Department of Industry and Resources

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 902/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Hamersley Iron Pty Ltd**

1.3. Property details

Property: L47/67
L47/103
L47/47

Local Government Area: Shire Of Ashburton & Shire Of Roebourne

Colloquial name: 7 mile to Karenjie Fibre optic Cable laying along Dampier to Tom Price Rail Corridor.

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
55		Mechanical Removal	Miscellaneous
0.07	0.067	Mechanical Removal	Building or Structure

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard vegetation types from Shepherd et. al. (2001): 93: Hummock grasslands, shrub steppe; kanji over soft spinifex. 152: Hummock grasslands, grass steppe; soft and hard spinifex soft spinifex. 157: Hummock grasslands, grass steppe; hard spinifex *Triodia wiseana*. 173: Hummock grasslands, shrub steppe; kanji over soft spinifex and *Triodia wiseana*. 175: Short Bunch grassland - savanna/grass plain (Pilbara). 587: Mosaic: Hummock grasslands, open low tree-steppe; snappy gum over *Triodia wiseana*/ Hummock grasslands, shrub-steppe; Kanji over *T.pungens*. 589: Mosaic Short bunch grassland - savanna/grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex soft spinifex. 607: Hummock grasslands, low tree steppe; snappy gum & bloodwood over soft spinifex and *T.wiseana*.	The vegetation is to be cleared for the purposes of burying a fibre optic cable adjacent to the Tom Price to Dampier railway line for a distance of 130 kilometres. The cable will be buried within a furrow created by a single tyne attached to a large bulldozer. The maximum width cleared will be 4.2 metres and raised blade clearing will be used where possible. The cable will be buried at a maximum depth of 0.9 metre and back filling will occur immediately following the laying of the cable. A small windrow approximately 10 to 15 centimetres high and 300 millimetres wide will be left on top of the backfilled furrow to allow for compaction and avoid the formation of gullies. Approximately one third of the route will be within a decommissioned power line access corridor.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The vegetation condition is based on the flora survey assessment carried out by Pilbara Iron (Pilbara Iron 2005a).

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

Proposal is not likely to be at variance to this Principle

The areas crossed by this clearing permit include the Pilbara 1 (Chichester) Interim Biogeographic Regionalisation for Australia (IBRA) subregion in the north and Pilbara 4 (Roebourne) IBRA subregion in the south (GIS database).
Kendrick and Stanley (2001) assessed the biodiversity of the Roebourne IBRA subregion known special values in relation to landscape, ecosystem, species and genetic values. High Species and ecosystem diversity as well as a centre of endemism are cited for the Burrup Peninsula which is not located within this clearing permit area. The basalt rock piles in the region are listed as fire refuges in Kendrick and Stanley (2001). The lack of basalt rock piles within the project area was noted by Bamford Consulting Ecologists (2002) in their assessment of the fauna values of the proposed Karratha to Tom Price highway which closely follows the route of this clearing permit.

High species and ecosystem diversity within the Pilbara 1 Chichester IBRA subregion are described in Kendrick and McKenzie (2001). Hummock grassland reptile and small mammal communities as well as the cracking clay communities of the Chichester Range and Mungaroona Range were noted for their high species and ecosystem diversity (Kendrick and Mc Kenzie 2001).

The proposed clearing areas are not located within the cracking clay areas of the Chichester or Mungaroona range. However the proposed clearing will result in the clearing of Hummock grassland vegetation. However such communities are widespread in the Pilbara region and it is unlikely that given the previous disturbance in the vicinity of the clearing permit area due to the railway line and associated infrastructure, that the areas to be cleared have a higher diversity of fauna species than other hummock grasslands in the Bioregion or local area.

CALM advice received on the 23 January 2006 stated that:

Having particular regard to the;
proposed cable alignment in previously disturbed areas (eg powerline and/or transport corridors);
representativeness of the vegetation in a regional context (based on Beard Vegetation Types from Shepherd (2001); and
proponentýs management measures as per Construction EMP, and CALM's comments and recommendations to this plan;

the proposal is unlikely to impact on significant biodiversity values and as such this proposal is unlikely to be at variance with this principle.

Methodology

Bamford Consulting Ecologists (2002).
CALM (2006).
GIS Database-IBRA subregions-EA 18/10/00.
Kendrick and McKenzie (2001).
Kendrick and Stanley (2001).

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments

Proposal is not likely to be at variance to this Principle

A fauna survey was conducted in May 2002 within the proposed Karratha to Tom Price Highway alignment by Bamford Consulting (2002). The alignment surveyed follows the fibre-optic cable-laying route and provides adequate information to be able to judge if the proposal is at variance. Six mammal species listed in the Wildlife Conservation (Specially Protected Fauna) Notice 2005 or on CALM's own priority list were recorded or expected to occur within the surveyed area (Bamford 2002). They are the Long-Tailed Dunnart *Sminthopsis longicaudata* (P4), Bilby *Macrotis lagotis* (S1), Spectacled Hare-Wallaby *Lagorchestes conspicillatus* (P3), Western Pebble-Mound Mouse *Pseudomys chapmani* (P4), Ghost Bat *Megaderma gigas* (S1) and Orange Leaf-Nosed Bat *Rhinonicteris aurantius* (S1). Both bat species are unlikely to be affected by the proposal as the areas to be cleared do not include any potential roosting sites.

The Long-Tailed Dunnart is associated with rocky outcrops and hills and may occur in the proposed clearing area.

There is an early 1970's record of the Spectacled Hare-Wallaby in the Fortescue Plain area (Bamford 2002) and while it may still occur in the area proposed to be cleared it is unlikely given the lack of recent records, especially from road kills which would be expected along the railway maintenance track.

There is a 1962 record of the Bilby in the general vicinity of the project area, Bamford (2002) state that it may occur within the Fortescue Plain portion of the proposed cable laying route.

The Western Pebble-Mound Mouse would be expected to occur along the gravelly foothills of the Chichester

and Hammersley Ranges and the area near the railway track (100 to 200 metres to the side of the railway track) was searched for signs of active mounds by Bamford (2002). An old mound was located on the southern foothills of the Chichester range by Bamford (2002). However no active mounds were found. The Western Pebble-Mound Mouse is relatively widespread through the Pilbara and is regarded by Kendrick and McKenzie (2001) as not threatened.

One reptile species listed in the Wildlife Conservation (Specially Protected Fauna) Notice 2005, the Pilbara olive Python *Morelia olivacea barroni* (S1), was recorded in the Chichester Range close to a watercourse by Bamford (2002). Despite its S(1) classification this species is regarded as common, widespread and not declining by Kendrick and McKenzie (2001). This species is likely to occur near watercourses within the proposed clearing area.

Eight bird species listed in the Wildlife Conservation (Specially Protected Fauna) Notice 2005 or on CALM's own priority list were recorded or could be expected to occur within the areas disturbed by the proposed clearing (Bamford 2002).

None of the scheduled or priority species listed by Bamford require tree hollows for habitat purposes. However the proposed clearing may have a local impact for species such as parrots, kingfishers, pardalotes and some micro-chiropteran species that require tree hollows as part of their habitat requirements if trees along watercourses are cleared as part of the works proposed. However, the major watercourses that would support the largest number of trees would typically have bridges over them (for the railway), and the cable would be attached to this bridge structure. Pilbara Iron has committed to avoid trees wherever possible.

The proposed works may also result in the clearing of sedges listed in the vegetation survey species list (Pilbara Iron 2005a) which are usually found in wetlands and watercourses and provide valuable habitat for bird species associated with reed beds. Pilbara Iron estimates that approximately 0.25 hectares of such riparian vegetation may be affected (Ben Von Perger pers comm.2005). It is likely that the sedges, (especially *Typha* sp.), disturbed by the works will quickly re-establish themselves and the long term impact on reed-bed dependant specialist species is likely to be minor.

Overall the scale and linear nature of the disturbance caused by the clearing is unlikely to be significant to the scheduled and priority listed fauna species that could potentially occur in the clearing area. All the species listed above are mobile and given that the disturbance is going to be confined to a narrow band of mostly already disturbed vegetation it is unlikely that significant habitat for those species will be cleared. The trench created will be backfilled immediately as part of the operations and the risk of animals falling into the trench and dying as a result is minimal.

CALM advice received on the 23 January 2006 stated that: Having particular regard to the; proposed cable alignment in previously disturbed areas (eg powerline and/or transport corridors); spatially limited and linear nature of the proposed clearing; representativeness of the vegetation in a regional context (based on Beard vegetation types from Shepherd et. al. (2001); proponent's management measures as per Construction Environmental Management Plan, and CALM's comments and recommendations to this plan, particularly concerning trenching operations; the proposal is unlikely to impact on significant habitat for indigenous fauna and as such this proposal is unlikely to be at variance with this principle.

Methodology

Bamford Consulting (2002).
CALM (2006).
Kendrick and McKenzie (2001).

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments

Proposal is not likely to be at variance to this Principle

The closest known Declared Rare Flora (DRF) species recorded (*Lepidium catapycnon*) occurs more than 100 kilometres from the proposed clearing areas (GIS database). The entire route of the fibre optic cable proposal was the subject of a vegetation survey in September 2005 by a botanical advisor from Pilbara Iron and a botanist from Biota Consulting (Pilbara Iron 2005a). No known Declared Rare Flora species were recorded within the areas proposed to be cleared. However seven priority species were located within the surveyed area. The species recorded were: *Terminalia supranitifolia* (P1), *Sida* sp *Wittenoom* (P3), *Abutilon trudgenii* (P3), *Hibiscus brachysiphonius* (P3), *Rostellularia adscendens* subsp.*adscendens* var.*latifolia* (P3), *Rhynchosia* sp. *Bungaroo Creek* (P3, ME Trudgen 12402) and *Tephrosia* sp. *Cathedral Gorge* (P3, FH Mollemans 2420).

The recovery action recommended for *Terminalia supranitifolia* in Kendrick and Stanley (2001) is the protection of habitat on Burrup Peninsula which is not in the proposed clearing area. Pilbara Iron have undertaken to place a 20 metre exclusion zone around each of the five *Terminalia supranitifolia* locations recorded within the area surveyed for scheduled and priority flora to avoid disturbing those specimens.

Sida sp Wittenoom was recorded nine times from the survey area and has been recorded many times throughout the Pilbara (Pilbara Iron 2005a).

Abutilon trudgenii was recorded 18 times in the survey area, is widespread in the Pilbara and appears to be a

disturbance opportunist (Pilbara Iron 2005a).

Hibiscus brachysiphonius was recorded once in the survey area and it is listed by Pilbara Iron (2005a) as having been previously recorded from three locations (Turee Creek, Rhodes Ridge and Cape Lambert).

Rostellularia adscendens subsp. *adscendens* var. *latifolia* was recorded twice in the survey area and has been recorded numerous times throughout the Pilbara (Pilbara Iron 2005a).

Rhynchosia sp. *Bungaroo Creek* (ME Trudgen 12402) was recorded once in the survey area and is listed as relatively common in the Pannawonica region by Pilbara Iron (2005a).

Tephrosia sp. *Cathedral Gorge* (FH Mollemans 2420) was recorded once and Pilbara Iron (Pilbara Iron 2005a) noted that very few recordings have previously been made. Following discussions between DoIR and Pilbara Iron about avoiding the *Tephrosia* sp. *Cathedral Gorge* species, the cable route was modified to ensure that the specimen of that species found during the survey will no be impacted by the proposal. As an additional precaution, Pilbara Iron has undertaken to flag this species in the field to highlight its location and significance (Ben Von Perger pers comm.2005).

CALM advice received on the 23 January 2006 stated that:

Given the flora survey results and subsequent significant flora avoidance measures outlined by the proponent in the Construction Environmental Management Plan, this proposal is unlikely to have a significant impact on Declared Rare Flora or Priority flora and as such is unlikely to be at variance with this principle.

Methodology

CALM (2006).
GIS Database- Declared and Priority Flora-CALM 1/7/2005.
Kendrick and Stanley (2001).
Pilbara Iron (2005a).

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments

Proposal is not likely to be at variance to this Principle

There is no known Threatened Ecological Communities (TEC) within the application area based on CALMýs Threatened Ecological Community (TEC) Database (CALM, 2005). The nearest listed TEC is the Millstream stygofauna TEC located at the Millstream-Chichester National Park. Given the nature of this proposal this TEC is unlikely to be impacted (CALM 2006).

A number of ecosystems at risk which do not have the same formal recognition as endorsed TECs are listed in Kendrick and Stanley (2001) and include the Roebourne Plains Coastal grasslands with a specific mention of 7 Mile Creek which is situated at the Karratha end of the proposed clearing area. The threatening processes operating on that ecosystem are listed in Kendrick and Stanley (2001) as grazing pressure and exotic weed invasion (buffel, kapok, parkinsonia). It is unlikely that the proposal will alter grazing pressure at the 7 Mile Creek site. Buffel grass *Cenchrus ciliaris* and Kapok bush *Aerva javanica* have been recorded along the fibre optic cable route (Pilbara Iron 2005a). Although the proposed cable route already lies within areas that have been disturbed by activities associated with the construction and maintenance of the railway track and as such may already have weed infestations present, it is possible that the proposed work will lead to a further increase in weed numbers or new weeds being introduced in the 7 Mile Creek area unless weed management measures are undertaken.

Pilbara Iron does have an overall weed management plan for its operations, including the railway and access road. The purpose of this plan is to prevent the spread of Declared Weeds (weed declared under the *Agricultural and Related Resources Protection Act 1976*) within and outside Pilbara Iron sites (Ben Von Perger pers comm. 2005). *Cenchrus ciliaris* and *Aerva javanica* are not Declared Weeds and the proposal may result in an increase or further spread of those species in the 7 Mile Creek area. In response to the assessor's concerns about weed control Pilbara Iron has stated that the proposal's Construction Environmental Management Plan (CEMP) will comprehensively consider and document weed management and that a draft of the document will be made available to CALM for its consideration prior to being finalised (Ben Von Perger pers comm. 2005). CALM have reviewed the CEMP, provided comment regarding weed management to the proponent and have stated that the proposal is unlikely to be at variance with this principle (CALM 2006).

Methodology

CALM (2005).
CALM (2006).
Kendrick and Stanley (2001).
Pilbara Iron (2005a).
Von Perger (pers comm 2005).

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments

Proposal is not at variance to this Principle

The State Government is committed to the National Objectives Targets for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-European settlement (Department of Natural Resources and Environment, 2002; EPA, 2000). The vegetation of the site is a component of Beard Vegetation Associations 93, 152, 157, 173, 175, 587, 589 and 607 (GIS Database), all of which have 100 % of the pre-European extent remaining (Shepherd et. al. 2001). The benchmark of 15% representation in conservation reserves (JANIS 1997) has been met for Beard Vegetation Association 157 (17.6%) and 587 (20.9%) it has not been met for the other Beard vegetation association types (Shepherd et. al. 2001). Given that all of the vegetation types described remain at their current pre-European extant and that the proposed clearing will not reduce the extent of those vegetation types to less than 30 % in the bioregion, it is of 'least concern' for biodiversity conservation (Department of Natural Resources and Environment 2002).

Methodology

Department of Natural Resources and Environment (2002).
EPA (2000).
GIS Database-Pre European Vegetation-DA 01/2001.
JANIS (1997).
Shepherd et al. (2001).

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments

Proposal is not likely to be at variance to this Principle

Riparian plant species were located within the areas proposed to be cleared, both are sedges that tend to occur in association with permanent water features. They are listed by Pilbara Iron (2005a) as *Typha* sp. and *Cyperus* sp. The *Typha* species listed is likely to be *Typha domigiensis* which is widespread in Western Australia and can proliferate in disturbed areas. It does provide valuable habitat to a number of bird species typically associated with wetland sedge communities.

To avoid disturbance to riparian vegetation, Pilbara Iron (2005c) will be be using directional boring techniques to install the fibre optic cable approximately 2 metres under the bed of minor creek crossings and watercourses. The area of disturbance at each crossing will be approximately 5X6 metres per creek bank (i.e. 60 metres square per crossing) (Ben Von Perger pers comm. 2005). The points at which the boreholes start and where they are recovered on the other side of the crossing, will be chosen to cause minimal disturbance to the banks of the creeks (Pilbara Iron 2005c) and will be located approximately 15-20 metres from the edge of the creeks to get the correct angle for boring (Ben Von Perger pers comm. 2005).

For the majority of the major creeks, the cable would be routed along existing bridges, and therefore avoid the riparian vegetation and large trees associated with creek lines (Ben Von Perger pers comm. 2005).

While it is difficult to accurately estimate the amount of riparian vegetation that may be affected by the proposal, Pilbara Iron has estimated that approximately 0.25ha of sedgeland riparian vegetation may be affected (Ben Von Perger pers comm. 2005) .

Such communities are in general resilient to disturbances and considering the small estimated total area that may be affected, the likelihood of the vegetation recovering within a short time frame as well as the management measures proposed by Pilbara Iron, the proposal is unlikely to be at variance to this principle.

Methodology

Pilbara Iron (2005a).
Pilbara Iron (2005c).

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments

Proposal is not likely to be at variance to this Principle

The Office of the Commissioner of Soil and Land Conservation provided the following initial advice dated 18th January 2006 on this principle (DAWA 2006):
The implementation of this proposal is not likely to cause serious degradation in the form of soil erosion if appropriate precautions are taken where the route traverses sensitive areas such as slopes and creeklines. It is noted that Hammersley Iron proposes to either carry the fibre optic cable across existing bridges or by horizontal boring under creeklines. Therefore, the risk associated with disturbance of beds, banks and channels will be avoided. Where the cable route traverses sloping land, management measures will be necessary. In the stoney hills and footslope areas the soil erosion risk will be minimized if the protective stoney mantles are not greatly disturbed.
Where slopes are traversed at the edges of clay plains, the cable route should preferably run at right angles to the slope and temporary short spreader banks should also be constructed across the slope. Bank spacing will be determined by soil and slope conditions (e.g. approximately 20 m on 10% slope on erodible clay soils).
Experience has shown that it is better to leave the compacted windrow along the cable route to avoid future

gullying. Provided intercepted surface flows are diverted off the the ripped zone by strategic placement of spreader banks, soil erosion will be minimised.
As the fibre optic cable will be located within the rail/road/powerline corridor, there is little risk that it will impede natural surface waterflow patterns to an extent greater than may already be occurring.

Therefore the proposed clearing may be at variance with principle (g) for soil erosion. The risk could be minimised by surface water structures (short spreader banks) at strategic locations.

Following further discussions between Pilbara Iron and the Soil and Land Commissioner on appropriate measures to control erosion, the commissioner stated to the DoIR assessor that he was satisfied with the measures proposed by Pilbara Iron and advised that the proposal is not likely to be at variance to this principle.

Methodology DAWA (2006).

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments **Proposal is not likely to be at variance to this Principle**
Approximately 50 kilometres of the proposed cable laying route is located within the Millstream-Chichester National Park (MCNP) (GIS Database). The vegetation to be disturbed lies within the existing Hammersley Iron Dampier-Tom Price railway corridor (Pilbara Iron 2005c) and it is unlikely that the vegetation disturbed contributes significantly to the environmental values of the MCNP.

Following disscussions between Pilbara Iron and the Karratha CALM office staff, it was decided that the main environmental impact of the proposal is the potential for the spread and increase in the level of exotic weeds in the MCNP (Pilbara Iron 2005c). Pilbara Iron have agreed to implement a number of weed management measures. Those measures are:
Mapping weed outbreaks with particular emphasis on Ruby Dock *Acetosa vesicaria*, Kapok Bush *Aerva javanica* and Mexican Poppy *Argemone mexicana*.
Wash down of all cable laying machinery prior to entry into the National Park.
Wash down of machinery when passing from a weed infested area into a non weed infested area.
Induction of personnel working on the project to include weed identification, reporting and procedures to prevent the spread of weeds.
Pilbara Iron to liaise with the MCNP ranger prior to the works commencing in the National Park.

Considering that the vegetation within the railway corridor passing through the MCNP has been disturbed in the past and that the weed management measures Pilbara Iron has commited to implement will minimise the risk of spreading further weed infestations within the MCNP the proposal is unlikely to be at variance to principle (h).

CALM advice received on the 23 January 2006 stated that:
CALM has provided comments and recommendations to the Construction EMP for this proposal to ensure that the potential impacts on the Millstream-Chichester National Park (MCNP) are managed adequately. Provided that these recommendations and the proponents commitments are implemented this proposal is unlikely to be at variance to this principle.

Methodology CALM (2006).
GIS Database-CALM managed land and waters-CALM 1/7/2005.
Pilbara Iron (2005c).

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments **Proposal is not likely to be at variance to this Principle**
Part of the proposed clearing lies within three Public Drinking Water Supply Area (GIS Database 2005). Those areas are the Harding Dam Water Reserve and catchment area, as well as the Millstream Water Reserve (DoE 09/08/2005). However given the scale and linear nature of the disturbance and the size of those Public Drinking Water Supply Areas (PDWSA) the proposal is unlikely to reduce the quality of the surface or underground water within those PDWSA areas.

Methodology GIS Database-PDWSA-DoE (09/08/2005).

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments **Proposal is not likely to be at variance to this Principle**
None of the areas proposed to be cleared lie within areas that are prone to inundation and all the watercourses crossed by the cable route are classified as minor non perennial ones (GIS Database).

Given the scale and linear nature of the disturbance, the types of watercourses present, and the size of the catchment areas in the local area, the proposal is unlikely to lead to an increase in peak flood height or

duration.

Methodology GIS Database-Hydrography Linear-DoE 1/2/2004.

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

A submission objecting to the grant of clearing permit 902/1 was received by DoIR on the 12 October 2005. The objection states that the grant of the permit would constitute a right to "cut and remove timber" which the submission's author considers a future Act as defined under section 233 of the (Commonwealth) *Native Title Act 1993*.

There is a native title claim over the area under application; Ngaluma/Injibandi, WC 99_014 (GIS Database). This claim has been registered with the National Native Title Tribunal on behalf of the Ngaluma/Injibandi claimant groups. However, the mining tenements have been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are 25 Aboriginal sites of significance within the area under application (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no sites of Aboriginal significance are damaged through the clearing process.

The proponent has advised that water is not required for the proposal and therefore a groundwater licence under the *Rights In Water and Irrigation Act (RIWI)1914* is not required. Should the activity of cable laying disturb any creeks, rivers or major drainage lines, the proponent should contact the Department of Environment to determine if a permit to interfere with Bed and Banks in accordance with the Rights In Water and Irrigation Act 1914 is required (DoE Advice 2005).

As the proposed activity is not within a Prescribed Premise under the Schedule 1 of the Environmental Protection Act 1986, an Environmental protection Licence and a Works approval Licence are not required (DoE advice 2005).

Advice was sought from the EPA as to whether or not the proposal should be referred for assessment since part of the proposal lies within the Milstream Chichester National Park which is a trigger for referral under the DoIR/EPA MoU. The EPA noted that the trench will be backfilled almost immediately following the trenching and that the route will follow pre-existing corridors. The main issues raised by CALM in relation to the environmental impact of the proposal within the National Park relate to weed control. The EPA stated that based on the level of cooperation between CALM and Pilbara Iron on that key issue a referral to the EPA to set the level of assessment was not necessary (Doug Betts pers comm 2006).

Methodology DoE advice (2005).
GIS Database-Aboriginal sites of significance-DIA 28/02/2003.
GIS Database- Native Title Claims-DLI 7/11/2005.

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees		Decision	Comment / recommendation
Building or Structure	Mechanical Removal	0.07	0.067	**Grant**	
Miscellaneous	Mechanical Removal	55		**Grant**	The proposal is judged not at variance to principles e and not likely to be at variance to principles a, b,c,d,f,g, h, i and j.

5. References

Bamford (2002) Karratha to Tom Price Highway; Karratha to Nanutarra-Munjina Road Section. Assessment of Fauna values and result of Fauna Survey May 2002. Unpublished report to Pilbara Iron.

CALM (2005) Conservation and Land Management (CALM).Threatened Ecological Community (TEC) Database. TEC database maintained by Species and Communities Branch, CALM.

CALM (2006) Land clearing proposal advice. Email Advice provided on 23 January 2006 to Native Vegetation Assessor, Department of Industry and Resources (DoIR). Department of Conservation and Land Management, Western Australia.

DAWA (2006) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia.

Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.

DoE (23/11/2005) Email Advice received from the Department of Environment in relation to Water licensing and EP Licensing.

EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority.

Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALM Science after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.
Keighery, BJ (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
Kendrick P. and McKenzie N. (2001) Pilbara 1 (PIL1-Chichester subregion) in 'A Biodiversity Audit of Wester Australia's 53 Biogeographical Subregions in 2002'. Report published by the Department of Conservation and Land Management, Perth, Western Australia.
Kendrick P. and Slanley F. (2001) Pilbara 4 (PIL4-Roebourne synopsis) in 'A Biodiversity Audit of Wester Australia's 53 Biogeographical Subregions in 2002'. Report published by the Department of Conservation and Land Management, Perth, Western Australia.
Pilbara Iron (2005a) Botanical Survey Advice, Fibre Optic Cable Rare Flora Survey, Environment Department, dated 03/10/2005.
Pilbara Iron (2005b) Attachment B, Reinstatement of Disturbed Areas. Unpublished document provided with the Clearing Permit Application 902/1 with details of soil erosion mitigation measures following the trenching of the Fibre Optic Cable.
Pilbara Iron (2005c) Letter dated 3/10/3005 attached to the clearing permit addressing the 10 clearing principles and giving an overview of the project.
Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPA	Environmental Protection Authority
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DoE)