevant or notice):	Describe each listed activity:
GN. R 983 8 December 2014 as amended by GN. R 327 7 April 2017	Listing Notice 1 Activity 12	The development of – (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse.
GN. R 983 8 December 2014 as amended by GN. R 327 7 April 2017	Listing Notice 1 Activity 19	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from- (i) a watercourse;
GN. R 985 8 December 2014 as amended by GN. R 325, 7 April 2017	Listing Notice 3 Activity 12	The clearance of an area of 300 square metres or more of indigenous Vegetation. c. Gauteng (ii) Within Critical Biodiversity Areas or Ecological Support Areas identified in the Gauteng Conservation Plan or bioregional plans.
GN. R 985 8 December 2014 as amended by GN. R 324, 7 April 2017	Listing Notice 3 Activity 14	The development of – (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs— a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse. c. Gauteng Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans.

In addition to the above listed activities, the Frankenwald Development Company also applied to the Department of Water and Sanitation for a Water use license under Section 21 (c and i) of the National Water Act (NWA) (Act No 36 of 1998) for the following activities:

- a) taking water from a water resource
- b) Storing of water
- c) impeding or diverting the flow of water in a watercourse
 - altering the bed, banks, course or characteristics of a watercourse

Based on the above proposed activities and considering the environmental goals and objectives of the UDF, clarity is sought with regards to the above mentioned activities which are seemingly invasive and are at odds with the protection of the Juskei River unless they are required for the upgrade and preservation of the Jukskei.

Could you kindly indicate why the above listed activities would be necessary for the development and why they cannot be avoided, given the potential risk to the natural watercourses and wetland area. It is also requested that the Urban Development Framework indicates precisely how the conservation of wetlands as a critical component of the water cycle and the maintenance of biodiversity will be prioritised.

General notes

The UDF has mentioned that the following studies were conducted. The FDC hereby requests copies of these documents as previously none of the requested studies were made available.

- ‘Freshwater and Aquatic Ecological Assessment as part of the Environmental Authorisation Process for the Proposed Development in Frankenwald, Sandton, Gauteng Province’, prepared by Scientific Aquatic Services for LEAP, April 2020.
- ‘Hydrogeological Assessment as part of the Environmental Assessment and Water Use Licence Application for the Proposed Frankenwald Development, Sandton, Gauteng Province’, prepared by Zimpande Research Collaborative for LEAP, August 2020.
- ‘An Ecological Report on the Flora and Fauna: Frankenwald, Gauteng’, prepared by Enviroguard Ecological Services for LEAP, July 2020.

- 'Phase 1 Heritage Impact Assessment for the Frankenwald Development', prepared by African Heritage Consultants for LEAP, July 2020.

- Historic transformation assessment conducted by LEAP.

It is also recommended that the FDC be made aware of the proposed WULA application to National Department of Water Affairs.

Bulk Services

Bulk Water Supply

“It is therefore evident that the allowance in the JW masterplan will not cater for any development scenario envisaged for Frankenwald Development. This increased capacity requirement might affect the available capacity of the supply from Rand Water, it will require additional reservoirs to be constructed, and it will require the existing 800mm diameter bulk supply pipeline serving Frankenwald to be upgraded. This will need to be confirmed with a detailed analysis of the LPA water district.”

Bulk Water supply will be required to be upgraded through the construction of additional reservoirs and pipelines for Frankenwald to meet the required densities. Water demand will be measured per township development phase and constructed accordingly to ensure that the surrounding areas are not negatively affected.

Bulk Sanitation Supply

“Upgrading of the Northern WWTW will still be required irrespective of whether the proposed Lanseria WWTW is constructed. Analysis of the relative spare capacity of the existing bulk outfall sewers on the site, as well as the Buccleuch Tunnel Section, indicated that there is relatively spare capacity of between 30 to 45% in the majority of the pipes. However, with the increased flow from Frankenwald it is uncertain whether the existing infrastructure will be able to accommodate the flow.”

Insofar of sewer infrastructure is concerned, it would seem that there is sufficient pipe capacity for the Frankenwald development according to the UDF, however the Northern Waste Water Treatment Plant needs to be upgraded together with the construction of the proposed new Lanseria Waste Water Treatment Plant. The future of the high intensity development is based on the availability of engineering infrastructures rather than the proposed upgrades. According to the UDF the JW masterplan has anticipated a sewer capacity of 14,000 residential units, which is 6.0 Mℓ/d. Currently the UDF is proposing a maximum of 63 000 units which gives an approximate sewer capacity need of 37.8 Mℓ/d which is way above the amount being given by the JW masterplan. Even if the development proposes 30 000 units along with the proposed mixed uses, the sewer capacity will still not be adequate. The FDC requests that the sewer capacity be increased before the development occurs. All engineering studies and approvals should be made available to the FDC for review. The city needs to

adequately budget and construct/upgrade these plants for the entire Frankenwald to be developed which may take years. Surrounding residents have already complained regarding existing sewer issues at times and do not want additional strain on the suburbs sewer capacity without additional capacity been made available. To further elaborate on this, Buccleuch bears the brunt of waterborne sewage from upriver informal settlements, inadequate bulk sewage works and leaks in sewage infrastructure. This will be a problem for Frankenwald and the development provides an opportunity for this to be addressed. Infrastructure upgrades should take precedence in order to facilitate future development and allow for existing residents the availability of adequate services. In conclusion, the question remains regarding the upgrade of the Lanseria WWTP, what would happen should this particular upgrade not take place due to budget constraints. It is of utmost importance that the sewer infrastructures be upgraded prior to any future development occurs on site.

Energy Supply

“The Frankenwald development will need substation, as any load above 40MVA requires a dedicated substation. A loop in/ loop out configuration from the powerlines, which are supplying the existing substation north of Frankenwald, can be done in order to supply the new substation proposed for the development. It is important to note that a more informed decision on the bulk electricity requirements can only be taken during later stages of the development, when more information on the development is available.”

It is too early to pin down the extent of the required load required for the development. This calculation should be confirmed and relayed to the FDC during the township application phase. Any upgrades to the infrastructures should also take place before the actual development.

Conclusion:

The aim and purpose of the UDF is to provide a strategy and guidance towards the development of the Frankenwald integrated settlement. It is imperative that the processes to follow are in line with the proposals made in the UDF. The report has pointed out that the FDC has a good understanding of the UDF and has also put forward the concerns that should be addressed. It cannot be overstressed that the processes to follow are in line with the proposals made in the UDF. Any and all infrastructural upgrades should be done prior to buildings being built on site. The FDC feels it necessary to play a role as an interested party in all processes going forward not just the UDF process.

The detailed design section of the UDF should include all major and minor details so that the development can be understood in its totality. Along with this, it would be a good exercise to stitch the surrounding urban design frameworks together to see how the areas work or do not work together. In doing so it would also allow for development proposals and patterns to be derived in areas without these frameworks.