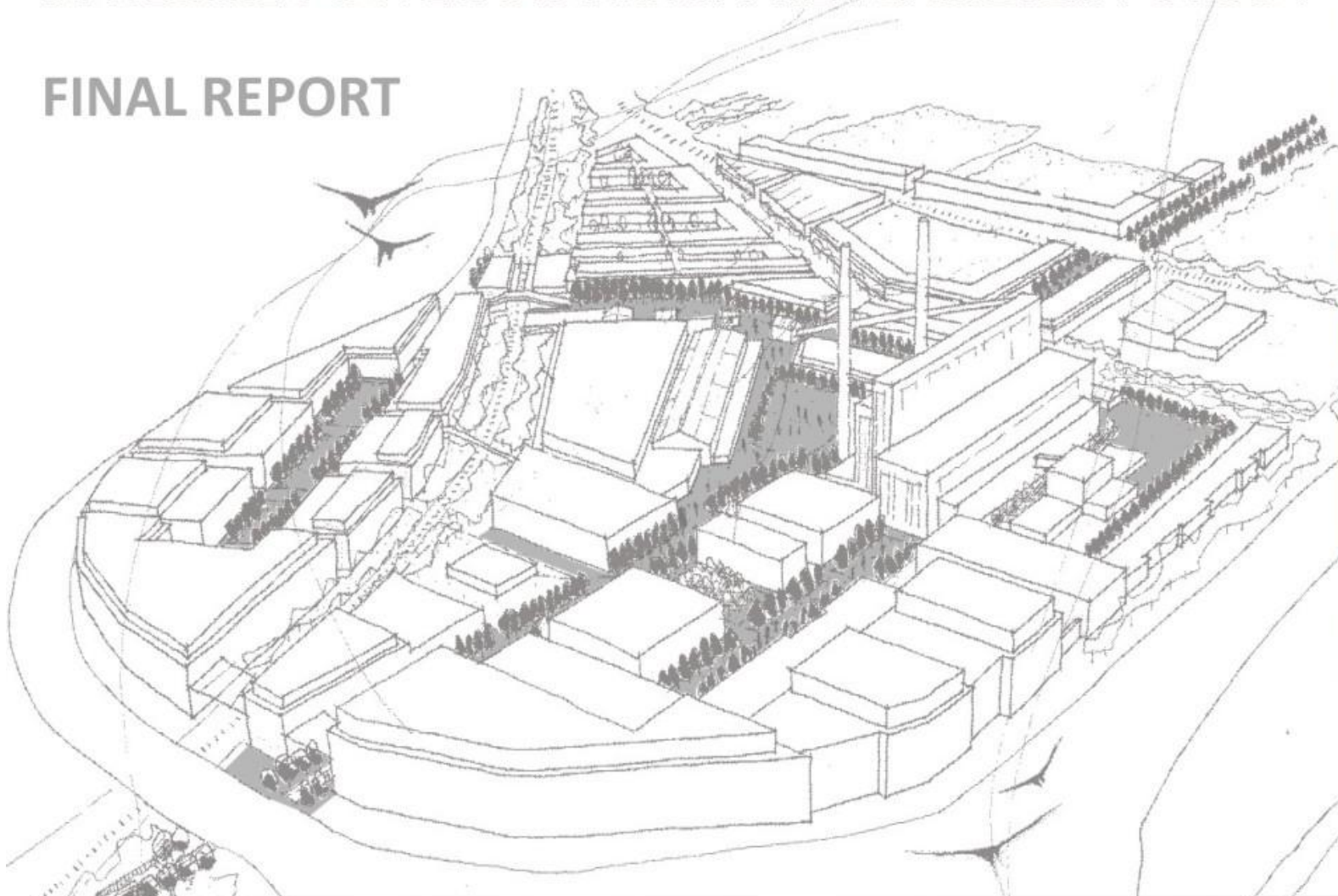


ATHLONE POWER STATION: PRE FEASIBILITY STUDY

FINAL REPORT



SEPTEMBER 2010



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EXECUTIVE SUMMARY

The 36 hectare Athlone Power Station site is situated on the N2 freeway midway between the historic city centre and Cape Town International Airport. Power Station operations were found to be uneconomic and terminated in 2003.

The site is extraordinary well located in terms of metropolitan movement routes and is potentially accessible to local communities. It is also substantial in size, and contains large buildings and structures that could be put to new uses. However, it is also constrained by infrastructure that has to remain and essential City services which in their current form negatively impact on the development potential of the site.

In terms of the City's Draft Table Bay District Spatial Development Framework, "the site, despite a number of constraints, offers an exciting redevelopment opportunity that can result in a variety of land uses for both locals and visitors. Residential, commercial, retail and community facilities are likely to be part of any proposal. The mix, layout and built form of these elements are dependent on a number of variables, including for example the extent to which land is required for continued service delivery and the potential for existing buildings to be converted".

The City of Cape Town appointed Aurecon and ODA during the third quarter of 2008 to assist with a pre feasibility study of the redevelopment potential of the de-commissioned Athlone Power Station. The work is funded by the National Treasury under the Neighbourhood Development Partnership Grant (NDPG).

The consultant team defined its task as:

"Assisting the City to determine the feasibility of redeveloping the Athlone Power Station Site, and if so, a composite picture of the appropriate form or forms of development for the site in order to assist administrative and political leadership to make informed choices and decisions in the best public interest."

The pre-feasibility study comprised nine stages. The first four stages dealt with project establishment matters, site-specific and contextual information gathering, research and analysis, and remaining decommissioning issues. The last five stages addressed possible development scenarios, the testing of scenarios, development of a preferred "business case" and project close-out.

The scenarios developed follow a continuum from "doing nothing" to "doing anything" on or with the site. Based on the site-specific and contextual background information and analysis work it became clear that a realistic development option is probably situated in between these extremes.

The background studies, scenario development and scenario testing work phases – including extensive engagement with local stakeholders, citizens and special interest groups – concluded that it is feasible to develop the site as a special place in Cape Town: a mixed use urban district, containing a vibrant

local community (with all necessary facilities needed by the community provided), but also a place of work, learning and recreation which draws people from further afield.

The preferred scenario will make good use of the public landholding and existing buildings, serving specific needs in surrounding areas, while respecting existing activities and ways of living in these areas. It will protect the presence of critical infrastructure operations on the site and create the pre-conditions for improving critical infrastructure services and facilities. The Turbine Hall, coal store area and adjacent land are to form the heart and central public precinct of the site. Development of the preferred scenario will meet City policy (across sectors) and NDPG objectives, could be largely financially self sufficient, and will meet community expectations (and need).

The next stage of work on the Athlone Power Station will focus on decommissioning of the site and the safeguarding of buildings, structures, plant and services to remain, legal processes (including required heritage, environmental and land use approvals), and preparing a bankable business plan, including a final package of mutually supportive development, services, land release, institutional and financial frameworks, for developing the site.

1 INTRODUCTION

1.1 PURPOSE

The Athlone Power Station (APS) pre feasibility study was initiated by the City of Cape Town in 2009. It followed a Council resolution to formally decommission the power station and a successful application for funding support from the National Treasury under the Neighbourhood Development Partnership Grant (NDPG).

This “final” report:

- Summarises the broad process followed during the pre feasibility study.
- Outlines key issues and informants to scenario development and specific planning work.
- Summarises the scenarios prepared.
- Summarises public inputs received in response to the scenarios.
- Assesses the scenarios in terms of agreed criteria.
- Outlines a preferred development scenario in detail.
- Presents a policy and development framework in support of the preferred scenario.
- Makes recommendations on phasing of the development.
- Sets out final recommendations in relation to the further development of the preferred scenario and achieving its readiness for implementation.

The report is supported by a detailed digital project library which includes all background studies, scenario development and planning work, records of project meetings, and surveys and mapping undertaken during all stages of the project. This information set is available separately from the City of Cape Town.

Two major reports precede this report:

- Athlone Power Station Pre feasibility Study: Stage 3 Report, Background Research and Base Information, July 2009.
- Athlone Power Station Pre feasibility Study: Stage 5 Report, Scenario Development, July 2009.



Location and site conditions

BOX 1: LOCATION AND SITE CONDITIONS

The APS site is situated on the N2 freeway midway between the historic city centre and Cape Town International Airport.

The site is centrally located between the suburbs of Pinelands, Langa and Athlone/ Hazendal and is bounded by the N2 to the south, Jan Smuts Drive to the north-west and the Langa sports grounds and initiation site to the east. The Athlone Waste Water Treatment Works (AWWTW) is situated to the south of the site and the N2. The Pinelands/ Langa railway line traverses the site to the north-west. The Athlone Regional Transfer Station (ARTS) waste facility is located on the site.

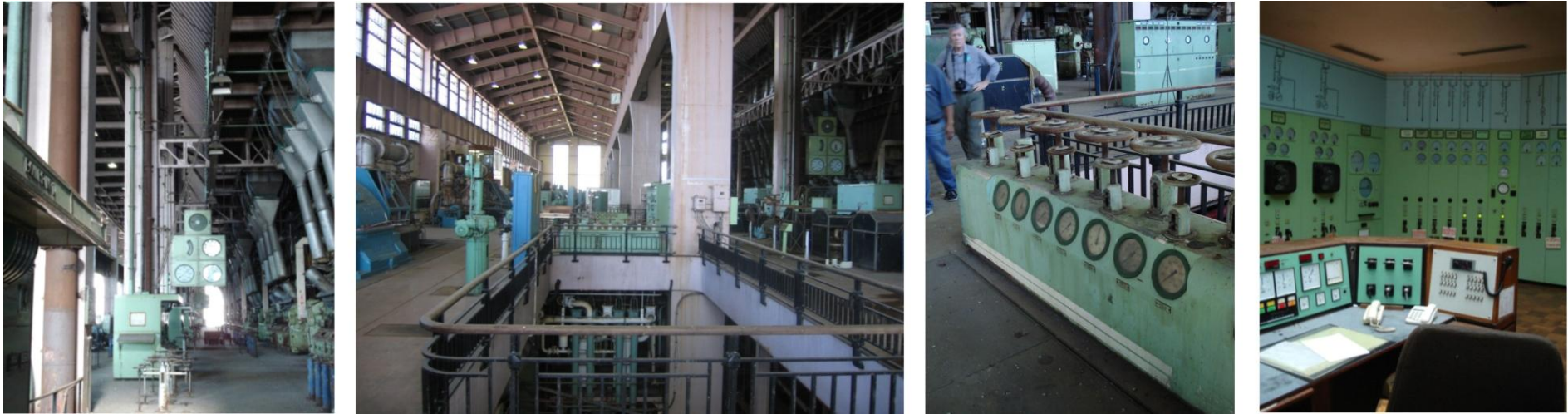
Access to the site is from Langa, via Bhunga Avenue (which intersects with the N2) and a service road south of the initiation site and parallel to the N2. The site is also served with a rail link which services the ARTS facility for daily removal of the compacted waste to the Vissershok waste disposal site along the west coast. Previously the rail link served the power station for the delivery of coal and removal of ash.

The site is generally flat with former power station structures and facilities occupying approximately 50% of the area. The old Turbine Hall, smoke stacks and coal store are the most significant remaining buildings on the site. The power generation buildings across the site are defined by the use of red bricks. The site edge along Jan Smuts Drive is heavily treed and a narrow strip of gum trees lines the N2 site edge. There are a fair number of gum and pine trees dispersed around the rest of the site.

The overall erf (erf 32564) of which the APS site forms a part is registered in favour of the City of Cape Town and measures 75.6 ha in extent. This erf extends over the N2 and incorporates portions of the AWWTW. The feasibility study site measures approximately 36 ha in extent. The site has an “Undetermined zoning set aside for Municipal Purposes”.



Site photos: The Turbine Hall, smoke stacks, overhead gantries and the existing coal store building



Interior photos of the Turbine Hall and control room

1.2 BACKGROUND TO THE PROJECT

Cape Town's coal-fired Athlone Power Station opened in 1962 and operated uninterrupted as a 180 MW facility until 1985. It was held on standby between 1986 and 1994, and then put back into full service until 2003 when operations were found to be uneconomic and terminated.

During 2004 the City issued a proposal call aimed at establishing a public-private partnership for operating the power station facility. The three submissions received were judged not viable and incapable of contributing significantly to the City's power generation requirements. The facility was also found not to be ideal as part of a major gas power project.

Following these initiatives the City prepared a concept plan exploring alternative usage of the site and remaining buildings. This concept, for a mixed use urban district comprising a significant concentration of public and cultural uses, drew significant public interest and support.

In 2006, following a report prepared by Electricity Services (in consultation with Water Services, Solid Waste Services, Strategy and Planning, Housing, Property Management, Finance and Environmental Management) the Council resolved that the:

- Athlone Power Station be decommissioned.
- Electricity Services appoint a specialist consultant to prepare tenders for and oversee the proper decommissioning of Athlone Power Station.
- Equipment, land and services required by Electricity Services for ongoing operations be consolidated and retained by the service.

- Equipment and land required by Water Services and Solid Waste Services be transferred to these services.
- The Directorate Strategy and Planning initiate a development feasibility study for the remainder of the site; such study to overlap with the decommissioning of the power station.
- Once decommissioned, the Turbine Hall and Boiler Hall, the smoke stacks and the remainder of the site be transferred to the asset register of Property Management of the City.

In parallel with the Council decision to decommission the Athlone Power Station, the City successfully applied for financial support from the National Treasury under the NDPG for technical and capital assistance for a number of transformative, settlement restructuring projects, including a feasibility study for the redevelopment of Athlone Power Station.

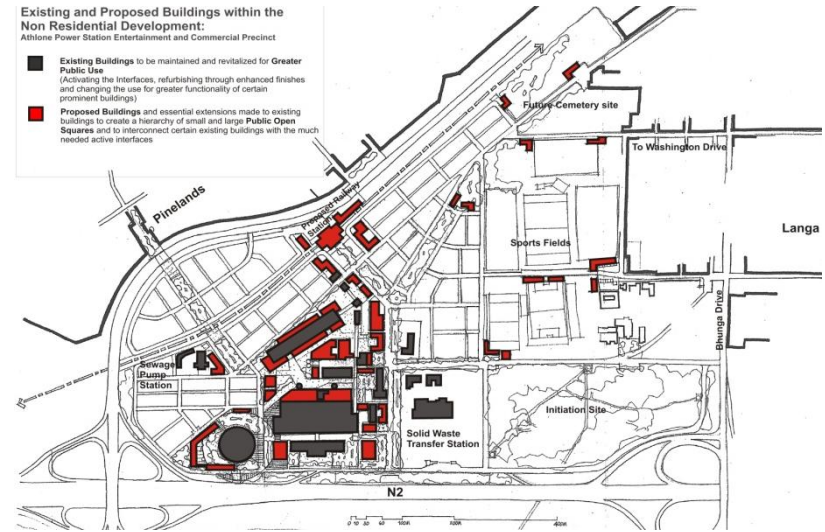
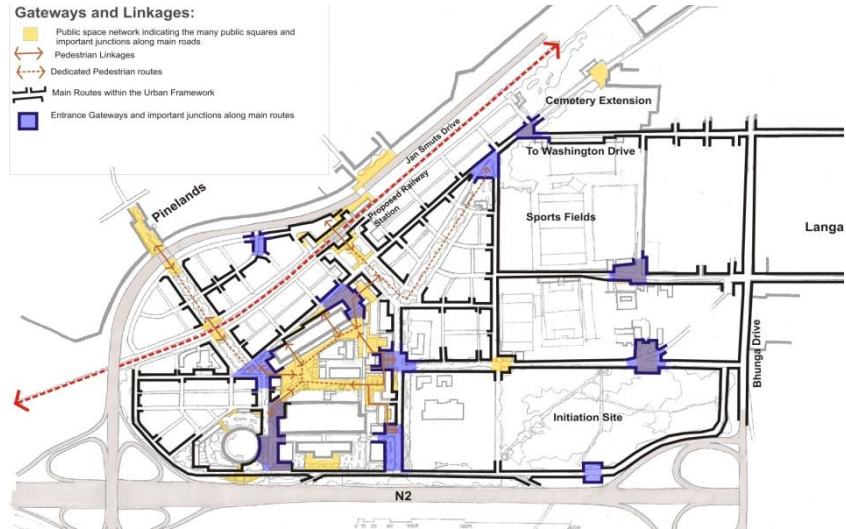
During 2008 the City issued a tender (No. 503C/2007/08) seeking to appoint a professional team (comprising a range of professional and management competencies) to undertake a high-level pre feasibility assessment of a range of redevelopment options for the site as a precursor to commissioning detailed investigations and development proposals.

The scope of works for the pre feasibility study assessment included:

- Development of a number of different but plausible development scenarios for the site (including consideration of the city's earlier concept work).
- Consideration of the mix of uses, extent of development, servicing costs, and so on, in relation to the public interest (including the needs of surrounding communities) and economic sustainability.
- Consideration of the transportation and access impacts and demands of a possible redevelopment.
- Determination of the capacity of bulk infrastructure to the site, adjacent suburbs, nature and extent of bulk services capacity required for redevelopment of the site, and the cost of such services provision, augmentation or deviation.
- Determination of the functional, technical and space requirements of the City's utility services that are to remain or be accommodated on the site.
- Assessment of the structural status of all buildings and structures on the site and an indication of which buildings and structures are to remain and/or be re-used.
- Assessment of landscape elements to be retained or enhanced through redevelopment.
- Assistance to Electricity Services to compile a Scope of Works for the decommissioning of the power station in terms of all relevant legislation.
- Assessment of the safety and security issues associated with the site, presently and during planning and redevelopment stages.
- Indication of a programme to prepare the site for development, land release options, statutory development land preparation requirements, development phasing and optimum time for acting on potential development opportunity.
- Consultation with adjoining communities and specific interest groups on the potential redevelopment of the site.

Towards the end of 2008, following a public tender process, the Athlone Power Station Joint Venture, comprising Africon (now Aurecon) and ODA, was appointed by the City to undertake the pre feasibility study.

Early City concept plans and perspectives



BOX 2: THE COOLING TOWERS

During the pre feasibility study structural support rings on one of the Cooling Towers collapsed. The City commissioned further work to determine the structural integrity of the towers (independent from the pre feasibility study and Athlone Power Station Joint Venture)

In the interest of public safety, the Council made the decision to demolish the towers. Demolition occurred on 22 August 2010. (Refer to Box 10 for the public response to the demolition of the towers.)



1.3 PROJECT STAGES

The pre feasibility study comprised nine stages, each with clear deliverables (see table 1). The first four stages dealt with project establishment matters, site-specific and contextual information gathering, research and analysis, and issues related to the remaining decommissioning processes. The last five stages addressed possible development scenarios, the testing of scenarios, development of a preferred “business case” and project close-out. This report comprises the last of the project stages.

Table 1: Project stages and deliverables

STAGE	MAIN DELIVERABLE
1. Project initiation	A clear understanding of client and consultant expectations, project brief, and project procedures and arrangements (including NDPG expectations and requirements)
2. Final study proposal/ project plan	An agreed project plan, timelines, milestones, deliverables and resource requirements
3. Background research and base information	A clear, fully documented and substantiated understanding of challenges, expectations and opportunities related to the site
4. Assisting the CES with decommissioning Scope of Work (SoW)	A statutory compliant SoW for decommissioning agreed to be CES
5. Scenario development	A number of fully documented and substantiated development scenarios, reduced to a manageable number from a broader list, and prepared with the City and stakeholder input, full consideration of background research and earlier work undertaken by the City’s Urban Design Unit
6. Scenario testing	A preferred development scenario elaborated as a provisional “Business Case”
7. Reporting	An integrative report on all phases and findings to assist decision-making
8. Final reporting	A final report on all phases and findings, including comment, to assist decision-making
9. Project close-out	Satisfactory conclusion of all client/ consultant commitments and client sign-off

1.4 PROJECT MANAGEMENT

The Directorate Strategy and Planning lead the project and appointed an in-house Project Manager to manage the pre feasibility study on behalf of the City, manage the service level agreement with the Athlone Power Station Joint Venture, as well as all interaction with the different City services, service units involved and decision-making processes and structures.

The Project Manager was assisted by a Steering Committee, comprising representatives of the services most directly impacted by the work (Electricity, Solid Waste, Transport, Environment, and Planning and Urban Design). The Steering Committee engaged with the larger administration and services less directly impacted by the work through an extended Project Team.

The Steering Committee and Project Team met regularly throughout the process, addressing both substantive and project management issues related to the task.

The Project Manager also ensured:

- Regular reporting on and input to work completed through the Portfolio and sub-council decision-making structures of the City.
- Liaison with the representatives of the NDPG of the National Treasury.

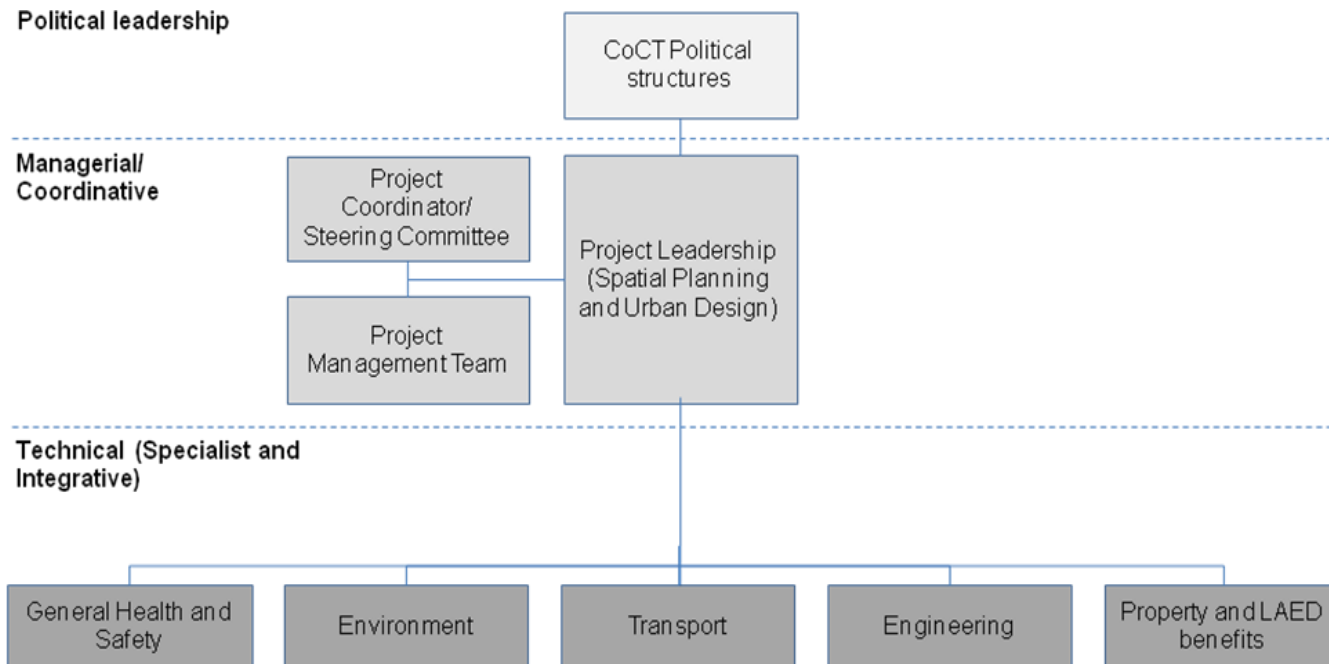


Diagram 1: Project institutional arrangements

1.5 APPROACH TO PUBLIC PARTICIPATION

As confirmed through the base information and background research work stages, the site and its context are complex and diverse. For example:

- Some critical infrastructure services need to remain on the site and will direct what is practical and feasible.
- Expanded vehicular access to the site is possible, but will be constrained by many factors and also be expensive.
- The site contains buildings and structures of varying structural integrity and of historic or re-use value.
- A wide range of community and special interest group needs focus on the site.
- Realising development potential will depend on the extent to which the preferred development option is shared by different City services.

Within this context, it was felt that meaningful participation is only possible once background information and its implications are broadly shared with potential participants. With this in mind, a “participative leadership approach” to public participation was adopted for the project. In practice this implied that the first phase of participation:

- Was commenced in earnest after the completion of the background work and initial scenario development and its sharing within the City of Cape Town, its leadership and affected service departments, the public and special interest groups.
- Always started internal to the Municipality, seeking political and administrative leadership agreement on the municipal position *before* external participation.

Section 5 below expands further on the actual public participation process and inputs received.

2 CITY POLICY

A number of policy initiatives impact on the initiative to redevelop the APS site. These include City policy – both overarching and sectoral – and that of the NDPG, as a partner to the City. Table 2 summarises key aspects of the most important policy initiatives.

Table 2: Key policy initiatives informing development of the APS site

INTEGRATED DEVELOPMENT PLAN (IDP) OBJECTIVES	CITY PLANNING/ ENVIRONMENT	UTILITY SERVICES	TRANSPORT	NDPG
<p>IDP Focus areas</p> <ul style="list-style-type: none"> • Economic growth (<i>new partnerships, new attractions/ opportunities</i>) • Municipal services (<i>need for new infrastructure, replacement and maintenance</i>) • Good governance (<i>alternative ways to deliver services/ development</i>) • Public transport (<i>densification</i>) • Integrated human settlements (<i>increasing shelter opportunities, building</i>) 	<p>City-wide Spatial Development Framework (SDF) principles</p> <ul style="list-style-type: none"> • A city which works for all, especially children, the elderly and disabled • The public good should prevail over the private good • Encourage local, national and global connectivity • Improve urban efficiency • Redress spatial imbalances as far as possible • Create safe, high-quality, environments accommodating a 	<ul style="list-style-type: none"> • Change service delivery to sustainable patterns of resource use • Make efficient use of non-renewable resources (<i>encourage green technologies and development practices</i>) 	<ul style="list-style-type: none"> • Develop/ enhance the non-motorised transport (NMT) system • An integrated city-wide transport system that supports the “accessibility grid” • Aligning land use with the “accessibility grid” • Facilitating the development of strategic transport infrastructure 	<p>Spatially targeted investment (public infrastructure, public spaces, public facilities, government facilities, and so on) in poor areas in order to:</p> <ul style="list-style-type: none"> • Provide expanded, more sustainable and secure opportunity for both larger enterprises and survivalist or informal traders • Meet the recreational needs of communities – and act as centres of community life – in areas where the nature of housing is often inadequate to meet all the

INTEGRATED DEVELOPMENT PLAN (IDP) OBJECTIVES	CITY PLANNING/ ENVIRONMENT	UTILITY SERVICES	TRANSPORT	NDPG
<p><i>integrated communities</i>)</p> <ul style="list-style-type: none"> • Safety and security (<i>eliminating potentially unsafe areas</i>) • Health and social development • (<i>access to social opportunity</i>) 	<p>mix lifestyles and land uses</p> <ul style="list-style-type: none"> • Promote cross-sectoral planning, budgeting and growth management <p>City-wide SDF key strategies Enhance the value of the natural and rural environment and green spaces for the people of Cape Town</p> <ul style="list-style-type: none"> • Establish an integrated grid-based movement system • Consolidate and intensify development on the “accessibility grid” (<i>encourage economic activity to locate on the “accessibility grid”</i>) • Direct urban growth, and promote compact, integrated development (<i>including support for land reform and associated land pricing strategies</i>) • Develop more great peoples’ places (<i>including enhanced heritage resources</i>) <p>Table Bay District SDF</p> <ul style="list-style-type: none"> • Protection/ enhancement of natural and heritage attractions • Using strategic and infill sites for mixed development sensitive to existing built and natural context • Creating “special places” that capitalise on locational attributes and provide in residents’ needs <p>APS as an “economic opportunity zone” and “urban special place”</p>			<p>household’s needs</p> <ul style="list-style-type: none"> • Create confidence for further investment in poorer areas, including private investment • Supporting associated “soft” initiatives, including: • The identification of local private sector development partners for projects, or business opportunity • associated with the projects <p>The establishment of institutional support mechanisms to support or grow opportunity associated with the projects</p>

BOX 3: EXTRACT FROM THE DRAFT CITY OF CAPE TOWN TABLE BAY DISTRICT SDF

“The site, despite a number of constraints, offers an exciting redevelopment opportunity that can result in a variety of land uses for both locals and visitors. Residential, commercial, retail and community facilities are likely to be part of any proposal. The mix, layout and built form of these elements are dependent on a number of variables, including for example the extent to which land is required for continued service delivery and the potential for existing buildings to be converted. Initial frameworks prepared for the site indicated three possible zones of development: a residential area; a public entertainment or cultural hub; and the utility service zone. The residential precincts would mainly consist of mixed use high density walk-up housing built in the form of courtyard development blocks. The cultural/ entertainment precinct would comprise of the reinterpreted old power station buildings, reinforced with complimentary architectural additions. This precinct would provide for higher order commerce, business and cultural activities. A central open air public space could become the symbolic centre of the precinct. The core of the development would centre around the re-use of the existing large scale buildings. The turbine hall and ancillary buildings of the power station have an attractive industrial quality and its size would allow any number of uses. Together with some architectural additions, they will articulate the outdoor public arena and can perform a number of public functions, including entertainment and recreation, social, cultural, institutional and commercial purposes. It is vital that these buildings are linked by active open spaces that extend into the surrounding areas.”

In summary, key policy informants to the redevelopment of the APS site are:

- Acceptance that the facility will **not play a major role in future power generation** (but remain a critical element in electricity distribution).
- Recognition of the potential **role of the site as a “special” place and major activity centre** which brings communities together and assists with urban renewal, establishing a denser, more efficient city, and illustrates new ways of living and service delivery.
- The need to **create new economic opportunities**, especially for those excluded from opportunity.
- Facilitating **private sector contributions** to the City “agenda”, specifically in relation to economic development.
- A focus on **public and non-motorised transport (NMT)**.
- Secured, **improved and “renewed” services infrastructure**, and new forms of partnership in its provision.
- Facilitating learning and entrepreneurship.
- The significance of **adaptive re-use, history and memory** in new development.
- Development processes that support good governance, partnership and sharing.

3 BACKGROUND STUDIES AND FINDINGS

Table 3 below summarises key issues, constraints and opportunities associated with different aspects of the APS site and its potential development. The information has been drawn from the background research and base information work stages. As indicated previously, detail background studies are available as part of the detailed digital project library.

Table 3: Site and development issues, constraints and opportunities

ISSUES	CONSTRAINTS	OPPORTUNITIES
Statutory context		
Zoning	<ul style="list-style-type: none"> The site has an “Undetermined zoning set aside for Municipal Purposes” and will require zoning. 	<ul style="list-style-type: none"> The requirement for zoning offers the opportunity to match land use management processes, rights and conditions with the most desirable development process, use and form of development.
Title deed conditions		<ul style="list-style-type: none"> No restrictive title conditions exist.
Environmental processes	<ul style="list-style-type: none"> An EIA process is required, both in relation to decommissioning and development of the site. 	<ul style="list-style-type: none"> The zoning, EIA and heritage approval processes offer the opportunity for a progression of public participation processes (following the “overarching” participation process followed during the pre-feasibility study). There may be an opportunity to combine land use management and environmental approval processes, saving time and facilitating “one” stakeholder discussion.
Heritage processes	<ul style="list-style-type: none"> Heritage approval is required, both in relation to decommissioning and development of the site. 	<p>As above.</p> <p><i>Note: The demolition of the Cooling Towers followed an independent environmental/ heritage approval process (a necessity because of the public safety risk following the collapse of structural support rings on one of the towers).</i></p>
Context		
Location	<ul style="list-style-type: none"> Although very well located, the site is largely surrounded by major routes which offer limited or constrained access/ egress opportunity. 	<ul style="list-style-type: none"> The site is centrally located in the City and is very well positioned in relation to other activities in the metropolitan area. (It forms part of an emerging extended “economic backbone” within the city, stretching in a broad band from the CBD eastwards along the Voortekker activity route.) Development of the site can contribute to a more equitable, efficient and sustainable distribution of activities and movement in the city. The visibility of the site offers the opportunity to undertake a development where new service delivery practices are “showcased”. The location and visibility of the site contributes to its attractiveness for private sector investment.
Socio economic conditions	<ul style="list-style-type: none"> The site is surrounded by three very different (“distinct”) communities with very little interaction between them. 	<ul style="list-style-type: none"> Development of the site can contribute to the social integration of surrounding communities. Prospects for integration perhaps relate best to shared public facilities and places (specifically related to education facilities).
Property development/ market	<ul style="list-style-type: none"> Smells from the AWWTW will curtail some development interest. Activities associated with the ARTS will curtail some development interest. 	<ul style="list-style-type: none"> The site’s location in relation to major routes will have a positive impact on its marketability. The nature and cost of work to curtail smells from the AWWTW has been confirmed as part of the pre-feasibility study (see Box 5).

ISSUES	CONSTRAINTS	OPPORTUNITIES
		<ul style="list-style-type: none"> It is possible to improve and upgrade the ARTS in its current location in a manner which will have little adverse impacts on other uses or surrounding communities.
Institutional	<ul style="list-style-type: none"> City resources to fund the development are limited. 	<ul style="list-style-type: none"> The value of land could be used to facilitate/ enhance private sector interest in the redevelopment. Development of the site could align with the funding objectives of other government/ semi-government agencies.
Surrounding uses		
Residential	<ul style="list-style-type: none"> The southern residential area of Pinelands abuts Jan Smuts Drive. This area is prone to burglaries. 	<ul style="list-style-type: none"> Development of the site should improve safety in the abutting residential area.
Services/ facilities	<ul style="list-style-type: none"> The initiation site and Langa sports grounds to the east of the site are treasured facilities that need to be respected. 	<ul style="list-style-type: none"> A modernised ARTS facility could be a better neighbour to the initiation site and surrounding residential areas. The opportunity exists to rationalise the western edge to the Langa sports grounds through development (this development could include additional sports facilities as well as housing).
Infrastructure	<ul style="list-style-type: none"> The N2 will remain a major freeway. Noise from the N2 is a constraint. The AWWTW is likely to remain in its current location. New chlorine disinfection processes at the AWWTW impose a “restricted development zone” on part of the site (the southern portion). Smells from the AWWTW is a constraint to development. 	<ul style="list-style-type: none"> Careful placement and design of buildings could assist to manage noise impacts associated with the N2. The “restricted development zone” only impacts on the southern portion of the site and specific uses (e.g. accommodation for the elderly and open public gatherings). As indicated above, the development of the APS offers the opportunity to improve processes at the AWWTW.
Movement		
Vehicular access	<ul style="list-style-type: none"> Vehicular access to the site is possible but constrained. 	<ul style="list-style-type: none"> The site is well located in relation to significant vehicular movement infrastructure. The different vehicular access options proposed together (from Jan Smuts, the N2 and Bhunga Avenue) can accommodate in excess of 7 300 vehicles per hour. Access options will follow phasing plan and develop as required. (Phasing options to include and provide unrestricted access to all onsite service operations)
Rail	<ul style="list-style-type: none"> The site is bisected by a rail line. 	<p>There is an opportunity for a rail station serving the site (ideally in combination with an IRT/ BRT station on Jan Smuts Drive).</p>
Integrated Rapid Transport (IRT)	<ul style="list-style-type: none"> City-wide IRT/ BRT implementation will not benefit the site in the foreseeable future. 	<ul style="list-style-type: none"> Jan Smuts is a designated IRT route. Development of the site as a major centre/ attraction could influence the prioritisation of IRT implementation.
Non- motorised transport (NMT)	<ul style="list-style-type: none"> NMT links to surrounding neighbourhoods may require bridging infrastructure in some cases. 	<ul style="list-style-type: none"> The site is easily accessible on foot from Langa. IRT on Jan Smuts will allow further NMT options. NMT linkages to Athlone have been improved as part of the Bhunga/ N2 bridge upgrade.

ISSUES	CONSTRAINTS	OPPORTUNITIES
Environment		
Wind	<ul style="list-style-type: none"> The site is exposed to strong south-easterly winds. 	<ul style="list-style-type: none"> The location of routes as well as the orientation and form of buildings should be informed by the prevailing wind direction in order to mitigate its impacts.
On-site conditions		
Electrical infrastructure	<ul style="list-style-type: none"> Two high voltage distribution substations and associated circuitry exist on the site and should remain. The Gas Turbine, used for peak lopping (similar to the Roggebaai Gas Turbine) has to remain on the site over the short to medium term. 	<ul style="list-style-type: none"> The location of existing services should inform the pattern of the movement/ access network of the site in order to avoid the need to relocate existing services on the site, Electricity infrastructure to remain has been delineated as part of the decommissioning SoW and does not inhibit development.
Water	<ul style="list-style-type: none"> A bulk water main (225mm) traverses the site in east-west direction. Currently, there is no servitude registration attached to the water main. 	<p>Future development could tap into the existing water main for potable water.</p> <p><i>Note: Prior to development (and as part of site subdivision) all future servitudes will be delineated and registered.</i></p>
Treated sewerage effluent	<ul style="list-style-type: none"> A treated sewerage effluent network follows the edges of the site (serving numerous fields to the east and west of the site). 	<p>Future development could tap into this network for irrigation purposes.</p>
Sewerage	<ul style="list-style-type: none"> The Langa Pump Station has to remain on the site. 	<ul style="list-style-type: none"> The Pump Station will be delineated and secured and will not inhibit development significantly. Sewage flows generated by development of the site could be routed to the Langa Pump station.
Storm-water	<ul style="list-style-type: none"> Part of the "Pine-island" site and the area where the cooling towers were located is situated below the 100 year flood line. 	<ul style="list-style-type: none"> The site can potentially drain into two systems, the Vygekraal River and Elsiekraal canal (both discharges into the Black River). The reason for parts of the site being below the 100 year flood line is largely because of man-made infrastructure construction. There are alternatives for accommodating the flood water. An application and plan for this work should be submitted as part of the next phase of work.(refer to text box 7)
Solid waste (ARTS)	<ul style="list-style-type: none"> The ARTS has to remain on the site. Vehicular and rail movement associated with ARTS is a constraint to development (80-100 vehicular trips per day and rail movement to Vissershok at night). 	<ul style="list-style-type: none"> The development of the site offers the opportunity to address the performance of the ARTS, including reserving land for future rationalisation/modernisation. The opportunity exists to separate ARTS traffic from traffic associated with the development of the site. Rationalisation of the ARTS could result in significantly reduced rail movement.
Existing buildings and structures	<ul style="list-style-type: none"> The Cooling Towers are structurally unstable and were demolished during the pre-feasibility study (see Box 2 above). Single storey buildings on the site are in fair condition with only minor defects (which can be rectified). Spalling to lintels occur on most buildings. The Turbine Hall and chimney stacks are in fair condition (the stacks have unsafe cat-ladders). The ash handling plant is unsafe owing to excessive spalling and corroded 	<ul style="list-style-type: none"> The land occupied by the Cooling Towers is valuable/ visible. Removal of the Cooling Towers has exposed the Turbine Hall as the "primary" building complex on the site. A number of existing buildings on the site offer significant re-use potential (retention of these buildings will also respect the historic use-history of the site). Most of the existing buildings are in red brick and could form an easily recognisable system of public facilities (and enable "reading" the use history

ISSUES	CONSTRAINTS	OPPORTUNITIES
	reinforcement. <ul style="list-style-type: none"> The structural stability of buildings will continue to deteriorate if not periodically maintained during the interim phase before redevelopment of the site. (refer to Box 4 for more detail) 	of the site).
Power station plant and equipment	<ul style="list-style-type: none"> A large number of disused power station plant remains on the site (turbines, boilers, etc.) 	<ul style="list-style-type: none"> Some of the disused power station plant could be integrated with new development and used as “exhibits” of the site’s use history.
Environment (including geotechnical, contamination and biosphere issues)	<ul style="list-style-type: none"> Piled foundations are recommended for heavily loaded structures. Excavations deeper than 2m should be avoided because costly dewatering measures will be required. A detailed asbestos survey has to be conducted of all buildings prior to redevelopment/ re-use. 	<ul style="list-style-type: none"> There are no major geotechnical constraints to development of the site. There is no significant petroleum contamination of the site. Lightly loaded structures (single and double storey) can be founded using conventional foundations founded at shallow depth below surface. No part of the site is included in the City’s Biodiversity Network. No flora and fauna of significant biodiversity value exist on the site.
Public health and safety	<ul style="list-style-type: none"> As some service delivery activities are still occurring on the site, the provisions of the Occupational Health and Safety Act applies (detailed recommendations were made following a Health and Safety audit undertaken as part of the pre-feasibility study). Access to the Turbine Hall should be restricted to the minimum (no public access should be permitted). Regular inspections of installations should be undertaken to identify risks. 24 hour security should be provided. 	<ul style="list-style-type: none"> The physical decommissioning of the complete site will occur during the next phase of work. The decommissioning process will occur within the framework of statutory health and safety requirements and include site security arrangements. <p><i>Note: Currently members of the public are not allowed on site.</i></p>

BOX 4: FLOOD PRONE AREAS

According to a 2004 City of Cape Town hydrological study of the Salt River area, portions of the APS site are prone to flooding during both the 50 year and 100 year flood events. The affected area includes a significant portion of the “Pine-Island” parcel of land (between the railway line and Jan Smuts Drive) as well as the area immediately around the Langa pump station and its access road. In terms of the Roads and Stormwater Department’s Floodplain and River Corridor Management Policy of April 2009, severe development restrictions apply within flood plain or river corridor areas. The flood prone areas form a large percentage of the most valuable land on the site due to its visibility from the N2 freeway. The inclusion of this land as developable area has a major impact on the development in terms of its overall viability.

These flood prone areas are subject to flooding due to a number of historical human interventions in the area including landfill, bridge construction, a railway cutting and cut and fill operations to create platforms. For these reasons, and given that the flood-prone areas fall off-stream of the two local watercourses, it is felt there is a case to motivate that they do not necessarily truly represent natural flooding along an existing river corridor and that such areas are thus not intended to be covered by the City’s policy. For motivations to deviate from the policy, options such as provision of compensatory flood storage capacity on adjacent parcels of lands are proposed. The impact on surrounding river systems, floodplains and flood volumes both upstream and downstream would be negligible and a strong case is felt to exist that acceptance of such would not set a problematic precedent for the City in future development scenarios.

BOX 5: EXISTING BUILDINGS AND STRUCTURES

Basic visual inspections were carried out on all the buildings in early 2009. The status of the structures was incorporated in early prefeasibility work. With no-on going maintenance, the rate of deterioration of these buildings can be expected to accelerate and thus the findings of the visual inspection are likely to change. This, coupled with on-going vandalism and theft of materials, may result in many of these structures presenting safety risks in future. To prevent this, interim maintenance and/or securing of such facilities until their eventual refurbishment is strongly recommended to prevent deterioration which could result in the loss of the structures to the future development. Prior to redevelopment, a full and thorough structural assessment will be required of each and every structure to be retained.

The plans below (from the project information library) illustrate:

- Buildings and structures to be retained for future re-use and those to be removed.
- Service infrastructure and servitudes to remain and be protected.



BOX 6: IMPROVING CONDITIONS AT THE ATHLONE RAIL TRANSFER STATION (ARTS)

ARTS and the Athlone WWTW are located opposite one another, on either side of the N2. Both these sites have a source of waste which can be converted to energy. There is the potential to combine the wastes from these sites and come up with a solution that will be of benefit to both facilities. The synergy exists to build on this potential, generate energy from the waste and, at the same time, produce a final waste product which has less potential for a negative impact on the environment.

The current waste volumes offloaded daily at the Athlone Refuse station (ARTS) varies between 800 and 1400 tons per day with a projected average of 1319 tons per weekday in 2010. In general, this waste stream is generated from Bishopscourt, Cape Town CBD, Goodwood, Kensington, Langa, Lansdowne, Newlands, Pinelands, Sea Point, Table Mountain area, Woodstock and Observatory. ARTS has been designed as a compaction Transfer Station with the result that the non- compactable waste

streams, e.g. builders rubble, garden waste and bulky items are not received on the apron, but at an adjacent drop-off area where it is loaded in open-top containers for long distance hauling via rail to the disposal site. Considering the economic demographics of the catchment area it can be assumed that the household fraction of the waste would be approximately 40% and that the commercial and industrial (non-hazardous) fraction would be approximately 40% as well. The remaining 20% is made up of garden waste (96%) and builders rubble (14%). With Cape Town's 'no greens to landfill' approach, it can be safely assumed that the garden waste present in the household stream will only be the little fraction that is placed in the wheelie bins by the home-owners.

Considering the above, it can be assumed that the organic fraction of the total waste stream off-loaded at ARTS would amount to some 40-42% or 520 tons per day. Source separation, if implemented fully within the catchment area would be able to, in accordance with current best practise, reduce a further 114 tons per day through recycling. This leaves 421 tons per day, garden waste and builders rubble excluded, of inorganic waste to be disposed. This material would (in Europe) typically be converted into Refuse Derived Fuel (RDF) for incinerators, but no such market for RDF exists in South Africa yet. If the waste stream is separated as indicated above, ARTS would have two valuable waste streams (that are currently landfilled) that could be used as fuel for Waste to Energy plants. Technologies that are already proven, such as Anaerobic Digestion (AD), Gassification, Pyrolysis, etc. could be utilised to provide energy in the form of electricity, hydrocarbon fuels or steam.

Although many Waste-to-Energy technologies exist and have been tried and tested, many more technologies are currently being offered for sale by opportunists. For this reason most appropriate technology must be investigated in order to recommend a facility at ARTS that is financially, environmentally and technologically sustainable and that will capitalise on the synergies that exist in the immediate area, i.e. solid waste, sewage sludge and electrical hub.

Both anaerobic digestion as well as specifically identified more advanced methods of producing energy from sludge are potential options for the facility but would require further investigation of the waste volumes and composition of the solid waste stream and the various alternative technologies available for solid waste. Although this investigation has been touched on for other projects, it must be taken further to include the recent claims by salespersons and finally separate fact from fantasy.

Based on the current amount of sludge and solid waste produced an estimate will be made of the amount of net energy which will be made available through co-digestion of solid organic waste and wastewater sludge.

The outcome would be to implement the most appropriate technology or technologies for the Cape Town scenario and combine the recommended technologies with the required pre-treatment in order to arrive at the most practical, workable, affordable and sustainable solution for ARTS and Athlone WWTW. The market has recently indicated a healthy interest in the establishment of such facilities.

BOX 7: IMPROVING CONDITIONS AT THE ATHLONE WASTE WATER TREATMENT WORKS (AWWTW)

The existing odour control installation at AWWTW consists of:

- A biotrickling filter servicing the inlet works, degritter area and PST area.
- A biological filter servicing the sludge holding tanks, new dewatering building and dewatered sludge storage silos.

Current odorous air abstraction comprises mainly the high turbulent channel flow areas which convey raw sewage or sludge, as well as the building where sludge is dewatered. The conveyance channels have been covered with GRP panels to ensure a closed environment is created from which the air can be withdrawn. The areas which are covered include the following:

- Inlet Buffer Tank.
- Screen Channels.
- Up-flow Collection Sump and Vortex Degritters.
- Main Flow and PST Splitter.
- Primary sludge pump station and the settled sewage collection boxes downstream of the PST area.
- Three existing primary sedimentation tanks (the new sedimentation tanks built during 2010/ 2011 will also be covered and have the air treated by a dedicated unit).

The bio-trickling filter has been designed to handle a flow rate of approximately 4 000 m³/hr and the biological filter a flow rate of approximately 710 m³/hr. Space has been provided to extend the biological filter to treat approximately another 200 m³/hr. The units are currently in the process of being commissioned and preliminary indications is that hydrogen sulphide concentrations in excess of 200 ppm are being treated with 99% removal of the incoming hydrogen sulphide.

The following additional odour control measures (in order of most to least significant) may be considered to further mitigate odour pollution:

- Remove sludge from ponds to landfill.
- Enclose reciprocating grit separator area with odour control system.
- Enclose screenings, grid and sludge bin areas with odour control system.
- Refurbishing/ replacement of anaerobic digesters to prevent non-stabilised sludge from being discharged into lagoons or conveyed off site.
- Enclose sludge truck loading area with provision of odour control thereof.
- Dredging of maturation pond and serpentine ponds.
- Cover remainder of inlet works channels and upgrade existing odour control units.
- Dome covering of PSTs with abstraction and odour removal facility.
- Complete covering and odour treatment system for reactors.

Over and above the abovementioned capital cost requirements, the following operational and maintenance aspects needs particular attention:

- Ensure that odour inspection hatches are closed after inspection.
- Wastage of sludge in accordance with specified operational requirements.
- Frequent wash down of areas where screenings, sludge and grit has been handled, specifically at truck loading areas.
- General housekeeping and maintenance of equipment.

In summary, the generation of odorous air is the most prominent from areas at the AWWTW where raw sewage or untreated sludge is exposed to the atmosphere concurrently with turbulent flow conditions. For this reason the air space above the turbulent flow areas at the inlet works, primary settling tanks and sludge dewatering plant has been enclosed to capture odorous omissions. The odorous air is conveyed in ducts to biological filter units which remove most of the captured odour generating gasses.

Large areas of the works where sewage, sludge, treated effluent or partially contaminated storm and wash water are exposed to the atmosphere has not been equipped with odour control facilities due to the high anticipated costs associated with covering of these areas, conveyance of the odorous air and treatment there-of. It is therefore proposed that a phased approach be followed in improving odour control, which gives priority to measures which has a high odour improvement benefit in relation to cost. The most prominent of these measures are the cleaning of sludge ponds, enclosure of grit treatment, screenings treatment and truck loading areas, as well as the dredging

of the maturation ponds. In addition to these measures it should also be emphasised that good operation and maintenance practises related to odour control equipment is essential to ensure that odour pollution from the works is continuously prevented or at least kept at a minimum.

The provisional cost for removal of sludge from lagoons and ponds, enclosing of odour problem areas, odour treatment equipment and ducting, and electrical and electronic equipment, has been estimated at **R33, 3 million**.

BOX 8: ACCESS AND TRAFFIC CONSIDERATIONS

Given its proximity to major arterials, the APS site is surprisingly difficult to access. Investigations have identified three most likely points of access which, together with Public Transport and NMT (Non- motorised transport) form a suite of options which can be used depending on the final development scenario and phasing or timing development. The three options include:

- **A narrow diamond interchange on Jan Smuts** accessing the site via a bridge over the railway line. This option would entail upgrading Jan Smuts through constructing approximately 2km of dual carriageway. This access has potential capacity for 4000 vehicles per hour.
- **Access off N2 outbound between Jan Smuts and Bhunga interchanges.** The access would take the form of a left-in, left-out access from a collector distributor (CD) road which would be constructed from Jan Smuts interchange to beyond Bhunga Avenue Interchange. This CD road would necessitate the lengthening of the bridge span on Bhunga Avenue bridge and alterations to the ramps. Early work indicates that this access opportunity has marginal geometric compliance which would require PGWC approval. Approximately 1800 vehicles per hour could be accommodated.
- **At-grade access from Bhunga Avenue via Washington Road** and/ or new access between the Initiation area and the Langa Sports ground. Signalised intersections on Bhunga Avenue would be required and access over the railway siding to Arts would be at-grade. The existing bridge would need widening and alterations to existing ramps and Bhunga Avenue would need to be widened up to Ndabeni Avenue. Access capacity is approx 1500 vehicles per hour.

Indicative costs and the efficiency of the access (cost per trip) of the three options are as follows:

Jan Smuts	R73m	R18, 250/trip
Bhunga Ave	R27m	R18, 000/trip
N2:	R32m	R17, 800/trip

Given the above costs and access constraints, the preferred scenario’s predicted trips must be in balance with access capacity. NMT and public transport opportunities for future railway and IRT stations could also significantly impact on potential bulk on the site.

4 SCENARIO DEVELOPMENT

4.1 NATURE OF SCENARIOS

The City's Terms of Reference for the pre feasibility study specifically called for the development of a number of fully documented and substantiated development scenarios, reduced to a manageable number from a broader list, and prepared with the City and stakeholder input, consideration of background research and earlier work undertaken by the City.

It is important to emphasise that the scenarios developed for the site do not represent distinct or complete plans. Each does not represent a "package" which could or should be implemented as opposed to another. The scenarios are rather seen as a means to test key issues or themes that emerged during the earlier phases of work, policy positions, and the implications of these. For example, current City planning policy (through the City-wide and district level Spatial Development Frameworks) identifies Athlone Power Station as a "strategic" site with significant "spatial restructuring" potential, a major mixed use urban centre. The scenario development exercise sets out to test the feasibility of this policy option against other important considerations, notably the practicality and cost of providing vehicular access and egress, as well as non-motorised and public transport. In this way, the preferred development option comprises elements or a hybrid of the different scenarios developed during the pre-feasibility study.

Importantly, the scenario exercise also provided an understanding of how development of the site could be phased over time. Given the size of the site, the presence of existing buildings and services, as well as the cost of infrastructure improvements required supporting development; it is unlikely that development will occur as one project where all facets are developed simultaneously.

4.2 APPROACH TO SCENARIO DEVELOPMENT

A number of consultant team/ City staff workshops – arranged by the Project Team and attended by staff from a range of services with an interest in the site – formed the basis for scenario development. Previous conceptual planning work undertaken by the City was considered within these workshops, as well as the specific issues, requirements and plans of different services.

Noteworthy from these workshops were:

- An emphasis on the potential "public" roles of the site, and specifically its potential role as a centre for culture, recreation and education serving a broad area (as also articulated in the City-wide and district SDFs).
- Rethinking and expanding the role of the site as a centre for utility services and new ways of providing services (including training associated with services).

- The good location of the site in relation to major metropolitan movement infrastructure and its potential role as a multi-modal transport interchange.
- The historical significance of the site and existing buildings (as well as some remaining power station plant and equipment).

Following initial workshops with all the services present, a number of bilateral engagements took place to explore service specific issues related to redevelopment of the site. Most importantly were a number of structured engagements focussed on the remodelling of operations at the ARTS, as well as access and egress options and arrangements for the site.

4.3 RANGE OF SCENARIOS

The conceptual approach underlying the range of scenarios identified is illustrated in Diagram 2. The scenarios followed a continuum from “doing nothing” to “doing anything” on or with the site. Based on the site-specific and contextual background information and analysis work it became clear that a realistic development option is probably situated in between these extremes. For example, doing nothing will not meet City or NDPG objectives for urban regeneration; while doing anything is similarly unlikely because some infrastructure services may be too costly to relocate and many existing buildings and structures on the site have both historic and adaptive re-use value. Most focus was therefore on the middle of the continuum, assuming a mix of uses, existing and new infrastructure and utilising both new and existing buildings.

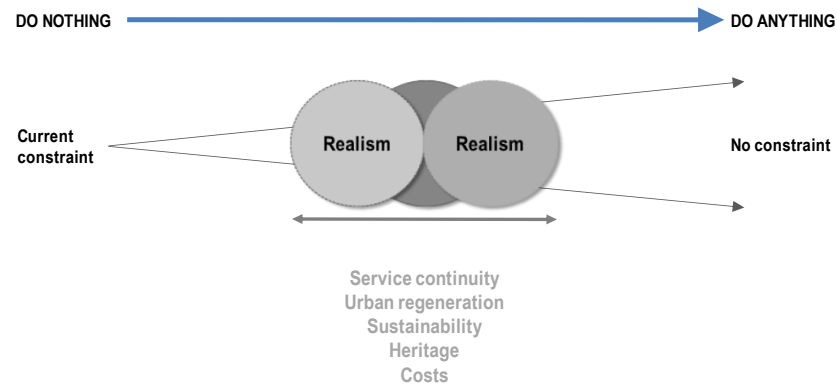


Diagram 2: Conceptual approach to scenario development

Nevertheless, the “extremes” of development scenarios on the continuum required discussion and testing. No doubt, some interests in the site, or decision-makers, will rightly ask whether the anticipated cost of development – and effort – justifies doing anything. At the same time, there will be significant costs associated with securing the site. Therefore, the opportunity costs and risks of this option needed to be tested and spelled out clearly. Similarly, some may suggest that retaining existing infrastructure and buildings will inhibit maximum development returns. Again, the overall costs and risks associated with this option required testing and reporting.

4.4 FOCUS OF SCENARIOS

Within a continuum ranging from doing nothing to doing anything on or with the site, five main scenarios were explored and documented, as illustrated in Diagram 3 below. One of these, “making the site safe and manage it better”, has a sub-scenario attached where the implications of actively extended service infrastructure uses on the site is explored.

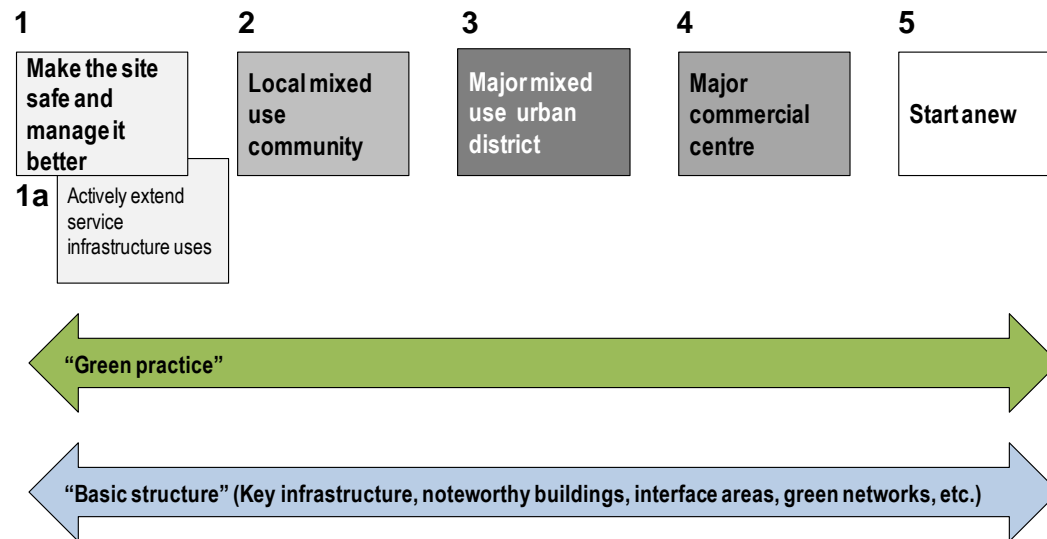


Diagram 3: Development scenarios

The diagram also illustrates two “common” aspects of the scenarios. The first is that “green development” practice matters – sustainable service provision, waste reduction, energy efficiency, and so on – are seen as non-negotiable to all scenarios as opposed to a specific scenario on its own. A single scenario focusing on these matters would run contrary to City policy which seeks green practices introduced as an integral part of all city development and management. The second is that a “basic structure” of broad use zones, precincts, places and networks underlie all scenarios. In essence, an argument is made that whether the site is developed for housing, or as a major commercial centre, the same basic structure could – and should – apply.

The basic structure of broad use zones, precincts, places and networks are critical in the context of likely phasing of development of the site over time. It sets up “rules” where development can unfold over time within set, known parameters. It indicates what is fixed – to be respected at all times whatever the uses selected for the site – and what is more flexible and responsive to the needs of particular uses. Importantly also, the basic structure allows for small, implementation-ready initiatives to start, without negating opportunities for more intensive longer term initiatives.

4.5 SUMMARY OF SCENARIOS

Four key scenarios are summarised in Table 4 and 5 below.

Two scenarios were not developed to the same detail. The first is scenario 1, which is to do as little as possible and to simply focus effort on making the site safe and to manage it better. In essence this scenario is referred to as the “do-nothing” option, although safety and security considerations will dictate that Council will at least have to make the site safe and secure. At the same time, remaining service infrastructure needs to be secured and maintained.

The second is scenario 5, focused on starting anew, a “green-fields” development comprising a mix of commercial, retail and residential uses. Specifically this scenario entails:

- The removal and/ or deviation of most infrastructure and buildings (including ARTS if it could be moved built elsewhere at the cost of the developer to the City’s requirements) so as not to impede a “commercial” property development.
- Bulk and building height is to be determined by commercial viability.

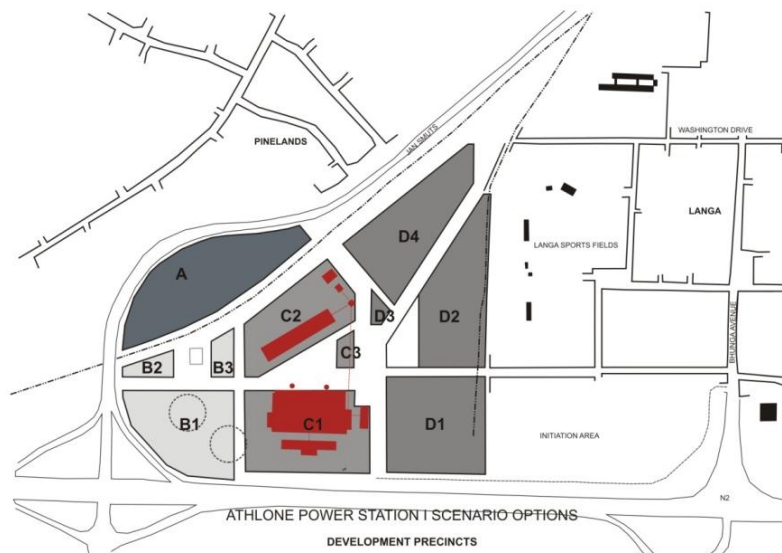
Plans or detail bulk figures for scenarios 1 and 5 were not developed in any detail because scenario 1 will not result in significant change to the basic structure of the site, access or bulk, and the nature and form of scenario 5 cannot be predicted.

Table 4: Summary description of key scenarios

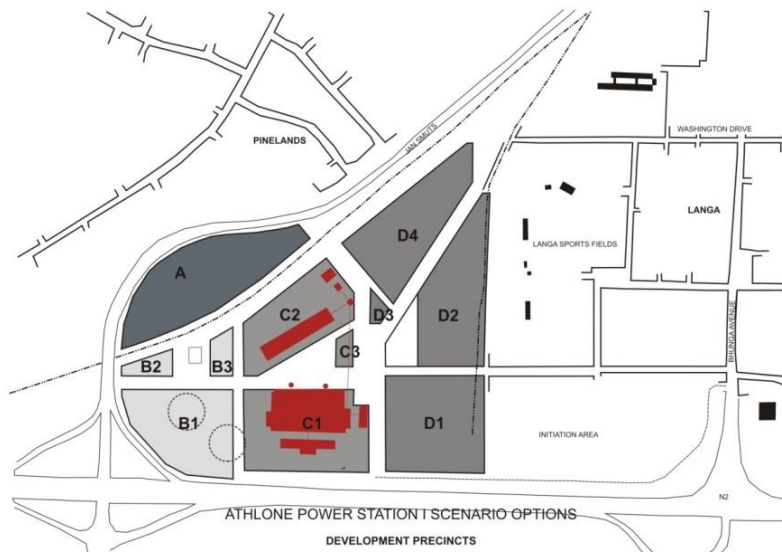
<p>Scenario 1a: Actively extend service infrastructure uses</p>	<p>Scenario 2: Local mixed use community</p>	<p>Scenario 3: Major mixed use urban district</p>	<p>Scenario 4: Major commercial centre</p>
<p>The first scenario is to do as little as possible and to simply focus effort on making the site safe and to manage it better. In essence this scenario is referred to as the “do nothing” option, although safety and security considerations will dictate that Council will at least have to make the site safe and secure.</p> <p>Scenario 1a is a variation on scenario 1. While little is done to pursue “urban” development of the site in this scenario, service infrastructure expansion is nevertheless pursued.</p> <p>Specifically, this scenario introduces the option of expanding the ARTS northwards and remodelling current operations and processes.</p> <p>The opportunity exists to re use existing buildings retained for expanded municipal operations while there is also the potential for limited commercial, light industrial and public uses, particularly where these uses do not interfere with municipal infrastructure/ service operations or draw large numbers of people / vehicles to the site.</p>	<p>The second scenario explores a “model” local community on the site. The predominant use is medium to higher density, medium height housing and local facilities. This includes:</p> <ul style="list-style-type: none"> • A range of medium and higher density housing options (including GAP housing) outside the chlorine exclusion zone, focused on pedestrian-dominated play streets and courts. • A possible “secure” medium density housing area on “Pine-island”. • Commercial and light industrial uses (emphasising local employment opportunity) within the chlorine exclusion zone and associated with the ARTS. • Retail and public uses focused on the central zone, comprising the Turbine Hall, Coal Store, ancillary power station buildings and surrounding land. <p>Pedestrian and child friendly environments will characterise the housing developments with a strong focus on developing high quality public environments with a range of local order public facilities.</p>	<p>The third scenario is to develop a major mixed use urban district on the site. The difference with the “local mixed community” scenario is that more opportunities for public facilities, commercial and retail development are introduced together with residential development. In this scenario:</p> <ul style="list-style-type: none"> • The central zone, comprising the Turbine Hall, Coal Store and ancillary power station buildings and surrounding land is developed as a high density, active urban area, comprising a combination of public facilities with a regional reach and intense commercial uses with active street frontage. A major public space is situated between the Turbine Hall and Coal Store, linked to a Transport Modal Transfer Station on Jan Smuts Avenue. • “Pine-island” remains residential but bulk and building heights are increased (to six storeys). • Precincts to the west of the Turbine Hall are used for a mix of commercial and retail uses. Some residential development could be provided at upper levels of buildings. • The precinct north of the remodelled ARTS 	<p>The fourth scenario is that of a major commercial centre – the major commercial centre (e.g. Melrose Arch type development) could have elements of the third scenario built into the development. The development options in this scenario are similar to scenario 3, except that the bulk and building heights will be much greater. Specifically this scenario entails:</p> <ul style="list-style-type: none"> • Increased bulk and building height in the western development zone and on “Pine-island” (up to eight and ten storeys). • The allocation of “Pine-island” and part of the precinct north of ARTS for commercial development. • The public component will be reduced but still substantial <p>This scenario will require all three main accesses fully developed in combination with extensive BRT and other public transport modes.</p>

Scenario 1a: Actively extend service infrastructure uses	Scenario 2: Local mixed use community	Scenario 3: Major mixed use urban district	Scenario 4: Major commercial centre
<p>Access will have to be obtained from Bhunga Avenue. Towards the final stages of the development, the intersections will be under pressure depending on the successful implementation of public transport.</p> <p>This scenario also offers the opportunity to rationalise the Langa Sports fields (including extending them slightly westwards) and an extension of the Langa cemetery.</p>	<p>Access to the development is obtained from Bhunga Avenue. Depending on the dualing status of Jan Smuts Drive, access should also be obtained from Jan Smuts Drive via a half diamond interchange to relief expected congestion on Bhunga Avenue.</p> <p>As in Scenario 1a, the opportunity exists to rationalise the Langa Sports fields (including extending them slightly westwards) and an extension of the Langa cemetery. As an alternative to extending the sports fields westwards, the western edge between the site and the sports fields could be developed with medium density/ medium height housing (incorporating upgraded sports related facilities).</p>	<p>facility is retained for residential.</p> <p>Access to the development should be obtained from Bhunga Avenue and a full diamond interchange on Jan Smuts Avenue. Towards the final stages of this Scenario the implementation of the Access on the N2 service road could be required depending on the successful implementation of public transport access.</p> <p>A Modal Transport Transfer facility (including BRT and Rail Station) on Jan Smuts Drive is a likely precondition for the viability of major public facilities and extensive commercial use. Access to "Pine Island" will be via a bridge that links to the rest of the APS site.</p>	

Table 5: Summary of land use and bulk for the different scenarios



SCENARIO 1 A			
Sites	Land use	Bulk/ developable area (m ²)	Percentage
-	Residential	-	-
C1	Public Institutions	65005	47%
C1,D3	Commercial/ business	5625	4%
C1,D3	Retail	5625	4%
B1, B2, B3, C1, C3, D4	Light Industrial	27975	20%
D1, D2	ARTS	35 100	25.2%
	Total Bulk:	139 330	100%
SCENARIO 2			
Sites	Land use	Bulk/ developable area (m ²)	Percentage
A1, B2,B3,D4	Residential	114 452.6 (910 du = 4552 people)	40%
C1,C3,D3	Public Institutions	64 470	22%
B1, B2,C1,D3	Commercial/ business	23 259.7	7%
B2,B3,C1,C2,C3	Retail	34 007.7	11.7%
B1	Light Industrial	219 000	7.4%
D1/ D2	ARTS	35 100	12%



	Total Bulk:	293 190	100%
SCENARIO 3			
Sites	Land use	Bulk/ developable area (m ²)	Percentage
A1, B2,B3,D4	Residential	143 902 (1335 du = 6 678 people)	35.8%
C1,C3,D3	Public Institutions	91 820	22.8%
B1,C1,C3	Commercial/ business	47 583.75	8%
B2,B3,C1,C2,C3,D3	Retail	50 543.753	12.8%
B1	Light Industrial	35 040	8.6%
D1/,D2	ARTS	35 100	8.6%
	Total Bulk:	403 990	100%
SCENARIO 4			
Sites	Land use	Bulk/ developable area (m ²)	Percentage
B2,B3,D4	Residential	86 145 (682 du= 3 410 people)	13.5%
C1,C3,D3	Public Institutions	97 892.5	15.5%
B1,C1,C3	Commercial/ business	321 965	51.5%
B2,B3,C1,C2,C3,D3	Retail	89 177.5	14%
-	Light Industrial	-	-
D1, D2	ARTS	35 100	5.5%
	Total Bulk:	630 280	100%

5 PUBLIC PARTICIPATION

5.1 THE PROCESS

As indicated above the City felt that meaningful participation in the redevelopment of the APS site is only possible once background information and its implications are broadly shared with potential participants. With this in mind, a “participative leadership approach” to public participation was adopted for the project. The first phase of participation commenced in earnest after the completion of the background work and initial scenario development and it’s sharing within the City of Cape Town, its leadership and affected service departments, the public and special interest groups. Further, participation commenced internal to the Municipality, seeking political and administrative leadership agreement on the municipal position *before* external participation.

Public meetings took place with:

- The general public.

- Surrounding communities (three individual meetings were held in Pinelands, Athlone and Langa).

Structured participation sessions were also arranged with:

- The academic community (specifically respected Cape Town based academics in urban planning and urban design, urban policy development and urban management and engineering).
- The development community and business interests (through the City’s “Property’s Developers’ Forum”, representing the interests of different private property development companies, and the Cape Town Chamber of Commerce and Industry).

Specific interest groups were also invited to make presentations on the future of the site at structured “hearings” hosted by the City. Prior to and during the public participation phase, the City Project Team participated in a number of radio discussions on the future of the site and prepared various press releases outlining the planning process and development scenarios.

*It should be noted that **further public participation initiatives will take place** prior to development of the site. Specifically, the statutory environmental and land use management applications required in support of the development requires broad, structured participation with interested and affected stakeholders. Following significant public interest both prior and after the demolition of the Cooling Towers, it can be expected that public interest in the site and participation in future processes will be active and broad-based.*

5.2 INPUTS RECEIVED

Table 6 below summarises public inputs received during the various meetings as well as through written submissions and engagements with interest groups. A short comment is given where appropriate (specifically where the input were in the form of questions). Full documentation on the public input received is included in the detailed project information library (including notes from the various meetings and the full written submissions received).

Table 6: Summary of public input in response to scenarios

QUESTIONS/ ISSUES/ SUGGESTIONS	COMMENT
GENERAL PUBLIC MEETING:	
11 May 2010	
Mix of uses	
Will there be distinct use areas?	A mixed of uses is envisaged. Some precincts may show a dominance of a particular use (e.g. it is proposed that the Turbine Hall be redeveloped to accommodate public activities and institutions as its “main” use).
What would the traffic impact of the proposed development be?	<ul style="list-style-type: none"> • Access arrangements as provisionally planned could accommodate in excess of 7 000 vehicles per hour during peaks.

QUESTIONS/ ISSUES/ SUGGESTIONS	COMMENT
	<ul style="list-style-type: none"> The surrounding road network – with appropriate improvements – can accommodate the traffic.
History and culture	
A small section of the old power station plant should be kept to show how the old technology worked.	It is intended to maintain elements of the power station plant to illustrate its “use-history”.
Community issues	
“Soft” issues (social) should be considered in the development (specifically in relation to the youth) because the development can potentially break the divides between communities.	
On-going use of site for power generation (including “green” energy)	
Is the best use for the site not continued energy generation (including wind energy generation)?	The City has determined that the facility will not play a major role in future power generation (but remain a critical element in electricity distribution).
The “N2 Face” of a re-developed site	
It appears that the proposed development will turn its back on the N2.	
Existing buildings and structures	
How much of the Turbine Hall will be retained?	It is proposed that the Turbine Hall – together with the two smoke stacks – be retained, refurbished and re-used.
Security	
Will the redeveloped site be fenced off (a question raised in relation to a concern with security along the southern edge of Pinelands)?	It is not intended to fence the whole development. Specific areas of a new development (specifically essential infrastructure) will, however, require securing.
PINELANDS MEETING: 10 May 2010	
Mix of use	
The number of housing units proposed will cause further traffic congestion (Old Mutual has already had a detrimental impact on traffic in Pinelands).	It is not anticipated that the development will have any impact on traffic in Pinelands. No direct vehicular connections to Pinelands are envisaged.
Jan Smuts Drive is already narrow and cannot accommodate more traffic.	
On-going use of site for power generation (including “green” energy)	
Is the best use for the site not continued energy generation (including wind energy generation)?	See above. The potential exists for alternative service delivery on parts of the site. For example, generating electricity from waste at the ARTS has been mooted.
Existing services	
Smells emanating from the AWWTW will inhibit the kind of development proposed.	It is proposed that processes at the AWWTW be addressed as part of the development.
Public facilities	
Public facilities on the site would result in more noise pollution (Pinelands residents already have to contend with noise from the River Club and Athlone Stadium).	
Public/ entertainment facilities would cause spill-over parking problems	Sufficient on-site parking will be provided as part of the development.

QUESTIONS/ ISSUES/ SUGGESTIONS	COMMENT
<p>Security A pedestrian link to Pinelands will impact on security in Pinelands.</p>	
<p>ATHLONE MEETING: 12 May 2010</p>	
<p>Mix of uses</p>	
<p>Would there be a “mall” on the site?</p>	No “mall” development is envisaged.
<p>Housing</p>	
<p>The majority of the site should be used for housing (for example, to accommodate backyarders and squatters in Bokmakierie).</p>	Housing will form a component of the overall development.
<p>History and culture</p>	
<p>The site is potentially an “interface” for the three communities that surround it.</p>	
<p>A museum on the site could incorporate the history of all people of the area, celebrate their cultures and promote integration.</p>	
<p>The history of the last remaining coal-fired power station in the Western Cape should be preserved (this could also contribute significantly to the economy and tourism).</p>	Agreed
<p>Public facilities</p>	
<p>Consideration should be given to establish a drug rehabilitation centre on the site.</p>	Provision will be made for public facilities of all kinds. At this stage, it is difficult to envisage what specific facilities will be provided.
<p>Impact on Athlone CBD</p>	
<p>Development of the site could harm a struggling Athlone CBD further.</p>	It is difficult to predict the impact of the proposed development on the Athlone CBD. However, it is not proposed to undertake a development which competes directly with the CBD. Rather, activities are envisaged which do not occur in the area and which serves a local community as well as the city as a whole.
<p>Equity</p>	
<p>The disenfranchised should be given an opportunity to gain a financial stake in the area/ development.</p>	Agreed
<p>LANGA MEETING: 13 May 2010</p>	
<p>Mix of uses</p>	
<p>Preference should be given to uses which provide employment and assist in skills development.</p>	
<p>Would there be a “mall” on the site?</p>	No “mall” development is envisaged.
<p>Housing</p>	
<p>Provision should be made for a range of housing types, with a focus on middle income housing options.</p>	A range of housing options are envisioned.

QUESTIONS/ ISSUES/ SUGGESTIONS	COMMENT
The whole site should not be used for housing because this would cause community conflict.	
History and culture	
The initiation site is sensitive and access past it may not be appropriate.	It's agreed that the initiation site is sensitive, necessary steps will be made to ensure that privacy is improved.
Existing services	
Would the proposed uses work while ARTS remain on the site?	Yes, if upgrading and improvements to ARTS occurs.
Existing buildings and structures	
Is it necessary to demolish the cooling towers, has the necessary processes been followed, and what measures will be put in place to safeguard residents during demolition?	Yes, they are structurally unstable and are a public hazard.
Public facilities	
The planning of the site should consider Langa's need for additional cemetery space.	Agreed.
The development should provide for indoor sports facilities.	Agreed.
MEETINGS WITH ACADEMIC COMMUNITY	
(Prof David Dewar; Prof Fabi Todeschini, Prof Edgar Pieterse, Prof Romano Del Mistro, Rod Lloyd)	
Given its location, the site deserves a very bold intervention.	
Small, easy to implement initiatives must be pursued to locate the project firmly in peoples' minds.	
Given the size of the site, using most of it for housing will not make a big impact. However, focusing on public facilities and economic generation would have a major impact.	
Sports facilities could be a significant "integrative" element on the site.	
Consideration must be given to the timing of the implementation of the Jan Smuts interchange. It will considerably improve vehicular access and the value of the site, thereby unintentionally influencing demands for an increase of commercial development.	
The range of housing types to be provided needs to be clarified, including why it is not appropriate to provide subsidy housing.	
The emphasis on a "learning" environment, including music, science and maths, is supported. Learning about alternative service provision (waste reduction, sewerage management, etc.) should be strengthened.	
There should be a strong focus on young people and their needs.	
The role of the site in demonstrating different ways of living is critical.	
Future linkages with the twin Rivers Park should be strengthened, including the	

QUESTIONS/ ISSUES/ SUGGESTIONS	COMMENT
role of water in site development.	
The strategic nature of the site makes it a metropolitan issue which has implications on how a public participation process is structured. Too democratic a process could lead to inertia (“parochial” issues should not dominate).	
MEETINGS WITH DEVELOPMENT COMMUNITY	
Would the land be offered at a reduced price to facilitate development?	
It is hoped that the City will be bold enough to proceed with the development.	
Consideration should perhaps be given to moving the initiation site to “Pine-island”.	This existing Initiation site has heritage status and cannot be relocated.
SPECIAL INTEREST GROUP HEARINGS	
<p>Establish a centre of contemporary arts and science on the site to bring cohesion to the development. The centre will:</p> <ul style="list-style-type: none"> • Bring together emerging artists and scientists and expose their designs and innovations to new markets. • Showcase new creative work and ideas (and the people behind it) produced in the city <p><i>(Fynbos Trust Fund)</i></p>	
<p>Redevelopment should:</p> <ul style="list-style-type: none"> • Contain a mix of retail, commercial, education and housing uses. • Include an enlarged Langa Sports Grounds. • Seriously consider relocating the ARTS. • Not affect the initiation site (and provide more protection to it after development of the site). • Provide a “stake” for Langa residents in the development (incl. partnership in management/ ownership of assets). <p><i>(Langa Concerned Residents)</i></p>	
<p>Develop the site as a sports zone/ centre (including squash courts, bowling fields, heated swimming pools, sports’ history and conferencing facilities).</p> <p><i>(Andile Dyasi)</i></p>	
<p>Retain the historic buildings and utilise part of the site for:</p> <ul style="list-style-type: none"> • Urban/ vegetable gardening. • A “high-end” nursery (including indigenous plants) • Organic restaurants. • Manufacture of household items (including sleeping bags) from waste. <p><i>(Franke Stegmann)</i></p>	
Establish a Cape Town School of Football, in partnership with local schools on the	

QUESTIONS/ ISSUES/ SUGGESTIONS	COMMENT
site. (Langa Football Association)	
Individuals/ groups who did not submit proposals but offered support/ assistance included: <ul style="list-style-type: none"> • Representatives from the owners/ developers of the Old biscuit Mill in Woodstock, and the Grand Daddy Hotel and New Space Theatre in Long Street. • Representatives from “Secondharvest”, a company specialising in extracting alternative sources of revenue for projects through signage, naming rights, and so on. 	
ADDITIONAL WRITTEN (E-MAIL) SUBMISSIONS	
Use the site as a large open air parking area (from where public transport can be used to access the Central City). (Mark Goeller via Councillor Watkyns)	
Develop the site as a “Heroes’ Park” housing area where the “wrongs of apartheid” can be addressed and people can get rent-free houses. (Desmond via Councillor Watkyns)	
Establish a Youth Centre on the site, emphasising skills development. (Ayesha Jacobs)	
Develop the site as a cultural space with art activity, restaurants and food and clothes markets (similar to “Westergasfabriek” in Amsterdam) (Mariel Burger)	
SUBMISSION BY UCT ARCHITECTURAL STUDENTS	
See Box 9 below.	

BOX 9: UCT ARCHITECTURAL STUDENT SUBMISSIONS

A design “studio” for the 4th year honours architectural programme at UCT focused on the APS site as a case study. A range of proposals were developed. Some of the presentations explored the option to develop the site as a place for future renewable energy production – in reference to its history as a coal fired power station. Thus through active programming and adaptive reuse of the industrial architecture, rather than passive museum making, the history of the site can be meaningfully preserved. In addition to this, it was advanced that the APS site could be a “green centre for renewable technology”, providing an opportunity for small-scale, mixed-use development that can act as a catalyst to the surrounding areas.

The students work was of a high quality and are they commended for their efforts. Their thinking particularly in relation to the adaptive re-use of the Turbine hall was well resolved and should inform later detail design phases of the project. Some of the student work is shown below to illustrate the concepts proposed. The full presentation is included in the digital project library.



Diagram 4: UCT architectural student submissions

BOX 10: PUBLIC REACTION IN RELATION TO THE DEMOLITION OF THE COOLING TOWERS

The demolition of the Cooling Tower, which took place after the pre-feasibility study public participation process, elicited significant public reaction – both prior to and after the event. A key message from press reports at the time was that the redevelopment of the site offers the opportunity to do something special, overcoming past barriers between communities.

In spatial terms, the demolition of the towers has “exposed” the Turbine Hall and associated smoke stacks. It is expected that the demolition event and more exposed remaining buildings and structures will lead to considerable public interest in the final development proposal and its implementation.

In summary, the pre-feasibility public participation process indicated:

- Strong support for **retaining the “memory”** of the power station.
- Strong support for **public facilities, specifically those focused on learning and skills development** (including sport).
- A concern that **housing could be “divisive”** (although there is acceptance of some housing on the site).
- A concern about **possible impacts on the Athlone CBD**.
- A concern about **security, noise and traffic impact** in relation to Pinelands.
- A concern about the **impacts of ARTS and the AWWTW** on the “attractiveness” of the development.
- An expectation that the **community will, in some form, “share”** in the development

6 FINANCIAL ANALYSIS

6.1 BASIS OF FINANCIAL ANALYSIS

An “order of magnitude” financial analysis was undertaken of key development scenarios, using the square metre rate method of estimating. The detailed analysis is included as part of the detailed digital project library.

The purpose of the financial analysis was to:

- Determine whether the scenarios prepared were financially viable.
- To indicate what balance of uses should be pursued to achieve financial viability.
- To test the financial viability of a development scenario which support current City policy.
- To highlight any pre-conditions of financial viability.

It is expected that detailed cost plan estimates will be undertaken for each element of the development once the preferred scenario has been developed during the next stage of the planning process.

The following qualifications underlie the financial analysis:

- Estimates for buildings and infrastructure work were based on information obtained from previous projects of a similar nature.
- Building costs were current. No cost escalations for pre-contract period have been allowed for as the timing and phasing of the various components of the projects are yet to be determined.

- The income potential of each component of the development was assessed using available data in the case of similar offerings. In the case of new types of facilities where current data was not available, industry standards have been applied, taking cognisance of the location of the site.
- In the case of facilities such as the ARTS, waste management plant, and so on, it was assumed that the operating costs as well as costs associated with their refurbishment would not be linked to the redevelopment of the overall APS site.
- The viability analysis for each development opportunity was based on the pro-rata allocation of infrastructure costs. In reality, the infrastructure will have to be developed as a whole and this needs to be addressed as part of the land lease/ equity contribution by the land owner.

The following items were excluded from the estimated costs:

- Finance charges prior to construction and after completion of construction.
- Escalation in building costs prior to construction.
- Capitalised interest prior to construction (phasing of projects is unknown at this stage).
- All tenants fit-out, fixtures, fittings and signage.

6.2 KEY FINDINGS

The financial analysis and estimates found that a combination of **Scenarios 3 and 4 would be the most viable**. Key financial figures related to this scenario are:

- The preferred development scenario has a total development cost of approximately **R5. 25 billion** (comprising R4. 2 billion owned commercial and R1. 05 billion sold residential units).
- The residual land value – at a net first year return of 8. 55% – is R1. 16 billion. At a return of 9% it is R800. 43 million (this includes only owned commercial sites).
- A 3% development management fee is provided for.
- Infrastructure cost for the development is estimated at R275 million. This includes:

	Cost:
Access/ Egress	R147 million
Bulk electrical infrastructure	R39 million
Bulk water infrastructure	R6.5 million
Development Levy	R31 million
Site clearance/ demolition & Civil work	R35 million
Total Infrastructure cost	R275 million

7 SCENARIO ASSESSMENT

7.1 CRITERIA FOR ASSESSMENT

An assessment framework will be used to compare the various development scenarios. Table 7 below outlines the various criteria and further unpacks the important issues to be considered in relation to each of the individual criteria. In the assessment process, a holistic approach has been taken where none of the individual or specific “classes” of criteria (e.g. compliance with existing policy, or finance) are considered more important than the other. They have all been given equal weighting or importance at this stage. A range of information sourced during the pre feasibility investigation has been incorporated in the assessment process. These include:

- the public participation process which provided specific inputs related to stakeholders needs,
- financial inputs on the cost and viability of different scenarios completed by the subcontracted quantity surveyors
- the identification of existing and relevant policy that impacts on the future development of the site

Table 7: Criteria for scenario assessment

CRITERIA	DETAIL CONSIDERATIONS	CRITICAL INPUTS
Compliance with policy	City <ul style="list-style-type: none"> • IDP • SDF, Environmental, Transport and Infrastructure Services policy NDPG <ul style="list-style-type: none"> • Neighbourhood renewal/ “regeneration” 	See Table 2 in section 2 above, expanding on applicable policy.
Meeting stakeholder needs	<ul style="list-style-type: none"> • General public • Surrounding communities • Special interest groups (e.g. education, arts and culture, sport, historical) 	See Table 6 in Section 5 above, summarising public inputs received.
Assisting to increase human development opportunity	<ul style="list-style-type: none"> • Jobs • Education • Housing • Public facilities/ places 	
Supporting of responsible environmental resource use/ environmental “recovery”	<ul style="list-style-type: none"> • Waste minimisation • Green energy • Use of existing sunk investment (e.g. existing services infrastructure, buildings and structures) • MOSS extension • NMT 	<ul style="list-style-type: none"> • Removing all existing buildings and structures will be wasteful.

CRITERIA	DETAIL CONSIDERATIONS	CRITICAL INPUTS
Implementability/ manageability	<ul style="list-style-type: none"> Legislation (Environmental, Heritage) City capacity 	<ul style="list-style-type: none"> The site requires zoning prior to development as well as statutory environmental and heritage approvals. It is unlikely that removal of all existing buildings and structures on the site will receive statutory approval. It is unlikely that the City can act as “developer” of the site. Therefore, implementation requires a range of opportunities that will attract private sector participation.
Financial viability	<ul style="list-style-type: none"> Ability to attract external funding Internal cross subsidisation of services and infrastructure 	<ul style="list-style-type: none"> The NDPG specifically makes provision for capital contributions which could be used as seed funding on the project. However, access to this funding will depend on the extent to which the project meets the developmental and “transformative” objectives of the NDPG. It is unlikely that external contributions to infrastructure provision (and improvement) will be accessed without concomitant development opportunity. It is unlikely that public facilities will be sustainable without cross subsidisation by commercial/ private development or considerable public contributions. It is unlikely that an option requiring complete removal, deviation or relocation of existing infrastructure to be retained will be financially viable.

7.2 ASSESSMENT OF SCENARIOS

Table 8 below assesses the different development scenario in terms of the agreed criteria.

Table 8: Scenario assessment

Criteria / Scenario	Scenario 1: Make the site safe and manage it better	Scenario 1a: Actively extend service infrastructure uses	Scenario 2: Local mix use community	Scenario 3: Major mixed use urban district	Scenario 4: Major commercial centre	Scenario 5: Start anew
1. Compliance with policy, across spheres of government	Poor fit <ul style="list-style-type: none"> City overarching policy intent is to develop the site with a mix of uses at relatively high densities assisting in the restructuring of the city NDPG policy intent is to transform “township” areas and to create the pre-conditions for further development Only safety considerations 	Poor fit <ul style="list-style-type: none"> Same as Scenario 1 	Excellent fit <ul style="list-style-type: none"> Provides a mix of uses (public and private) Likely to relate more to Langa (than other surrounding areas) because of access 	Excellent fit <ul style="list-style-type: none"> Likely to be the best fit with existing policy because higher bulk allows for: <ul style="list-style-type: none"> Inclusion of both local and regional reach facilities (meeting needs of a “special urban place”) More residential opportunity More entrepreneurial 	Good fit <ul style="list-style-type: none"> Less emphasis on public facilities than Scenario 3 	Poor fit <ul style="list-style-type: none"> Unknown, but unlikely to offer the same mix of activities as Scenarios 2 and 3

Criteria / Scenario	Scenario 1: Make the site safe and manage it better	Scenario 1a: Actively extend service infrastructure uses	Scenario 2: Local mix use community	Scenario 3: Major mixed use urban district	Scenario 4: Major commercial centre	Scenario 5: Start anew
	addressed			<ul style="list-style-type: none"> ▪ opportunity ▪ Better chance of public transport succeeding ▪ Potentially more funding for infrastructure upgrade 		
Meeting stakeholder needs	Poor fit <ul style="list-style-type: none"> • Surrounding communities have a range of needs which could be met on the land 	Poor fit <ul style="list-style-type: none"> • Same as Scenario 1 	Excellent fit <ul style="list-style-type: none"> • Public input focus on public facilities (and specifically skills development), housing and amenity • Strong public desire for key buildings/ structures to be retained 	Excellent fit <ul style="list-style-type: none"> • Public input focus on public facilities (and specifically skills development), housing and amenity • Strong public desire for key buildings/ structures to be retained 	Good fit <ul style="list-style-type: none"> • Public input de-emphasised commercial/ retail activity 	Poor fit <ul style="list-style-type: none"> • Development will not necessarily respond to stakeholder needs • Loss of valued buildings/ structures
Assisting to increase human development opportunity	Poor fit <ul style="list-style-type: none"> • Little assistance, except in relation to potentially improved service 	Poor fit <ul style="list-style-type: none"> • Same as Scenario 1 	Excellent fit <ul style="list-style-type: none"> • Rich mix of activities 	Excellent fit <ul style="list-style-type: none"> • Rich mix of activities 	Good fit <ul style="list-style-type: none"> • Less emphasis on public facilities and amenity than Scenarios 2 and 3 • Potentially greater job creation 	Moderate fit <ul style="list-style-type: none"> • It can be assumed that this scenario will contribute to economic development opportunity, but it will not include significant public facilities (because of funding constraints related to public facilities)
Supporting of responsible environmental resource use/ "recovery"	No fit <ul style="list-style-type: none"> • No significant environmental improvement could be expected 	Moderate fit <ul style="list-style-type: none"> • Potential to improve services 	Excellent fit <ul style="list-style-type: none"> • Re-use of existing buildings to be retained • Upgrading of ARTS 	Excellent fit <ul style="list-style-type: none"> • Re-use of existing buildings to be retained • Upgrading of ARTS 	Excellent fit <ul style="list-style-type: none"> • Re-use of existing buildings to be retained • Upgrading of ARTS 	Poor fit <ul style="list-style-type: none"> • Loss of valued buildings/ structures
Implementability/ manageability	Moderate/ poor fit <ul style="list-style-type: none"> • Securing the site and maintaining existing 	Moderate fit <ul style="list-style-type: none"> • It is unlikely that there is sufficient 	Excellent fit <ul style="list-style-type: none"> • Likely to receive necessary legislative 	Excellent fit <ul style="list-style-type: none"> • Same as for Scenario 2 	Excellent fit <ul style="list-style-type: none"> • Same as for Scenario 2 and 3 • Access capacity will limit extent 	No fit <ul style="list-style-type: none"> • Unlikely to achieve required land use,

Criteria / Scenario	Scenario 1: Make the site safe and manage it better	Scenario 1a: Actively extend service infrastructure uses	Scenario 2: Local mix use community	Scenario 3: Major mixed use urban district	Scenario 4: Major commercial centre	Scenario 5: Start anew
	buildings and structures without any additional income will be a considerable drain on City resources	demand to make full use of the site, existing buildings and structures for service orientated uses, thereby not fully optimising the potential of the site	approvals <ul style="list-style-type: none"> • Could be implemented through dedicated institutional vehicle and private sector 			environmental and heritage approvals. <ul style="list-style-type: none"> • Negative impact to City service operations
Financial viability	No fit <ul style="list-style-type: none"> • Unlikely to be financially sustainability (cost of securing the site/ structures and loss of potential development income) 	Poor fit <ul style="list-style-type: none"> • Unlikely to be financially sustainability (cost of securing the site/ structures and loss of potential development income) 	Good fit <ul style="list-style-type: none"> • Financially viable but returns significantly lower than in Scenarios 3 and 4 	Good fit <ul style="list-style-type: none"> • Financially viable (subject to land cost being off-set by the City), with better returns than Scenario 2 	Excellent fit <ul style="list-style-type: none"> • Financially viable (subject to residual land value being off-set by the City) 	Good fit <ul style="list-style-type: none"> • Private sector will not respond unless it can make its proposal work financially

In summary, the scenario that best fits the assessment criteria is a combination of **Scenarios 3 and 4**.

8 SCENARIO CONCLUSIONS

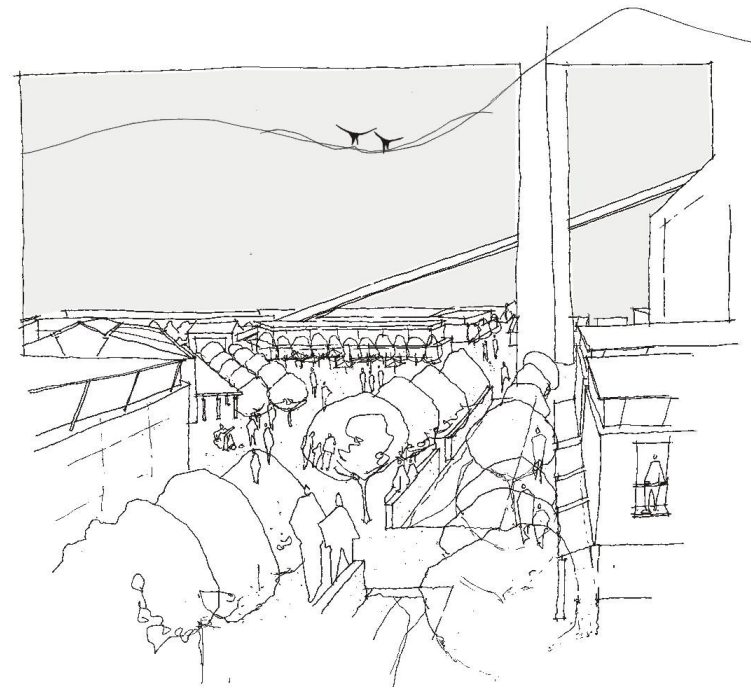
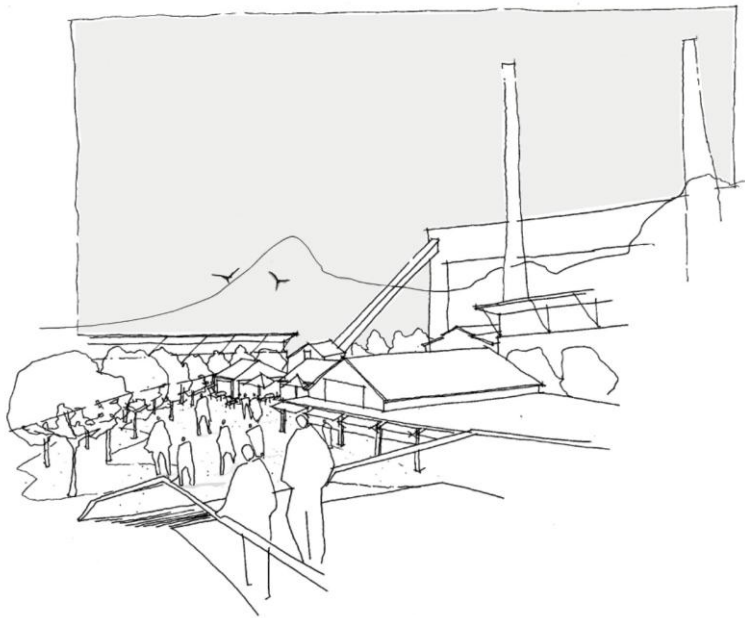
The background studies, scenario development and scenario testing work phases concluded that:

- The APS site does not exhibit insurmountable obstacles to a sustainable development.
- It is feasible to develop the APS site for a mix of uses, comprising a significant component of public facilities and amenity, housing and commercial uses, as contemplated in City policy.
- The total development floor area can comprise some 570 000 m².
- Vehicular access to this amount of development could be provided via a “package” of access points off Jan Smuts Drive, Bhunga Avenue and the N2.
- Public transport could potentially be provided through a combined BRT/ IRT and rail station adjacent to Jan Smuts Drive.
- The development could provide sufficient land for the rationalisation and upgrading of the ARTS.
- The development could provide a return of up to 10% during year 1.
- Feasibility is dependent on the City deriving benefit through the urban renewal and rates income benefits of the development as opposed to maximising financial return from the land value.

Core issues are:

- Using **land value creatively** to enable development of the preferred scenario.
- Upgrading the ARTS to become an **appropriate “neighbour”** to other uses.
- Addressing **operations and associated smells at the AWWTW**.

9 PREFERRED DEVELOPMENT SCENARIO



*The preferred development scenario for the APS site is that it will become **a special place in Cape Town: a mixed use urban district, containing a vibrant local community** – with all necessary facilities needed by the community provided – but also a place of work, learning and recreation which draws people from further afield.*

*The preferred scenario will make good use of the public landholding and existing buildings, serving specific needs in surrounding areas, while respecting existing activities and ways of living in these areas. It will protect the presence of **critical infrastructure operations** on the site and create the pre-conditions for improving critical infrastructure services and facilities.*

Ideally, the site will be accessed through a full range of transport modes – rail, IRT/ BRT, private vehicles and NMT. It should also become a “cross-roads” in city movement; a modal interchange point, where people can change from one mode to another. On the site, vehicular movement and car storage is to be largely restricted to a circular route which follows the perimeter of the site. Within the core of the site, non-motorised transport will be prioritised.

The block lay-out of the site and circulation network are to link key places on the site with surrounding communities – as directly as possible – while also respecting key servitudes associated with services to remain on the site.

The Turbine Hall, coal store area and adjacent land are to form the heart and central public precinct of the site.

Core to the public precinct is a public square, situated between the Turbine Hall and coal store area. The square also forms the crossroads of the site’s internal movement network, and contains direct NMT links to the IRT/ BRT and rail station on Jan Smuts Drive as well as Langa.

The Turbine Hall is the key building on the site, restored and adapted for a mix of commercial uses and public facilities. Similarly, the coal store area is to provide for a mix of commercial uses and public facilities. The square and its adjacent buildings are to be a real peoples’ place, a busy place, with lots to see and do.

Public facilities are to emphasise education – possibly including a science centre, schools of different kinds; ranging from the technical vocations to the performing arts. Ideally a range of public facilities are to be accommodated, attracting diverse user groups and used during different times of the day.

Most old power station related buildings in the central public precinct will be reserved as well as where possible the power generation machinery/ equipment and the overhead gantries. This will ensure that the workings of the old power station will be legible in the new development and it will provide a unique and particular character to the development that will be unique in the City.

The major new development area of the site is west of the public precinct. Activities are mixed, including places of work and residential units. Development is dense, to maximise land opportunity and create a wind protected, pedestrian friendly environment. As far as is possible, vehicular storage should occur in “wall” buildings along the perimeter of the site.

Eastwards of the public precinct, the Athlone Refuse Station is to be upgraded and modernised. In its form, design and associated processes, it should be integrated with the new development.

The development of the APS site should respect the interface with the Langa initiation site and Sports Grounds. Specifically, the privacy of the initiation site should be maintained and improved while the western edge to the Sports Grounds could be rationalised with new development, possibly including upgraded sports facilities.

10 A FRAMEWORK FOR WORKING TOWARDS THE PREFERRED DEVELOPMENT SCENARIO

10.1 A POLICY FRAMEWORK FOR THE APS SITE

Overall vision

- The APS site will be employed as a lever to assist with the spatial restructuring of the city towards greater spatial and social integration, and access to opportunity in proximity to where people live.

Land use

- The APS site will be developed as a mixed used development with a balance of public uses and activities, commercial opportunity and City services.

Emphasis of public uses/ facilities

- Public uses and facilities on the APS site will pay particular attention to youth needs, education and skills development.

Surrounding uses

- Development of the APS site should:
 - Not detract from the Langa initiation site.
 - Be sensitive to the Langa sports fields.
 - Be sensitive to the southern residential edge of the Pinelands.

Access

- Over time, depending on the implementation of city-wide access programmes and the unfolding of development on the APS site, provision will be made for a full range of access modes to the site, including vehicular access, BRT/ IRT, rail and non-motorised transport.
- Vehicular circulation and storage on the APS site will be restricted as far as possible to the outer perimeter of the site, assisting to develop a pedestrian focused public core.

Existing buildings and structures

- The remaining power station buildings on the site will be retained and adaptively re-used as far as is possible.

New buildings and structures

- The disposition and form of new buildings on the APS site will respect the central role of the Turbine Hall, assist to mitigate noise from adjoining major roads, as well as wind.

Existing infrastructure and services

- City infrastructure services that are to remain on the APS site, specifically the pump station, electrical servitudes and ARTS, will be respected and secured.
- Critical Infrastructure services that are to remain on and around the site (ARTS, AWWTW, pump station and gas turbine) are to be upgraded to minimise their impact on the new development as envisaged. In the case of ARTS, additional space has been allocated to ensure an improved quality and standard of operations.
- To enable infrastructure service improvement, land for infrastructure expansion will be reserved where needed.
- City infrastructure services in the area surrounding the APS site are to managed, maintained and further developed (should the need for further development arise) in a manner that minimises its impacts on APS and its envisaged development.

Cost of land

- To enable realising the proposed development of the APS site, the City will use a portion of land value as a means to off-set development costs.

Institutional arrangements for development

- The City will establish institutional arrangements for the development of the APS site which enables dedicated resources for the project, clear responsibilities and the ability to respond timeously to community and development partner demands.

Decommissioning

- The further decommissioning of the APS site will be undertaken in a manner which protects buildings, structures and equipment to be retained for re-use.

Detailed planning

- Detailed planning for the site should respect the Conceptual development framework prepared as part of the pre-feasibility study.

Statutory approvals

- Statutory approvals required for the development of the site (land use management, environmental and heritage) will as far as possible be pursued in parallel to ensure clear processes for public participation, minimisation of duplication and a speedy site preparation process. This also provides certainty in relation to development options, mitigate risk and increase land values.

Phasing

- Development of the APS site could be phased in a manner which permits fast progress in realising the potential of the land.
- Phasing must facilitate clustering of activities and complementary uses.

Lead initiatives

- Lead initiatives that support the long term development of the conceptual development framework will be actively pursued to build momentum and learning.

10.2 A CONCEPTUAL DEVELOPMENT FRAMEWORK FOR THE APS SITE

The role of the conceptual development framework is to provide direction on an appropriate approach for the future development of the Athlone Power Station site. The critical elements that should direct future development are identified in the framework, which includes the public structure, movement network, green/ natural system and the location of building blocks, as illustrated in Diagram 5. The conceptual framework supports a minimalist approach to development where the non- negotiable elements of the plan are identified upfront. It has been designed to be generative and supportive to a range of possibilities and options that cannot be predicted at this stage. The public structure and its associated facilities have informed the structure of the plan and will influence the character and form of the development in the future.

The paragraphs below expand and unpack aspects of the conceptual development framework, which includes the nature of the public structure, movement network, green system, land uses, and built form.

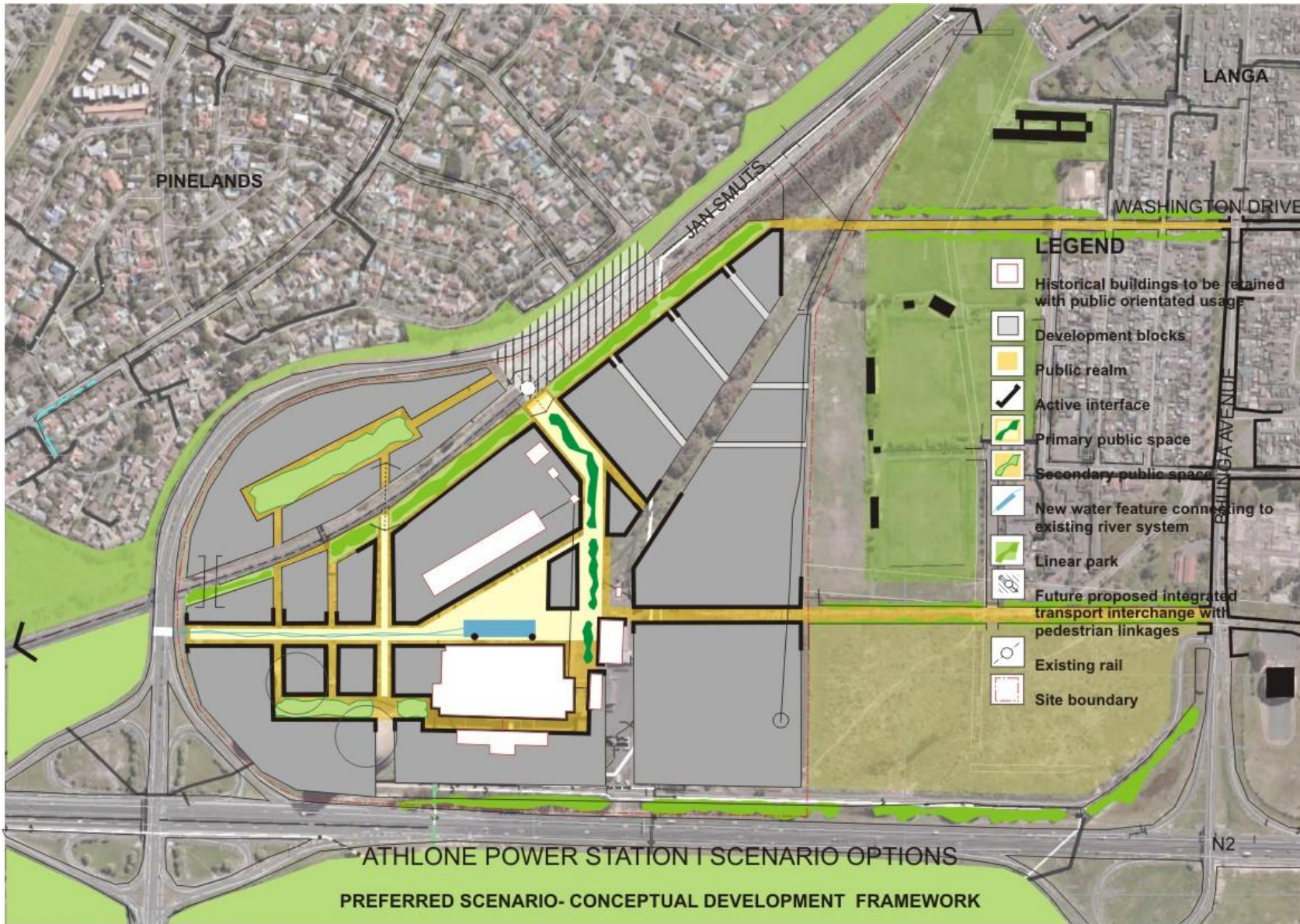


Diagram 5: Conceptual development framework

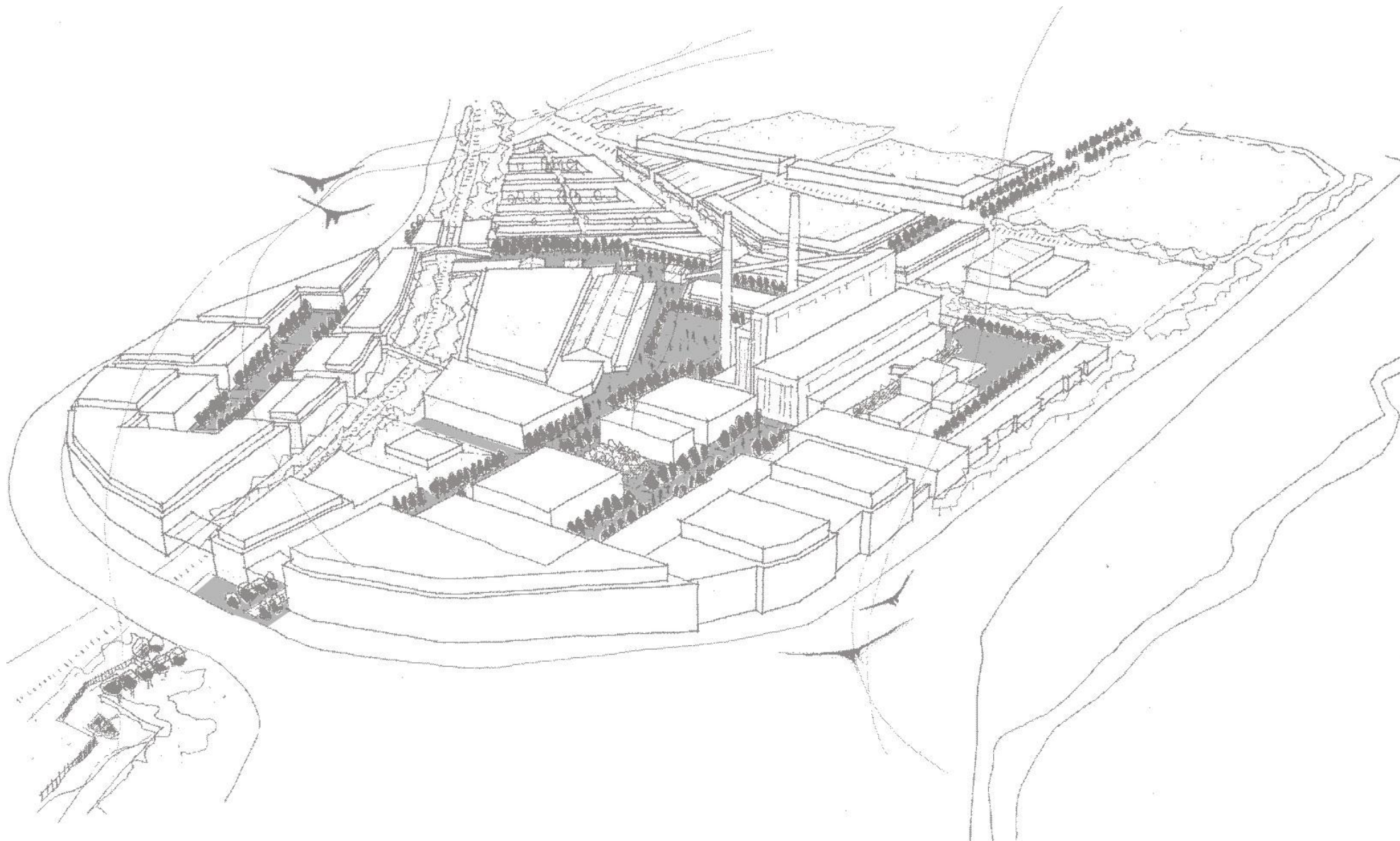


Diagram 6: Aerial view from the N2 illustrating the primary public structure

Broad use zones

The site is divided into three broad use zones that have assisted with defining the conceptual approach to developing the site:

- A western zone (ZONE 1), comprising the site of the Cooling Towers, area surrounding the Pump station and “Pine-island”, the enclosed area abutted by the rail line and Jan Smuts Drive. This zone provides the most unrestricted opportunity for new development.
- A central zone (ZONE 2), comprising the Turbine Hall, Coal Store, ancillary power station buildings and surrounding land. This zone forms the core of the site with most of the existing buildings to be retained on the site located in this zone. The adaptive re-use of existing building and structures is a central focus in this zone as well as ensuring that public access to this part of the site it ensured..
- An eastern zone (ZONE 3), comprising the ARTS, associated rail infrastructure and abutting vacant land. This zone provides development opportunity as part of a “surround” to the ARTS. The design focus of this zone is to explore ways to overcome the barriers created by the existing infrastructure/ operations, facilitate integration with Langa and the sports fields while improving privacy for the initiation area.

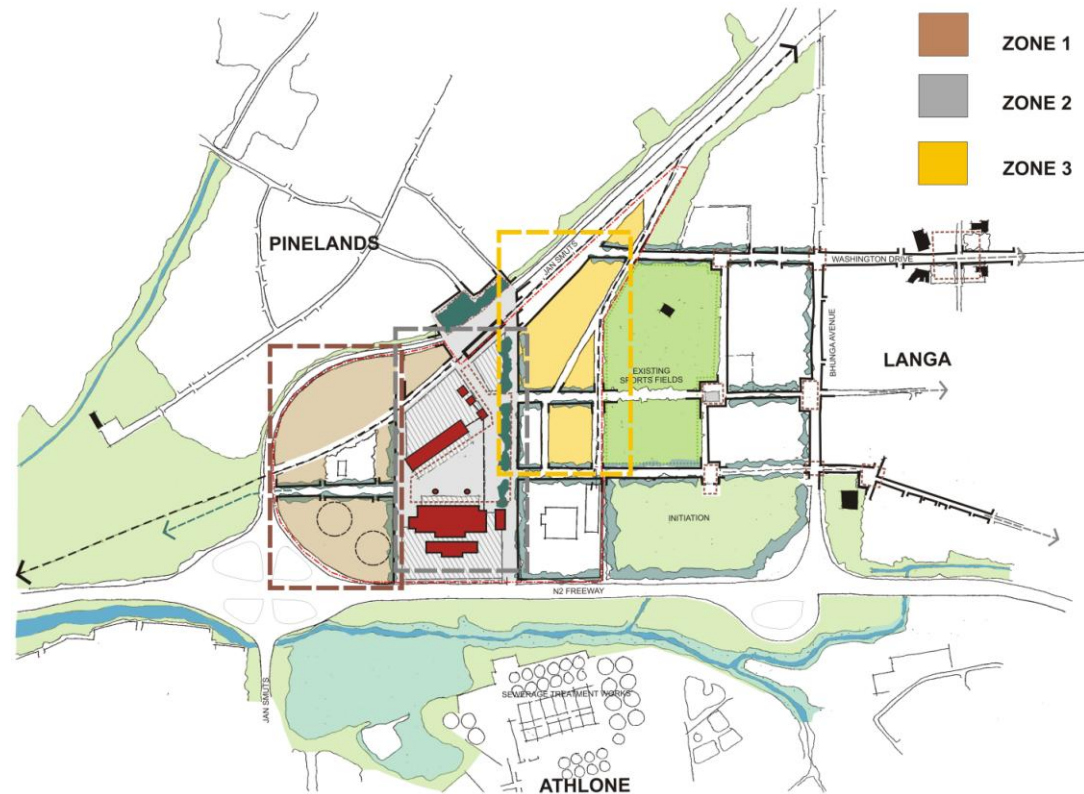


Diagram 7: Broad use zones

Access

The internal road network has been informed by the location of existing underground services on the site as well as the need to positively integrate the site with its surrounding context. The promotion of non- motorised transport within the core of the site is a defining element of the conceptual framework, where vehicular access and public parking areas are located on the periphery of the site.

A number of access options are available (illustrated on Diagram 8). Each should be seen as part of a “package” of access options that are not mutually exclusive. Some of the options lend themselves to “short-term” use while others are longer term in nature. The longer term options will be expensive and are not necessary to support the early phases of development. They will however be required for the full realisation of the development framework to occur. This particularly relates to the public transport related options that are a requirement to support increased densities on the site as well as the large scale public related facilities proposed.

The options are summarised below:

1. A **Transport Modal Transfer Station** on the northern edge of the site and linked to the public central development zone (comprising the Turbine Hall, Coal Store, ancillary power station buildings and surrounding land). The station possibly comprises integrated BRT and rail station facilities.
2. A **diamond interchange off Jan Smuts**, north-east of the Transport Modal Transfer Station and bridging the railway line into the site.
3. An eastern **at-grade intersection on Bhunga Avenue** at its intersection with **N'Dabeni Road** (this access road enters the site between the initiation site and sports fields).
4. An eastern **at-grade intersection on Bhunga Avenue** at its intersection with **Washington Road** (this access road traverses the sportsfield and crosses the ARTS rail spur).
5. A left in, left-out **at-grade intersection off new N2 collector distributor**, possible only serving ARTS.
6. A **vehicular access off Jan Smuts**, serving “Pine-island”. (this access is a sub standard short term option that would not be viable when the full diamond interchange is constructed)
7. An **overhead bridge type building** spanning the railway line, that would connect ‘Pine- island’ with the APS site. (this is a long term option that requires full development to have occurred)
8. The existing ARTS **at- grade intersection off Bhunga Avenue** (and service road to the south of the initiation site).
9. A **pedestrian bridge connecting ‘Pine- island’ to the APS site** (this is a long term option that requires full development have occurred).

On street parking should be kept to a minimum and integrated with public spaces to create seamless multifunctional open spaces.

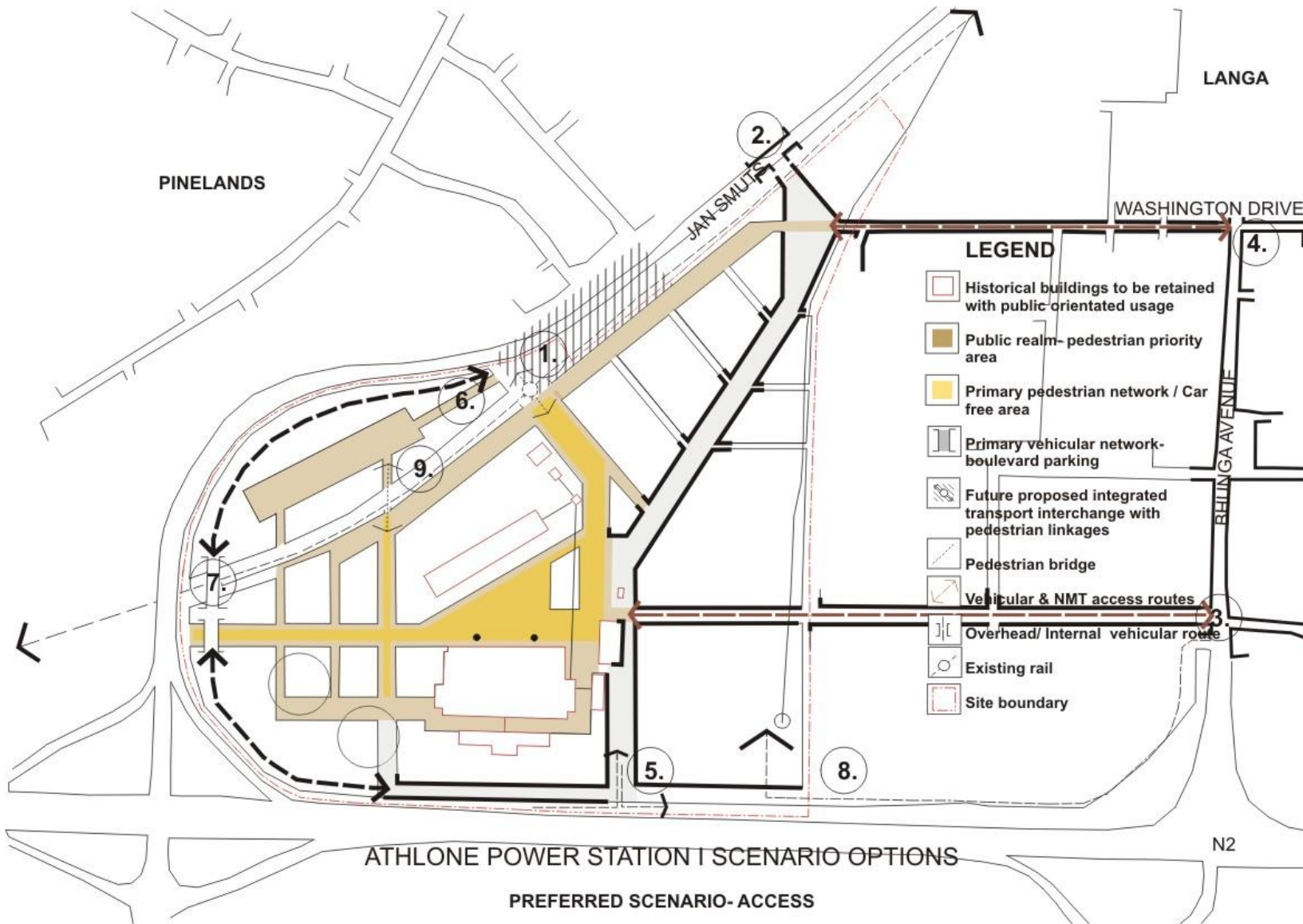


Diagram 8: Access

Precincts, places and networks

The structuring framework for the site, as illustrated in Diagram 9, recognises the broad use zones, access options, the disposition of buildings and structures suitable for reuse as well as the location and routes of existing services to remain on the site. Key elements of the framework are:

- Extending key east-west routes from Langa across the site, to ensure improved integration and access..
- Establishing a pedestrian-oriented public core, including historical buildings to be retained and surrounding land, in the centre of the site, and at the cross roads of the major east-west route and a north-south link to a future multimodal public transport interchange focused on the rail line and Jan Smuts Drive.
- Other routes which recognise servitude areas to be retained (for under- and above ground services which needs to be retained).
- A rationalised eastern green edge to the site, comprising the Langa sports fields and initiation site.
- An integrated green network, along internal movement routes as well as along the northern and southern edges of the site. On the Northern edge, the existing buffer strip between the railway line and site has been expanded to form a linear urban park. The existing Blue Gums are to be retained where possible and options to include space for the an additional cemetery area for Langa are to be investigated.

A hierarchy of public spaces have been provided for with the primary public spaces and routes to be associated with the existing red brick buildings and structures. Building blocks should be developed to create internal courtyard spaces, in order to mitigate existing noise from the N2 freeway and wind conditions.

The framework indicates the critical active edges for building blocks. Buildings in these locations should have zero building lines and must have a positive interface to the street. Colonnaded edges are to be promoted in these locations, particularly on the primary pedestrian routes. Buildings with balconies that promote passive surveillance onto the street are to be prioritised.

All public spaces and routes should be well planted with shade trees and designed as robust and generous areas that accommodate a range of outdoor activities. Provision has been made for a large water feature- reflecting pond to be provided in the primary public space. The option to connect the reflecting pond with the Black river should be explored.

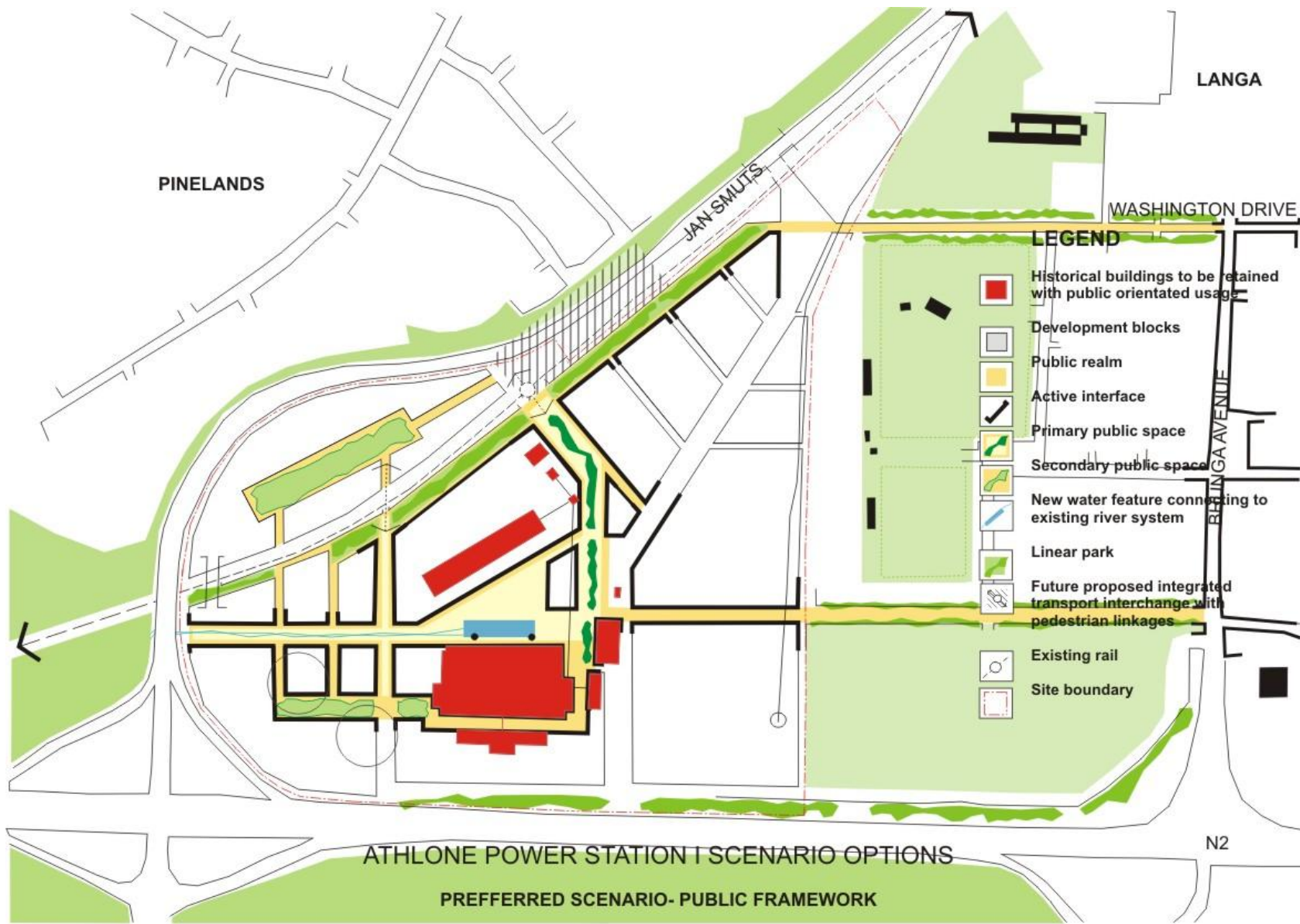


Diagram 9: Public structure

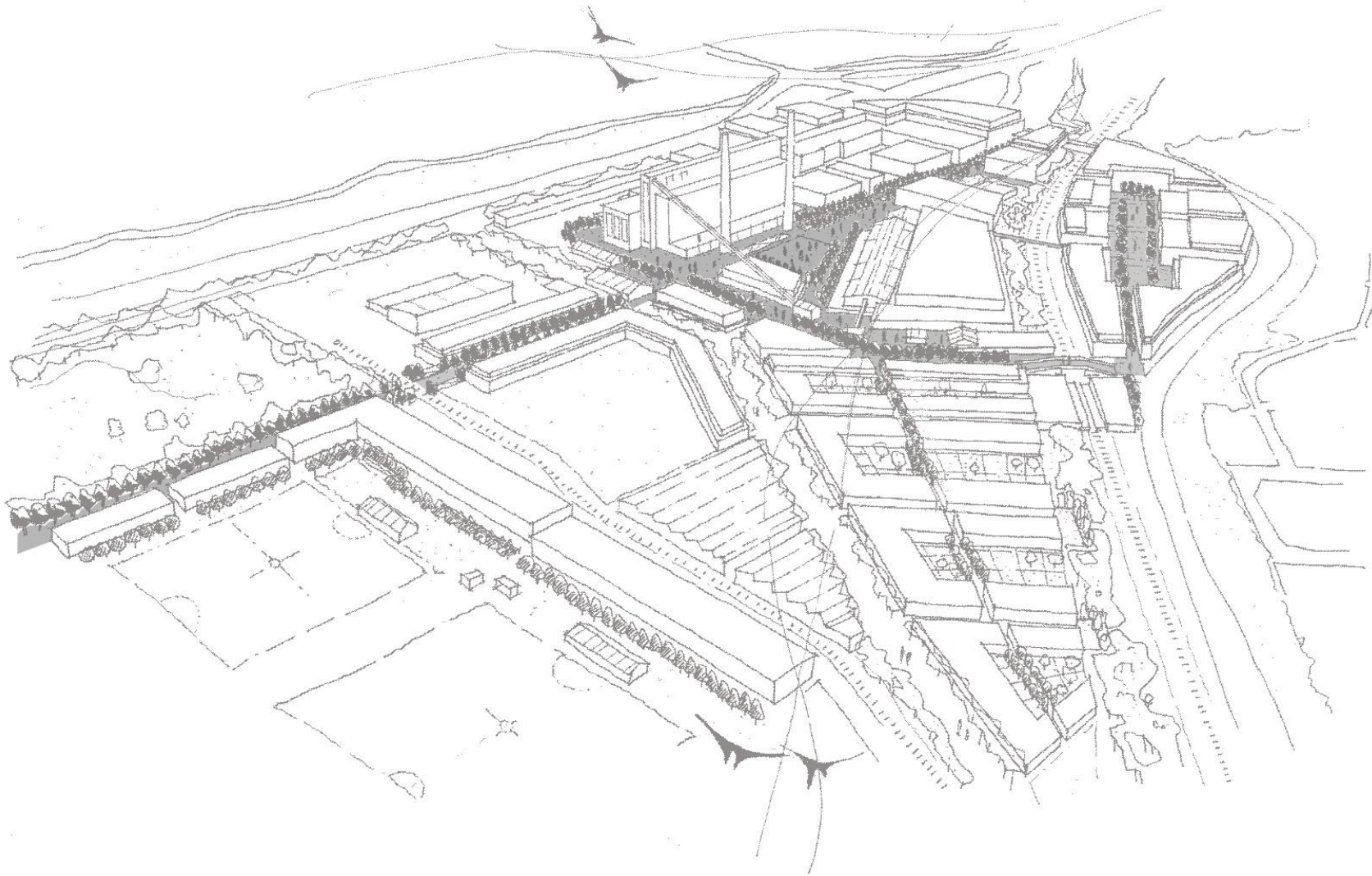


Diagram 10: Aerial view from Langa, showing a series of integrated public spaces and routes

Land use and bulk

The proposed distribution of activities for the different land parcels are illustrated on Diagram 11 Land use breakdowns within each land parcel with its associated bulk is further summarised in Table 9 and 10 below:

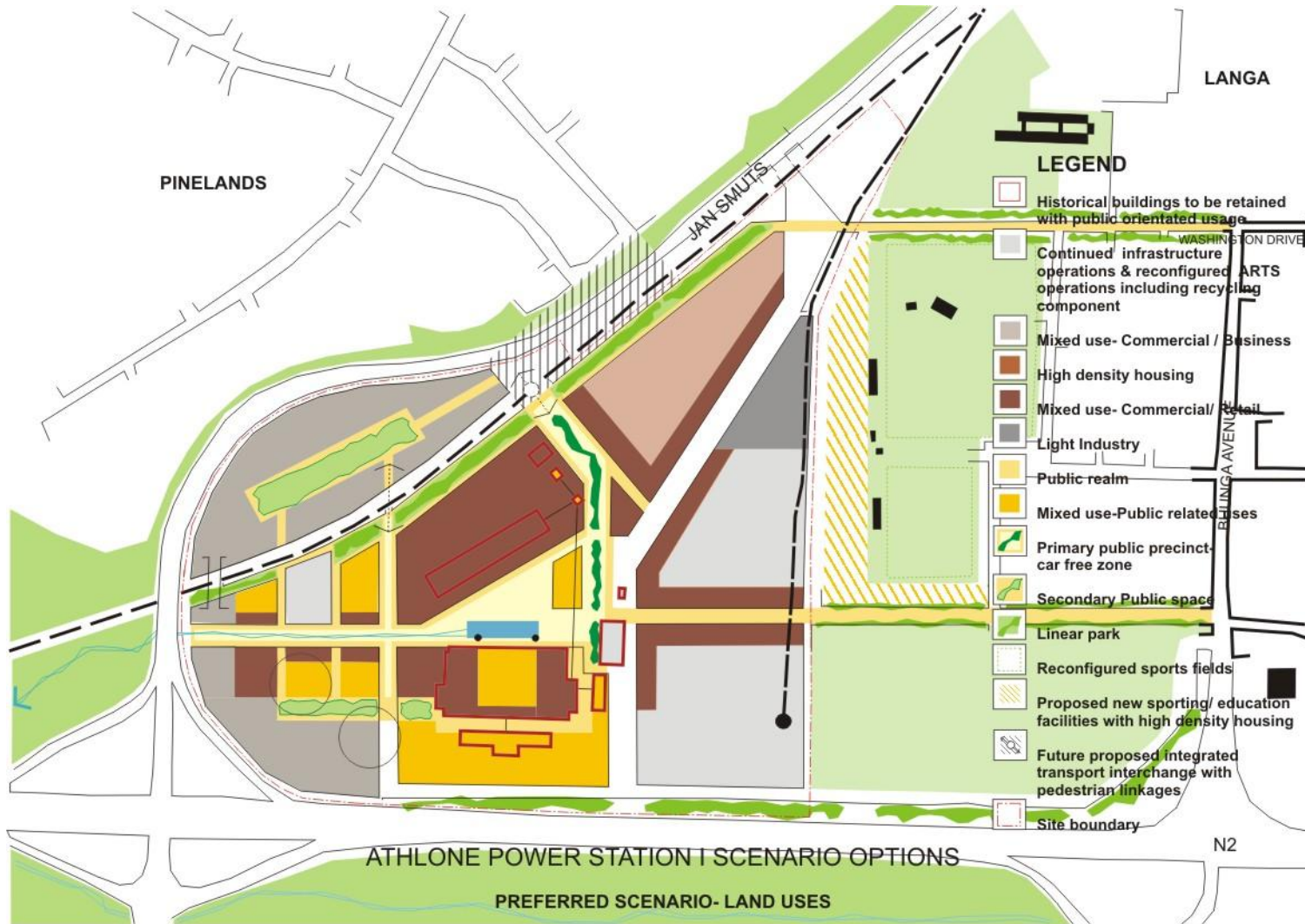


Diagram 11: Land use

Table 9: Proposed land use and land use parameters per land parcel

LAND PARCEL	LAND USE	SIZE (m ²)	FLOORS	COVERAGE	RESIDENTIAL (m ²)	PUBLIC INSTITUTIONS (m ²)	COMMERCIAL (m ²)	RETAIL (m ²)	LIGHT INDUSTRY/ SERVICE (m ²)	TOTAL BULK (m ²)
A1	C/ Mixed use	42 000	7	45%	39 690	-	85 995	6 615	-	132 300
B1	C/ Mixed use	36 500	8	45%	19 710	19710	8 5410	6 570	39 420	131 400
B2	R/Mixed use	2 800	4	80%	2 688	1344	1 792	3 136	-	8960
B3	R/Mixed use	3 400	4	80%	2 720	2720	-	5 440	-	10880
C1	PI/ Mixed use	35 300	5	50%	-	75012.5	8 825	4 412.5	-	88250
C2	C/ Mixed use	27 200	3	45%	11 016	5508	5 508	14 688	-	16 320
C3	PI	6 100	3	80%	-	9760				9 760
D1	ARTS	31 700	2	30%	-	-			19 020	19 020
D2	ARTS	26 800	2	30%	-	-			16 080	16 080
D3	R/ Mixed use	1100	2	80%	-	-				17 60
D4	H/ Mixed use	33 900	4.5	50%	41 951	-	11 441	22 882.5		50 850

Table 10: Summary of land use, housing types and land areas for the preferred scenario

LAND USE	TOTAL BULK (m ²)	% OF TOTAL
Housing	117 775. 25	20. 6
Public institutions	114 054. 50	20. 0
Commercial/ business	198 971. 25	34. 9
Retail	65 504. 00	11. 5
Light industry	39 420.00	7. 0
ARTS	35 100. 00	6. 0
TOTAL BULK	570 825. 00	100.0

RESIDENTIAL TYPE	DENSITY (du/ ha)	No. OF UNITS
Flats	100-110	821
Group housing	85	356
TOTAL UNITS		1 177

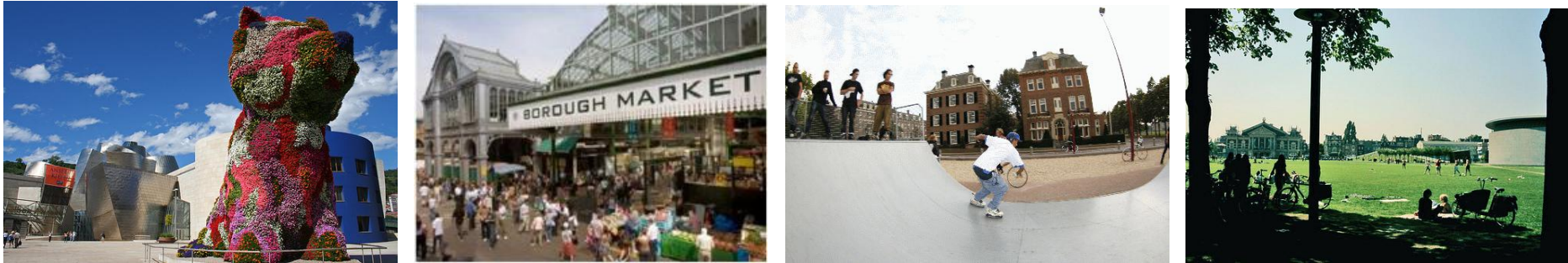
	LAND AREA (ha)	% OF LAND AREA
Total site area	36.00	100
Total precinct area	24. 68	
Area remaining outside precincts	11. 32	
• Public space	6. 22	55
• Internal circulation	2. 26	20
• On street parking	2. 83	25

10.4 PRECEDENT

A range of international and local precedent is provided to illustrate the character and quality envisioned for the redevelopment of the APS site:



ADAPTIVE REUSE: *Santral, Istanbul*- Located on the outskirts of Istanbul in Turkey, the former power station has been converted into a science museum and forms part of a larger education precinct that is managed by the local University.



PUBLIC ENVIRONMENT: A range of international examples to illustrate the quality of the public environment. It must be of a high quality and designed to facilitate a range of activities and functions. The public environment should be structured to be open and inclusive and designed to accommodate all age groups with an emphasis on the youth.



RESIDENTIAL: Local and international housing examples to illustrate that the housing provided will be high density and with an emphasis on creating communal and safe public environments for its residents. The Byker Wall housing estate in the UK is a successful example of built-form being used to overcome hostile environmental conditions.

10.5 PHASING OPTIONS

The phased development of the overall site is supported. Phased growth should support the conceptual development plan. Issues to consider in the phased development of the plan are:

- The public elements and infrastructure costs will need to be cross- subsidised with the implementation of other parts of the overall development.
- Starting to development certain parts of the development will automatically increase the overall value/ attractiveness of the site. Eg: starting with housing to the north of the site will not increase land value to the same degree as focussing on the rehabilitation of ARTS/ AWWTW or implementation of public transport to the site.
- It is important that some of the public facilities and public environment are developed early on to clearly illustrate the quality and character of the site envisioned, as well as to demonstrate commitment to the scheme.
- The implementation of public transport is critical to realise the development of the overall concept plan. The densities/ bulk options and public uses that are proposed are not possible without public transport access to the site. The phased development of the site will need to consider this.

10.6 LEAD PROJECTS

In the short term, before the APS site is fully developed, lead projects that support the development of the overall conceptual development plan should be positively considered (particularly if the lead project is of a public or community nature and facilitates public access to the site). This was successfully implemented in years leading to the development of the V&A Waterfront. Issues relating to public safety will have to be carefully considered, but should not negate the opportunity to allow activity on and usage of the site.

11 BUSINESS PLANNING AND SITE PREPARATION WORK PHASE

11.1 ISSUES TO CONSIDER IN THE NEXT PHASE OF DEVELOPMENT PREPARATION

Following the determination that it is feasible to develop the APS site, a number of issues require attention in order to prepare a business plan for the site and prepare it for development. These relate to:

- Institutional arrangements and resourcing for business planning and site preparation.
- Managing the decommissioning of the site.
- Site and asset management and security (during site preparation and development).
- Demarcation, securing and maintaining services to remain (without concomitant non-core business responsibility for assets not needed).
- Detailed planning and design studies (including detailed phasing and possible lead projects).
- Detailed viability studies.
- Seeking required statutory approvals (specifically environmental, heritage and zoning approvals).
- Coordinating public interests in taking up development opportunity on the site (including aspirant public facilities).

The focus of the pre-feasibility study has been on determining the feasibility of redeveloping the Athlone Power Station Site (and if so, a composite picture of the appropriate form or forms of development for the site) in order to assist administrative and political leadership to make informed choices about the future of the site and decisions in the best public interest. Despite the pre-feasibility study finding that it is feasible to develop the site, considerable work is required prior to commencing development of the site. Critically, a detailed business plan is required and the site needs to be prepared for development, physically and legally.

The paragraphs and accompanying diagrams below describes the proposed high-level Scope of Works and process ahead for closing out of the pre-feasibility study, and preparing for and undertaking the business planning and site preparation work phase.

11.2 CLOSING OUT PHASE 1 AND PREPARING FOR PHASE 2 (BUSINESS PLANNING AND SITE PREPARATION)

Closing out the current (pre-feasibility) work phase (Phase 1) would involve:

- Agreement to the findings of the pre-feasibility study by the relevant Portfolio Committees of Council and input from sub-councils.
- Preparation of and agreement to a Scope of Works for the Business Planning and Site Preparation phase.
- Commitment from key City Services to the next phase of work.
- Formation of a new Project Team including key services.
- Agreement from the NDPG to utilise the balance of technical assistance funding reserved for the APS site for Phase 2 (and possibly to use capital seed funding to assist with smell mitigation at the AWWTW).
- Procurement of a service provider to assist with Phase 2 through the City's procurement processes.

11.3 PHASE 2 BUSINESS PLANNING AND SITE PREPARATION

Three interdependent outcomes are needed prior to the development of the APS site. These are:

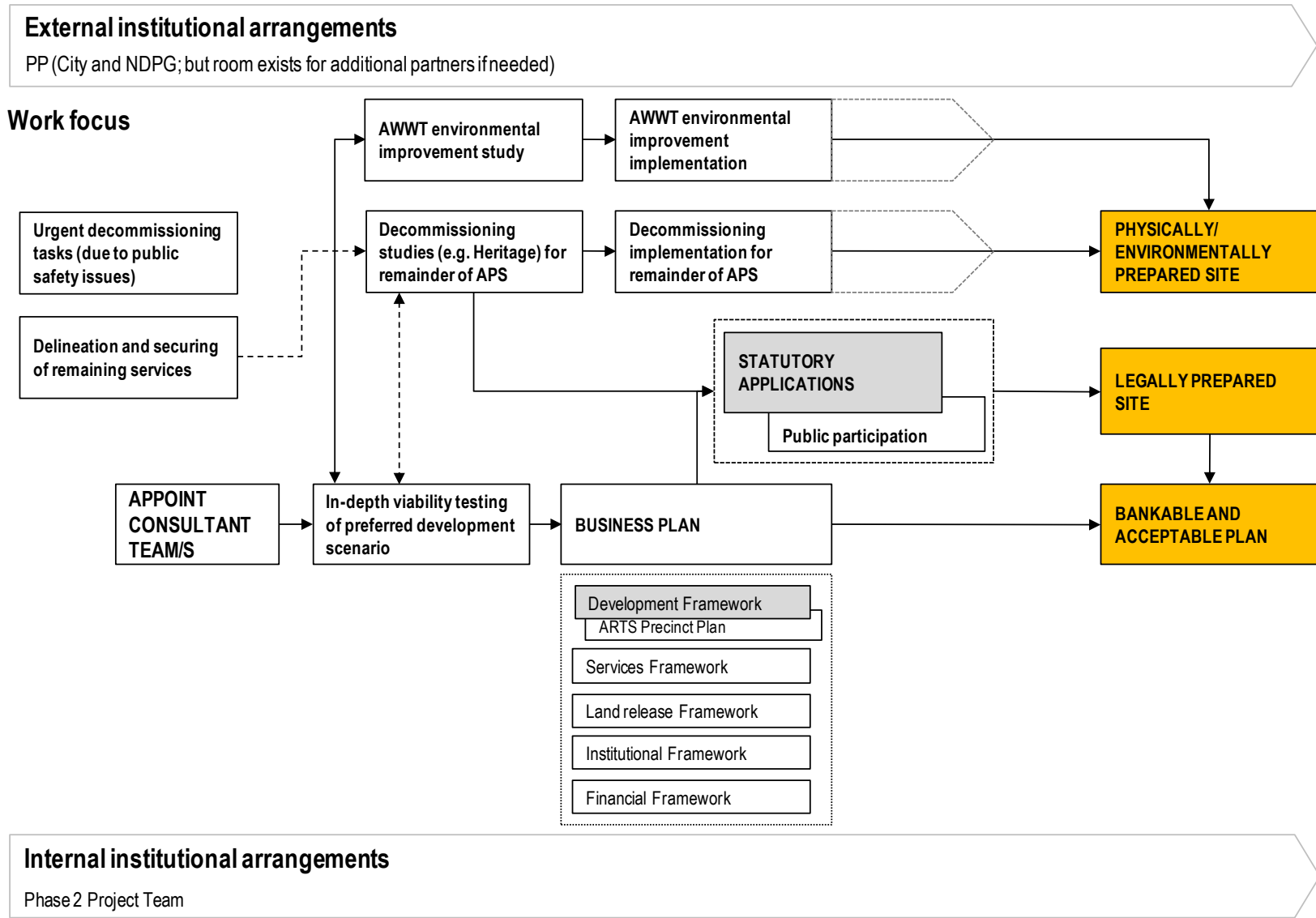
- A physically and environmentally prepared site, including decommissioning of the site and safeguarding of buildings, structures, plant and services to remain, whether as part of the development or for on-going service provision. As in the case of the Cooling Towers, one or two smaller structures may require urgent removal separate from the main decommissioning process for public safety reasons.
- A legally prepared site, including required heritage, environmental and land use approvals.
- A bankable business plan, including a final package of mutually supportive development, services, land release, institutional and financial frameworks.

Although these outcomes could represent separate work streams, strong coordination and integration will be required.

There are clear linkages between the work streams. For example:

- A detailed heritage assessment will be required as part of the decommissioning process. This assessment, at the same time, forms a key component of the Environmental Impact Assessment process (a statutory application).
- The required statutory applications include mandatory public participation. As it would be ideal to approach the public for input on the development through one process, the statutory participation process could be used to test and obtain input on aspects of the business plan.
- The Development Framework will spell out detail intentions for different precincts of the site, including historic plant to be retained. This, in turn, will direct the nature of decommissioning work.

SOW AND OUTCOMES PHASE 2: BUSINESS PLAN AND SITE PREPARATION



Prepared by ODA/ Aurecon, June 2010

Diagram 10: Phase 2

12 CONCLUSIONS

In conclusion, the APS pre-feasibility study has found that:

- Development of **the preferred scenario will meet City policy** (across sectors) and NDPG objectives.
- It is possible to **develop the site in a manner that is largely financially self sufficient**.
- The preferred development scenario will **largely meet community expectations** (and need).
- The preferred scenario will assist to **improve key City infrastructure, on and off-site**, dramatically.

13 RECOMMENDATIONS

It is recommended that:

- The business case for the viable development of the APS site be adopted, including the principle of using land value as a means to achieve a development which supports the City's overarching and sectoral development policy.
- The proposed Policy Framework for the APS site be adopted.
- The proposed Concept Development Framework for the APS site be adopted, including basic structure, access options and distribution of activities and floor area.
- The City embarks on a next stage of work, including:
 - Detailed business plan preparation.
 - Preparing the site for development (including decommissioning and investigations to improve the functioning of the AWWTW).
 - Statutory applications associated with the proposed development.

Prior to Phase 2, the City should:

- Engage with National Treasury (NDPG) to use the remainder of TA funding for Phase 2.
- Secure the resources required to undertake Phase 2.

APPENDICES

The following information is available in the **digital project library**:

1) STAGE REPORTS

Stage 1&2 Report

Stage 3 Report including the following Annexures:

- Annexure A: Site Locality plan
- Annexure B: Title Deed information
- Annexure C: Transport and traffic
- Annexure D: Area Analysis Drawings
- Annexure E: Preliminary Geotechnical Assessment
- Annexure F: Prefeasibility Environmental Contamination Assessment
- Annexure G: Background Information on Environmental Aspects
- Annexure H: Existing Services Layout Drawing
- Annexure I: Existing Electrical Servitudes and routes Drawing & Layout of Electrical Infrastructure Drawing
- Annexure J: Building Status
- Annexure K: Structural Condition Report
- Annexure L: Health and Safety Audit Report
- Annexure M: Property Value Commentary
- Annexure N: Wards and Subcouncils

Stage 4: Decommissioning Scope of Work including two Figures

Stage 5: Scenario Development Report

2) SUPPORTING REPORTS AND INFORMATION

Photo Showcase

Legal Review “Memorandum of Advice”

Conceptual Redevelopment of ARTS report

Financial Model (electronic format only – not printed)

Community Participation Record

Traffic Generation

3) PROJECT MINUTES

Steering Committee Meeting 1,2,3,4,5,6,8,9,10

Project Management Meeting 1,2,3,4

4) PROJECT PRESENTATIONS

PMT Stage 3 Submission Presentation

Presentation to City Project team: September 2008

PMT Stage 5&6 Presentation

Public Participation Program: Overview of actions to date and planned next steps: 26 January 2010

Joint Sub-council meeting: February 2010

Academic Review: February 2010

PMT Presentation: March 2010

Report back on Scenario Identification: June 2010