

Taupo Golf Club

COURSE PLAN to 2020

October 2011

Introduction:

In order to provide direction to management, comfort to members, and efficient use of resources, it is important to develop a document which sets out where we want to be in the future, enabling a path to be created.

The Club has taken professional advice in the past and implemented some changes. Greg Turner produced a report on Centennial in 2002, prior to fairway irrigation. The majority of his report and recommendations have been implemented but not all. Tommy Cushnahan was commissioned in 2010 to provide some fresh thinking and an independent view on all facilities.

This report takes the ideas of both of these reports, direction provided by the 2020 vision document, and views of key personnel.

Once the overall vision and changes have been accepted a works schedule will be completed for the next 10 years from which an annual plan can be prepared.

This plan will comprise 3 components:

- Vision and key factors
- Proposed changes – Centennial, Tauhara, Machinery
- Work schedule (compiled annually)

Summary comment:

We are excited to share this plan with you.

It provides a clear direction to the Clubs management team and management Board, and will provide the focus for annual planning of course works subject to budget approval.

We trust you will be alongside us as we implement this plan and can celebrate progress year by year as we work towards our vision of being “the best value golfing destination in New Zealand”.

Ernie Oxnam
Club President

Stuart McKinlay
Board Chairman

Grant Hill
Club Manager

VISION AND KEY FACTORS

Club 2020 vision statement:

- Centennial as a championship links style course
- Tauhara as an 18 hole club course, incorporating two distinctly different themes on each nine. “Tauhara Thermal” on the northern front nine and “Tauhara Park” on the southern back nine
- Great golfing experience for players of all levels

Minimising course maintenance costs is essential given the current and likely future operating environment. We can do this through:

1. *Design* – easily maintained surfaces & hazards, minimising closely mown areas, reduced traffic wear
2. *Turf management* – the requirements of grass types varies - nutrients (food & water), and controls (fungicide, insecticide, herbicide).
3. *Growing environment* – while we can't do anything about our climate, we can influence the environment through tree management, and improving soils. Avoid shade and drainage issues.
4. *Efficient machinery* – machinery selection can influence labour costs and machinery maintenance costs along with presentation.
5. *Player expectations* – most golfers picture a golf course which year round is manicured daily tee to green with lush green grass, minimal divots and pitch marks, no wear areas, no wet areas, and no green keeping staff on course to get in their way! The reality is that to achieve this requires substantial resources. If the resources are not available then player expectation need to change. This applies to periods of change as well as potential end product.

1. Design

Terrain is a factor with sharp contours producing wear areas on crests and difficult mowing at the base. It also impacts the types of machinery able to be operated. Proposal is to retain the contours but soften them to improve presentation.

Closely mown surfaces are higher maintenance and reducing the area (even marginally) saves resources. This can be achieved through shaping tees, fairways, and approaches on Par 3's to the minimum required. Mown rough can also be reduced by either allowing to grow naturally or planting of native vegetation where not in play.

Placement of bunkers and obstacles (trees, course furniture) influences traffic patterns and creates wear areas. Management of these areas can reduce wear but utilizes resources when

better design can avoid the need. Proposal is to adjust bunkering, and remove obstacles to reduce maintenance.

2. Turf management

Grass types

Greens & surrounds to be predominantly NZ browntop (Bent grass) to reduce water & nutrient requirements (virtually remove *Poa annua*)

Fairways to be predominantly fine fescue to reduce water & nutrient requirements, with a percentage of Rye to assist wear but can be sprayed out at later date if required.

Rough to be fescue as requires least resources, provides good links look, and other grasses can be sprayed out

3. Growing environment

Tree planting

Establish tree planting plan consistent with NZ inland links theme on Centennial & the Thermal/park themes on Tauhara. This includes removal of problem trees (remove high maintenance/playing surface water thieves/light inhibitors/view inhibitors).

When considering tree placement and type, we need to consider:

Impact on water to playing surface

Impact on sun & airflow to playing surface

Impact on strategy of hole – now & when tree mature

Adding colour and form to provide interest and variety

Impact on traffic flow (creating funnel & subsequent wear area)

Do we need to screen for safety? e.g. teeing ground from green

Any maintenance issues mitigated or acceptable? e.g. leaf litter, pruning

Will it block a desired vista when mature? e.g. mountain views

Do we need to screen unwanted view?

Do we need wind protection?

Will the species suit proposed location?

Use thought to “Plant trees that our grandchildren will enjoy” i.e. lifespan

Contoured mounding fescue will not only give definition to fairways but catch leaf litter before it reaches the playing surfaces (mown areas).

Tree species we propose to reduce/remove:

Cupressus family (common name Cypress) including conifers provide interesting form and colour but some varieties are high maintenance (dropping matter, branches) plus if in play are “ball catchers” providing a random and unfair penalty. It is also unfortunately common for these to have been planted in high traffic areas or close to play.

Birch – short life span (30-40 years). Do have colour & form contrast but many are nearing end of life and showing it.

Gums – drop leaf & bark litter, height block sun

Pines – aged pines are susceptible to storm damage, where near playing surfaces take valuable water from turf, when near play present a danger to golfers. Wilding pines (self sown) to be removed as they appear.

Poor performing trees – some trees due to location, lack of maintenance, or disease have poor form or presentation. We should remove these as detract from look and give impression of poor maintenance.

Poorly located trees – some trees have been positioned creating traffic funnel which produce unsightly wear areas. Also if near playing surface impact turf quality through taking precious water from turf, roots breaking surface or organic litter.

Soil

Our soils are obviously influenced by volcanic origins with pumice a major factor with its lack of water retention and difficult growing medium. Our plan is to improve the growing medium by:

Regularly adding organic matter (e.g. worm compost, lime) to build up and improve water retention.

Coring fairways twice per year

When coring greens returning soils and adding less sand

Water

Taupo District Council current resource consent from EW to extract surface water from Waikato river expires 31/12/2016.

Current storage capacity is sufficient to run greens, tees & fairways cycle on both courses for one night. We currently require the storage pond to refill or complete watering on next night. While we have not had an issue to date it is certainly a risk that could be reduced by an increase in water storage – either an increase in existing pond, or additional storage elsewhere from same source sensible.

Alternative water sources (capturing natural water, sourcing waste water from industry such as Tenon, Laminex, Contact) could be used to supplement existing source, potentially replace, or irrigate areas currently not being done.

Price – while the price we pay is based on council recovering costs, we have little influence on what the costs are.

Reducing our water requirement is an option through grass type, reducing golfer expectation, reducing irrigated areas e.g. change thermal nine FW grass type

Ideally, water and fertiliser would only be applied to achieve optimum playing conditions, never to create lush, green turf for purely aesthetic purposes

4. Efficient machinery

Based on proposed changes to mowing on courses (see later in report), we propose to restructure machinery to reduce mowing time and move to leasing high use mowers. The reduced mowing time will result in lower labour cost for these tasks and less influence on play.

Machinery plan is detailed later in report.

5. Player expectations

Until 2002 fairways on both courses were not irrigated which in summer did of course provide harsh conditions. With watering comes requirement for more nutrients and more mowing.

Do the greens need to be mowed each day?

How often should fairways be mown?

Is having natural rough 30m from fairway acceptable?

How green does the grass on fairways need to be? Or is turf cover more important?

Contributors:

Staff: Grant Hill (Club Manager), Gordon Ward (Course Superintendent)

James Morgan (Club Professional)

Greg Turner report (2002)

Tommy Cushnahan report (2010)

Management Board and Player committees (2011)

CENTENNIAL COURSE - PROPOSED CHANGES

As the 2020 vision suggests, we are planning towards a championship links style with tees for all abilities.

To achieve this some dramatic changes need to be made, particularly with the tree planting.

The layout of Centennial is well thought of and while there has been suggestions to amend it, this is not considered necessary or appropriate for Vision 2020.

The only negative is the preferred and most practical starting holes are on first 10 holes limiting options. Changing the order of play could be looked at to achieve this.

Bunkers need to be of a size/design to make maintenance efficient with bunker rake and have strong visual impact – consider placement which creates visual hazard but can be avoided by the average golfer & higher handicapper.

Centennial course character

Links feel with contoured mounding – course influenced by surrounding farm land and geothermal features.

Penalty from mounding, rough, bunkers. Trees for aesthetics & defining outer limits of holes or direction of play.

Predominantly NZ native planting providing habitat for birdlife. Blocks of seasonal colour as currently seen between 13th green and 14th fairway. Colour to contrast with manicured surfaces grass fairway

Course furniture in keeping with natural feel.

Player information - tee markers, distance markers, course signage should be uniform and of suitable quality for championship course.

Tee signage – install new signage providing hole information, hole graphic, sponsor space. Propose simple design of aged posts with 3 sign boards bolted on – easily updated/changed.

Flags – continue with colour coding to indicate pin position depth

Bins – at key locations (6,10,12,15) and of suitable style and quality

Turf condition

Manicured undulating fairways, mown rough to provide penalty, contoured mounding with natural rough will be used to reduce mowing but selective sprays used to thin grasses enabling balls to be located and shots played

Tees:

Grass type: Fescue/Browntop

Mown height: 12mm

Machine: Toro 3100 w sidewinder & catcher (mower width 1.83m)

Tee surround:

Grass type: Fescue/Browntop

Mown height: 38mm

Machine: Toro 3280 4wd Outfront rotary deck (clippings returned)

Mowing width: 1 lap 1.53m

Fairways:

Grass type: Fescue/Browntop

Height: 20mm, ,

Machine: with Jacobsen LF3800 4wd (clippings returned)

Mowing width: 2.54m (average fairway width 25m)

Greens:

Grass type: NZ Browntop (Bent grass)

Height: 3.5mm mown &/or rolled to achieve speed of green summer: 9.5ft stimp metre average reading winter: 8.5ft stimp metre average reading.

Machine: Mown with Jacobsen G-plex III with catchers (2)

Green surrounds & approaches:

Grass type: Fescue/Browntop

Mown height: 12mm

Machine: Toro 3100 w sidewinder & catcher

Mowing width: 1 lap providing 1.83m width. A secondary surround will be done with Toro outfront (38mm height) providing minimum of a further 3.1m of manicured turf around green.

Fairway step cut:

Grass type: Fescue

Mown height: 38mm

Machine: Toro 3280 4wd Outfront rotary deck (clippings returned)

Mowing width: 1.53m (1 lap)

Rough:

Grass type: Fescue

Mown height: 50mm

Machine: Tractor with Lastec 721XR pull behind mower

Mowing width: 3.35m with mown area varying but generally 10m (3 laps)

Outside of this line natural growth fescue (up to 2ft), use selective sprays to remove coarse grasses such as paspalum and yorkshire fog.

Bunkers:

Sand is currently sourced from Atiamuri mainly as most cost effective (due to transport cost) but this would be reviewed in future if budget were available. Front face rolled grass for ease of maintenance and sprayed with growth retardant.

Paths:

Reduced to minimum size to keep natural. Cobblestone where necessary consistent with path on 1st. More intensive traffic control required to maintain turf cover off paths.

Centennial Tree planting plan:

We have consulted with Peter Marshall (contractor to DOC/EW & Acacia Bay Nurseryman) and Barry Hickling (member, retired TDC Parks & Reserves Manager).

Positioning of trees will be done complying with the tree planting considerations mentioned earlier in report.

Where possible we will transplant existing trees on the property (treespade contractor for larger specimens).

NZ Native trees

Nothofagus fusca (Red Beech) Foliage of young tree deep red in winter; durable wood. Size: 10 yr 4m x 2m, maturity 30m x 5m	
Nothofagus solandri var cliff Mountain Beech Smaller tree than Black Beech. Occurs in Mountain forest. Nice branch formation. Size: 10 yr 2m x 2m, maturity 14m x 5m	
Fagus sylvatica purpurea (copper beech) Spreading deciduous tree with leaf colour ranging from red to dark purple. Grows to 25m+.	
Hoheria populnea (Lacebark) Graceful, erect, poplar-like with cream-white flowers. Size: 10 yr 4m x 3m, maturity 8m x 3m	
Sophora tetraptera Kowhai, Large-leaved Kowhai A large-leaved kowhai, an upright tree developing an open habit and flowers when quite young. It has yellow flowers in Spring which are a source of nectar for tuis. H 7m x 4m Full sun or semi-shade Hardy	

<p>Pittosporum tenuifolium Kohuhu</p> <p>Small tree; very hardy and widespread, useful for revegetation, hedging and specimen. Good clipped hedge. Size: 10 yr 4m x 3m, maturity 6m x 3m</p>	
<p>Griselinia littoralis</p> <p>Broadleaf. Very hardy tree; glossy green leaves. Can be clipped and makes a lovely hedge. 4m x 3m 10m x 3m</p>	
<p>Podocarpus totara aurea</p> <p>Size: Ht 5m Wd 3m</p> <p>An attractive rich, golden yellow foliated NZ native tree. Excellent as a specimen or in group plantings. Keep compact by trimming for hedging. Hardy to wind and cold. Evergreen.</p>	
<p>Podocarpus totara</p> <p>Hardy species that grow throughout N.Z. Semi prostrate form to the large specimen tree, with needle-like foliage. Some forms can be used for hedging. Generally slower growing. Hardy tree; red, straight grained durable timber. Size: 10 yr 3m x 2m, maturity 20m x 5m</p>	
<p>Knightia excelsa (Rewarewa)</p> <p>Nice slender growing tree. Often dominant in regenerating bush. Wood used for furniture. Flowers attract birds and bees. Size: 10 yr 3m x 2m, maturity 25m x 3m</p>	
<p>Pittosporum eugenioides (Lemonwood)</p> <p>Crushed leaves emit lemon scent; forest margins, clearings stream-sides. Good hedge plant or specimen, scented flowers. Size: 10 yr 3m x 2m, maturity 9m x 4m</p>	

<p>Cordyline australis Cabbage tree; Ti kouka Durable tree, grows in swampy areas, open sites, coastal. Effective planted in groups or in a tub. PN; PB8 and PB18 grades cannot be couriered and must be collected from the nursery. 5m x 3m 10m x 3m</p>	
<p>Pseudopanax crassifolius (Horoeka or Lancewood) Unique lance-like foliage changes as tree matures to rounded top. Hardy. Looks effective planted in groups. Size: 10 yr 3m x 1m, maturity 10m x 4m</p>	
<p>Pseudopanax colensoi (Rautawhiri, Mountain Five Finger, Orihou) Similar to Pseudopanax arboreus but has heavily scented flowers. Prefers colder growing regions. Size: 10 yr 3m x 2m, maturity 4m x 3m</p>	
<p>Plagianthus regius (Ribbonwood) Largest of N Z deciduous trees. Usually found near water. Quick growing and hardy. Size: 10 yr 5m x 3m, maturity 9m x 3m</p>	
<p>Kunzea ericoides (Kanuka) Hardy, attractive form with fine foliage and small white flowers. Useful revegetation and shelter plant 5x3 8x3</p>	
<p>Fuchsia excorticata Tree fuchsia, Kotukutuku Kotukutuku is a semi-deciduous fast growing small tree with distinctive orange-brown bark, which is papery and peeling. The flowers are green and purple when young changing to red, late winter to early Spring and are followed by dark purple berries. The flowers are mostly borne among the leaves but are also on larger branches and even on the trunk. H 5 m x W 2m</p>	

NON-NATIVE FEATURE TREES

Banksia integrifolia

Evergreen. Excellent bird attracting tree. Lime green flowers that form yellow cylindrical spikes. Frost tolerant. Quick growing. Good shelter/hedging species. 7m x 10m

***Liquidambar styraciflua* (American Sweet Gum)**

Spreading deciduous specimen tree, renowned for its autumn colours of orange/red/purple. Grows up to 25m.

***Quercus palustris* (Pin oak)**

is a tall fully hardy perennial deciduous tree with yellow flowers in early Spring, mid Spring and late Spring. It grows well in semi-shade, and prefers high levels of water. This plant requires a minimum of 120 frost free days to grow successfully. It has low drought tolerance.

This is an erect tree has a fast rate of growth and has a colonising growth form, and has an ultimate height of 30.5m / 100.1ft.

Height at 20 years 12.2m / 40ft

The leaves are green in Summer and red in Autumn

Fagus sylvatica purpurea

Spreading deciduous tree with leaf colour ranging from red to dark purple. Grows to 25m+.

***Fraxinus excelsior* (Common ash, European ash)**

is a tall fully hardy perennial deciduous tree with purple flowers in mid Summer. It grows well in semi-shade and direct sun, and prefers medium levels of water. It prefers around 80% humidity.

It looks best in Summer.

Fraxinus excelsior grows in soils ranging from a pH of 5.5 (very acidic ranges from 5.2 to 5.5) to 9 (very alkaline ranges from 8.6 to 9). It is adapted to chalk, clay, clay loam, loamy sand, sandy clay, sandy clay loam and sandy loam soils.

This is an erect tree has an ultimate height of 25m / 82ft and spread of 15m / 49.2ft. It can take 46-50 years to reach its ultimate height and has a lifespan of around 151-200 years. The vegetative spread rate is fast.

The leaves are green in Summer and yellow in Autumn. They are imparipinnate - odd pinnate in shape.

Cotinus coggygria (Purple smoke bush) Royal purple

Mature size: Height: (5 m).Width: (5 m).

Flowering period late spring to early summer.

Flowering attributes: Panicles of small, insignificant flowers that give the shrub a smoke-like appearance.

Leaf attributes:Oval, dark purple foliage with red veins and stems. Leaf margins are edged with a thin line of red. Leaves turn scarlet in autumn.

Light:Full sun to partial shade. Purple color is best in full sun.

is a bushy fully hardy perennial deciduous tree/shrub with pink flowers in late Summer, mid Summer and early Summer. It grows well in semi-shade and direct sun, and prefers medium levels of water. It has average drought tolerance.

It looks best in Autumn and Summer. This is an irregular tree/shrub has an ultimate height of 4.5m / 14.8ft and spread of 4.5m / 14.8ft. It can take 16-20 years to reach its ultimate height.

The leaves are green in Spring and Summer and yellow, orange and red in Autumn. Attractive foliage, flower arranging, flowering shrub, low maintenance and mixed shrub border.

The fruit is purple. There is a low fruit/seed abundance beginning in Autumn and ending in Autumn.

Acer palmatum (Japanese maple)

is a bushy fully hardy perennial deciduous tree/shrub with red flowers in early Spring and mid Spring. It grows well in semi-shade and direct sun, and prefers medium levels of water. It has average drought tolerance.

This is a conical tree/shrub has a moderate rate of growth has an ultimate height of 6m / 19.7ft and spread of 6m / 19.7ft. It can take 26-30 years to reach its ultimate height.

The leaves are green in Spring and Summer and yellow and orange in Autumn. They are palmate in shape.

The plant prefers a sheltered situation

Sorbus aucuparia (European mountain ash)

is a tall fully hardy perennial deciduous tree/shrub with white flowers in late Spring. This is an erect tree/shrub has a fast rate of growth and has a single stem growth form, and has an ultimate height of 12.2m Leaves are green in Summer. There is a high fruit/seed abundance beginning in Summer and ending in Autumn

Larix (European Larch)

A distinctive tall, upright deciduous conifer with bright-green needles which change to bronze/yellow in autumn before falling. Prefers a cool moist sheltered inland hill/country site. Valuable durable timber.

Hardy

30m

NZ Native shrubs

Phormium tenax (NZ Flax)

Distinctive N Z plant; tolerant of wet, dry, warm, cold, high and low fertility; excellent shelter. Flowers attract native birds.

2m x 2m

Cortaderia fulvida (Toetoe)

An effective and useful landscaping plant forming large clumps with tall flower plumes spring or summer. Useful in retaining steep banks and will tolerate strong winds making it a good shelter plant. Will also grow in damp conditions around ponds.

Smaller toe toe species. Flowers October to December. Common on stream banks, swamp edges and hillsides.

1.5m x 1.5m

Corokia cotoneaster Korokio

Shrub with twiggy interlacing branches, berries attract native birds. Makes a nice clipped low/medium hedge. Very hardy.

2m x 1m

3m x 1m

Corokia 'Red Wonder'

Attractive bronzy-green foliage with white underside, has yellow star like flowers in spring, followed by bright red bird attracting berries. A good hardy species, makes a nice clipped hedge.

1.5m x 1m, 1.5m x 1m

Planting strategy:

Follow tree planting but on Centennial trees should have less influence on play, with mounding, fairway contours, natural rough more of an influence. The trees will help give definition to a hole.

CENTENNIAL COURSE - hole by hole changes

Hole #1

Issues & observations:

The opening hole of a course should provide a positive first impression. As such the view from Clubhouse/practice green/tee block should be improved

The dogleg left results in the average golfers direction of play toward 2nd fairway

The back tee block has an alternative option left of path which brings gully into play

The gully on left is a feature as is daunting, it provides opportunity for risk/reward, and this should be clear to see from tee

Plays into prevailing wind

Tee:

Retain alternate back block left of path for use in winter to aid recovery of main tee

Improve appearance of back of tee surround

Improve the view when looking back to Clubhouse from yellow tee (i.e. the bank)

Forward tee (Red) to be established.

Fairway:

Blind tee shot from yellow tee on opening hole not considered ideal. Options to address this include altering fairway height or providing an indicator for line of play (e.g. block in fairway).

Reduce visual impact of pumice path – reduce length, pave, grass & contour bank to provide wider traffic flow.

Contour mounding on outside of dogleg to limit play onto 2nd fairway for safety. This will also improve view from tee defining shape of hole. Possible FW bunker built into mounding.

Improve RH FW turf quality to base of mounds & mow as fairway to reward play that way – trade off is more difficult approach over bunkers.

Existing RH FW bunker shape altered to be prominent from tee and lead into mounding of pine tree, and increase width between the bunkers to ease traffic wear.

Grow out rough along top of LH gully as further incentive to stay right & further define fairway

Invest in appearance of fairway (maximum nutrients, water, renovation) to improve view from Clubhouse and first impression

Green:

RH greenside bunker drainage issue to be attended to

Seed area of tree removal in traffic flow to 2nd tee & manage traffic flow

Contour mound behind & to left of green in tree line to provide privacy from road & balance mounds across the road.

Trees:

Remove sufficient trees top of left hand gully to open up view of fairway on dogleg & bring bunkers into view/play. Care required not to encourage play over road.

Remove 3 trees behind green providing root damage which will also improve turf quality behind green.

HOLE #2**Issues & observations:**

The prevailing issue is the proximity of the road and its influence from both an aesthetic and safety standpoint.

Green gradient limits acceptable pin placements placing wear on the available locations

Mountain views from green

Tee:

Forward tee (Red) to be established.

Fairway:

Improve area between tee & fairway

Increase & improve fairway in tee shot preferred landing zone (170m to 240m) RH side (to encourage tee shot in that direction to avoid safety issue with road). Irrigation line required.

Add planting LH side around corner to further discourage play in that direction & screen road.

Add FW bunker LH corner outside of irrigation line (210m-230m from white tee)

Improve grass cover on mounding RH side fairway

Soften base of gullies (approx 90m from green) to improve mowing

Green:

Two tier green to provide more pin position options. Back of green provide slope to feed balls back.

Front of green raised to provide front pin options and gradient in front to feed balls back

Trees:

Remove poor species RH & LH side approaching green

Hole # 3**Issues & observations:**

Poor presentation left of & behind green

High visibility to Centennial Drive traffic

White tee under pressure from wear

Wear areas around bunker

Uneven ground tee-fairway

Mountain view from green

Plays into prevailing wind

Tee:

Extend blue tee block forward to allow alternative white tee option at same distance as existing white tee. Take pressure of existing teeing ground and good variation to hole.

Forward tee (Red) to be established.

Fairway:

Lower mound half way to green to improve view of green. Carry the valley from tee through fairway.

Improve between tee & fairway

Green:

New bunker LH side in natural contour, overcome difficult turf in valley, frame green. If bunker not done soften base of valley to improve mowing

RH bunker pushed forward & right to help traffic flow. Keep open entry onto green.

Mound/plant behind green to screen traffic.

Trees:

Remove poor specimens behind green

Native tree plantation area left of fairway

Hole # 4**Issues & observations:**

The hole was intended to have slight dogleg left facilitated by the removal of trees on the right hand side of the fairway, a realignment of the fairway to the right and the repositioning of the fairway bunker to the left.

Extend FW right to give viable option away from OB but give more difficult approach over bunker.

Forward tee (Red) to be established.

Tee:

No suggested changes.

Fairway:

Improve turf quality RH side to give more attractive option from tee – extend existing RH irrigation line. Allows golfer to avoid FW bunker but have to approach green over RH greenside bunker.

Review LH fairway bunker position.

Improve area between tee & fairway

Green:

Remove RH back bunker as not in play and improves traffic flow from green to 5th tee

Reduce right hand side of RH front bunker to assist traffic flow

Trees:

Remove birch trees (plant in between now & remove birches when these new trees are established)

Planting RH side in previous plantation

Cupressus RH side remove & recontour to help traffic

Prune or consider removal of tree leading to 5th tee to help traffic movement

HOLE #5

Issues & observations:

Blind second shot required

Mountain views from fairway

Plays into prevailing wind

Tee:

Forward tee (Red) to be established.

Fairway:

Improve area between tee & fairway

A new fairway bunker on the right at 240m so more visual or trap for bigger hitters

Green:

Planting of background behind green (across gully behind green)

Fix bunker drainage

Trees:

Remove Cupressus left of tee

HOLE #6

Issues & observations:

Elevated tee gives good aspect

Turf quality left of green and through gully approaching green poor

Forward tee (Red) to be established

Tee:

Improve seating – is a common waiting area

Paving of parking area

Additional room available behind/side for back tee to reduce wear and provide tougher angle from blue

Fairway:

Raise LH valley leading to green for ease of play & maintenance, put in drainage.

Improve area between tee & fairway

Green:

Review contour of LH mound short of green to ensure not unfairly directing balls into gully

Consider possibility of natural water reservoir back left of green. Could be a feature if this is done, consideration would be given to remove front RH bunker for safe option.

Recontour area between green and 7th tee for traffic.

Trees:

Remove some Conifers behind green

Remove Birches on LH bank

Move Rhodo's on LH bank to Tauhara Park 9

Add native planting LH bank

HOLE #7**Issues & observations:**

Fairway contour problematic to average golfer off the tee

Poor access from 6th & parking at white tee block

Narrow landing area for second shot

Mountain view from green down fairway

Tee:

Common starting hole, possible location of shelter/seating

Extend white tee block forward and slightly right to existing natural teeing area. Will provide further tee marker option in winter months and variation to play of hole.

Forward tee (Red) to be established.

Fairway:

Improve area between tee & fairway

Push RH fairway mound into hollow behind to ease landing area (leave LH side as is)

Align fairway to right on approach to green (new irrigation line), mound & rough to left,

LH FW bunker crest of hill.

.

Green:

Review bunker plan including effectiveness of LH bunker (bring more into play), is RH rear bunker required as removal will improve traffic flow from green to tee, requirement/position of RH front greenside bunker for better traffic flow and to give strategy for hole.

Trees:

Transplant Camelias adjacent to Blue tee to Tauhara Park 9

Remove trees RH side of fairway near green – improves traffic flow

HOLE #8**Issues & observations:**

Relatively easy dog leg right following removal of large pine trees RH side

Tee:

Forward tee (Red) to be established

New Blue tee location back to take pressure of white tee block & provide alternate line of play for hole

Fairway:

Improve area between tee & fairway

Provide landing zone LH side fairway but contoured as penalty i.e. contour gully to allow mowing as FW.

FW bunker on RH corner for risk reward tee shot.

Green:

Add RH greenside bunker mid green.

Widen approach cut

If additional water storage is deemed necessary this provides opportunity to bring into play or become a feature.

Trees:

Remove Cupressus near green

Plant bank on gully to further protect 9th tee and penalise a wide tee shot to right

HOLE #9**Issues & observations:**

Mountain view from tee through to green

Untidy view from tee LH side

Plays into prevailing wind

Tee:

Forward tee (Red) to be established.

Fairway:

Improve area between tee & fairway

Improve grass cover on mounding L & R

Green:

Improve turf in gully in front of green (raise base & put in drainage), and/or put in RH bunker

Ease contour left of green for bail out option to avoid bunker but also improve turf in route to 10th starting tee

Trees:

Remove cupressus right of FW

Remove conifer left of green

Kanuka in mounds

HOLE #10

Issues & observations:

Mountain view from green

Strategy required off the tee

Tee:

Forward tee (Red) to be established.

Consider water feature in front of tee and if done create yellow tee right & forward of current position to lessen water impact and shorten hole.

Fairway:

Improve area between tee & fairway

Fairway width widened left of bunkers to provide option for risk (irrigation line already there)

Green:

Add some interest to green and increase possible pin positions

Consider inclusion of bunker

Trees:

Remove the smaller trees in the driving area (left).

Kanuka planted in mounds

Feature grove RH side of green

Remove Cupressus RH side of green

HOLE#11

Issues & observations:

Removal of aged pines has visually opened hole up but planting still remains to impact play

Fairway is poor on approach to green

Tee:

Forward tee (Red) to be established.

Fairway:

Improve area between tee & fairway

Install RH FW bunker (210-220m) encouraging play left, risk flying it, or lay up

Review LH FW bunkers, consider removal of 3rd bunker, possibly enlarge LH middle bunker

Improve & expand landing zone for 2nd shot RH & LH side of green (removal of pine trees should help considerably). Irrigation line already in place RH side.

Green:

Review LH greenside bunker, consider reducing LH side and bring further into FW.

Trees:

Remove LH Cupressus trees

Plant feature tree end of last RH pines to ensure shape required

Right of mounds first RH pine trees

Left of mounds LH pine trees to retain hole shape

HOLE #12**Issues & observations:**

Road now in line of vision

Tee:

Create new yellow tee forward & left to reduce pressure of white block.

Forward tee (Red) to be established.

Pave parking area

Fairway:

Improve area between tee & fairway

Green:

Reduce back of RH bunker if necessary for improved access around right hand side of green (review after trees taken out).

Trees:

Screening of Bypass road was considered but only feasible option of moving 13th tee forward and planting on our boundary not considered appropriate. In time planting may be done by council in adjacent land and in the meantime traffic have awareness course is there.

Remove Cupressus right of green to improve traffic flow & turf quality for misses right of green.

HOLE #13

Issues & observations:

Longest Par 4 on course

Left hand FW bunker harsh penalty as can not reach green current height of front face

Tee:

Forward tee (Red) to be established.

Review yellow tee location as is in line of play for 12th tee shots. Consider if hole should be Par 4 or 5.

Fairway:

Fill in drain on fairway.

Review design of LH FW bunkers, consider combining the two existing

Improve area between tee & fairway

Improve turf quality in hollow near green

Green:

No changes suggested

Trees:

Remove Cupressus' right of green

Remove Cupressus behind green as required

HOLE #14

Issues & observations:

Plays into prevailing wind

A signature hole due to feature bunkers, raised green, and larches a feature in autumn

Tee:

Forward tee (Red) to be established.

Fairway:

Improve FW right, irrigation in place, needs adding to system.

Improve area between tee & fairway

Green:

Review back greenside bunker considering factors such as player access around back of green, does placement and design provide desired level of penalty, is penalty actually required, and visual impact from fairway if removed.

Trees:

Thin Cupressus behind green

Remove Cupressus right front of green to improve traffic flow

Solve tree root issue around green and wear areas from green to tee

HOLE #15**Issues & observations:**

Mountain view from tee

Out of bounds not visible from tee

Tee:

Forward tee (Red) to be established.

Pave parking area

Fairway:

LH FW bunker to improve look of hole from tee and encourage tee shot right

Improve area between tee & fairway

Improve fairway RH side (additional irrigation)

Green:

Reduce back of LH bunker to improve traffic flow, make more visible.

Trees:

Remove trees on left to make OB visible.

HOLE #16**Issues & observations:**

Unique views from tee and fairway into geothermal reserve

Mountain view from tee & fairway

Plays into prevailing wind

RH side of green difficult turf growing

Tee:

Forward tee (Red) to be established.

Fairway:

Review landing area from tee, currently mounding deflects balls to gully. Options include reducing mound centre left FW, creating mounds LH rough to protect balls from gully, adding bunker LH rough to capture balls before gully.

Prostrate Kanuka should be encouraged in the area of the gully. Review treatment of this Geothermal Reserve area under rules of golf with view to protecting and giving options to golfer.

Subtle mounding RH side to protect 11th tee and give shape to dogleg.

Improve area between tee & fairway

Green:

Remove LH bunkers & recontour bank to enable play & ease of walk

Right of green ease the slope (fill from bottom) to improve turf (water retention & less heat) & playability plus add new bunker to trap balls heading to poor turf area – leave generous room between bunker & green

Trees:

Large pines to the left of the fairway to be removed to open up the views of the banks and gully.

Remove trees left of tee to open up views into reserve & native planting

HOLE #17**Issues & observations:**

Currently play toward greenkeepers shed

Tee surrounded by kanuka a feature

Plays into prevailing wind

Bank difficult to carry for women from current tee location

Tee:

Forward tee (Red) to be established.

Consider benefits of raising tee & laying barrier to reduce heat

If bank not eased, bring forward yellow tee to provide same opportunity for women as men to carry bank

Fairway:

Review path of access road, consider redirecting to base of gully before start of fairway

Lower bank right/middle for ease of walking & play for all.

Mound & grow out left of fairway to reduce option of playing towards greenkeepers shed.

Fairway extended right to further encourage play away from shed but provide more difficult approach shot over bunker.

Improve turf quality right of bunkers

Improve area between tee & fairway

Green:

No changes proposed

Trees:

The small trees to the right of fairway need to be removed

Unightly area to the left needs to be screened.

HOLE #18**Issues & observations:**

Road unsightly

Length very difficult for average golfer, particularly as plays into prevailing wind

Approach to green narrowed by trees

Tee:

Forward tee (Red) to be established.

Reduce size of and pave parking area

Fairway:

Move road further left & plant to screen.

Green:

Enlarge RH bunker

After removal of greenside trees review contour LH bank/mound

Trees:

Remove green side strawberry trees (Left is poor condition & blocks 2nd shot from bank, Right allows RH bunker to come into view/play from back tee & blocks play from yellow tee)

Remove Cupressus on right of green

Planting either side of pathway to green will negate need to mow & improve appearance

Other improvements

Consider access options from Clubhouse to & from 6th/7th. Options include bridge, culvert and path, alternate route.

Plant bank behind 9th green in natives to improve appearance from clubhouse and attract birds to clubhouse area.

Thin planting around 18th bridge

Remove/replace pumice paths with grass or hard surface to improve visually and reduce maintenance

TAUHARA COURSE - PROPOSED CHANGES

Vision 2020 suggests two themed nines. Thermal & Park themes

At 5667m off white (Men slope 108 CCR 68.1) & 5258m off yellow (women slope 115 & CCR 71.9), this course provides a less difficult option. The key is finding the balance of minimizing its operational costs while keeping presentation.

The environment includes Mountain views from several holes on thermal nine, Fumeroles, Prostrate kanuka, and thermal "pits". We should focus on presentation of these surroundings and providing unique golfing environment.

Course does receive unwanted attention from undesirables therefore course fixtures to remain solid and basic.

No fairway watering hole #2, part #3, part #7, part #8, part # 9 influences conditions.

General changes:

Alter mowing regime to reduce cost

Creation of location for driving range

Transplant 135m marker camellias onto back Park nine

Removal of wilding pines across both nines

Present Gardens with bark mulch

TAUHARA COURSE CONDITIONS

Manicured undulating fairways, mass mown rough for ease of play

Areas well out of play to be grown out or planted & mulched with bark to avoid mowing.

Tees:

Grass type: Fescue/Browntop

Mown height: 12mm

Machine: Toro 3100 w sidewinder & catcher (mower width 1.83m)

Fairways:

Grass type: Fescue/Browntop

Height: 20mm,

Machine: Toro Gangs towed by 50hp tractor

Mowing width: 3.4m

Greens:

Grass type: NZ Browntop (Bent grass)
Height: 3.5mm mown 8.5 stimp metre average reading.
Machine: Mown with Jacobsen G-plex III with catchers (2)

Green surrounds & approaches:

Grass type: Fescue/Browntop
Mown height: 12mm
Machine: Toro 3100 w sidewinder & catcher
Mowing width: 1 lap providing 1.83m width.

Rough:

Grass type: Fescue
Mown height: 50mm
Machine: Tractor with gangs
Mowing width: 3.35m with all grassed areas mown

Paths:

Reduced to minimum size and where an option removed. Cobblestone (or similar) where necessary consistent each nine. More intensive traffic control required to maintain turf cover off paths.

Tree selection for Tauhara

Thermal nine:

To remain predominantly native.

Transplant existing kanuka into more prominent positions

Stand of trees behind 7th green to be replaced with native plantation consistent with the one done between 4 & 6.

Park nine:

Magnolia Grandiflora - already in existence on this nine

Feature planting behind greens & tees:

Azalea Indica, Camellias (transplant from Tauhara front 9) to Tauhara 13th & 14th green, Leucadendron, Viburnum, Japonica

TAUHARA CHANGES hole by hole

HOLE #1

Add fumerole right of green

Improve green surround area for ease of play. Consider raising approach to green and requirements for better turf quality.

Bring in kanuka from left of 2 to back right of green

Remove cupressus RHS fairway

HOLE #2

Review treatment of prostrate kanuka right hand side, possible environmentally sensitive area

Add Kanuka LHS

HOLE #3

Add fumerole RHS

Grow prostrate kanuka around tee

Transplant Magnolia to Park nine

Remove scrappy Redwood behind green (2)

Trench roots around green from D.Fir trees annually

HOLE #4

Remove the Redwood impacting tee

Trial natural area down left hand boundary subject to ensuring tidy view from road

HOLE #5

Fumerole left of green

HOLE #6

Create environmentally sensitive area & allow prostrate kanuka to fill area between path & 7th tee

HOLE #7

Fumerole RHS

Bring in prostrate kanuka towards back tee

Reinstate backdrop if required post tree removal

Remove Cupressus tree RHS near green

Build level white tee block

Reinstate path from 7th green to toilet adjacent to 5th yellow tee

HOLE #8

Add fumerole LHS & RHS 80m from green

Improve playability of green/green surround. Presently poor turf quality to small raised green.

HOLE #9

Improve turf quality tee-fairway

Improve quality of white tee block (in thermal area) by installing suitable irrigation extension to cope with ground temperature or consider bringing tee sufficiently forward to allow irrigation from existing irrigation line in 9th yellow tee block

Screen 10th tee

HOLE #10

Plant specimen tree right hand side to allow future removal of large tree greenside

Lower fairway to improve line of sight to green.

Remove large conifer LHS of tee

Move LH magnolia further from green

HOLE #11

Planting banks behind green to provide backdrop & feature

Fill drain in fairway

HOLE #12

Remove large tree impacting tee

Remove Greenside trees

Plant area to right of green with feature trees

HOLE #13

Soften bank gradient to reduce wear area (approach to green & mid fairway)

Remove D.Fir RHS

Reinstate screening of 14th hole

Remove ball catcher LHS to encourage play that way

HOLE #14

Planting of screening trees to 13th

Soften gradient of bank to allow removal of path

HOLE #15

Soften contours 130-150m from green (ease of mowing & play)

HOLE #16

Remove birch trees

Add colour around green

HOLE #17

Possible wetland/water feature

HOLE #18

Plant feature trees in gap adjacent to 15th yellow tee

Tidy area at top of path from 17th green

MACHINERY 2020

A review of the Clubs machinery has been completed based on the resources required to deliver the Course 2020 plan.

It is fair to say that purchases in the last few years have contributed to a substantial improvement in our work efficiency and provided a more reliable fleet.

There is however more work to be done and a rationalization programme is under way that will provide savings in R&M and further reliability.

We also need additions to our fleet for labour saving tasks and tasks that can return the course to good order after maintenance and storms saving manual labour.

We are planning towards a 2020 core fleet to complete tasks as follows:

	<u>Centennial</u>	<u>Tauhara</u>
Green 3.5mm	Toro Greens #1	Toro Greens #2
Greens roller (also spare mower)	Toro 3100 #3	Toro 3100 #3
Tee & surrounds 12mm	Toro 3100 Sidewinder #4	Toro 3100 Sidewinder #4
Par 3 fairway 12mm	Toro 3100 Sidewinder #4	N/A
Fairway 20mm	Toro 6700 #5	Toro gang with Massey tractor
Step cut 38mm	Toro 3280 outfront rotary #6	N/A
Rough 50mm	Nunes rotary & Tractor #1 (50hp)	Lastec rotary & Tractor #1 (50HP)
Amenities & bunkers 38mm	Toro 3280 outfront rotary #6	Toro 3280 outfront rotary #6

Renovation:

Tees & surrounds coring & slicing	Toro Tumble corer & Tractor #1 (Kubota 50HP)
Fairway coring & slicing	Toro Tumble corer & Tractor #1 (Kubota 50HP)
Green coring	Toro Vertidrain & Tractor # 2 (Kubota 30HP)
Green slicing	Custom Slicer & Tractor # 2 (Kubota 30HP)
Spreading	Spreader & Tractor #1 or #2 (Kubota 30HP)

Maintenance:

Cartage (sand, pruning, soil, bark)	Tip truck or hydraulic tip trailer
Tree pruning	Chipper** on Tractor #1 (Kubota 50HP)
Levelling	Tractor # 1 (Kubota 50HP)
Spraying	Trailer unit on Tractor # 2 (Kubota 30HP)
Loading material	Bucket on Tractor #1 (Kubota 50HP)**

** pto driven chipper attach to tractor to recycle material rather than burn

MACHINERY on wish list subject to being self funding (Grant funding or income generation):

Sweeper – clearing thatch from cores and scarifying material efficiently off tees, greens and fairways. Allow for faster return to full green fee. We will be assessing the potential \$ benefit after this years renovation.

Chipper – PTO driven for use on tractor. Process pruning & storm damage for return as mulch or compost. Environmental benefits as avoid need to burn off, no fire permit required and therefore no unsightly piles.

Soil screen – processing of free waste for improvement to courses - bark waste (Tenon) into topsoil for topdressing and vermicompost (Laminex) into fertilizer.

Scarifier – to be used to renovate fairways & seed with existing vicon spreader