



DOCKET

06-AFC-10

DATE Apr 12 2007

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April 12, 2007

Che McFarlin
Siting Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Subject: Starwood-Midway Additional Project Information (06-AFC-10)
Responses to CEC Data Request (#1-67) Follow-up Questions
URS Project No. 27656131.00400

Dear Mr. McFarlin:

On behalf of Starwood Power-Midway, LLC, URS Corporation Americas (URS) hereby submits Responses to CEC Data Request (#1-67) Follow-up Questions. The responses are provided in [blue text](#) for ease of review.

I certify under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge. I also certify that I am authorized to submit the Responses to CEC Data Request (#1-7) Follow-up Questions on the behalf of Starwood Power-Midway, LLC.

Sincerely,

URS CORPORATION

Angela Leiba
Project Manager

AL:ml



1) Air Quality - Data Responses #3, 6, 7, 14, 23, 25, and 27

- Response 3 appears incorrect. The ammonia emissions appear too high for 10 ppm. A quick using the NO_x to ammonia ppm ratio is as follows: 10 ppm NH₃ / 2.5 ppm NO_x 17 lb/mole NH₃ / 46 lb/mole NO_x = 1.48

The ammonia emissions, by weight, should be no more than 1.5 times the NO_x emissions for this project. However, they are shown at 2.56 to 2.75 times the NO_x emissions value depending on turbine condition. We need this corrected or explained.

Response: The ammonia slip mass emission rate provided by the vendor was incorrectly interpreted as the per-turbine value, rather than the per-Swiftpac value in the initial response. The correct value is 3.63 lb/hr/turbine.

- Response 6 did not answer the second part of the question. I was looking for information regarding degradation of startup/shutdown performance over an entire 30 to 40 year project life. I will want to discuss the potential for a follow-up on this data response.

Response: According to Pratt-Whitney, the emission rates from the FT8's will not increase over time as the engine performance deteriorates. The FT8's run to a schedule of exhaust gas temperature (EGT) vs. compressor inlet temperature, so it is possible to examine the case of constant EGT. [Note that EGT is the exhaust temperature from the gas generator (jet engine), which is higher than the power turbine exhaust temperature and serves as the primary control temperature for the FT8.] Reduced compressor and turbine performance will result in decreased air flow rate through the engine, which will result in a reduced fuel flow rate and reduced mass pollutant emission rates.

With specific respect to startup/shutdown emission rates, as the engine deteriorates it would be run up to a lower power output at base load, and during shutdown it would be shedding load from a lower power output. Therefore, the startup and shutdown emission rates would also be reduced as the engines performance degrades.

- Response 14 is not clear in terms of what offsets the District required and what offsets are being used to meet Energy Commission 1:1 offsets for nonattainment pollutants and precursors. Part of this confusion is the lack of emission limits on the Calpeak Panoche facility. We need additional information/clarification to distinguish District requirements vs. total proposed offsets. We want to make sure there are no surprises after the District PDOC is published and make sure the right amount of ERCs to meet the minimum requirements of both the District and the Energy Commission are being proposed.

Response: Offsets are proposed only for the new Swiftpac units of the Midway Project. The existing Swiftpac was permitted outside the CEC process by SJVAPCD at maximum emission levels that did not trigger the District's offset requirements. The estimated annual emissions from the new units in relation to the SJVAPCD offset thresholds in Rule 2201 are: as follows:



Table 1
SJVAPCD offset thresholds

Pollutant	Project Annual Emissions (tons/yr)	SJVAPCD Offset Threshold (tons/yr)
VOC	5.66	10
NO _x	22.79	10
SO _x	2.27	27.375
PM ₁₀	14.80	14.6

Since Project VOC and SO_x emission are lower than the SJVAPCD offset trigger levels, Starwood is proposing 1 to 1 offsets for all Project emissions of these pollutants in order to meet CEC requirements.

Estimated annual emissions of NO_x and PM₁₀ are above the respective offset trigger values. SJVAPCD rules normally only require emissions in excess of the thresholds listed above. However, as described in Attachment B to the previously submitted Data Response #12, SJVAPCD determined in a memorandum dated September 6, 2006 that all of the NO_x emissions from the new units would need to be offset, because the permitted emissions for the existing unit were barely below the 10 ton per year offset threshold. The subject memorandum did not address PM₁₀ offsets. However, the proposed offset amounts for both NO_x and PM₁₀ are based on the total Project emissions, and include a 1.5 to 1 distance ratio. In addition, Starwood is proposing to use SO_x ERCs to offset Project PM₁₀ emissions, and SJVAPCD has determined that the appropriate interpollutant ratio is 1.87. The quantity of SO₂ credits proposed to comply with this determination is thus 14.80 tons PM₁₀ per year x 1.5 x 1.87 = 41.51 tons SO₂ per year. Allocation of the offsets by quarter was presented in the previous Data Response No. 14. Since the submittal of the original Data Request Responses, Starwood has completed the acquisition of sufficient ERCs to meet all Project offsets requirements for all pollutants.

- Response 23 has a few technical issues including: 1) a summary of the construction emissions (hourly, daily, annual, onsite and total) needs to be provided in order to follow the modeling inputs and properly present the construction emissions in the PSA; and 2) the HHD onroad emission factors are incorrectly determined (used trips x 1000 rather than VMT to determine lb/VMT). We will need to discuss accuracy issues of this response at the workshop.

Response: Modeled on-site construction emissions for short-term and annual averaging times, respectively are presented in Tables 2 and 3 below. Revised on-road heavy-heavy duty truck emissions have been redone incorporating the correction indicated in Part 2) of the request, and the resulting values, along with worker commute trip emissions are presented in Table 4. A revised Excel workbook with spreadsheets showing the derivation of these emission rates is attached to this response (see Attachment A). The input/output files for the revised annual model simulations are provided in CD format.



Table 2
Short-Term On-Site Construction Emissions Inputs to Dispersion Model

Construction Activity	Model Area Source Name	PM ₁₀	PM _{2.5}	CO	VOC	NO _x	SO _x
		Averaging time emission rate (lb/hr) – Short term					
Site Grading		24-hr	24-hr	1-hr, 8-hr		1-hr	1-hr, 3-hr
Equipment Exhaust	main	0.31	0.29	3.20	1.10	10.24	0.01
	daily totals	2.51	2.31	25.61	8.77	81.95	0.08
Fugitive Dust	main dust	0.29	0.065				
	daily totals	2.33	0.5				
Site Grading Totals		4.84	2.83	25.61	8.77	81.95	0.08
Excavation							
Equipment Exhaust	main	0	0	0	0	0	0
	water 1	0.02	0.02	0.25	0.44	0.59	5.43E-04
	water 2	0.02	0.02	0.25	0.44	0.59	5.43E-04
	water 3	0.02	0.02	0.25	0.44	0.59	5.43E-04
	water 4	0.02	0.02	0.25	0.44	0.59	5.43E-04
	water 5	0.02	0.02	0.25	0.44	0.59	5.43E-04
	water 6	0.02	0.02	0.25	0.44	0.59	5.43E-04
	water 7	0.02	0.02	0.25	0.44	0.59	5.43E-04
	daily totals	1.17	1.07	13.76	24.75	32.95	0.03
Fugitive Dust	main dust	0	0	0	0	0	0
	water 1	0.008	0.002				
	water 2	0.008	0.002				
	water 3	0.008	0.002				
	water 4	0.008	0.002				
	water 5	0.008	0.002				
	water 6	0.008	0.002				
	water 7	0.008	0.002				
	daily totals	0.44	0.09				
Excavation Totals		1.61	1.17	13.76	24.75	32.95	0.03
Building							
Equipment Exhaust	main	0.61	0.56	5.87	1.99	16.59	0.02
	daily totals	4.90	4.51	47.00	15.89	132.72	0.12
Fugitive Dust	main dust	0.59	0.12				
	daily totals	4.70	1.00				
Building Totals		9.60	5.51	47.00	15.89	132.72	0.12



Table 3
Annual On-Site Construction Emissions Inputs to Dispersion Model

Construction Activity	Model Area Source Name	PM ₁₀	PM _{2.5}	CO	VOC	NO _x	SO _x
		Annual emission rate (lb/hr)					
Site Grading		annual	annual			annual	annual
Equipment exhaust	main	0.006	0.006			0.144	1.35E-04
Fugitive dust	main dust	0.015	0.003				
Site Grading Totals		0.021	0.009			0.144	1.35E-04
Excavation							
Equipment Exhaust	main						
	water 1	4.18E-04	3.85E-04			7.43E-03	6.82E-06
	water 2	4.18E-04	3.85E-04			7.43E-03	6.82E-06
	water 3	4.18E-04	3.85E-04			7.43E-03	6.82E-06
	water 4	4.18E-04	3.85E-04			7.43E-03	6.82E-06
	water 5	4.18E-04	3.85E-04			7.43E-03	6.82E-06
	water 6	4.18E-04	3.85E-04			7.43E-03	6.82E-06
	water 7	4.18E-04	3.85E-04			7.43E-03	6.82E-06
	totals	0.0029	2.69E-03			0.052	4.77E-05
Fugitive Dust	main dust						
	water 1	1.56E-04	3.35E-05				
	water 2	1.56E-04	3.35E-05				
	water 3	1.56E-04	3.35E-05				
	water 4	1.56E-04	3.35E-05				
	water 5	1.56E-04	3.35E-05				
	water 6	1.56E-04	3.35E-05				
	water 7	1.56E-04	3.35E-05				
	totals	0.00109	0.000235				
Excavation Totals		0.00399	0.03193			0.052	4.77E-05
Building							
equipment exhaust	main	0.111	0.102			2.433	0.002
fugitive dust	main dust	0.106	0.023				
Building Totals		0.217	0.125			2.433	0.002
Annual On-site Construction Totals	(lb/hr)	0.243	0.136			2.629	0.002



Table 4
On-road Construction Vehicle Emissions

Construction Activity	PM ₁₀	PM _{2.5}	CO	VOC	NO _x	SO _x
	Short-term emission rate (lb/hr)					
Onroad Trucks	24-hr	24-hr	1-hr,8-hr		1-hr	1-,3-,24-hr
exhaust	0.46	0.46	3.21	0.87	11.01	0.01
fugitive dust	4.46	4.46				
Onroad Totals	4.92	4.92	3.21	0.87	11.01	0.01
Annual emission rate (lb/hr)						
Passenger Vehicles	0.53	0.09	85.38	9.21	9.06	0.06
Onroad Trucks						
exhaust	8.55E-3	8.55E-3			0.21	1.74E-4
fugitive dust	0.083	0.083				
Onroad Totals	0.092	0.092			0.21	1.74E-4
Passenger Vehicles	0.013	2.26E-3			0.228	1.51E-3

- Response 25 is problematic as the method may not provide worst case combined modeled NO₂ and background ozone. However, due to the lack of nearby receptors, the safety margin considering the current NO₂ CAAQS, and timing issues regarding the upcoming revision of the NO₂ CAAQS, no further work on this issue will be requested of the applicant. Staff may model the project using URBEMIS as necessary to show compliance with the revised NO_x standards.

Response: No information requested

- Response 27 is problematic in that it shows completely different results than that shown for the Panoche project's cumulative analysis that should have the same modeled sources. We need to understand why there is a difference to determine which analysis provides the correct maximum impact results.

Response: Peak predicted short-term impacts for individual power projects are typically associated with emission downwash conditions, which tend to produce maximum concentrations at or near the respective facility fencelines. The convention that was adopted for the cumulative modeling analyses for both the EIF Panoche and Starwood Midway was to include downwash only for the primary facility being analyzed. This practice is commonly used in cumulative modeling and, in any case, was necessary in this instance because no building data were available for the at least one of the cumulative sources included in both cumulative analyses. Thus the peak short-term concentrations indicated in the cumulative analysis for the EIF Panoche project reflect the effects of downwash on plumes from that facility, whereas the maximum concentrations predicted in the cumulative analysis of the Starwood Midway project are indicative of downwashing plumes at

that site. It is to be expected that the maximum predicted concentrations for the EIF Panoche cumulative analysis would be higher than those for the Starwood Midway project by virtue of the relative magnitudes of their emissions. Taken together, the two sets of results should be adequate to identify maximum concentrations in the areas surrounding these facilities.

2) Biological Resources - Endangered Species Act Consultation Issue

The proposed process for complying with the Endangered Species Act needs to be clearly defined.

Response: The proposed process for Project compliance with the Endangered Species Act is defined as follows:

Purchase of Mitigation Credits at a ratio of 1.1:1 from Kreyenhagen Hills Conservation Bank located in Fresno County; and

- Option 1: Section 10 permitting to include filing a Low Effect Habitat Conservation Plan to be submitted to the USFWS.
- Option 2: Applicant and USFWS sign an MOU agreement on avoidance, minimization, and compensation measures including a Biological Opinion (exempting the Applicant from incidental take under the Federal Endangered Species Act) based on the Federal action of USFWS signing the MOU.

3) Cultural Resources - Data Response #33

The applicant for the Starwood Power-Midway, LLC Peak Project (Starwood) responded to staff Data Request No. 33 by providing a photocopy of the USGS 1922 Chaney Ranch quadrangle. On that quadrangle, based on a survey conducted in 1920, staff noted that the Chaney Ranch buildings are shown in a location slightly south of the exact center of Section 5, approximately 1,000 feet south of West Panoche Road.

The Chaney Ranch was established around the turn of the last century by Andrew J. Chaney, a partner in the Silver Creek and Panoche Land Company. The earliest reference to a "Chaney Ranch" appears on a 1911 topographic map of the area, which staff has not reviewed. By 1920, the Chaney family had reportedly moved to Yolo County, but the ranch name apparently was preserved in the area as a place name. The Starwood cultural resources technical study, which accompanied the AFC as a confidential submission, made no mention of the Chaney Ranch or its buildings, although the 1922 USGS map "was reviewed for the presence of historic structures and properties" (p. 5-10).

Staff has access to partial copies of two historic aerial photographs, examination of which indicates that the Chaney Ranch buildings had been moved to a location immediately north of West Panoche Road by 1950. The copy of the 1937 aerial photograph available to staff had been cropped, with the result that no buildings are visible south of the road, but this is not conclusive evidence due to the cropping. A USGS 1955 topographic quadrangle shows a building and a label, "Chaney Ranch," on the south side of West Panoche Road, in what appears to be the location of the extant "five-plex." The 1971 version of the same map displays the same building

and the same label as the 1955 map. It is unclear whether it is the “five-plex” or some building remaining from the Chaney Ranch in its original location that is depicted on these maps.

Careful comparison of the 1922 map and the project footprint, as shown on the 1971 USGS map, indicates that the location of the ranch buildings in 1920 was within the eastern corner of the proposed Starwood project site. If any subsurface historical archaeological remains associated with the original ranch location of the Chaney Ranch from pre-1911 to post-1937 are still present on the project site, they could contain information associated with persons important in our (local) past, i.e., Andrew Chaney, the first American settler in the area (California Register of Historical Resources (CRHR) Criterion 2), and they could also yield information important to local history (CRHR Criterion 4) regarding the development of agriculture in the area. Thus such remains could be eligible for listing in the CRHR. Staff needs additional historical information to establish the exact former location of the Chaney Ranch relative to the proposed project site and the time span of its tenure in the former location

- Please conduct further historical research to determine if the original location of the Chaney Ranch buildings falls within the proposed project site. This research should include (but not be limited to): a detailed review of all available historic maps of the project area, including General Land Office plat maps and all pre-1960 editions of USGS maps; a review of all available pre-1960 aerial photographs of the area; and a determination of the probable age range of historic-period ranching uses within the project site. Please plot the research results on a current map of the proposed project site to indicate the potential of the proposed project to impact possible subsurface historical archaeological deposits. Also, please provide staff with color copies of the relevant portions of historic maps (each labeled with map name, date, and scale) and clear black-and-white copies of the relevant portions of the historic aerial photographs (each labeled with the date).
- If the results of the review of the historic map and aerial photographs indicate the possibility that historical archaeological remains associated with the Chaney Ranch could be present on the project site, please conduct additional archival research focused on tax assessor’s records and any other data sources that could identify the functions of the formerly present buildings and thus indicate the kinds of historical archaeological resources that might be present on the proposed project site. Please provide to staff copies of the records or other data locating the Chaney Ranch buildings relative to the project site and identifying their functions.
- If the above research indicates the possibility that historical archaeological remains associated with the Chaney Ranch could be present on the project site, please conduct archaeological testing (mechanical fill/topsoil removal is acceptable) to determine whether, in fact, any such resources are present on the proposed project site and how extensive such resources, if found, are. Please provide to staff a brief report covering the personnel, methods, and results of the archaeological testing.

Response: In order to further document the original location of the Chaney Ranch buildings, the following listed items have been completed and the results of these findings are provided as Attachment B.

- Site Survey
- Historic Research – Local Records
- Letter Response and Associated Documentation

4) Geology - Data Response #44

The response does not address the background discussion provided in the data request and fails to provide any associated technical discussion. The data provided is insufficient to support the statement that collapse issues do not exist on this site.

Response: Collapsible soils occur as naturally relatively dry alluvial fans, colluvium and wind-blown deposits. These soils are typically silt and sand size with a small amount of clay. Debris fan deposits usually contain from small to large amounts of gravel to boulder size rock fragments that are suspended in the finer-grained collapsible matrix. Collapsible soils show relatively high apparent strength (cohesion) in their dry state, but have a low density, porous structure and are susceptible to large settlements upon wetting. The severity of the collapse depends on the extent of wetting, depth of the deposit and loading from the overburden weight and structure. The wetting sources typically consist of landscape irrigation, poor surface drainage resulting in ponding, utility line leakage, and intentional ponding such as detention basins and water features.

The concern for the potential for collapse or consolidate when loaded of such soils was addressed with lab testing select samples using Collapse Potential lab test (ASTM D 5333). The lab tests, shown in Appendix B-6 - B-9 (see Attachment C) of the Geotechnical Investigation Report prepared for the Midway Project, show less than 2% consolidation under a saturated 2 kip load. These results are typical of soils that are free of any collapse issues. These results are expected in this area this area and are consistent with Kleinfelder's experience in this region.

5) Hazardous Materials - Data Response #46

Please provide the distance and description of the diesel fuel storage tanks and propane tank located near the entrance to the proposed site.

Response: The eleven existing 10,000 gallon storage tanks in the tank farm area located near the entrance to the Project site are owned by Baker Farming and store diesel fuel used for fueling farm equipment. The tank farm area is not on the Project site. It is located immediately adjacent (approximately 2 meters) to the north of the site. The Project does not propose any changes or modifications to the tank farm area.



6) Transmission Sys Engr - Reconductoring Issue

The revised Systems Impact Study needs to be completed to verify what if any reconductoring will be required.

Response: The Systems Impact Study (SIS) is expected to be completed by 04/13/07. The Draft SIS concluded that no reconductoring will be required for the Project. It is our understanding that the Final SIS will be consistent with the findings in the Draft SIS.

7) Waste Management - Data Response #65

After reviewing the Starwood Data Response No. 65, I feel that it does not adequately address staff's waste management data request. Staff is concerned with the safety of workers and the environment in the area during the excavation soils. The data response addresses two chemical of potential concern, arsenic and selenium. The DTSC guidance referenced numerous chemicals that the applicant should test for when planning to build on a site previously used for agriculture.

Response: The Interim Guidance for Sampling Agricultural Fields for School Sites (Second Revision August 26, 2002) sponsored by the DTSC provides guidance for soil sampling related to proposed new and/or expanded school sites. Page 2 of this Guidance states "These are properties (or portions of properties) where pesticides were uniformly applied for agricultural purposes consistent with normal application practices, and where other non-agriculturally related activities have been absent." In addition, also stated on Page 2 of this Guidance, "This guidance does not apply to disturbed land, such as, land that has been graded in preparation for construction, areas where imported soil has been brought in, or any other activity that would redistribute or impact the soil, other than normal disking and plowing."

The data response addressed two chemicals of potential concern, arsenic and selenium, which were found to be non-hazardous. Therefore, excavation of soils during Project construction is not anticipated to expose workers to hazardous materials. The Midway Project is not proposed as a new and/or expanded school site. Additionally, the Project site has been previously graded, is currently disturbed and has been utilized as a storage-yard for the past 5 years by CalPeak Power. Therefore, non-agricultural related activities have been present at the site, and the site is disturbed land that has been graded and compacted by activities other than disking and plowing. Further analysis/chemical testing of on-site soils is not required.

ATTACHMENT A
DERIVATION OF EMISSION RATES

Title : Starwood Heavy Duty Trucks
 Version : Emfac2007 V2.3 Nov 1 2006
 Run Date : 2007/02/25 16:40:45
 Scen Year: 2007 -- All model years in the range 1965 to 2007 selected
 Season : Winter
 Area : Fresno County
 I/M Stat : Enhanced Interim (2005)
 Emissions: Tons Per Day

----- Heavy Duty Trucks -----																					
--- Light Duty Passenger Cars ---				----- Light Duty Trucks -----				----- Medium Duty Trucks -----				----- Gasoline Trucks -----		----- Diesel Total HD		Urban	Motor-	All			
Non-cat	Cat	Diesel	Total	Non-cat	Cat	Diesel	Total	Non-cat	Cat	Diesel	Total	Non-cat	Cat	Total	Trucks	Trucks	Buses	cycles	Vehicles		
Vehicles	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	43.	192.	235.	12792.	13027.	0.	0.	13027.
VMT/1000	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	26.	27.	2117.	2144.	0.	0.	2144.
Trips	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1968.	8759.	10728.	64732.	75460.	0.	0.	75460.

Total Organic Gas Emissions																					
Run Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.08	3.31	3.39	0.00	0.00	0.00	3.39	
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.43	0.00	0.00	0.00	0.43	
Start Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.04	0.10	0.00	0.10	0.00	0.00	0.00	0.10	
Total Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.11	0.18	3.73	3.91	0.00	0.00	0.00	3.91	
Diurnal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Hot Soak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Running	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.00	0.02	0.00	0.00	0.00	0.02	
Resting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.12	0.20	3.73	3.93	0.00	0.00	0.00	3.93	

Carbon Monoxide Emissions																					
Run Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.95	1.37	12.02	13.40	0.00	0.00	0.00	13.40	
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	1.67	0.00	0.00	0.00	1.67	
Start Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.70	1.32	0.00	1.32	0.00	0.00	0.00	1.32	
Total Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04	1.65	2.69	13.70	16.39	0.00	0.00	0.00	16.39	

Oxides of Nitrogen Emissions																					
Run Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.32	0.33	44.67	45.01	0.00	0.00	0.00	45.01	
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.37	2.37	0.00	0.00	0.00	2.37	
Start Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.08	0.00	0.08	0.00	0.00	0.00	0.08	
Total Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.39	0.42	47.04	47.46	0.00	0.00	0.00	47.46	

Carbon Dioxide Emissions (000)																					
Run Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	4.28	4.29	0.00	0.00	0.00	4.29	
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.14	0.00	0.00	0.00	0.14	
Start Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	4.42	4.44	0.00	0.00	0.00	4.44	

PM10 Emissions																					
Run Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	1.75	0.00	0.00	0.00	1.75	
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07	0.00	0.00	0.00	0.07	
Start Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.81	1.81	0.00	0.00	0.00	1.81	

TireWear	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.00	0.00	0.00	0.08	
BrakeWr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07	0.00	0.00	0.00	0.07	
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.96	1.97	0.00	0.00	0.00	1.97	

Lead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SOx	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.00	0.00	0.00	0.04	

Fuel Consumption (000 gallons)																					
Gasoline	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	2.05	2.32	0.00	2.32	0.00	0.00	0.00	2.32	
Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	397.86	397.86	0.00	0.00	0.00	397.86	

Title : Starwood Heavy Duty Trucks
 Version : Emfac2007 V2.3 Nov 1 2006
 Run Date : 2007/02/25 16:40:45
 Scen Year: 2007 -- All model years in the range 1965 to 2007 selected
 Season : Winter
 Area : Fresno County
 I/M Stat : Enhanced Interim (2005)
 Emissions: Tons Per Day

	--- Light Duty Trucks 1 (T1) ---			--- Light Duty Trucks 2 (T2) ---			--- Medium Duty Trucks (T3) ---			--- Light-Heavy Duty Trucks 1 (T4) ---			--- Light-Heavy Duty Trucks 2 (T5) ---			--- Medium-Heavy Duty Trucks (T6) ---			HH Duty	School Buses	Urban Buses	Total									
	Non-cat	Cat	Diesel	Total	Non-cat	Cat	Diesel	Total	Non-cat	Cat	Diesel	Total	Non-cat	Cat	Diesel	Total	Non-cat	Cat	Diesel	Total	Non-cat	Cat	Diesel	Total	Diesel Trks	Gas	Diesel	Gas	Diesel	Buses	
Vehicles	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	12792.	0.	0.	0.	0.	0.	
VMT/1000	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2117.	0.	0.	0.	0.	0.
Trips	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	64732.	0.	0.	0.	0.	0.

Total Organic Gas Emissions																															
Run Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.73	0.00	0.00

Diurnal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hot Soak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Running	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Resting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.73	0.00	0.00

Carbon Monoxide Emissions																															
Run Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.02	0.00	0.00
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	0.00	0.00
Start Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.70	0.00	0.00

Oxides of Nitrogen Emissions																															
Run Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.67	0.00	0.00
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.37	0.00	0.00
Start Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.04	0.00	0.00

Carbon Dioxide Emissions (000)																															
Run Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.28	0.00	0.00
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00
Start Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.42	0.00	0.00

PM10 Emissions																															
Run Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	0.00	0.00
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00
Start Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Ex	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.81	0.00	0.00

TireWear	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
BrakeWr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.96	0.00	0.00

Lead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SOx	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00

Fuel Consumption (000 gallons)																															
Gasoline	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	397.86	0.00	0.00

ATTACHMENT B
LETTER RESPONSE AND ASSOCIATED DOCUMENTATION



Memorandum

April 11, 2007

Mr. Che McFarlin
Siting Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Subject: Starwood-Midway Project (06-AFC-10)
Cultural Resources – Response to Follow-Up Question for Data Response No. 33
27656131.00402

Dear Mr. McFarlin:

1.0 REQUEST NO. 33

In March 2007, California Energy Commission (CEC) Staff requested additional historic information from the Starwood Power-Midway, LLC Peak Project (Starwood) applicant (Data Request No. 33). The CEC requested that the applicant conduct further historical research to determine the exact former location of the historic Chaney Ranch, and the time span of its tenure, relative to the proposed project site (Township 15S, Range 13E, SW ¼ Section 5). The CEC requested that the applicant review all available historic maps of the project area, including (but not limited to): General Land Office (GLO) plat maps; pre-1960 USGS Topographical Maps; and pre-1960 aerial photographs of the area to determine if the original location of the Chaney Ranch buildings falls within the project area. These additional studies were conducted to determine if the proposed Project will impact possible subsurface historical archaeological deposits associated with the Chaney Ranch. CEC staff also requested color copies of the relevant portions of historic maps (labeled with map name, date, and scale), clear copies of relevant portions of historic aerial photographs (labeled with the date), and relevant records and other data.

2.0 METHODOLOGY

From April 1 through April 4, 2007, URS Corporation (URS) Architectural Historian Jeremy Hollins conducted historical research pursuant to the CEC's Data Request No. 33. Mr. Hollins resume is provided as an Appendix to this Memo. Research methods included a review of primary and secondary sources at the Fresno County Public Library California History and Genealogy Room; California State University – Fresno Madden Library Government Publications and Maps Department and Special Collections and Archives Department; County of Fresno Hall of Records; and County of Fresno Department of Public Works and Planning. Other methodologies included a reconnaissance survey of the project site and a windshield survey of the project site environs.

3.0 RESEARCH RESULTS AND DATA INTERPRETATION

Research efforts yielded historic aerial photographs of the project site and environs (1937, 1950, 1957, 1961, 1965, 1973, 1977, 1987); historic USGS Topographical Maps (1913, 1922, 1955, 1971); historic GLO Plat Maps (1855, 1907); historic Atlases (1907, 1935); Assessor Maps (1963); Building Permits; Real Estate Records; Newspaper Articles; and other maps and records. The research results were plotted on 11 x 17 USGS Topographical maps and are included as Figures 1 through 12. Copies of historic aerial photographs are included as Appendix A, and copies of historic maps and records are included as Appendix B.

Based on this research, it has been determined that (1) no historic buildings or structures associated with the Chaney Ranch (or other historic buildings and uses) were located within the project area; (2) the project area has historically been used for agricultural activities (e.g., field crops, orchards) since 1908 or was part of the service yard for the Panoche Substation by 1950; (3) agricultural and ranching activities possibly associated with the Chaney Ranch occurred primarily east and northeast of the project area between 1908 to as late as 1937 (though it is believed the Chaney family left the area by 1920); and, (4) it is unlikely that historical archaeological remains associated with the ranch are present in the project area.

3.1 1855 AND 1907 GLO PLAT MAPS

The 1855 and 1907 GLO Plat maps for Township 15S, Range 13E, Mount Diablo Meridian do not show Section ownership, uses, or minor features (Scale 1:31,680). The Plat maps show the southern ½ of Section 5 (where the project site is located) as two 160-acre land plots. Copies of the relevant portions of the Plat maps are included in Appendix B.

3.2 1907 WILLIAM H. HARVEY ATLAS OF FRESNO COUNTY AND FRESNO MORNING REPUBLICAN

The 1907 William H. Harvey Atlas of Fresno County shows land ownership for the project site. The Atlas is a plat-style map and is not to scale. Based on the Atlas, in 1907, the Silver Creek and Panoche Land and Water Company (SCPLWC) owned all of Township 15S, Range 13E, Section 5. Additionally, an unnamed road ran diagonally through the Section, following closely West Panoche Road's present alignment. The company also owned land in Sections 7 and 9 (a copy of the Atlas map is included in Appendix B). CEC Data Request No. 33 mentioned Andrew J. Chaney, an early settler of the area and the founder of Chaney Ranch, was a stake-holder in the SCPLWC. A news item in the Fresno Morning Republican from November 4, 1907 mentioned the SCPLWC's immediate plans to enlarge their irrigation territory (page 5), and their land ownership in the area (as represented by the Atlas plat map) supported these plans.

3.3 1913 AND 1922 USGS QUADRANGLE TOPOGRAPHICAL MAPS

The 1913 USGS Panoche Quadrangle Topographical Map is based on survey data from 1908 - 1911 and is at a 1:125,000 scale. This map has the first mapped reference to Chaney Ranch. On the map, Chaney Ranch is located within Township 15S, Range 13E, within the south ½ of Section 5. Chaney Ranch is represented as a small building with a square form south of West Panoche Road, located at the intersection of two unnamed roads that travel north-south and east-west from West Panoche Road. Figure 1 shows the location of the building from the 1913 Panoche Map relative to the project area, and a copy of the original map is included in Appendix B. Based on the map, the building was located approximately 500-ft east of the project area. Between 1908 through 1913, the building may have been associated with the Chaney Ranch's agricultural and ranching activities.

The 1922 USGS Chaney Ranch Quadrangle Topographical Map is based on survey data from 1920 and is at a 1:31,600 scale. Chaney Ranch is located within Township 15S, Range 13E, within the south ½ of Section 5. Chaney Ranch is referenced on the map and is identified as two buildings with square forms south of West Panoche Road, and immediately northeast of a y-shaped road bifurcation. Figure 2 shows the location of Chaney Ranch from the 1922 Chaney Ranch Quadrangle Topographical Map relative to the project area, and a copy of the original map is included in Appendix B. Based on the map, Chaney Ranch was located approximately 500-ft to 625-ft east-southeast of the project area. The single square-form building from the 1913 Panoche Map is no longer visible on the 1922 Chaney Ranch Map. The two buildings on the 1922 Chaney Ranch Map may be associated with the Chaney Ranch's agricultural and ranching activities, and were most likely constructed between 1914 and 1920. Records indicating when the Chaney family left the area could not be located; however, it is believed that the family relocated to Yolo County by 1920. Therefore, after 1920, the use of "Chaney Ranch" on historic maps may have been used as a place name for the area, and not as a reference to activities or properties associated with the Chaney Ranch.

3.4 1935 PROGRESSIVE ATLAS OF FRESNO COUNTY

The 1935 Progressive Atlas of Fresno County, similar to the William H. Harvey Atlas, is a plat-style map and is not to scale. Within the atlas, "Chaney Ranch" is depicted as the property owner north of West Panoche Road within Township 15S, Range 13E, Section 5 (California Trust and Savings Bank owns the land south of West Panoche Road). A copy of the Atlas map is included in Appendix B. It is uncertain whether the property was still owned by the family of Andrew J. Chaney in 1935, or if this name was simply associated with the area. If the property was still owned by the Chaney family, then the ranch's location may have been north of West Panoche Road by 1935.

3.5 1937 AERIAL PHOTOGRAPH

An aerial photograph from October 4, 1937 shows the project area as a vacant agricultural field. East of and northeast of the project area are several historic buildings associated with agricultural and ranching activities and possibly the original Chaney Ranch. The photograph shows a complex of buildings north of West Panoche Road, and within the present location of Vaquero Farms (Assessor Parcel Number [APN]: 02706053S). These buildings are approximately 350-ft northeast from the project area and are located on property previously depicted as owned by “Chaney Ranch” (in the 1935 Progressive Atlas of Fresno County). It is uncertain whether this property was associated with the Chaney Ranch by 1937.

Additionally, another complex of buildings are located approximately 400-ft east of the project area and in the approximate area of the Chaney Ranch buildings from the 1922 USGS Quadrangle Maps. The buildings have similar forms and orientations to the buildings on the 1922 Chaney Ranch Map. The buildings were located within the present footprint of the paved access road located east of the existing CalPeak Power plant and existing Well Head (These buildings are no longer extant). It is uncertain whether these buildings were still associated with the Chaney Ranch, or had been adapted for other agricultural and ranching uses by 1937. Figure 5 shows the location of the buildings from the photograph relative to the project area, and a copy of the original photograph is included in Appendix A.

3.6 1950 AERIAL PHOTOGRAPH

An aerial photograph from February 12, 1950 shows the project area primarily used as an agricultural field with field crops or orchards. The ranching and agricultural buildings north of West Panoche Road (northeast of the project area) are visible in the picture. The property has experienced additions and alterations since the 1937 aerial and its footprint has increased significantly. The complex of buildings located 400-ft east of the project area are no longer visible. Therefore, all buildings south of West Panoche Road possibly associated with the original Chaney Ranch were removed by 1950. A small building with a square form, ornamental plantings, and two ancillary structures are located approximately 125-feet located northeast of the project area. The building is south of West Panoche Road, and immediately east of the present-day 5-plex residential building and the diagonal gas pipeline right-of-way. The building was constructed between 1936 and 1950 and is most likely a workers’ residence associated with the agricultural and ranching activities north of West Panoche Road. The photograph also shows the original Panoche Substation and an unidentifiable structure associated with the Substation located near the present footprint of the 5-plex residential building. Figure 6 shows the location of the buildings from the photograph relative to the project area, and a copy of the original photograph is included in Appendix A.

3.7 1955 AND 1971 USGS QUADRANGLE TOPOGRAPHICAL MAP

The 1955 and photo-revised 1971 USGS Chaney Ranch Quadrangle Topographical Map is based on survey data from 1927 through 1954 and is at a 1:24,000 scale. The 1955 and 1971 maps refer to the general area surrounding Township 15S, Range 13E, Section 5 as “Chaney Ranch.” There are no buildings or structures represented in the project area. The map depicts the large buildings on the agricultural and ranching property located north of West Panoche Road (northeast of the project area). The maps also show the location of the gas pipeline and the residential building located south of West Panoche Road and east of the pipeline. Figures 3 and 4 show the location of the buildings relative to the project area, and copies of the original maps are included in Appendix B.

3.8 1957 AERIAL PHOTOGRAPH

An aerial photograph from 1957 shows the project area primarily used as an agricultural field with field crops or orchards and as part of the Panoche Substation service yard eastern boundary. There are no buildings within the project area. The photograph is similar to the 1950 aerial photograph, and shows the agricultural and ranching property north of West Panoche Road, and the residential building south of West Panoche Road. The ancillary structures seen in the 1950 aerial photograph are no longer visible. The photograph also shows the unidentifiable structure associated with the Substation near the present footprint of the 5-plex residential building. Figure 7 shows the location of the buildings from the photograph relative to the project area, and a copy of the original photograph is included in Appendix A.

3.9 1961 AERIAL PHOTOGRAPH AND 1964 DIVISION OF FORESTRY MAP

An aerial photograph from June 30, 1961 shows the project area and vicinity having uses identical and consistent to the 1957 aerial photographs, and is similar to the other aerial photographs. The photograph does not show any major alterations to the agricultural and ranching property north of West Panoche Road or the residential property south of West Panoche Road and east of the gas pipeline right of way. The agricultural and ranching property north of West Panoche Road (on the present-day site of Vaquero Farms) is labeled “Chaney Ranch.” It is unknown whether this label is referring to the farm’s name, or the name for the general area (as indicated by several maps and records). A map of Western Fresno County created by the Division of Forestry in 1964 shows numerous businesses and properties adapted the Chaney name in the project area vicinity (e.g., Chaney Apts., Chaney Gin) (see attached appendix for copy of map). Also, the unidentifiable structure associated with the Panoche Substation is not visible in the 1961 aerial photograph. Figure 8 shows the location of the buildings from the photograph relative to the project area, and a copy of the original photograph is

included in Appendix A. A copy of the Division of Forestry map is included in Appendix B.

3.10 1965 AND 1973 AERIAL PHOTOGRAPHS

There are no buildings located within the project area in the 1965 and 1973 aerial photographs. These photographs are consistent to the 1961 aerial photograph, and do not show any major alterations to the agricultural and ranching property north of West Panoche Road or the residential property south of West Panoche Road and east of the gas pipeline right of way. Figures 9 and 10 show the location of the buildings from the photographs relative to the project area, and a copy of the original photographs are included in Appendix A.

3.11 1975 BUILDING PERMIT AND 1977 AND 1987 AERIAL PHOTOGRAPHS

In 1975, a building permit was filed with the County of Fresno Department of Public Works and Planning (a copy of the building permit is included in the appendix). The permit was for the construction of the 5-plex located immediately northwest of the project area, south of West Panoche Road and west of the gas pipeline right of way. After the building permit was filed, the existing residential property south of West Panoche Road and east of the gas pipeline was demolished, as indicated by a 1977 aerial photograph. The 5-plex is first seen in an aerial photograph from 1987 as a small building, rectangular in form, surrounded by ornamental plantings. The building is in its present location, fronting West Panoche Road and north of the existing CalPeak Power plant and existing Well Head. Figures 11 and 12 show the location of the buildings from the photograph relative to the project area, and a copy of the original photographs are included in Appendix A. A copy of the building permit is included in Appendix B.

4.0 SUMMARY OF FINDINGS

Between 1908 and 1987, based on aerial photographs, historic maps, and other primary sources, the project area was primarily used for agricultural activities (e.g., field crops, orchards) or was part of the service yard for the Panoche Substation.

By 1907, the project area was associated with SCPLWC and their efforts to enlarge their irrigation territory. Between 1908 and 1937, several buildings possibly associated with the original Chaney Ranch were constructed south of West Panoche Road. These buildings were located 400-ft east of the project area. Another complex of buildings possibly associated with the original Chaney Ranch and agricultural and ranching activities were also constructed north of West Panoche Road before 1937. These buildings were located 350-ft northeast from the project area. It is uncertain when the Chaney family left Fresno County (CEC Staff believe the Chaney family left by 1920), but the area has retained the name “Chaney Ranch” since as early as 1913. By 1950, all

buildings south of West Panoche Road possibly associated with the Chaney Ranch were no longer extant. By 1950, a square-shaped building, most likely constructed as a workers' residence for the agricultural/ranch property north of West Panoche Road, was built approximately 125-ft northeast of the project area, and was demolished by 1977. After 1977, the 5-plex located adjacent to the project area was constructed.

5.0 CONCLUSIONS

Based on additional historic research, no historic buildings or structures associated with the Chaney Ranch (or other historic buildings and uses) were ever located within the project area. Therefore, archaeological testing (e.g., mechanical fill/topsoil removal, shovel test probes) of the project area is not necessary to determine the presence of historical archaeological remains associated with Chaney Ranch. In the event that archaeological resources are encountered prior to or during construction activities (including subsurface excavation), construction activities in the immediate vicinity of the identified resource shall be halted and a qualified archaeologist shall identify the nature and boundary of the finds. Prior to the initiation of the construction activities, a qualified archaeologist will lead a training session for construction crew members that addresses and identifies specific cultural resources that may be encountered during the development of the Project.

6.0 REFERENCES AND COLLECTIONS

California State University – Fresno Madden Library. Government Publications and Maps Department. Various Collections. April 2007.

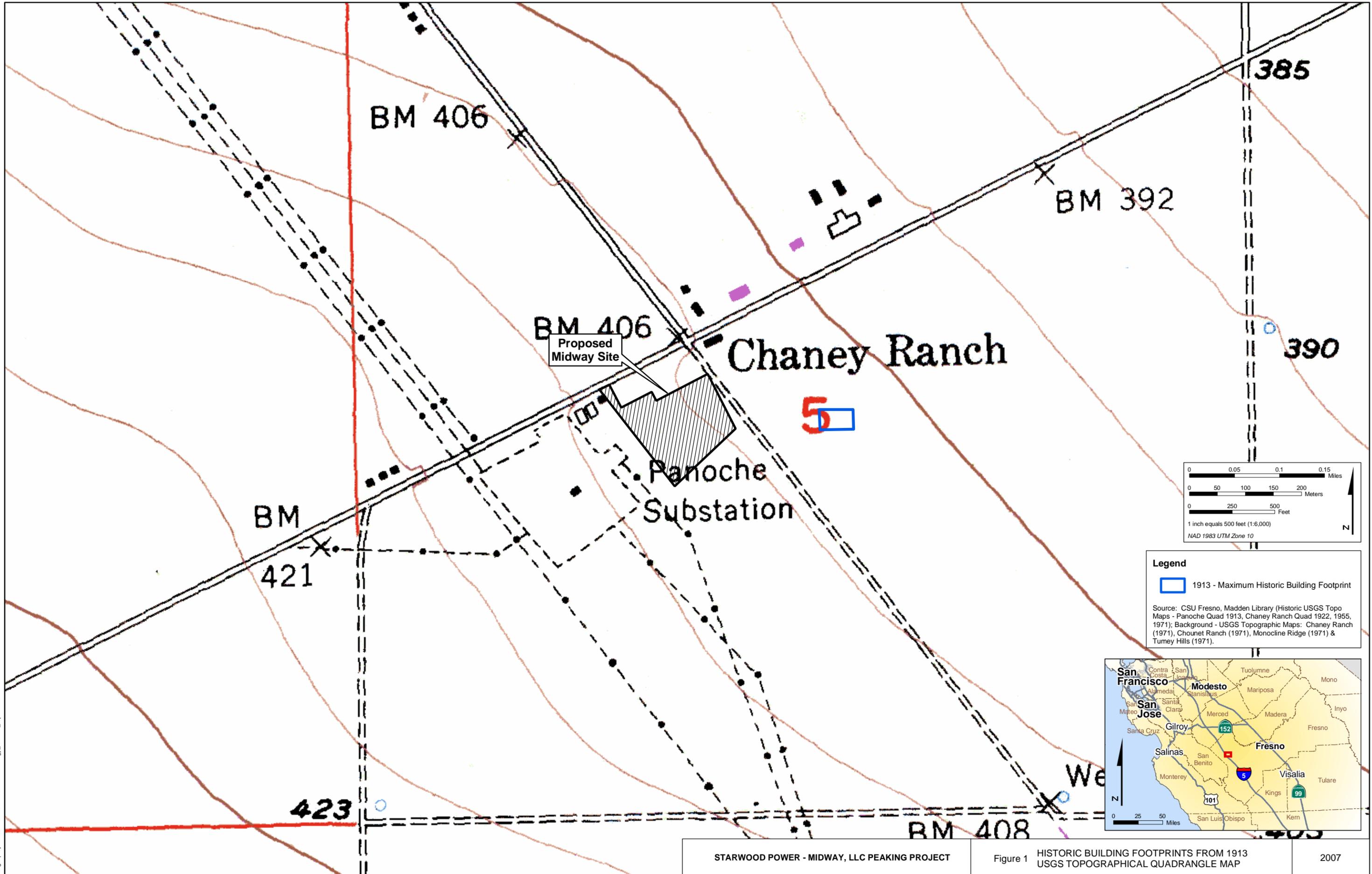
County of Fresno Department of Public Works and Planning. Building Permit 130823. 1975.

Fresno County Public Library. California History and Genealogy Room. Various Collections. April 2007.

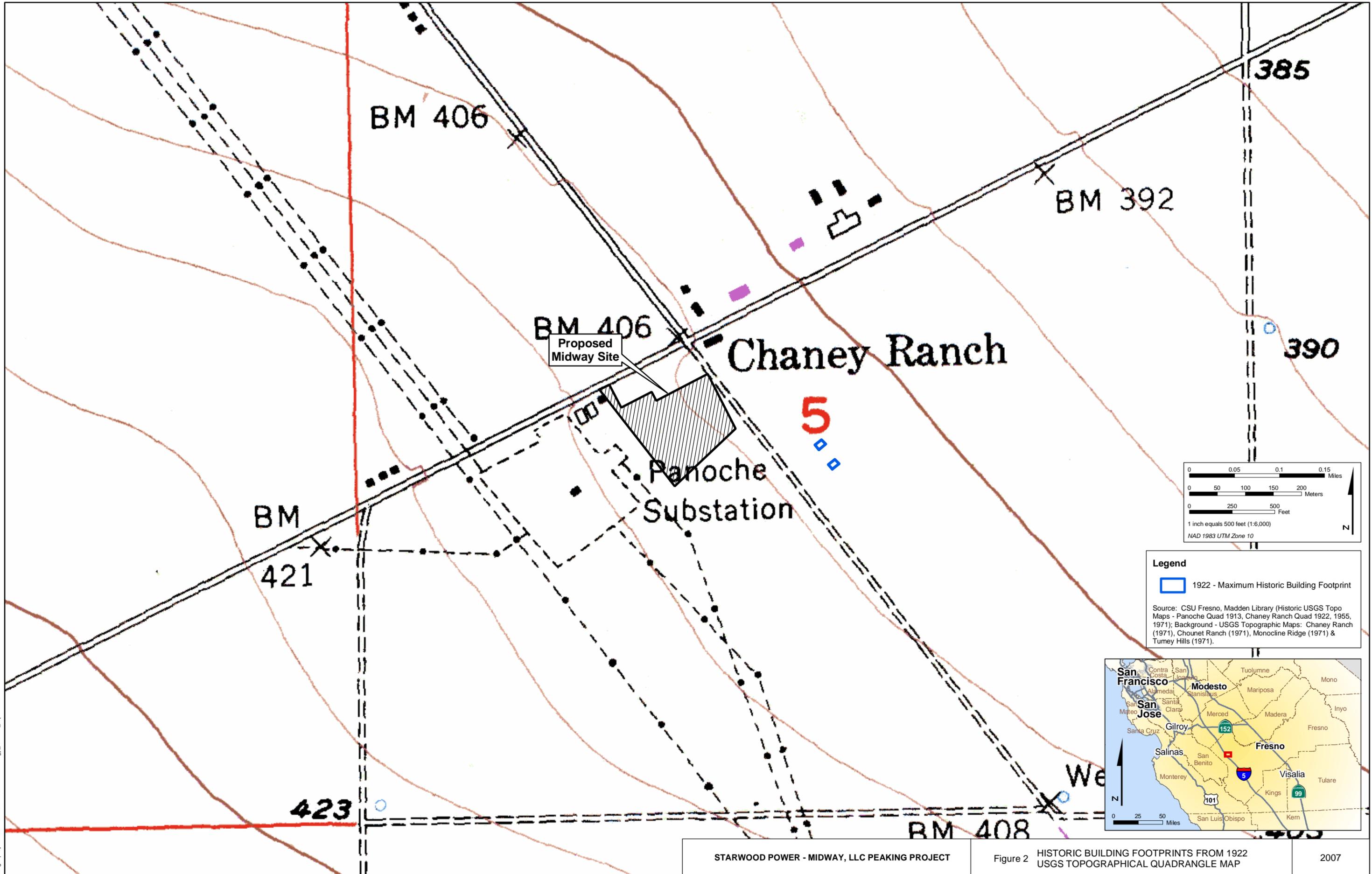
Sincerely,

URS CORPORATION

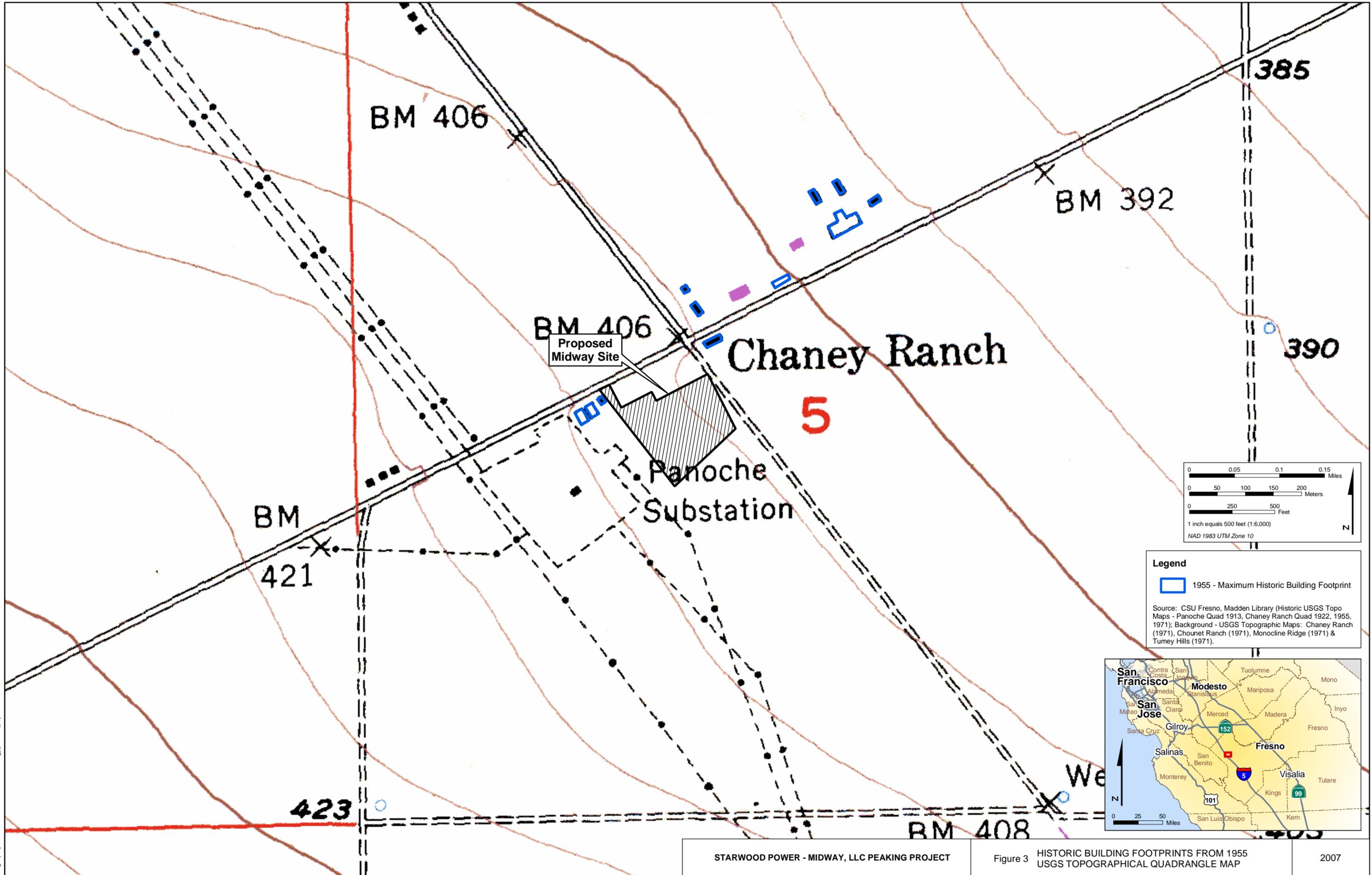
Mr. Jeremy Hollins
Architectural Historian



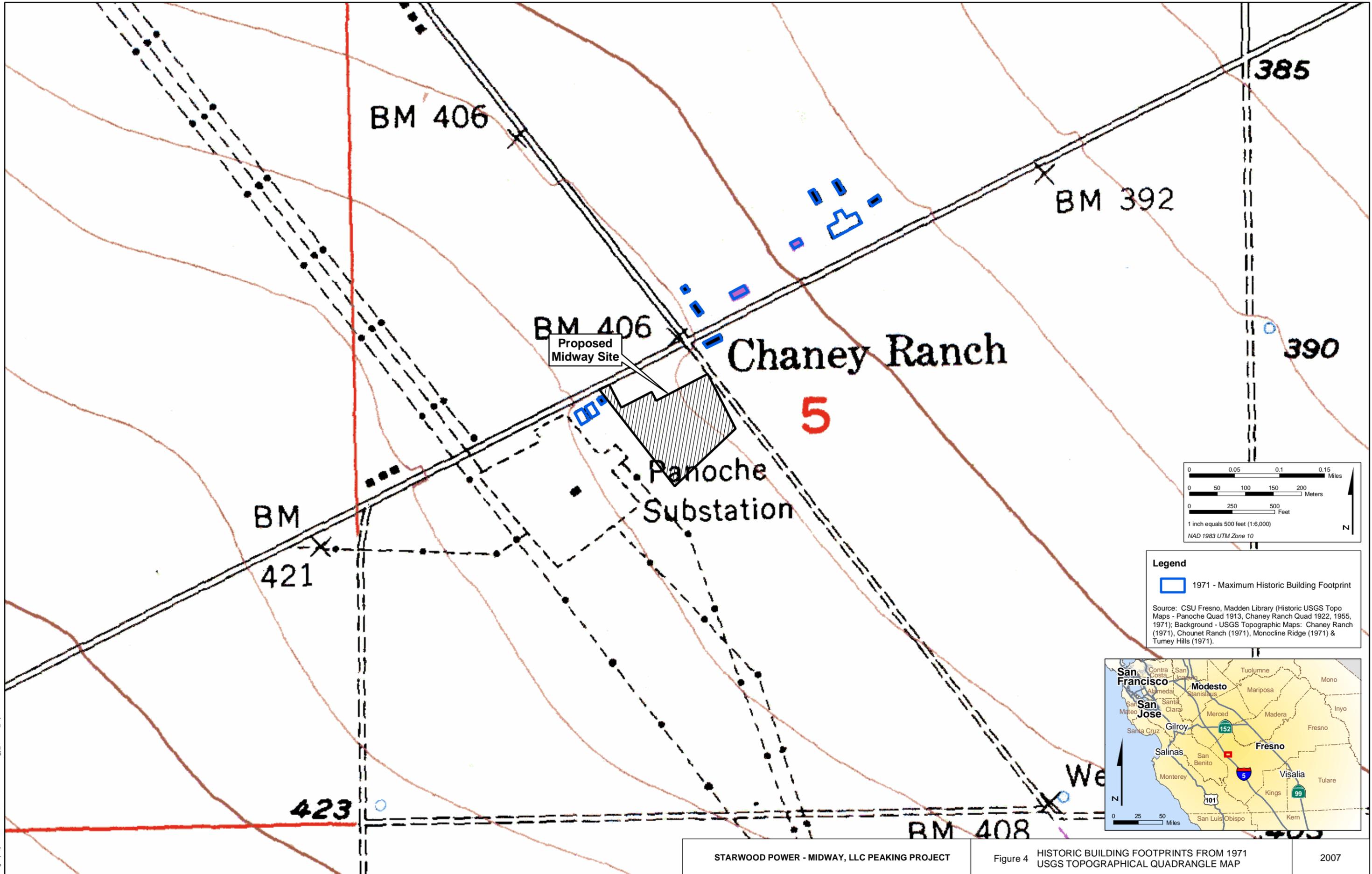
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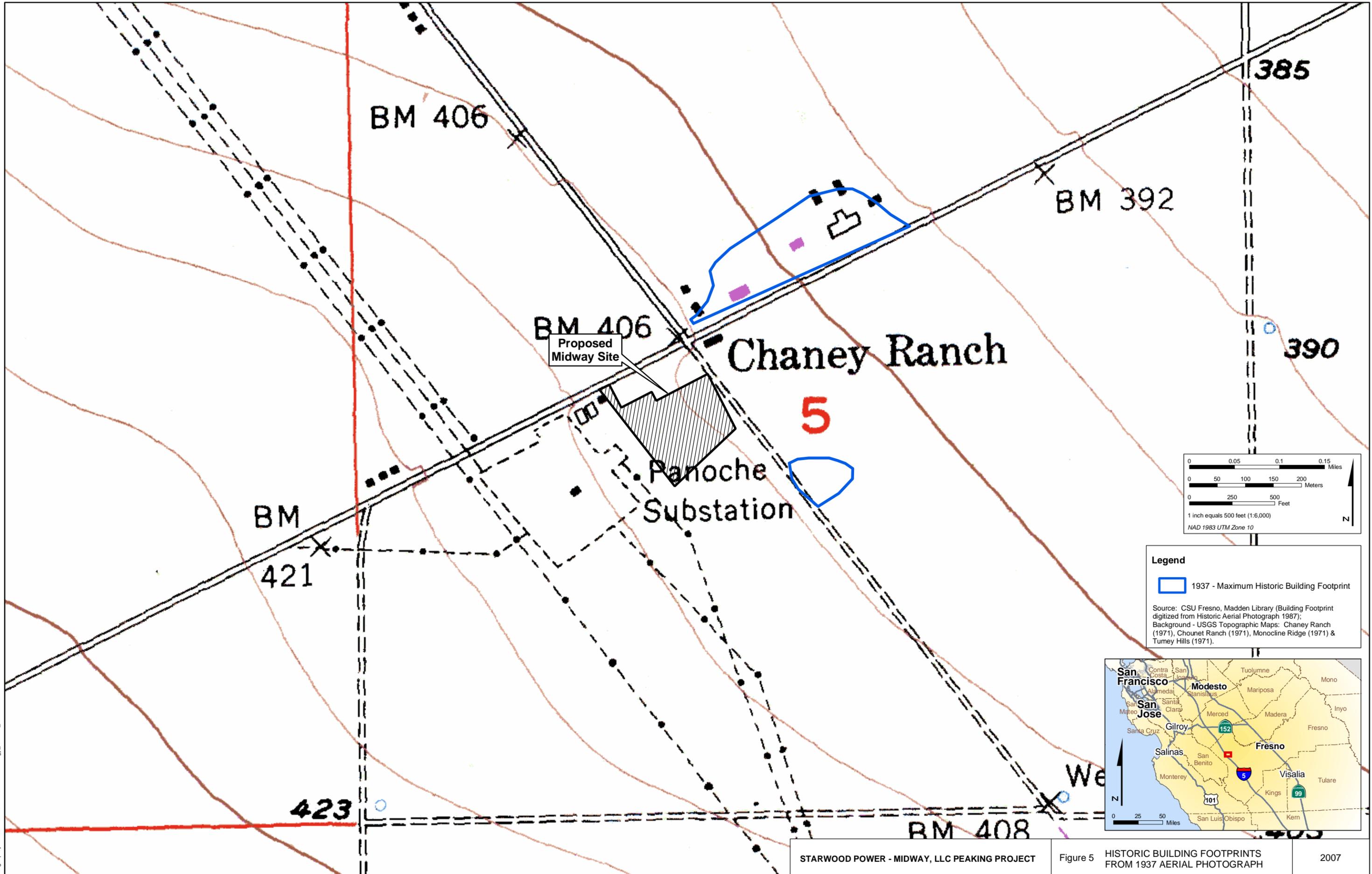
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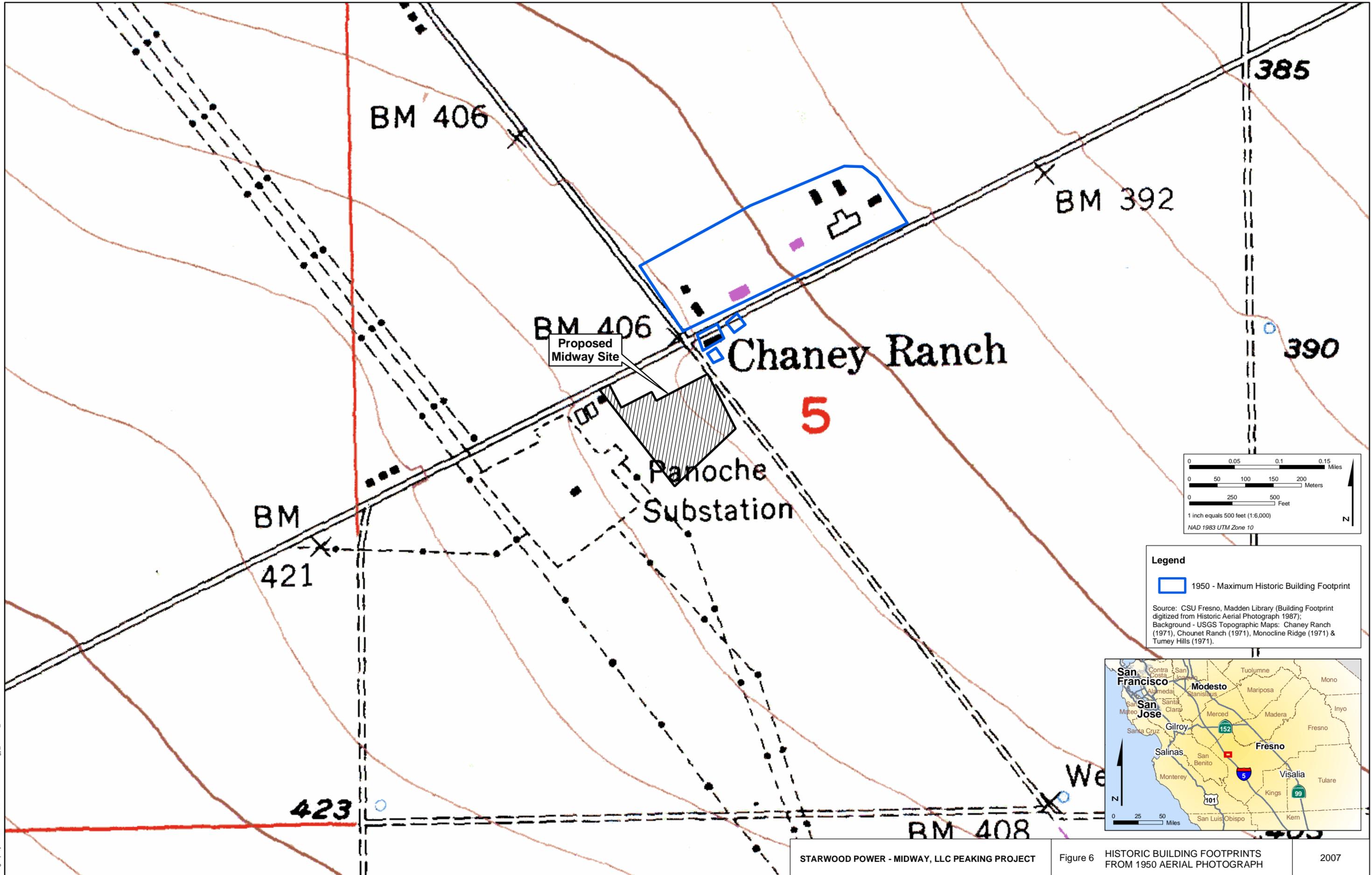
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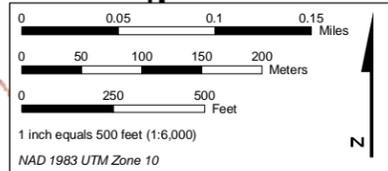
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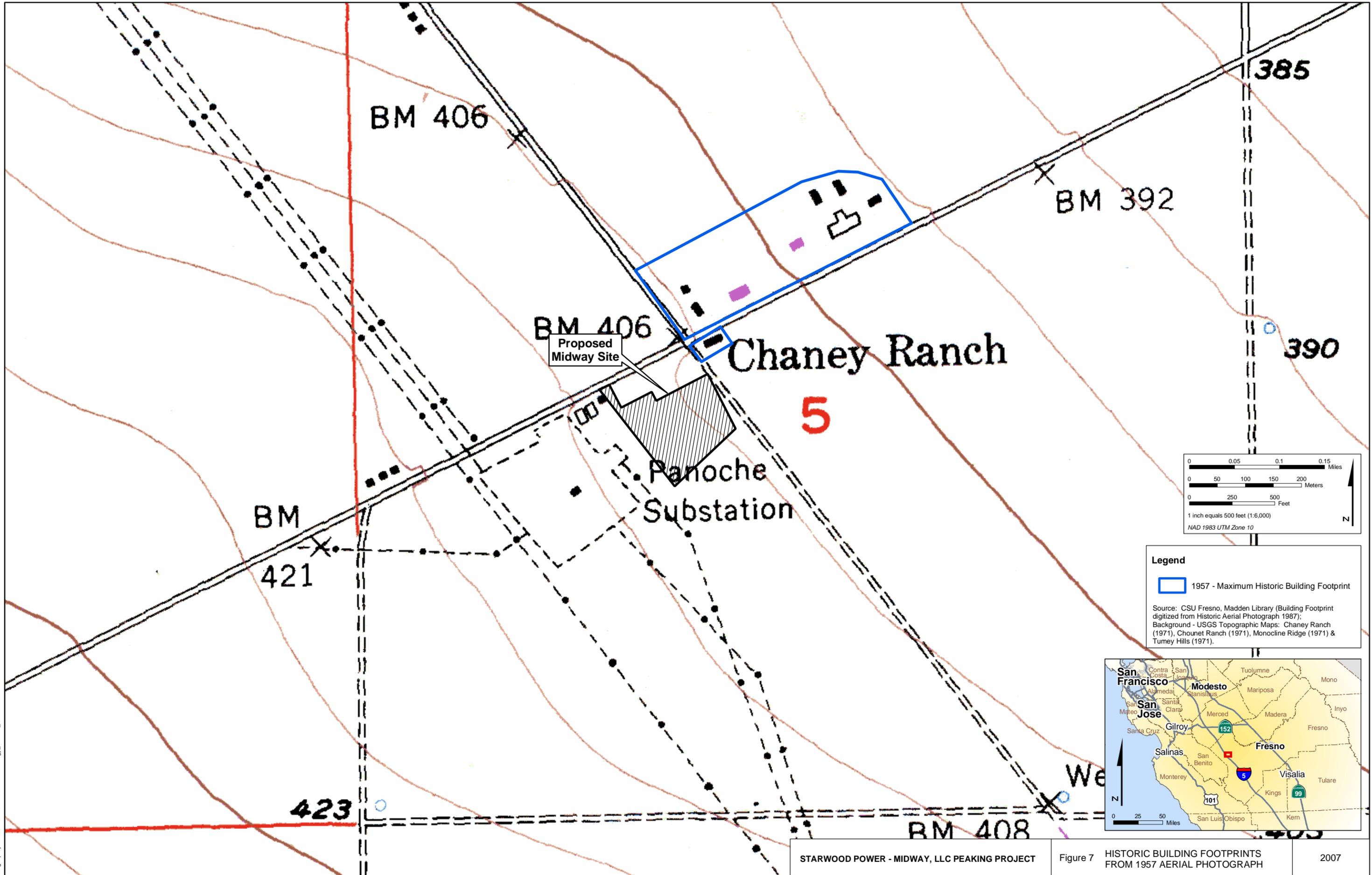


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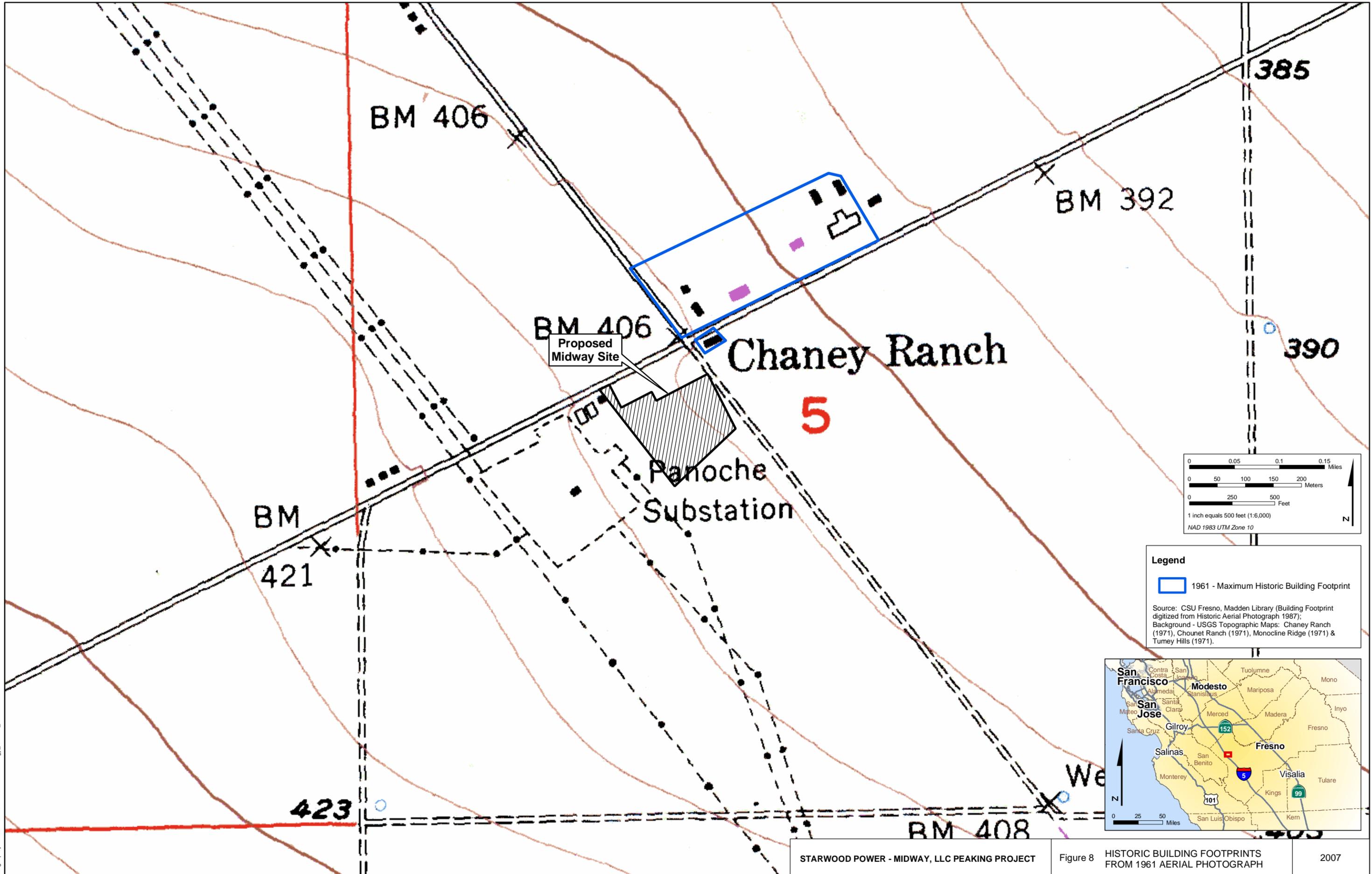
1950 - Maximum Historic Building Footprint

Source: CSU Fresno, Madden Library (Building Footprint digitized from Historic Aerial Photograph 1987);
 Background - USGS Topographic Maps: Chaney Ranch (1971), Chounet Ranch (1971), Monocline Ridge (1971) & Tumey Hills (1971).

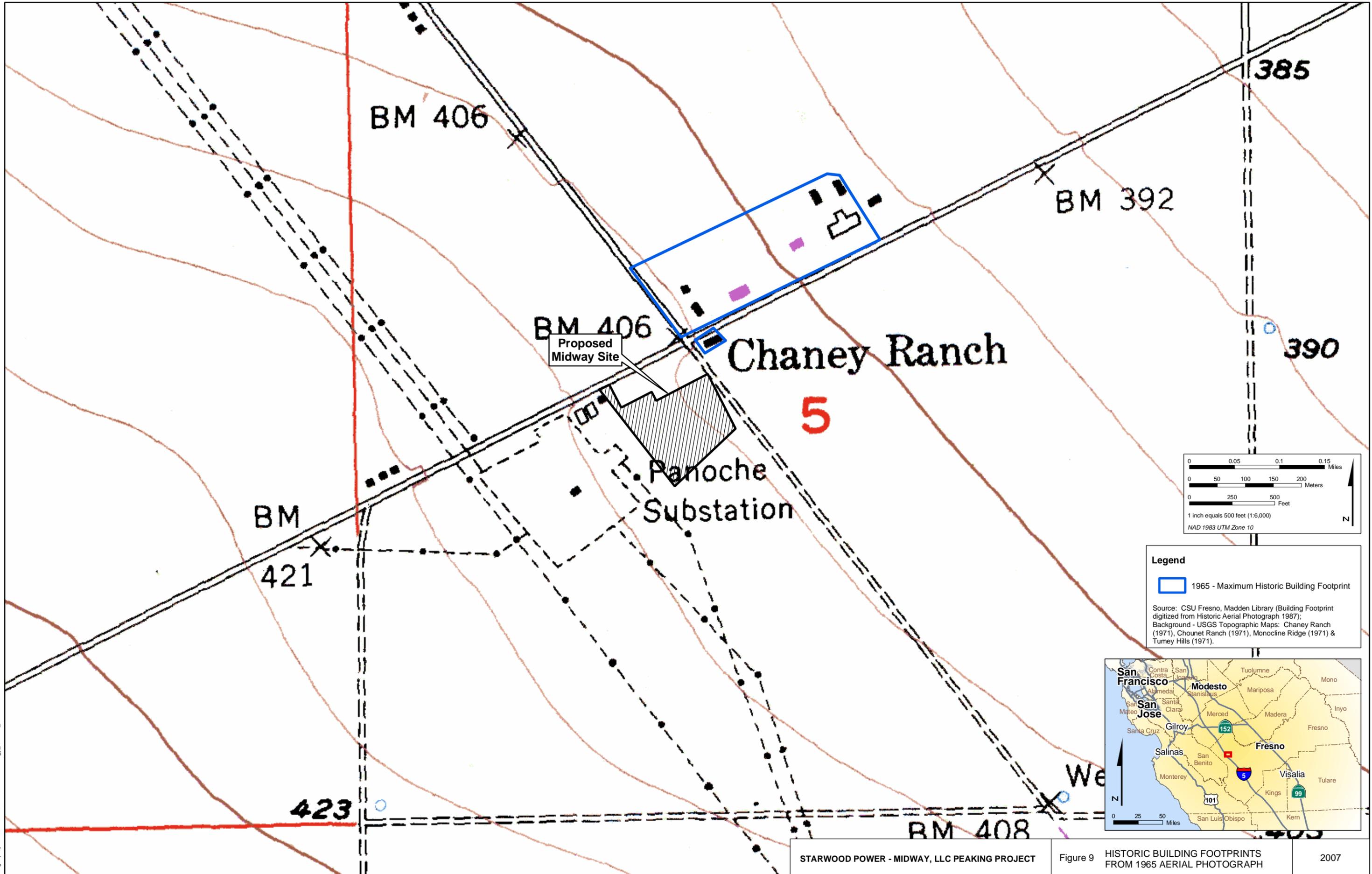




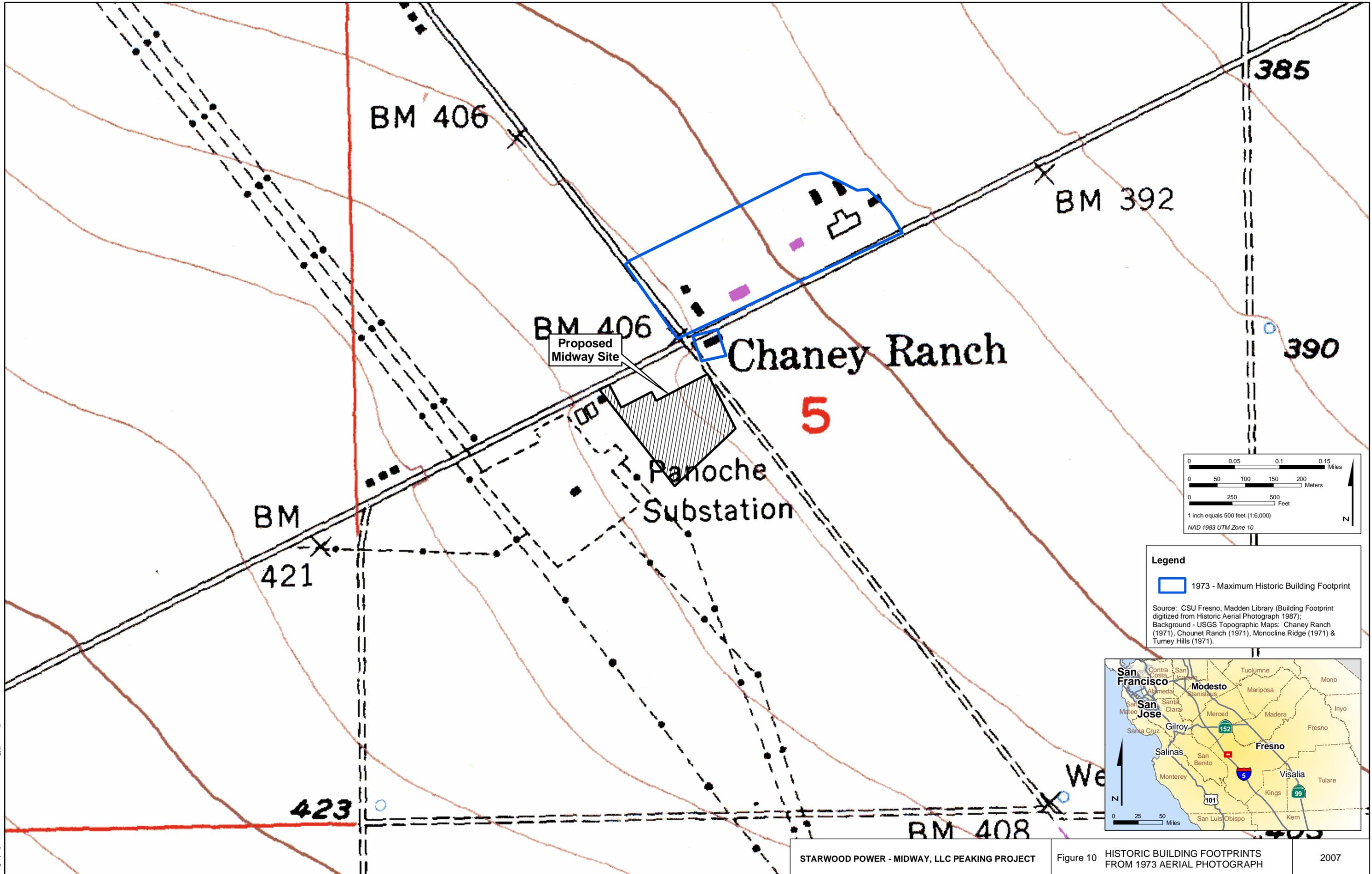
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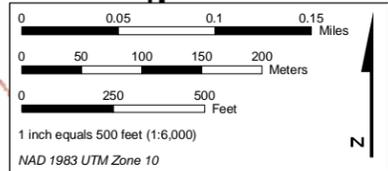
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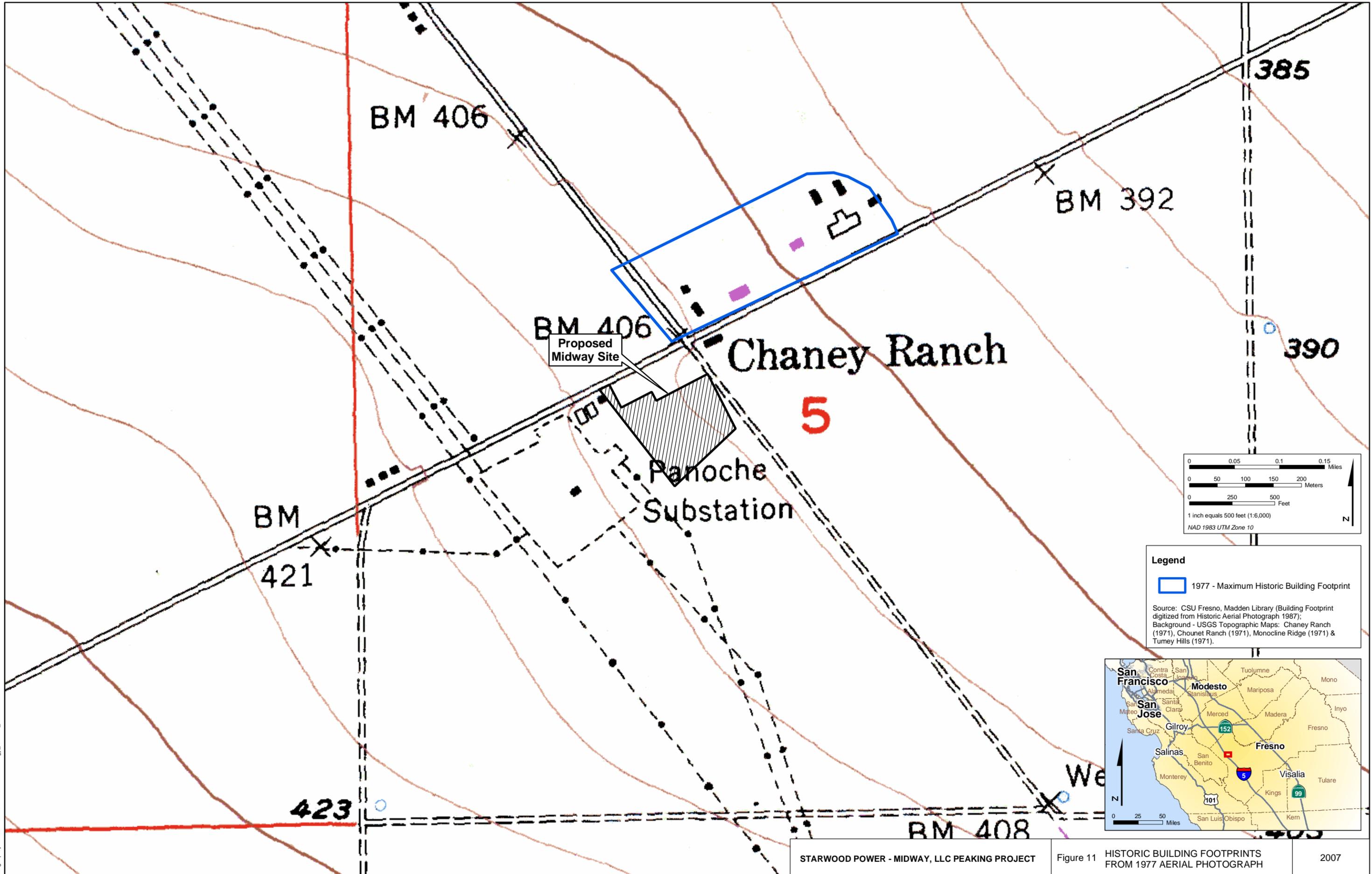


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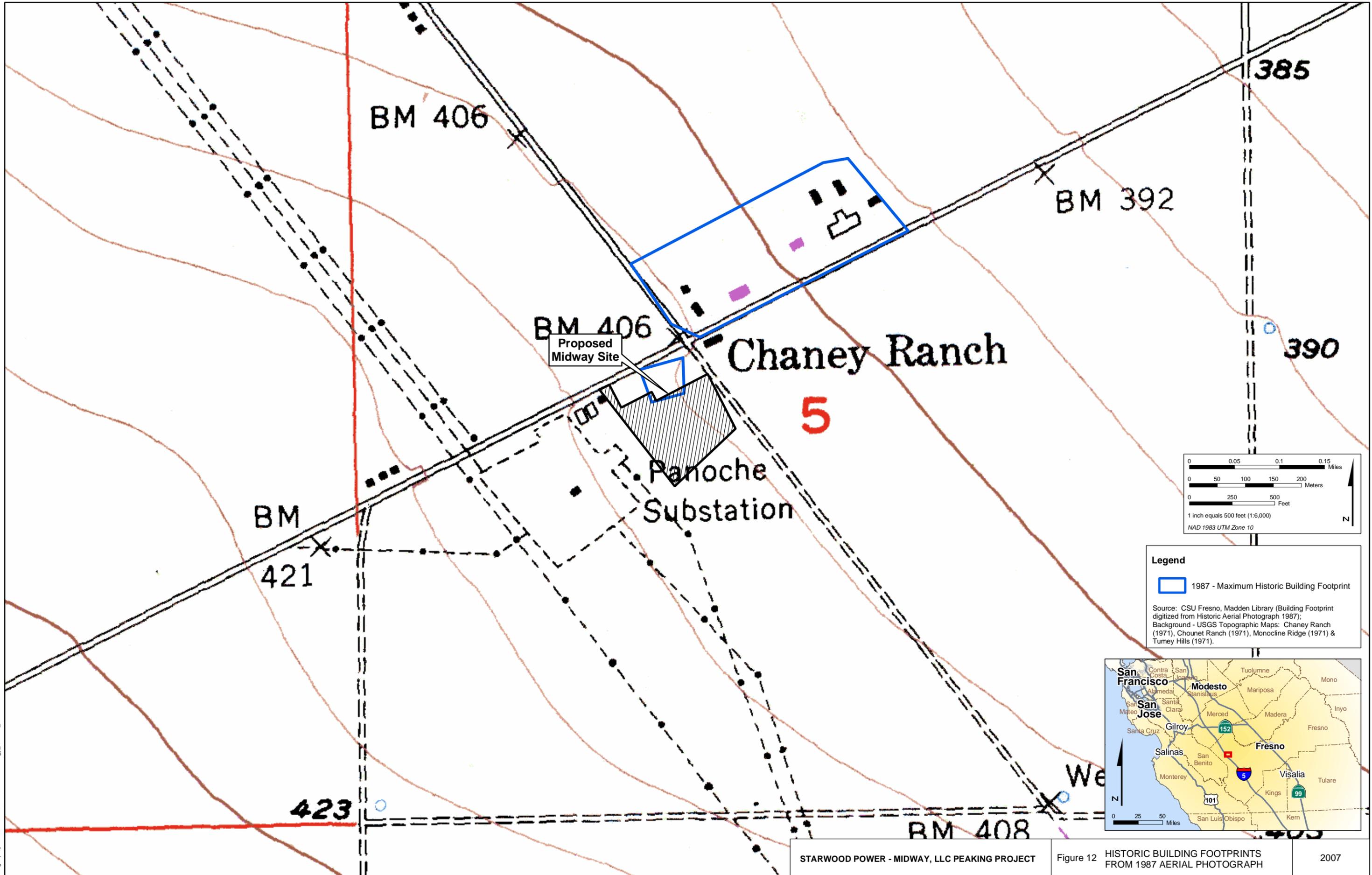
- 1973 - Maximum Historic Building Footprint

Source: CSU Fresno, Madden Library (Building Footprint digitized from Historic Aerial Photograph 1987);
 Background - USGS Topographic Maps: Chaney Ranch (1971), Chounet Ranch (1971), Monocline Ridge (1971) & Tumey Hills (1971).



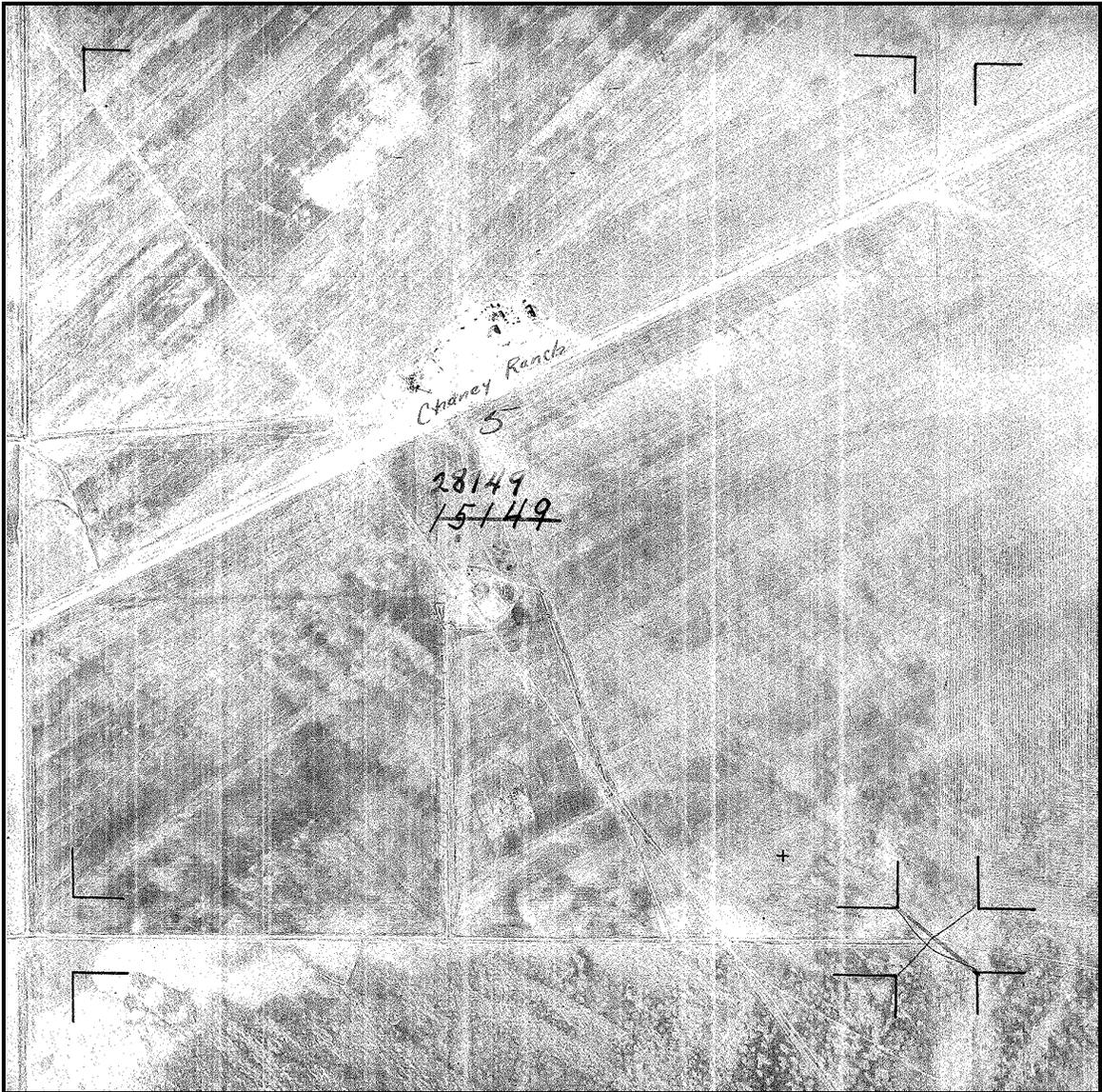


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**APPENDIX A:
HISTORIC AERIAL PHOTOGRAPHS**



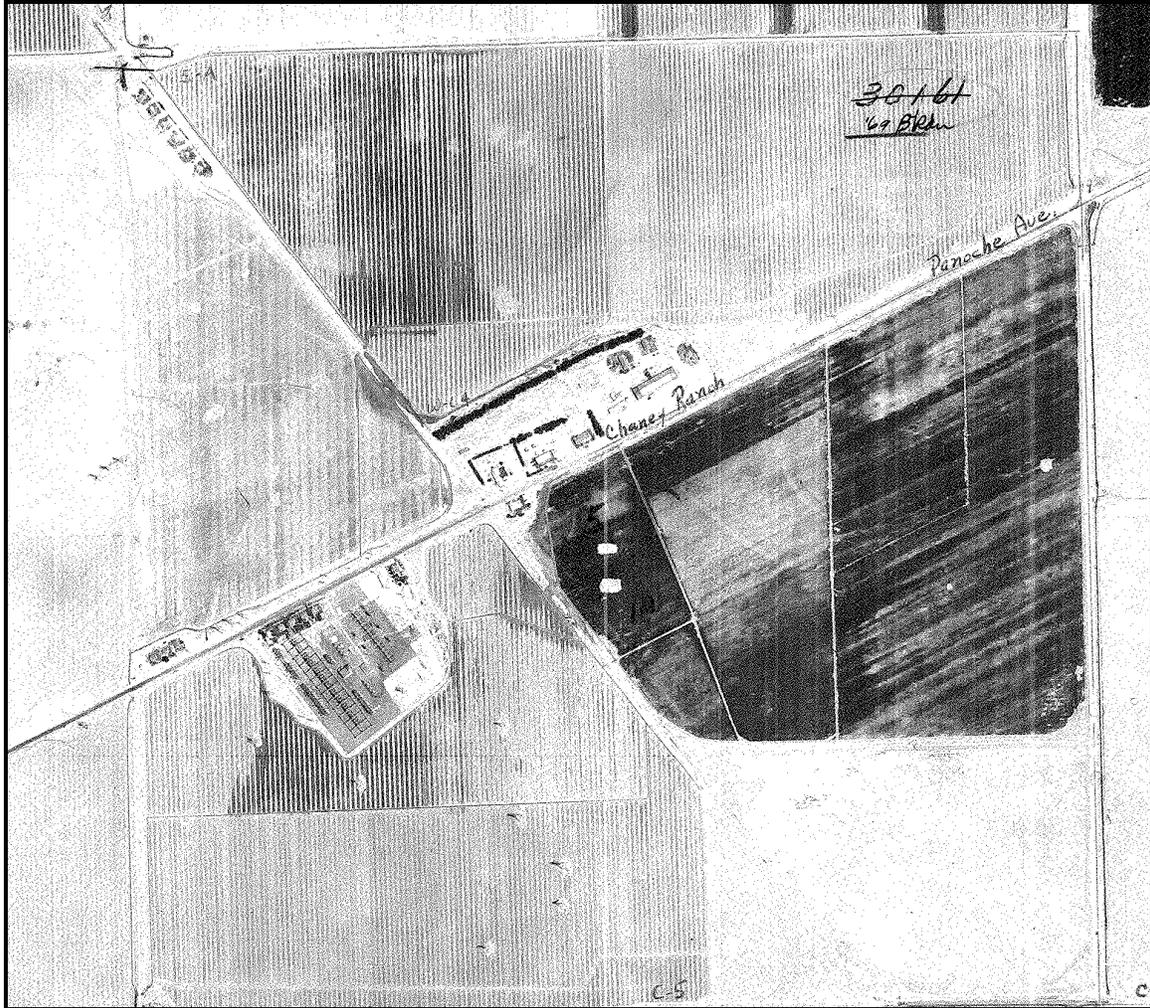
1937 Aerial Photograph,
From Fresno County Aerial Survey,
CSU-Fresno Madden Library
Government Publications and Maps Department



**1950 Aerial Photograph
From Fresno County Aerial Survey,
CSU-Fresno Madden Library
Government Publications and Maps Department**



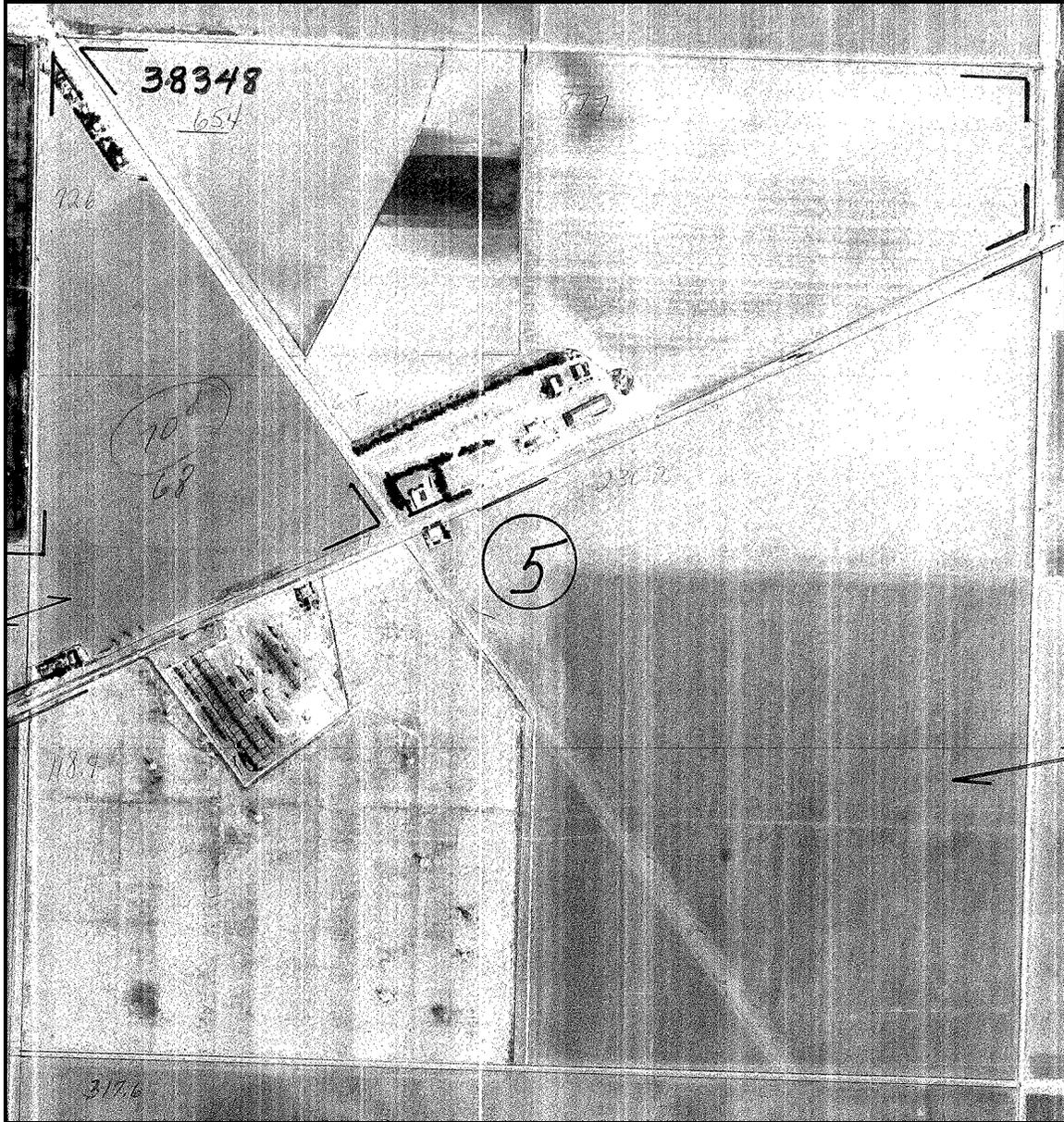
**1957 Aerial Photograph
From Fresno County Aerial Survey,
CSU-Fresno Madden Library
Government Publications and Maps Department**



**1961 Aerial Photograph
From Fresno County Aerial Survey,
CSU-Fresno Madden Library
Government Publications and Maps Department**



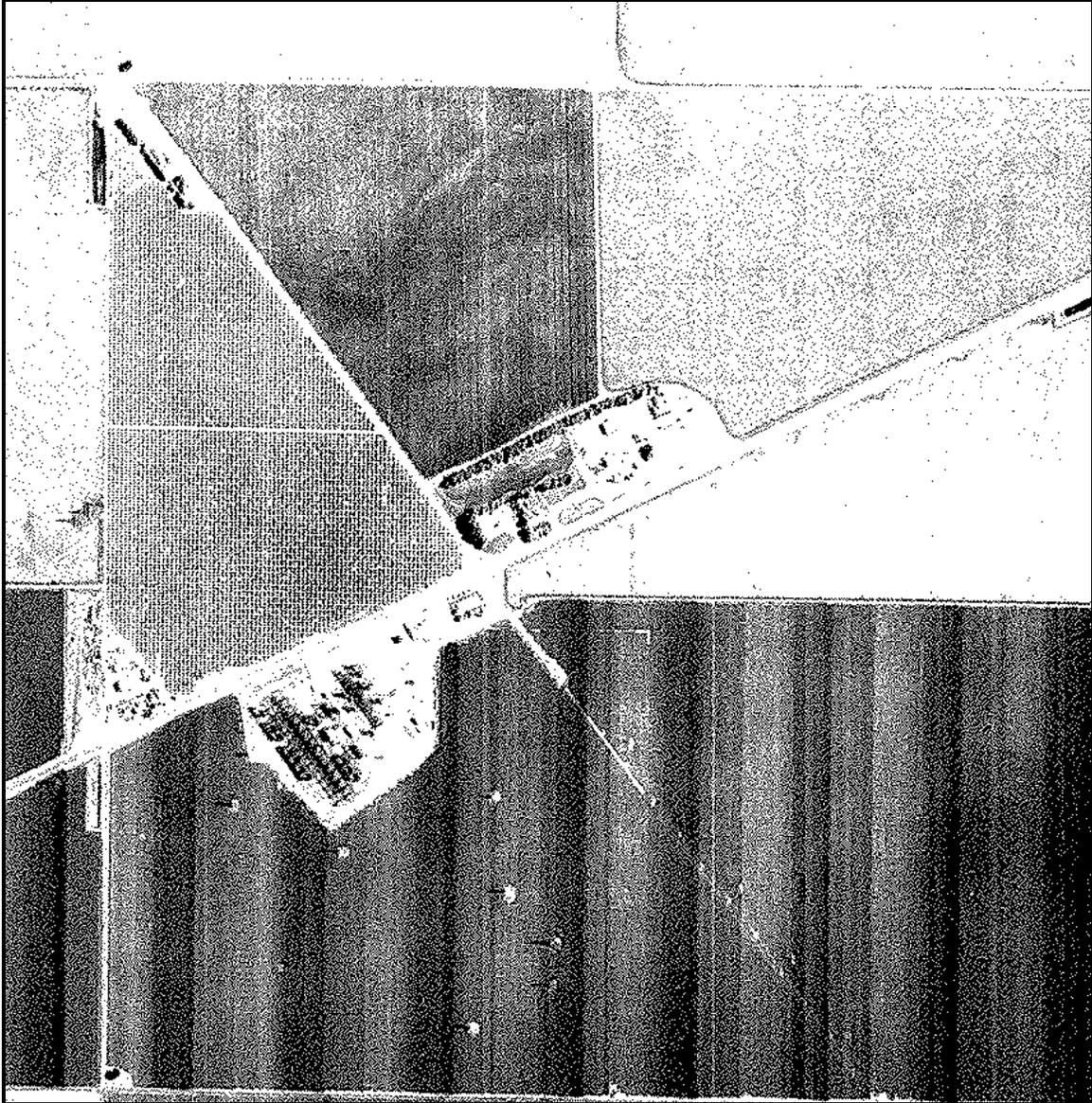
**1965 Aerial Photograph
From Fresno County Aerial Survey,
CSU-Fresno Madden Library
Government Publications and Maps Department**



**1973 Aerial Photograph
From Fresno County Aerial Survey,
CSU-Fresno Madden Library
Government Publications and Maps Department**

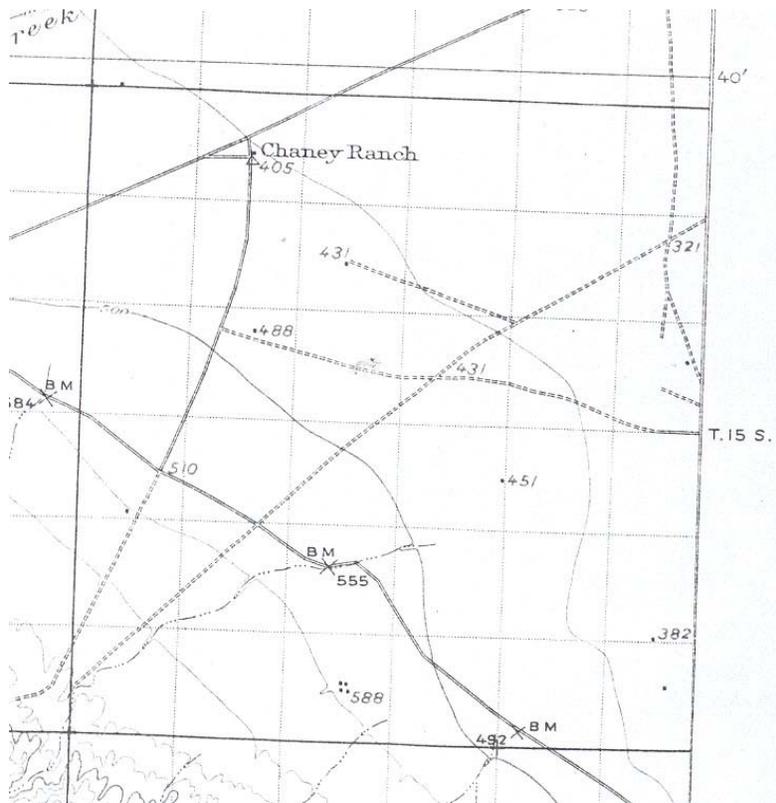


**1977 Aerial Photograph
From Fresno County Aerial Survey,
CSU-Fresno Madden Library
Government Publications and Maps Department**

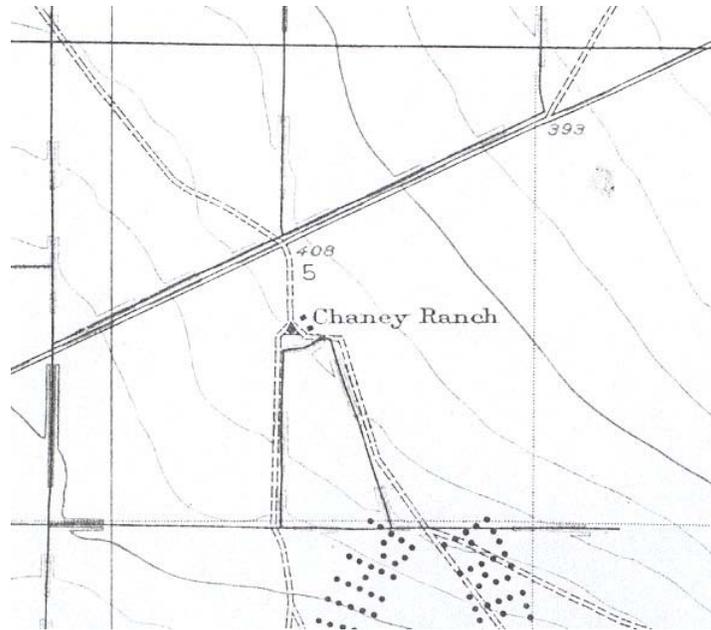


**1987 Aerial Photograph
From Fresno County Aerial Survey,
CSU-Fresno Madden Library
Government Publications and Maps Department**

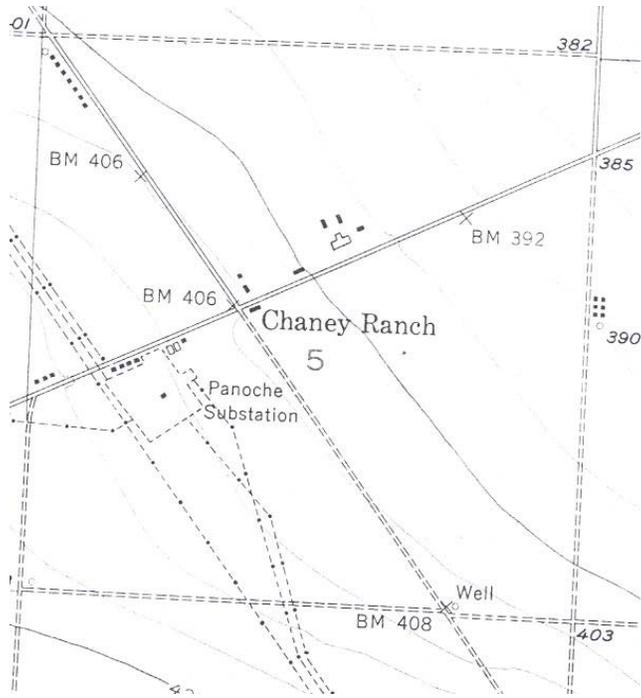
**APPENDIX B:
HISTORIC MAPS AND RECORDS**



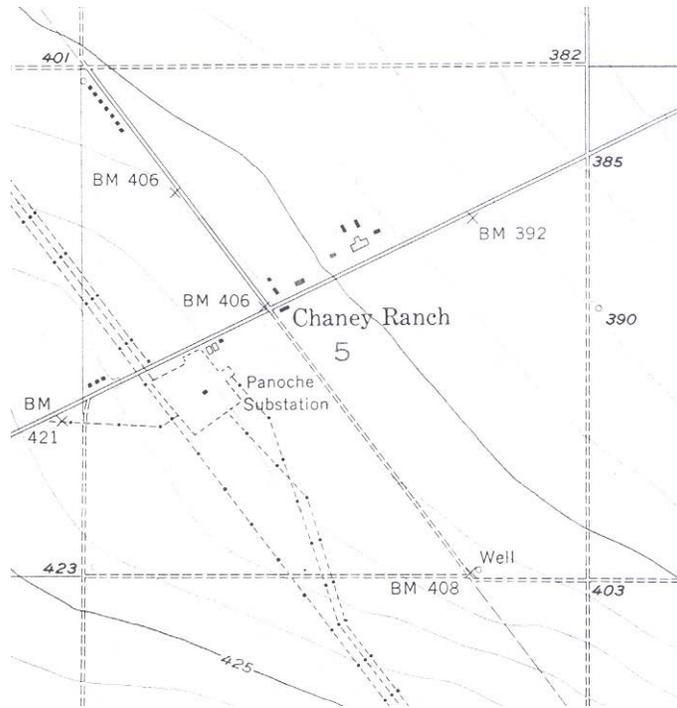
**1913 USGS Panoche Quadrangle Topographical Map,
1:125:000 Scale,
From CSU-Fresno Madden Library
Government Publications and Maps Department**



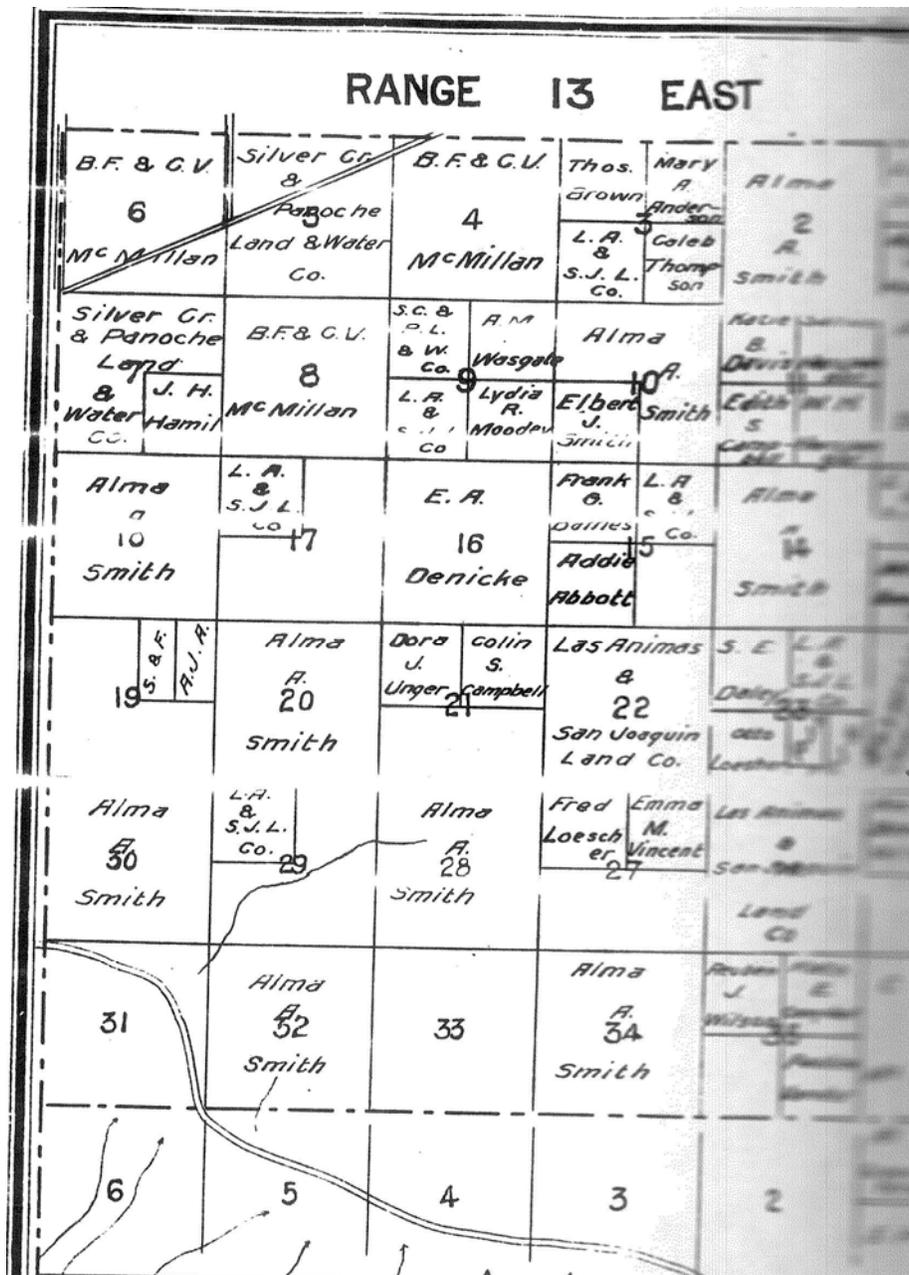
**1922 USGS Chaney Ranch Quadrangle
1:31,600 Scale,
From CSU-Fresno Madden Library
Government Publications and Maps Department**



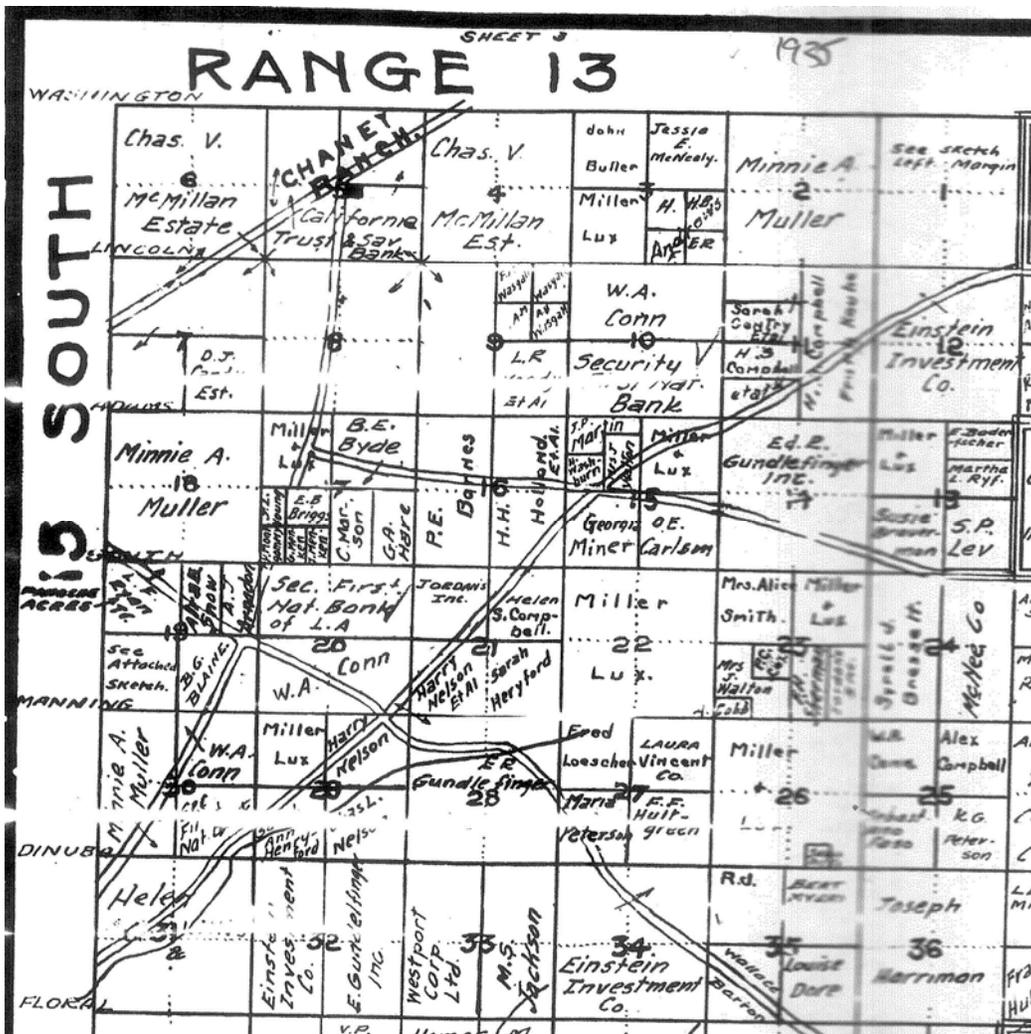
**1955 USGS Chaney Ranch Quadrangle
1:24,000 Scale,
From CSU-Fresno Madden Library
Government Publications and Maps Department**



**1971 USGS Chaney Ranch Quadrangle
1:24,000 Scale,
From CSU-Fresno Madden Library
Government Publications and Maps Department**



1907 William H. Harvey Atlas of Fresno County
 No Scale,
 From Fresno County Library
 History and Genealogy Room

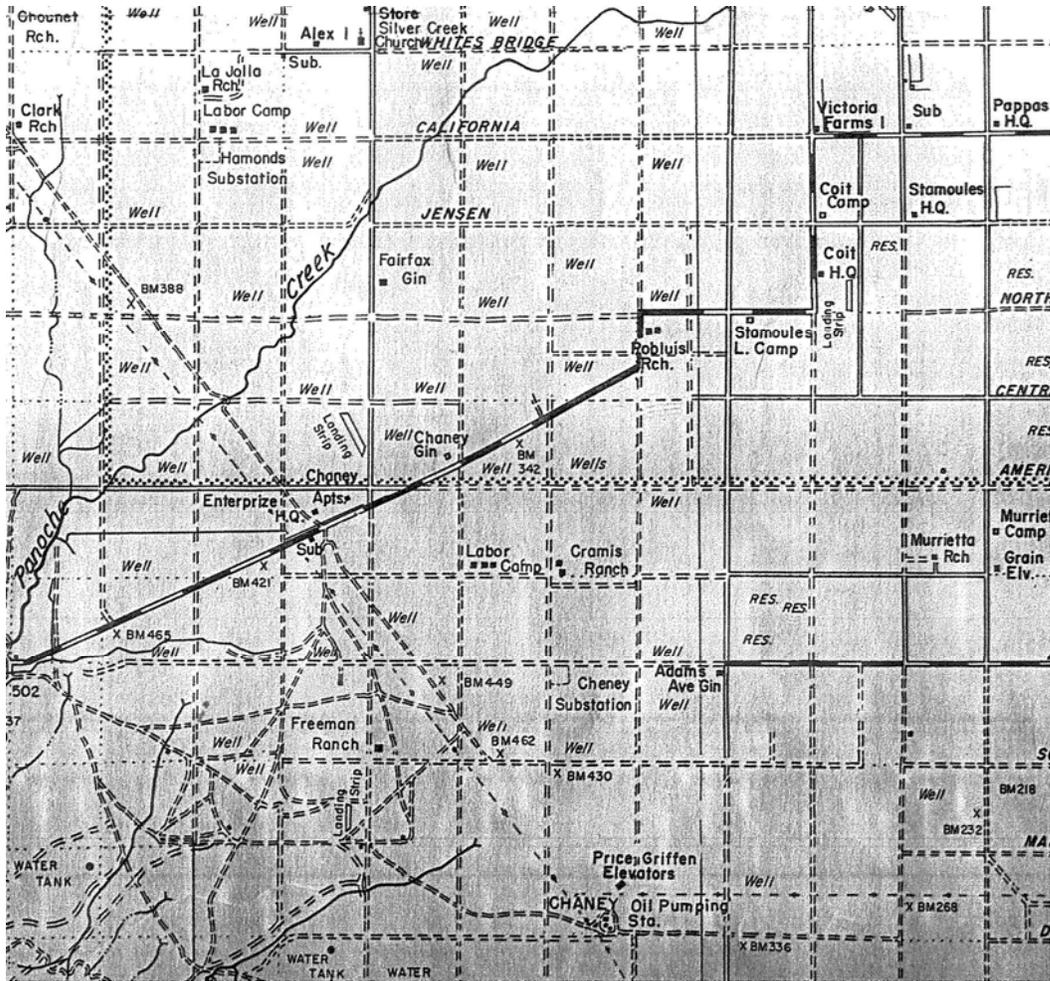


1935 Progressive Atlas of Fresno County

No Scale,

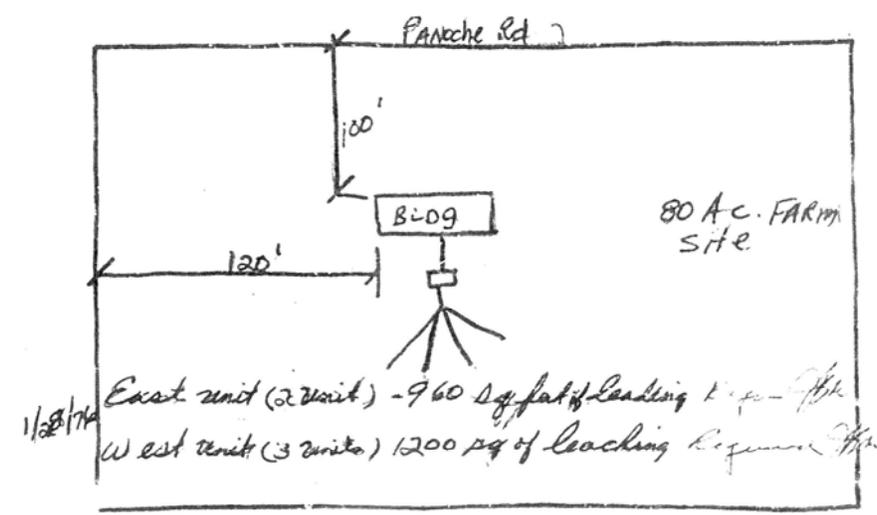
From Fresno County Library

History and Genealogy Room



1964 Division of Forestry Map
 1:62,500 Scale,
 From Fresno County Library
 History and Genealogy Room

PLOT PLAN



Approved By _____ Date _____ Bldg Permit #: 130823
 Schematic Tag: New #: _____ Repair #: _____

APPLICATION FOR SEWAGE DISPOSAL SYSTEM

PLACING ADDRESS: 43649 Panoche Rd LOCALITY: _____ CROSS ST: _____
 OWNER: Dellos Ranches (Mr. Dick Dales) MAIL ADDRESS: P.O. Box 18
Pinebaugh, CA 93602 TEL NO: _____
 CONTRACTOR: _____ MAIL ADDRESS: _____ TEL NO: _____
 TYPE: _____ LICENSE NO: _____ CLASSIFICATION: _____

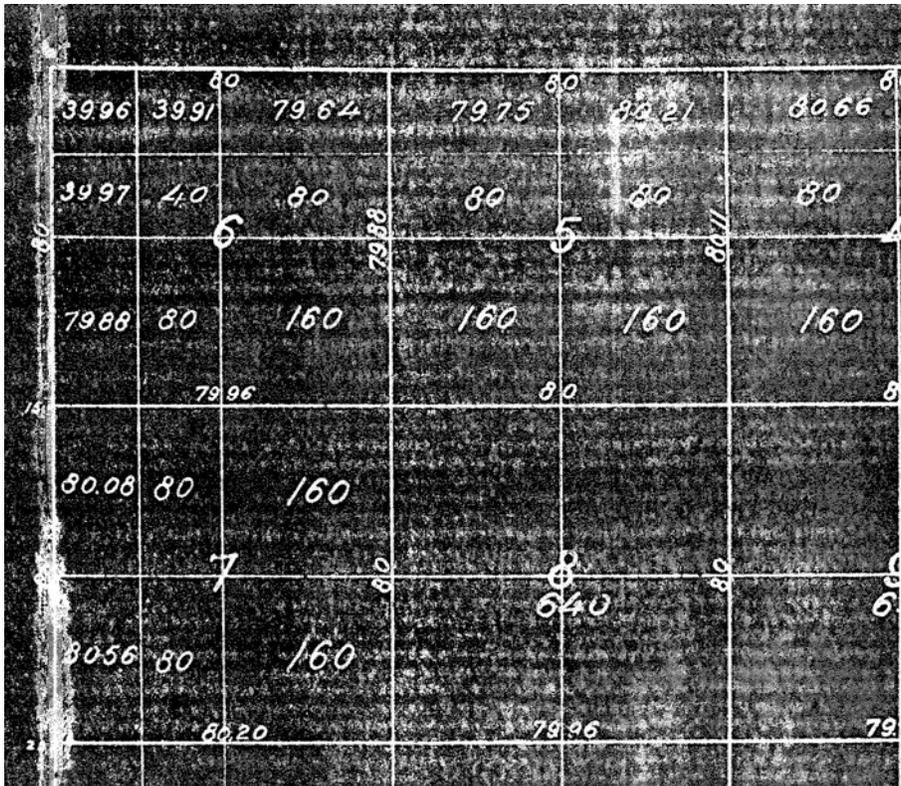
SEWAGE DISPOSAL SYSTEM SPECIFICATIONS

2400 gal West side Ave cont. RESIDENCE 5 Plex NO REFRIG. _____ GARAGE UNDER No OTHER _____
 NUMBER OF SEWER TANK: 3,000 GAL. MINIMUM LEACHAGE RATE: _____ MIN. FLD. AREA: 2400 SQ. FT. FACTOR: 80
 TYPE: _____ CIRCULAR _____ SEWER SIZES _____
 LENGTH 1ST COMP. _____ FT. DIA. 1ST COMP. _____ IN. NUMBER _____ FEET LENGTH 390
 2ND COMP. _____ FT. 2ND COMP. _____ IN. DIAMETER _____ FT. NO. OF JOINTS 3
 3RD COMP. _____ FT. DEPTH _____ FT. NO. OF JOINTS _____
 MIN. DEPTH _____ FT. LIQUID DEPTH _____ IN. NO. OF JOINTS 36
 TOTAL LIQUID _____ GAL. TOTAL LIQUID _____ FT. NO. OF JOINTS _____
 CAPACITY _____ GAL. CAPACITY _____ IN. FOUNDATION _____ FT. NO. OF JOINTS 2730

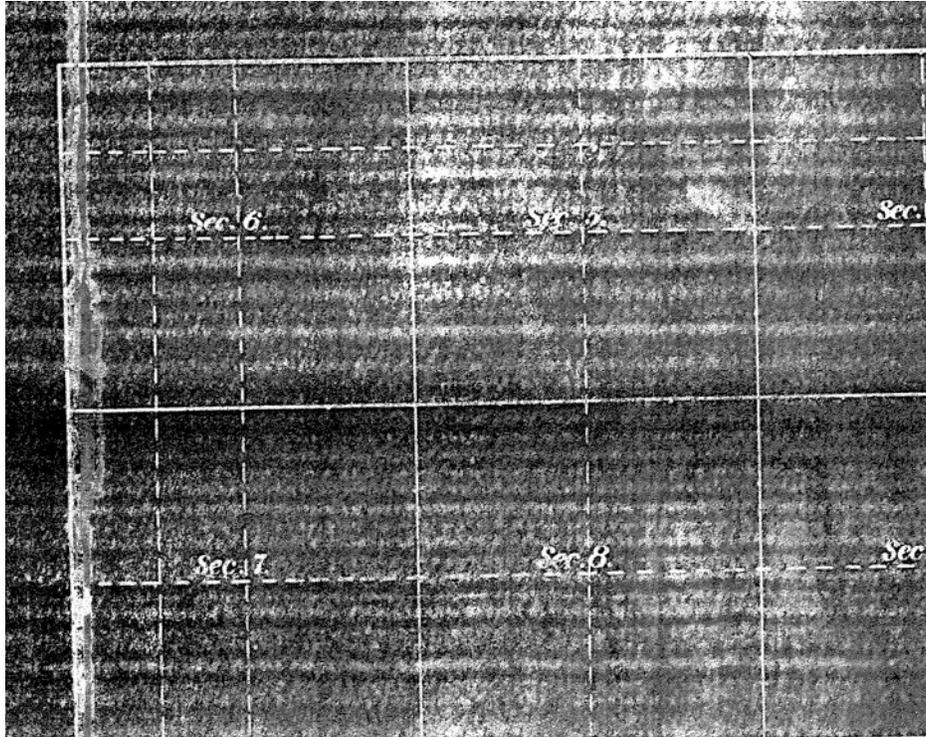
WATER WELL

STAND TO NEAR _____ FT. COLUMN _____ FT. RATE _____ G.P.M.
 HEREBY STATE _____ AT THE INFORMATION ABOVE STIPES _____
 THAT THE PERMIT IS NOT OBTAINED BEFORE ANY _____
 OF THE _____ OF THE SYSTEM IS REQUIRED BY _____
 NATURE _____
 DATE _____

1975 Building Permit for 43649 West Panoche Road
 From County of Fresno Department of Public Works and Planning



1855 General Land Office Plat Maps
1:31,680 Scale,
From CSU-Fresno Madden Library
Government Publications and Maps Department



**1907 General Land Office Plat Maps
1:31,680 Scale,
From CSU-Fresno Madden Library
Government Publications and Maps Department**

**APPENDIX C:
JEREMY HOLLINS RESUME**

Areas of Expertise	<p>Vernacular Architecture 19th-20th Century Western United States Architecture Historic Preservation Treatments and Law Secretary of Interior Professional Qualification <i>Architectural History</i> (36 CFR Part 61)</p>
Years of Experience	4 years
URS	1.5
Other Firms	4 years
Education	<p>MA/2005/Public History/University of San Diego BA/2003/Environmental History/University of Rhode Island</p>
Continuing Education	<p>SRIF “Section 106: Principles and Practice,” 2006 FEMA Institute Independent Study Course IS-00253 “Coordinating Environmental & Historic Preservation Compliance,” 2006 FEMA Institute Independent Study Course IS-00650 “Building Partnerships in Tribal Communities,” 2006 Certificate Program, Urban Planning, UC San Diego Extension; In Completion Association of Environmental Professionals “Introductory and Advanced CEQA Workshop Series,” 2005 California Preservation Foundation Annual Conference, 2005</p>
Overview	<p>Jeremy Hollins is a Secretary of Interior Professional Qualified Architectural Historian for URS’ San Diego office. Since 2003, Mr. Hollins has performed numerous historic evaluations, context studies, and determinations of eligibility for a range of resources based on local, California, and National Register criteria and through technical reports, DPR 523 forms, HABS reports, cultural landscape reports, and historic structures reports. Through URS, Mr. Hollins has also worked as a historic preservation specialist for FEMA in Biloxi, MS, and has co-authored several technical reports and studies. Additionally, Mr. Hollins has been the lead historian on several major projects, including a historic reconnaissance survey of 12,000 resources in San Diego a Frank Gehry-designed HABS project, and a historic structures report for two Old Town San Diego National Register Properties. He has a detailed knowledge of the laws and ordinances which affect historic properties, such as Section 106 of the NHPA, CEQA, NEPA, Section 4(f), California Public Resources Code, State Historic Building Code, and the Secretary of Interior Standards for the Treatment of Historic Properties. Additionally, two academic journals have published Mr. Hollins' work, and he was an adjunct instructor in ‘World Architectural History’ at the New School of Architecture before coming to URS in 2006.</p>
Project Experience	<p>West Moreland Clean Harbors Landfill Expansion Cultural Resource Assessment, West Moreland, CA <i>Architectural Historian (URS Corporation)</i> Performed CHRIS Center Records Search for Study Area for proposed landfill site. Results of Record Search were tabulated and used for cultural resource assessment of Study Area. Prepared for Private Client. (2006)</p> <p>Confidential Pipeline Expansion Project Feasibility Study and Constraints Analysis, CA and NV <i>Architectural Historian (URS Corporation)</i></p>

Performed CHRIS Center Records Search for 223-mile pipeline expansion. Results of Record Search were tabulated and included in Feasibility Study. Also coordinated all cultural resource mapping with GIS personnel. Prepared for Private Client. (2006)

La Posada Hotel Engineering Contingency Plan, Winslow, AZ

Architectural Historian (URS Corporation)

Planned and wrote an Engineering Contingency Plan for the La Posada Hotel (within the La Posada National Register District) for the removal of oil seepage from a raised concrete foundation. Plan provided scope, costs, and recommended Rehabilitation and Restoration treatments (per Secretary of Interior Standards for the Treatment of Historic Properties). Project required informal consultation with AZ SHPO and Materials Contractors. Prepared for Private Client. (2006)

FEMA – San Diego Vegetative Management, San Diego County, CA

Architectural Historian (URS Corporation)

Performed CHRIS Center Records Search and wrote historic contexts for communities of Bay Terrace, Del Cerro, Encanto, Lake Murray, Marion Bear Park, Serra Mesa, Black Mountain, Carmel Valley, Los Penasquitos, Tecolote Canyon, Scripps Ranch, and Tierrasanta. Part of technical reports submitted to FEMA for Section 106 Compliance. Prepared for City of San Diego. (2006)

Interstate 805 Expansion Project, San Diego, CA

Architectural Historian (URS Corporation)

Performed CHRIS Center Records Search for a 2 mile corridor of Interstate 805 centerline in San Diego County and created preliminary Area of Potential Effects map for highway expansion project. Results of Records Search were tabulated and used for historic context and survey analysis. URS will perform the intensive survey and other associated NEPA and Section 106 Studies for Project in 2007. Prepared for Caltrans and SANDAG. (2006)

US 101/SR 46W Interchange Improvement, Paso Robles, CA

Architectural Historian (URS Corporation)

Performed Section 106 Study for proposed undertaking. Survey discovered 5 previously unrecorded historic properties. Performed determination of eligibility, identification of effect, analysis of integrity, and recommended mitigation measures for project. Completed DPR 523 forms, HRER, and HPSR for Caltrans. Prepared for City of Paso Robles. (2006)

University of California - Irvine IERF Building Historic and Architectural Documentation (HABS), Irvine, CA

Architectural Historian (URS Corporation)

Performed equivalent of HABS Level 2 survey of a 1986 Frank Gehry-designed academic complex at the University of California – Irvine. Responsible for architectural investigation, physical history, historic context, and coordination with HABS photographer. Prepared for the University of California – Irvine. (2006)

Municipal Water District - Upper Feeder Line, Riverside County, CA

Architectural Historian (URS Corporation)

Staff architectural historian for the evaluation of built environment resources for FEMA disaster recovery project. Evaluated resources (“Pratt” truss bridge and

gaging station) per National Register criteria and requirements of Section 106 of the NHPA. Performed determination of eligibility, identification of effect, analysis of integrity, and recommended mitigation measures for project. Prepared for Riverside County. (2006)

FEMA Hurricane Katrina Public Assistance, DR-1604-MS, Biloxi, MS
Historic Preservation Specialist – NEMIS Review (NISTAC)

Historic Preservation Specialist for NEPA review of over 100 public assistance projects. Reviewed projects through NEMIS database. Responsible for SHPO consultation, applying Section 106 Programmatic Allowances, determinations of eligibility, integrity analysis, and identification of effects. Wrote MOAs, developed mitigation measures, ensured projects met Secretary of Interior Standards for the Treatment of Historic Properties, and coordinated and led meetings between applicants, FEMA, and Mississippi SHPO. Projects included over 20 National Register Properties, 3 National Historic Landmarks (involving ACHP consultation), and 15 Mississippi Landmarks. (2006)

Pacific Gateway Cargo Center, Ontario International Airport Construction Monitoring and Treatment Plan Ontario, CA

Architectural Historian (URS Corporation)

Authored construction monitoring and treatment plan for subsurface features and built environment. Plan was for the redevelopment of 96 acre site, and included monitoring guidelines for construction/grading, and a visual inspection program for surrounding historic resources. Plan encompassed entire building process from pre-construction meetings to post-construction reports. Prepared for Ontario International. (2006)

Imperial Irrigation District Cultural Resource Survey and Assessment – Niland and El Centro, CA

Architectural Historian (URS Corporation)

Staff architectural historian for the evaluation of built environment resources and effect caused by alterations to power plant facilities. Evaluated resources per California Register criteria and developed recommended mitigation measures for project. Co-authored the Technical Reports, DPR 523 forms, and Application for Certification. Identified an historic bank, eligible for the California Register of Historic Resources, related to the early development of Niland and a historic powerplant building, associated with the early development of the Imperial Irrigation District and eligible for the California Register. Prepared for IID. (2006)

BNSF Cajon Main Third Track Summit to Keenbrook

Architectural Historian (URS Corporation)

Staff architectural historian for the evaluation of built environment resources and features located within APE. Evaluated resources per California Register criteria and developed mitigation measures for project. Authored DPR 523 forms and co-authored Technical Reports. Prepared DPR forms. Prepared for BNSF. (2006)

Municipal Water District of Orange County Hazard Mitigation Plan

Public Historian

Research and co-authored Hazard Mitigation Plan for 21 Orange County Water Districts. Responsible for identifying district infrastructure, hazards, and

mitigation measures. Also responsible for organization of report and compiling data. Participated in meetings with water districts, and coordinated district data with other URS staff. Prepared for MWDOC. (2006)

New School of Architecture and Design – San Diego, CA

Adjunct Instructor for “World Architectural History”

Professor for class of 55 students (graduate and undergraduate) - curriculum examined Prehistoric through Romanesque architectural history. (2005)

Scripps Park Historical Structures and Cultural Landscape Report – La Jolla, CA

Project Manager (Independent Contractor)

Project Manager and lead investigator for historic context and treatment plan of site. Work entailed identifying landscape features, flora/botanical species, existing conditions, review of original drawings and plans, historic sequence of events, construction chronology, and archaeological discoveries. Responsible for assigning tasks, overseeing sub-consultants work, coordination of report, budget, and application of Secretary of Interior standards, CEQA, and Coastal Commission regulations. Project submitted to City of San Diego and Coastal Commission for Restoration and Reconstruction of site and future planning. (2005)

Uptown San Diego Historic Reconnaissance Survey

Lead Historian (IS Architecture)

Lead historian for the identification and evaluation of 12,000 resources in San Diego. Responsible for authoring survey’s first volume, which included “Data Analysis, Phase Implementation, Methodology, Styles Guide/Context, and Proposed Districts/Conservation Overlays. Coordinated meetings between city and project staff. Led three public workshops on scope of work, preliminary findings, and project findings. Prepared for City of San Diego (2005)

Guy Fleming House at Torrey Pines Park Historic Structures Report – San Diego, CA

Lead Historian (IS Architecture)

Created historic context, performed site assessment, documented present conditions, and developed treatment plan for National Register site for California State Parks. Coordinated and oversaw sub-consultants’ work (i.e., engineers, architect, spectrographers, archaeologist, paint-chip analyst). Organized meetings and was lead contact between State Parks and project staff. Building is a 1925 vernacular Pueblo Revival Building, formerly the headquarters for California State Parks southern office. (2005)

Half Round Building HABS Report – Escondido, CA

Lead Historian (IS Architecture)

HABS Level 1 documentation and research for City of Escondido on a Quonsett hut type building which predated World War II. Responsible for historic context, current conditions analysis, oral interviews, and overseeing project architect, engineer, and photographers work. Organized meetings and lead contact between city and project staff. (2005)

La Jolla Historic Reconnaissance and Intensive Survey – La Jolla, CA

Historian (La Jolla Historical Society)

Responsible for review, quality control, and redrafting of Context Statement and Historic Districts for client and the City of San Diego. Reviewed survey data, performed archival research, and drafted new historic districts. Led workshop between city staff, public, client, and project team. (2005)

Warners Ranch Adobe Farmhouse and Barn Historical Structures Report and HABS Report – Warner Springs, CA

Lead Historian (IS Architecture)

Coordinated the production of the Historic Structures Report of National Register site. Responsible for drafting historic context, current conditions analysis, and co-authored treatment plan with preservation architect. Oversaw sub-consultants' work (i.e., contractor, engineers, architect, spectrographers, archaeologist, paint-chip analyst). Lead contact between client (Vista Irrigation District) and staff. (2004)

Casa de Bandini and Casa de Pico Historic Structures Report – San Diego

Project Historian (IS Architecture)

Co-authored the Historic Structures Report of two National Register Sites for California State Parks. Report included historic context, current condition analysis, and treatment plan for buildings' adaptive use. Responsible for deliverables to client, and the coordination of sub-consultants' work (i.e., engineers, architect, spectrographers, archaeologist, paint-chip analyst). (2004)

City of Cape May General Plan Update – Cape May, NJ

Field Associate (Vital Computer Resources)

Responsible for 400-resource historic reconnaissance survey for City of Cape May Tax Assessor Office and Planning Department. Created measured field sketches, collected lot information, interior/exterior elements, construction details, alterations, integrity, and identified if contributor to potential district. Information was used to update existing Residential-Building Records, PDO information, future EIR/EIS content, future Land Use and Zoning Ordinance amendments. Cape May is a National Historic Landmark City and has high concentrations of Queen Anne and Stick Style buildings. (2003)

Other Technical
Reports/Published
Studies

“Until Kingdom Come: The Design and Construction of La Jolla’s Children’s Pool,” Journal of San Diego History. Spring 2006; **Winner** Marc Tarasuck Prize in Architecture, San Diego, Institute of History.

“La Posada Hotel Engineering Contingency Plan,” BNSF. 2006.

“US 101/SR 46W Interchange Improvement Plan HRER and HPSR,” Caltrans and City of Robles. 2006

“UC – Irvine IERF HABS Level 2 Study,” UC – Irvine. 2006

“MWD – Upper Feeder Line Technical Report,” FEMA. 2006

“Pacific Gateway Cargo Center Construction Monitoring and Treatment Plan,” Pacific Gateway Cargo Center and FAA. 2006

“Imperial Irrigation District – Niland and El Centro Technical Report and

Application for Certification,” *CEC*. 2006

“Proposed BNSF Cajon Main Third Track Summit to Keenbrook Cultural Resources Survey,” *Army Corps of Engineers*. 2006

“Scripps Park Historic Structures and Cultural Landscape Report,” *La Jolla Conservancy, Coastal Commission, City of San Diego Development Services*. 2005.

“Guy Fleming House at Torrey Pines Park Historical Structures Report,” *California State Parks*. 2005.

“Warner’s Ranch Adobe Farmhouse and Barn Historical Structures Report,” *County of San Diego Planning Department and Historic Sites Board*. 2005.

“Uptown San Diego Historical Reconnaissance Survey,” *City of San Diego Planning Department*. 2005.

“Casa de Bandini and Casa de Pico Historic Structures Report and Investigation,” *California State Parks*. 2004.

“D’Esti Residence: 1517 Granada Avenue,” *City of San Diego Historical Resources Board*. 2005

“Nelson Residence: 4741 Panorama Drive,” *City of San Diego Historical Resources Board*. 2005.

“Irwin Property: 1102 South Escondido Blvd,” *City of Escondido Building Department*. 2005.

“Mendez Residence- 1529 29th Street,” *City of San Diego Historical Resources Board*. 2005.

“Dennehey Residence, Talmadge Park, 4343 Adams Avenue,” *City of San Diego Historical Resource Board*. 2005.

“Del Dios Highway Historical Evaluation,” *City of Escondido Building Department*. 2004.

“School for the Dissipated: San Diego’s Whalers During the Golden Age, 1840-1886,” University of San Diego. 2004; MA Thesis

“Cotton and Rice: The Agricultural Redevelopment and Planning of the New South,” University of Rhode Island. 2003; BA Thesis; **Winner** Robert Gutchen Prize in Writing

Community Involvement

City of Del Mar Traffic and Parking Planning Committee Member
July 2005- July 2009

Appointed by Del Mar City Council to serve four-year term as member of five

person committee. Meet monthly and make recommendations to City Council based on public input and participation. Responsible for resolving traffic and parking issues; such as speeding, reoccurring regulatory violations, traffic congestion, parking problems, and application of new technologies. Work and meet regularly with the public, City Council, Parking Enforcement, the Fire Department, the San Diego Sheriff's officers, City Manager's office, Public Works and Planning Departments, and the City's Traffic Engineer.

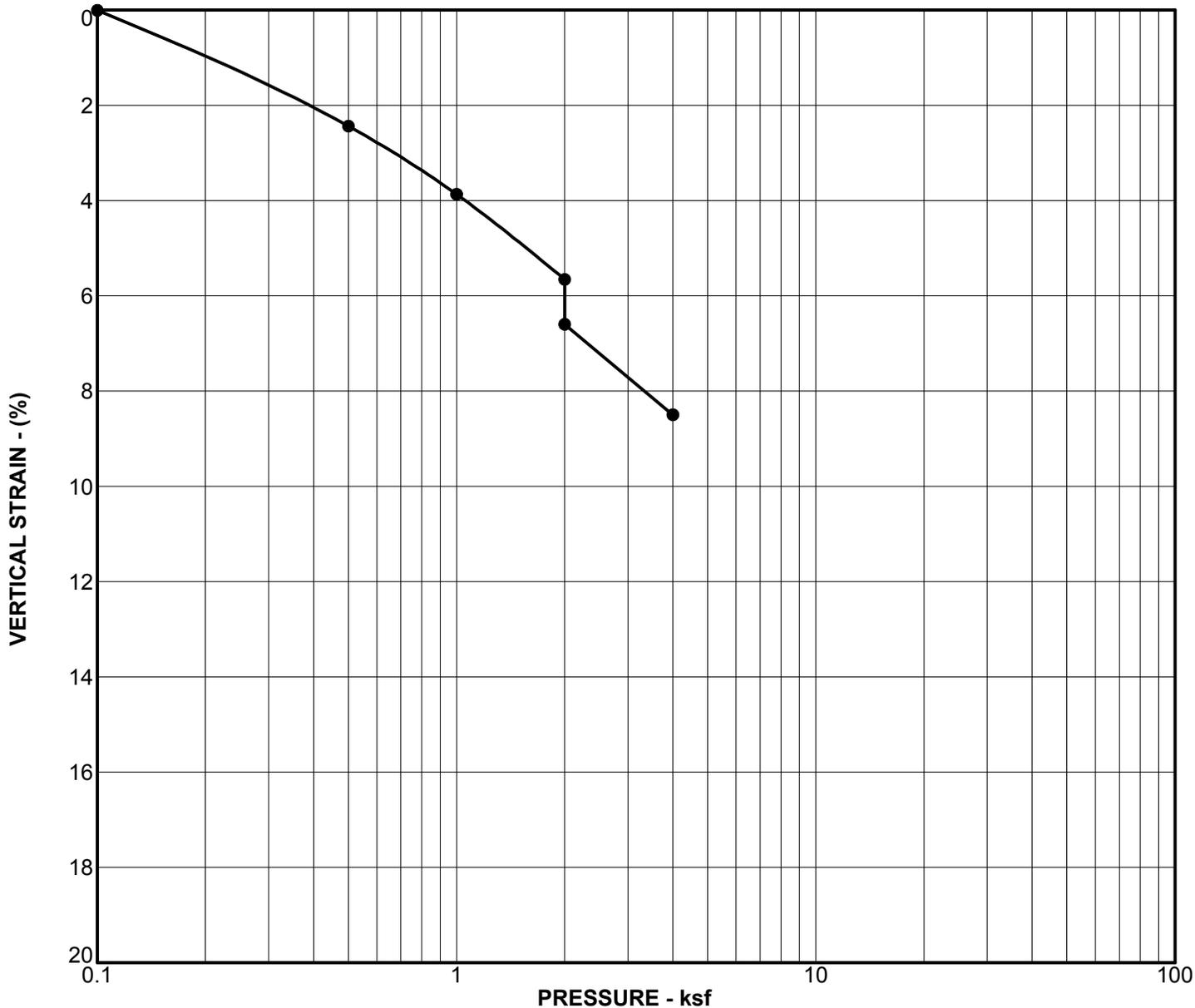
Professional Societies

National Trust For Historic Preservation
Society of Architectural Historians
San Diego Historical Society
California Preservation Foundation
National Parks Conservation Association

Professional History

URS Corporation, Architectural Historian, San Diego, California, 2006-Present.
New School of Architecture and Design, Adjunct Instructor, San Diego, California, 2005
IS Architecture, Architectural Historian, La Jolla, California, 2004-2005
La Jolla Historical Society, Archivist and Preservation Specialist, 2003-2005

ATTACHMENT C
GEOTECHNICAL INVESTIGATION REPORT LAB TESTS



Sample	B-4
Depth	6.0 ft
Description	Silt
Classification	ML

	Initial	Final
Dry density, pcf	88.9	97.2
Water content, %	20.0	32.7
Sample height, in.	1	0.9149



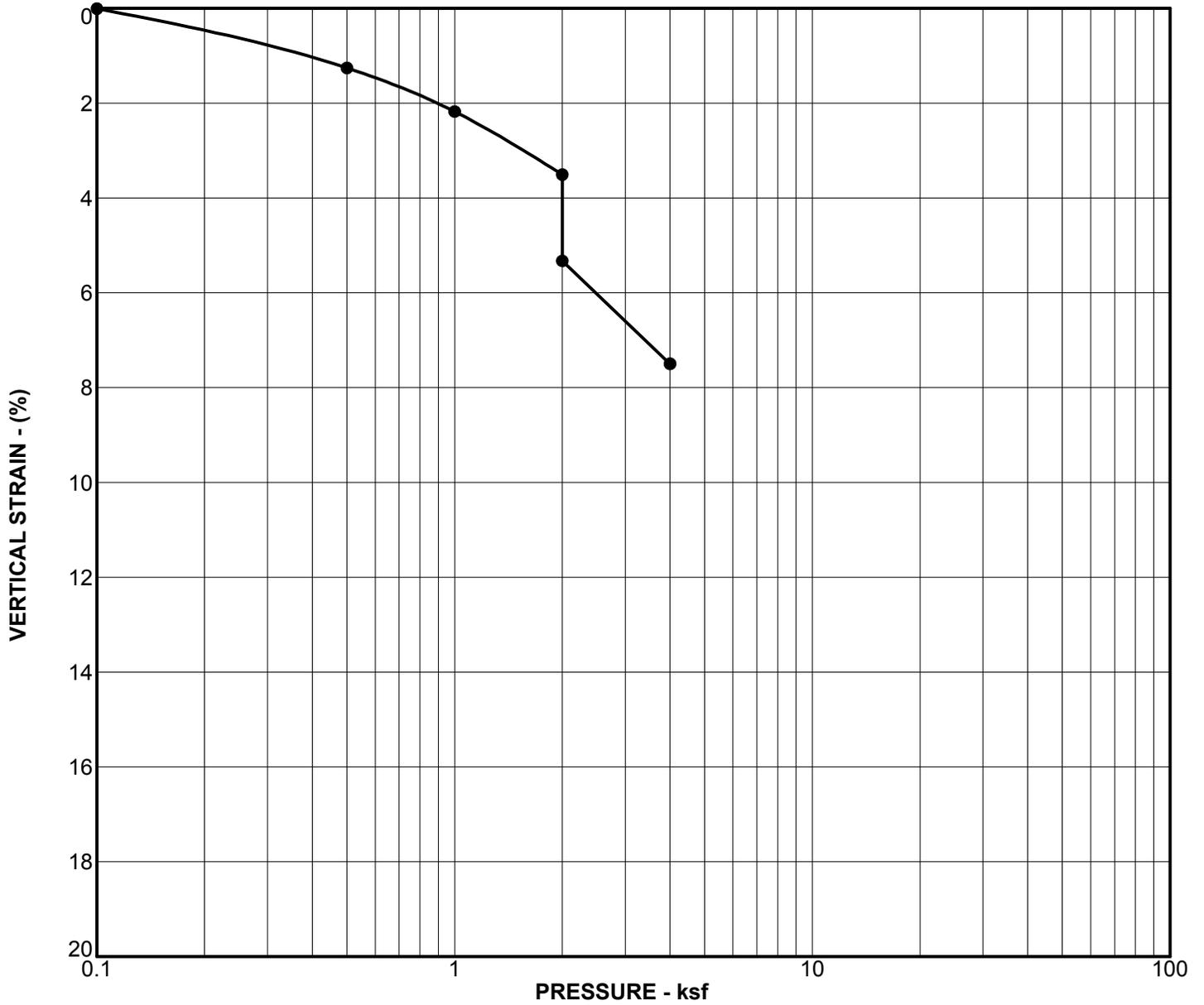
KLEINFELDER

**CONSOLIDATION TEST
CALPEAK FACILITY
WEST PANOCH ROAD
FRESNO COUNTY, CALIFORNIA**

PLATE

B-6

PROJECT NO. 73384.GEO



Sample	B-5
Depth	11.0 ft
Description	Silty Sand
Classification	SM

	Initial	Final
Dry density, pcf	86.5	93.5
Water content, %	5.5	19.8
Sample height, in.	1	0.9248

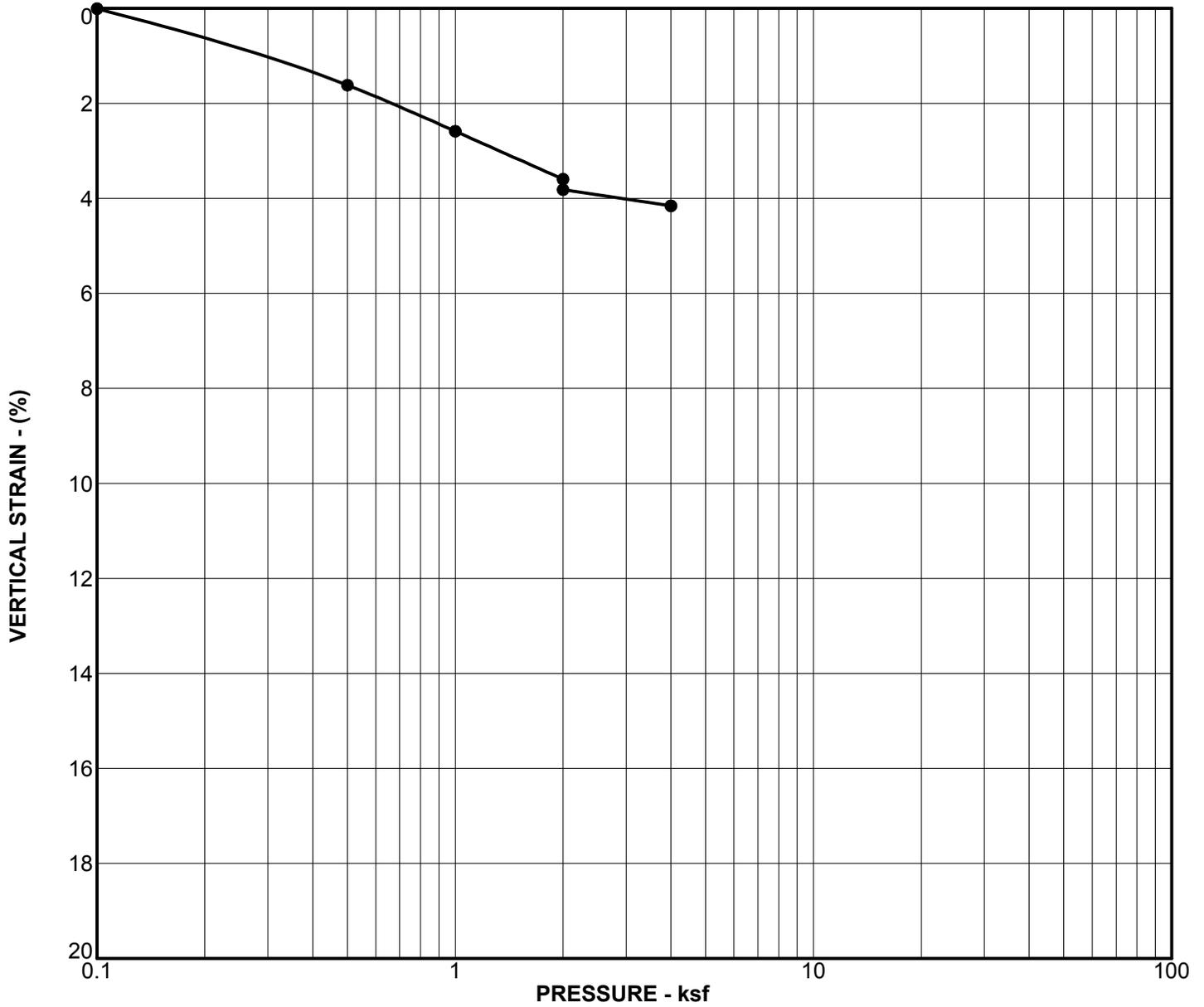


CONSOLIDATION TEST
 CALPEAK FACILITY
 WEST PANOCHÉ ROAD
 FRESNO COUNTY, CALIFORNIA

PLATE

B-7

PROJECT NO. 73384.GEO



Sample	B-6
Depth	2.0 ft
Description	Silt
Classification	ML

	Initial	Final
Dry density, pcf	100.6	105.0
Water content, %	18.1	11.7
Sample height, in.	1	0.9583

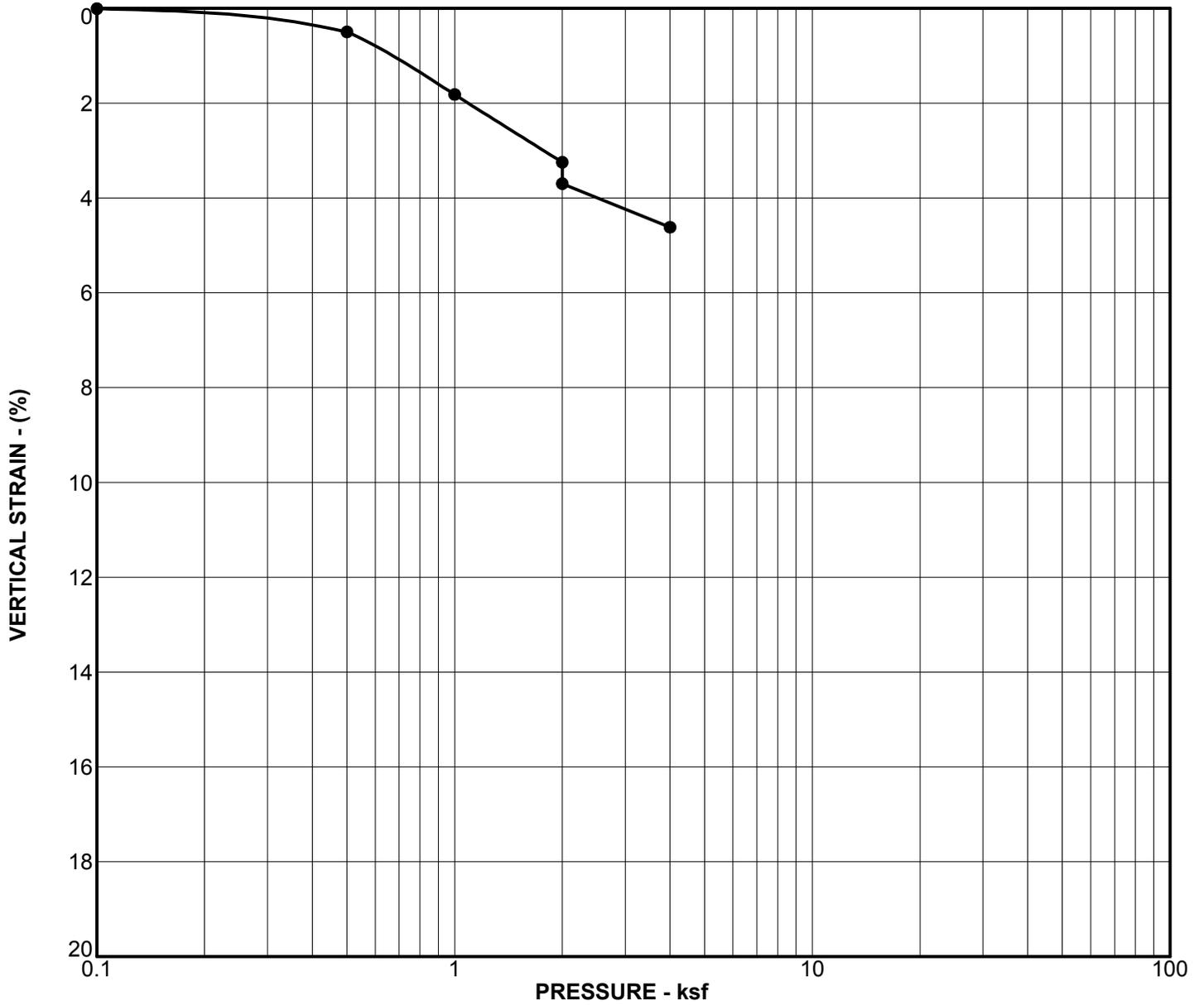


CONSOLIDATION TEST
CALPEAK FACILITY
WEST PANOCHÉ ROAD
FRESNO COUNTY, CALIFORNIA

PLATE

B-8

PROJECT NO. 73384.GEO



Sample	B-7
Depth	2.0 ft
Description	Silt
Classification	ML

	Initial	Final
Dry density, pcf	107.4	111.0
Water content, %	15.8	19.7
Sample height, in.	1	0.9535



CONSOLIDATION TEST
CALPEAK FACILITY
WEST PANOCH ROAD
FRESNO COUNTY, CALIFORNIA

PLATE

B-9

PROJECT NO. 73384.GEO