
1 **3.0 ALTERNATIVES AND CUMULATIVE PROJECTS**

2 **3.1 FACTORS USED IN SELECTION OF ALTERNATIVES**

3 **3.1.1 Alternatives Development and Screening Process**

4 One of the most important aspects of the environmental review process is the
5 identification and assessment of reasonable alternatives that have the potential for
6 avoiding or minimizing the impacts of a proposed Project. In addition to mandating
7 consideration of the No Project Alternative, the CEQA Guidelines (section 15126.6
8 (c) and (d)) emphasize the selection of a range of reasonable alternatives and an
9 adequate assessment of these alternatives to allow for a comparative analysis for
10 consideration by decision-makers.

11 The CEQA requires consideration of a range of reasonable alternatives to the
12 Project or Project location that: (1) could feasibly attain most of the basic Project
13 objectives; and (2) would avoid or substantially lessen any of the significant impacts
14 of the proposed Project. An alternative cannot be eliminated simply because it is
15 more costly or if it could impede the attainment of all Project objectives to some
16 degree. However, the CEQA Guidelines declare that an EIR need not consider an
17 alternative whose effects cannot be reasonably ascertained and whose
18 implementation is remote or speculative. The CEQA requires that an EIR include
19 sufficient information about each alternative to allow meaningful evaluation, analysis,
20 and comparison with the proposed Project.

21 The CEQA Guidelines requires the selection of an environmentally superior
22 alternative. The determination of an environmentally superior alternative is based on
23 the consideration of how the alternative fulfills the Project objectives and how the
24 alternative either reduces significant, unavoidable impacts or substantially reduces
25 the impacts to the surrounding environment. The CEQA Guidelines (section
26 15126.6(e)(2)) state, in part, that “If the environmentally superior alternative is the
27 “No Project” alternative, the EIR would also identify an environmentally superior
28 alternative among the other alternatives.”

29 **3.1.2 Alternatives Screening Methodology**

30 Alternatives to the proposed Project were selected based on the information
31 received from PG&E, the EIR study team, and the public and local jurisdictions
32 during the EIR scoping period. The alternatives screening process consisted of
33 three steps:

1 **Step 1:** Define the alternatives to allow comparative evaluation.

2 **Step 2:** Evaluate each alternative in consideration of one or more of the following
3 criteria:

4 • The extent to which the alternative would accomplish most of the basic goals
5 and objectives of the Project;

6 • The extent to which the alternative would avoid or lessen one or more of the
7 identified significant environmental effects of the Project;

8 • The potential feasibility of the alternative, taking into account site suitability,
9 economic viability, availability of infrastructure, General Plan consistency, and
10 consistency with other applicable plans and regulatory limitations; and

11 • The requirement of the CEQA Guidelines to consider a “no project” alternative
12 and to identify, under specific criteria, an “environmentally superior” alternative
13 in addition to the “no project” alternative (the CEQA Guidelines, section
14 15126.6(e)).

15 **Step 3:** Determine suitability of the proposed alternative for full analysis in the EIR.
16 If the alternative is unsuitable, it is eliminated, with appropriate justification, from
17 further consideration.

18 Feasible alternatives that did not clearly offer the potential to reduce significant
19 environmental impacts along with infeasible alternatives were removed from further
20 analysis. In the final phase of the screening analysis, the environmental advantages
21 and disadvantages of the remaining alternatives were carefully weighed with respect
22 to potential for overall environmental advantage, technical feasibility, and
23 consistency with Project and public objectives.

24 If an alternative clearly does not provide any environmental advantages as
25 compared to the proposed Project, it is eliminated from further consideration. At the
26 screening stage, it is not possible to evaluate potential impacts of the alternatives or
27 the proposed Project with absolute certainty. However, it is possible to identify
28 elements of the proposed Project that are likely to be the sources of impact. A
29 preliminary assessment of potential significant effects of the proposed Project
30 resulted in identification of the following impacts:

- 1 • Water resources that could be degraded during pipeline construction and
2 tunneling activity or by unexpected fluid leaks on the surface (known as “frac-
3 outs”);
- 4 • Agricultural cultivation and long-term soil productivity;
- 5 • Biological resources (including listed wildlife and plant species) and sensitive
6 habitats that could be affected by pipeline construction;
- 7 • Historical, cultural, and paleontological resources along the proposed route;
- 8 • Geologic hazards such as strong seismic ground shaking and unstable soil
9 units, including impacts to levee stability and/or integrity;
- 10 • Noise disturbance to nearby residents and also to nesting birds from
11 construction activities;
- 12 • Air quality impacts from construction equipment emissions and pipeline
13 blowdown;
- 14 • Traffic and transportation impacts, including construction vehicles on local
15 roads and disruption of traffic flows and emergency access during pipeline
16 trenching; and
- 17 • Hazards, including risk of serious injuries and fatalities, due to pipeline rupture
18 and explosion or fire from structural failure, corrosion, or inadvertent damage.
- 19 • Potential land use conflicts associated with school siting requirements that
20 prohibit school districts from acquiring a school site located within 1,500 feet of
21 an easement for an underground pipeline.

22 For the proposed Project, the primary technical and regulatory issues that could
23 render an alternative infeasible relate to:

- 24 • Disturbance to waterways and wetland resources;
- 25 • Overall pipeline length and constructability, including geologic constraints such
26 as fault crossings and/or hillside construction; and
- 27 • The likelihood of obtaining right-of-way (ROW) easements on private lands.

1 **3.1.3 Summary of Alternative Screening Results**

2 Potential alternatives were reviewed against the above criteria. A number of
 3 alternative routes were eliminated based on the infeasibility of constructing and
 4 operating a pipeline along them. Those alternatives that were found to be
 5 technically feasible and consistent with PG&E's objectives were reviewed to
 6 determine if the alternative had the potential to reduce the environmental impacts of
 7 the proposed Project.

8 Table 3-1 and 3-2 represent the evaluation and selection of potential alternatives to
 9 be addressed in the EIR. Table 3-1 provides the alternatives that have been
 10 eliminated from further consideration (described below in Section 3.2). Table 3-2
 11 provides the alternatives that are evaluated qualitatively in each resource area in
 12 Section 4.0, Environmental Analysis.

13 **Table 3-1: Alternatives Eliminated from Consideration**

Alternative	Location Relative to Proposed Project
Line 406 and 407 Northern Alternative	North of Line 406 and 407
Line 407 Southern Alternative	South of Line 407
Line 406 Central Alternative	North of Line 406
Systems Alternatives	NA - systemwide projects
Notes: NA = not applicable I = Interstate CR = County Road Source: Michael Brandman Associates 2009.	

14

15 **Table 3-2: Alternatives Evaluated in This EIR**

Alternative	Location Relative to Proposed Project
No Project Alternative	NA
Option A	North of Line 406
Option B	North of Line 406 until I-505
Option C	North of Line 406 in the Hungry Hollow area
Option D	North of Line 406 between CR-87 and CR-89
Option E	South of Line 406 between CR-87 and CR-89
Option F	West of Line 406 at CR-95

Alternative	Location Relative to Proposed Project
Option G	South of Line 407 between CR-97 and CR-98
Option H	South of Line 407 from the Knights Landing Ridge Cut to Powerline Road
Option I	North of Line 407 directly east of Brewer Road
Option J	North of Line 407 directly east of Brewer Road
Option K	North of Line 407 between Country Acres Lane and Watt Avenue
Option L	Along Line 407 between Country Acres Lane and Watt Avenue

Source: Michael Brandman Associates 2009.

1

2 **3.2 ALTERNATIVES ELIMINATED FROM FULL EVALUATION**

3 Three primary alternative routes, including several variations, were evaluated for
4 consistency with the Project objective of expanding the capacity of the existing
5 transmission system to meet the demand for natural gas due to the extensive growth
6 in the greater Sacramento Valley area. These alternatives are shown in Figure 3-1,
7 and the various reasons for rejection are stated below.

8 **3.2.1 Line 406/407 Northern Alternative**

9 **Route Description**

10 The Line 406/407 Northern Alternative is in the northernmost alignment evaluated by
11 PG&E (see Figure 3-1). The Line 406 portion of this alternative would begin at Lines
12 400 and 401 and follow County Road (CR) 14 east through agricultural lands,
13 including orchards, row crops, and vineyards, across Interstate (I) 505 to CR-13.
14 The route would continue east paralleling CR-13 through grasslands in the Dunnigan
15 Hills, across I-5, to the town of Zamora, where it would intersect with the existing
16 Line 172A ROW. The route would then parallel Line 172A to the tie-in point with
17 Line 172A and Line 407, north of the town of Yolo. The total length of Line 406
18 under this alternative is approximately 16 miles.

19 Just south of Zamora, Line 407 would proceed east through row crops paralleling
20 CR-13 to CR-102, where it would proceed south. At CR-14, the route would turn
21 east and cross through row crops, orchards, and riparian woodland prior to crossing
22 a small irrigation canal, the Knights Landing Ridge Cut, and the Sacramento River.
23 It would also cross the East Canal, the River Ranch Conservation Bank, and the

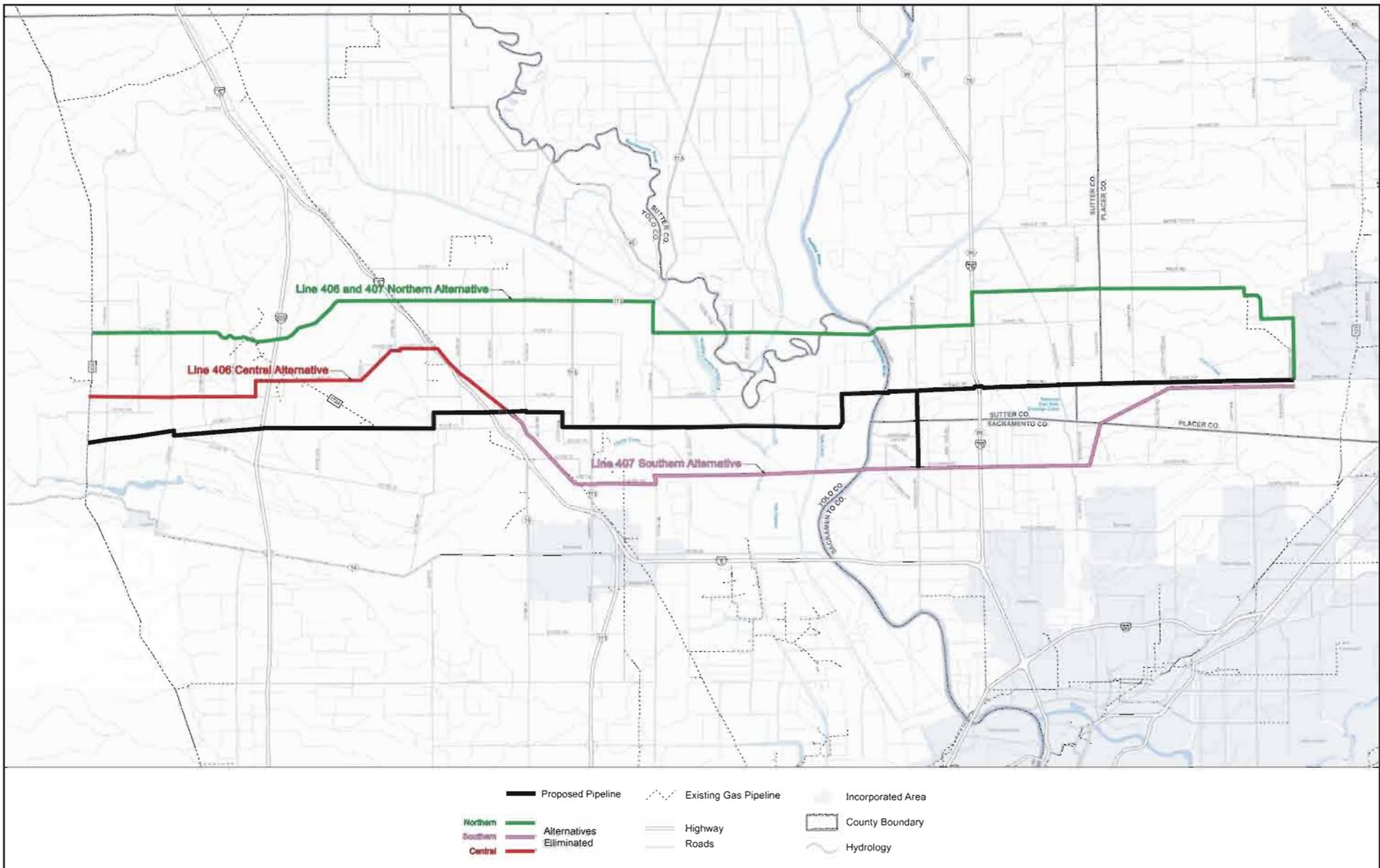
1 Sacramento River two more times before reaching the Natomas Basin in Sutter
2 County.

3 East of the Sacramento River, this alternative would cross four conservation tracts
4 operated by the Natomas Basin Conservancy. It would parallel Sankey Road east
5 across the North Drainage Canal, and turn north at the junction of Sankey Road and
6 State Route (SR) 70/99. It would then parallel SR 70/99 north before continuing
7 east through rice fields toward Keys Road, which it would parallel east through
8 private hunting clubs and agricultural lands consisting of rice fields and row crops.
9 The route would cross Pleasant Grove Creek Canal and then parallel Phillip Road
10 east through extensive vernal pool habitat toward the site of the new Roseville
11 Energy Park. From this point, the route would jog south and east past the Roseville
12 Regional Wastewater Treatment Plant and the upper reaches of Curry Creek and
13 Pleasant Grove Creek to Line 123. The route would then turn south and parallel
14 Line 123 along Fiddymment Road to the tie-in point with Line 123 at the junction of
15 Fiddymment Road and Baseline Road. The total length of Line 407 under this
16 alternative is approximately 33 miles.

17 **Rationale for Elimination**

18 This alternative was eliminated from further consideration because it would expose
19 the proposed pipeline to the greatest risk from fault rupture, and much of the
20 proposed ROW would be located on side-hills adjacent to CR-13. This alternative
21 would locate the pipeline further away from the public thereby reducing the risks
22 associated with potential upset. However, this alternative would result in greater
23 impacts to biological resources, particularly vernal pool habitat, involve more than 40
24 waterway crossings, and impact local agricultural production more extensively than
25 the proposed Project.

26 This alternative would not accomplish as adequately the Project objective of
27 supplying natural gas to new developments because the route is farther than the
28 proposed Project from many of the developments that are planned in the area, such
29 as the Sacramento Metro Air Park, the Place Vineyards Specific Plan area, and
30 North Natomas. This distance would require additional extensions that could result
31 in substantially greater construction impacts (traffic, noise, and air quality). Due to
32 its additional length, greater construction impacts, the number of river crossings,
33 potential disturbance to vernal pool habitat and agricultural resources, this
34 alternative was eliminated from further analysis and consideration.



Source: Adapted from PG&E 2008.



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Figure 3-1
Alternatives Eliminated

1 **3.2.2 Line 407 Southern Alternative**

2 **Route Description**

3 The Line 407 Southern Alternative would begin at existing Line 172A and the
4 terminus of Line 406. Under this alternative, Line 406 would be constructed as
5 described in Section 2.0, Project Description. From the Line 172A connection, this
6 alternative would travel southeast to CR-99 just north of the City of Woodland, where
7 it would then travel east to SR-113 and parallel CR-18C prior to reaching CR-102.
8 At CR-102, the route would turn northeast and extend to CR-18B, where it would
9 continue east through agricultural lands consisting of mixed row crops and rice
10 fields. The route would cross Cache Creek, three extensions of the Knights Landing
11 Ridge Cut, the Tule Canal, and one other smaller canal before reaching walnut
12 orchards near the western side of the Sacramento River crossing.

13 East of the Sacramento River, this route would parallel West Elverta Road through
14 rice fields, passing the northern edges of the Sacramento International Airport and
15 the new Sacramento Metro Air Park development area. Proceeding eastward, the
16 route would cross numerous irrigation canals and ditches, as well as the Natomas
17 East Main Drainage Canal (Steelhead Creek). At the town of Elverta, the route
18 would parallel an existing energy utility corridor northeast through agricultural land
19 and the Placer Vineyards Specific Area Plan development area toward Baseline
20 Road. Four crossings of small tributaries to Steelhead Creek would be required
21 before the route would reach Baseline Road, which it would parallel east to the tie-in
22 with Line 123. The total length of Line 407 under this alternative would be
23 approximately 22 miles.

24 **Rationale for Elimination**

25 This alternative was eliminated from further consideration given that this alignment
26 would require crossing more tributaries of Steelhead Creek and more sensitive
27 vernal pool habitat. This alternative would also require longer crossings over
28 agricultural tracts. Construction of this alternative would also affect more people
29 than the proposed Project because portions would be constructed through the
30 suburban communities of North Natomas and Elverta. In addition, this alternative
31 would require crossing Cache Creek, which provides recreational opportunities as
32 well as habitat for a number of special-status species.

1 The proposed Project would cross two small tributaries to Steelhead Creek and the
2 creek itself, while the southern alternative would cross five small tributaries and the
3 creek itself.

4 Based on maps from the United States Fish and Wildlife Service (USFWS) and
5 Placer County, the southern alternative would cross more distance through vernal
6 pool complexes than the proposed Project, due to its greater length and the location
7 of mapped vernal pool complexes (the proposed Project would cross approximately
8 6.8 miles of potential vernal pool habitat and roughly 2.5 miles of mapped vernal
9 pool complex; Line 407 Southern Alternative would cross approximately 8.0 miles of
10 potential vernal pool habitat and roughly 3.5 miles of mapped vernal pool complex).

11 While a wetland delineation was not completed for the southern alternative segment,
12 preliminary field visits revealed that this segment was more likely to impact vernal
13 pools (that may or may not occur in complexes) due to the lack of development in
14 the area and local topography (numerous depressions with unique vegetation were
15 observed outside of the mapped vernal pool complexes during reconnaissance-level
16 field surveys). Additionally, the proposed Project is closer to an existing road and
17 existing residences where land uses and disturbance make vernal pools less likely
18 to remain undisturbed.

19 **3.2.3 Line 406 Central Alternative**

20 **Route Description**

21 From Lines 400 and 401, the Line 406 Central Alternative would follow CR-16 to I-
22 505, then head north through a grape vineyard to align with CR-15B on the west
23 side of the highway. The route would continue east on CR-15B through the
24 Dunnigan Hills and across Smith Creek until it becomes CR-93. From this location,
25 it would head northeast along an ephemeral stream to CR-14A, then proceed east
26 on CR-14 across I-5 to Line 172A. It would then parallel Line 172A south to the tie-
27 in point with Line 172A and Line 407, north of the town of Yolo. The total length of
28 Line 406 under this alternative would be 15.5 miles.

29 **Rationale for Elimination**

30 This alternative was initially considered given that it would parallel an ephemeral
31 stream through natural habitats to CR-14A. However, this alternative would not
32 achieve the goal of reducing or avoiding potentially significant impacts to habitat
33 potentially utilized by special-status species and local water features associated with

1 the Project. This alternative would be longer than the Project and would result in
2 additional construction-related impacts (e.g., dust, noise, traffic).

3 **3.2.4 System/Facility Alternatives**

4 **Route Description**

5 Under this alternative, PG&E would, to the extent feasible, construct the Project
6 within existing ROW already owned by PG&E. This alternative would substantially
7 increase the length of the Project by 23 miles, resulting in a total of approximately 63
8 miles of parallel transmission pipeline. This alternative would also maintain the
9 proposed pipeline diameter of 30 inches to provide sufficient incremental capacity to
10 serve the same amount of customer load growth that the recommended design can
11 accommodate.

12 **Rationale for Elimination**

13 This alternative would consist of approximately 15 separate projects and was
14 eliminated from further consideration given that the additional pipeline length would
15 be expected to generate substantially greater construction impacts (traffic, noise,
16 and air quality). Although this alternative would stay within existing ROWs, to the
17 extent feasible, given the absence of any existing PG&E infrastructure east of Line
18 172A, this alternative would still require a substantial number of waterway crossings.
19 Construction of this alternative would also affect more people than the proposed
20 Project because portions would be constructed in proximity to the towns of Yolo and
21 Woodland. Due to its additional length, the number of river crossings, and lack of
22 offsetting benefits such as avoidance of biological or other resources, this alternative
23 was eliminated from further analysis and consideration.

24 This alternative design would increase PG&E's cost to serve the projected load
25 growth versus the recommended design and does not increase the level of service
26 reliability available to customers in the region.

27 Detailed surveys were not completed for a Systems Alternative study area; however,
28 due to the greater length of pipeline required to construct this alternative, it is likely
29 that greater environmental impacts would result to resources such as air quality,
30 agricultural uses, biological resources and water quality than the proposed
31 alternative.

1 **3.3 ALTERNATIVES EVALUATED IN EIR**

2 A No Project Alternative and twelve options have been proposed for the alignment in
3 order to minimize or eliminate environmental impacts of the proposed Project. The
4 twelve options, labeled A through L, are described below and the impacts associated
5 with each option are analyzed in each resource section (Sections 4.1 through 4.14)
6 in comparison to the portion of the proposed route that has been avoided as a result
7 of the option. Options have been named so that a preferred route could be selected
8 using a variety of options. Figures 3-2A through 3-2K show the twelve options.

9 **3.3.1 No Project Alternative**

10 **Description**

11 Under the No Project Alternative, a natural gas pipeline would not be constructed
12 between existing Lines 400 and 401 in Yolo County and the existing Line 123 in
13 Placer County. PG&E's studies indicate that the natural gas transmission and
14 distribution system may not be able to serve customers reliably and planned
15 development in Yolo, Sacramento, Sutter, and Placer counties by 2009 (see Section
16 2.0, Project Description). Additionally, continued growth in those counties would put
17 further strain on existing natural gas infrastructure, and could result in emergency
18 restriction or interruption of services.

19 *Required Agency Approvals*

20 No agency approvals would be required under the No Project Alternative.

21 *Reason for Consideration*

22 The No Project Alternative was considered in order to comply with the CEQA
23 Guidelines section 15126.6(e), which requires the analysis of a "no project"
24 alternative.

25 **3.3.2 Route Options**

26 **Option A**

27 From Lines 400 and 401, Option A would follow CR-16 to I-505, then head north
28 through a grape vineyard to align with CR-15B on the west side of I-505. The route
29 would continue east on CR-15B through the Dunnigan Hills and across Smith Creek
30 until CR-15B becomes CR-93.

1 From this juncture, this alternative would continue east from the intersection of CR-
2 15B and CR-93, and proceed cross-country to Line 172A just south of the town of
3 Dufour. It would then parallel Line 172A south to the tie-in point with Line 172A and
4 Line 407, north of the town of Yolo. This option would increase the overall pipeline
5 length by approximately 2,200 feet. Figure 3-2B shows Option A.

6 *Required Agency Approvals*

7 The required agency permits and approvals for Option A would be similar to those
8 for the proposed Project.

9 *Reason for Consideration*

10 This route alternative would meet all of the basic Project objectives, would reduce
11 segmenting agricultural fields in Yolo County and shift potential construction noise,
12 air emissions, and traffic impacts to a more sparsely populated area further to the
13 north.

14 **Option B**

15 From Lines 400 and 401, approximately 1.5 miles north of the proposed Project,
16 Option B would extend east along farm roads, crossing CR-86 and aligning with CR-
17 16. The route would continue along the south side of CR-16 for approximately 3
18 miles to CR-86, and then turn south along farm roads to a point intercepting the
19 proposed I-505 crossing. This option would increase the overall pipeline length by
20 approximately 2,640 feet. Figure 3-2B shows Option B.

21 *Required Agency Approvals*

22 The required agency permits and approvals for Option B would be similar to those
23 for the proposed Project.

24 *Reason for Consideration*

25 This route alternative would meet all of the basic Project objectives, would reduce
26 segmenting local agricultural fields in Yolo County and shift potential construction
27 noise, air emissions, and traffic impacts to a more sparsely populated area further to
28 the north.

29 **Option C**

30 Option C would follow the proposed alignment of Line 406 from the Capay Metering
31 Station to the Hungry Hollow Canal, which it would parallel northeast until crossing

1 to line up with an unnamed farm road to the east. This alternative would cross CR-
2 85 and extend east along the farm road and the northern edge of Microp Limited
3 Property, APN # 048-140-140-191. At the end of the property, the route would turn
4 south along another unnamed farm road until it intersects the proposed Line 406
5 route, which it then would follow to the Yolo Junction Station. This option would
6 increase the overall pipeline length by roughly 1,150 feet. Figure 3-2C depicts
7 Option C.

8 *Required Agency Approvals*

9 The required agency permits and approvals for Option C would be similar to those
10 for the proposed Project.

11 *Reason for Consideration*

12 This route alternative would meet all of the basic Project objectives and would
13 reduce segmenting agricultural fields east of CR-85.

14 **Option D**

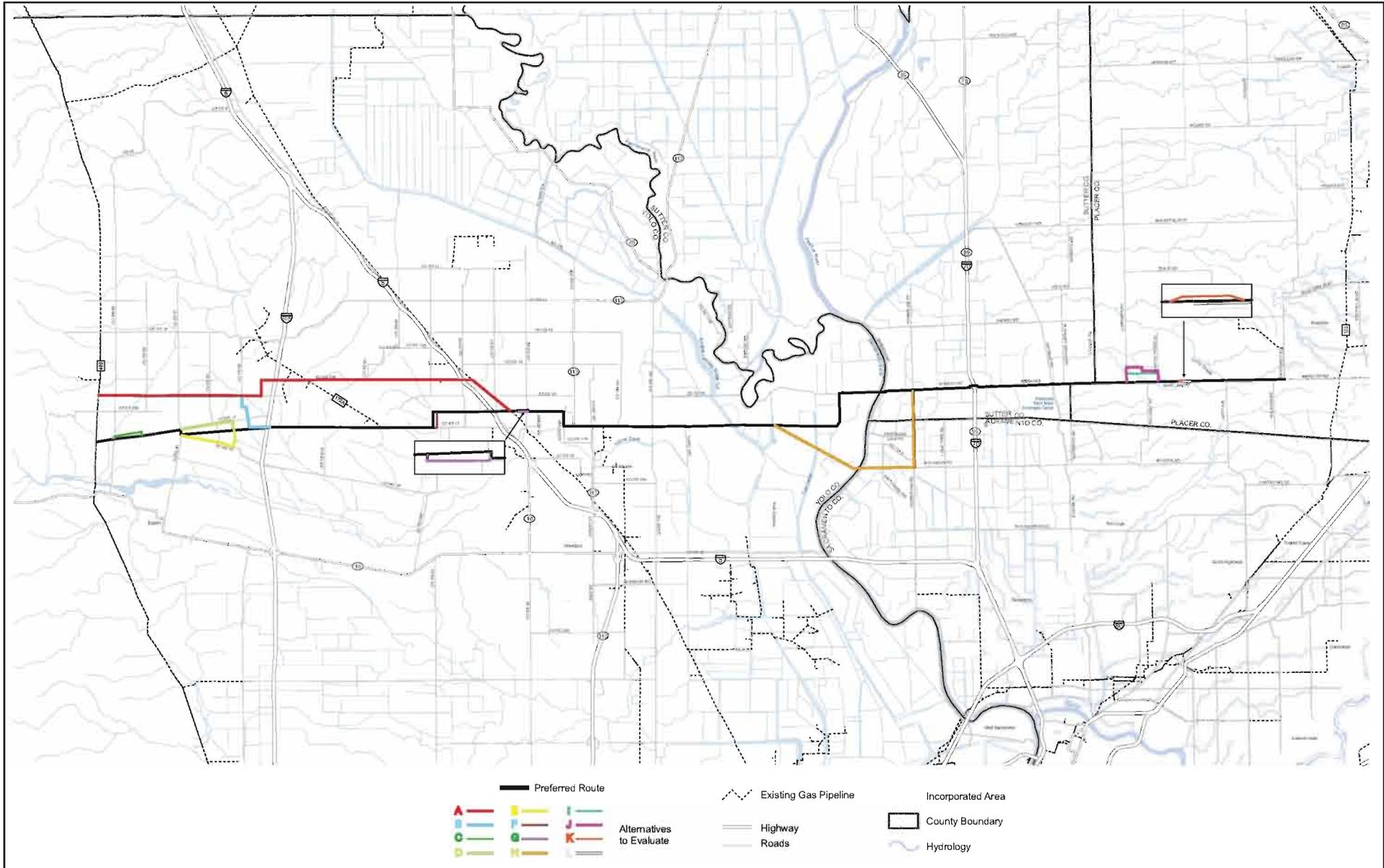
15 Option D would involve a minor variation to the proposed Line 406 in the vicinity of
16 the Hungry Hollow area in north-central Yolo County, but it would maintain Line 406
17 within CR-17 east of CR-87, and then extend south after crossing an unnamed
18 irrigation lateral where it would realign with the proposed Line 406 route, just west of
19 the I-505 HDD crossing. East of I-505, this alternative would follow the same
20 alignment as the proposed Project. This option would increase slightly the total
21 length of the pipeline. Figure 3-2D shows Option D.

22 *Required Agency Approvals*

23 The required agency permits and approvals for Option D would be similar to those
24 for the proposed Project.

25 *Reason for Consideration*

26 This route alternative would meet all of the basic Project objectives and would
27 reduce segmenting agricultural fields in the Hungry Hollow area. However, this
28 alternative would require locating the Project closer to several residences situated
29 along CR-17.



Source: PG&E, March 2009.

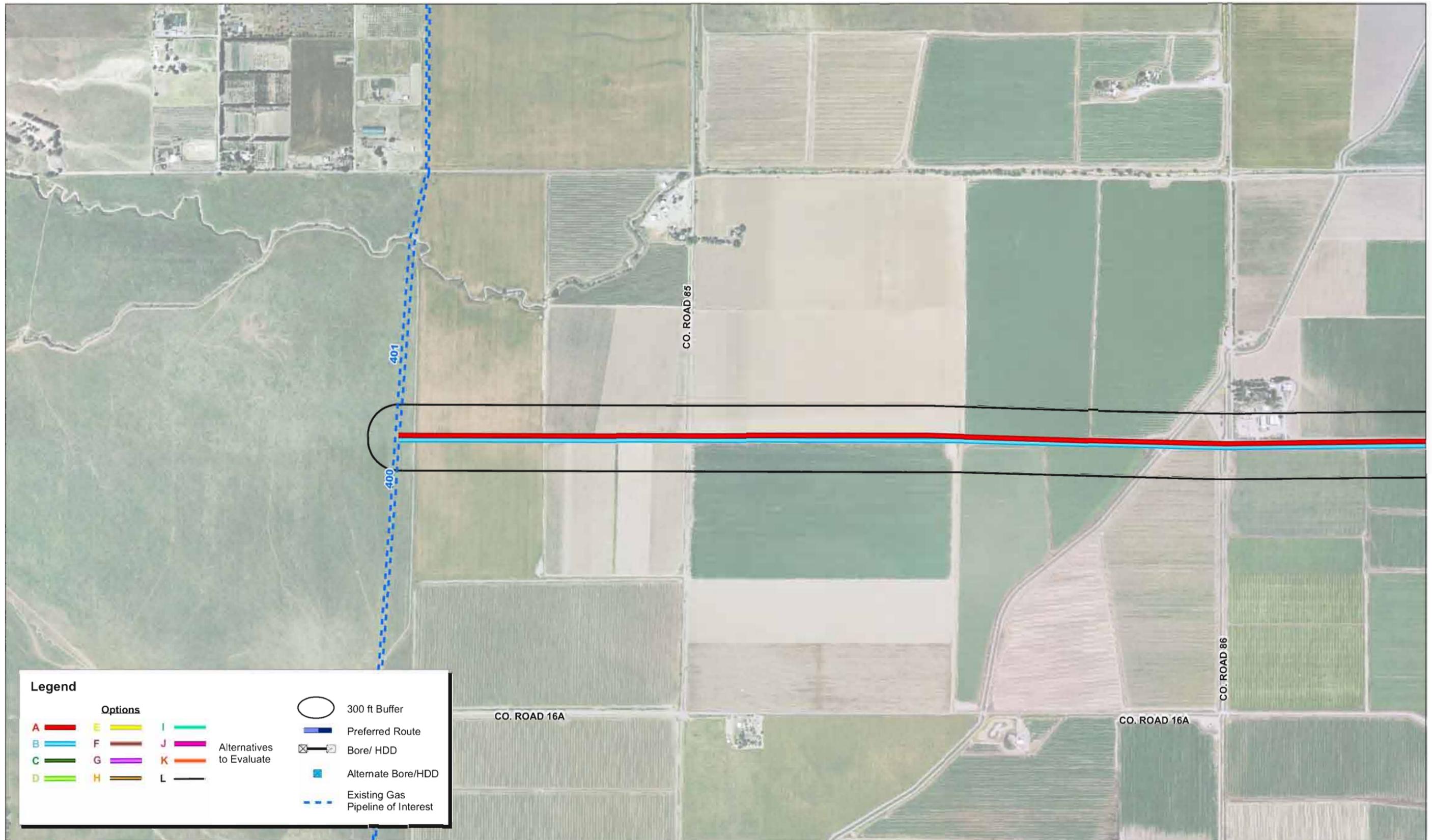


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Figure 3-2A
Alternatives Evaluated



Legend

Options			300 ft Buffer
A	E	I	
B	F	J	Preferred Route
C	G	K	
D	H	L	Bore/ HDD
Alternatives to Evaluate			
			Alternate Bore/HDD
			Existing Gas Pipeline of Interest

Source: Adapted from PG&E, 2009.

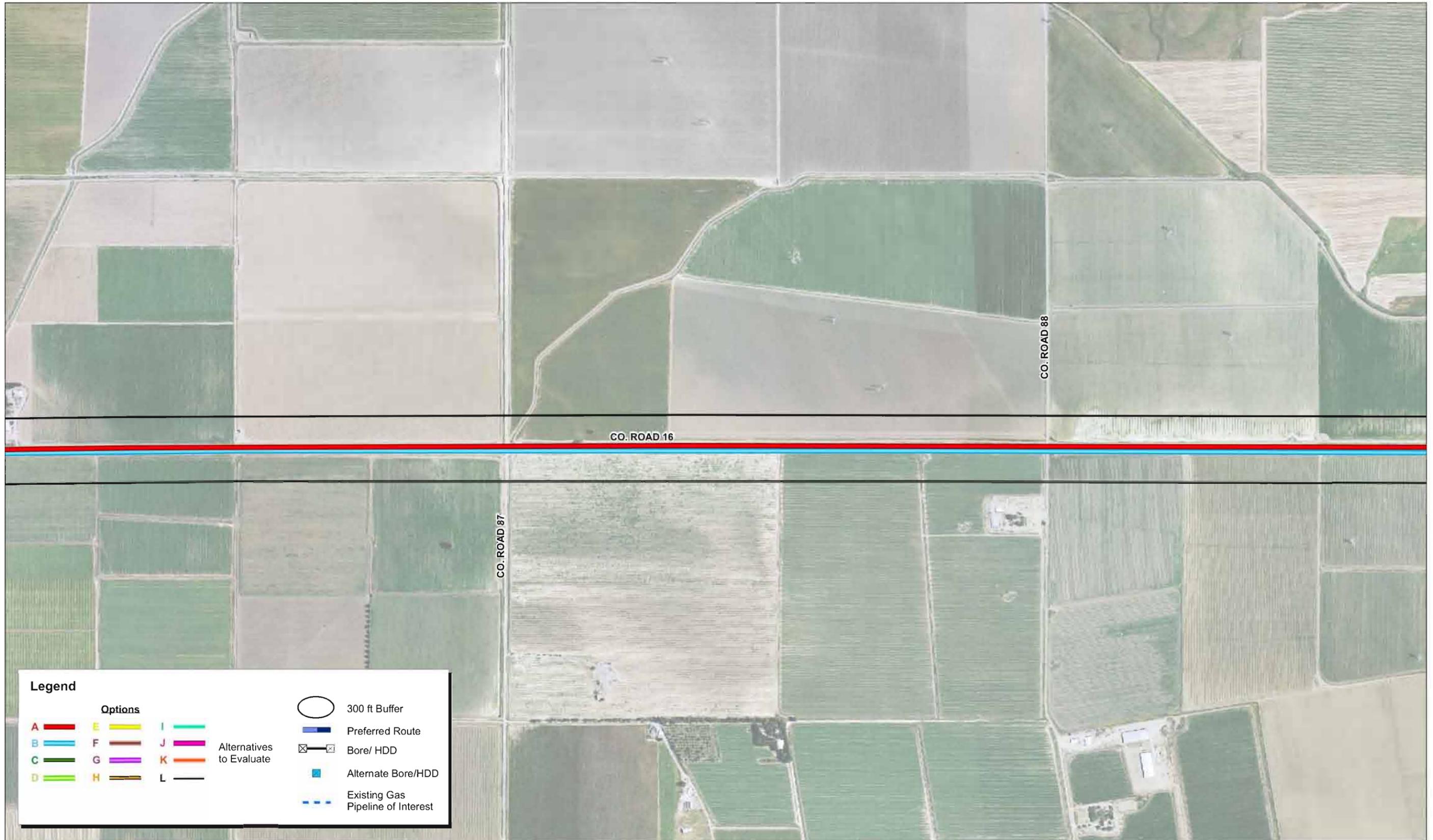


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Figure 3-2B
Alternative Options A and B
Map 1 of 7



Source: Adapted from PG&E, 2009.

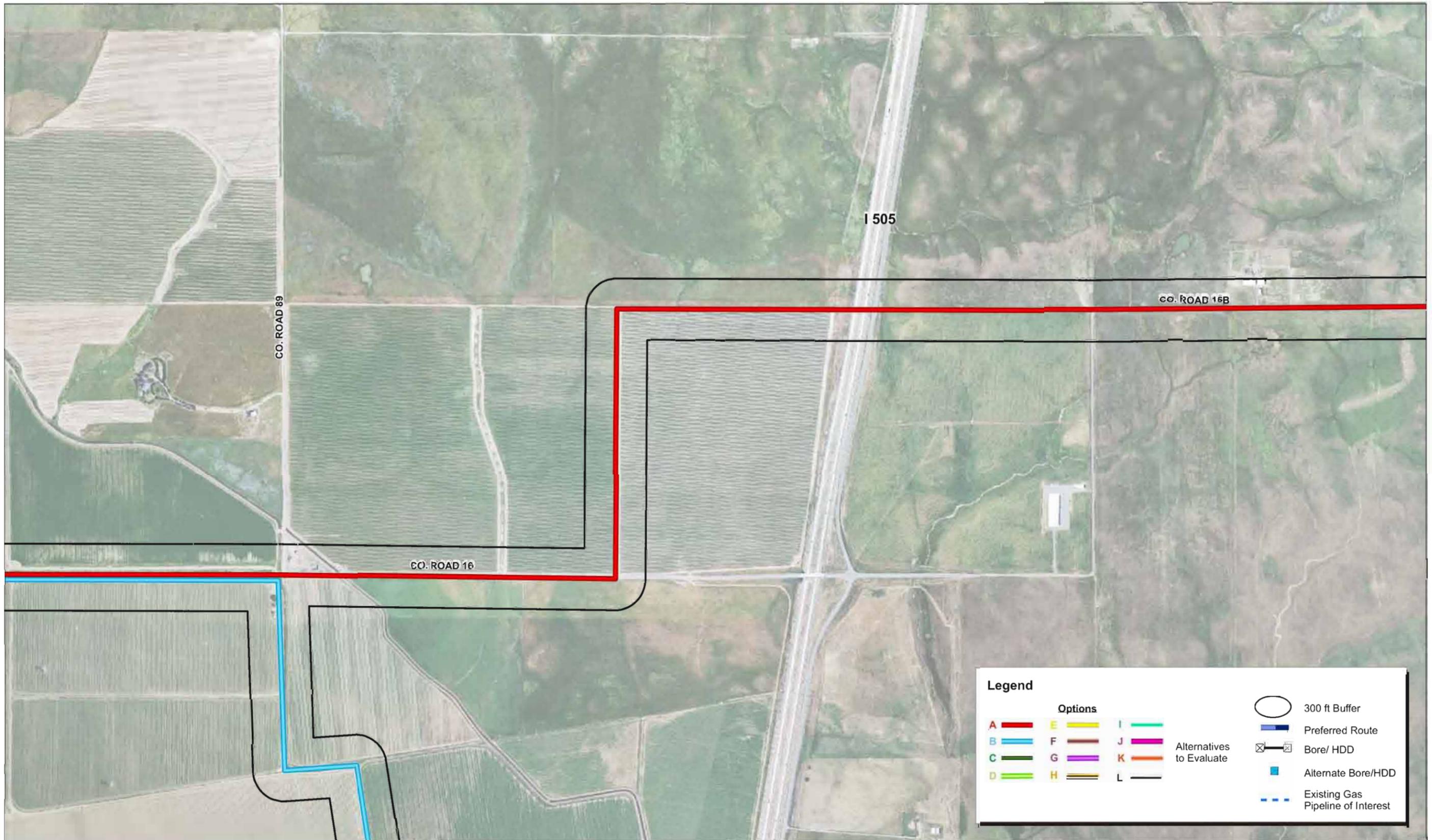


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Figure 3-2B
Alternative Options A and B
Map 2 of 7



Source: Adapted from PG&E, 2009.

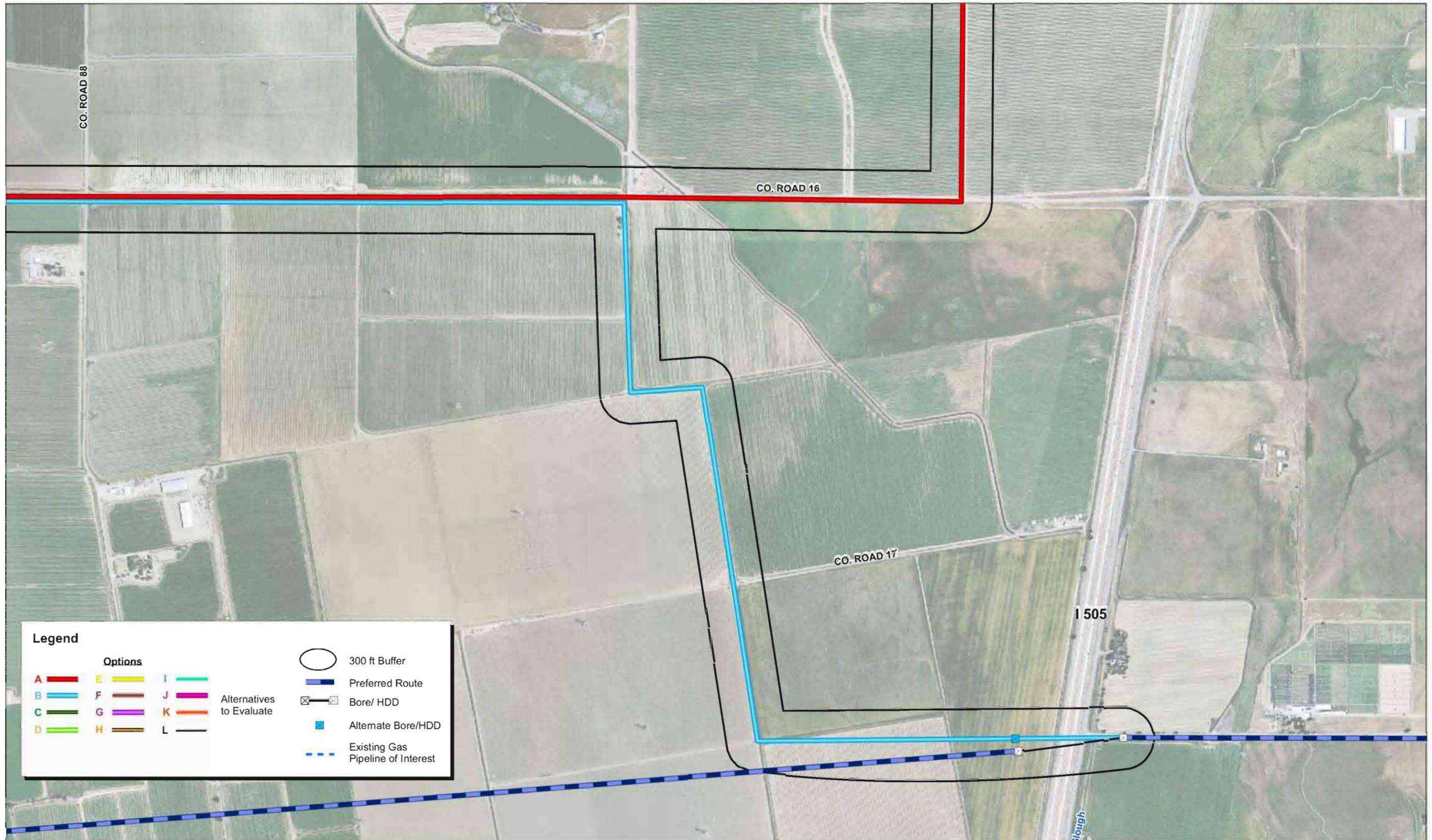


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Figure 3-2B
Alternative Options A and B
Map 3 of 7



Source: Adapted from PG&E, 2009.



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Figure 3-2B
Alternative Options A and B
Map 4 of 7



Source: Adapted from PG&E, 2009.

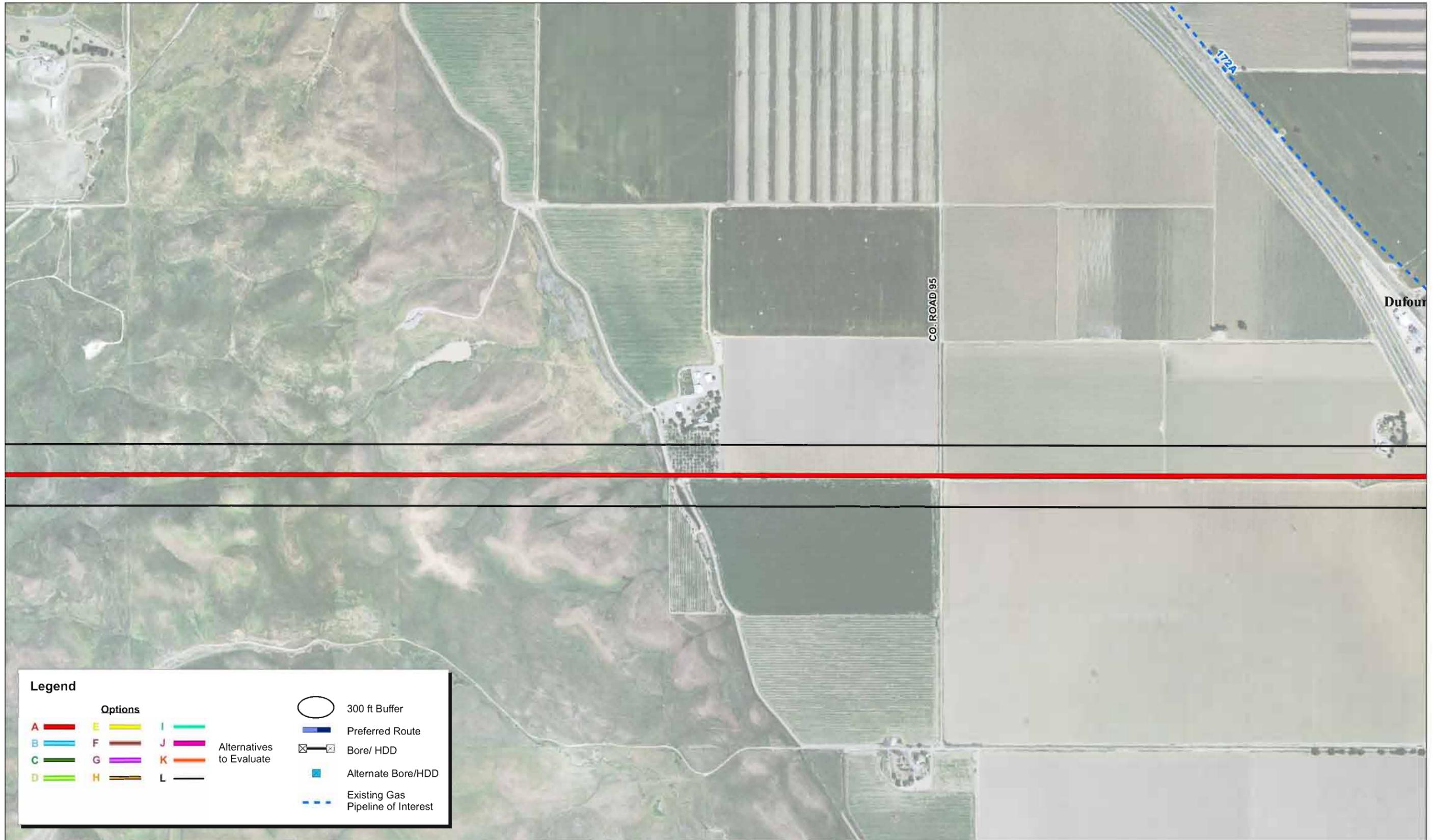


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Figure 3-2B
Alternative Options A and B
Map 5 of 7



Source: Adapted from PG&E, 2009.

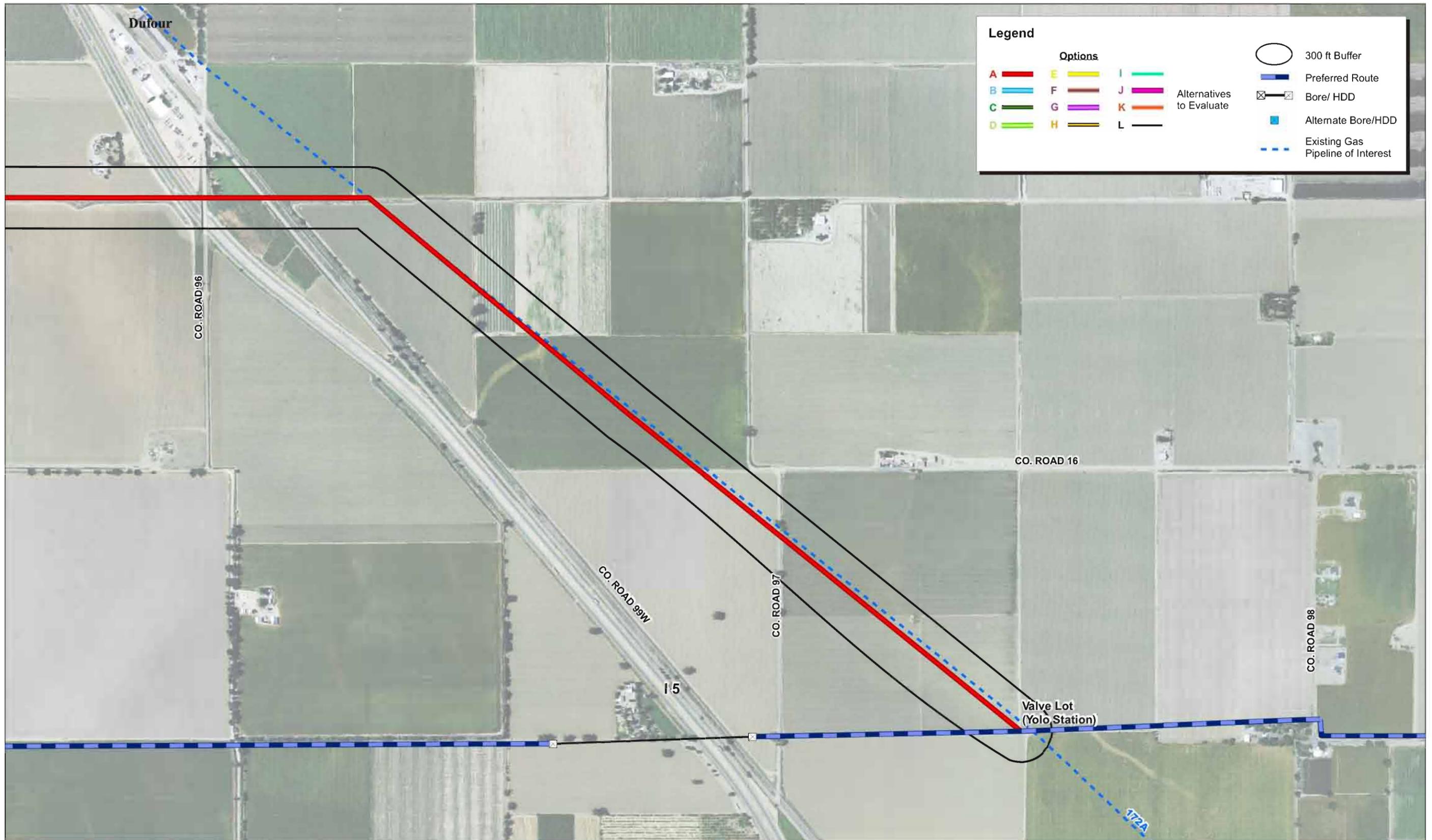


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Figure 3-2B
Alternative Options A and B
Map 6 of 7



Source: Adapted from PG&E, 2009.

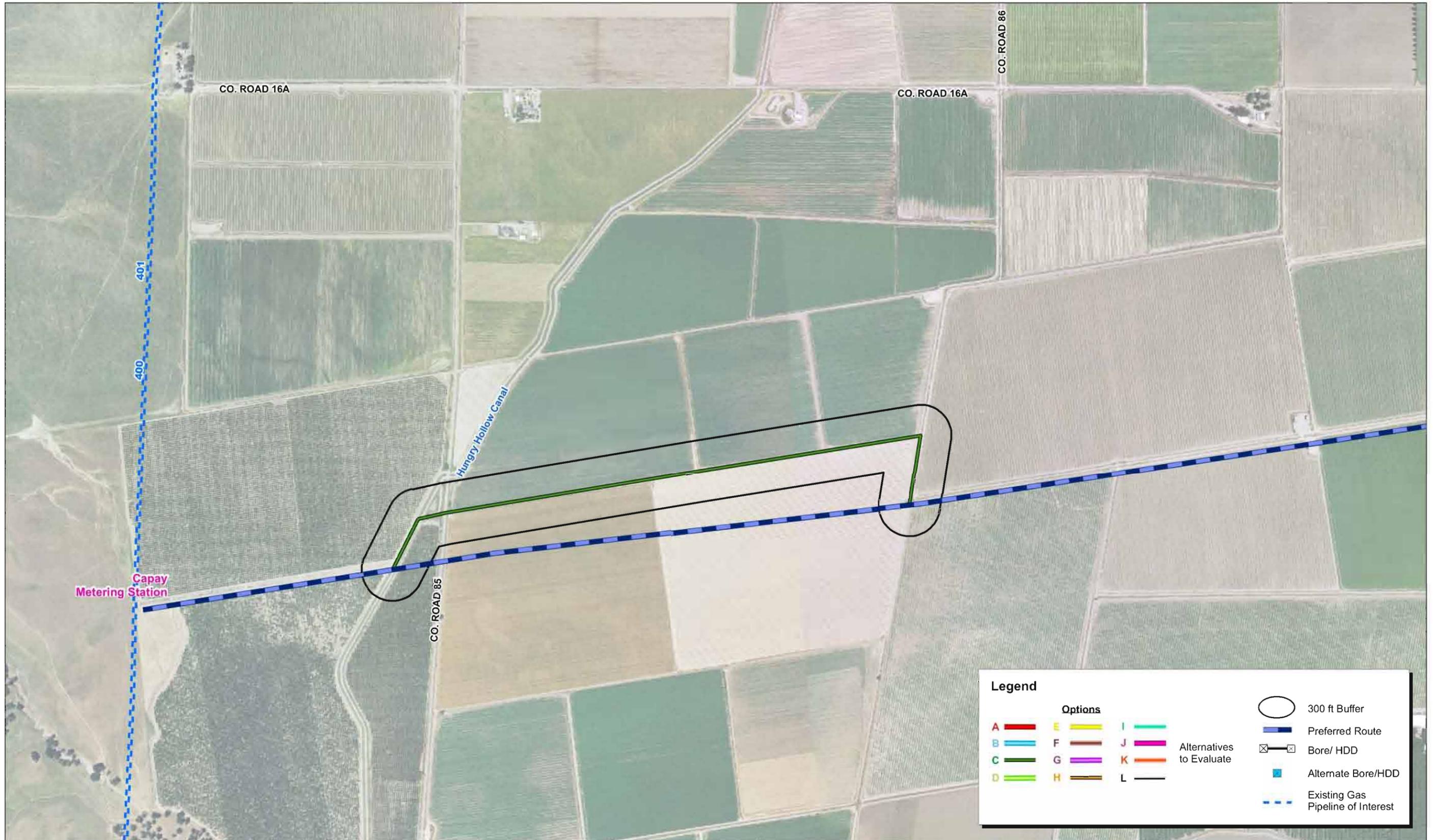


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Figure 3-2B
Alternative Options A and B
Map 7 of 7



Source: Adapted from PG&E, 2009.

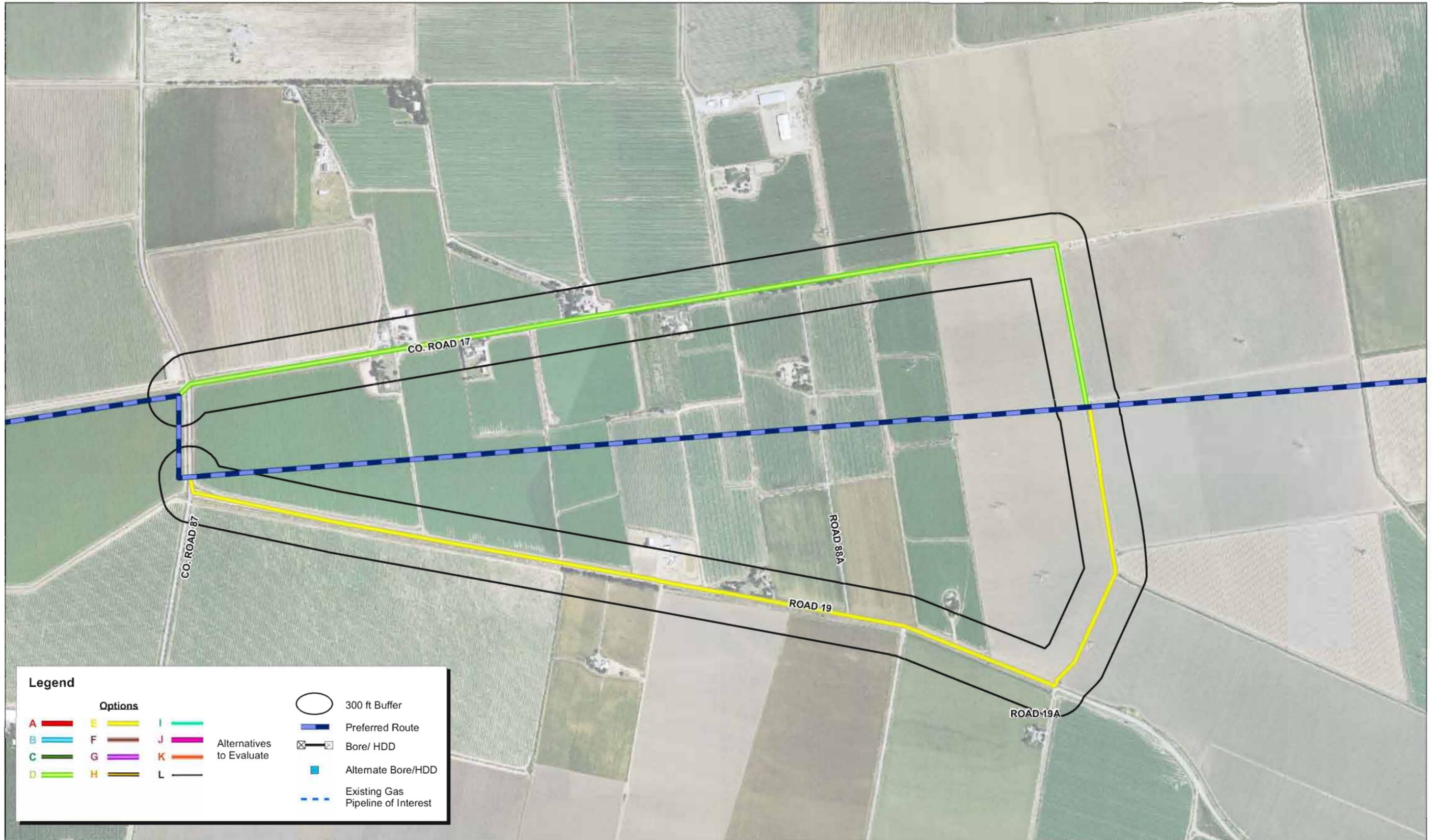


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Exhibit 3-2C
Alternative Option C
Map 1 of 1



Legend

Options		300 ft Buffer Preferred Route Bore/ HDD Alternate Bore/HDD Existing Gas Pipeline of Interest
A B C D	E F G H	
I J K L		Alternatives to Evaluate

Source: Adapted from PG&E, 2009.

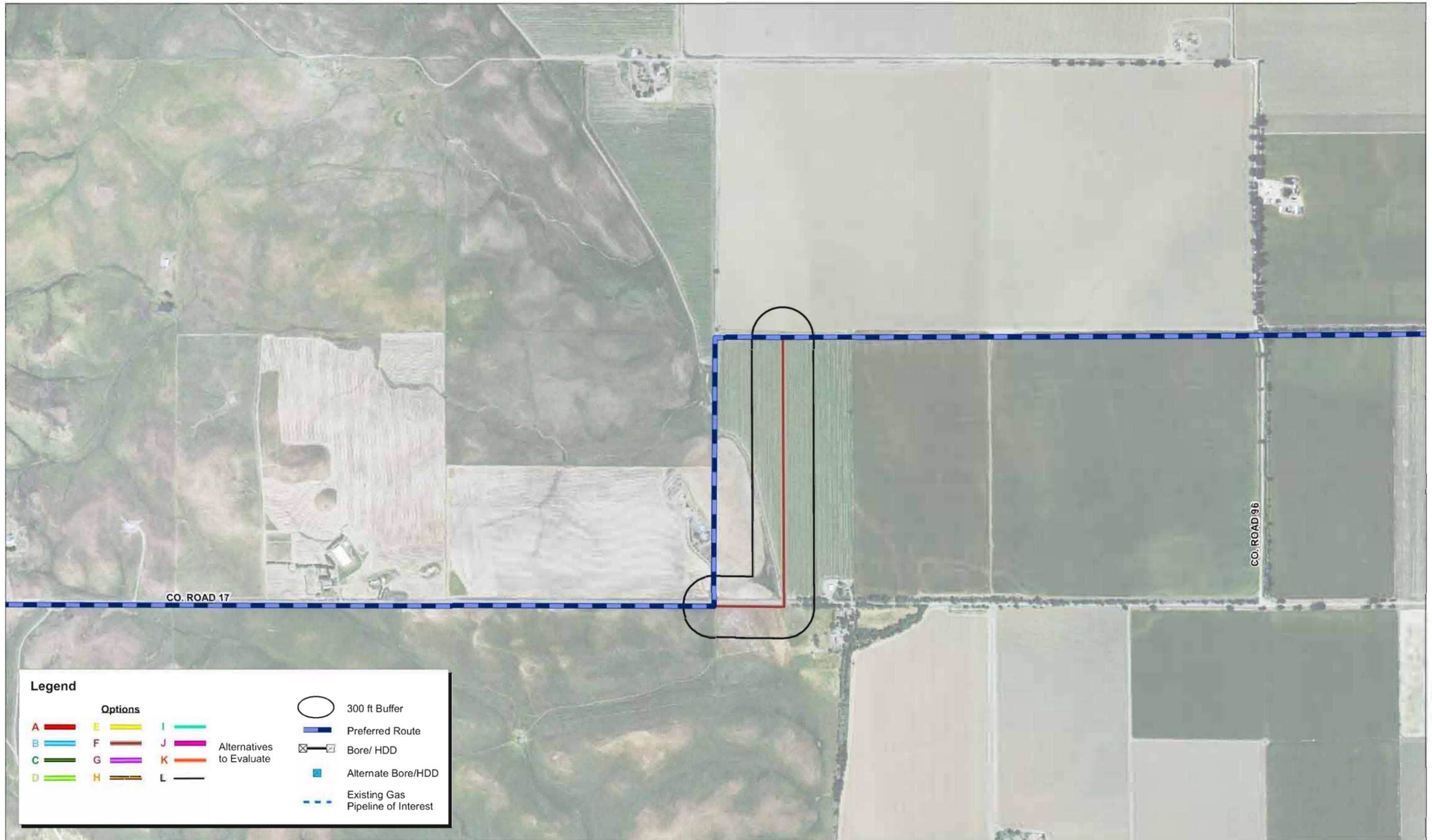


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Exhibit 3-2D
 Alternative Options D and E
 Map 1 of 1



Legend

Options			300 ft Buffer
A	E	I	
B	F	J	Preferred Route
C	G	K	
D	H	L	Alternate Bore/HDD
Alternatives to Evaluate			
			Bore/ HDD
			Existing Gas Pipeline of Interest

Source: Adapted from PG&E, 2009.

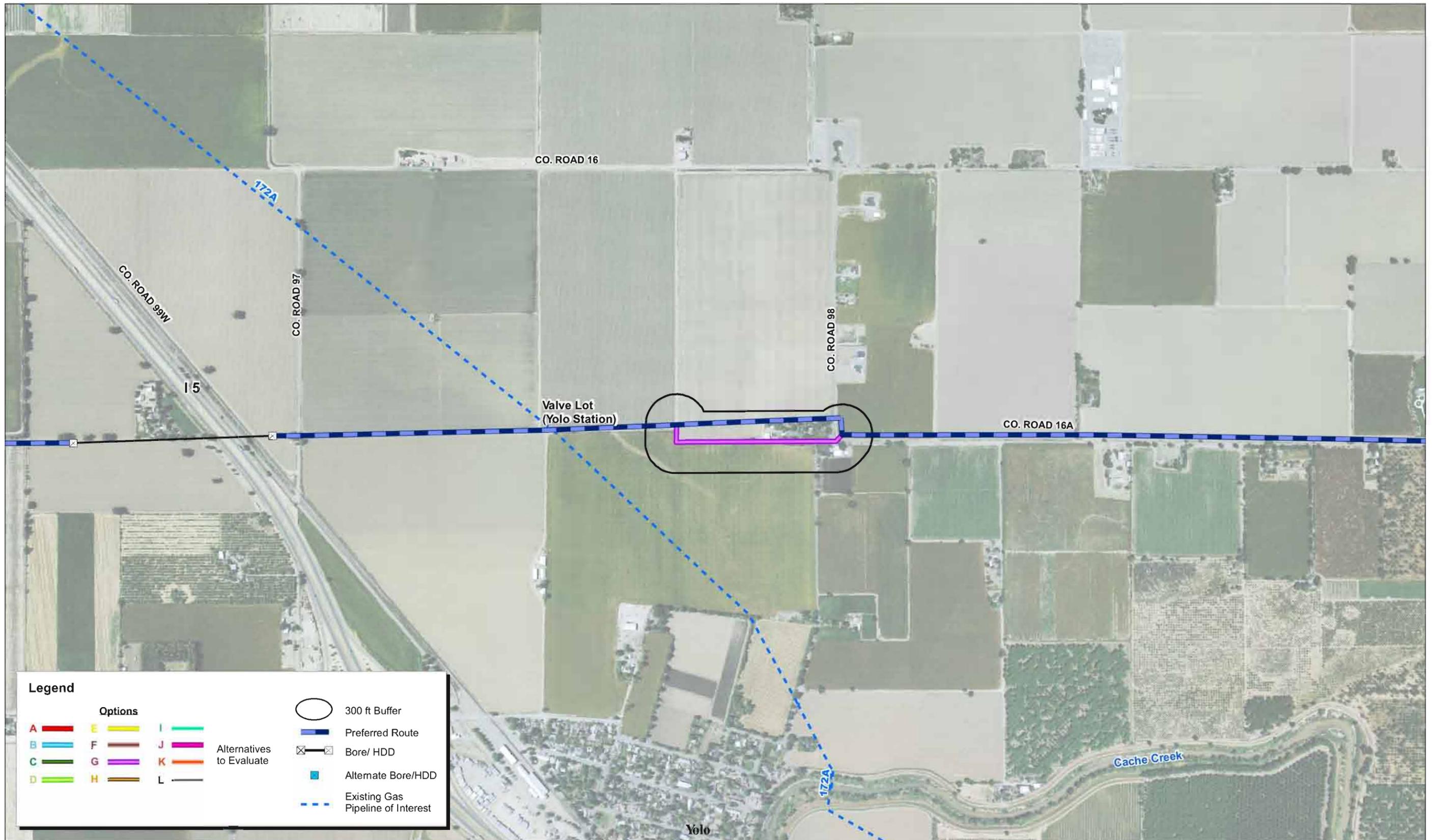


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Figure 3-2E
Alternative Option F
Map 1 of 1



Source: Adapted from PG&E, 2009.

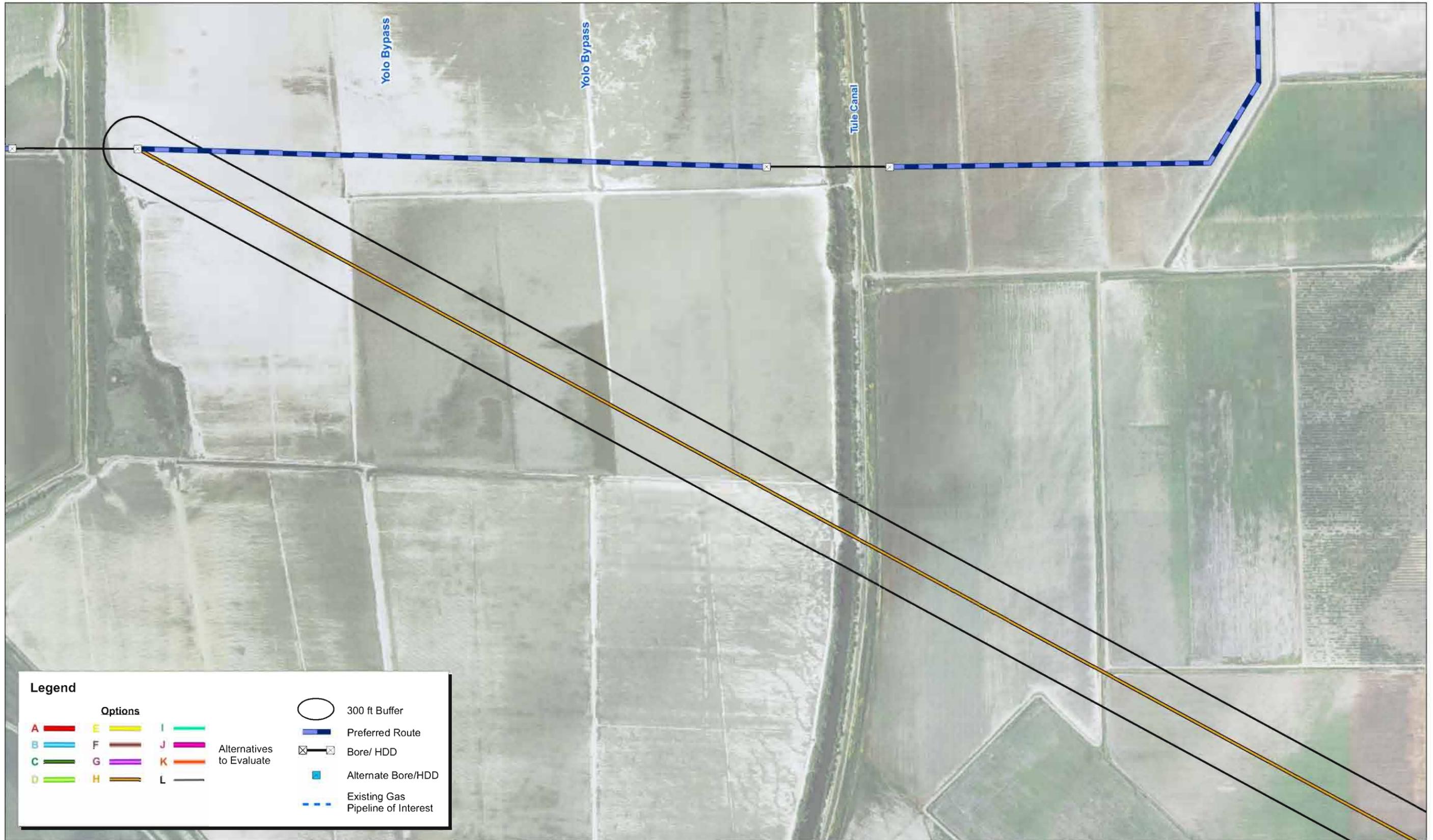


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Figure 3-2F
Alternative Option G
Map 1 of 1



Legend

Options			
A	E	I	300 ft Buffer
B	F	J	Preferred Route
C	G	K	Bore/ HDD
D	H	L	Alternate Bore/HDD
Alternatives to Evaluate			Existing Gas Pipeline of Interest

Source: Adapted from PG&E, 2009.

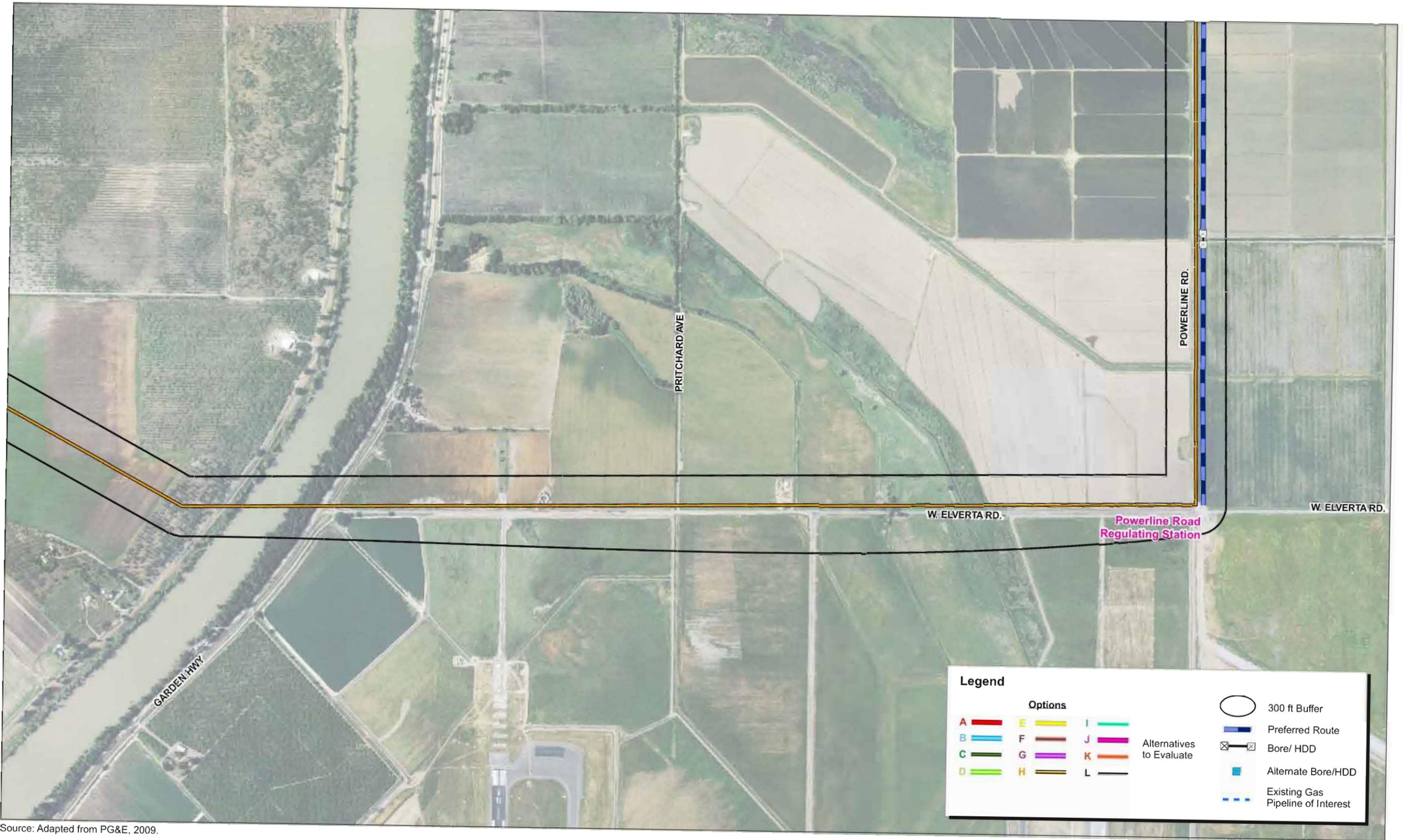


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Exhibit 3-2G
Alternative Option H
Map 1 of 3



Source: Adapted from PG&E, 2009.

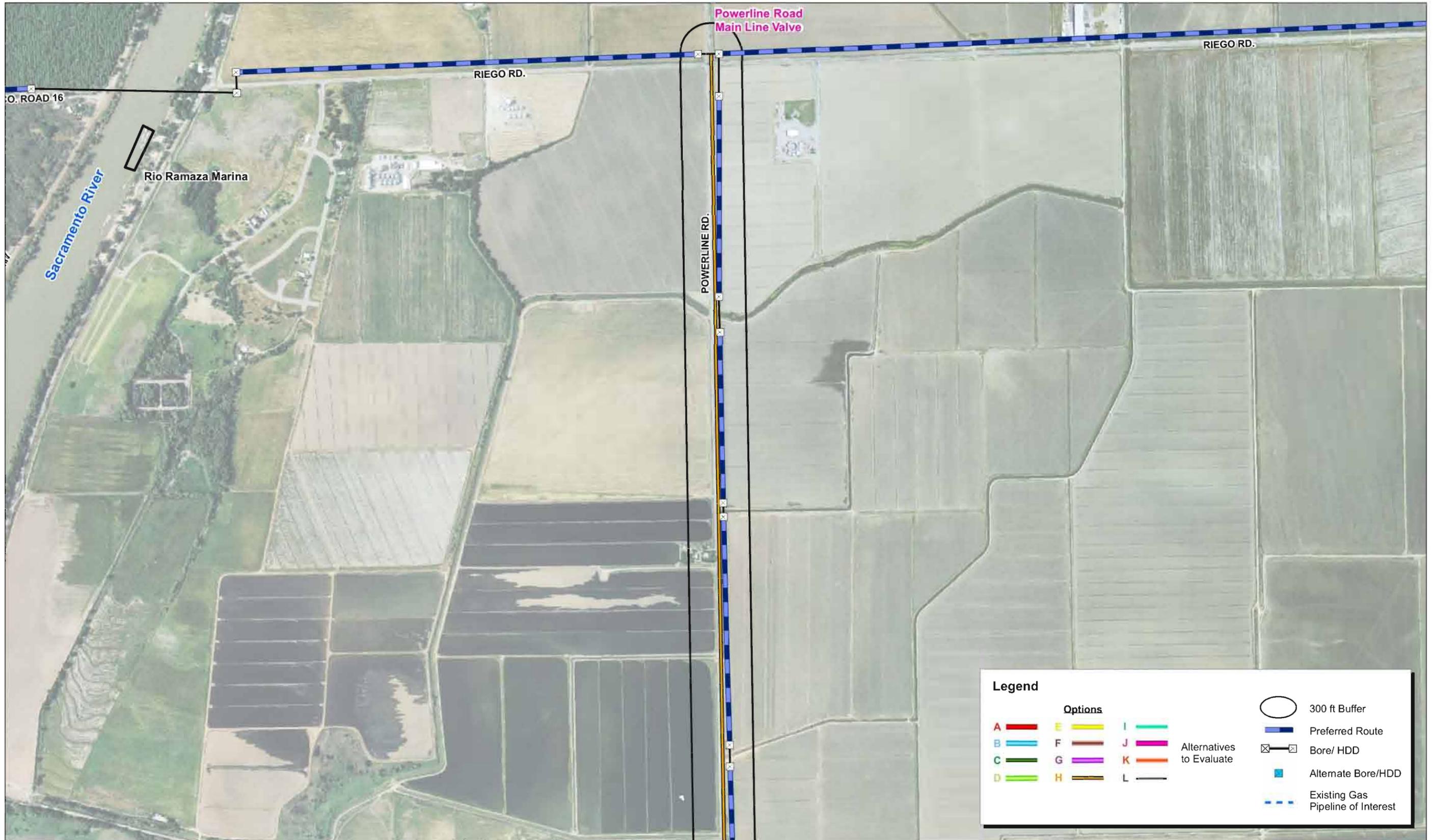


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Exhibit 3-2G
 Alternative Option H
 Map 2 of 3



Source: Adapted from PG&E, 2009.

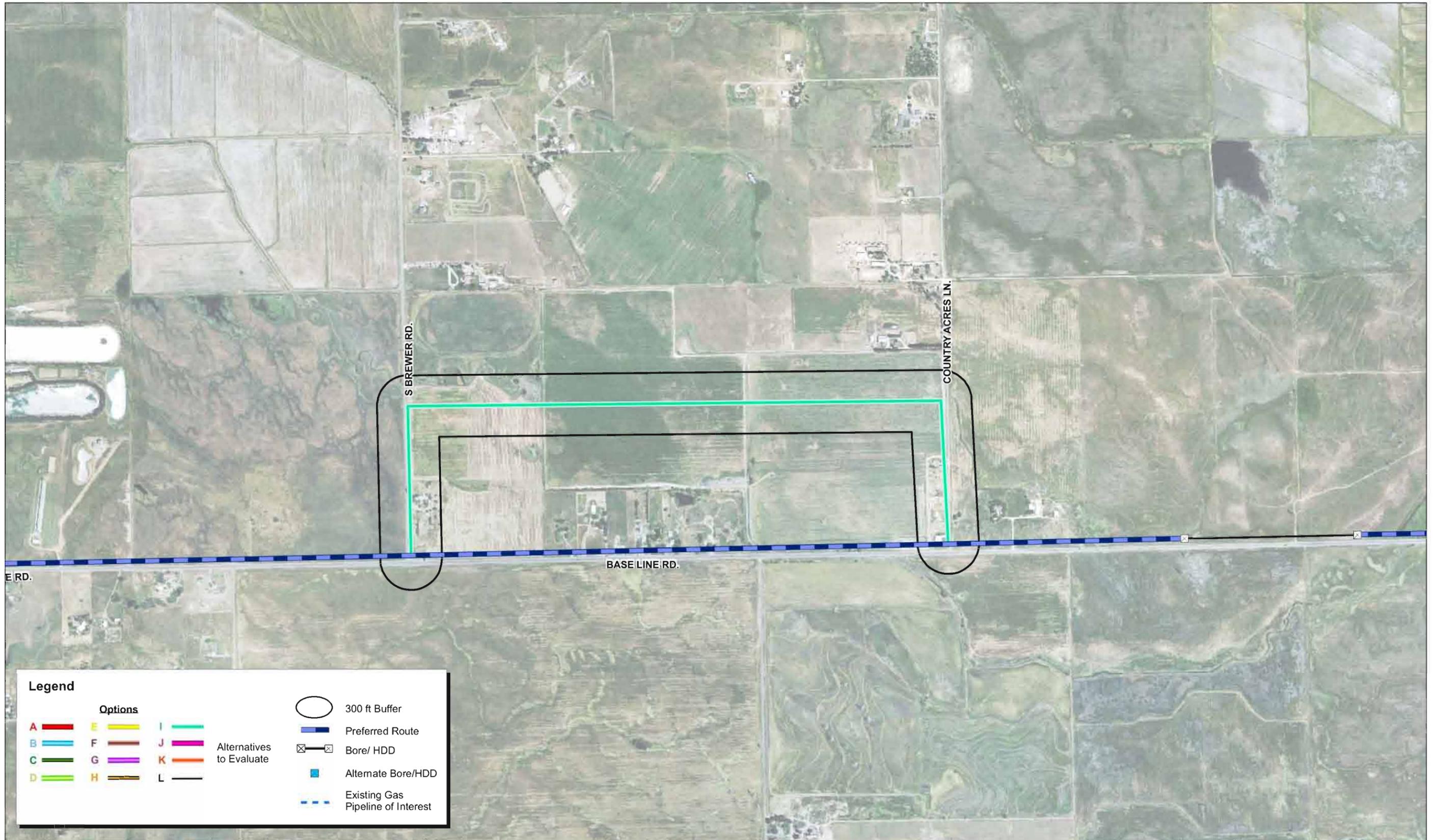


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Exhibit 3-2G
Alternative Option H
Map 3 of 3



Source: Adapted from PG&E, 2009.

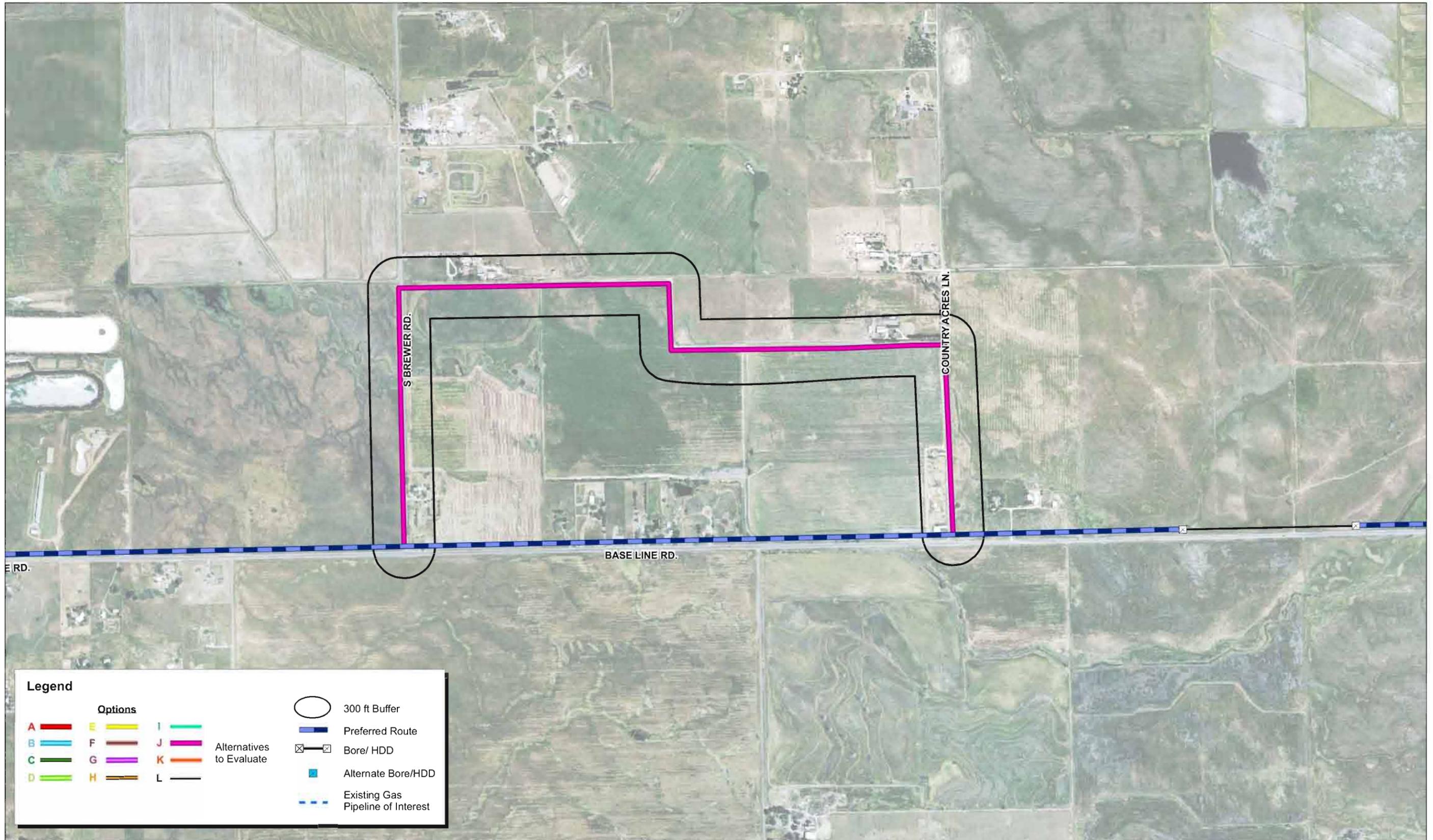


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Figure 3-2H
Alternative Option I
Map 1 of 1



Source: Adapted from PG&E, 2009.

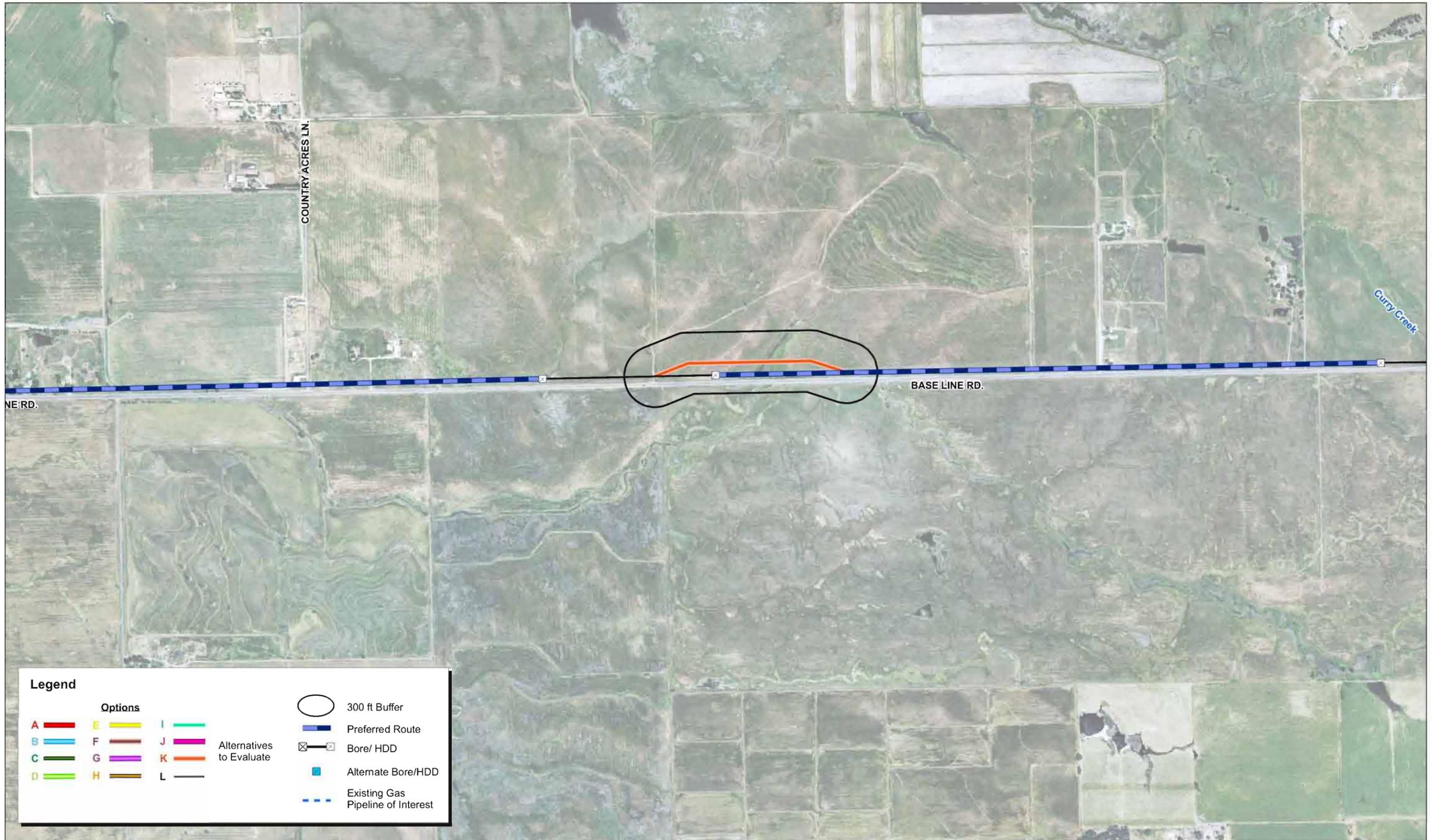


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Figure 3-21
Alternative Option J
Map 1 of 1



Source: Adapted from PG&E, 2009.

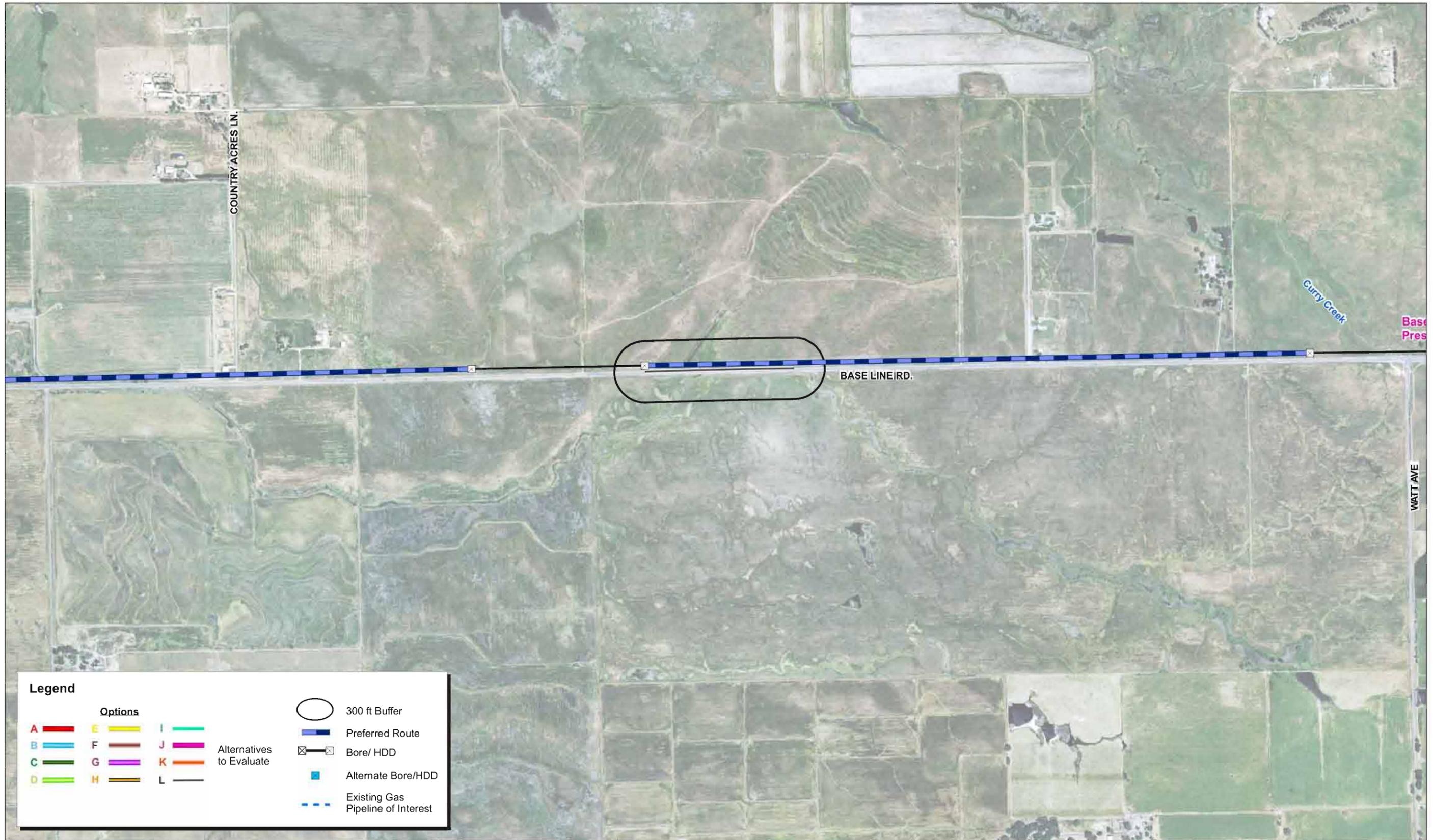


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Figure 3-2J
Alternative Option K
Map 1 of 1



Source: Adapted from PG&E, 2009.



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Figure 3-2K
Alternative Option L
Map 1 of 1

1 **Option E**

2 Option E would involve a minor realignment of the proposed Line 406 route. This
3 would position the route to follow CR-19, east of CR-87. At CR-19A, it would extend
4 back to the north via an existing dirt road and underneath a large electrical
5 transmission corridor. This route alternative would then cross an irrigation lateral
6 and continue north where it would converge back with the proposed Line 406 route,
7 just west of I-505. This alternative would then follow the same route as the
8 proposed Project east of I-505. This option would increase slightly the total length of
9 the pipeline. Figure 3-2D shows Option E.

10 *Required Agency Approvals*

11 The required agency permits and approvals for Option E would be similar to those
12 for the proposed Project.

13 *Reason for Consideration*

14 This route alternative would meet all of the basic Project objectives and would
15 reduce segmenting agricultural fields in the Hungry Hollow area. However, this
16 alternative would require locating the Project closer to several residences situated
17 along CR-19.

18 **Option F**

19 Option F would follow the proposed alignment for Line 406 from Lines 400 and 401
20 to the eastern end of the Dunnigan Hills, where it would turn north off CR-17
21 approximately 5,000 feet west of CR-95A. This alternative would not alter the length
22 of the segment, but would turn north to align with the I-5 crossing further east than
23 the proposed alignment. Figure 3-2E shows Option F.

24 *Required Agency Approvals*

25 The required agency permits and approvals for Option F would be similar to those
26 for the proposed Project.

27 *Reason for Consideration*

28 This route alternative would meet all of the basic Project objectives and would avoid
29 more difficult trenching through hilly terrain.

1 **Option G**

2 Option G would be located at the western end of Line 407 West, just east of the Yolo
3 Junction Station and existing Line 172A. This alternative leaves the proposed Yolo
4 Junction Station and aligns with an unnamed farm road, which it follows along a field
5 edge until the intersection of CR-16A and CR-98. Figure 3-2F shows Option G.

6 *Required Agency Approvals*

7 The required agency permits and approvals for Option G would be similar to those
8 for the proposed Project.

9 *Reason for Consideration*

10 This route alternative would meet all of the basic Project objectives and would
11 reduce segmenting an agricultural field. However, this alternative would move the
12 pipeline closer to two residences on CR-16A.

13 **Option H**

14 Near the western levee of the Yolo Bypass, Option H would head southeast through
15 agricultural fields within the Yolo Bypass to a point on the Sacramento River directly
16 across from West Elverta Road. It would then cross the Sacramento River and
17 parallel West Elverta Road to Powerline Road. The route would head north
18 paralleling Powerline Road to Riego Road and would then parallel Riego Road
19 through the Natomas Basin Conservancy to Steelhead Creek. The route would
20 parallel the northern border of the Placer Vineyards Specific Plan area along
21 Baseline Road (Riego Road becomes Baseline Road in Placer County) until the tie-
22 in with Line 123 at the intersection of Baseline Road and Fiddymont Road. Figure 3-
23 2G shows Option H.

24 *Required Agency Approvals*

25 The required agency permits and approvals for Option H would be similar to those
26 for the proposed Project.

27 *Reason for Consideration*

28 This route alternative would meet all of the basic Project objectives, would result in a
29 more direct route to the DFM, and would reduce impacts to agricultural lands along a
30 portion of CR-16 and Riego Road. However, this alternative would involve a greater
31 distance of cross-county trenching through the Yolo Bypass.

1 Option I

2 Option I would follow the proposed alignment for Line 407-E along Base Line Road
3 to South Brewer Road, where the pipeline would extend north along the west side of
4 South Brewer Road, crossing one seasonal wetland, to a point approximately 1,500
5 feet north of the intersection of Base Line Road and South Brewer Road. This
6 alternative would then extend east for approximately 1.0 mile through agricultural
7 land, crossing Steelhead Creek and two seasonal wetlands before reaching Country
8 Acres Lane. From this point, this alternative would turn south and travel through
9 pasture/fallow agricultural fields along the east side of Country Acres Lane, crossing
10 seasonal wetlands. At the intersection with Base Line Road, the pipeline would join
11 and follow the remainder of the proposed alignment for Line 407-E along Base Line
12 Road. This option would increase slightly the total length of the pipeline. Figure
13 3.2H shows Option I.

14 *Required Agency Approvals*

15 The required agency permits and approvals for Option I would be similar to those for
16 the proposed Project.

17 *Reason for Consideration*

18 This route alternative was considered in order to place the pipeline outside of a
19 1,500-foot safety buffer zone around a planned high school (PG&E 2009; Appendix
20 C-1). This route alternative would meet all of the basic Project objectives and would
21 increase the distance of the pipeline from a planned high school along Base Line
22 Road.

23 Option J

24 Option J would follow the proposed alignment for Line 407-E along Base Line Road
25 to South Brewer Road, where the pipeline would extend north along the west side of
26 South Brewer Road, crossing one seasonal wetland, a vernal pool, and Steelhead
27 Creek, to a point approximately 2,600 feet north of the intersection of Base Line
28 Road and South Brewer Road. This alternative would then extend approximately
29 0.5 mile east through agricultural land and seasonal wetlands before turning south
30 for approximately 0.1 mile. This alternative would then turn east again and extend
31 approximately 0.5 mile along the edge of a rice field to Country Acres Lane. From
32 this point, this alternative would turn south and travel through pasture/fallow
33 agricultural fields along the east side of Country Acres Lane, crossing a seasonal
34 swale and seasonal wetlands. At the intersection with Base Line Road, the pipeline

1 would join and follow the remainder of the proposed alignment for Line 407-E along
2 Base Line Road. This option would increase slightly the total length of the pipeline.
3 Figure 3.2I shows Option J.

4 *Required Agency Approvals*

5 The required agency permits and approvals for Option J would be similar to those for
6 the proposed Project.

7 *Reason for Consideration*

8 This route alternative was considered in order to place the pipeline outside of a
9 1,500-foot safety buffer zone around a planned high school (PG&E 2009; Appendix
10 C-1). This route alternative would meet all of the basic Project objectives and would
11 increase the distance of the pipeline from a planned high school along Base Line
12 Road.

13 **Option K**

14 Option K would follow the proposed alignment for Line 407-E along Base Line Road
15 to a location approximately 3,300 feet east of Country Acres Lane. This alternative
16 would then extend northeast, at an angle, to a point approximately 150 feet north of
17 Base Line Road. The pipeline would then turn and extend directly east for
18 approximately 0.2 mile, and then would turn southeast and extend, at an angle, back
19 to Base Line Road. The pipeline would then join and follow the remainder of the
20 proposed alignment for Line 407-E along Base Line Road. This alternative would
21 cross a vernal pool and seasonal wetlands, and would require the redesign or
22 relocation of the proposed HDD at this location in order to construct this alternative
23 alignment. Figure 3.2-J shows Option K.

24 *Required Agency Approvals*

25 The required agency permits and approvals for Option K would be similar to those
26 for the proposed Project.

27 *Reason for Consideration*

28 This route alternative was considered in order to place the pipeline outside of a
29 1,500-foot safety buffer zone around a planned elementary school (see Appendix C-
30 1 and Appendix C-2). This route alternative would meet all of the basic Project
31 objectives and would increase the distance of the pipeline from a planned
32 elementary school south of Base Line Road. However, this route alternative

1 complicates the currently planned HDD that was proposed to avoid an
2 environmental feature. The HDD would need to be shortened or relocated to
3 intercept the alternative alignment on the western boundary of the buffer zone.
4 Potential impacts to regulated wetlands, vernal pools, and giant garter snake habitat
5 features would increase under Option K.

6 **Option L**

7 Option L would follow the proposed alignment for Line 407-E along Base Line Road,
8 but would extend the proposed HDD approximately 1,345 feet to the east.

9 This alternative would increase the depth of cover through the buffer zone to
10 approximately 35 feet and reduce the risk potential to a planned elementary school
11 south of Base Line Road. Figure 3.2-K shows Option L.

12 Option L would include the following PG&E Applicant Proposed Measure:

13 **APM ALT-L** PG&E would partner with the Center Unified School District to
14 jointly develop a risk analysis in accordance with section 14010(h)
15 of Title 5 of the California Code of Regulations regarding the
16 location of a school site within 1,500 feet of a pipeline. The risk
17 analysis would include a quantitative risk assessment to evaluate
18 potential pipeline impacts to the school. If the assessment
19 determines that there is a risk of serious injury or fatality presented
20 by the pipeline, corrective measures would be recommended to
21 reduce the probability and/or consequence such that the risk is
22 reduced to an acceptable level per the above mentioned regulation.

23 *Required Agency Approvals*

24 The required agency permits and approvals for Option L would be similar to those
25 for the proposed Project.

26 *Reason for Consideration*

27 This route alternative would meet all of the basic Project objectives. The added
28 cover through the buffer zone is designed to reduce the risk potential to the school
29 given that the pipeline is very close to the edge of the 1,500-foot buffer zone (PG&E
30 2009, Appendix C-1).

1 **3.4 COMPARISON OF PROPOSED PROJECT AND ALTERNATIVES**

2 The CEQA Guidelines (section 15126.6 (d)) requires that an EIR include sufficient
3 information about each alternative to allow meaningful evaluation, analysis, and
4 comparison with the proposed Project. The CEQA Guidelines (section 15126.6
5 (e)(2)) further state, in part, that “If the environmentally superior alternative is the “No
6 Project” alternative, the EIR shall also identify an environmentally superior
7 alternative among the other alternatives.” The environmentally superior alternative
8 discussion is provided in the Executive Summary.

9 A matrix displaying the major characteristics and significant environmental effects of
10 each alternative may be used to facilitate this comparison. Table ES-2 in the
11 Executive Summary provides a comparison of the proposed Project with each of the
12 alternatives evaluated in Section 4.0, Environmental Analysis, including the No
13 Project Alternative.

14 Initial general comparisons of route alternatives and variations determined that the
15 northernmost routes for Line 406 and Line 407 from existing Lines 400 and 401 in
16 Yolo County to existing Line 123 in Placer County would result in greater
17 construction and natural resource impacts. These northernmost alternatives were
18 eliminated from further consideration after initial evaluations of northern, central, and
19 southern alternatives for Line 406 and Line 407. The remaining alternatives and a
20 number of variations were evaluated in more detail and the most favorable
21 alternative variations became alternatives for consideration in this EIR. The selected
22 alternatives would accomplish the Project objectives of serving new growth areas
23 within the region and providing greater capacity and service reliability to the existing
24 natural gas transmission and distribution pipeline system in California’s Central
25 Valley.

26 **3.5 CUMULATIVE RELATED FUTURE PROJECTS**

27 This discussion provides a listing and map identifying other related future projects
28 near the location of the proposed Project and Alternatives.

29 Section 15130 of the CEQA Guidelines requires that an EIR discuss cumulative
30 impacts of a project when the project's incremental effect is cumulatively
31 considerable, as defined in section 15065(c). Where a lead agency is examining a
32 project with an incremental effect that is not "cumulatively considerable," a lead
33 agency need not consider that effect significant, but shall briefly describe its basis for
34 concluding that the incremental effect is not cumulatively considerable. As defined

1 in section 15355 of the CEQA Guidelines, a cumulative impact consists of an impact,
2 which is created as a result of the combination of the project evaluated in the EIR
3 together with other projects causing related impacts. An EIR should not discuss
4 impacts which do not result in part from the project evaluated in the EIR.

5 In this context, the main physical environmental impacts associated with the Project
6 would be associated with construction and initial pipeline testing. Once operational,
7 and beyond routine maintenance, the pipeline would be buried and subject to impact
8 from outside forces. Outside forces include impact by mechanical equipment, such
9 as bulldozers and backhoes; earth movements due to soil settlement, washouts, or
10 geological hazards; weather effects, such as winds, storms, and thermal strains; and
11 willful damage. With this reasoning, the analysis of cumulative impacts focuses on
12 other construction-related projects that would occur within the cumulative study area
13 defined in Figure 3-3.

14 Construction projects considered as part of the cumulative analysis are expected to
15 occur during the same time as the Project. As provided in Section 2.0, Project
16 Description, construction of Line 406 would begin in Summer or Fall 2009 with
17 construction of the remaining pipeline segments continuing through 2012. Project
18 operation would then continue for its 50-year design life expectancy.

19 **3.5.1 Boundary of Cumulative Projects Study Area**

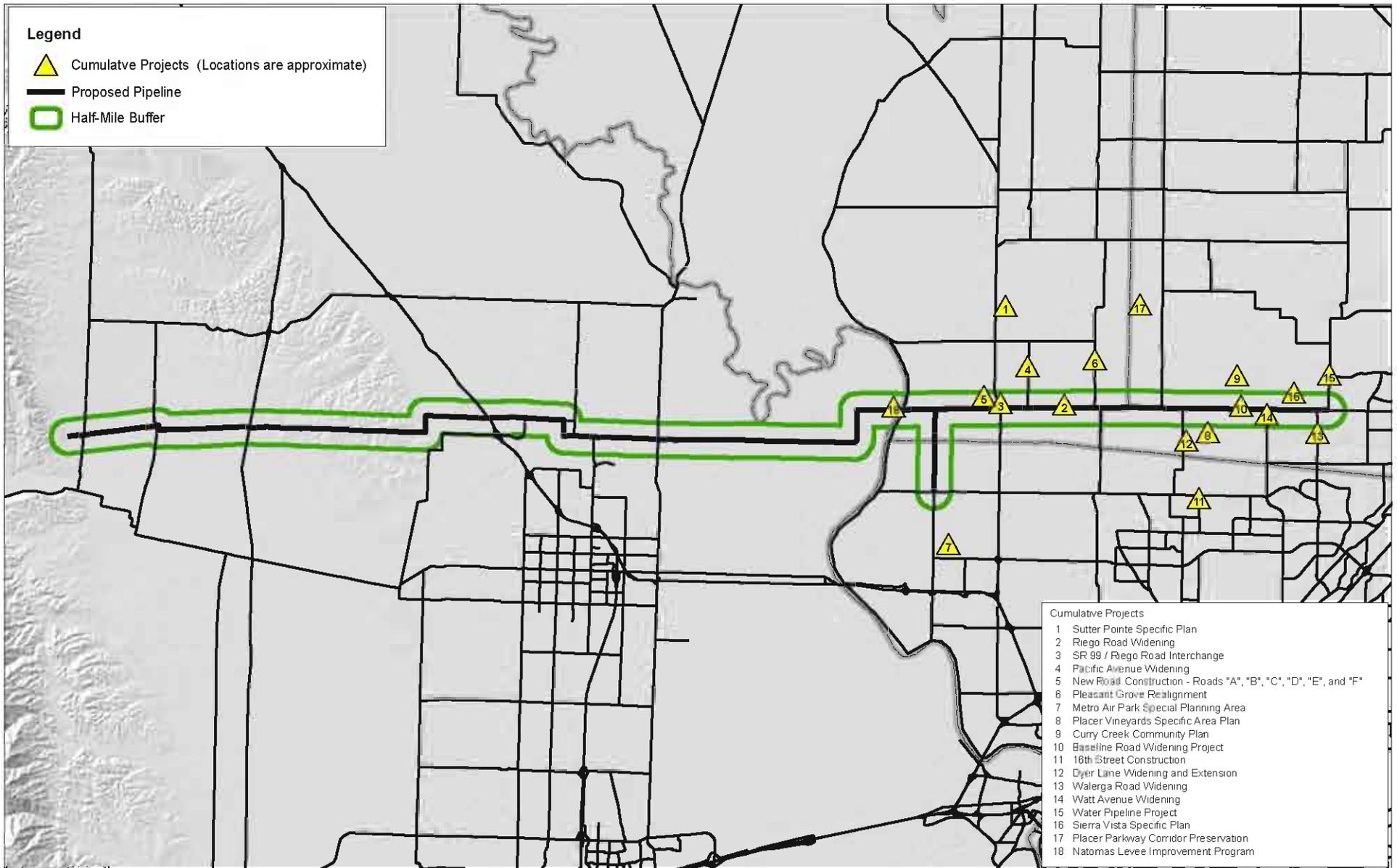
20 The Cumulative Projects Study Area is the area within 0.5 mile of the proposed
21 Project alignment, as shown in Figure 3-3. The proposed Project's localized
22 environmental impacts could combine with the impacts of other projects within the
23 defined area and be cumulatively considerable. This Study Area may vary slightly
24 depending on individual resources as analyzed in Section 4.1 through 4.14. For
25 instance, air quality impacts are more appropriately analyzed at the regional level
26 based on air districts and air basins.

27 **3.5.2 Description of Cumulative Projects**

28 Potentially cumulative projects considered in this analysis are those within the
29 defined Cumulative Projects Study Area in Yolo County, Sutter County, Sacramento
30 County, Placer County, and the City of Roseville (presented in geographical order
31 from west to east) that are expected to be under construction during the Project's
32 construction.

1 Cumulative projects considered in this analysis are either proposed or already
2 approved, and all would be expected to have potential cumulative impacts in relation
3 to the proposed Project based on their proximity to the Project and their potential
4 impacts with regard to air quality, biological resources, noise, and traffic among
5 others. Table 3-3, on the following page, lists the projects considered in this
6 analysis while Figure 3-3 identifies the location of the projects. Each cumulative
7 project listed in the table corresponds with a numeric identifier as shown in Figure 3-
8 3.

9



Source: MBA 2009.



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Figure 3-3
Cumulative Study Area and Projects

1

Table 3-3: Cumulative Impact Analysis Projects

County/City	Project Number/Name ¹	Sub-Project Number/Name ¹	Description	Potential Cumulative Impacts Related to the Proposed Project
Yolo County	No projects identified within the Cumulative Projects Study.	—	—	—
Sutter County	1. Sutter Pointe Specific Plan (SPSP) (Measure M)	—	The SPSP was developed in response to approved Measure M, which contained requirements for strategic planning for the region. It is a mixed-use development on approximately 7,500 acres in southeastern Sutter County incorporating industrial, commercial, residential, open space, and civic land uses. The SPSP is located at the intersection of Riego Road and SR-99 and encompasses land generally bounded by the Sacramento/Sutter County line to the south, Natomas Road on the east, SR-99 along most of the western side (Powerline Road at the westernmost edge), and extends approximately 4 miles north of the Sutter - Sacramento County line. Several school sites are proposed within the SPSP Area; however, only one is within 1,000 to 1,500 feet of the proposed pipeline. Development of the SPSP includes off-site improvements, such as widening of Riego Road (discussed below) and construction of an approximately 6.1 mile-long sewer interceptor line. A Draft EIR has been prepared for the SPSP and the County of Sutter is processing the Project's applications. The SPSP is expected to be constructed over approximately 30 years, with the start of construction occurring in 2009.	Agriculture, Air Quality, Biology, Cultural, Geology, Hazards, Noise, Traffic, Water Resources
Sutter County		2. Riego Road Widening	Riego Road is scheduled to be widened in phases between 2009 and 2010. The first section of widening, from SR-99 to Placer County, is expected to occur in 2009. This first section would widen Riego Road to 4 or 6 lanes. The following Riego Road improvements are expected to be completed in 2009 or 2010: <ul style="list-style-type: none"> • From SR-99 to Power Line Road - widen to 4 lanes • From SR-99 to Pacific Avenue - widen to 6 lanes 	Agriculture, Air Quality, Biology, Cultural, Hazards, Noise, Traffic

County/City	Project Number/Name ¹	Sub-Project Number/Name ¹	Description	Potential Cumulative Impacts Related to the Proposed Project
			<ul style="list-style-type: none"> • From Pacific Avenue to Road F - widen to 6 lanes • From Road F to Pleasant Grove Road - widen to 6 lanes and include grade separation at railroad crossing • From SR-99 to 2 miles westward - widen to 4 lanes 	
Sutter County		3. SR-99/Riego Road Interchange	The SR-99/Riego Road interchange will be improved in 2009. The improvements include construction of a new 5-lane interchange.	Agriculture, Air Quality, Biology, Cultural, Hazards, Noise, Traffic
Sutter County		4. Pacific Avenue Widening	Pacific Avenue will be widened from 2 to 4 lanes from Sankey Road to Riego Road. Construction is expected to begin in 2012.	Agriculture, Air Quality, Biology, Cultural, Hazards, Noise, Traffic
Sutter County		5. New Road Construction - Road "A", "B", "C", "D", "E", and "F"	<p>Several new roads will be constructed adjacent to and south of Riego Road as part of the SPSP development. At the time of this EIR's preparation, the road sections have not been named, and are referred to as Roads "A" through "F"; all are expected to be constructed in 2010.</p> <ul style="list-style-type: none"> • Road A. New 4-lane road 1 mile west of SR-99 from Riego Road to 0.5 mile south. • Road B. New 4-lane road 0.5 mile west of SR-99, from Riego Road to 0.5 mile south. • Road C. New 4-lane road 0.5 mile south of Riego Road, from Road A to Road B. • Road D. New 4-lane road 0.5 mile east of SR-99, from Riego Road to 0.5 mile south. • Road E. New-4 lane road 0.5 mile south of Riego Road between Road D and Road F. • Road F. New 4-lane road 1 mile east of Pacific Avenue from Riego Road to Road E. 	Aesthetics, Agriculture, Air Quality, Biology, Cultural, Geology, Hazards, Noise, Traffic, Water Resources
		6. Pleasant Grove Realignment	Located just east of the SPSP, Pleasant Grove Road runs perpendicular to Riego Road. Pleasant Grove Road is scheduled to be widened to 4 lanes between Howsley Road to Riego Road in 2010.	Agriculture, Air Quality, Biology, Cultural, Hazards, Noise, Traffic

County/City	Project Number/Name ¹	Sub-Project Number/Name ¹	Description	Potential Cumulative Impacts Related to the Proposed Project
Sacramento County	7. Metro Air Park Special Planning Area (Metro Air Park)	—	The Metro Air Park is a multi-district industrial park encompassing approximately 1,800 acres east of Sacramento International Airport. The Metro Air Park area is bounded by Powerline Road to the west, Elverta Road to the north, Lone Tree Road to the west, and I-5 to the south. Development within the Metro Air Park is regulated by the Sacramento County Zoning Code, which contains the Metro Air Park Special Planning Area Ordinance.	TBD.
Placer County	8. Placer Vineyards Specific Area Plan (PVSP)	—	The PVSP is a mixed-use plan encompassing approximately 5,230 acres in the southwest corner of Placer County. The PVSP is generally bounded by the Sacramento/Placer County line to the south, Dry Creek along the eastern edge, Baseline Road on the north, and the railroad to the west. CEQA requirements have been fulfilled for the PVSP. However, the pending requested entitlements include approval of the PVSP, rezoning, development agreements, and other actions. Several schools are proposed within the PVSP Area, of which two would be located within 1,500 feet of the proposed pipeline. Impacts to proposed schools are discussed in Sections 4.7, Hazards and Hazardous Materials; 4.9, Land Use and Planning; 4.10, Noise; 4.12, Population and Housing/Public Services/Utilities; and 4.13, Transportation and Traffic of this Draft EIR. The construction of PVSP is expected to occur over 30 years, starting in 2008.	Aesthetics, Agriculture, Air Quality, Biology, Cultural, Geology, Hazards, Noise, Traffic, Water Resources
Placer County	9. Curry Creek Community Plan		The Curry Creek Community Plan is a mixed-use plan in Placer County. The plan covers 2,828 acres north of Base Line Road, north of the Placer Vineyards Specific Plan and west of the West Roseville Specific Plan.	Aesthetics, Agriculture, Air Quality, Biology, Cultural, Geology, Hazards, Noise, Traffic, Water Resources

County/City	Project Number/Name ¹	Sub-Project Number/Name ¹	Description	Potential Cumulative Impacts Related to the Proposed Project
Placer County	Roadway Improvements Related to Placer Vineyards Specific Area Plan	10. Baseline Road Widening Project	Baseline Road will first be widened to 4 lanes near the PVSP, and will ultimately be expanded to 6 lanes (expected by 2015). Road improvements will occur in sections. First, Baseline Road will be widened from Fiddymont Road to Watt Avenue by 2009. Baseline Road from Watt Avenue to the Sutter/Placer County line is expected to be widened to 4 lanes by 2009.	Agriculture, Air Quality, Biology, Cultural, Hazards, Noise, Traffic
Placer County		10. 16 th Street Construction	Currently, 16 th Street is located in Sacramento County and ends at the Sacramento/Placer County Line. The 16 th Street extension will be constructed between the end of 16 th Street in Sacramento County and Baseline Road in Placer County. Construction is expected to be completed by 2009.	Agriculture, Air Quality, Biology, Cultural, Hazards, Noise, Traffic
Placer County		12. Dyer Lane Widening and Extension	Dyer Lane, a 1-mile long road located south of Baseline Road and east of Watt Avenue, will be extended west and east. Both the west and east extensions will curve Dyer Lane north to Baseline Road. The east extension will intersect Baseline Road west of the Baseline/Fiddymont Road intersection. Dyer Lane will be widened to 4 lanes in accordance with the Placer Vineyards Specific Plan. Construction is expected to be completed by 2009.	Agriculture, Air Quality, Biology, Cultural, Hazards, Noise, Traffic
Placer County		13. Walerga Road Widening	Walerga Road will be realigned from Baseline Road to the Sacramento/Placer County boundary. In addition, Walerga Road will be widened from 2 to 4 lanes, with construction completed by 2009.	Agriculture, Air Quality, Biology, Cultural, Hazards, Noise, Traffic
Placer County		14. Watt Avenue Widening	Watt Avenue will be widened to 4 lanes from Baseline Road to the Sacramento/Placer County boundary by 2009.	Agriculture, Air Quality, Biology, Cultural, Hazards, Noise, Traffic
Placer County		15. Water Pipeline Project	This project provides funding for the relocation of an existing 24-inch pipeline crossing Highway 65 that presently supplies water to the Sunset Industrial area. Placer County is proposing a new interchange and the existing pipeline may be in conflict with the proposed improvements.	Agriculture, Air Quality, Biology, Cultural, Geology, Hazards, Noise, Traffic

County/City	Project Number/Name ¹	Sub-Project Number/Name ¹	Description	Potential Cumulative Impacts Related to the Proposed Project
City of Roseville	16. Sierra Vista Specific Plan		<p>The Sierra Vista Specific Plan (SVSP) is located on the southwest boundary of the City of Roseville, and would include multiple approvals:</p> <ul style="list-style-type: none"> • Annexation No. ANN-000002; • Sphere of Influence Amendment No. SPA-000024; • General Plan Amendment No. GPA-000034; • Rezone No. RZ-000037; • No. DA-000029. <p>The SVSP encompasses approximately 2,178 acres and is roughly bounded by Baseline Road to the south and Fiddymont Road to the east. Development of the SVSP would include residential, commercial, office, open space, and public/quasi-public land uses. Several school sites are proposed within the SVSP; however, none of these is located within 1,500 feet of the proposed pipeline.</p> <p>Construction of the SVSP is expected to start in 2008.</p>	Aesthetics, Agriculture, Air Quality, Biology, Cultural, Geology, Hazards, Noise, Traffic, Water Resources
Multi-County Projects	17. Placer Parkway Corridor Preservation (Placer Parkway)		<p>The DEIR/DEIS for Placer Parkway was released in June of 2007. The EIR/EIS contained five project alternatives, one of which (Alternative 1) would include roadway improvements to the West Riego Road/SR-99 interchange. Construction is planned for 2009.</p>	Agriculture, Air Quality, Biology, Cultural, Hazards, Noise, Traffic
Multi-County Projects	18. Natomas Levee Improvement Plan (NLIP)		<p>The NLIP has been developed to reduce the risk of flood in the Natomas Basin. In addition to other activities, the NLIP includes raising, reinforcing, and reshaping existing levees on the east side of the Sacramento River between the City of Sacramento and the Howsley Road/SR-99 interchange. Levee work will occur on the east side of the Sacramento River near Baseline Road starting in 2008.</p>	Aesthetics, Agriculture, Air Quality, Biology, Cultural, Geology, Hazards, Noise, Traffic, Water Resources

¹ Project number corresponds to numbering on Figure 3-3.
Source: PG&E.

1
2

1 **3.5.3 Description of Cumulative Environment**

2 Cumulative environmental impacts associated with the proposed Project and those
3 projects listed in Table 3-2 are analyzed separately for each resource area in
4 Section 4.0, Environmental Analysis. Those sections consider construction and
5 operational impacts associated with the proposed Project with respect to other
6 planned or recently completed projects in the area, as well as existing conditions in
7 the area.

8 Section 15130 of the CEQA Guidelines states that lead agencies should define the
9 geographic scope for the resource area affected and provide a reasonable
10 explanation for the geographic scope used in the analysis. With respect to
11 cumulative impacts, the geographic scope of potential cumulative impacts is
12 somewhat defined by the resource area being analyzed. For example, the
13 geographic scope for the air quality cumulative impact analysis is typically the
14 project's Air Basin, while the geographic scope defined for other resource areas,
15 such as aesthetics, biological resources, or noise, is more localized.

16 Provided below are brief descriptions of the cumulative environment for those
17 resource areas having the greatest potential for cumulative impacts. More detailed
18 descriptions of the environmental setting for each resource area are provided in
19 Section 4.0, Environmental Analysis.

20 **Agricultural Resources**

21 The cumulative environment for agricultural resources when considering conversion
22 of prime agricultural land, Unique Farmland, or Farmland of Statewide Importance to
23 non-agricultural use is the permanent impact area of the proposed Project. This is
24 also the cumulative environment when considering conflict with existing land use
25 plans, policies, or regulations for agricultural use or a Williamson Act contract.
26 When considering other changes in the existing environment that, due to their
27 location or nature, could result in permanent loss of farmland or conversion of
28 farmland to non-agricultural use, the cumulative environment for agricultural
29 resources would be Sacramento, Yolo, Sutter, and Placer counties.

30 **Air Quality**

31 The air quality cumulative environment is the southern Sacramento Valley, which is
32 under the jurisdiction of the Sacramento Metropolitan Air Quality Management
33 District (SMAQMD), Yolo-Solano Air Quality Management District (YSAQMD),

1 Feather River Air Quality Management District (FRAQMD), and the Placer County
2 Air Pollution Control District (PCAPCD). The U.S. Environmental Protection Agency
3 (EPA) has designated Sacramento, Yolo, Sutter, and Placer counties as non-
4 attainment areas for the Federal 8-hour ozone standard. The counties are also in
5 nonattainment of the State 1-hour and 8-hour ozone standards. Through control
6 measures adopted by Federal, State, and local agencies, each of the four counties
7 have attained the Federal and State carbon monoxide (CO) standards. However,
8 the potential still exists for incidents of high localized concentrations of CO.
9 Sacramento, Placer, Yolo, and Sutter counties are in nonattainment of the Federal
10 particulate matter (PM₁₀) standards, the more stringent State PM₁₀ standards, and
11 the state annual PM_{2.5} standard. These criteria air pollutants are discussed in
12 greater detail in Section 4.6, Air Quality.

13 Under Assembly Bill (AB) 32, California's Global Warming Solutions Act, the
14 California Air Resources Board (CARB) is required to adopt, by January 1, 2008, a
15 statewide greenhouse gas (GHG) emissions limit equivalent to the statewide
16 greenhouse gas emissions levels in 1990, which must be achieved by 2020. By
17 January 1, 2011, the CARB is required to adopt rules and regulations that shall
18 become operative January 1, 2012, to achieve the maximum technologically feasible
19 and cost-effective GHG emission reductions. AB 32 also requires the CARB to
20 monitor compliance with and enforce any rule, regulation, order, emission limitation,
21 emissions reduction measure, or market-based compliance mechanism that it
22 adopts. The SMAQMD, YSAQMD, FRAQMD, and PCAPCD currently do not
23 provide any guidance on assessing the cumulative environment relative to GHG
24 emissions. Senate Bill (SB) 97, signed in August 2007, requires analysis under
25 CEQA. This bill directs the State Office of Planning and Research (OPR) to develop
26 and provide to the Resources Agency guidelines for feasible mitigation of GHG
27 emissions or the effects of GHG emissions by July 1, 2009. The Resources Agency
28 is required to certify or adopt the guidelines by January 1, 2010.

29 **Biological Resources**

30 The cumulative environment for biological resources includes Sacramento, Yolo,
31 Sutter, and Placer counties. Habitats affected by the proposed Project and other
32 cumulative projects include: agricultural lands, annual grassland, ruderal
33 communities, and wetland communities including vernal pools, seasonal wetlands,
34 freshwater emergent marsh, irrigation ditches, riparian woodland and riverine
35 communities. These habitats provide suitable habitat for special status plants and
36 wildlife.

1 **Cultural and Paleontological Resources**

2 The cumulative environment for cultural resources considers a broad cultural and
3 regional system of which the local resources are a part. The cumulative context for
4 the cultural resource analysis for the proposed Project includes Sacramento, Yolo,
5 Sutter, and Placer Counties. Development in these counties is assumed to include
6 thousands of acres of land.

7 The cumulative environment for paleontological resources considers a broad
8 regional system of which the local resources are a part. The significance of
9 cumulative impacts to paleontological resources is determined by the nature of the
10 impacts and the significance of the fossils. The cumulative context for the
11 paleontological resources analysis for the proposed Project includes Sacramento,
12 Yolo, Sutter, and Placer counties. Development in these counties is assumed to
13 include thousands of acres of land.

14 **Geology and Soils**

15 The cumulative environment for geology and soils consists of relatively flat, level
16 topography along major transportation routes and in areas with agricultural land
17 uses and conservation land. Existing grades from road and railroad structures
18 extend above the level agricultural fields. With the exception of the Dunnigan Hills,
19 geologic maps for the cumulative environment indicate that the Project is generally
20 underlain by Quaternary alluvial deposits consisting of channel and basin deposits
21 (DWR 2004). Additionally, human made levees have been constructed for flood
22 control purposes in the proposed Project vicinity. The cumulative environment lies
23 within Seismic Zone 3, per the 2000 California Building Code, and is not located
24 within an Alquist-Priolo Earthquake Fault Zone (CBCS 2001).

25 The geographic context for the analysis of impacts resulting from geologic hazards
26 generally is site-specific, rather than cumulative in nature, because each project site
27 has a different set of geologic considerations that would be subject to uniform site
28 development and construction standards.

29 **Hazards and Hazardous Materials**

30 The cumulative context for hazards and hazardous materials use would be
31 Sacramento, Yolo, Sutter, and Placer counties. Pursuant to Government Code
32 section 65962.5, a database search was conducted in order to identify known areas
33 containing hazardous materials within the proposed Project area. A review of these

1 databases identified sites that are within a 1-mile wide corridor centered on the
2 Project. In addition, a risk analysis was completed that identified hazards associated
3 with risk of serious injury or fatality from and unintentional rupture or leak of natural
4 gas from the pipeline in populated areas.

5 **Noise**

6 The proposed Project would be constructed primarily through rural agricultural
7 areas. The eastern extent of the Project includes several large planned
8 developments with residential subdivisions recently constructed in the City of
9 Roseville. Sensitive noise receptors within the cumulative environment include rural
10 residences, residential, and planned residential subdivisions, and schools.

11 **Traffic and Transportation**

12 The access routes to be used during construction of the proposed Project consist of
13 an interstate freeway, a State highway, a county highway, local county-maintained
14 roads, and private roads. The following roadways are identified as access routes to
15 the proposed Project alignment: County Roads (CRs) 13, 14, 16, 17, 19, 85, and
16 87, SR-119 and SR-99/70, I-5 and I-505, Elverta Road, Baseline Road, and Lambert
17 Road. In addition to these roads, the cumulative environment would also include the
18 following: CRs 95, 102, E11, Sorento Road, Fiddymont Road, Locust Road, and
19 Main Street.

20 **Water Resources**

21 The cumulative environment for water resources includes the Sacramento River
22 Hydrologic Region, which covers approximately 17.4 million acres (27,200 square
23 miles). Major water crossings for the Project include the Sacramento River and
24 several tributaries. The Project is situated at the southern end of the Sacramento
25 Valley Groundwater Basin with the primary water bearing formations comprised of
26 sedimentary continental deposits of Late Tertiary (Pliocene) to Quaternary
27 (Holocene) age.

28 From a water quality perspective, the Sacramento River (from Knights Landing to
29 the Sacramento-San Joaquin Delta [Delta]) is identified in the 2006 California
30 Section 303(d) List and total maximum daily load (TMDL) Priority Schedule as an
31 impaired water body for the following contaminants: mercury and unknown toxicity
32 (RWQCB 2006). The northern portion of the Delta downstream of the Project area
33 has been designated as impaired for a variety of contaminants, including pesticides

1 (chlorpyrifos, dichloro-diphenyl-trichloro-ethane [DDT], diazinon, and Group A
2 pesticides) resulting from agricultural and urban runoff/storm sewers, mercury (from
3 abandoned mine drainage), polychlorinated biphenyls (PCBs), exotic species, and
4 unknown toxicity (unknown cause) (RWQCB 2006).

5