Initial Study and Draft Negative Declaration

Dr. Joseph Meyers

Minor Subdivision

July 2021

Prepared By
Del Norte County
Community Development Department
Planning Division
981 H Street, Suite 110
Crescent City, California 95531

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Exhibits and Appendices Follow

Project Information Summary

1.	**Project Title:**	Dr. Joseph Meyers Minor Subdivision – MS2103
2.	**Lead Agency Name and Address:**	Del Norte County Planning Commission 981 H Street, Suite 110 Crescent City, CA 95531
3.	**Contact Person and Phone Number:**	Heidi Kunstal (707) 464-7254 hkunstal@co.del-norte.ca.us
4.	**Project Location and APN:**	6012 South Bank Road, Crescent City, CA Assessor Parcel Numbers 105-130-005 and 105-130-027
5.	**Project Sponsor's Name and Address:**	Dr. Joseph Meyers 45 Ora Way, #302, San Francisco, CA 94131
6.	**County Land Use:**	Rural Residential – one dwelling unit per one acre (RR 1/1) Rural Residential – one dwelling unit per five acres (RR 1/5)
7.	**County Zoning:**	Forest Recreation District – two acre minimum lot size (FR-2)

8. Description of Project:

Dr. Joseph Meyers is the owner of an undeveloped 19.83 acre parcel located on the west side South Bank Road in the Fort Dick area. He also owns a 1.0 acre parcel located adjacent to the parcel that is developed with a single family residence. The situs address for the residence is 6012 South Bank Road. At the July 2021 Planning Commission, a boundary adjustment application was approved to adjust approximately 11 ± acres of the 19.83 acre parcel to Green Diamond Resource Company, owner of a 200+ acre parcel located to the west. The adjusted area has steeper slopes and is better aligned with the growing and harvesting of timber. A minimum of 7 acres of the 19.83 acre parcel will be retained by Dr. Meyers into order to subdivide the parcel and to increase the size of his existing one-acre parcel.

Presently, Dr. Meyers has filed an application for a minor subdivision and an application for a boundary adjustment. The minor subdivision will create three new parcels that have frontage on South Bank Road. The boundary adjustment will adjust 1.0 acre to the developed 1.0 acre parcel and reconfigure it to match the dimensions of proposed parcels one through three.

The zoning for the 19.83 acre parcel is Forest Recreation – two acre minimum lot size (FR-2) and the General Plan Land Use designation is divided with the eastern one-third of the parcels being designated Rural Residential – one dwelling unit per acre (RR 1/1) and the western two-thirds of the parcel being designated Rural Residential – one dwelling unit per five acres (RR1/5). All lots created will conform to the minimum lot size of the FR-2 Zone District and conform to the General Plan Land Use designation as over 4.0 acres is designated with a one acre minimum lot size.

Future residences will be accessed by South Bank Road, a County Maintained Road. Due to the age of the road, it is unclear the width of the right-of-way along the property frontage. A dedication of land along the frontage to the County may be a condition of the project approval along with any road improvements needed to meet current County Fire Safe

Regulations and Road Standards. The new residences will be served by private individual wells and separate on-site wastewater treatment systems. The buildable area for the proposed lots is located within a Special Flood Hazard Area AE as designated on the FEMA Flood Insurance Rate Maps. Additionally, the building areas are located in a designated floodway of the Smith River. In both cases, the applicant will be required to comply with the County's Flood Damage Prevention Ordinance with regard to subdividing land in a floodplain/floodway. Future residences will be required to submit Flood Elevation Certificates and design all structures to meet the County's Flood Damage Prevention Ordinance which requires the first floor of residential structures to be constructed above the base flood elevation.

9. Surrounding Land Uses and Settings:

With the exception of the property to the east owned by Green Diamond Resource Co., all lands to the north, south and east are all designated for rural residential development. The majority of the adjacent lots are developed with single family residences. The property is located in a rural neighborhood that is developed with single family homes. The Green Diamond Resource Co. land is zoned Timberland Preserve and has a General Plan Land Use designation of Timberland.

10. Required Approvals: Minor Subdivision — Del Norte County Planning Commission

11. Other Approval (Public Agencies): None. Divisions of the County Community Development Department will review for compliance with conditions of approval.

12. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

Native American tribes, traditionally and culturally affiliated with the project area have been notified of the project application completion and the beginning of the AB 52 consultation period pursuant to PRC §21080.3.1. Notification of the beginning of the AB 52 consultation period was provided June 11, 2021. No requests for consultation pursuant to PRC §21080.3.1 were not received.

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" without mitigation as indicated by the checklist on the following pages. All mitigation measures are provided in the Mitigation Monitoring and Reporting Program.

☐	Aesthetics	☐	Agriculture and Forestry Resources	☐	Air Quality
☐	Biological Resources	☐	Cultural Resources	☐	Energy
☐	Geology/Soils	☐	Greenhouse Gas Emissions	☐	Hazards & Hazardous Materials
☐	Hydrology / Water Quality	☐	Land Use / Planning	☐	Mineral Resources
☐	Noise	☐	Population / Housing	☐	Public Services
☐	Recreation	☐	Transportation	☐	Tribal Cultural Resources
☐	Utilities / Service Systems	☐	Wildfire	☐	Mandatory Findings of Significance

Determination

On the basis of this initial evaluation:

☒	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
☐	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
☐	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
☐	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Heidi Kunstal

Heidi Kunstal

Community Development Director

7/21/2021

Date

Environmental Checklist

1. Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or public views of the site and its surroundings? (Public views are those that are experienced from publically accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Discussion of Impacts

a. This project would have no foreseeable impact on scenic vistas.
b. This project would have no foreseeable impact on scenic resources.
c. The project would not degrade the existing visual character or public views of the site and its surroundings.
d. The project does not propose any development which would create a new source of substantial light or glare which would adversely affect views.

2. Agriculture and Forest Resources

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☒	☐

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion of Impacts

a. No farmland exists on-site.
b. No agricultural zoning exists on-site which would be impacted adversely by this project.
c. The project would have no impact nor create conflicts with zoning of forestlands or Timber Production Zones. The land is zoned for residential use.
d. Yes. The project will require the conversion of timberland to a non-timberland use in order to develop future home sites on proposed parcels one through three. Either a Timber Conversion Permit (TCP) or Notice of Conversion Exemption Timber Operations (one time 3-acre conversion) will be required to be filed with CAL FIRE. Since the conversion area would be expected to be minimal in areas with low amounts of merchantable timber, the loss of forest land would be considered a less than significant impact.
e. The project does not involve any other changes in the existing environment that could adversely affect farmland or timberlands.

3. Air Quality

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☐	☒
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
d) Result in other emissions (such as those leading to odors or dust) adversely affecting a substantial number of people?	☐	☐	☐	☒

Discussion of Impacts

a. This project would have no foreseeable impacts on the implementation of an air quality plan.
b. This project would have no foreseeable impacts on increasing criteria pollutants in the region.
c. This project would not expose receptors to pollutant concentrations.
d. This project would have no foreseeable impacts in increasing any emissions.

4. Biological Resources

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation**	**Less Than Significant Impact**	**No Impact**

		Incorporated		
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?	☐	☐	☐	☒

Discussion of Impacts

a. Quad level species list were obtained from the CDFW Biogeographic Information and Observation System (BIOS) and California Native Plant Society Inventory of Rare and Endangered Plants of California which were reviewed by staff. Listed species included the marbled murrelet (*Brachyramhus marmoratus*), Northern spotted owl (*Strix occidentalis caurina*), foothill yellow-legged frog (*Rana Boylii*), coho salmon (*Oncorhynchus kisutch pop. 2*) and the Western lily (*Lilium occidentale*). A review of biological assessments was conducted by County Staff for projects in the vicinity of the project. In 2018, a biological assessment was prepared by Zack Larsen and Associates for a Minor Subdivision (MS1802 – Mitola) at 6081 South Bank Road. The results of the assessment did not identify protective measures for any of the aforementioned species. Timber Harvesting Plan 1-18-107 DEL (THP) was conducted on the adjoining parcel owned by Green Diamond in 2018. The project area is east of Units C and D of the THP. A biological assessment was prepared for the THP[1] The assessment noted that the marbled murrelet typically inhabits old growth timber stands. The project area consists primarily of second growth forests including the subject parcel. In the case of the THP, no survey was conducted for this reason. With regard to the NSO, the assessment acknowledges that it is known to exist in the assessment area (Hiouchi and Crescent City USGS Quadrangles) but no particular mentioned to Units C or D; however, Green Diamond has a Habitat Conservation Plan for the NSO and follows it when conducting THPs including, enhancing stream protection, retaining snags and green wildlife trees, and establishing habitat retention areas. The eastern portion of the project site is generally flat and has been historically cleared of vegetation based on current conditions. The proposed building areas are covered with shrubs and Himalaya blackberry. It did not appear to be habitat suitable for the NSO.

1 Timber Harvesting Plan 1-18-107 DEL - Section 3 – Accessible at https://caltreesplans.resources.ca.gov/caltrees/Default.aspx.

b. No watercourses were identified on the property during the field review nor were any identified on the USGS Hiouchi Quadrangle (7.5 Minute) or the National Wetland Inventory.

c. No wetlands were observed within 100 feet of the project site. Additionally, a search of the National Wetlands Inventory did not result in any wetlands located on the subject parcel.

d. The project will not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites within the project area. The project will result in the addition of three single family residences adjacent immediately adjacent to a well-travelled public road and in an areas substantially improved with single family homes.

e. This project would not conflict with any local policies or ordinances protecting biological resources.

f. This project would not conflict with any Habitat Conservation Plans, etc.

5. Cultural Resources

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

Discussion of Impacts

a-c. No cultural resources are known to exist on-site. The County records were searched for known cultural sites in the general project vicinity, and none were identified. Notice was provided to the two tribes traditionally culturally affiliated with the project area and no comment was given with regard to cultural resources. While resources are not known to exist on-site, the possibility of an inadvertent discovery is always possible during construction or other implementation activities associated with the project. In this case, a condition of the project will ensure that any resources located on-site will be properly treated as to not cause a significant impact.

6. Energy

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☒
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Discussion of Impacts

a. The project would have no foreseeable impacts on increasing wasteful, inefficient, or unnecessary energy use since no development is proposed as part of this application.
b. This project does not conflict with nor obstruct a state or local plan for renewable energy or energy efficiency.

7. Geology and Soils

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

Discussion of Impacts

a. Del Norte County has not been mapped for Alquist-Priolo Earthquake Fault Zoning. While the 19.83 acre parcel does have steep slopes on its western two-thirds, the eastern portion where the homes will be developed has gentler slopes that were not deemed to be at enough of a percentage of slopes to require the County's Hillside Development Criteria. The field visit conducted by the Environmental Review Committee did not identify an obvious risk for landslides related to the project development or note any conditions that would result in substantial soil erosion or the loss of top soil. With respect to seismic impacts and possible risks, northern California is subject to seismic activity associated with the Cascadia Subduction Zone (CSZ).

b. The Environmental Review Committee did not identify any site conditions or identify and concerns in the development proposal that would result in substantial soil erosion or the loss of top soil. Grading would be limited to preparing building sites for future residences. An engineered grading and drainage plan would be required prior to issuance of the building permits for the new residences to address on-site and off-site drainage.

c. The project site has not been identified as being located with a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

d. Standard and approved engineering practices shall be implemented during any excavation and construction activities. These measures will ensure that proposed buildings are structurally sound and future habitants are not exposed to geologic hazards.

e. An On-Site Sewage Disposal Evaluation was compiled for the parcel in May 2021 by Stover Engineering. Wet weather testing was conducted in April 2021. Stover Engineering's evaluation concluded that the property was suitable for a conventional on-site sewage wastewater treatment system within specified limitations.

f. The project area is not known to contain a unique paleontological resource or geologic feature.

8. Greenhouse Gas Emissions

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Discussion of Impacts

a-b. In 2002, the California legislature declared that global climate change was a matter of increasing concern for the state's public health and environment, and enacted a law requiring the state Air Resource Board (ARB) to control GHG emission from motor vehicles (Health and Safety Code §32018.5 et seq.). CEQA Guidelines define GHG to include carbon dioxide (CO2), nitrous oxide (N2O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The California Global Warming Solutions Act of 2006 (AB 32) definitively established the state's climate change policy and set GHG reduction targets (Health and Safety Code §38500 et seq.). The state has set its target at reducing greenhouse gases to 1990 levels by the year 2020.

Construction of up to three homes may generate GHG emissions as a result of combustion of fossil fuels used in construction equipment. Use of variety of construction materials would contribute indirectly to GHG emissions because of the emissions associated with their manufacture. The construction-related GHG emissions would be minor and short-term and would not constitute a significant impact based on established thresholds.

9. Hazards and Hazardous Materials

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions	☐	☐	☐	☒

involving the release of hazardous materials into the environment?				
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Discussion of Impacts

a. The project would not cause a hazard to the public through the routine transport, use, or disposal of hazardous materials.
b. The project would not cause a hazard to the public or environment through reasonably foreseeable accident conditions involving the release of hazardous materials into the environment.
c. The project would not create hazardous emissions or require the handling of hazardous waste.
d. This project is not located on a site which is included on any list of hazardous materials sites.
e. This project is not located near any airport or within an area covered by an airport land use plan.
f. This project would not impair implementation of an emergency response plan.
g. This project will be located in an area of surrounding vegetation and conditions related to the County's Fire Safe Regulations will be incorporated into the subdivision approval. Any future construction will comply with California Wildland Urban Interface (WUI) code and standards and current state or county fire regulations in place.

10. Hydrology and Water Quality

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☐	☒
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a				

manner which would:				
i) result in substantial erosion or siltation on-or off-site?	☐	☐	☐	☒
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☐	☒
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional source of polluted runoff; or	☐	☐	☐	☒
iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable ground water management plan?	☐	☐	☐	☒

Discussion of Impacts

a. The development of up to three home sites would not generate any significant runoff pollutants. Stormwater runoff would be limited to rainfall onto graveled and/or paved areas and is not expected to violate water quality standards. It is the policy of the County to follow existing and future Federal and State water quality standards. An engineered grading and drainage plan would be required to prepared and reviewed by the County Engineer to assure that water quality and waste discharge requirements are not violated.

b. The proposed project would not result in any net deficit of groundwater recharge. The applicant is proposing the use of private individual wells. The Community Development Department - Environmental Health Division has not identified the area to be water deficient.

c. The project, a residential development of up to three additional single family residences, would not exceed the capacity of any existing or proposed stormwater drainage systems or provide substantial additional sources of polluted runoff. An engineered grading and drainage would be required as a condition of the project approval. No alterations of any stream or river or other drainage pattern would occur that would cause substantial erosion or siltation. Also, there will be no change in site characteristics as a result of the project that would alter a course of a stream or river, or substantial increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. The applicant will be required to provide the floodway analysis required by the County's Flood Damage Prevention Ordinance. The applicant has providing preliminary mapping showing the flood hazard area and the elevation of the base flood as required by Del Norte County Section 20.47.050.C.1. Each development application for proposed parcels one through three will be required to comply with Del Norte County Code Section 20.47.050.E – Floodways to ensure that encroachments into the floodway do not increase flood levels during the occurrence of the base flood discharge. The certification shall be prepared by a registered professional engineer or architect.

d. The project is located within a flood hazard zone and any future development of proposed parcels one through three will be required to comply with Title 20 Zoning Chapter 47 Flood Damage Prevention which requires elevating residential structures at or above the base flood elevation. The project is not in an area subject to a tsunami or seiche zone and would not result in the risk of pollutants due to project inundation.

e. The project would not conflict with or obstruct implementation of a water quality control plan or sustainable ground water management plan.

11. Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation of an agency adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Discussion of Impacts

The proposed project would not divide any community, designated planning area or surrounding area. The project site is located with the Fort Dick/Kings Valley Planning Area and is designated as Rural Residential – one dwelling units per one acre and Rural Residential – one dwelling unit per five acres in the Del Norte County General Plan (January 28, 2003). The site is zoned FR-2 (Forest Recreation –2 acre minimum lot size). The proposed project would not change the land use on the subject parcel. The proposed project would not conflict with any regional land use or environmental plans. No environmental plans or policies of state or regional agencies are directly applicable or would be affected by the proposed project.

12. Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion of Impacts

a. The project site is not located in an area designated to have significant mineral resources, as defined by the California Department of Conservation under the Surface Mining and Reclamation Act. The proposed project would not affect mineral resources in the area.

b. The project site and the surrounding area are not subject to mineral resource recovery operations. Thus, the proposed project would not affect mining operations elsewhere in the County.

13. Noise

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion of Impacts

a. The project should not result in a significant level of noise beyond that which is already present. The project would result in the addition of up to three additional family residences three parcels that will be approximately 2.0 acres each in size. Surrounding lands uses are primarily low intensity rural residential and timberland.

b. The project will not expose any persons to or generate excessive groundborne vibration or groundborne noise levels.

c. The proposed site is not located near the airport. The site would not be exposed to excessive noise from any airport operations.

14. Population and Housing

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion of Impacts

a. The proposed project would result in up to three single family residences being constructed. It would not result in substantial amount of population growth on-site nor would it affect population growth in the area.

b. The proposed project would not displace any housing units located near the site.

15. Public Services

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically				

altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Discussion of Impacts

Fire Protection - The project must comply with the requirements of the County and State Fire Safe Regulations for fire safety and fire emergency response. The project is served by the Fort Dick Fire Protection District and CAL FIRE as it is located with the State Responsibility Area.

Police Protection - The project would not result in the need to alter or expand police service in the area and would not have an adverse effect on existing police service or response times. The area is served by the Del Norte County Sheriff's Office.

Schools - The project would not involve a significant increase in the number of school age children and as such no new schools would need to be constructed nor would additions be needed for existing schools. The Del Norte Unified School District collects a school mitigation fee on a per square foot basis for new residential development. The fee goes toward the maintenance of the County school system to assure adequate classroom space is available for a growing population.

Parks - The project would allow for the development of up to three single family residences and thus would not directly nor indirectly place additional strain on existing parks.

Other Public Facilities - The project would allow for the development of up to three single family residences and thus would not directly nor indirectly place additional strain on any other public services.

16. Recreation

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion of Impacts

a. The project would result in limited increase in the use of existing neighborhood and regional parks or other recreational facilities. The impact is not expected to be significant.

b. The project would not result in a substantial increase in users of existing neighborhood and regional parks or other recreational facilities

17. Transportation

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☐	☒

Discussion of Impacts

a. The project is not anticipated to conflict with a program, plan, ordinance, or policy addressing any circulation system. The property was previously had a residential use and the proposed project will result in a reinstatement of that use with an additional four residences added for a total of five residences. This relatively small addition of residents to the area will not create any significant impacts with the circulation system. The use permit will require that road improvements be constructed which will be incorporated as conditions of approval for consistency with County Code.

b. The project is not expected to be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). According to the Institute of Traffic Engineers Trip Generation, the project is anticipated to generate 28.32 trips per day[2]. According to the 2020 Del Norte Region SB 743 Implementation Plan, the Traffic Analysis Zone (TAZ 102) containing in the project area describes the average VMT to be approximately 7.96 daily per capita and 21.62 daily per employee. Further, the Plan provides for thresholds of significance that screen certain projects out of constituting a significant impact toward VMT generation. In this case, the project is expected to generate less than 110 trips per day, so it can be considered to have a less than significant impact as a 'Small Project' under Section 3.2.1 of the SB 743 Implementation Plan. Additionally, the housing project is 100% affordable and located within an infill area.

c. The project does not increase hazards due to a design feature .The project would allow access to the property from South Bank Road, a County maintained road. Improvements to the encroachments (driveways) will be a condition of future building permits. There are no dangerous features in the project area and this project would not require improvements that would introduce circulation or traffic safety hazards.

d. All access to the propose parcels would be directly from South Bank Road. No other emergency access in the surrounding area would be affected by development of this project.

2 Average Daily Trips Rate per Single Family Detach House is 9.44 per the 10th Edition of the ITE Trip Generation.

18. Tribal Cultural Resources

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

Discussion of Impacts

a. The project would have no foreseeable impacts on tribal cultural resources. A member of the Environmental Review Committee is a Native American representative and has not issued notice of any concern of resources on-site. Further, an AB 52 tribal consultation has been sent to local tribes associated with the project area and no requests for consultations have been received by the Lead Agency.

19. Utilities and Service Systems

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the providers existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion of Impacts

a. The project will result in the addition of up to three new residences. The new residences will not result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects

b. The project would not have a significant impact on water supplies available to the parcel. The project will be served by a private individual wells. The area has not been identified as being deficient in water.

c. The project will be served by private onsite wastewater treatment systems on each proposed parcel. No burden will be placed on a public wastewater treatment provider.

d. The project site has solid waste pickup service available from local franchisee Recology. Self-hauling to the Del Norte Transfer Station is also available. The solid waste generated by up to three homes would not significantly impact the capacity of either service provider.

e. No conflict with solid waste regulations is expected.

20. Wildfire

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Discussion of Impacts

a. The project would not substantially impair an adopted emergency response plan or emergency evacuation plan.

b. The project, as designed and sited on the property, would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. The development is located on the eastern portion of the property where vegetation is less dense than elsewhere on the property and the topography is gentle to flat.

c. The project is located within the State Responsibility Area and is designated as a High Fire Risk Area. The project will be required to be developed in substantial compliance with the County's Fire Safe Regulations and/or the State's Minimum Fire Regulations depending upon when the project is physically constructed. Standards for emergency water supply, setbacks for defensible space, gates, ingress/egress must be incorporated into final plans for the development. Significant changes to the State's Minimum Fire Safe Regulations are anticipated to go into effect as of the date of this Initial Study. Fuel breaks and other safety measures may be required unless the implementation of the regulations is delayed by the Board of Forestry. Specific conditions related to the implementation of the standards will be placed on the Minor Subdivision (i.e. road standards (if applicable), establishing an emergency water supply etc.).

d. The project as designed and sited will not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes

21. Mandatory Findings of Significance

Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

a-c. The project does not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife species to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. Additionally, the project does not have impacts that are individually limited but cumulatively considerable and does not have environmental effects which will cause substantial adverse effects on human beings directly nor directly.

This is not an official map and is intended for assessment purposes only.

POR. SEC. 24, T 17 N, R 1 W, H.B.&M.

Tax Area
051-063
051-065

105-13

1" = 300'

BOOK 122

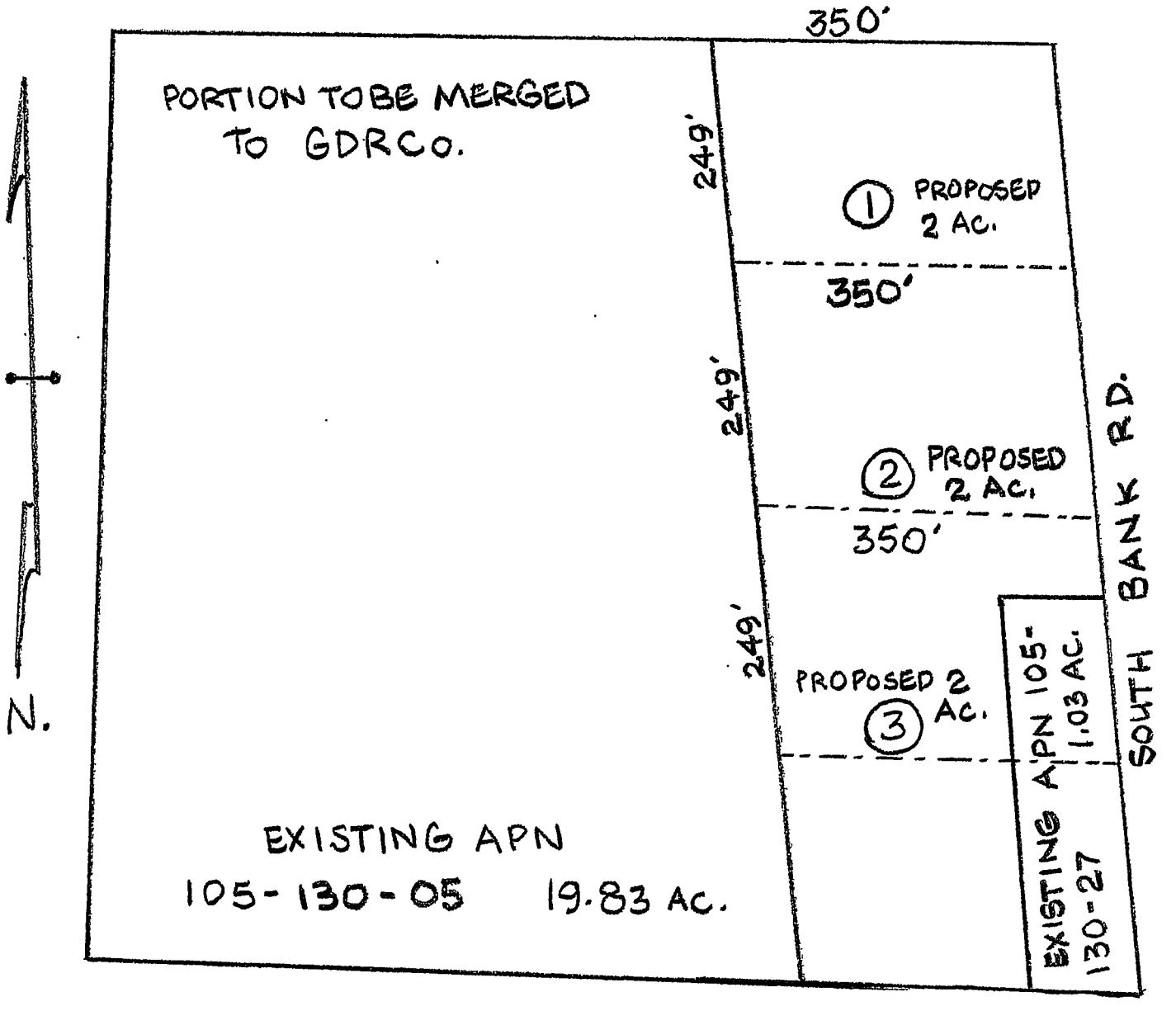
0945
0856
1234
0345
0745
08/03/2018

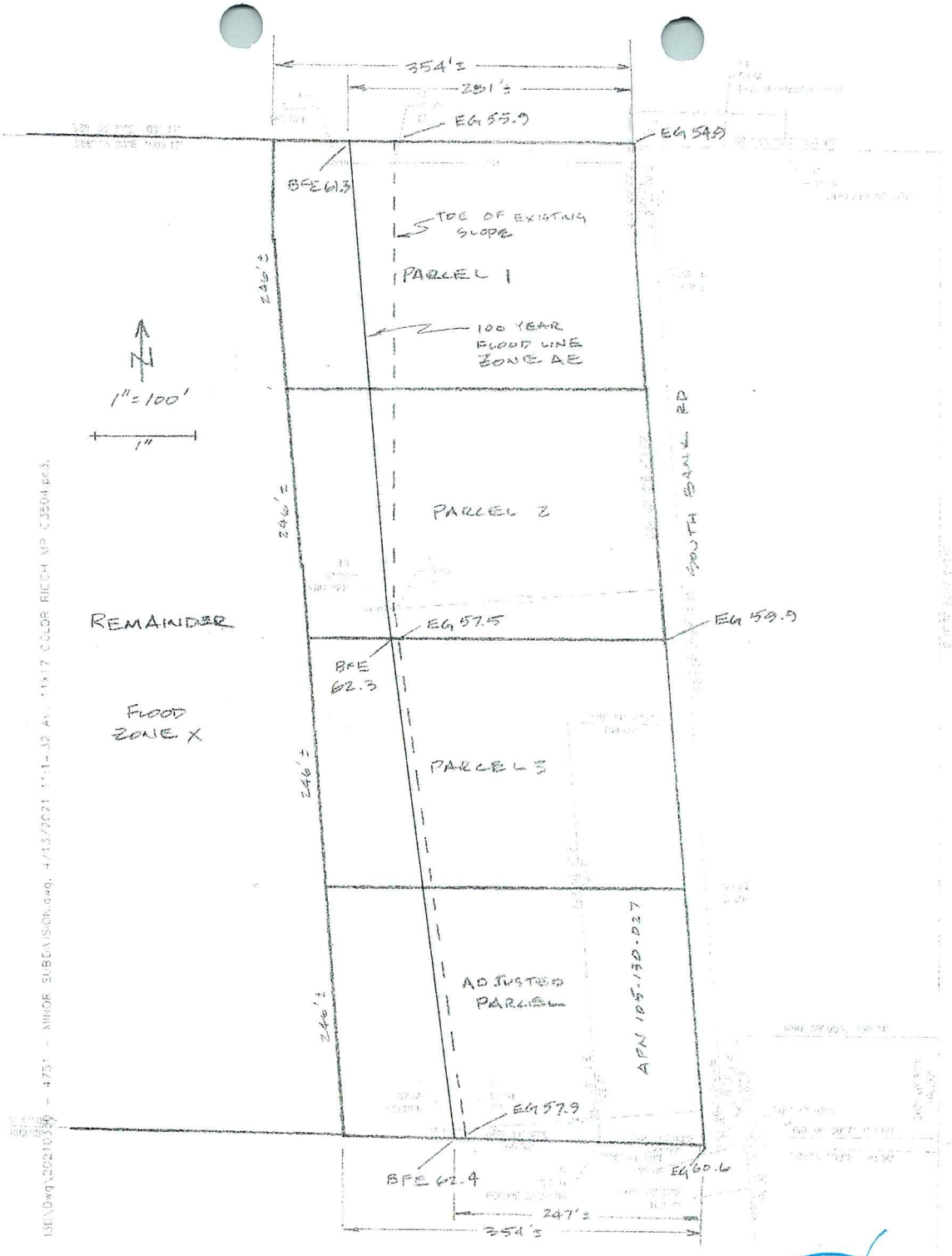
105-130-36 & 105-170-22 ARE ONE LEGAL PARCEL BUT SEPARATED FOR TAX ASSESSMENT PURPOSES DUE TO DIFFERENT TAX RATE AREAS.

JENNIFER PERRY
DEL NORTE COUNTY ASSESSOR
Certified by: Kelly Hamm
Date: 05/20/2021

Assessor's Map Bk. 105 - Pg. 13

MEYERS MINOR SUBDIVISION APPLICATION





MEYERS SUBDIVISION FLOOD LOCATION MAP
APN 105-130-005-000 & 105-130-027-000

BFE - BASE FLOOD ELEVATION
EG - EXISTING GROUND ELEVATION
ELEVATION DATUM - NAVD88

REGISTERED PROFESSIONAL ENGINEER
WARD LEONARD STOVER
No. 44207
Expires 6-30-21
CIVIL
STATE OF CALIFORNIA

GROUND ELEVATIONS ARE BASED ON FIELD SURVEY BY STOVER ENGINEERING ON 3/31/2021.
LOCATION OF FLOOD LINE IS APPROXIMATE BASED ON ASSUMED PROPERTY LINE LOCATION.

BASE FLOOD ELEVATIONS WERE DETERMINED BY INTERPOLATION FROM FEMA FLOOD INSURANCE RATE MAP PANEL 06015C0226F EFFECTIVE 11/26/2010.

STOVER ENGINEERING 4/13/2021 JN 4751

National Flood Hazard Layer FIRMette

FEMA

124°7'46"W 41°51'28"N

124°7'9"W 41°51'1"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile Zone
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk Levee. See Notes. Zone X
- Area with Flood Risk due to Levee Zone D

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard Zone X
- Effective LOMRs
- Area of Undetermined Flood Hazard Zone

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/11/2021 at 8:26 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

JN 4751 SHEET 6 OF 23

STOVER ENGINEERING
Civil Engineers and Consultants

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JOSEPH MEYERS, MD
45 ORA WAY #302
SAN FRANCISCO, CA 94131

Job Number: 4751

23 May 2021

RE: On-site Wastewater Treatment System Evaluation – APN 105-130-005-000 and APN 105-130-027-000

Dear Dr. Meyers,

At your request, Stover Engineering has performed on-site wastewater treatment system (OWTS) evaluation for a proposed minor re-subdivision at and near 6012 South Bank Road in Del Norte County, CA. The minor subdivision proposed for APN 105-130-005 has a total area of 7 acres after a pending boundary adjustment with Green Diamond Resource Co., and with APN 105-130-027 which has a total area of one acre (currently developed). This proposal results in (4) two-acre parcels designated as proposed parcels 1, 2, and 3, and the reconfigured developed parcel as indicated on the attached site sketch. Based on our investigation, it is our opinion that a conventional leachfield and reserve disposal area can be located on each proposed parcel in the minor subdivision, and a reserve disposal area can be located for the existing residence. This report conforms to the Del Norte County Sewage Disposal Ordinance (design standards).

APN -027 is developed with a residence and a conventional leachfield. APN -005 is wooded and undeveloped with the exception of a collapsing shed in the northern half of the property, and a spring or well (type of water source was not confirmed) with a storage tank situated on the hillside approximately 180 feet west of APN -027. The water tank provides water for the existing residence on APN -027 as well as neighbor residences located on APNs 105-130-071 and 105-130-013 on the east side of South Bank Road. Plastic water pipes with minimal soil cover convey water from the well to the neighbor parcels.

Our staff performed field observations during wet weather percolation testing season on 2, 6, and 9 April 2021 to determine suitability for OWTS systems in the minor subdivision and for a reserve area at the existing residence. Branden Hendrix and Houawa Moua of the Del Norte County Environmental Health Division were notified of the observations but declined to attend. The observations were conducted between 60 and 100 feet away from the western edge of South Bank Road. The existing ground on the site slopes downward to the toe of slope of the hillside (westerly) at approximately 1 percent.

A total of ten test pits were excavated to a depth of 8 feet below ground surface (bgs) with a backhoe, as indicated on the attached site plan and test pit logs. The soil test pit locations are designated TP-1 through TP-10 as shown on the attached site sketch. TP-1 was excavated on the Adjusted Parcel to establish a reserve disposal area for the existing residence. TP-2 through TP-10 were excavated to establish primary and reserve areas for the minor subdivision. All soils

were found to have increased moisture near the bottom of the test pits, but no groundwater or mottling was observed. Soils observed in the test pits are summarized on Table 1.

Table 1 – Soils Observation Results

Test Pit	Type/Depth		Type/Depth		Type/Depth		Groundwater
TP-1	Topsoil	0' – 0.5'	Sandy loam	0.5' – 7.5'	Sandy clay loam	7.5' – 8'	None observed
TP-2	Topsoil	0' – 0.5'	Sandy clay	0.5' – 7'	Clay	7' – 8'	None observed
TP-3	Topsoil	0' – 0.5'	Silty clay	0.5' – 7'	Clay	7' – 8'	None observed
TP-4	Gravel	0' – 1.5'	Sandy loam	1.5' – 7'	Sandy clay	7' – 8'	None observed
TP-5	Gravel	0' – 1.5'	Sandy clay loam	1.5' – 7'	Sandy clay	7' – 8'	None observed
TP-6	Topsoil	0' – 1'	Sandy loam	1' – 7'	Sandy clay	7' – 8'	None observed
TP-7	Topsoil	0' – 1'	Clay loam	1' – 6'	Clay	6' – 8'	None observed
TP-8	Topsoil	0' – 1'	Sandy loam	1' – 2.5'	Clay loam	2.5' – 8'	None observed
TP-9	Topsoil	0' – 1'	Sandy clay loam	1' – 3'	Clay loam	3' – 8'	None observed
TP-10	Topsoil	0' – 1'	Sandy loam	1' – 3.5'	Clay loam	3.5' – 8'	None observed

Our staff performed wet weather percolation testing on 2 April 2021 for soils adjacent to TP-1, TP-2, and TP-3. Our staff returned to the site on 9 April 2021 and performed wet weather percolation testing for soils adjacent to test pits TP-4 through TP-10. Percolation testing was not performed for TP-7. Percolation rates for all test pits with the exception of TP-3 were within the acceptable range for onsite wastewater disposal in accordance with the design standards. Test depths and results of the percolation tests are shown on Table 2.

Table 2 – Percolation Testing Results

Test Pit	Test Depth (feet bgs)	Percolation Rate (minutes/inch)
TP-1	3	7.5
TP-2	3	20
TP-3	3	>60
TP-4	2.5	15
TP-5	2.5	30
TP-6	2.5	8.6
TP-8	2.5	30
TP-9	2.5	45
TP-10	3	7.5

The minimum required separation distance to groundwater from the bottom of conventional leachfields is five feet in accordance with the Regional Water Quality Control North Coast Basin Plan. Based on the percolation test results and our calculations, there is sufficient area to construct a conventional leachfield and reserve disposal area for each of the proposed parcels, and a reserve area can be established for the existing residence, as shown on the attached site sketch. All proposed disposal areas are within the 100-year flood zone established by FEMA FIRM panel 06015C0226F, effective date 11/26/2010. Based on our site investigation there are no suitable areas outside of the 100-year flood zone to construct disposal areas on any of the parcels. Construction of an OWTS inside the 100-year flood zone is permissible provided that all other setbacks and requirements are observed. A 100-foot setback from perennial streams is required for disposal areas by the design standards. A perennial stream is defined by the Basin

Plan as the area inside the 10-year flood zone. The elevation of the 10-year flood zone is established along the Smith River by the 2018 FEMA Flood Insurance Study. South Bank Road and existing ground to the east of said road are both above the 10-year flood zone in the areas adjacent to the proposed disposal areas. All proposed disposal areas are more than 100 feet away from the 10-year flood zone. Copies of the site evaluation summaries, site sketch, FEMA FIRMette, soils exploration logs, percolation test logs, and conventional leachfield design are attached to this letter.

Please be informed that grading activities which disturb the reserve or primary areas indicated on the attached site plan will alter the suitability of the existing soils and subsequently invalidate the findings of our report. In addition, the placement of both on-site and off-site future improvements, including but not limited to wells and water lines, must adhere to the setbacks indicated on the Site Evaluation Summary sheets (pages 4-7).

The recommendations contained in this letter are based on data obtained during the stated site observations only. Soil conditions may vary throughout the site of the proposed disposal areas. Stover Engineering assumes no liability for conditions that differ from those observed by our staff at the time of the site visit.

We trust that this provides the information you require. Please feel free to contact us if you have any questions.

Very truly yours,

STOVER ENGINEERING

Grant Goddard, EIT
Assistant Civil Engineer

Ward L. Stover, PE
Principal

Attachment (28 pages)

STOVER ENGINEERING

SITE EVALUATION SUMMARY

Owner: JOSEPH MEYERS, MD

Date: 4/2/21

Address: 45 Ora Way #302
San Francisco CA 94131

Job No.: 4751

APN: 105-130-005

Location: PROPOSED PARCEL #1

Lot Size: 2 AC

Water System: PROPOSED WELL

Ground Slope: <2% DOWN TO WEST

Setbacks: (Delnorte County Minimum)	Septic tank	Leach Field
Property Line	✓ (10')	✓ (10')
Well	✓ (100')	✓ (100')
Water Line	✓ (10')	✓ (10')
Stream	✓ (100')	✓ (100')
Drainage Channel	~ (50')	~ (50')
Ocean, Lake, etc.	NA (50')	NA (100')
Bluff or Cutback	✓ (25')	✓ (25')

Primary Area Site(s): } TP-6 & TP-10

Replacement Site(s): }

Other excavations TP-7 (NO PERC TEST)

Depth to Hardpan, Bedrock, Etc.: NOT FOUND

Depth To Groundwater: NOT FOUND

Depth to Mottling: NOT OBSERVED

Other Factors: DRAINAGE ON WEST SIDE / BOGGY
WATER LINE ~110' FROM ROAD

Soil analysis zone:

Percolation Rate: 8.6 and 7.5 MPI

Depth of Soils under leachfield Required: 5 ft

Actual Depth Available: >5ft

Replacement Area Available: YES

Adequate? YES

Other Comments:

STOVER ENGINEERING

SITE EVALUATION SUMMARY

Owner: JOSEPH MEYERS, M.D

Date: 4/2/21

Address: 45 Ora Way #302
San Francisco
CA 94131

Job No.: 4751

APN: 105-130-005

Location: PROPOSED PARCEL #2

Lot Size: 2 AC

Water System: PROPOSED WELL

Ground Slope: <2% DOWN TO WEST

Setbacks: (Delnorte County Minimum)	Septic tank	Leach Field
Property Line	√ (10')	√ (10')
Well	√ (100')	√ (100')
Water Line	√ (10')	√ (10')
Stream	√ (100')	√ (100')
Drainage Channel	~ (50')	~ (50')
Ocean, Lake, etc.	NA (50')	NA (100')
Bluff or Cutback	√ (25')	√ (25')

Primary Area Site(s): } TP 4 & TP 5
Replacement Site(s): }

Other excavations NONE

Depth to Hardpan, Bedrock, Etc.: NOT FOUND

Depth To Groundwater: NOT FOUND

Depth to Mottling: NOT OBSERVED

Other Factors: DRAINAGE ON WEST SIDE / BOGGY
WATER LINE ~110' FROM ROAD

Soil analysis zone: UNKNOWN Percolation Rate: 15 and 30 MPI

Depth of Soils under leachfield Required: 5 ft

Actual Depth Available: >5 ft

Replacement Area Available: YES

Adequate? YES

Other Comments: APPROX 1' DEEP GRAVEL LAYER AT TOP OF SOIL PROFILE AT TP-4 AND TP-5, SITE OF RV PARKING PAD - ABANDONED/NOT MAINTAINED. PERC TESTS IN SOILS UNDER THE GRAVEL LAYER.

STOVER ENGINEERING

SITE EVALUATION SUMMARY

Owner: JOSEPH MEYERS, MD

Address: 45 Ora Way #302
San Francisco
CA 94131

Location: PROPOSED PARCEL #3

Lot Size: 2 AC

Ground Slope: <2% DOWN TO WEST

Date: 4/2/21

Job No.: 4751

APN: 105-130-005

Water System: PROPOSED WELL

Setbacks: (Delnorte County Minimum)	Septic tank	Leach Field
Property Line	✓ (10')	✓ (10')
Well	✓ (100')	✓ (100')
Water Line	✓ (10')	✓ (10')
Stream	✓ (100')	✓ (100')
Drainage Channel	~ (50')	~ (50')
Ocean, Lake, etc.	NA (50')	NA (100')
Bluff or Cutback	✓ (25')	✓ (25')

Primary Area Site(s): } TP-8 & TP-9

Replacement Site(s): }

Other excavations TP-2 & TP-3

Depth to Hardpan, Bedrock, Etc.: NOT FOUND

Depth To Groundwater: NOT FOUND

Depth to Mottling: NOT OBSERVED

Other Factors: WATER LINES CROSSING PARCEL

Soil analysis zone: UNKNOWN Percolation Rate: 30 and 45 MPI

Depth of Soils under leachfield Required: 5 ft

Actual Depth Available: >5 ft

Replacement Area Available: YES

Adequate? YES

Other Comments: ENCUMBERED BY WATER LINES SERVING NEIGHBORS, CLAY/SILT SOILS AND THICK TREE COVER. MARSH/SWAMPY TERRAIN AT ~140' FROM SOUTH BANK ROAD.

STOVER ENGINEERING

SITE EVALUATION SUMMARY

Owner: JOSEPH MEYERS, MD

Date: 4/2/21

Address: 45 Ora Way #302
San Francisco CA 94131

Job No.: 4751

APN: 105-130-027

Location: 6012 SOUTH BANK RD (EXISTING RESIDENCE)

Lot Size: 1 AC (2 AC W/ LLA)

Water System: HILLSIDE SPRING & TANK

Ground Slope: <2% DOWN TO EAST

Setbacks: (Delnorte County Minimum)	Septic tank	Leach Field
Property Line	✓ (10')	✓ (10')
Well	✓ (100')	✓ (100')
Water Line	? (10')	? (10')
Stream	✓ (100')	✓ (100')
Drainage Channel	~ (50')	~ (50')
Ocean, Lake, etc.	NA (50')	NA (100')
Bluff or Cutback	✓ (25')	✓ (25')

Primary Area Site(s): EXISTING LEACHFIELD

Replacement Site(s): TP-1

Other excavations NONE

Depth to Hardpan, Bedrock, Etc.: NOT FOUND

Depth To Groundwater: NOT FOUND

Depth to Mottling: NOT OBSERVED

Other Factors: EXISTING HOME W/ SEPTIC TANK & LEACHFIELD

Soil analysis zone:

Percolation Rate: 7.5 MPI

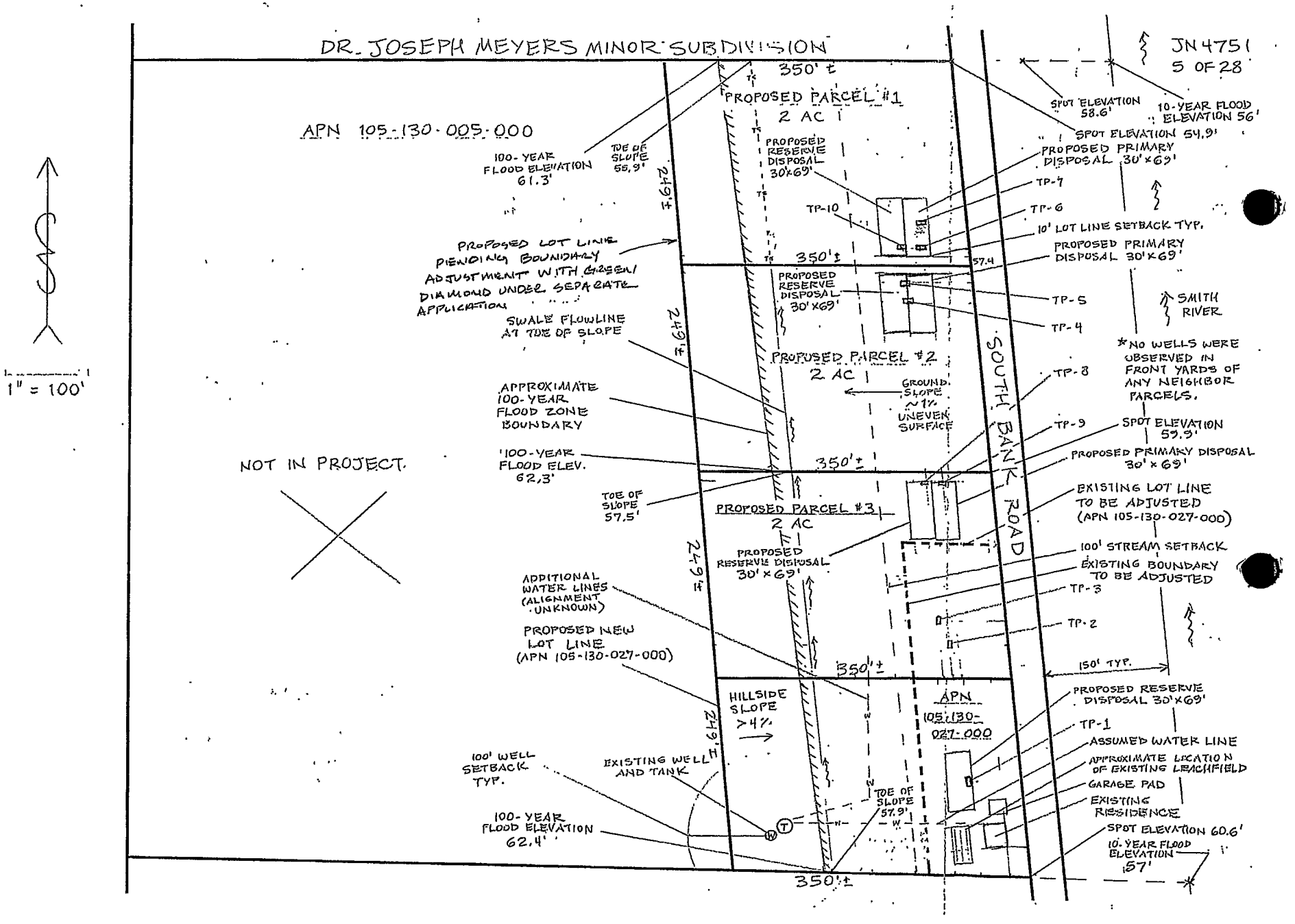
Depth of Soils under leachfield Required: 5 ft

Actual Depth Available: >5 ft

Replacement Area Available: YES

Adequate? YES

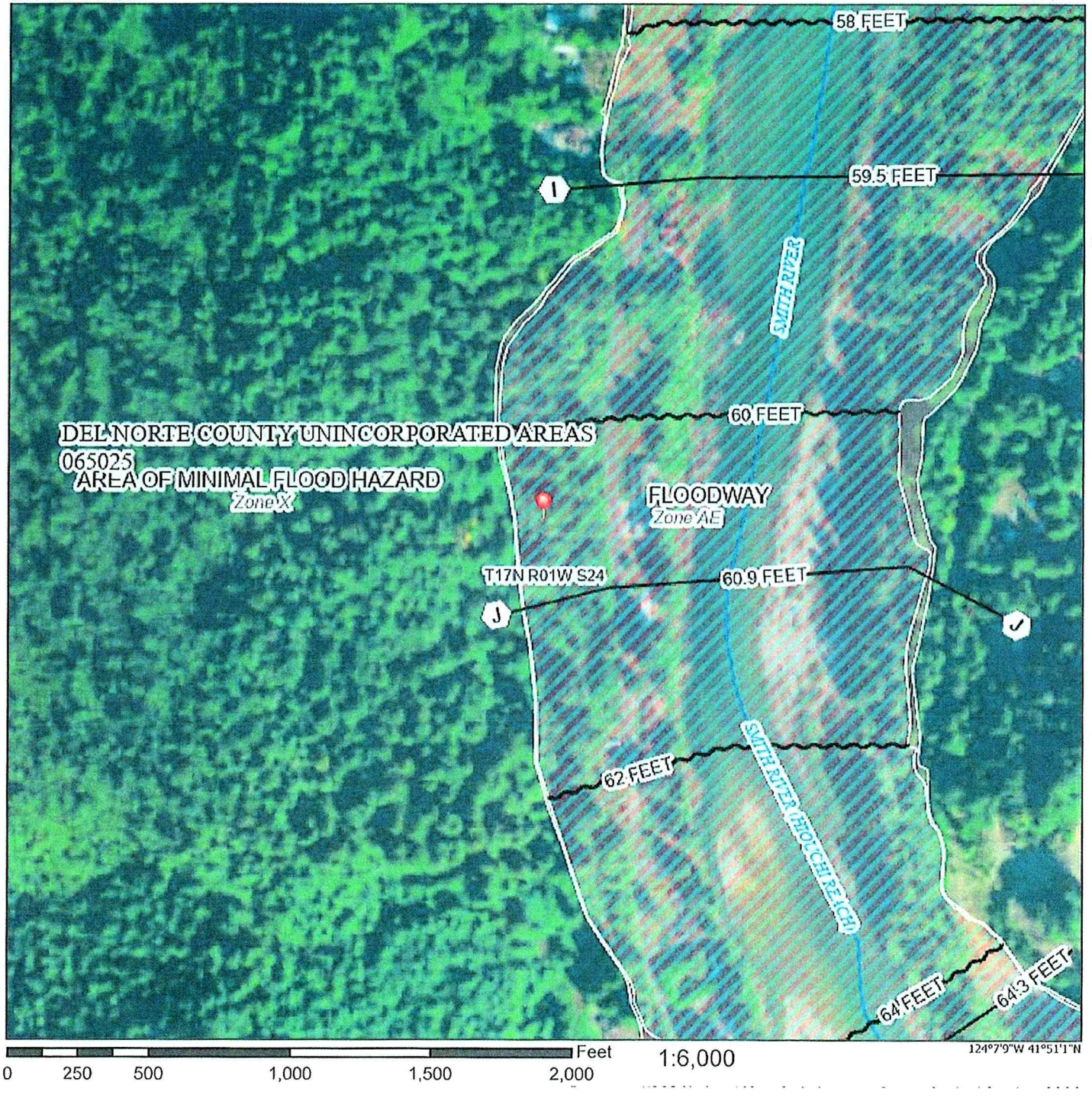
Other Comments: RESERVE AREA NEEDED FOR BOUNDARY ADJUSTMENT
EXISTING LEACHFIELD APPEARS TO BE FUNCTIONING NORMALLY


DR. JOSEPH MEYERS MINOR SUBDIVISION
JN 4751
5 OF 28
APN 105-130-005-000
1" = 100'
350' ±
PROPOSED PARCEL #1
2 AC
PROPOSED PARCEL #2
2 AC
PROPOSED PARCEL #3
2 AC
249' ±
100-YEAR FLOOD ELEVATION 61.3'
TOE OF SLOPE 55.9'
PROPOSED RESERVE DISPOSAL 30'x69'
PROPOSED PRIMARY DISPOSAL 30'x69'
TP-10
TP-7
TP-6
TP-5
TP-4
TP-3
TP-2
TP-1
10' LOT LINE SETBACK TYP.
PROPOSED LOT LINE PENDING BOUNDARY ADJUSTMENT WITH GISELI DIAMOND UNDER SEPARATE APPLICATION
SWALE FLOWLINE AT TOE OF SLOPE
APPROXIMATE 100-YEAR FLOOD ZONE BOUNDARY
100-YEAR FLOOD ELEV. 62.3'
NOT IN PROJECT.
GROUND SLOPE ~1% UNEVEN SURFACE
TOE OF SLOPE 57.5'
ADDITIONAL WATER LINES (ALIGNMENT UNKNOWN)
PROPOSED NEW LOT LINE (APN 105-130-027-000)
HILLSIDE SLOPE >4%
100' WELL SETBACK TYP.
EXISTING WELL AND TANK
100-YEAR FLOOD ELEVATION 62.4'
TOE OF SLOPE 57.9'
APN 105-130-027-000
SOUTH BANK ROAD
SPOT ELEVATION 58.6'
10-YEAR FLOOD ELEVATION 56'
SPOT ELEVATION 54.9'
SMITH RIVER
*NO WELLS WERE OBSERVED IN FRONT YARDS OF ANY NEIGHBOR PARCELS.
SPOT ELEVATION 59.9'
EXISTING LOT LINE TO BE ADJUSTED (APN 105-130-027-000)
100' STREAM SETBACK
EXISTING BOUNDARY TO BE ADJUSTED
150' TYP.
ASSUMED WATER LINE
APPROXIMATE LOCATION OF EXISTING LEACHFIELD
GARAGE PAD
EXISTING RESIDENCE
SPOT ELEVATION 60.6'
10-YEAR FLOOD ELEVATION 57'

National Flood Hazard Layer FIRMette

FEMA

124°7'46"W 41°51'28"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

124°7'9"W 41°51'1"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile Zone
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due Levee. See Notes. Zone X
- Area with Flood Risk due to Levee Zone D

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard Zone X
- Effective LOMRs
- Area of Undetermined Flood Hazard Zone

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/11/2021 at 8:26 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

JN 1751 SHEET 6 OF 29

EXPLORATION TEST LOG

by GBG

Project Name MEYERS SUBD. Job Number 4751 Date 4/2/21

Hole Number # 1 Hole Type BACKHOE APN 105-130-027

Soil Sample	Depth (ft) 0'	Soil Description			
		Color	Type	Structure	Saturation
		BROWN	TOPSOIL	LOOSE	DRY
	1	GRAY BROWN	SANDY LOAM	GRANULAR	DRY TO MOIST +/-
	2				
PERC	3				
	4				
	5				
	6				
	7				
	8	BROWN SANDY CLAY/CLAY LOAM BLOCKY WET			
		NO WATER			
	9	BOTTOM OF HOLE			
	10				
	11				
	12				

EXPLORATION TEST LOG

by GBG

Project Name MEYERS SUBD. Job Number 4751 Date 4/2/21

Hole Number #2 Hole Type BACKHOE APN 105-130-005

Soil Sample	Depth (ft) 0'	Soil Description			
		Color	Type	Structure	Saturation
		BROWN	TOPSOIL	GRANULAR	DRY +/-
	1	GRAY BROWN	SANDY CLAY	GRANULAR/ BLOCKY	MOIST
	2				
PERC	3				
	4				
	5				
	6				
	7				
	8	BROWN	CLAY	BLOCKY	WET
	9	////// NO WATER ////////// BOTTOM OF HOLE			
	10				
	11				
	12				

EXPLORATION TEST LOG

by GBG

Project Name MEYERS SUBD. Job Number 4751 Date 4/2/21

Hole Number #3 Hole Type BACKHOE APN 105-130-005

Soil Sample	Depth (ft) 0'	Soil Description			
		Color	Type	Structure	Saturation
		BROWN	TOPSOIL	GRANULAR	DRY +/-
	1	GRAY BROWN	SILTY CLAY	BLOCKY	MOIST
	2				
PERC	3				
	4				
	5				
	6				
	7				
	8	BROWN	CLAY	BLOCKY	WET
	9	BOTTOM OF HOLE- NO WATER			
	10				
	11				
	12				

EXPLORATION TEST LOG

by GBG

Project Name MEYERS SUBD. Job Number 4751 Date 4/2/21

Hole Number # 4 Hole Type BACKHOE APN 105-130-005

Soil Sample	Depth (ft) 0'	Soil Description			
		Color	Type	Structure	Saturation
	1	GRAY	GRAVEL	GRANULAR	DRY
	2	BROWN	SANDY LOAM	GRANULAR	MOIST
PERC	3				
	4				
	5				
	6				
	7				
	8	BROWN	SANDY CLAY	BLOCKY	WET
	9	BOTTOM OF HOLE NO WATER			
	10				
	11				
	12				

EXPLORATION TEST LOG

by GBG

Project Name MEYERS SUBD | Job Number 4751 | Date 4/2/21

Hole Number #5 | Hole Type BACKHOE | APN 105-130-005

Soil Sample	Depth (ft) 0'	Soil Description			
		Color	Type	Structure	Saturation
	1	GRAY	GRAVEL	GRANULAR	DRY
	2	BROWN	SANDY LOAM -OR- SANDY CLAY LOAM	GRANULAR	MOIST
PERC	3				
	4				
	5				
	6				
	7				
	8	BROWN	SANDY CLAY	BLOCKY	WET
	9	BOTTOM OF HOLE - NO WATER			
	10				
	11				
	12				

EXPLORATION TEST LOG

by GBG

Project Name MEYERS SUBD. Job Number 4751 Date 4/2/21

Hole Number #6 Hole Type BACKHOE APN 105-130-005

Soil Sample	Depth (ft) 0'	Soil Description			
		Color	Type	Structure	Saturation
	1	BROWN	TOPSOIL W/ ROOTS		DRY +/-
PERC	2	BROWN	SANDY LOAM	GRANULAR	MOIST
	3				
	4				
	5				
	6				
	7				
	8	BROWN	SANDY CLAY	BLOCKY	WET
	9	BOTTOM OF HOLE NO WATER			
	10				
	11				
	12				

EXPLORATION TEST LOG

by GBG

Project Name MEYERS SUBD. Job Number 4751 Date 4/2/21

Hole Number #7 Hole Type BACKHOE APN 105-130-005

Soil Sample	Depth (ft) 0'	Soil Description			
		Color	Type	Structure	Saturation
	1	BROWN	TOPSOIL W/ ROOTS		DRY +/-
NO PERC TEST	2	BROWN	CLAY LOAM	GRANULAR	MOIST
	3				
	4				
	5				
	6				
	7	BROWN	CLAY	BLOCKY	WET
	8				
	9	NO WATER BOTTOM OF HOLE			
	10				
	11				
	12				

EXPLORATION TEST LOG

by GBG

Project Name MEYERS | Job Number 4751 | Date 4/6/21

Hole Number 8 | Hole Type BACKHOE | APN 105-130-005

Soil Sample	Depth (ft) 0'	Soil Description			
		Color	Type	Structure	Saturation
	1	DARK BROWN	TOPSOIL	LOOSE	DRY
	2	GRAY BROWN	SANDY LOAM	GRANULAR	MOIST
PERC	3	BROWN	CLAY LOAM	BLOCKY	MOIST
	4			ROOTS DOWN TO 4' BGS	
	5				
	6				
	7				
	8	BROWN	CLAY LOAM	BLOCKY	WET
	9	BOTTOM OF HOLE NO WATER			
	10				
	11				
	12				

EXPLORATION TEST LOG

by GBG

Project Name MEYERS Job Number 4751 Date 4/6/21

Hole Number 9 Hole Type BACKHOE APN 105-130-005

Soil Sample	Depth (ft) 0'	Soil Description			
		Color	Type	Structure	Saturation
	1	DARK BROWN	TOPSOIL ROOTS	LOOSE GRANULAR	NEARLY DRY
	2	GRAY BROWN	SANDY CLAY LOAM	GRANULAR	MOIST
PERC	3				
	4	BROWN	SILT LOAM -OR- CLAY LOAM	ROOTS DOWN TO 4' BGS; BLOCKY	MOIST
	5				
	6				
	7				
	8	BROWN	CLAY LOAM	BLOCKY	WET
	9	BOTTOM OF HOLE NO WATER			
	10				
	11				
	12				

EXPLORATION TEST LOG

by SBS

Project Name MEIERS | Job Number 4751 | Date 4/6/21

Hole Number 10 | Hole Type BACKHOE | APN 105-130-005

Soil Sample	Depth (ft) 0'	Soil Description			
		Color	Type	Structure	Saturation
	1	BROWN	TOPSOIL W/ ROOTS	LOOSE	DRY
	2	BROWN	SANDY LOAM	GRANULAR	MOIST
PERC	3				
	4	BROWN	CLAY LOAM	BLOCKY	MOIST
	5				
	6				
	7	BROWN	CLAY LOAM	BLOCKY	WET
	8				
	9	BOTTOM OF HOLE NO WATER			
	10				
	11				
	12				

STOVER ENGINEERING

PERCOLATION TEST LOG

Project Name MEYERS SUBD. Job # 4751 Test Date 4/2/21 Logged By GBG

Hole Number # 1 Hole Type BACKHOE/HAND Hole Elevation Water Table 78" BGS

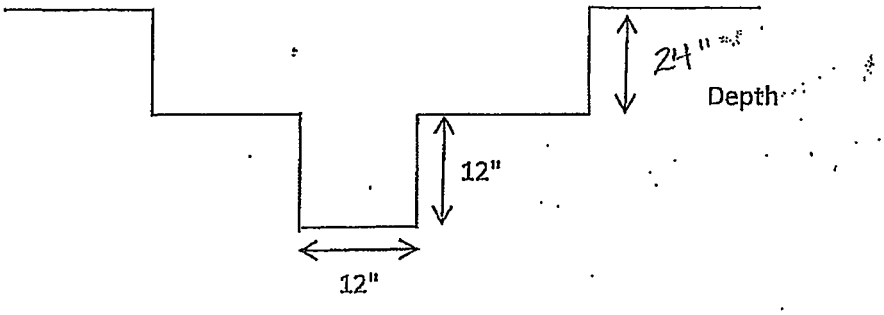
Soil Type SANDY LOAM Water Supply BUCKET APN 105-130-005

Begin Time	End Time	Begin Level (inch)	End Level (inch)	Elapsed Time (minutes)	Drop (inch)	Rate (min/inch)
1:35	1:50	7	10.25	17	3.25	5.2
1:50	2:07	7.25	9.75	15	2.5	6.0
2:07	2:20	9.75	11.0	15	1.25	12.0
2:20	2:37	6.25	9	~~15~~ 17	2.75	6.2
~~2:35~~ 2:37	2:50	6.5	8.5	15	2	7.5
2:50	3:05	6.5	8.5	15	2	7.5
3:09	3:24	6.5	8.5	15	2	7.5
~~3:20~~ 3:24	3:39	6.5	8.5	15	2	7.5

Maximum Allowable Percolation Rate = 5 min/inch

Minimum Allowable Percolation Rate = 60 min/inch

STABILIZED RATE = 7.5 MIN/INCH



STOVER ENGINEERING

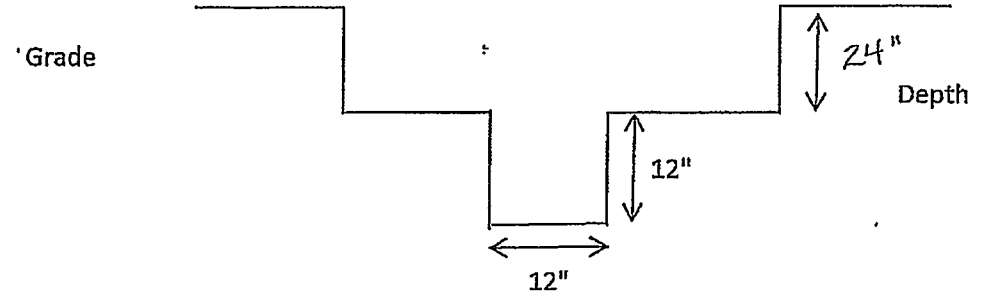
PERCOLATION TEST LOG

Project Name MEYERS SUBD. Job # 4751 Test Date 4/2/21 Logged By GBG
Hole Number #2 Hole Type BACKHOE/HAND Hole Elevation Water Table >8' BGS
Soil Type SANDY CLAY Water Supply BUCKET APN 105-130-005

Begin Time	End Time	Begin Level (inch)	End Level (inch)	Elapsed Time (minutes)	Drop (inch)	Rate (min/inch)
1:39	1:54	7	7.75	15	0.75	20
1:54	2:09	7.75	8.5	15	0.75	20
2:09	2:24	6.25	7	15	0.75	20
2:24	2:39	7	7.75	15	0.75	20
2:39	2:54	7.75	8.25	15	0.5	30
2:54	3:12	6	6.75	~~15~~ 18	0.75	24
3:12	3:27	6.25	7	15	0.75	20
3:27	3:42	5.75	6.5	15	0.75	20

Maximum Allowable Percolation Rate = 5 min/inch
Minimum Allowable Percolation Rate = 60 min/inch

STABILIZED RATE = 20 MIN/INCH



STOVER ENGINEERING

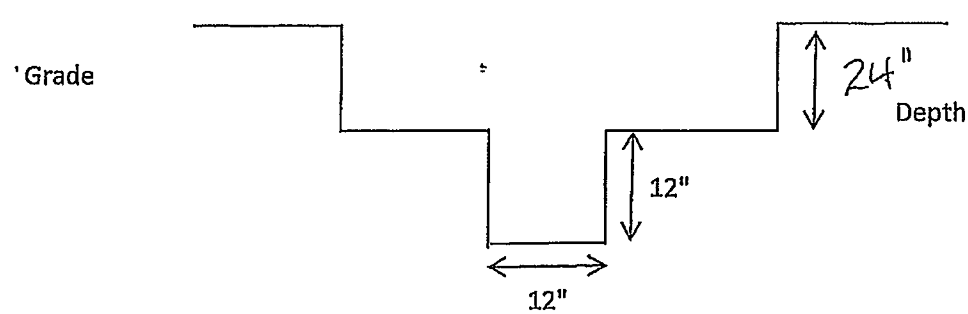
PERCOLATION TEST LOG

Project Name MEYERS SUBD Job # 4751 Test Date 4/2/21 Logged By GBG
Hole Number #3 Hole Type BACKHOE/HAND Hole Elevation Water Table 78' BGS
Soil Type SILTY CLAY Water Supply BUCKET APN 105-130-005

Begin Time	End Time	Begin Level (inch)	End Level (inch)	Elapsed Time (minutes)	Drop (inch)	Rate (min/inch)
1:41	1:56	7	7.5	15	0.5	30
1:56	2:11	7.5	7.5	15	Ø	∞ NOT PERCING
2:11	2:26	7.5	7.75	15	0.25	60
2:26	2:41	7.75	8	15	0.25	60
2:41	2:56	6.75	7	15	0.25	60
2:56	3:~~44~~ 14	7	7.25	18	0.25	60
3:14	3:29	7.25	7.25	15	Ø	∞ NOT PERCING
3:29	3:44	7.25	7.25	15	Ø	NOT PERCING

Maximum Allowable Percolation Rate = 5 min/inch
Minimum Allowable Percolation Rate = 60 min/inch

STABILIZED RATE = X MIN/INCH
DOES NOT PERC



STOVER ENGINEERING

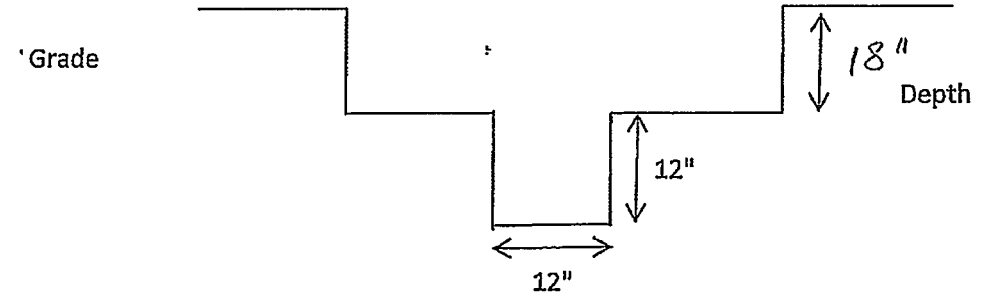
PERCOLATION TEST LOG

Project Name MEYERS SUBD Job # 4751 Test Date 4/9/21 Logged By SB6
Hole Number #4 Hole Type BACKHOE/HAND Hole Elevation Water Table >8' BGS
Soil Type SANDY LOAM OR S.C.L. Water Supply BUCKET APN 105-130-005

Begin Time	End Time	Begin Level (inch)	End Level (inch)	Elapsed Time (minutes)	Drop (inch)	Rate (min/inch)
9:05	9:20	6.75	9	15	2.25	6.7
9:20	9:35	6.5	8	15	1.5	10
9:35	9:50	6	7.5	15	1.5	10
9:50	10:05	6.25	7.25	15	1.0	15
10:05	10:20	7.25	8.25	15	1.0	15
10:20	10:35	6.25	7.25	15	1.0	15
10:35	10:50	5.75	6.75	15	1.0	15
10:50	11:05	5.5	6.5	15	1.0	15

Maximum Allowable Percolation Rate = 5 min/inch
Minimum Allowable Percolation Rate = 60 min/inch

STABILIZED RATE = 15 MIN/INCH



STOVER ENGINEERING

PERCOLATION TEST LOG

Project Name MEYERS SUBD. Job # 4751 Test Date 4/9/21 Logged By GBG

Hole Number #5 Hole Type BACKHOE/HAND Hole Elevation Water Table >8' BGS

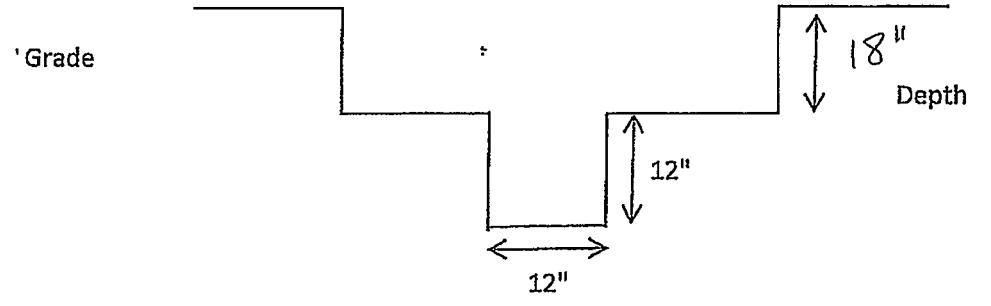
Soil Type SANDY CLAY LOAM Water Supply BUCKET APN 105-130-005

Begin Time	End Time	Begin Level (inch)	End Level (inch)	Elapsed Time (minutes)	Drop (inch)	Rate (min/inch)
9:07	9:22	8.5	9.75	15	1.25	12
9:22	9:37	7.5	8.25	15	0.75	20
9:37	9:52	7	7.75	15	0.75	20
9:52	10:07	6.75	7.25	15	0.5	30
10:07	10:22	7.25	8.25	15	1.0	15
10:22	10:37	8.25	8.75	15	0.5	30
10:37	10:52	8.75	9.25	15	0.5	30
10:52	11:07	7.0	7.5	15	0.5	30

Maximum Allowable Percolation Rate = 5 min/inch

Minimum Allowable Percolation Rate = 60 min/inch

STABILIZED RATE = 30 MIN/INCH



STOVER ENGINEERING

PERCOLATION TEST LOG

Project Name MEYERS SUBD. Job # 4751 Test Date 4/9/21 Logged By GBG

Hole Number #6 Hole Type BACKHOE/HAND Hole Elevation Water Table >8' BGS

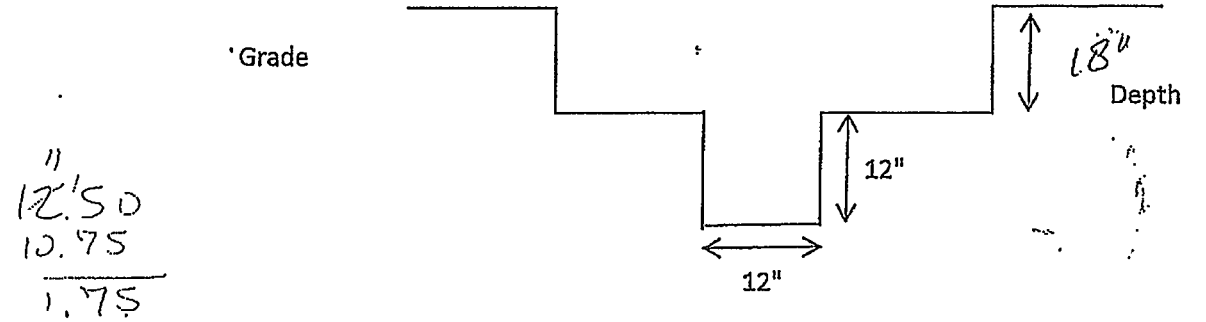
Soil Type SANDY LOAM Water Supply BUCKET APN 105-130-005

Begin Time	End Time	Begin Level (inch)	End Level (inch)	Elapsed Time (minutes)	Drop (inch)	Rate (min/inch)
9:26	9:41	10.75	12.5	15	1.75	8.6
9:41	9:56	10.5	12.0	15	1.5	10
9:56	10:11	7.5	9.5	15	2.0	7.5
10:11	10:26	9.5	10.75	15	1.25	12
10:26	10:41	6.5	8.75	15	2.25	6.7
10:41	10:56	6.0	8.0	15	2.0	7.5
10:56	11:11	6.5	8.25	15	1.75	8.6
11:11	11:26	6.0	7.75	15	1.75	8.6

Maximum Allowable Percolation Rate = 5 min/inch

Minimum Allowable Percolation Rate = 60 min/inch

STABILIZED RATE = 8.6 MIN/INCH



12.50
10.75
1.75

STOVER ENGINEERING

PERCOLATION TEST LOG

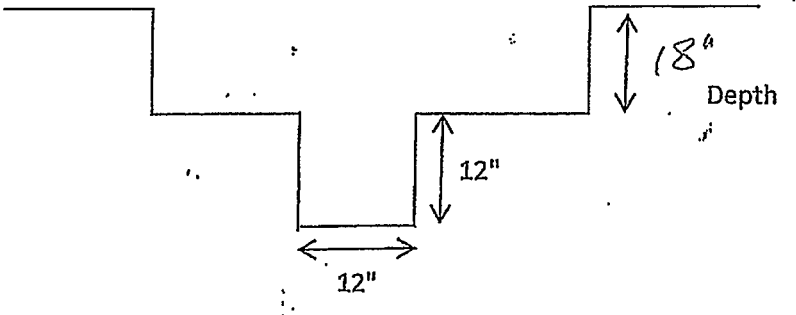
Project Name MEYERS SUBD. Job # 4751 Test Date 4/9/21 Logged By GBG
Hole Number 8 Hole Type BACKHOE/HAND Hole Elevation Water Table >8' BGS
Soil Type SANDY LOAM/CLAY LOAM Water Supply BUCKET APN 105-130-005

Begin Time	End Time	Begin Level (inch)	End Level (inch)	Elapsed Time (minutes)	Drop (inch)	Rate (min/inch)
9:31	9:46	7.75	8.5	15	0.75	20
9:46	10:01	7.0	7.75	15	0.75	20
10:01	10:16	6.75	7.25	15	0.5	30
10:16	10:31	7.25	7.75	15	0.5	30
10:31	10:46	6.5	7.0	15	0.5	30
10:46	11:01	7.0	7.5	15	0.5	30
11:01	11:16	6.25	6.75	15	0.5	30
11:16	11:31	6.75	7.25	15	0.5	30

Maximum Allowable Percolation Rate = 5 min/inch
Minimum Allowable Percolation Rate = 60 min/inch

STABILIZED RATE = 30 MIN/INCH

8.50
7.75
0.75



STOVER ENGINEERING

PERCOLATION TEST LOG

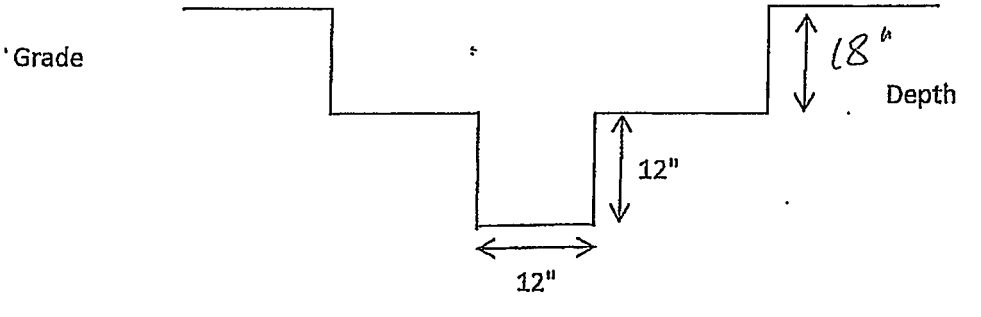
Project Name MEYERS SUBD. Job # 4751 Test Date 4/9/21 Logged By GBG
Hole Number 9 Hole Type BACKHOE/HAND Hole Elevation Water Table 78' BGS
Soil Type SANDY CLAY LOAM Water Supply BUCKET APN 105-130-005

Begin Time	End Time	Begin Level (inch)	End Level (inch)	Elapsed Time (minutes)	Drop (inch)	Rate (min/inch)
9:32	9:47	7.25	7.75	15	0.5	30
9:47	10:02	6.5	7.0	15	0.5	30
10:02	10:17	6.25	6.75	15	0.5	30
10:17	10:32	6.75	7.0	15	0.25	60
10:32	10:47	5.25	5.75	15	0.5	30
10:47	11:02	5.75	6.0	15	0.25	60
11:02	11:17	6.0	6.5	15	0.5	30
11:17	11:32	6.5	6.75	15	0.25	60

45 MPI

Maximum Allowable Percolation Rate = 5 min/inch
Minimum Allowable Percolation Rate = 60 min/inch

STABILIZED RATE = 45 MIN/INCH



STOVER ENGINEERING

PERCOLATION TEST LOG

Project Name MEYERS SUBD. Job # 4751 Test Date 4/9/21 Logged By GBG

Hole Number 10 Hole Type BACKHOE/HAND Hole Elevation Water Table 78' BGS

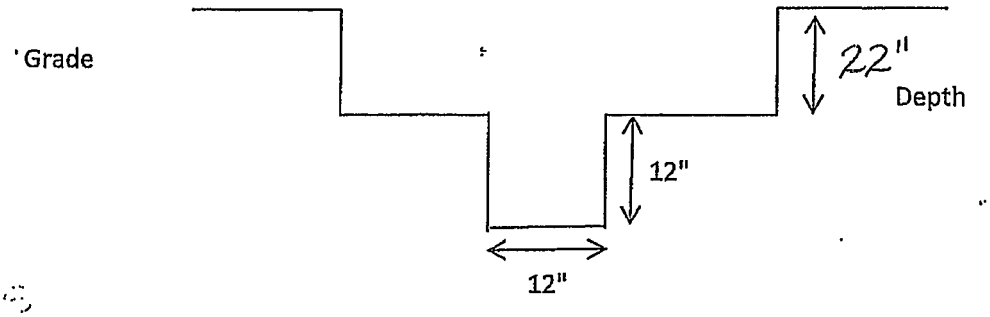
Soil Type SANDY LOAM Water Supply BUCKET APN 105-130-005

Begin Time	End Time	Begin Level (inch)	End Level (inch)	Elapsed Time (minutes)	Drop (inch)	Rate (min/inch)
9:09	9:24	6.25	9.0	15	2.75	5.5
9:24	9:39	6.5	8.25	15	1.75	8.6
9:39	9:54	6.75	8.50	15	1.75	8.6
9:54	10:09	7.75	9.0	15	1.25	12
10:09	10:24	9.0	10.25	15	1.25	12
10:24	10:39	6.75	8.5	15	1.75	8.6
10:39	10:54	6.0	8.0	15	2.0	7.5
10:54	11:09	5.75	7.75	15	2.0	7.5

Maximum Allowable Percolation Rate = 5 min/inch

Minimum Allowable Percolation Rate = 60 min/inch

STABILIZED RATE = 7.5 MIN/INCH



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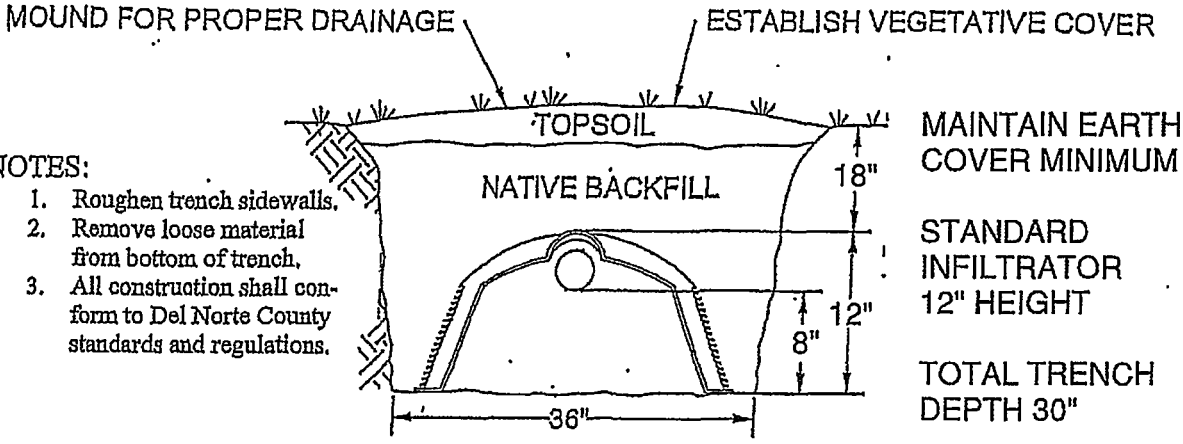
JOB 4751
SHEET NO. 26 OF 28
CALCULATED BY GBS DATE 4/12/21
CHECKED BY MH DATE 4-13-21
SCALE N/A

TRENCH DETAIL



NOTES:
1. Roughen trench sidewalls.
2. Remove loose material from bottom of trench.
3. All construction shall conform to Del Norte County standards and regulations.

LEACHFIELD
Percolation Rate = 45 MPI Therefore, Application Rate = 0.45 GPD/SF

THIS IS THE WORST CASE PERCOLATION RATE

NORTH COAST BASIN PLAN

Table 4-2. RATES OF WASTEWATER APPLICATION FOR ABSORPTION AREAS

Soil Texture	Percolation Rate Minutes per Inch	Application Rate Gallons per Day per Square Foot
Gravel, coarse sand	<1	Not Suitable
Coarse to medium sand	1 - 5	1.2
Fine sand, loamy sand	6 - 15	1.1 - 0.8
Sandy loam, loam	16 - 30	0.7 - 0.6
Loam, porous silt loam	31 - 60	0.5 - 0.4
Silty clay loam, clay loam -a,b	61 - 120	0.4 - 0.2

Note: Application rates may be interpolated based on percolation rates, within the ranges listed above.

a. Soils without expandable clays.
b. These soils may be easily damaged during construction.

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Dr. Meyers Minor Subdivision Disposal Field Design

01 - Determine Peak Flow	Peak Flow =	450	gpd	
	Based on Del Norte County Code 14.12.130 Table B			
02 - Determine Septic Tank Size	Septic Tank Size =	1200	gal	
	1000 gal minimum per UPC			
	1200 gal minimum per Del Norte County Code			
03 - Required Absorption Area	Soil Infiltration Rate, IR =	0.45	gpd/ft^2	
	Based on percolation testing and North Coast Regional Basin Plan 2018			
	AA =	1000	ft^2	(Flow/IR)
04 - Determine Trench Length	L_1 =	333	ft	(AA/W_1)
	W_1 =	3	ft	
	Depth =	2.5	ft	
	Reduction Factor, RF =	83	%	(Table 3, Manual of Septic Tank Practice)
05 - Determine Adjusted Length	L_2 =	278	ft	(L_1*RF)
	No. Laterals, No.L =	4		
	Lateral Spacing, S =	6	ft	
	Del Norte requires 6' minimum, Humboldt 10' minimum			
	Else use twice the depth, W_1			
	Lateral Length, L_3 =	69	ft	(L_2/No.L) OK
	L_3 <70' recommended, <100' required for conventional			
	Total Leachfield Width, W =	30	ft	(No.L*W_1 + S*(No.L -1)

Note: For pressure distribution network the maximum lateral length may be larger than 100 ft and is determined based on head loss.

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SCALE AS MARKED