Appendix D

Traffic Study

KD Anderson & Associates, Inc.
Transportation Engineers

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RE: TRAFFIC ASSESSMENT FOR GREEN COAST INDUSTRIES (GCI) CANNABIS FACILITY, YOLO COUNTY, CA : TRIP GENERATION

Dear Ms. Lowenthal:

Thank you for contacting our firm regarding the Green Coast Industries (GCI) Commercial Cannabis Facility. The project proposes to replace existing outdoor cultivation with a mixed-light cultivation facility that will include separate areas for distribution and a nursery facility. The project occupies a forty-acre site located on County Road 17 between Interstate 505 and Interstate 5, as noted in the attached vicinity map.

Project Characteristics

Business Operations. The GCI project will generate automobile and truck traffic as a result of employee commute activities as well as deliveries to and from the site by truck or van.

GCI currently operates on the site under Phase 1 with 12-15 employees under two shifts. One shift is from 4:00 a.m. to 1:00 p.m. and another occurs from 7:00 a.m. to 4:00 p.m. 8 employees are on site in the winter.

The project involves Phases 2 and 3 which will add 36 employees to the site for a total of 51 on site. When the project is completed all employees will work from 7:00 a.m. to 4:00 p.m. Employees would remain onsite during their shift. GCI anticipates that when all phases of the project are completed a ride-sharing program will be instituted whereby GCI will use commercial vans to shuttle workers to and from a yet to be designed meeting place.

Truck activities occur at various times through the year. Delivery schedules for nutrients and operational materials to the site are expected twice a month. Clones will be delivered to the site once a week, and cannabis products will be shipped two to three times each week. Shipments are typically shipped via a single-unit truck or vans. It is anticipated there could also be general delivery from the U.S. Postal Service, UPS, etc.

Trip Generation. The amount of vehicle traffic associated with the project is described in terms of vehicle "trips". Each roundtrip is comprised of one vehicle trip in and one vehicle trip out or two trips total. For this project the number of trips will vary from day to day based on the level of delivery and shipment activity that occurs on a particular day.

"Worst Case" Daily Trips. To provide a "worst case" assessment of daily traffic, the following assumptions have been made:

- All 36 new employees will generate trips that are "new" to the site with no reduction for van-pool activity.
- One monthly delivery to the site occurs on the "worst case" day.
- All weekly deliveries to the site occur on the same "worst case" day.
- All three shipments from the site each week occur on the "worst case" day.

As noted in Table 1, on a "worst case" basis the existing uses at the site could generate 42 daily vehicle trips, of which 10 would be trucks / vans and 32 would be automobiles. When the project is completed the site could generate 124 daily vehicle trips, of which 20 would be trucks / vans and 104 would be automobiles. On a "worst case" basis the project would have the net effect of more 82 daily trips.

Annualized Daily Trips. Because deliveries and shipments will not occur each day, it is also appropriate to assess project trip generation within the context of GHG emissions or regional Vehicle Miles Traveled (VMT) in a manner that annualizes daily trip generation across the year. In this case commute trips are assumed to occur 365 days per year. As indicated in Table 2, on an annualized basis the existing uses generate 28.4 daily trips, while the project the site could generate 106.0 annualized daily trips, or an increase of 77.3 daily trips.

P.m. Peak Hour Trips. The amount of project traffic that could occur in typical peak commute hours has also been assessed. Typical weekday commute hours fall from 7:00 a.m. to 9:00 a.m. in the morning and from 4:00 p.m. to 6:00 p.m. in the evening. The following assumptions have been made to provide a "worst case" estimate of peak hour traffic:

- Employees working a 4:00 a.m. to 1:00 p.m. shift will not generate trips in typical weekday.
- All employees working a 7:00 a.m. to 4:00 p.m. shift will be on the site before the a.m. commute period (7:00 to 9:00 a.m.) but will generate outbound trips in the evening peak hour (i.e., 4:00 to 6:00 p.m.).
- One monthly delivery to the site occurs on the "worst case" peak hour.
- One weekly delivery to the site occurs in the same "worst case" hour.
- A miscellaneous delivery occurs in the "worst case" peak hour.
- One cannabis shipment from the site each week leaves in the "worst case" hour.

As noted in Table 2, the project could cause site trip generation to increase from an existing level of 15 p.m. peak hour trips to a total of 58 peak hour trips under these assumptions, or a net increase of 43 trips.

Project Access. The project proposes two points of access to Co Rd 17 as noted in the attached site plan. Both will be 30 foot wide graveled encroachments.

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TABLE 1
EXISTING (PHASE 1) TRIP GENERATION ESTIMATE

Activity	Quantity	Schedule	Trip Rate per day	Worst Case Daily Trips			Annual Average Trips		PM Peak Hour Trips (4:00 to 6:00 p.m.)	
				Total	Truck and Vans	Cars	Annual Trips	Average Daily trips	In	Out
Employee Commute	15	Daily	2 per employee	30	0	30	9,247[1]	25.3	0	8[2]
Nutrient Deliveries	2	Monthly	2 per delivery	4	4	0	48	0.1	1	1
Clone Deliveries	1	Weekly	2 per delivery	2	2	0	104	0.3	1	1
Cannabis Shipments from the Site	2	Weekly	2 per shipment	4	4	0	208	0.6	0	1
Miscellaneous	1	Daily	2 per delivery	2	0	2	730	2.0	1	1
Total				42	10	32	10,337	28.3	3	12

[1] assumes 8 employees over 4 winter months and 15 employees over 8 months. [2] assumes one shift including peak hour

TABLE 2
TRIP GENERATION ESTIMATE AT PROJECT COMPLETION

Activity	Quantity	Schedule	Trip Rate per day	Worst Case Daily Trips			Annual Average Trips		PM Peak Hour Trips (4:00 to 6:00 p.m.)	
				Total	Truck and Vans	Cars	Annual Trips	Average Daily trips	In	Out
Employee Commute	51	Daily	2 per employee	102	0	102	37,230	102.0	0	51
Nutrient Deliveries	4	Monthly	2 per delivery	8	8	0	96	0.3	1	1
Clone Deliveries	2	Weekly	2 per delivery	4	4	0	208	0.6	1	1
Cannabis Shipments from the Site	4	Weekly	2 per shipment	8	8	0	416	1.1	0	1
Miscellaneous	1	Daily	2 per delivery	2	0	2	730	2.0	1	1
Total at Full Occupancy				124	20	104	38,680	106.0	3	55
Minus Existing Condition				42	10	32	10,458	28.7	3	12
Net Project Effect				82	10	72	28,326	77.3	0	43

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Existing Setting

Circulation System. The GCI facility is located south of Co Rd 17 west of Woodland roughly 2 miles east of Interstate 505 (I-505) and five miles west of Interstate 5 (I-5). Regional access to the site is provided by Co Rd 17 via an interchange on I-5, by Co Rd 90 which connects Road 17 with Road 19 near its interchange on I-505 and by Co Rd 95 and 95A, which extend south from Road 17 to State Route 16 (SR 16).

Interstate 5 (I-5) is an important north/south route that in Yolo County primarily provides for the transportation of goods by trucks. From the Sacramento County line to the Colusa County line, I-5 is a four-lane freeway and provides connections to the communities of Dunnigan, Zamora, and Yolo.

Interstate 505 (I-505) is a south to north freeway serving as a major connection for goods movement and interregional travel between I-80 near the City of Vacaville and I-5 in the northern part of Yolo County. I-505 is a four-lane freeway from the Solano County line to I-5 and provides a connection to the City of Winters.

State Route 16 (SR 16) serves east-west traffic through the western rural area of Yolo County, including the communities of Rumsey, Guinda, Brooks, Capay, Esparto, Madison, Monument Hills, and the City of Woodland. SR 16 also provides connection to the Cache Creek Resort Casino located near the town of Brooks. North of Rumsey, SR 16 passes through the Cache Creek Regional Park area and is one of the routes used by trucks to access Colusa and Lake Counties. SR 16 extends east as a two-lane conventional highway from the Colusa County line to the Woodland city limits, then north to the connection at I-5.

Yolo County maintains an extensive roadway system that provides a high level of access compared to the relatively low levels of traffic on most roadways. Currently, the County maintains approximately 800 miles of roadways in the unincorporated areas, of which only the major routes in the County's regional roadway system are addressed by the Yolo County General Plan Circulation Element.

County Road 17 (Co Rd 17) is a minor road that extends intermittently across north central Yolo County. The Circulation Element identifies the segment of Co Rd 17 east of Co Rd 95 as a "Minor Two-lane County Road", and that designation is also applied to segments east of State Route 113. Between Co Rd 90 and Co Rd 95 the roadway is a local road. The first mile east of Co Rd 90 is paved, but Yolo County does not maintain the balance of the segment that continues from that point easterly for roughly 2½ miles, goes past the project site and ends at a location about 2 miles west of Co Rd 95A.

The Yolo County Board of Supervisors terminated maintenance on County Road 17 between the existing gates near Assessor's Parcel Numbers 049-010-004 and 025-010-034 in 2009. The gates on County Road 17 remain locked during the winter months (generally November 15 to April 15). Landowners are provided a key to open the County locks on these gates to allow access. Travel on an unmaintained County road is at that person's own risk.

The maintained roadway has a paved section roughly 22-24 feet wide with unpaved shoulders and has deteriorated pavement in many locations. The roadway in the unmaintained area has been upgraded by the project proponent and today is a compacted aggregate surface that is roughly 20 feet wide. There is no posted speed limit on Co Rd 17, and while a prima facie 55 mph limit applies travel on gravel roads is difficult at that speed. Recent daily traffic volume counts indicated that the segment of Co Rd 17 between SR 113 and Co Rd 102 carried 1,542 vehicles per day in 2018, but no traffic volume count is available for

Co Rd 17 along the project frontage. Based on the location of the road and the limited agricultural development that has occurred along Co Rd 17 in this area the daily volume near the project is estimated to be less than 24 to 50 vehicles per day, depending on whether the gates are opened or closed.

County Road 95 and ***County Road 95A (Co Rd 95*** and ***Co Rd 95A)*** are north-south rural roads in the area west of I-5. Co Rd 95A extends south from Co Rd 17 to Co Rd 17A, and Co Rd 95 continues south from Co Rd 17B to Co Rd 94B and ultimately SR 16. These roads are designated "minor two-lane County Roads". All have a 20 to 22 foot wide paved sections and shoulders of varying materials, and a prima facie 55 mph speed limit applies. Traffic counts conducted in 2018 indicated that Co Rd 94B carried 991 vehicles per day north of SR 16, and the volumes on Co Rd 95 and 95A would be similar but likely lower due to their distance to SR 16.

County Road 90A (Co Rd 90A) is a north-south rural road that lies east of and immediately adjacent to I-505. Co Rd 90A extends north from the I-505 / Co Rd 19 interchange to Co Rd 14 near its interchange with I-505. Co Rd 90A is designated a local road by the Yolo County Circulation Element. In the area of the project Co Rd 94A has two 12 foot wide travel lanes and paved shoulders. The prima facie 55 mph speed limit applies.

Roadway Capacity / Safety. The capacity of rural roadways is predicated on many factors, including roadway width, terrain, etc. The typical minimum pavement width for two-way travel is established as 18 feet by the Highway Capacity Manual (HCM) and the American Association of State Highway and Transportation Officials (AASHTO) *Guide to the Geometric Design of Streets and Highways.* The *California Fire Code* is used by the Yolo County's fire districts as part of their evaluation of development project, and section 503.2.1 describes the need for 20-foot paved width to accommodate fire apparatus.

Where roadways are wide enough to accommodate two-way travel, various measures of operating Level of Service (LOS) are available based on the HCM. The Yolo County General Plan Circulation Element identifies hourly volume thresholds that can be employed to suggest roadway segment Level of Service for minor two-lane highways. Based on the capacity thresholds of the Yolo County GP EIR, minor two-lane rural roads carry up to 90 vehicles per hour (vph) at LOS A and 200 vph at LOS B. As the peak hour typically carries 10% of the daily traffic volumes, local roads carrying 1,000 to 2,000 vehicles per day, as is the case in the study area, operate at LOS B, which clearly satisfies the General Plan's LOS C goal. The low traffic volumes on Co Rd 17 in the area of the project would indicate a good Level of Service satisfying minimum General Plan standards.

From the standpoint of safety, the alignment of some area roads includes horizontal and vertical curves with design speeds lower than the 55 mph prima facie speed limit. This is the case on Co Rd 17 west of the Co Rd 95A intersection and on Co Rd 95A as it approaches Co Rd 17A and as its approaches Co Rd 19. However, these curves are signed, and roadside chevron markers have been installed. Narrow bridges over canals exist at locations on the county roads south of Co Rd 17, but these locations are also signed. In general, the roadways in the vicinity of the project have the width to accommodate two-way travel as well as agricultural truck traffic.

Project Impacts / Conclusions

Traffic Volume. The project will add traffic to the study area circulation system. Based on the project's location between I-505 and I-5 it is reasonable to expect that the distribution of peak hour commute traffic would be oriented to slightly more heavily to the east on Co Rd 17 to I-5 , with a worst case volume increase on Co Rd 17 of 65% of the project total or 28 vehicles per hour.

Cumulative Traffic Volume. The Yolo County Cannabis Ordinance EIR was accompanied by a traffic operational analysis which estimated daily and peak hour trip generation for future cannabis operations county-wide under four development scenarios. The proposed project is located with a Traffic Analysis Zone that extended from I-505 on the east to I-5 on the east with a northern boundary along Road 10 and a southern limit along Cache Creek. Within that broad area future cannabis operations had daily trip generation forecasts that ranged from 273 to 491 daily trips, with peak hour trips estimated to range from 59 to 110 trips. Because the trips generated by the assumed cannabis operations would be spread across a broad area, the contribution on any individual rural road would not be appreciable, and resulting cumulative traffic volumes caused by future cannabis operations did not result in conditions in excess of standards on the major roads in this area. Cumulative traffic increases would not be expected to result in conditions in excess of Yolo County General Plan standards on the minor roadways located in the area of the proposed project. Because travel speeds on the unmaintained segment of Co Rd 17 are lower than those associated with other east-west roads linking I-505 and I-5 in this area, it unlikely that this road would be used for "through" traffic, and the current traffic volume on Co Rd 17 when the gates are opened is unlikely to increase appreciably due to other future cannabis operations.

Level of Service. From the standpoint of Level of Service, an increase of 28 peak hour trips would be unlikely to cause a significant effect on traffic flow on study area roads based on Level of Service under the County's criteria. It is also important to note that the County's General Plan includes policies that indicate that roadway capacity is an impact criterion in order to preserve capacity for agricultural uses, such as the proposed project.

Vehicle Miles Traveled (VMT). The project's impact has been assessed within the context of SB 743 requirements for consideration of Vehicle Miles Traveled (VMT). SB 743 requires that agencies move from an evaluation of LOS to assessment of regional VMT when considering the significance of impacts under CEQA. While Yolo County has not yet formally adopted significance criteria for evaluating the significance of VMT impacts, guidance provided by the Governor's Office of Planning and Research (OPR) is available. While the project will contribute VMT, the OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA*, suggests that the VMT contribution of small projects need not be considered significant. OPR suggests that agencies can find projects generating fewer than 110 vehicles trips a day to be less than significant. Because the project's trip generation estimate falls below that level, its impact is not significant based on VMT.

Safety. From the standpoint of safety, the project will add traffic to County-maintained roads and to an unmaintained County road. The County maintained roads provide adequate sight distance and are adequately signed. While maintenance could be desirable in many areas, current roadway conditions do not represent a safety condition that would be appreciably exacerbated by project traffic. While Co Rd 17 is not maintained by the County near the project, the improvements that have already been made or will be made by the project proponent provide an adequate year round facility that will provide safe access to the

project site. To ensure that deliveries to the site do not stop at the gate and extend back onto Co Rd 17 while they wait, the access gates should be recessed from Co Rd 17 to provide queuing space.

Thank you for your attention to these materials. Please feel free to contact me if you have any questions or need more information.

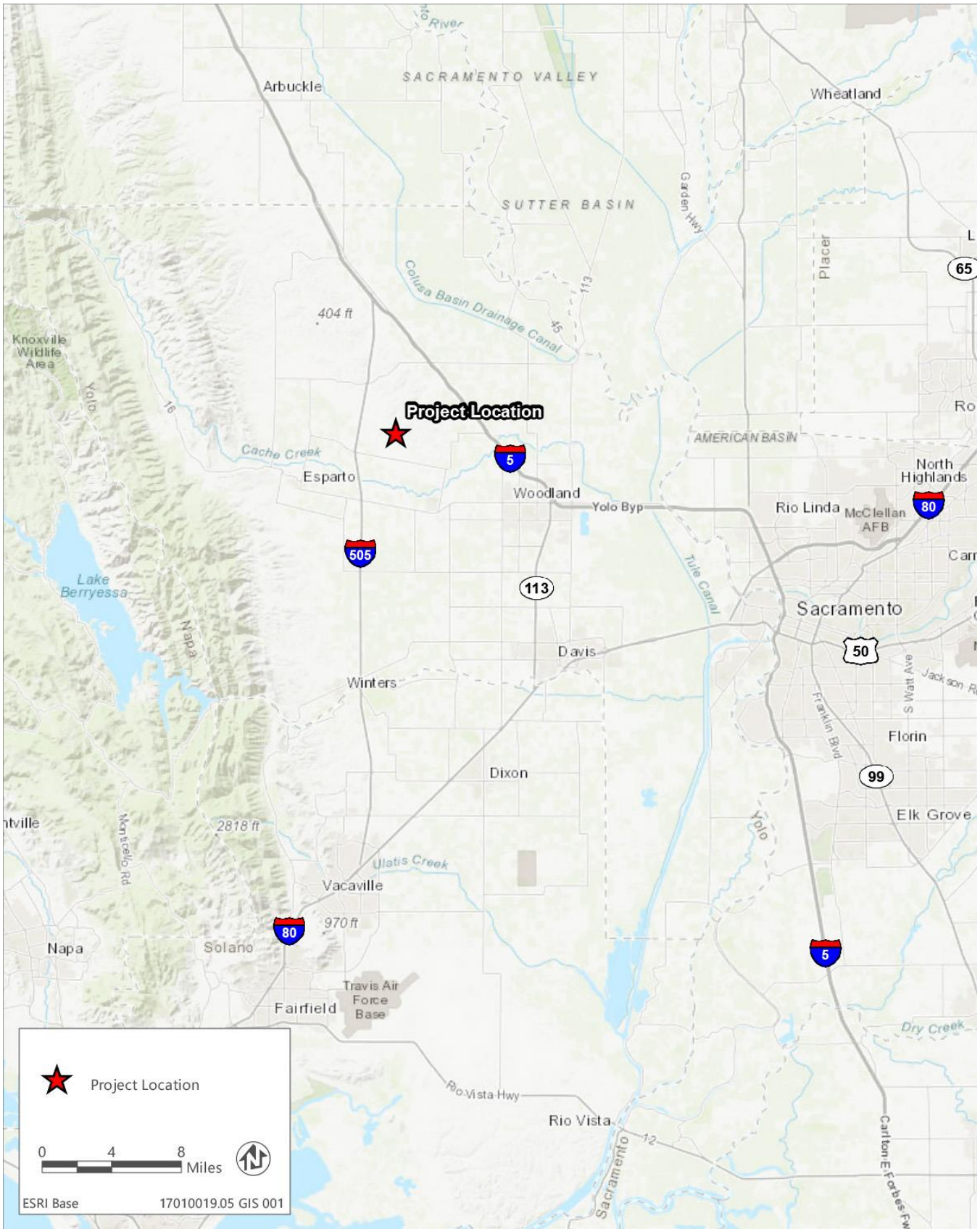
Sincerely Yours,

KD Anderson & Associates, Inc.

Kenneth D. Anderson, P.E.
President

Attachments

Yolo GCI 11 23

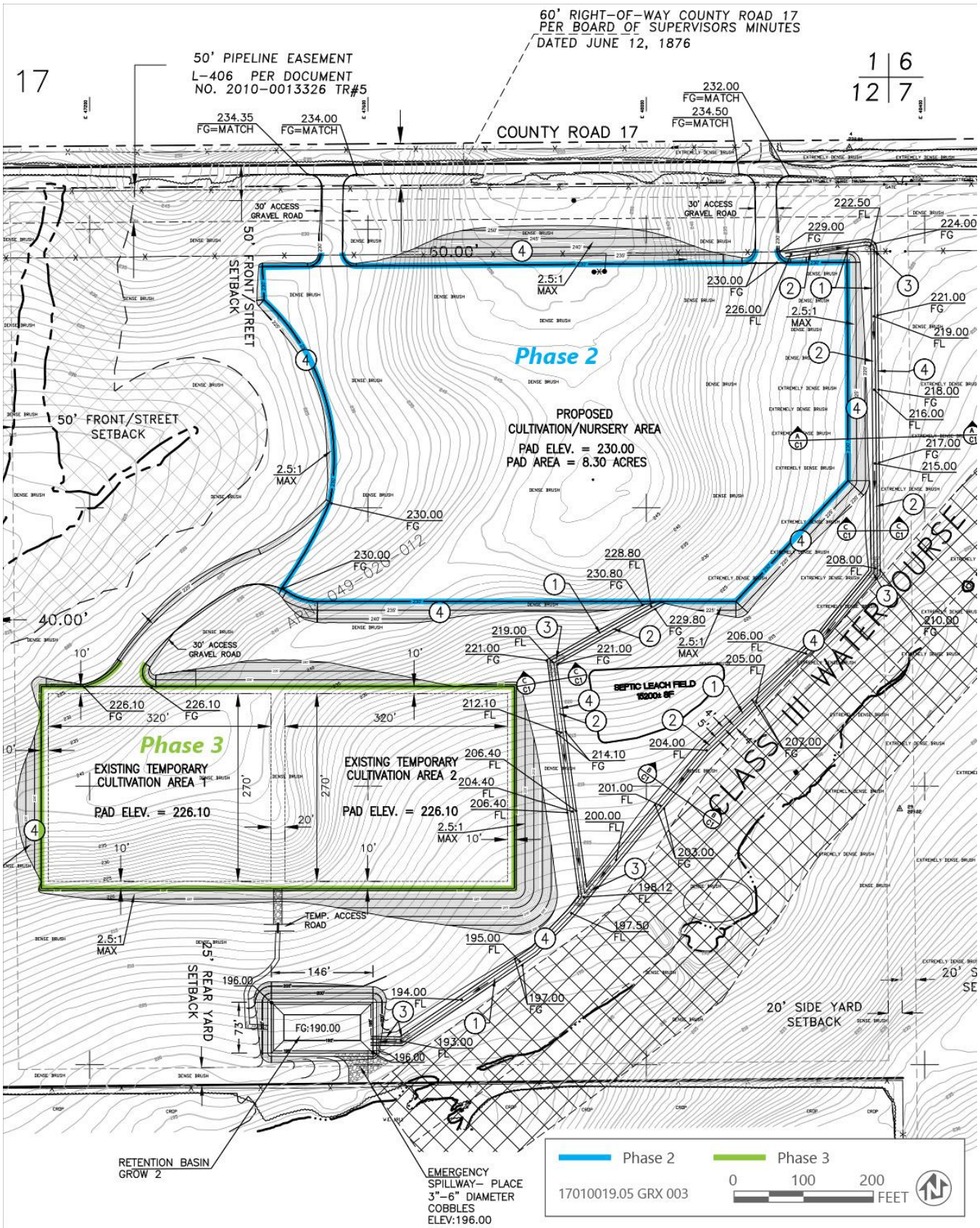


Source: Adapted by Ascent Environmental in 2019

Figure 2-1 Project Location

Source: Adapted by Ascent Environmental in 2019

Figure 2-2 Project Site



Source: Adapted by Ascent Environmental in 2019

Figure 2-3 Project Components