

ATTACHMENT 2: NATURAL RESOURCES CONSERVATION SERVICE LAND EVALUATION EXPLANATIONS AND CALCULATIONS—MADERA COUNTY

INTRODUCTION

This attachment provides an explanation for corridor assessment points assigned to the Central Valley Wye alternatives in part VI of the NRCS-CPA-106 form prepared for Madera County.

Explanations

SR 152 (North) to Road 13 Wye Alternative

- 1. How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?** The regional consultant generated a buffer of 1 mile around the Central Valley Wye alternatives, including the temporary construction easement, to determine the total acreage of land within a 1-mile radius of the alternative in Madera County. The regional consultant overlaid the buffer on a map of the Farmland Mapping and Monitoring Program categories, which include Urban and Built-Up Land. For this analysis, Urban and Built-Up Land is considered urban use (DOC 2014). Then the acreage within the buffer that is classified as Urban and Built-Up Land was calculated using a Geographic Information System, and the remaining acreage was considered nonurban use. The results indicated that 96 percent of the total acreage within the buffer was nonurban use. This criterion received a score of 15.
- 2. How much of the perimeter of the site borders on land in nonurban use?** The regional consultant measured the length of the perimeter of the alternative, including the temporary construction easement, to determine the total length of the perimeter in Madera County. Then the proportion of the alternative perimeter that borders on land classified as Urban and Built-Up Land was calculated by the regional consultant, and the remaining proportion of the perimeter was considered to border nonurban use. For this analysis, Urban and Built-Up Land is considered urban use (DOC 2014). The results indicated that 98 percent of the alternative perimeter borders nonurban use. This criterion received a score of 10.
- 3. How much of the site has been farmed more than 5 of the last 10 years?** According to satellite imagery analysis of the Central Valley Wye alternatives area for the years between 2005 and 2015¹ as well as information from the Madera County Department of Agriculture (McNeill 2014), the vast majority (i.e., over 90 percent) of the land in the vicinity of this alternative has been consistently farmed for 10 or more years. This criterion received a score of 20.
- 4. Is the site subject to state or local government policies or programs to protect farmland or covered by private programs to protect farmland?** The Central Valley Wye alternatives area, including remnant parcels that would likely not be suitable for farming after construction of the Central Valley Wye alternatives, in Madera County was overlaid on a map of Protected Farmland (DOC 2014), defined as lands enrolled in Williamson Act or Farmland Security Zone contracts. No farmlands are protected by private programs such as conservation easements. The results indicated that 24 percent of the land within the project footprint in Madera County is Protected Farmland. This criterion received a score of 20.
- 5. Are the farm units containing the site as large as the average-size farming unit in the county?** The average size farm in Madera County was 434 acres in 2012 (U.S. DOA 2012), the most recent year for which average farm size data are available. The alternative traverses

¹ Satellite imagery was not available for the years of 2007, 2008, and 2013.

farm units that are an average of 92 acres, or approximately 79 percent smaller than the average farm unit. Therefore, the farm units within the project footprint are similar in size to the farm units throughout Madera County. This criterion received a score of 0.

6. **How much of the remaining land on the farm will become nonfarmable if this site is selected?** In some cases this alignment deviates from transportation corridors and bisects or otherwise severs agricultural parcels. Some of the remnant parcels resulting from this severance may not be viable for continued agricultural use. The regional consultant team used GIS software to identify parcels of Important Farmland that would be 20 acres or less following severance due to construction of the HSR system. It was assumed that parcels greater than 20 acres would be viable for continued agricultural use. Analysts then evaluated the characteristics of each of the remnant parcels 20 acres or less using criteria described in Appendix 3.14-C, Remnant Parcel Analysis and Important Farmland Mitigation, to determine which parcels would be viable for continued agricultural use and which parcels would likely result in conversion to nonagricultural use. The acreage of the remainder parcels determined not viable for continued agricultural use was compared to the acreage of the original parcel. The results indicated that the acreage of nonviable remainder parcels on farmable land would total approximately 4.8 percent of the acreage of the original parcels that would be within the project footprint of this alternative. This criterion received a score of 0.
7. **Does the site have available adequate supply of farm support services and markets?** According to the Madera County Farm Bureau (Raudabaugh 2014), all required services are available. This alternative would not have an impact on farm services. This criterion received a score of 5.
8. **Does this site have substantial and well maintained on-farm investments such as barns, fruit trees and vines, field terraces, drainage, irrigation, waterways, and other soil and water conservation measures?** According to satellite imagery analysis of the Central Valley Wye alternatives area, the overall amount of on-farm investment is high. Ancillary agricultural structures, barns, and large stables/feeding bins were observed on the farms. Soil and water conservation measures have been applied to many of the fields. This criterion received a score of 20.
9. **Would this project, by converting the land to nonagricultural use, reduce the support for farm support services in the area?** The regional consultant overlaid the alternative on a map of the Farmland Mapping and Monitoring Program categories to determine how many acres of Important Farmland would be permanently converted. According to information from the Madera County Department of Agriculture, any conversion of farmland would be accompanied by a reduced demand for related support services (McNeill 2014). However, considering there are approximately 759,400 acres of Important Farmland and Grazing Land in Madera County (DOC 2014), the permanent conversion of 1,643 acres of Important Farmland and Grazing Land in Madera County under this alternative would result in no substantial reduction in demand for farm support services in the area. This criterion received a score of 3.
10. **Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of the surrounding farmland to nonagricultural use?** The Central Valley Wye alternatives would not include any stations. In contrast to stations, which could induce population growth and farmland conversion, trackway use is largely compatible with adjacent agriculture and would not induce urban development. Therefore, it is unlikely that the trackway would contribute to eventual conversion of surrounding farmland to nonagricultural use. This criterion received a score of 1.

Additional Notes

This entire alternative is 50 miles long, with 32 miles in Madera County, and is the shortest alternative.

SR 152 (North) to Road 19 Wye Alternative

1. **How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?** The regional consultant used the same methodology described in Criterion 1 for the State Route (SR) 152 (North) to Road 13 Wye Alternative. The results indicated that 96 percent of the total acreage within the buffer was nonurban use. This criterion received a score of 15.
2. **How much of the perimeter of the site borders on land in nonurban use?** The regional consultant used the same methodology described in Criterion 2 for the SR 152 (North) to Road 13 Wye Alternative. The results indicated that 98 percent of the perimeter of the alternative borders nonurban use. This criterion received a score of 10.
3. **How much of the site has been farmed more than 5 of the last 10 years?** According to satellite imagery analysis of the Central Valley Wye alternatives area for the years between 2005 and 2015² as well as information from the Madera County Department of Agriculture (McNeill 2014), the vast majority (i.e., over 90 percent) of the land in the vicinity of this alternative has been consistently farmed for 10 or more years. This criterion received a score of 20.
4. **Is the site subject to state or local government policies or programs to protect farmland or covered by private programs to protect farmland?** The regional consultant used the same methodology described in Criterion 4 for the SR 152 (North) to Road 13 Wye Alternative. The results indicated that 28 percent of the land within the project footprint in Madera County is Protected Farmland. This criterion received a score of 20.
5. **Are the farm units containing the site as large as the average-size farming unit in the county?** The regional consultant used the same methodology described in Criterion 5 for the SR 152 (North) to Road 13 Wye Alternative. The alternative traverses farm units that are an average of 98 acres, or approximately 78 percent smaller than the average farm unit. This criterion received a score of 0.
6. **How much of the remaining land on the farm will become nonfarmable if this site is selected?** The regional consultant used the same methodology described in Criterion 6 for the SR 152 (North) to Road 13 Wye Alternative. The results indicated that the acreage of nonviable remainder parcels on farmable land would total approximately 4.1 percent of the acreage of the original parcels that would be within the project footprint of this alternative. This criterion received a score of 0.
7. **Does the site have available adequate supply of farm support services and markets?** The regional consultant used the same methodology described in Criterion 7 for the SR 152 (North) to Road 13 Wye Alternative. This alternative would not have an impact on farm services. This criterion received a score of 5.
8. **Does this site have substantial and well maintained on-farm investments such as barns, fruit trees and vines, field terraces, drainage, irrigation, waterways, and other soil and water conservation measures?** The regional consultant used the same methodology described in Criterion 8 for the SR 152 (North) to Road 13 Wye Alternative. The

² Satellite imagery was not available for the years of 2007, 2008, and 2013.

overall amount of on-farm investment is high. Ancillary agricultural structures, barns, and large stables/feeding bins were observed on the farms. Soil and water conservation measures have been applied to many of the fields. This criterion received a score of 20.

9. **Would this project, by converting the land to nonagricultural use, reduce the support for farm support services in the area?** The regional consultant used the same methodology described in Criterion 9 for the SR 152 (North) to Road 13 Wye Alternative. According to information from the Madera County Department of Agriculture, any conversion of farmland would be accompanied by a reduced demand for related support services (McNeill 2014). However, considering there are approximately 759,400 acres of Important Farmland and Grazing Land in Madera County (DOC 2014), the permanent conversion of 1,657 acres of Important Farmland and Grazing Land in Madera County under this alternative would result in no substantial reduction in demand for farm support services in the area. This criterion received a score of 3.
10. **Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of the surrounding farmland to nonagricultural use?** The regional consultant used the same methodology described in Criterion 10 for the SR 152 (North) to Road 13 Wye Alternative. It is unlikely that the trackway would convert the surrounding farmland to nonagricultural use. This criterion received a score of 1.

Additional Notes

This entire alternative is 55 miles long, with 35 miles in Madera County, and is the longest alternative.

Avenue 21 to Road 13 Wye Alternative

1. **How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?** The regional consultant used the same methodology described in Criterion 1 for the SR 152 (North) to Road 13 Wye Alternative. The results indicated that 97 percent of the total acreage within the buffer was nonurban use. This criterion received a score of 15.
2. **How much of the perimeter of the site borders on land in nonurban use?** The regional consultant used the same methodology described in Criterion 2 for the SR 152 (North) to Road 13 Wye Alternative. The results indicated that 100 percent of the perimeter of the alternative borders nonurban use. This criterion received a score of 10.
3. **How much of the site has been farmed more than 5 of the last 10 years?** According to satellite imagery analysis of the Central Valley Wye alternatives area for the years between 2005 and 2015³ as well as information from the Madera County Department of Agriculture (McNeill 2014), the vast majority (i.e., over 90 percent) of the land in the vicinity of this alternative has been consistently farmed for 10 or more years. This criterion received a score of 20.
4. **Is the site subject to state or local government policies or programs to protect farmland or covered by private programs to protect farmland?** The regional consultant used the same methodology described in Criterion 4 for the SR 152 (North) to Road 13 Wye Alternative. The results indicated that 46 percent of the land within the project footprint in Madera County is Protected Farmland. This criterion received a score of 20.

³ Satellite imagery was not available for the years of 2007, 2008, and 2013.

5. **Are the farm units containing the site as large as the average-size farming unit in the county?** The regional consultant used the same methodology described in Criterion 5 for the SR 152 (North) to Road 13 Wye Alternative. The alternative traverses farm units that are an average of 97 acres, or approximately 78 percent smaller than the average farm unit. This criterion received a score of 0.
6. **How much of the remaining land on the farm will become nonfarmable if this site is selected?** The regional consultant used the same methodology described in Criterion 6 for the SR 152 (North) to Road 13 Wye Alternative. The results indicated that the acreage of nonviable remainder parcels on farmable land would total approximately 2.2 percent of the acreage of the original parcels that would be within the project footprint of this alternative. This criterion received a score of 0.
7. **Does the site have available adequate supply of farm support services and markets?** The regional consultant used the same methodology described in Criterion 7 for the SR 152 (North) to Road 13 Wye Alternative. This alternative would not have an impact on farm services. This criterion received a score of 5.
8. **Does this site have substantial and well maintained on-farm investments such as barns, fruit trees and vines, field terraces, drainage, irrigation, waterways, and other soil and water conservation measures?** The regional consultant used the same methodology described in Criterion 8 for the SR 152 (North) to Road 13 Wye Alternative. The overall amount of on-farm investment is high. Ancillary agricultural structures, barns, and large stables and feeding bins were observed on the farms. Soil and water conservation measures have been applied to many of the fields. This criterion received a score of 20.
9. **Would this project, by converting the land to nonagricultural use, reduce the support for farm support services in the area?** The regional consultant used the same methodology described in Criterion 9 for the SR 152 (North) to Road 13 Wye Alternative. According to information from the Madera County Department of Agriculture, any conversion of farmland would be accompanied by a reduced demand for related support services (McNeill 2014). However, considering there are approximately 759,400 acres of Important Farmland and Grazing Land in Madera County (DOC 2014), the permanent conversion of 1,620 acres of Important Farmland and Grazing Land in Madera County under this alternative would result in no substantial reduction in demand for farm support services in the area. This criterion received a score of 3.
10. **Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of the surrounding farmland to nonagricultural use?** The regional consultant used the same methodology described in Criterion 10 for the SR 152 (North) to Road 13 Wye Alternative. It is unlikely that the trackway would convert the surrounding farmland to nonagricultural use. This criterion received a score of 1.

Additional Notes

This entire wye alternative is 52 miles long, with 35 miles in Madera County.

SR 152 (North) to Road 19 Wye Alternative

1. **How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?** The regional consultant used the same methodology described in Criterion 1 for the State Route (SR) 152 (North) to Road 13 Wye Alternative. The results indicated that 96 percent of the total acreage within the buffer was nonurban use. This criterion received a score of 15.

2. **How much of the perimeter of the site borders on land in nonurban use?** The regional consultant used the same methodology described in Criterion 2 for the SR 152 (North) to Road 13 Wye Alternative. The results indicated that 98 percent of the perimeter of the alternative borders nonurban use. This criterion received a score of 10.
3. **How much of the site has been farmed more than 5 of the last 10 years?** According to satellite imagery analysis of the Central Valley Wye alternatives area for the years between 2005 and 2015⁴ as well as information from the Madera County Department of Agriculture (McNeill 2014), the vast majority (i.e., over 90 percent) of the land in the vicinity of this alternative has been consistently farmed for 10 or more years. This criterion received a score of 20.
4. **Is the site subject to state or local government policies or programs to protect farmland or covered by private programs to protect farmland?** The regional consultant used the same methodology described in Criterion 4 for the SR 152 (North) to Road 13 Wye Alternative. The results indicated that 28 percent of the land within the project footprint in Madera County is Protected Farmland. This criterion received a score of 20.
5. **Are the farm units containing the site as large as the average-size farming unit in the county?** The regional consultant used the same methodology described in Criterion 5 for the SR 152 (North) to Road 13 Wye Alternative. The alternative traverses farm units that are an average of 88 acres, or approximately 80 percent smaller than the average farm unit. This criterion received a score of 0.
6. **How much of the remaining land on the farm will become nonfarmable if this site is selected?** The regional consultant used the same methodology described in Criterion 6 for the SR 152 (North) to Road 13 Wye Alternative. The results indicated that the acreage of nonviable remainder parcels on farmable land would total approximately 3.5 percent of the acreage of the original parcels that would be within the project footprint of this alternative. This criterion received a score of 0.
7. **Does the site have available adequate supply of farm support services and markets?** The regional consultant used the same methodology described in Criterion 7 for the SR 152 (North) to Road 13 Wye Alternative. This alternative would not have an impact on farm services. This criterion received a score of 5.
8. **Does this site have substantial and well maintained on-farm investments such as barns, fruit trees and vines, field terraces, drainage, irrigation, waterways, and other soil and water conservation measures?** The regional consultant used the same methodology described in Criterion 8 for the SR 152 (North) to Road 13 Wye Alternative. The overall amount of on-farm investment is high. Ancillary agricultural structures, barns, and large stables/feeding bins were observed on the farms. Soil and water conservation measures have been applied to many of the fields. This criterion received a score of 20.
9. **Would this project, by converting the land to nonagricultural use, reduce the support for farm support services in the area?** The regional consultant used the same methodology described in Criterion 9 for the SR 152 (North) to Road 13 Wye Alternative. According to information from the Madera County Department of Agriculture, any conversion of farmland would be accompanied by a reduced demand for related support services (McNeill 2014). However, considering there are approximately 759,400 acres of

⁴ Satellite imagery was not available for the years of 2007, 2008, and 2013.

Important Farmland and Grazing Land in Madera County (DOC 2014), the permanent conversion of 1,645 acres of Important Farmland and Grazing Land in Madera County under this alternative would result in no substantial reduction in demand for farm support services in the area. This criterion received a score of 3.

10. **Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of the surrounding farmland to nonagricultural use?** The regional consultant used the same methodology described in Criterion 10 for the SR 152 (North) to Road 13 Wye Alternative. It is unlikely that the trackway would convert the surrounding farmland to nonagricultural use. This criterion received a score of 1.

Additional Notes

This entire alternative is 52 miles long, with 33 miles in Madera County.

References

ARWS	Associated Right of Way Services, Inc.
DOC	California Department of Conservation
U.S. DOA	U.S. Department of Agriculture

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