

PLANNING AND BUILDING COMMITTEE

AGENDA

Thursday 3 October 2013

8.30 am in the Liberation Room, Secretariat

Distribution List:-

**Hon Mrs S Halford, MLA
Hon Mrs J Cheek, MLA
Miss J Cotter
Mr G France
Mr B Summers
Mr J Lewis
Mr G Clement**

**Acting Environmental Planning Officer
Planning Officer
Building Adviser
Director of Public Works
Crown Counsel
Chief Fire Officer
Chief Medical Officer**

PLANNING AND BUILDING COMMITTEE

Thursday 3 October 2013

8.30 am

Liberation Room, Secretariat

AGENDA PART I

1. Apologies for absence

Mrs J Cheek, MLA; Gardner Fiddes

2. Declarations of interest

3. Confirmation of the Minutes of the meeting held on 5 September 2013

4. Matters arising from the Minutes of the meeting held on 5 September 2013

5. Planning applications
Recommendations of the Environmental Planning Officer

Item	Ref	Site	Proposal	Key Town Plan Policies
5.1	117/13	4 Philomel Place, Stanley	<u>Outline</u> planning for a new dwelling (traditional style 1 1/2 to 2 storey, inc conservatory), parking for 2 vehicles, separate garage for Mr & Mrs C Locke	Town Plan D2: Development control, H6: Infill housing, T2: Traffic management

PO assessment:

The site is in an area allocated for residential purposes in the Stanley Town Plan.

PO recommends that:

Approve with conditions

1. Standard conditions
2. Approval of details
3. Parking spaces shall be formed prior to the commencement of building works
4. A strip of land at the frontage of the site shall be transferred to the Government for the purpose of widening Philomel Place roadway and pedestrian access to PWD requirements

Reasons for Conditions

In the interests of pedestrian and highway safety

5.2	118/13	Ross Road, Stanley	Re-surface car park area, install steps	Town Plan D2: Development
-----	--------	--------------------	---	---------------------------

between elevations, add
footpaths for Sure
South Atlantic Ltd

control, T2:
Traffic
management

PO assessment:

In general new off street parking within Stanley is always supported. The existing exit from the car park is dangerous, requiring a vehicle to drive several feet onto the Ross Road carriageway in order to see traffic to the east, due to the thick hedge alongside the Government House access.

PO recommends that:

Approve with conditions

1. Standard conditions
2. Sight lines at the exit to the car park shall be improved to PWD requirements, including the removal of a short length of hedge to the east of the exit.

Reasons for Conditions

In the interests of pedestrian and highway safety

5.3	119/13	Land to the rear of 1 & 2 Racecourse Road, Stanley	<u>Outline</u> planning to construct a new dwelling for Mr O Betts	Town Plan D2: Development control, T2: Traffic management, H4: Residential Areas
-----	--------	--	--	--

PO assessment:

The Lands Committee at its 5 September 2013 meeting resolved to “refuse the application on the basis that the area was deemed to be unsuitable for building”. The applicant, Mr. Owen Betts, was informed of this decision by letter.

Previous outline application in 2009 (PB115/09) approved on same site footprint.

The presence of the substantial access track across the site means that the development of the site is premature at the present time, even though it is within an area allocated for residential development.

PO recommends that:

Refuse

Reason for Refusal

The site is currently unsuitable for building because of the existing access track that crosses the site

5.4	120/13	Plot 10 Sapper Hill Housing Development, Stanley	Construct a single storey dwelling for Ms L Bonner	Town Plan H5: Housing allocations, D2:
-----	--------	--	--	--

Planning and Building Committee

Agenda

3 October 2013

PO assessment:

The site is in an area allocated for residential purposes in the Stanley Town Plan.
The proposed dwelling is the FIG approved 'Tanfield' design, that is located satisfactorily on the site.

PO recommends that:

Approve with conditions

1. Standard conditions
2. Parking spaces shall be formed prior to the commencement of building works

Reasons for Conditions

In the interests of pedestrian and highway safety

5.5	121/13	Plot 2 Sapper Hill Housing Development, Stanley	Construct a single storey dwelling for Miss V Lee & Mr L Berntsen	Town Plan H5: Housing allocations, D2: Development control
-----	--------	---	---	--

PO assessment:

The site is in an area allocated for residential purposes in the Stanley Town Plan.
The proposed dwelling is the FIG approved Tanfield design, that is located satisfactorily on the site.

PO recommends that:

Approve with conditions

1. Standard conditions
2. Parking spaces shall be formed prior to the commencement of building works

Reasons for Conditions

In the interests of pedestrian and highway safety

5.6	122/13	Plot 17 Sapper Hill Housing Development, Stanley	Construct a 1 ½ storey dwelling for Ms R Reid	Town Plan H5: Housing allocations, D2: Development control
-----	--------	--	--	--

PO assessment

The site is in an area allocated for residential purposes in the Stanley Town Plan.
The proposed dwelling is the FIG approved Albany design, that is located satisfactorily on

the site.

PO recommends that

Approve with conditions

1. Standard conditions
2. Parking spaces shall be formed prior to the commencement of building works

Reasons for Conditions

In the interests of pedestrian and highway safety

5.7	123/13	6 John Street, Stanley	Construct a single storey dwelling for Ms L McMullen	Town Plan D2: Development control, H6: Infill housing
------------	---------------	-------------------------------	---	--

PO assessment:

The vicinity has a mixed use character. The site is in an area allocated for residential purposes in the Stanley Town Plan, but is 40m from the commercial zoning North of John Street to the east.

The proposed dwelling is the FIG approved 'Runswick' design.

The diagonal siting of the building on the site avoids the master bedroom window facing directly onto a neighbouring corrugated iron shed to the rear of the site. In this part of Stanley the traditional grid pattern of dwellings sees existing properties situated on a north to south angle. The diagonal siting of this dwelling can be considered as not being in keeping with the neighbouring north to south facing traditional buildings. .

The Building Permit for this proposal was issued on 20 August 2013

PO recommends that:

Approve with conditions

1. The dwelling is situated facing north/south on the plot
2. Standard conditions
3. Parking spaces shall be formed prior to the commencement of building works

Reasons for Conditions

To fit with traditional central Stanley house footprint.

In the interests of pedestrian and highway safety

5.8	125/13	Plot 34 Lookout Industrial Estate, Stanley	Construction of a warehouse and vehicle lock-up for Mr P Bonner	Town Plan B5: Industrial areas, D2: Development control
------------	---------------	---	--	--

PO assessment:

The area is zoned in the Stanley Town Plan as an Industrial Area. This is suitable for

Planning and Building Committee

5

Agenda

3 October 2013

warehousing activities. The area has however become developed in a haphazard fashion, with little provision for off-road manoeuvring and vehicle parking.

For general warehousing, the adequate provision for on-site lorry turning should be secured, so as to avoid vehicles reversing into the roadway. This cannot be done in the small area outside the proposed warehouse.

If however the proposed building is only used for cement storage, as given on the application form, and as a vehicle lock-up, this would be acceptable, and can be secured by a condition on the planning permission

PO recommends that:

Approve with conditions

1. Standard conditions
2. Use restricted to cement storage and related vehicles lock-up.

Reasons for Conditions

In the interests of pedestrian and highway safety

5.9	127/13	Harbour View Knott, Eliza Cove Road, Stanley	Temporary site a container for Mr J Clifford	Town Plan B5: Industrial areas, D2: Development control, T2: Traffic management
-----	--------	--	--	---

PO assessment

This container is to be used for storing furniture during construction of the adjacent house. It will not to be used for industrial or commercial purposes.

The existing informal site access direct to the Stanley By-Pass is a problem, as it is immediately next to the Eliza Cove Road junction with the by-pass. There are also two accesses to the by-pass on the opposite side of the by-pass. The Director of PWD advises that the container site access should be from Eliza Cove Road, and the existing informal site access from the by-pass be removed.

PO recommends that

Approve with conditions

1. The container shall only be used for the storage of household furniture and household effects
2. The container shall be removed immediately following completion of the adjacent house, or after 2 years, whichever comes earliest
3. Access to the container site shall be from Eliza Cove Road, and the existing informal access to the Stanley By-Pass removed before the container is placed on the site

Reasons for Conditions

In the interests of pedestrian and highway safety and residential amenity

5.10	128/13	21 Eliza Crescent, Stanley	Construct a conservatory extension for Mr D Goodwin	Town Plan D2: Development control
------	--------	----------------------------	---	-----------------------------------

PO assessment:

This is a pleasant design by K2 Conservatories Ltd. There are other buildings in the vicinity that are nearer to the public road. The enlarged dwelling will take up less than 25% of the plot.

PO recommends that:

Approve with condition

1. Standard conditions

5.11	129/13	Murrell River / Moody Valley	Construction of a new road to proposed dam site, construct and bury 10km of water pipe & electricity cable for FIG, PWD	<p>Structure Plan ALW11: Water Supply, ALW 12: Pollution, hazardous substances and land contamination, LHB6:</p> <p>National land designations, LHB8: Safeguarding landscape quality, TS13: Road safety, highway improvements and traffic management, TS 14: Service infrastructure. Town Plan D2: Development control, S6: Water supply</p>
------	--------	------------------------------	---	--

PO assessment:

There is an urgent need for an additional water supply source for Stanley, to ensure security of supply into the future, and to permit the continued expansion of Stanley, economic growth, and to meet new demands of a developing hydrocarbon industry.

The proposal is partly located within the Stanley Common and National Nature Reserve.

An extensive Environmental and Social Impact Assessment (ESIA) has been prepared by Austral Biodiversity Ltd. for FIG Water Section, entitled "Murrell Stream & Mount Kent

Catchment Water Extraction Development". A summary of this ESIA by the Acting Environmental Planning Officer is included in the agenda papers.

The following Condition 1 is contained in the ESIA and this summary report.

PO recommends that:

Approve the ESIA, and the full planning application with conditions

1. Survey the pipeline route for rare plants prior to excavation, to allow small deviation and re-alignment should any rare plants be found to be present
2. Undertake all other environmental impact amelioration measures contained in the ESIA

Reasons for Conditions

To ensure an environmentally acceptable solution to the urgent need for an additional water supply source for Stanley.

5.12	130/13	Murrell River / Two Sisters Gate	<u>Outline</u> planning for construction of a Dam & pump station at Murrell River, construction of two holding tanks in the area of Two Sisters Gate for FIG, PWD	Structure Plan ALW11: Water Supply, ALW 12: Pollution, hazardous substances and land contamination, LHB8: Safeguarding landscape quality, TS 14: Service infrastructure. Town Plan D2: Development control, S6: Water supply
------	--------	---	--	---

PO assessment:

There is an urgent need for an additional water supply source for Stanley, to ensure security of supply into the future, and to permit the continued expansion of Stanley, economic growth, and to meet new demands of a developing hydrocarbon industry.

An extensive Environmental and Social Impact Assessment (ESIA) has been prepared by Austral Biodiversity Ltd. for FIG Water Section, entitled "Murrell Stream & Mount Kent Catchment Water Extraction Development". A summary of this ESIA by the Acting Environmental Planning Officer is included in the agenda papers.

The following recommendation includes those given in this ESIA and the summary report.

PO recommends that:

Approve the ESIA, and the outline planning application subject to the standard outline with the following conditions

1. Install a flow meter in the Murrell Stream at the dam site to provide accurate daily

- flow data for reduced flow dry periods (summer) and critical spawning period (winter) if development timing permits
2. Undertake line-of-sight modelling to inform placement of tanks at Two Sisters Gate to avoid / minimise any visual intrusion
 3. Undertake all other environmental impact amelioration measures contained in the ESIA

Reasons for Conditions

To ensure an environmentally acceptable solution to the urgent need for an additional water supply source for Stanley.

6 Building Permit Applications Reviewed by the Building Adviser

6.1	116/13/B	10 Villiers Street Stanley Applicant & Agent Darren Plato 19 Callaghan Street	Convert and extend an existing storage shed to single storey domestic.	BP Issued
6.2	117/13	4 Philomel Place, Stanley Applicant & Agent Mr & Mrs C Locke	Outline planning for a new dwelling (traditional style 1 1/2 to 2 storey, inc conservatory), parking for 2 vehicles, separate garage	General advice and guidance offered in the office only so far.
6.3	118/13	Ross Road, Stanley Applicant & Agent Mr Allan Steen c/o Sure South Atlantic Ltd	Re-surface car park area, install steps between elevations, add footpaths	General advice and guidance offered in the office only so far.
6.4	119/13	Land to the rear of 1 & 2 Racecourse Road, Stanley Applicant & Agent Mr O Betts	Outline planning to construct a new dwelling	General advice and guidance offered in the office only so far.
6.5	120/13	Plot 10 Sapper Hill Housing Development, Stanley Applicant Ms L Bonner Agent FIC Ltd	Construct a single storey dwelling	Conditional BP issued.
6.6	121/13	Plot 2 Sapper Hill Housing Development, Stanley Applicant Miss V Lee & Mr L Berntsen Agent FIC Ltd	Construct a single storey dwelling	Conditional BP issued.
6.7	122/13	Plot 17 Sapper Hill Housing Development, Stanley. Applicant Ms R Reid Agent FIC Ltd	Construct a 1 ½ storey dwelling	Conditional BP issued.
6.8	123/13	6 John Street, Stanley Applicant Ms L McMullen Agent FIC Ltd	Construct a single storey dwelling	Conditional BP issued.

6.9	124/13/B	Tea Room, Kingsford Valley Farm San Carlos East Falkland Islands Applicant & Agent Mr T McPhee	Conversion of sun lounge to a tea room for members of the general public	BP Issued following consultation with the CFO. Confirmed with AP NO planning application required in this instance Report to committee attached.
6.10	125/13	Plot 34 Lookout Industrial Estate, off Bypass Road, Stanley Applicant & Agent Mr P Bonner	Construction of proposed warehouse and vehicle lock - up	Request for further information and details, to follow assuming planning permission given
6.11	126/13	Douglas Station, East Falkland Applicant & Agent PWD, FIG	Set up a new road camp	BP recommended to be issued. Report for committee attached

7.0 Date of next meeting

The next meeting will be held on **Wednesday 13 November 2013** at **8.30 am** in the **Liberation Room, Secretariat** (to be confirmed).

8.0 Exclusion of Press and Public

The public are likely to be excluded from the meeting for these items of business by virtue of paragraph 5, enforcement activities, etc and paragraph 13, information about contemplated action of Schedule 3 of the Committees (Public Access) Ordinance 2012.

The Chairman to move as follows:

"I move that the press and public be now excluded on the ground that the next items of business to be considered are likely to disclose exempt information under paragraph 5, enforcement activities, etc and paragraph 13, information about contemplated action of Schedule 3 of the Committees (Public Access) Ordinance 2012".

PART II

9.0 Confirmation of the Exempt Minutes of the meeting held on 5 Sept 2013

10.0 Matters Arising

Application no's 94/13 Kelper Recycling Ltd & 112/13 KTV Ltd is still pending further information from each applicant.

FALKLAND ISLANDS GOVERNMENT



BUILDING CONTROL ORDINANCE 1994 BUILDING REGULATIONS 1999

REPORT TO THE PLANNING AND BUILDING COMMITTEE CONSTRUCTION PROJECT - CAMP

Description:	Conversion of existing sun lounge to tea room for general public use.
Site:	Kingsford Valley Farm, San Carlos, East Falkland Islands.
Applicants:	Mr and Mrs Terrence McPhee
Agent	Mr Terrence McPhee
Reference Number:	124 / 13 / B
Date of application	13th August 2013

1. Introduction:

- 1.1 This application relates to a request from the applicant to open their existing sun lounge to members of the general public as a Tea Room.
- 1.2 The BA (KES) consulted Antony Payne the previous planning officer and his discussion was that there would be no requirement for a planning application to be made in this instance.

2. Progress – Building Works

- 2.1 To the building advisers knowledge there are no physical building works proposed with the exception of minor internal alterations: and possibly a removable ramp to the principal entrance door.

- 2.2 KS has consulted with the Chief Fire Officer and help and advice regarding some additional fire safety measures have been conveyed to the applicant. An acknowledgement has been received that these measures will be introduced – a fire blanket positioned in the kitchen and additional SDs for example.
- 2.3 General toilet facilities are deemed to be adequate at this moment in time but will be reviewed by the applicant from time to time.
- 3. Recommendation**
- 3.1 It is the recommendation of the Building Adviser that this application has a Building Permit issued with the agreement of the committee simply to ensure that there is a record and an audit trail for this project.

END

Report compiled by:

Ken Snape
Building Adviser

Dated 21 August 2013.

Item 6.11 Report for new road camp.

FALKLAND ISLANDS GOVERNMENT



**BUILDING CONTROL ORDINANCE 1994
BUILDING REGULATIONS 1999**

**REPORT TO THE PLANNING AND BUILDING COMMITTEE
CONSTRUCTION PROJECT - CAMP**

Description: Erection (construction) of a new road camp.

Site: Road Camp – Douglas Station. East Falkland Islands.

Applicants: PWD – Highways (Simon Catton)

Agent: PWD – Highways (Simon Catton)

Reference Number: 126 / 13 /B

Date of application 29 July 2013.

2. Introduction:

- 2.1 This application relates to the relocation of existing steel site cabins to be utilised as a road workers camp site.
- 2.2 A variety of welfare facilities are detailed.
- 2.3 The project is not associated with the Tourist industry.

4. Progress

- 2.1 To the building advisers knowledge with the exception of some basic ground clearance and levelling no other works have commenced on site as of today's date.

5. Fire Safety:

- 5.1 Whilst the spacing's of the Units are not the suggested 6 metres required on some other more permanent developments neither the Building Adviser nor the Chief Fire Officer have any adverse comments to make, in this instance.
 - 5.2 Fire fighting first aid equipment in the form of fire fighting extinguishers and fire blankets together with smoke detectors are supplied and fitted within the sleeping accommodation.
- 6. Foul drainage:**
- 4.1 There is an existing foul drainage pipework system which incorporates a septic tank in place and it is the intention to link into this. Access for any future maintenance, cleaning and emptying will be catered for
- 7. Recommendation**
- 5.1 It is the recommendation of the Building Adviser that this application has a Building Permit issued with the agreement of the committee.

END

Report compiled by

K Snape.

August 2013-08-28

Item no's 5.11 & 5.12

Title of Report: **Murrell Stream & Mount Kent Catchment Water Extraction Development, Environmental & Social Impact Assessment Review**

Date: 3rd October 2013

Report of: Acting Environmental Planning Officer

1.0 Purpose

To summarise an Environmental and Social Impact Assessment (ESIA) submitted by the Falkland Islands Government Public Works Department to support the development of water supply extraction from the Murrell Stream and Mount Kent catchment.

2.0 Recommendations

Committee approves the ESIA and development subject to:

- a) Survey of pipeline route for rare plants prior to excavation to allow small deviation and re-alignment should any rare plants be found to be present
- b) Flow meter in Murrell Stream at dam site to provide accurate daily flow data for reduced flow dry periods (summer) and critical spawning period (winter) if development timing permits
- c) Line-of-sight modelling to inform placement of tanks at Two Sisters Gate to avoid / minimise any visual intrusion.

3.0 Background

3.1 The Falkland Islands Government Public Works Dept Water Section commissioned Austral Biodiversity Ltd to undertake an Environmental and Social Impact Assessment (ESIA) to consider the development of a new water supply extraction from the Murrell Stream and Mount Kent water catchment.

3.2 The requirement for a full Environmental Impact Assessment (EIA) is currently discretionary, and as the development falls partially within the boundary of Stanley Common and National Nature Reserve, it was agreed that a full EIA be undertaken.

3.3 A summary of the key findings of the ESIA was presented at a public meeting held on 3rd September 2013 in the Chamber of Commerce with good attendance of

the public. The ESIA was publicised in September 2013 with 20 copies distributed to interested individuals and organisations.

4.0 Project Concept

4.1 The Public Works Department have identified an urgent need to find an additional water supply source for Stanley to ensure security of supply into the future and to permit the continued expansion of Stanley, economic growth, and to meet the new demands of a developing hydrocarbon industry.

4.2 The project is justified from the perspective of operational supply capacity and from a previously stated policy perspective. In addition the project will lead to improvements in water quality and reduced water treatment costs.

4.3 The security of the current water supply to Stanley is identified in the assessment as vulnerable due to:

- Single take-off point
- Fixed groundwater recharge capacity
- Growth of Stanley and number of households
- Increasing domestic and commercial demand
- Drying climate

The new site also provides an improved water quality on the existing water supply from Moody Brook and will be cheaper and swifter to produce potable water.

4.4 Policy justification for the project is identified as the need to develop and expand infrastructure in line with economic and society demands is recognized within the Falkland Islands Structure Plan: the Government will;

- Support developments that maintain and improve infrastructure provision in an environmentally acceptable manner
- Seek to ensure that development in accordance with the Development Plan is not constrained by a lack of a service infrastructure

4.5 The Stanley Town Plan states: the Government will;

“Develop water infrastructure to deliver increased supply to meet projected increases in Stanley’s population, housing, commercial and industrial needs for the plan period and beyond ... the objective will be to ensure the quantity of fresh water available meets the range of uses and values for which it is required”.

5.0 Site Location

5.1 The site of the proposed water take-off point is approximately 2.65km upstream of the Murrell Bridge and 650m below and to the east of the Mount Kent turn-off and heli-pad. The dam and extraction location forms the northern limit of the water-catchment; formed by Mount Kent, Mount Challenger, Wall Mountain and the shallow ridge descending from the Two Sisters (Figure 3) which extends to an approximate area of 2050ha.

5.2 The pipeline extending 10km will be constructed from the take-off point at the upper-Murrell Stream to the existing pump station at Moody Brook. The pipeline will initially be routed in a north-east direction roughly parallel to the Murrell River, before turning easterly and traversing the lower northern slopes of the Two Sisters below the level of the stone runs, passing between Mount Longdon and Two Sisters at the Two Sisters' Gate and down Moody Valley on the northern side of Moody Valley Stream.

5.3 A permanent access track and small hard-standing will be constructed for access to the dam and extraction point. This will be utilised during construction activities to allow plant access and for subsequent on-going maintenance and inspection during the life of the facility. The access track will extend to approximately 700m from the location of the Mount Kent heli-pad on the North Camp road to the proposed extraction point.

5.4 The siting of the tanks would be below and to the north of the existing small dump, dating from the 1982 conflict, in the vicinity of the Two Sisters' Gate.

6.0 Development Description

6.1 The development will comprise:

- A dam of 1.5m height to provide containment reservoir
- Spill-way & fish ladder / race
- Pump-station
- 700m of all-weather access track from the North Camp Road to Murrell River take-off point (Figure 2)
- 10km of buried pipeline and dual High Voltage (HV) cable from the proposed Murrell take-off point to the existing Moody Brook Pump Station (Figure 3).
- Header tanks at Two Sister's Gate (requirement currently undefined)

6.2 Detailed plans of the dam & containment reservoir and design of fish-ladder are to follow and are not covered in this document.

Pumping Station

6.3 Due to the relative elevations between the take-off point and the pipeline high-point at Two Sisters' Gate and the extended distance resulting in internal pipeline flow impedance, artificial pumping of extraction will be required rather than gravity feed.

6.4 Pumping will be by electric pump with power supplied by HV cable from Stanley laid within the same trench as the water pipeline. Electric pumps are clean, reliable and quiet. The dimensions of the pump station will be approximately 5m(L) x 5m(W) x 3m(H) and similar in design to the current pump housing adjacent to the road at

Moody Brook (4.6 x 4.5 x 3m). The pump shed will be buff coloured to blend with the surrounding land and set in the valley on lower ground so interruption of sight lines are avoided and visual intrusion is minimised.

6.5 Buried Pipeline & HV Cable

6.6 A 200mm pipeline extending to 10km will be constructed from the take-off point at the upper-Murrell Stream to the existing pump station at Moody Brook. The pipeline will be laid at a depth of 1.5m (water pipe at 1.5m & HV cable at 1m in same trench). The route of the pipeline is described above in section 5.0.

6.7 Two in-line air valves at the 2 highest points and a two of in-line drain valves at the 2 lowest points will be required along the length of the pipeline. These will be set into inspection pits with covers flush-mounted to the terrain. No above ground housing that might cause visual intrusion will be required

Access Track

6.8 The access track will extend to approximately 700m from the location of the Mount Kent heli-pad on the North Camp road to the proposed extraction point. The access track will be of comparable construction to an all-weather single-track camp road, with membrane underlay and stone fill and be of approximately 4m width. It is expected that road base layers will be extracted from existing borrow pits within the vicinity with stone capping sourced from Pony's Pass quarry, 13km distant.

6.9 The access track will be ditched to both sides and sediment traps constructed at least 4m from the water course to allow natural filtering of run-off and avoid direct discharge to the water-course.

6.10 The route of the access track will be direct to minimise foot-print and will follow the approximate track of an existing 4x4 track to a river crossing that allows access to the Two Sisters camp. To discourage increased amenity access and resultant vehicular damage to the eastern side of the watershed it is not proposed to improve the river crossing and if considered necessary the access track may be provided with gates to restrict access. Additionally the immediate area of the river and reservoir may be fenced to prevent additional vehicle access across the water-course.

Header Tanks at Two Sisters' Gate

6.11 The requirement for two 350m³ header tanks to create a water buffer and to provide a pressure head for the remaining pipeline to the Moody Valley pump station or to a new port development at Navy Point has not yet been defined. The

construction of the tanks on the route of the pipeline may proceed as an integral component of the supply construction or may await further decisions on the construction of a port at Navy Point, however for present have been included within the application and assessment.

6.12 The two 350m³ stainless steel water tanks, giving a 700m³ total capacity, would be of the same design and size as the individual tanks (4) located on Sappers Hill. The tanks would stand on a reinforced cement base surrounded by a hardcore pad of approximately 12.5m x 25m.

6.13 The siting of the tanks would be below and to the north of the existing small dump, dating from the 1982 conflict, in the vicinity of the Two Sisters' Gate. Sitting, below the existing peat bank level and with surrounding earth bund, would be designed to minimise visual intrusion and distant views up-slope from Moody Valley and the Murrell River and Murrell Bridge/Corner Pass amenity areas. However the tanks would still be visible from above, from the upper slopes of the Two Sisters, Mount Longdon and from Tumbledown. Line-of-sight modelling will be utilised to define the siting of the tanks to minimise visibility and visual intrusion.

6.14 The tanks would be finished in a matt finish to reduce intrusive sun glare and to improve blending with the surrounding terrain.

6.15 A limited upgrading of the Moody Valley track to remediate the worst pot-holing and surfacing would be required for construction and on-going maintenance and servicing.

7.0 Programme of Works

7.1 The access road, dam and reservoir will be constructed within one summer season. This will avoid the fish spawning migration season and minimise time that the diversionary spill way is open.

7.2 The estimated works time for the dam, pipeline and tank storage is 9 months utilising 2 gangs of 3 men. Pipeline works will utilise an excavator for works and personnel will access the site daily by land rover access. Pipeline and cable will be spooled on a trailer. An additional gang will work on the construction of air-valve and wash-out chambers.

7.3 To avoid the winter period when soft camp will be most susceptible to vehicular degradation the 9 month work period may be scheduled over 2 summer seasons dependent upon progress. This will also avoid works during the winter fish breeding season (30th April – 1st September), although it is not expected that pipeline works should impact directly or indirectly upon fish spawning.

7.4 It is estimated that trenching, pipe laying and back-fill will progress at a rate of 100m / day along the route of the pipeline. Plant will remain on site whilst daily access by a 3 man work gang will be by two 4x4 vehicles. The pipeline length between Murrell Stream and Two Sisters Gate is the only section over which access will be across camp and remote from road access points. This section extends to approximately 4.5km (45% of the pipeline length) and will thus take approximately 45 days to complete. This will relate to 90 vehicle return trips or 180 vehicle transits.

8.0 Alternative Sites

8.1 As part of the assessment process alternatives sites were assessed from a technical and environmental perspective. The current site was considered as the optimal site to achieve a practical balance aimed at maximising water catchment, minimising pumping requirements (reduced hydrostatic head due to elevation gains along the pipe length) and minimising the potential environmental impacts across the greater Murrell estuary catchment.

8.2 A total of 16 potential options were considered based on a variety of pumping and holding permutations focussed on 5 general extraction take off points, upper Murrell Stream & Mount Kent catchment, lower Murrell River (Furze Bush pass), Dirty Ditch, upper Moody Brook and lower Moody Brook. A brief analysis of the options is considered in the ESIA.

9.0 Environmental Baseline Conditions, Assessment of Potential Impacts & Mitigation

9.1 A full assessment of baseline geology and soils has been undertaken. Impact on vegetation is undertaken including potential impact on key habitats. This assessed physical disturbance largely from ditching and plant and vehicular access. Mitigation measures have been recommended to include:

- Removal of soil for hardcore pads and excess soil from trench backfill
- Pipeline trenching
- Vehicles access
- Water Extraction
- Drainage (Pipeline

10.0 Impact on Freshwater Fish

10.1 Fish species are an important component of river systems, both from a biological and amenity perspective. The Murrell River as the nearest catchment to Stanley is widely utilised by local fishermen and the potential impacts of the water

extraction development on fish stocks and hence this widely enjoyed recreational activity must be carefully considered.

10.2 A full analysis of river surveys in the Murrell catchment and the potential impacts on fish species is reviewed by Fowler *et al* (2012) and this is provided as a supporting document to the ESIA.

10.3 The native Zebra trout (*Aplochiton zebra*) and introduced Brown trout, diadromous as sea trout, (*Salmo trutta*) are protected under the *Conservation of Wildlife and Nature Ordinance 1999*, under the provisions for the protection of wild animals.

Baseline Conditions

10.4 During the survey conducted in 2012 no native zebra trout or Falklands minnow were observed in the Murrell catchment, this was not unexpected given the presence of brown trout.

10.5 The estimated population of brown trout above the proposed dam site was 4400 trout of greater than or equal to 60mm in size. The largest size class was within the size range 121-180mm. This is within the size range where some parr may smolt and migrate downstream. However, there is no data for the Falklands to determine what proportion may smolt or whether they would be more likely to remain as brown trout within the upper catchment.

10.6 Survey above the dam site recorded a stream length of approximately 2.4km as suitable for fish. Some evidence for past spawning was observed and some suitable spawning grounds were identified, however overall the area above the dam site did not offer excellent spawning opportunities.

10.7 The upper Murrell catchment area extends to 2050 Ha and the location of the dam site would potentially cut off 2.4km of main stream that is of a suitable flow and depth for brown trout. This relates to approximately 16% of the Murrell River system.

10.8 However simple calculation of area as an effect must be treated with caution. The area above the dam will remain suitable for brown trout and only the migrations and spawning of smelted sea trout will potentially be restricted. Survey would suggest that areas above the dam site contain limited areas suitable for spawning, with the greater area of spawning located downstream. The impact upon spawning mass and reproductive capacity of the fish stock may thus be less than that assumed from the 16% reduction in catchment area.

The Dam as a Physical Barrier

10.9 The ability of fish to pass the dam will determine whether;

- spawning habitats above the dam are still available and viable;
- smolt may pass downstream; and
- genetic isolation of brown trout may occur.

10.10 Dam construction does not necessarily have to mean that fish movement is restricted or upstream spawning migration impeded. A variety of construction alternatives may permit relatively free passage of fish over or around the obstruction. These alternatives include fish-ladders (based on a series of rising pools, which fish may ascend one to the next) and fish-passes (a small diversionary stream or channel of lesser gradient and sufficient depth to allow fish to swim around) or a combination of both.

10.11 An efficient fish-pass will minimise any potential impacts of the development and avoid the above listed concerns. The exact final design of the dam and the pass/ladder has not yet been established but a commitment has been made to the implementation of carefully designed mitigation measures to permit fish passage. Expert advice will be taken on a suitable design for a fish pass/ladder given the species present and stream characteristics, including flow rates.

Water Flows

10.12 Full assessment of water flows and potential impact of extraction during dry conditions.

10.13 A reduction in water flow may impact fish species by;

- Reducing optimum conditions of depth, flow rate and oxygenation for migration and spawning beds
- Promote increased growth of streambed mosses due to reduced water depth (increased photosynthesis) and flow rates (hydraulic erosion of vegetation) leading to degradation of spawning gravel beds

10.14 The extraction of water will by necessity reduce the residual flow within the Murrell Stream. During periods of high rainfall and high flow rates the extraction rate of water as a percentage of the total flow may be negligible. However during dry conditions more significant impact on residual flow may occur. This may cause impacts in the lower Murrell Stream if water levels and flow rates were insufficient for spawning migration or for spawning and subsequent egg development. Flows from Shanty Stream and the addition headwater catchments of the Murrell River basin are considered sufficient to maintain flow rates in the lower Murrell River at levels sufficient for the full life-cycle and spawning of trout.

10.15 The extraction rate will be managed through the installation of a water flow gauge and remote CCTV video monitoring that will allow extraction rates to be

balanced in real time. It is considered that management of extraction rates from Murrell Stream and Moody Brook, the input of catchment drainage below the dam site and higher flow rates in winter during critical spawning periods will reduce the risk of impacts to an acceptable and non-significant level.

10.15 Mitigation will be based upon;

- Maintaining water quality
- Maintaining flow rates during construction
- Allowing passage of fish
- Managing flow rates during extraction
- Providing alternative compensatory habitats

11.0 Other impacts of the development

11.1 The authors of the ESIA also assessed the potential impact of the development on:

- Bird Species
- Invertebrates
- Third Party Users
- Grazing
- Amenity

11.2 The impact on the areas bulleted above is considered to be neutral to slight. The visual impact of the dam and reservoir is considered to be minimal and will resemble a natural pond, following the existing course of the river.

12 Summary of key impacts from the development

12.1 Key impacting activities during the construction and operational phases of the development are outlined below.

12.2 Key Construction phase impacts:

- Sedimentation within river course
- Modification of river flows during brief periods relating to dam construction
- Vehicular access across camp – the level of impact dependant on the care taken on transit

12.3 Key operational phase impacts:

- Residual visual impacts of pipeline trench – the level of impact will again depend upon the level of care taken in trenching, back-fill and re-vegetation

- Long-term visual impact of Two Sisters Gate water tanks
- Long-term modification of flow rates in lower Murrell Stream
- Effectiveness of constructed fish-pass at dam site

13.0 Additional Surveys Recommended

13.1 The survey for fish species is considered acceptable as it provides an accurate assessment of the location of spawning grounds and the occurrence of fish in the upper Murrell Stream. Further assessment of stock levels and stock fecundity would be a major long-term commitment and is not proposed in the ESIA.

13.2 The walk-over survey for habitats is considered satisfactory to confirm the absence of priority habitats and given the relatively small footprint of the development and low-level impacts expected full detailed mapping of habitats is not considered to be justified. Whilst the habitat types and ground conditions would not suggest the occurrence of rare plant species, to provide further comfort it is proposed that a walk-over plant survey be conducted in the flowering season and prior to commencement of works. This should map the occurrence of any rare plants, and as these will be of limited extent if they do happen to occur, this will allow small scale realignment of the pipeline to avoid sensitive species.

13.3 Apart from short-term disturbance to bird species during construction, no significant impacts are expected. Initial walk-over survey confirmed knowledge from literature and known distributions and given the large areas of alternative habitat available and low bird densities no further breeding bird survey is proposed.

13.4 Whether a flow meter is installed and flow rates recorded will depend upon the forecast timeline for planning application and development. Whilst the most important period biologically is the winter spawning period, the most critical period for flow rates is likely to be the drier summer period. If even the initial summer period could be covered to look at minimum flow rates this would be considered as advantageous. This would verify calculated figures but also give an indication of the effect or periodicity in rainfall, how quickly run-off from rainfall passes and levels of slow release ground water that could moderate and sustain flow rates through dry periods. It is unlikely that this monitoring will now be feasible given the proximity of proposed construction; nevertheless the recommendation is included for consideration.

14.0 Recommendations to Committee:

Committee approves the ESIA and development subject to the recommendations in the ESIA:

- a) Survey of pipeline route for rare plants prior to excavation to allow small deviation and re-alignment should any rare plants be found to be present
- b) Flow meter in Murrell Stream at dam site to provide accurate daily flow data for reduced flow dry periods (summer) and critical spawning period (winter) if development timing permits
- c) Line-of-sight modelling to inform placement of tanks at Two Sisters Gate to avoid / minimise any visual intrusion.