

2017-2018 Comprehensive Plan Amendment Docket (Item 1)
2016-2018 Comprehensive Plan Update
Mineral Resource Lands Draft Designation Map Options
Public Hearing Staff Report

Date: February 28, 2018

Public Hearing Date: March 7, 2018

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Proponent/Applicant: Thurston County

Proposal Description: Amend Chapter 3 of the Thurston County Comprehensive Plan and Map M-43 of Designated Mineral Lands

Action Requested: Recommend criteria and map option for Designated Mineral Resource Lands.

Location: Countywide

Map Changes Text Changes Both Affects Comprehensive Plans/documents
 Affected Jurisdictions: Thurston County

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ISSUE:

Thurston County currently is evaluating where and how to designate mineral lands of long term commercial significance. Staff have requested a recommendation from the Planning Commission on the scope of criteria to be considered in designating mineral lands.

By designating mineral resource land, the County does not imply that mining-related activities will automatically occur there. New mining operations planned in areas designated as mineral resource lands will be reviewed before they are permitted to operate, in accordance with all relevant state and local regulations.

BACKGROUND:

Under the Growth Management Act, Thurston County is required to designate mineral resource lands of long-term commercial significance as part of its Comprehensive Plan (RCW 36.70A.170). This designation must be reviewed as part of the periodic Comprehensive Plan update (RCW 36.70A.131).

Mineral resource lands include areas where geology and other factors may support the commercial extraction of minerals, including sand, gravel, and metals.

1 **Mineral Lands History**

2 Thurston County first established designation criteria for mineral resource lands in 1993. Those
3 criteria were substantially amended in 2010, and that amendment was challenged to the Western
4 Washington Growth Management Hearings Board (GMHB)¹. The GMHB directed the County
5 to reconsider its criteria for mineral lands, and in response, the county adopted its current
6 designation criteria in 2013. The Growth Management Hearings Board (GMHB) found that
7 Thurston County’s current criteria achieved compliance with RCW 36.70A.170 (1) and (2),
8 WAC 365-190-020 and 365-190-040 with these amendments.²

9
10 During the case, the County argued and the GMHB agreed that several of the issues raised in the
11 case should be dismissed because the County had not yet updated its mineral lands designation on
12 the official Future Land Use Map, and would do so as part of the periodic update to the
13 Comprehensive Plan. The official Designated Mineral Resource Lands Map (M-43) has not been
14 updated since November 2003.

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16 **State Guidelines for Designation of Mineral Lands**

17 Counties must designate mineral resource lands in order to achieve the Natural resource
18 industries goal of the Growth Management Act (RCW 36.70A.020(8)). State guidelines include
19 that counties:

- 20 • Must approach designation as a countywide process, and not review mineral lands solely
21 on a parcel-by-parcel basis (WAC 365-190-070(1));
- 22 • May consider a longer planning period than the typical 20 years, to assure the availability
23 of minerals for future uses and not preclude their access due to incompatible development
24 (WAC 365-190-070(2));
- 25 • Should base their classification of mineral lands on underlying geology and distance to
26 market (WAC 365-190-070(3d)), and should use information from the Department of
27 Natural Resources (DNR), the United States Geological Service, and relevant information
28 from property owners (WAC 365-190-070(3c));
- 29 • Should determine if adequate mineral resources are available for projected needs from
30 designated mineral lands (WAC 365-190-070(4b));
- 31 • Must consider mining a temporary use at any given location, that could be followed by
32 another land use after mining is completed (WAC 365-190-070(4d));
- 33 • Should designate mineral lands as close as possible to their likely end use area (WAC
34 365-190-040(5e));

35
36 In classifying mineral resource lands, counties should consider the following minimum
37 guidelines (WAC 365-190-070):

- 38 • Geology: depth and quality of resource and characteristics of resource site
- 39 • Projected life of the resource
- 40 • Resource availability and needs in the region
- 41 • Accessibility and proximity to point of use or market
- 42 • Energy costs of transporting materials
- 43 • Proximity to population areas
 - 44 ○ General land use patterns
 - 45 ○ Availability of utilities, including water supply

¹ *Weyerhaeuser Company, et al. v. Thurston County*, Case No. 10-2-0020c.

² For a more detailed timeline, see the June 15, 2017, Memorandum to the Planning Commission, (attachment C).

- Surrounding parcel sizes and uses
- Availability of public roads and public services
- Subdivision and zoning of small lots

When potential mineral lands overlap critical areas or other natural resource areas:

- If a critical area designation overlies a natural resource land designation, both designations apply, and the multiple designations are to be reconciled through local development regulations. (WAC 365-190-040(7a))
- If two or more natural resource land designations apply, counties and cities must determine if these designations are incompatible. If they are incompatible, counties and cities should examine the criteria to determine which use has the greatest long-term commercial significance, and that resource use should be assigned to the lands being designated. (WAC 365-190-040(7b))

Overall, state guidelines direct that:

“Successful achievement of the natural resource industries goal set forth in RCW [36.70A.020](#) requires the conservation of land base sufficient in size and quality to maintain and enhance those industries, and the development and use of land use techniques that discourage uses incompatible to the management of designated lands.”

WAC 365-190-040(5d)

Inventory and Classification

In order to meet state guidelines, Thurston County contracted with Associated Earth Sciences, Inc. (AESI) to identify and classify mineral resources in the County and create a base inventory map showing the location of mineral resources. AESI developed a draft inventory and classification system largely based on data from DNR and USGS, with some supplementary information from Washington Department of Transportation and private studies. This draft was released for public review on May 1, 2017, and a public comment period was open from May 1 to 24. All properties potentially affected by the draft inventory were notified by mail of the comment period, and staff held an Open House on May 17, 2017. A revised inventory and classification study was completed in August 2017.³

The inventory identifies both aggregate (sand and gravel) and quarry rock resources in Thurston County and classifies various resource areas based on their potential quality (ability to meet market needs with minimal processing, A-C) and quantity (thickness of resource, 1-3)⁴. Type D prospects were those considered unfeasible as economic resources and were excluded from designation. The study also considers economic factors, including market value and demand, and identifies minimal additional resources in the county for coal, iron ore, and copper ore.

Sand and gravel are the major mineral resources in Thurston County, and AESI’s inventory study estimates 6.1 billion tons of sand and gravel resources countywide. The vast majority of this resource (88%) is classified as Type 3 with average depths of less than 50 feet thick, while thick resources (Type 1) are relatively rare. One consequence of the dominance of these thinner

³ AESI, *Mineral Resource Lands of Long-Term Commercial Significance Inventory Study*, August 2017.

<http://www.co.thurston.wa.us/planning/comp-plan/docs/mineral-lands-inventory-study-august-2017.pdf>

⁴ Depth of bedrock was not calculable within the scope of this study, so quarry rock resources are only classified by quality.

deposits is that a broader area of surface disturbance is required to obtain the same volume of aggregate.

Bedrock resources in the county are more limited, but Thurston County is a source of specialty rock products, including Tenino sandstone and claystone, and a type of quarry rock in high demand for revetments along marine shorelines.

DEPARTMENT ANALYSIS:

Criteria for Designation

The goal of this mineral lands designation process is to identify lands in Thurston County that are most appropriate to conserve for future resource use given the geology, economic value, location, and surrounding land uses. Staff have considered a variety of criteria that could be used to screen inventoried mineral lands, including jurisdictional, land use, and environmental factors. Criteria are used to include or exclude categories of land from the mineral lands designation, based on the presence of characteristics that enhance or limit compatibility of mineral extraction with surrounding uses, or characteristics that enhance or limit the economic feasibility of mining.

Not all considerations can be addressed through the designation mapping stage of mineral resource lands. Some criteria may not have corresponding available, reliable, spatial data; other issues may be better suited for an individual case-by-case evaluation and should be addressed at the permitting stage.

Considerations	Potential Criteria
JURISDICTIONAL FACTORS	
Non-County Governmental Jurisdiction	<ul style="list-style-type: none"> Federal lands – national forests, military reservations, wildlife refuges State lands – where mining would be inconsistent with management policy City boundaries Tribal lands
LAND USE FACTORS	
Compatibility with Adjacent Land Uses	<ul style="list-style-type: none"> Parcel size (5 acres or less) Surrounding parcel size (parcels 5 acres or larger when more than 40% of surrounding parcels within 1,000 feet are less than 5 acres in size) Proximity to developed or planned urban residential land uses Proximity to other resource uses (forestry) Existing mining operations or existing designated mineral resource lands
Sensitive Land Uses	<ul style="list-style-type: none"> Mapped archaeological and historic sites Parks and nature/wildlife preserves Designated agricultural lands
ENVIRONMENTAL FACTORS	
Critical Areas	<ul style="list-style-type: none"> FEMA Flood Zones

	<ul style="list-style-type: none"> • Critical Aquifer Recharge Areas (1, 5, and 10-year wellhead protection areas; Community Group B Water Systems) • Steep Slopes (Slopes; Marine Landslide Hazard Areas) • Habitat (State and Federal Threatened and Endangered Species; Mazama Pocket Gopher preferred soil types) • Wetlands
Shorelines	<ul style="list-style-type: none"> • Shorelines of statewide significance • Floodplains in the shoreline jurisdiction
Other considerations	<ul style="list-style-type: none"> • Aesthetics, • Utility corridors • Public facilities (schools, hospitals, colleges libraries) • Transportation

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Some environmental criteria, such as wetlands and slopes, were removed from further consideration due to low data quality (i.e. inaccurate at the site-level or not available county-wide).

Co-designation of Long Term Forestry and Agriculture

Co-designation of forest lands and mineral lands was one of the 23 issues brought by the *Weyerhaeuser et al.* challenge in 2010. The GMHB held that Thurston County must reconsider its exclusion of forest lands, and under its current criteria, the County allows for co-designation of forest and mineral lands. Co-designation of agricultural lands and mineral resource lands was not specifically addressed in the case. To date, the County has not co-designated agricultural lands and mineral lands.

WAC 365-190-040(7)(b) directs jurisdictions to determine whether overlapping resource lands designations can coexist or are incompatible. According to the WAC, if two resource uses are determined to be incompatible, the designation should be based on which resource use has the greatest long-term commercial significance.

While literature exists on reclamation of mineral lands for agricultural purposes, quality of restoration depends heavily on the reclamation process. Additionally, much of the available literature shows that reclamation can take upwards of 30 years. Considerations of co-designation of Long Term Agriculture and mineral resource lands were addressed in a memo to the Planning Commission dated November 15, 2017.

Broad vs Narrow Approach

In discussions with stakeholders, staff identified two general approaches the County could take for the designation of mineral resource lands. Some stakeholders would prefer the County take a broad approach, and designate everything that is a “potential” mineral land based on the inventory and classification. This approach would allow for the largest designation of mineral lands, ensuring all areas with mineral resources that meet the basic criteria are included and conserved through designation, and would reduce the amount of properties that would need a

1 Comprehensive Plan Amendment to pursue mining activity. However, this option could create a
2 misleading representation of where mining would ultimately be permitted, and thus an inaccurate
3 understanding of the supply of mineral resources available for future growth. Stakeholders also
4 worried that this approach could create an expectation that mineral extraction is a reasonable use
5 of all properties included in the designation. Taking a broad approach relies more heavily on
6 review of environmental considerations through critical area determinations and the State
7 Environmental Policy Act (SEPA) process at the individual project level and on code
8 enforcement.

9 Other stakeholders prefer the County take a narrow approach, and exclude lands that may not be
10 eligible for mining. This approach would use all best available data to exclude lands that ultimately
11 may not be eligible for mineral extraction (including critical areas), and would place a greater onus
12 on the project applicant to prove their property meets all criteria at the site scale. Taking a narrow
13 approach to designation may provide a more “realistic” estimate of where mining activities would
14 ultimately be permitted, and is more protective of critical areas and other resources that may
15 overlap mineral lands. However, taking such a narrow approach may not be consistent with state
16 guidance on overlapping designations that critical areas be reconciled through development
17 regulations rather than at the designation stage. In addition, existing data layers for some criteria
18 are not accurate to the site scale.

19 20 **Tax Implications**

21 Tax value is not affected directly by designation or zoning. Tax values of a property are determined
22 by property characteristics (size, age, style, quality and condition) and current activity in the real
23 estate market. Each year, approximately one-sixth of the County is physically inspected, along
24 with a large number of sale transactions to update characteristics about building and land. Zoning
25 and/or designation does not affect the property characteristics and surrounding real estate market.

26 27 **Affected Parties**

28 The designation of mineral resource lands has the potential to affect properties and citizens within
29 the mapped designation. The Mineral Lands Designation Overlay is intended to conserve and
30 protect mineral lands from development and potential land use conflicts which might preclude
31 future mineral extraction. Hence, some land use activities could be restricted within the Overlay.
32 Properties adjacent to the designated area may also be affected.

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34 By designating areas as mineral resource land, the County does not imply that mining-related
35 activities will automatically occur or be permitted there. Rather, the excavation and processing of
36 minerals is limited to lands within the Mineral Lands Overlay, and only that land is eligible for
37 permitting of mineral operations. Once mining operations are permitted, other considerations, such
38 as traffic, noise, pollution, and visual obstruction may affect properties and citizens outside of
39 designated areas.

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41 Designation will affect the available supply of mineral resource lands where a mining operator
42 could apply for a permit. Therefore, designation will impact construction and aggregate industries
43 locally and in the region; the extent of this impact is unknown, due to a high amount of extraneous
44 factors that could also influence the industry.

1 **OPTIONS:**
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3 The options below are map changes to the designated mineral lands map, Map M-43. There will
4 also be text changes to Chapter 3 of the Comprehensive Plan. Text changes will depend on the
5 option that moves forward.
6

7 All options discussed below reflect the following:

- 8 • Based on mineral lands identified in the AESI inventory
- 9 • Exclude areas outside of Thurston County jurisdiction, including cities, federal lands
10 (including military reservation), and tribal lands
- 11 • Include areas currently designated as mineral lands (Map M-43)
- 12 • Include areas with mining operations permitted through DNR, as of September 26, 2017
- 13 • Include parcels identified by Granite Construction Company on May 24, 2017 during the
14 formal comment period on the Thurston County Mineral Resource Lands inventory
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17 **Map 1: Mineral Lands Designation – Current Designation Criteria**

- 18 1) This option maps mineral lands county-wide based on the current designation criteria in
19 the Thurston County Comprehensive Plan. Under the current criteria, areas excluded are:
- 20 • Public parks, preserves, national wildlife refuges, state conservation areas, and
21 areas within 1,000 feet of those areas;
 - 22 • Urban Growth areas and areas within 1,000 feet of UGA boundaries;
 - 23 • Parcels smaller than 5 acres;
 - 24 • Parcels 5 acres or larger when more than 40% of surrounding parcels are less than
25 5 acres in size;
 - 26 • Parcels with historic sites; and
 - 27 • Parcels designated as Agricultural Lands of Long Term Significance – identified as
28 LTA or Nisqually Agriculture.
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30 Considerations:

- 31 • Allows for the second-largest designation of mineral lands (141,331 acres) of all
32 the options.
- 33 • **Bedrock:** Designates 99.8% of areas identified in the inventory as containing the
34 highest quality bedrock (quarry rock) resources.
- 35 • **Sand and gravel:** Designates 40% of areas identified in the inventory as
36 containing the highest quality sand and gravel resources.
- 37 • **Long-Term Forestry:** Co-designates 73% of all areas identified as Long Term
38 Forestry (total LTF = 144,024 acres):
 - 39 ▪ 87% of Capitol Forest would be designated mineral land, under this option
- 40 • **Long-Term Agriculture:** Does not co-designate Long Term Agriculture and
41 Mineral Resource Lands.
- 42 • Limits the number of properties that would require a Comprehensive Plan
43 Amendment to pursue mining activity.
- 44 • Does not exclude areas with known potential environmental or other constraints
45 that may ultimately preclude approval of a mining activity permit.
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1 **1a)** This option includes all areas on Map 1, but allows for co-designation with agriculture of
2 long-term commercial significance (identified as Long Term Agriculture and Nisqually
3 Agriculture).
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5 Considerations:

- 6 • Allows for the largest designation of mineral resource lands (143,391 acres) of all
7 the options – this is 2,060 more acres than Option 1.
 - 8 • **Bedrock:** Designates 99.8% of areas identified in the inventory as containing the
9 highest quality bedrock (quarry rock).
 - 10 • **Sand and gravel:** Designates 40.7% of areas identified in the inventory as
11 containing the highest quality sand and gravel resources.
 - 12 • **Long-Term Agriculture:**
 - 13 ▪ Consistent with WAC 365-190-040(7)(b)
 - 14 ▪ Increases MRL designation by 2,060 acres (~ 1.5%)
 - 15 ▪ Affects 13% of area designated LTA (total LTA = 15,878 acres).
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18 **Map 2: Mineral Land Designation – Broad Exclusionary Criteria**

19 **2)** This option maps mineral lands county-wide based on the current designation criteria
20 (Option 1) and has additional exclusionary criteria. Additional exclusionary criteria are:

- 21 • FEMA Flood zones;
 - 22 • Group A Wellhead Protection for 1, 5, and 10-year time of travel;
 - 23 • Parcels with a Group B Community System;
 - 24 • Marine shoreline landslide hazard areas;
 - 25 • Habitat for state and federal threatened and endangered species, including, but not
26 limited to, Mazama Pocket Gopher, Taylor’s Checkerspot Butterfly, Streaked
27 Horned Lark, Chinook Salmon, and Oregon Spotted Frog;
 - 28 • Mazama Pocket Gopher preferred soils as recommended by WDFW;
 - 29 • Limited Areas of More Intensive Rural Development (LAMIRD) with densities
30 greater than 1 du/acre; and
 - 31 • DNR Mima Mounds.
- 32

33 Considerations:

- 34 • Designates 107,447 acres of mineral resource lands – this is the smallest area of
35 designation among all the options.
- 36 • **Bedrock:** Designates 94.5% of areas identified in the inventory as containing the
37 highest quality bedrock (quarry rock).
- 38 • **Sand and gravel:** Designates 10.5% of areas identified in the inventory as
39 containing the highest quality sand and gravel resources. This is substantially less
40 than Options 1 or 3.
- 41 • **Long-Term Forestry:** Co-designates 64% of all areas identified as Long Term
42 Forestry (total LTF = 144,024 acres):
 - 43 ▪ 85% of Capitol Forest would be co-designated mineral and forest land,
44 under this option
- 45 • Excludes sites that may not be appropriate for mining due to environmental or other
46 constraints from moving forward to the permitting stage. This potentially may

1 provide applicants and the public with a more accurate estimate of where mining
2 can occur within the county.

- 3 • Excludes lands that could potentially meet the criteria for mineral lands, once
4 reviewed at the site scale, and may require more individuals to go through the
5 Comprehensive Plan Amendment process.
- 6 • Exclusionary criteria could reduce the number of larger parcels and groups of
7 parcels designated (resulting in a “Swiss Cheese” effect).
- 8 • Does not co-designate Long Term Agriculture and Mineral Resource Lands.

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10 **2a)** This option includes all areas on Map 2, but co-designates agriculture of long-term
11 commercial significance (identified as Long Term Agriculture and Nisqually Agriculture)
12 that would not otherwise be excluded through the criteria above. An additional 663 acres
13 are co-designated.

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15 Considerations:

- 16 • Designates 108,110 acres of mineral resource lands.
- 17 • **Bedrock:** Designates 94.5% of areas identified in the inventory as containing the
18 highest quality bedrock (quarry rock).
- 19 • **Sand and gravel:** Designates 10.6% of areas identified in the inventory as
20 containing the highest quality sand and gravel resources.
- 21 • **Long-Term Agriculture:**
 - 22 ▪ Consistent with WAC 365-190-040(7)(b)
 - 23 ▪ Increases Map 2 MRL designation by 663 acres (~ 0.6%)
 - 24 ▪ Affects 4% of area designated LTA (total LTA = 15,878 acres).

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27 **Map 3: Mineral Lands Designation – Staff Recommended Criteria**

28 **3)** This option maps mineral lands county-wide based on the current designation criteria (1)
29 and has additional exclusionary criteria. Additional exclusionary criteria are:

- 30 • FEMA Flood Zones;
- 31 • Marine shoreline landslide hazard areas; and
- 32 • DNR Mima Mounds.

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34 Several criteria are included in the mineral resource lands designation under this option,
35 but are shown as “Designated Mineral Lands where additional review may be necessary”:

- 36 • Group A Wellhead Protection for 1, 5, and 10-year time of travel;
- 37 • Parcels with a Group B Community System;
- 38 • Habitat for state and federal threatened and endangered species, including, but not
39 limited to, Mazama Pocket Gopher, Taylor’s Checkerspot Butterfly, Streaked
40 Horned Lark, Chinook Salmon, and Oregon Spotted Frog;
- 41 • County Wetlands Inventory.

42 These areas are considered designated mineral lands, but may require further review at the
43 permit-level.

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45 Considerations:

- 46 • Designates 135,765 acres of mineral resource lands.

- 1 • **Bedrock:** Designates 94.5% of areas identified in the inventory as containing the
- 2 highest quality bedrock (quarry rock).
- 3 • **Sand and gravel:** Designates 29% of areas identified in the inventory as
- 4 containing the highest quality sand and gravel resources.
- 5 • **Long-Term Forestry:** Co-designates 72% of all areas identified as Long Term
- 6 Forestry (total LTF = 144,024 acres):
- 7 ▪ 87% of Capitol Forest would be designated mineral land, under this option
- 8 • Excludes sites that may not be appropriate for mining due to environmental or
- 9 other constraints from moving forward to the permitting stage. This potentially
- 10 may provide applicants and the public with a more accurate estimate of where
- 11 mining can occur within the county.
- 12 • Limits exclusionary criteria to those areas that are mapped with high confidence,
- 13 however, could still potentially exclude some lands that would meet the criteria
- 14 for mineral lands, once reviewed at the site scale.
- 15 • May require more land to go through a comprehensive plan amendment to be
- 16 designated than Option 1, but less land than Option 2.
- 17 • Does not co-designate Long Term Agriculture and Mineral Resource Lands.

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 19 **3a)** This option includes all areas on Map 3, but co-designates agriculture of long-term
 20 commercial significance (identified as Long Term Agriculture and Nisqually Agriculture)
 21 that would not otherwise be excluded through the criteria above.

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 23 Considerations:

- 24 • Designates 137,492 acres of mineral resource lands – this is 1,727 acres more
- 25 than Option 3.
- 26 • **Bedrock:** Designates 94.5% of areas identified in the inventory as containing the
- 27 highest quality bedrock (quarry rock)
- 28 • **Sand and gravel:** Designates 29.7% of areas identified in the inventory as
- 29 containing the highest quality sand and gravel resources
- 30 • **Long-Term Agriculture:**
- 31 ▪ Consistent with WAC 365-190-040(7)(b)
- 32 ▪ Increases Map 2 MRL designation by (1.3%)
- 33 ▪ Affects 11% of area designated LTA (total LTA = 15,878 acres).

34
 35 **NOTIFICATION:**

36 Written notice of the public hearing was published in *The Olympian* on February 9, 2018. A
 37 webmail announcement was sent to the Long Range Planning Division’s email listserv on February
 38 16, 2018 and a press release was issued on February 28, 2018.

39
 40 **STAFF RECOMMENDATION:**

41 Option 3/3A. This option designates a substantial portion of the areas identified as having the
 42 highest quality mineral resources, while excluding limited areas with known environmental or
 43 land use factors that would likely preclude permitting at the site scale. This option also illustrates
 44 other criteria, such as habitat areas and wellhead protection areas, as “Designated Mineral Lands
 45 where additional review may be necessary” in order to give applicants and the public a better
 46 understanding of where mineral activities may be permitted. These areas are considered

1 Designated Mineral Lands, but visually illustrate where further review may be required at the
2 permit level, based on environmental or land use factors.

3

4 **ATTACHMENTS:**

5 ATTACHMENT A: Designation Option Maps 1-3

6 ATTACHMENT B: Summary of Option Acreages

7 ATTACHMENT C: Planning Commission Memo – Mineral Lands Designation June 15, 2017

8 ATTACHMENT D: Quality Analysis of Map Options