4.2 Earthworks

1. Activity table

The following tables specifies the activity status for earthworks. For sites with one or more overlays then the more stringent activity status apply. Refer to other provisions in the Unitary Plan for the activity status of the related land use activity.

1.1 Zones

Activity Fences, utility con	zones nections, eff	zones fluent disp	Conservation osal systems,	space zones except Public Open Space Conservation swimming po	Conservation, Public Open Space Conservation, and Green Infrastructure ols, garden an	Purpose zone - Quarry	All other zones and roads
gardening, plantin and walking tracks			-		ies, burial of m	narine mar	nmals
Earthworks for installation, operation, maintenance and repair	Р	P	P	P	Р	Р	Р
Driveways, parking	g areas and s	sports field	ds				
Earthworks for operation, maintenance and repair	Р	P	P	P	P	P	Р
For drilling holes a section.		fer to <mark>Tak</mark> i	ng, using, da	mming and di	version of wat	er and dril	ling
Irrigation or land o							
Works below the natural ground level	Р	Р	Р	Р	Р	Р	Р
Network utilities a	nd road netv	vorks					
Earthworks for maintenance and repair	Р	Р	Р	Р	Р	Р	Р
Earthworks up to 2500m ² or 2500m ³ for installation	Р	Р	P	P	RD	Р	Р
Coastcare dune st	abilisation						
Installation, maintenance and repair	Р	Р	Р	Р	P	Р	Р
General earthwork	s not expres	sly either	permitted or	requiring reso	urce consent a	above in th	nis table
Less than 50m² or 5m³	Р	Р	Р	Р	Р	Р	Р

From 50m ² up to 500m ² and from 5m ³ up 250m ³	Р	P	P	P	RD	P	P
From 501m ² up to 1000m2 and from 251m ³ up to 1000m ³	RD	P	P	P	RD	P	RD
From 1001m ² up to 2500m ² and from 1001m ³ up 2500m ³	RD	RD	RD	RD	RD	P	RD
Earthworks that disturb lava cavities >1m diameter along any axis or fossils or sub-fossils	RD						

[rp/dp]

Activity	zones	zones	Rural zones except Rural Conservation	space zones except Public Open Space Conservation	Conservation, Public Open Space Conservation,	Purpose zone - Quarry	All other zones and roads
Network utilities a		works					
Earthworks greater than 2500m ² or 2500m ³	Р	Р	P	RD	RD	Р	P*
General earthworl	ks not expre	ssly eithe	r permitted or	requiring res	ource consent	above	
Greater than 2500m ² and 2500m ³	RD	RD	RD	D	D	RD	D
Cultivation							
Up to 500m ²	Р	Р	Р	Р	Р	Р	Р
From 501m ² up to 2500m ²	P	Р	P	Р	D	Р	Р
Greater than 2500m ²	D	Р	Р	Р	D	Р	D
Tracks for farming							
Maintenance earthworks	Р	Р	P	Р	Р	Р	Р
Earthworks for new tracks up to 50m long	D	D	P	P	Р	Р	Р
Earthworks for new tracks greater than 50m long	D	D	P	P	RD	Р	P
Forestry							
Tracking, roading and all other earthworks	P	Р	P	Р	D	Р	Р

If the activity marked with a * lies within the strategic transport corridor this is a RD act	tivity.
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Activity		Business zones	Rural zones except Rural Conservation	space zones except Public Open	Conservation, Public Open Space Conservation,	Purpose zone - Quarry	All other zones and roads
Discharge of treated sediment laden water from any earthworks that complies with all relevant permitted activity controls	P	P	P	P	P	P	P
Discharge of treated sediment laden water from any earthworks allowed by a resource consent, under a regional land use consent in the above tables	P	P	P	P	P	P	P

1.2 Overlays

Activity	CPY and Riparian Yards	SEA	ONC	WSMA	HNC and ONL	Historic Heritage	SSMW	NSMA	100-year ARI flood plain This entire column is a regional rule	dunes
Fences, utility coni garden amenities, tracks but excludin	gardenin	g, plant	ing of a	ny vege		-	-			
Maintenance and repair	Р	Р	Р	Р	Р	Р	Р	Р	Р	Р
Installation of fences, walking tracks and burial of marine mammals	Р	Р	Р	Р	Р	Р	Р	Р	Р	Р
For drilling holes and bores refer to Taking, using, damming and diversion of water and drilling section.										
Cultivation										
Up to 500m ²	Р	RD	RD	RD	Р	RD*	D	RD	Р	D

From 500m ² up to 2500m ²	RD	D	D	D	Р	RD*	D	RD	Р	D
Greater than 2500m ²	D	D	D	D	Р	D	D	RD	Р	D
Irrigation or land d	rainage		•	•			•			
Works below the natural ground level	RD	RD	RD	RD	RD	D	D	RD	RD	D
Tracks for farming										
Maintenance earthworks	Р	Р	Р	Р	Р	P*	Р	Р	Р	Р
Forestry										
Maintenance earthworks	Р	Р	Р	Р	Р	P*	Р	Р	Р	Р
Network utilities an	d road ne	etworks								
Earthworks for maintenance and repair	Р	P*	RD	Р	Р	P*	RD	RD	Р	Р
General earthworks to the level permitted in this activity table below.	Р	Р	Р	P	Р	P*	NA	NA	NA	NA
Earthworks up to 2500m ² or 2500m ³ for installation	RD	RD	RD	RD	RD	RD*	RD	RD	RD	D
Earthworks greater than 2500m ² or 2500m ³	D	D	D	D	D	D	NC	RD	RD	D
Coastcare dune sta	bilisation	1		-		-		-	-	
Installation, maintenance and repair	Р	Р	Р	NA	Р	D	D	Р	RD	Р
General earthworks	not exp	ressly e	ither pe	rmitted o	r requir	ring resou	ırce con	sent abo	ove in this	s table
Less than 5m ² or 5m ³	Р	Р	Р	Р	Р	P*	D	RD	RD	D
From 5m ² up to 50m ² and from 5m ³ up to 250m ³	RD	RD	RD	RD	Р	RD*	NC	RD	RD	D
From 51m ² up to 500m ² and from 251m ³ up to 500m ³	RD	RD	RD	RD	RD	D	NC	RD	RD	D
From 501m ² up to 1000m ² and 1000m ³	D	D	D	D	D	D	NC	RD	RD	D
Greater than 1000m ² and 1000m ³	NC	NC	NC	NC	D	NC	NC	RD	RD	D

^{*} Discretionary activity where archaeological controls apply.

1.3 Outstanding Natural Features

Activity table – earth	works f	or Outst	anding	Natural	Features	3				
Activity	A1	Α	V1	V2	В	С	D	E	F1	F2
Fences, utility conne				_	_			-	-	
swimming pools, ga						planting	, burial	of marin	e mamn	nals, an
walking tracks but ex						Б	Б			
Maintenance and repair	Р	Р	Р	Р	P	Р	Р	Р	Р	Р
Vegetation planting for ecological restoration	P	Р	Р	D	D	D	D	NC	NC	D
Drilling for cores or	ground	vater bo	res is re	egulated	l in secti	on 4.2.3.	15 of the	e Unitary	/ Plan	
Cultivation										
Up to 500m ²	Р	Р	D	D	D	D	D	D	D	D
From 500m ² up to 2500m ²	Р	Р	D	D	D	D	D	D	D	D
Greater than 2500m ²	Р	Р	D	D	D	D	D	D	D	D
Irrigation or land dra	inage		_	_						
Works below natural ground level	D	D	D	D	D	D	D	NC	NC	NC
Forestry			-	-				-!	-!	-
Tracking, roading and all other earthworks	RD	RD	RD	D	D	D	D	NC	NC	D
Tracks for farming			-	-	-		-	-	-	
Maintenance earthworks	Р	Р	Р	Р	RD	Р	Р	D	D	D
Earthworks for new tracks up to 50m long	RD	D	D	D	D	D	D	D	D	D
Earthworks for new tracks greater than 50m long	D	D	D	D	D	D	D	D	D	D
Network utilities and	l road ne	etworks								
Earthworks for maintenance and repair	Р	Р	Р	RD	RD	RD	RD	RD	RD	RD
General earthworks to the level permitted in this activity table below	P	P	Р	P	NA	NA	NA	NA	NA	NA
Earthworks up to 2500m² or 2500m³ for installation	RD	RD	RD	RD	RD	RD	RD	RD	RD	NC
Earthworks greater than 2500m ² or 2500m ³	D	D	D	D	D	D	D	D	NC	NC

General earthworks	not expi	essly ei	ther perr	nitted or	requirin	ıg resou	rce cons	ent abo	ve in thi	s table
Up to 2m³	Р	Р	Р	Р	D	D	D	D	NC	NC
Up to 10m ³	Р	Р	D	RD	D	D	D	D	NC	NC
Up to 50m ³	Р	D	D	D	D	D	D	D	NC	NC
Greater than 50m ³	D	D	D	D	D	D	D	D	NC	NC

2. Controls

2.1 Permitted activities

All activities listed as permitted in the Activity tables above must comply with the following permitted activity controls below except that clauses 2.1.1.1-3 below do not apply to forestry.

2.1.1 General controls

- 1. Earthworks must not, after reasonable mixing, result in any of the following effects in receiving waters:
 - a. the production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials
 - b. any conspicuous change in the colour or visual clarity
 - c. any emission of objectionable odour
 - d. the rendering of fresh water unsuitable for consumption by farm animals
 - e. any significant adverse effects on aquatic life.
- 2. Best practice erosion and sediment control measures must be implemented for the duration of the earthworks. Those measures must be installed prior to the commencement of earthworks and maintained until the site is stabilised against erosion. Best practice in Auckland is generally deemed to be compliance with Auckland Council Technical Publication 90 Erosion and Sediment Control Guideline for Land Disturbing Activities in the Auckland Region or similar design.
- Dewatering of trenches and other excavations must be done in accordance with best practice and must not result in a discharge of untreated sediment laden water to any stormwater reticulation system or water body.
- 4. Works must not result in any instability of land or structures at or beyond the boundary of the property where the earthworks occurs.
- 5. The earthworks must not cause malfunction or result in damage to utility services, or change the cover over utility services so as to create the potential for damage or malfunction.
- 6. The earthworks must not alter the configuration of an overland flow path i.e. the works must maintain the same route of the overland flow path, maintain the same entry and exit point at the site boundary, and not alter the volume and velocity of water flow. Earth and other material stockpiles and must not be stored within an overland flow path.
- 7. Only cleanfill material may be imported and utilised as part of the earthworks.
- 8. Access to public footpaths, berms, private properties, public services/utilities, or public reserves must not be obstructed unless necessary to prevent harm to the public.
- 9. Measures must be implemented to ensure that any discharge of dust beyond the boundary of the site is avoided or limited such that it does not cause nuisance.
- 10. The earthworks must be located at least 20m from any scheduled historic heritage place or scheduled sites and places of significance to Mana Whenua.

- 11. If during the earthworks, kōiwi, archaeology or artefacts of Māori origin are uncovered, the accidental discovery protocol outlined in clause 2.5 of the General provisions.
- 12. Earthworks around Transpower NZ Ltd electricity transmission line poles must:
 - a. be no deeper than 300mm within 2.2m of a transmission pole support structure or stay wire; and
 - b. be no deeper than 750mm within 2.2 to 5m of a transmission pole support structure or stay wire; except that:
 - c. vertical holes not exceeding 500mm diameter beyond 1.5m from the outer edge of a pole support structure or stay wire are exempt from clauses a and b above.
- 13. Earthworks around Transpower NZ Ltd electricity transmission lines towers must:
 - be no deeper than 300mm within 6m of the outer visible edge of a transmission tower support structure; and
 - be no deeper than 3m between 6 to 12m from the outer visible edge of a transmission tower support structure.
- 14. Earthworks within 12m of a Transpower NZ Ltd electricity transmission line pole or tower must not:
 - a. create an unstable batter that will affect a transmission support structure; or
 - result in a reduction in the ground to conductor clearance distances as required by NZECP34:2001.
- 15. Clauses 12, 13 and 14 of the general controls above do not apply to earthworks:
 - a. undertaken by a network utility operator; or
 - b. undertaken as part of normal rural practices
 - c. for domestic gardening,
 - d. for repair, sealing or resealing of a road, footpath or driveway.
- 16. To prevent the spread of Kauri Dieback disease, vehicle and equipment hygiene techniques must be adopted so that no soil from earthworks within 30m of a New Zealand kauri tree is transported off site.
- 17. Burial of marine mammals must be undertaken by the Department of Conservation or the agents of the Department of Conservation.
- 18. If during earthworks, lava cavities (>1m diameter along any axis), fossils or sub-fossils are discovered, works within 20m of the discovery must cease the following accidental discovery protocol implemented:
 - a. the site owner or the site manager must immediately advise the council
 - b. the council will conduct a site inspection prior to modification, damage or destruction, and determine whether a thorough site investigation is required
 - c. plan and other documentation must be produced to provide a satisfactory record of the location, extent and any notable aspects of the feature
 - arterials of scientific or educational importance must be recorded and if necessary, recovered and preserved
 - e. if the site is assessed to be regionally significant reasonable measures must be taken to minimise adverse effects of the works on the scientific values of the site
 - f. in the case of a significant lava cave, reasonable measures shall be taken to maintain access to the cave once the works are completed
 - g. work within 20m of the discovery must not recommence until any necessary resource consent or other approval has been granted by the council.

2.2.1 Land disturbance within the 100-year ARI flood plain

- Earthworks including filling, must not to result in any reductions of on-site flood storage capacity and
 must contain within the subject site any changes to depth/duration/velocity of flood waters for a range
 of flood events
- 2. Earthworks including filling, must not change the flood characteristics beyond the boundary of the subject site for a range of flood events in ways that result in:
 - a. loss of flood storage
 - increase in flood depth or frequency
 - c. loss of/changes to flow paths including overland flow paths
 - d. acceleration or retardation of flows; or
 - e. any reduction in flood warning times elsewhere on the flood plain.

2.2.2 Cultivation

 Where the cultivated land is bounded on one or more down-slope sides by the CMA, a river, lake or stream, a minimum separation distance according with the table below is maintained in a vegetated condition at all times, except as required for the installation of sediment and erosion protection measures.

Table 1:

Slopes up to and including 20 degrees	5m
Slopes greater than 20 degrees	10m

2.2.3 Earthworks for commercial forestry

- 1. The council must be notified at least 48 hours prior to the earthworks starting.
- 2. The earthworks must not take place on land within a coastal fore-dune.
- Any tracking earthworks, planting or replanting of forestry trees must not occur on land that is in, or within 5m of:
 - a. either side of the bed of a water body excluding an intermittent stream; or
 - b. a SEA, Natural Lake Management Area, Natural Stream Management Area, Water Supply Management Area, Urban Lake Management Area.
- 4. If a SEA, Natural Lake Management Area, Natural Stream Management Area, Water Supply Management Area, Urban Lake Management Area, is present within 5m of an area of forestry, prior to harvesting, an operational plan detailing measures to avoid or mitigate adverse effects on these areas must be prepared and submitted to the council at least 48 hours prior to harvesting starting and the operational plan must be complied with.
- 5. Any area of forestry that is harvested, other than firebreaks, tracks, landing sites or area in 3 a and b above, must be planted, replanted or otherwise stabilised by establishing vegetated cover to protect from erosion as soon as practicable and no later than 18 months from the date of the harvesting, unless the area is left to re-vegetate naturally for a non-production land use.
- 6. Water runoff controls must be installed and maintained for track and landing sites.
- 7. Batters, cuts and side castings must be established by methods that prevent slumping.
- 8. Felled vegetation must be felled away from and not be dragged through any body of water other than

where this is:

- a. necessary to avoid endangering the health and safety of workers, or where it is unavoidable and is the best harvest method such as hauling through corridors or butt extraction, except that:
 - this must not occur in a SEA, Natural Lake Management Area, Natural Stream Management Area, Water Supply Management Area, Urban Lake Management Area, Wetland Management Area
 - ii. this must not occur in a water body greater than 5m wide.
- 9. Harvesting must be planned and carried out to minimise the amount of slash discharging into any area listed in 3a and entering any area listed in 3b above.
- 10. Slash must be removed from within areas listed in clause 3(a) above where it is blocking river flow, or is diverting river flow and causing bank erosion.
- 11. Slash associated with landing sites and processing sites must be placed on stable ground and contained to prevent accumulated slash from causing erosion or land instability.
- 12. Earthworks must be done in accordance with an erosion and sediment control plan that must be completed and submitted to the council prior to work beginning and must include:
 - a. a locality plan,
 - b. the description of the nature, scale, timing and duration of activities including construction, roading, the formation of any new tracking, earthworks, stabilisation and harvesting,
 - c. the erosion and sediment control measures to be employed and indicative locations, onsite catchment boundaries and offsite sources of runoff,
 - d. a programme of works,
 - e. detail heavy rainfall response and contingency measures,
 - f. identify maintenance and monitoring procedures,
 - g. identify procedures for review and amendment to the erosion and sediment control plan, and
 - h. relevant harvest plans (including maps and associated text).
 - i. the harvest plan maps must be produced at 1:5,000 up to 1:10,000 scale and must include, but not be limited to, the following:
 - i. title, date and north arrow,
 - ii. the harvest area boundary,
 - iii. any property boundaries in the vicinity of the harvest area,
 - iv. contours,
 - v. location of all proposed and existing roads, tracks, landings, firebreaks, stream crossings and associated culverts,
 - vi. associated text that describes the harvesting methodology (hauler or ground-base) and proposed extraction directions,
 - vii. location of any water bodies, streams and the bed of any lake,
 - viii. location of any wetland,
 - ix. location of any rare habitat, threatened habitat or at risk habitat within or adjacent to the harvest area.
 - x. location of any known historic heritage or wāhi tapu sites, outstanding natural features and

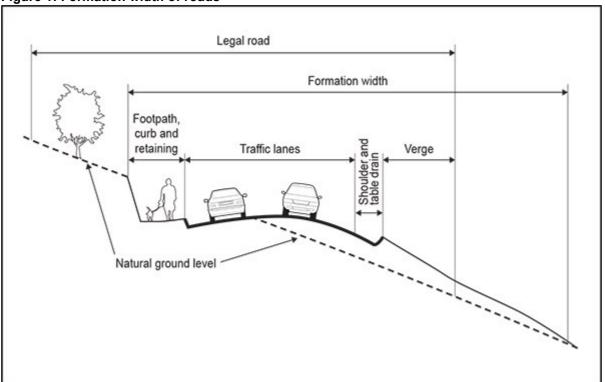
landscapes, areas of significant indigenous vegetation and habitats of significant indigenous fauna.

- xi. location of slash management and disposal areas for hauler landings,
- xii. location of end haul disposal areas, and
- xiii. any other area relevant to managing the harvest area.

2.2.4 Earthworks for the operation, repair and maintenance of existing network utilities

1. Any land disturbance associated with the operation, repair and maintenance of existing roads, will be undertaken within the formation width of existing roads.

Figure 1: Formation width of roads



- 2. Earthworks for the operation, repair and maintenance of underground utilities will be undertaken either:
 - a. within whichever is the lesser of either the legal width or the formation width of existing roads; or
 - b. on land previously disturbed or modified for the installation of the utility within the previous 20 years and with a total maximum width of 5m of disturbance associated with the current activity.
- 3. In addition to the standards above, earthworks for the operation, repair and maintenance of existing roads and underground utilities in ONFs will be undertaken on land and to a depth previously disturbed or modified for the installation of the utility within the previous 20 years.

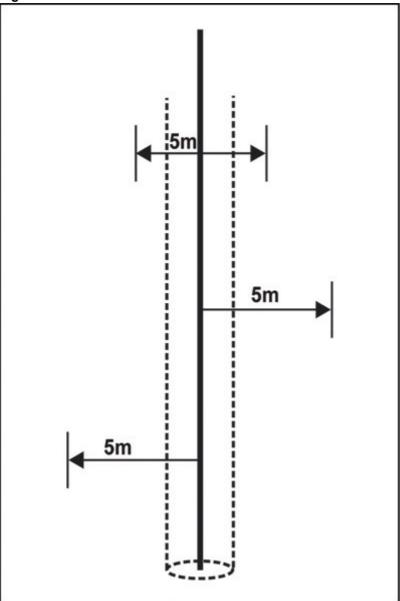


Figure 2: Combined 5m maximum width of centre line

- 4. Land disturbed for the operation, repair or maintenance of utilities outside the formation with of existing roads or abutments, or within an overland flow path, will be reinstated to the ground level prior to the works being undertaken as soon as practicable after completion of the works.
- Land disturbed for the operation, repair or maintenance of utilities will be stabilised by revegetation or other suitable means as soon as practicable after completion of the works to avoid erosion and scouring.

3. Assessment - Restricted discretionary activities

3.1 Matters of discretion

The council will restrict its discretion to the following matters as specified for the relevant activity below:

- 1. General
 - a. avoiding adverse effects of disturbance and sedimentation on water bodies, public utilities, roads and other property
 - b. the design and suitability of erosion and sediment control measures to be implemented during the works

- c. staging of works and progressive stabilisation
- d. timing and duration of works
- e. term of consent
- f. the control of vehicle movements and access to and from the site
- g. avoidance of potential public health and safety, and nuisance effects.
- h. the treatment of stockpiled materials on the site including requirements to remove material if it is not to be reused on the site
- i. the management of dust, noise and vibration
- j. avoiding adverse effects on overland flow paths and flooding
- k. avoiding or mitigating natural or manmade hazards
- I. protection of or provision of public utility services and roads
- m. land stability and geotechnical assessment
- n. potential effects on natural and historic heritage
- o. potential effects on the mauri of water
- p. landscape treatment, screening and site layout and design.
- 2. Additional matters of discretion for earthworks within overlay areas
 - a. cumulative effects of sedimentation within the catchment.
 - b. potential effects on the water quality of taiāpure or mahinga maataitai, wāhi tapu, taonga and other scheduled sites and places of significance to Mana Whenua
 - c. landscape effects
 - d. avoidance of effects on water quality within water supply catchments.
- 3. Additional matters of discretion for earthworks for forestry
 - a. measures to manage discharges of contaminants and or debris from the earthworks, including discharges of sediment, slash and stormwater
 - b. measures to retain sediment on the land and avoid, remedy or mitigate erosion
 - c. measures to avoid, remedy or mitigate adverse effects on scheduled sites and places of significance to Mana Whenua, and significant habitats of indigenous flora and fauna, and significant indigenous vegetation, including geothermal vegetation
 - d. information and monitoring requirements.

3.2. Assessment criteria

General

When assessing an application for restricted discretionary activity consent, the council will consider whether the proposal will give effect to the assessment criteria provided below to determine the appropriateness of the proposal and options to avoid, remedy or mitigate potential adverse effects:

a. the proximity of the proposed earthworks to any water body and the extent to which erosion and sediment controls and the proposed construction methodology will adequately avoid or minimise adverse effects on:

- i. water quality
- ii. ecological health
- iii. stream bank erosion
- iv. riparian margins
- v. the mauri of water
- vi. the quality of taiāpure or mahinga mātaitai.
- b. the extent to which the earthworks avoids or exacerbates flooding at the site or at any location upstream or downstream of the works
- c. the extent to which the earthworks avoids unnecessary soil compaction
- d. the extent to which the effects from natural hazards will be avoided or mitigated and the extent or impacts of such effects; the extent to which earthworks affect the stability and erosion potential of the site and surrounding area
- e. the extent to which the earthworks avoids the elevation of activities on raised ground levels, obscuring views from, visually dominating or overshadowing adjacent sites and neighbouring sites
- f. whether the measures to mitigate potential noise and dust nuisance and detraction from visual amenity values of the area have been considered, and the extent or impacts of such effects
- g. whether the extent or impacts of adverse effects from the earthworks can be mitigated by limiting the duration, season or staging of such works
- whether traffic generation will have adverse effects on the amenity values of areas, health and safety of road users or pedestrians, or adverse effects on the carriageways of roads through which it is likely to pass
- i. whether the earthworks and final ground levels will adversely affect overland flow paths or increase potential volume or frequency of flooding within the site or surrounding sites
- j. the extent to which potential adverse effects on the stability of the site and adjacent properties has been provided for
- k. whether the earthworks and final ground levels will adversely affect existing utility services
- the extent to which the area of the earthworks is minimised and is consistent with the scale of development being undertaken
- m. the extent to which the earthworks, its design, location and execution are proximate to and provide for the maintenance and protection of:
 - i. protected trees
 - ii. cliff faces/cliff tops
 - iii. sites of geological or archaeological significance
 - iv. scheduled sites and places of significance to Mana Whenua
 - v. historic heritage sites
 - vi. significant landscape features
 - vii. reserves.
- n. the extent to which the earthworks is necessary to accommodate development otherwise permitted by the Unitary Plan, or to facilitate the appropriate use of land in the open space environment, including

- development proposed in a relevant operative reservomanagement plan or parks management plan
- o. whether monitoring the volume and concentration of sediment that may be discharged by the activity is appropriate within the scale of the proposed earthworks
- p. for earthworks near Transpower New Zealand Limited:
 - i. the outcome of any consultation with Transpower New Zealand Limited
 - ii. the risk to the structural integrity of transmission lines.
- q. the extent to which appropriate methods are used to prevent the spread of Total Control Plants or Unwanted Organisms, where these are present on the site.
 - 2. Additional assessment criteria for earthworks within overlay areas
 - a. whether the earthworks proposed in a SEA, Natural Lake Management Area, Natural Stream Management Area, Water Supply Management Area, Urban Lake Management Area, or Wetland Management Area are done so they have no adverse effect, or minimum adverse effect, on the ecology and wildlife of the area and in particular, where relevant:
 - i. nesting, feeding and breeding of species
 - ii. biological processes
 - iii. connections between ecosystems
 - iv. the diversity of species
 - v. the habitat of threatened or protected species, both terrestrial and aquatic
 - vi. cumulative effects.
 - b. how potential effects on water quality within water supply catchments will be avoided
 - c. whether the works will result in a cumulative effects of sedimentation within the catchment
 - d. potential effects on Mana Whenua cultural heritage
 - e. landscape treatment, screening and site layout.
 - Additional assessment criteria for earthworks that disturb lava cavities >1m diameter along any axis or fossils or sub-fossils
 - a. The extent to which adverse effects on the features can be avoided or mitigated having regard to:
 - if the site is assessed to be regionally significant in accordance with RPS Protecting our historic heritage, historic character and natural heritage, natural heritage, landscape and natural features policy 1, whether reasonable measures can be taken to minimise adverse effects of the works on the scientific values of the site if it is assessed to be regionally significant
 - ii. the provision of a satisfactory record of the location, extent and any notable aspects of the feature
 - iii. the documentation, recovery and preservation of materials of scientific or educational importance
 - whether access can be maintained to significant lava caves once the works are completed.