

# Archaeology at Santa Clara de Asís: The Slow Rediscovery of a Moveable Mission

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## Abstract

Prior to their secularization in the 1830s all of California's twenty-one Franciscan Mission complexes experienced several periods of construction, demolition, and rebuilding during their existence under the Spanish and Mexican regimes. Several, such as San Juan Capistrano, La Purísima Concepción, and San Francisco de Asís were not only rebuilt, but were re-sited as a result of earthquake damage and lack of water. Yet, for all of the shortcomings of these complexes and their associated edifices, it is fair to say none has moved nor has been rebuilt as many times as that of Mission Santa Clara de Asís.

In the sixty years (1777-1837) that marked the existence of Mission Santa Clara de Asís, the mission complex was moved three times due to flooding and earthquakes. Over this period there were five churches. The first two (1777-1784), of wattle-and-daub construction stood near the Guadalupe River. They have not been positively identified. Later, adobe buildings (1784-1818, 1818-circa 1860, 1822-1926) stood on what is today Santa Clara University. Floods, earthquakes, demolition, and fires combined to erase these sites. To date, archaeological and documentary research has positively identified, and begun to reveal, the three historic Franciscan churches and associated compounds that lie on the modern Jesuit Santa Clara University campus.

## Abstracto

Anterior a sus secularizaciones en los años 1830 todos los veintiun complejos de las misiones Franciscanas experimentaron varios períodos de construcción, demolición y reconstrucción durante su existencia bajo los españoles y regímenes mexicanos. Varios como San Juan Capistrano, La Purísima Concepción y San Francisco de Asís, no fueron solamente reconstruidos, pero fueron reubicados como resultados de los daños del terremoto y falta de agua. Así mismo por todos los desperfectos de estos complejos y sus edificios asociados, es justo decir que ninguno fue removido o reconstruido tantas veces como la misión de Santa Clara de Asís.

En los años sesenta, (1777-1837) que fue marcada la existencia de la misión de Santa Clara de Asís, el complejo de la misión fue movida tres veces por razones de inundaciones y terremotos. Sobre éste período existieron cinco iglesias. Las primeras dos (1777-1784) construcción de paja y lodo permanecieron situadas cerca del río Guadalupe. Estas no han sido positivamente identificadas. Más tarde edificios de adobe (1784-1818, 1818-1860, 1822-1926) fueron ubicadas sobre lo que hoy es la Universidad de Santa Clara. Inundaciones, terremotos, demoliciones e incendios todos junto borraron estos lugares. Para fechar y documentar informaciones arqueológicas que han sido positivamente identificadas se comenzó a revelar, las tres iglesias históricas franciscanas y asociadas que se desplazan sobre los campos modernos de la Universidad Jesuita de Santa Clara.

**Introduction**

From their founding through their secularization the physical nature of the Franciscan missions of Alta California were constantly changing. These changes included materials used for construction, numbers and sizes of buildings, and the actual location of each mission complex (e.g., Jackson and Castillo 1995:137-168). While many of these “physical plant” additions may be directly attributable to the expansion of the neophyte congregations of each mission (e.g., Jackson 1994), we may also see a linkage to their growing involvement in the nascent world economy (Archibald 1978, Costello 1989; Hornbeck 1989). Beyond these economic and demographic circumstances, consideration must be given to the very real California issues of earthquake and water damage.

In a recent (1994) article by the late architect, Frank Portman, we learned how Father Pedro Cambón moved Mission San Francisco de Asís (Dolores) from the soft soils of *Laguna de los Dolores* to its present location (on Dolores and 16th Streets) in 1783. Father Cambón had extensive experience with the twin problems of constructing missions in areas prone to earthquakes and flooding, as he had shared not only in the founding of Missions San Gabriel, San Buenaventura, and San Francisco, but he had also visited the seismically active Philippines (Galvin 1964). Today’s Mission Dolores is a testament to his “engineering eye.” Not all of the Franciscan Fathers were similarly attuned to the shortcomings of their environment, and nowhere was this more true than at San Francisco’s sister mission, Santa Clara de Asís.

**The First Two Missions—1777-1779, and 1779-1784**

Mission Santa Clara was founded in January of 1777 not far from the south end of San Francisco Bay (Fig. 1). Over the next sixty years there were five buildings that served as the mission’s church (Table 1). During this same time period, the site of the mission complex

Table 1. The Six Churches of Santa Clara de Asís.

Dates of Use	Date of Abandonment	Cause	Materials	Cemetery
1777-1779	1779	flooding	wood	yes
1779-1784	1784	abandoned	wood	yes
1784-1818	1818-1825	earthquake, water	adobe	yes
1818-1825	1867	demolition	adobe	no
1825-1926	1926	fire	adobe	yes (in use from 1825 to 1851)
1928-present			masonry	no

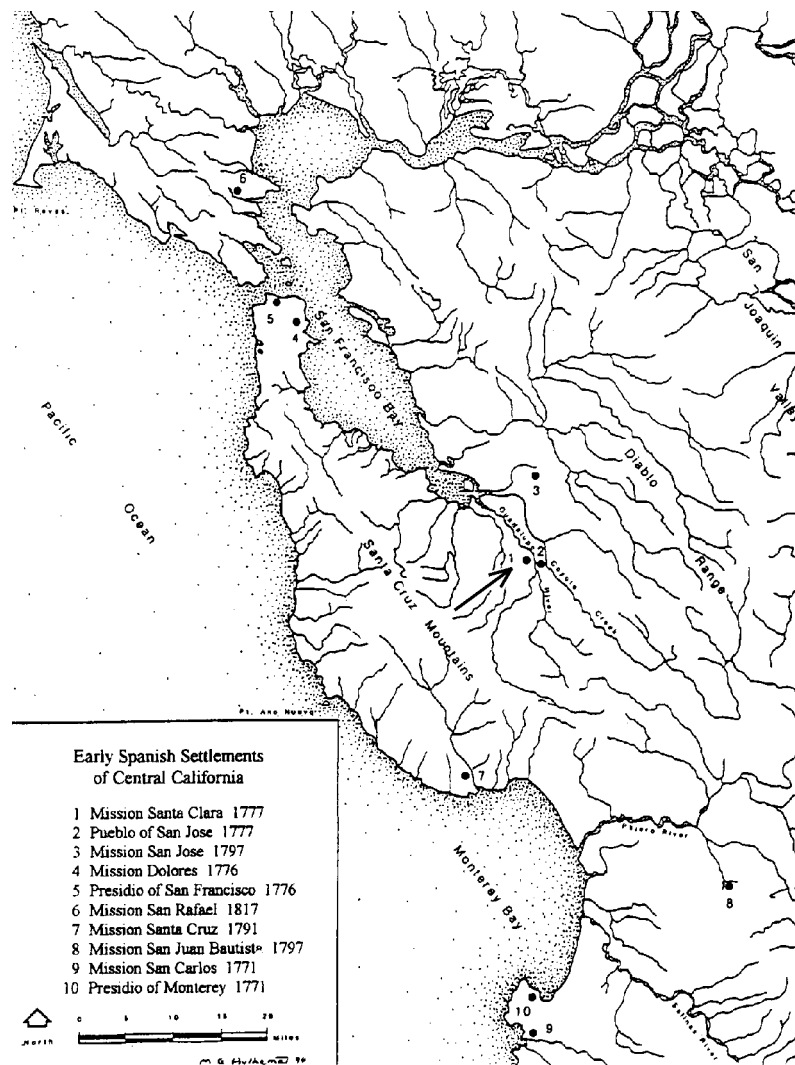


Fig. 1. Missions, Presidios, and Pueblos in the San Francisco Bay Area. (Reproduced courtesy of Mark Hylkema, Caltrans 1995).

was moved at least two more times from its alleged original location on the banks of the Guadalupe River near the north end of San Jose International Airport to its current location in the heart of Santa Clara University (Fig. 2). In 1777, the earliest complex was built *en palisada*, that is a wattle and daub, wooden post construction with earthen roofs (*terrado*) covered with tule reed thatching. It stood some three leagues south of San Francisco Bay on the Guadalupe River near its confluence with Mission Creek (Spearman 1963:12). Although no contemporary maps, plans, or drawings of the complex are known, it may be inferred from existing *Informés* that the structures were laid out in a quadrangle reportedly some 70 *varas* square (see Barnes et al. 1981:68-75; Spearman 1963:55). (Measurements are presented in

“*varas*,” one *vara* is equal to 0.8375 meters or 2.75 feet [33 inches], thus the quadrangle was about 193 feet square). There were three buildings—the church and sacristy (6 by 20 *varas*), the kitchen and other rooms (6 by 22 *varas*), and a third structure with offices, habitations, a chicken coop, and privy (5 by 31 *varas*). The fourth side of the compound had a cattle corral (30 by 30 *varas*) and a smaller goat and sheep corral (12 by 12 *varas*). We may also infer that there was a cemetery, as the first entries in the book of deaths are recorded in 1777 (Hendry and Bowman 1940:918-922; Hylkema 1995:20; Spearman 1963:14,18). Called *Thámien* or *Támien*, the place of the laurels or sycamores in the local Ohlone (Costanoan) dialect, the mission was surrounded by scores of villages. This complex was destroyed by floods on January 23, 1779 (Santa Clara *Informés* 1779:19).

Following the floods, the mission was re-established to the south, reportedly a quarter of a league away from the river on higher ground (Spearman 1963:20). As with the first site, no maps, plans or drawings of this complex have been found. Nonetheless, the *Informés* reveal that the buildings at this second site were constructed of wood, clay, and thatch in the familiar quadrangle plan. Four structures are mentioned in these documents—a church and sacristy (6 by 25 *varas*), a house for the servants (5 by 10 *varas*), a kitchen and shop (5 by 10 *varas*), and a habitation and storeroom with a surrounding veranda (5 by 45 *varas*) (Hylkema 1995:21-22; Spearman 1963:20-21). This complex was used until 1784.

### Archaeology of the First and Second Mission Sites

During the past century many researchers have sought in vain to locate the original mission sites using a combination of oral histories and other second-hand hearsay evidence first recorded between 1900 and 1920 (e.g., Hendry and Bowman 1940:918; Spearman 1963:90-93). These accounts are reminiscences of Anglo men (e.g., J. Brackett) who were children in the 1850s. They speak of playing around the ruins of adobe structures that stood near the Guadalupe River. From one we learn that “the old Indian Chief ‘Marcello’ told me that these ruins were originally the *first* [emphasis added] Santa Clara Mission,” (cited in Spearman 1963:91, 93). Although some early researchers recognized this adobe structure as a style of construction that post-dated the first mission complexes, they used this information combined with other geographical features to “identify” the locations as near the north end of San Jose International Airport (Fig. 2, 3, 4, and 5). The only archaeological work that has been done in the vicinity of the alleged sites was a cultural resource management project conducted prior to the expansion of the airport in the 1980s. This work consisted of a surface survey and the mechanical digging of a number of trenches. It revealed no definitive evidence of the missions (Cartier 1980).

### The Third Mission Site

The as yet undiscovered second mission site served as the staging point for the construction of the third or Murguía mission. The cornerstone for this new adobe edifice was laid on November 19, in 1781. Attending the ceremony and blessing the stone was Junípero Serra. Two and

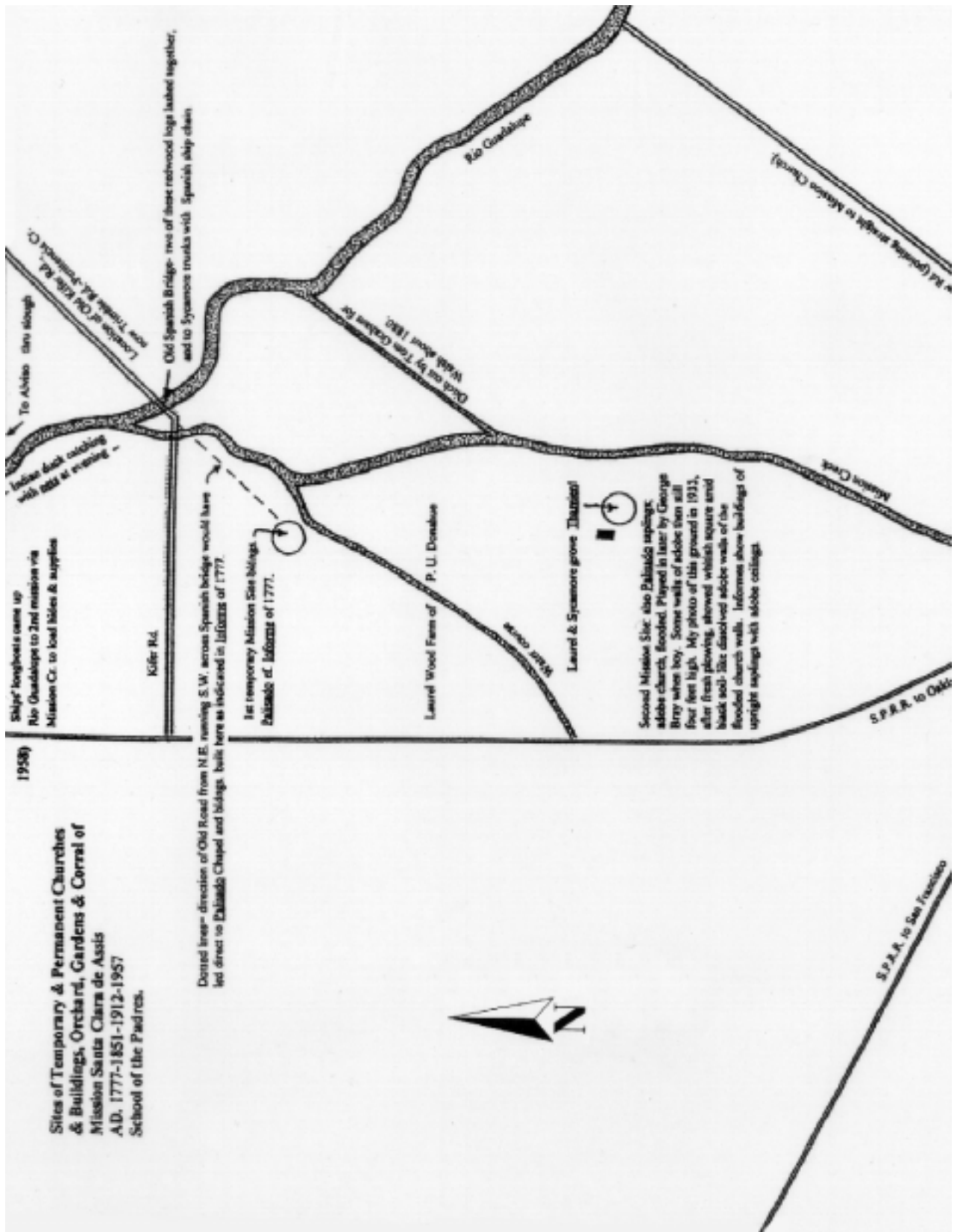






Fig. 3. In 1907 members of the Santa Clara County Historical Society, including Father Richard Gleeson, S.J., placed a commemorated the first mission site near the confluence of Mission Creek and the Guadalupe River. Plaque on transept reads—"Monument Site First Santa Clara Mission January 12, 1777") Courtesy of the Library of Congress Prints and Photo Division, Santa Clara County Files, CA)



Fig. 4. Memorial at the alleged first mission site, 1934 photo of Fa. A.D. Spearman, S.J. (Courtesy Santa Clara University Archives, CN #100).

one-half years later Serra dedicated the church on May 16, 1784, referring to it as “the best and largest in all these mission establishments “ (Geiger 1955:240). At this time, the third mission complex consisted of the east-west oriented (9 by 41 varas) adobe church and sacristy, and the north-south west adobe wing of the quadrangle. Over the next thirty-five years the quadrangle would be completed, as would a number of granaries, a tannery, and homes for some 1500 neophytes, the mission guard, and the mayordomo (Harris et al. 1995; Hendry and Bowman 1940:673; Jackson 1994:186; Spearman 1963:115). Accompanying all of these was the mission’s cemetery, where over 4,000 Native Americans and *Californios* were interred.

Beginning with the Murguía church and continuing until secularization, all buildings at Mission Santa Clara would be constructed of sun-baked adobe blocks with ceilings and rafters of redwood. In the 1780s, all structures had roofs of tule thatch. Gradually, during the 1790s they were floored and roofed with kiln-fired *ladrillos* (floor tiles) and *tejas* (roof tiles).

One should remember that the survival of adobe buildings in California is predicated on their ability to avoid moisture and survive earthquakes. The former engineering constraint was met by the laying of stone sub-surface foundations to prevent the “wicking” of moisture into





Fig. 5. Memorial at the alleged second mission site, erected 1953.

the adobe, while the latter was dealt with through the construction of buttresses and the precise siting of buildings on firm, dry ground.

Unfortunately, Murguía did not have the experience of Cambón, as the site chosen for the second Santa Clara complex stood immediately adjacent to a number of small streams. As Hylkema (1995:54) and Spearman (1963:115) have noted, the confluence of these streams next to the mission allowed for the movement of tule reed and wooden boats from the Bay to the mission. It is obvious that water would be a constant problem for the buildings. Earthquakes were also problematic. In 1782, Father Serra wrote of the unfortunate effects of a south Bay earthquake. “In Santa Clara, it broke a bottle of brandy which the poor Fathers there were jealously treasuring against some emergency” (Tibesar 1955 4:145).

In 1812 and 1818, Mission Santa Clara de Asís was shaken and damaged by earthquakes (Spearman 1963:52). After the 1818 temblor, Fathers Magín Catalá and José Viader must have

realized that it would be only a matter of time until the thirty-four-year-old second complex would collapse. The most dangerous building in that quadrangle would have been the Murguía church, as it stood closest to the *zanja* and was where parishioners regularly congregated. With the potential for tragedy so great, the site for the new complex was chosen. Known as “Mission Heights” it was this quadrangle that would later, in 1851, be transformed from Mission Santa Clara de Asís to Santa Clara University.

### Archaeology at the Third Mission Complex

The third mission church and quadrangle complex was abandoned in a very systematic way. As each new building in the new complex was completed, the tejas from the third site were removed and reused. Without the protection of the tiles the adobe walls began to melt in subsequent torrential winter rains. In the 1880s, a few stubs of adobe walls (Fig. 6) marked the site of the quadrangle and, by the end of the nineteenth century, the complex was gone (Hylkema 1995:40). The adjacent adobe neophyte housing area was gradually demolished and replaced with wood frame homes to house the new Euroamerican immigrants that flooded into Santa Clara in the years following the Gold Rush. At the turn of the century,



Fig. 6. Detail of a circa 1880 photo of the last standing adobe architecture associated with the third mission quadrangle (Courtesy Santa Clara University Archives, CN #210).

only one building remained, the “Peña” adobe, that today houses the Santa Clara Woman’s Club (Fig. 7).

In 1911, the mission quadrangle was inadvertently “discovered” when workers excavating a trench for a new gas line found the cornerstone blessed by Serra (Fig. 8). That stone and its contents are presently on display at the de Saisset Museum on the Santa Clara University campus (Hylkema 1995:42; Spearman 1963:29). Today, this site (CA-SCI-30) lies on the northeast corner of Santa Clara University, but in 1911 it was surrounded by a residential neighborhood. During the following thirty years a number of utilities projects and limited archaeological investigations revealed foundations and burials that today can be associated with the third mission complex (for a complete review see Hylkema 1995:41-44).



Fig. 7. Alice Hare photo (1905) of the Santa Clara Woman’s [sic] Club or Peña Adobe (Courtesy Santa Clara University Archives, CN #202).

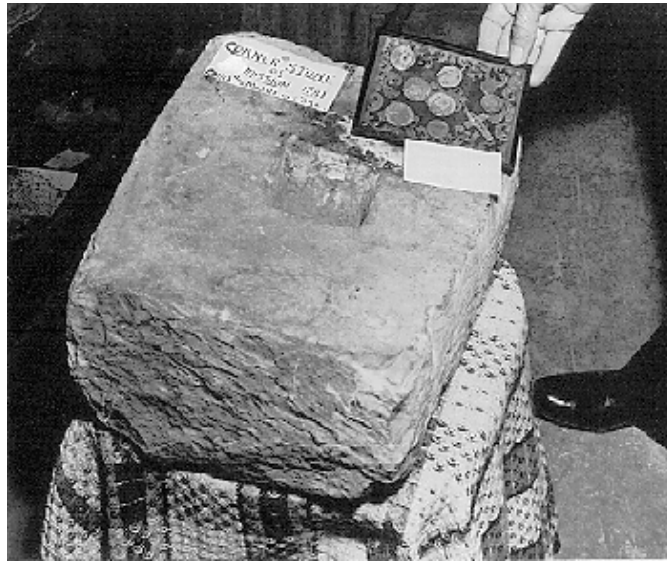


Fig. 8. The cornerstone of the third mission church and its associated relics on display at the de Saisset Museum (Courtesy Santa Clara University Archives, CN #205).

In the 1980s Santa Clara University and the California Department of Transportation (Caltrans) decided to move the major thoroughfare known variously as Grant Street, the Alameda, Highway 82 or “El Camino Real.” Daily 40,000 automobiles and trucks cut through the heart of the campus. As a result, they decided to move the highway some two blocks to the east—the location of the third mission complex.

For five years (1982, 1984, 1985, 1986, 1987), SCU archaeologists B. Mark Lynch and Dave Huelsbeck excavated in the quadrangle and its immediate vicinity (Fig. 9) and identified (1) a canal, (2) vats for processing hides or fleece, (3) an adobe house associated with the mission orchard, and (4, 5) part of the mission quadrangle. One of the most innovative aspects of this project was the attempted use of ground penetrating radar to locate foundations. Unfortunately, the soil’s high clay and moisture content made the results less than ideal (Dolphin and Yetter 1985). Although a number of preliminary reports (Huelsbeck 1985, 1986a, 1987; Lynch n.d.), papers (Huelsbeck 1986b), and at least one publication (Huelsbeck 1993) dealing with this project have been produced, the final report on this project currently is being completed by the Santa Clara University Archaeology Research Lab in cooperation with Dave Huelsbeck. It should be noted that the glass beads recovered during these projects were examined and subsequently reported on by Christine Dias in 1993.

Caltrans continued the work at the site in 1988 and 1989. Directed by Mark Hylkema, the project identified the mission church and sacristy, the *mirador* (bell tower), the cemetery, and a tiled *lavandería* (laundry) or boat landing on a waterway adjacent to the quadrangle and cemetery (Figs. 10, 11, 12) (Hylkema 1995). The report on this project is the most complete synthesis of the archaeology and associated documentary evidence relating to the third mission complex in existence.

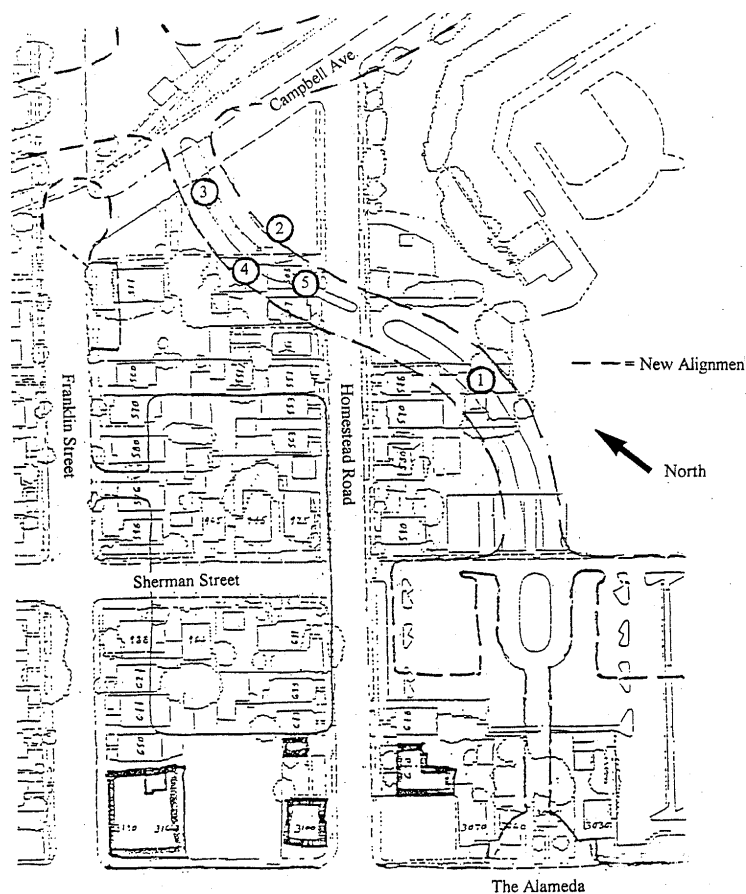


Fig. 9. Archaeological Excavation Areas Investigated by Santa Clara University 1985 to 1988 (Reproduced Courtesy of Mark Hylkema, Caltrans 1995).

In addition to these projects, there has been limited testing in the neophyte housing area. One presence/absence testing project, conducted in 1995, identified such mission period artifacts as *tejas*, mission and Mexican-made ceramics, and evidence for shell jewelry manufacture (Cambra et al. 1995). Also, work conducted on the SCU campus by the Archaeology Research Lab has revealed a major mission period trash deposit located on the mission's main plaza west of the church and adjacent to the neophyte housing area. The contents of this feature included vast quantities of mission-made ceramics.

Most Recently in November of 1996, during utility line construction (12KV Electrical Project 1996.10; Wizorek and Skowronek 1997) a cobble foundation (Fig. 13) measuring approximately eight meters long was found east of the mission period trash deposit. The foundation appears to be in alignment with the Peña adobe, a remnant of the neophyte row housing. *Teja* fragments found in association with these cobbles suggest a *terminus post quem* of 1790 for its construction. Analysis of both of these features is on-going and will be the topic of a future article.

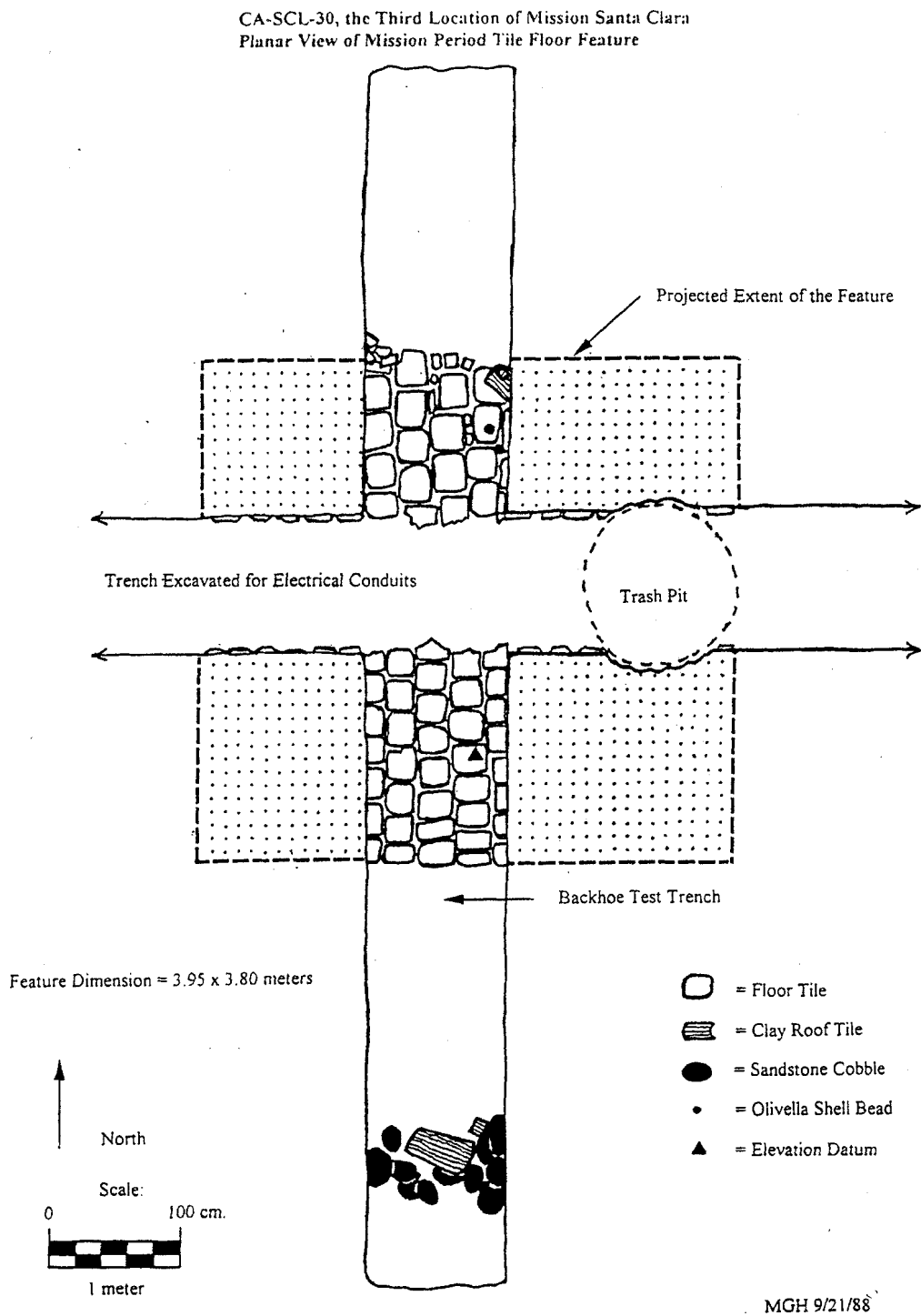


Fig. 10. Caltrans Tile Floor Feature (Reproduced Courtesy of Mark Hylkema, Caltrans 1995).

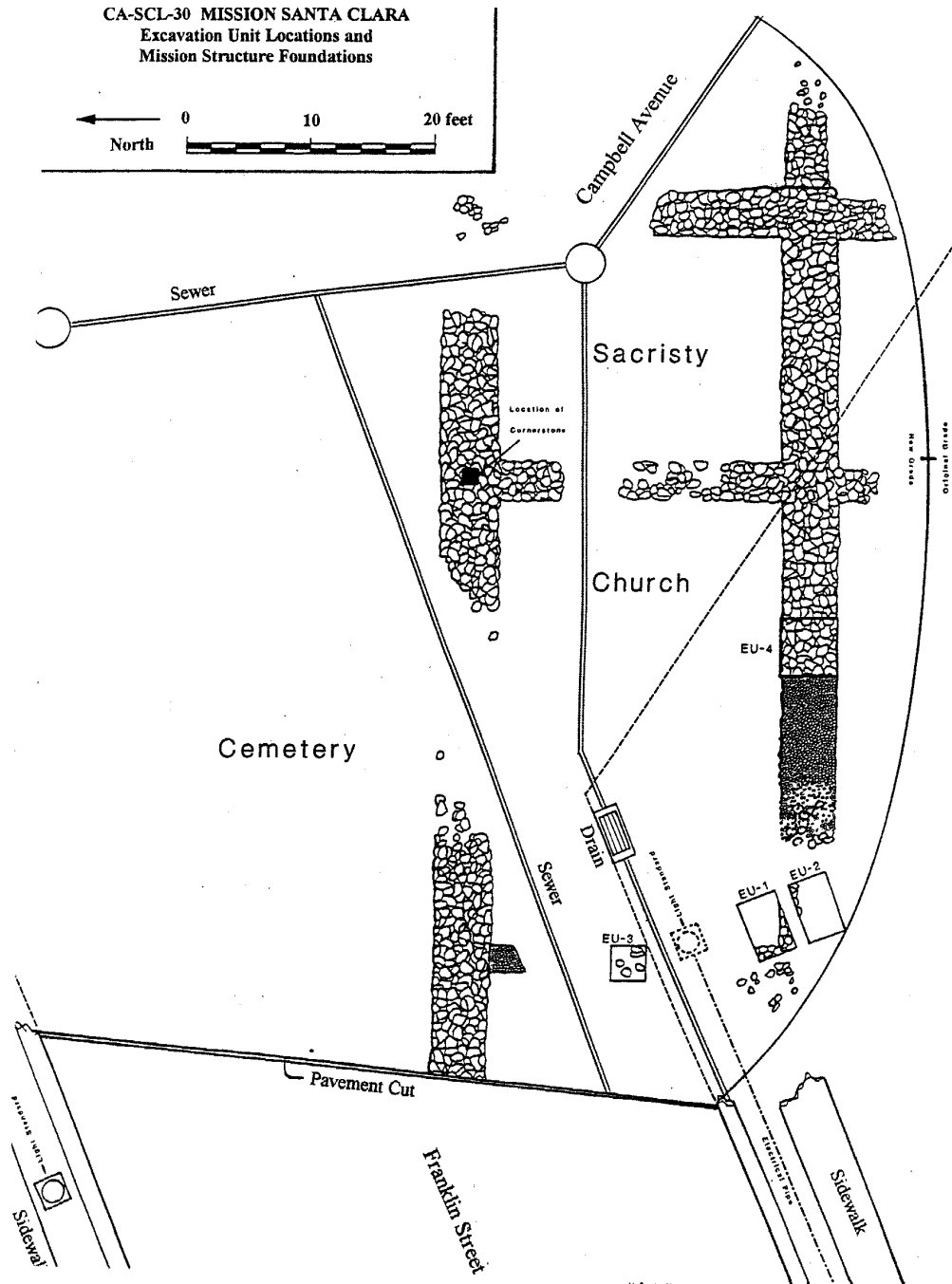


Fig. 11 Caltrans Church and Sacristy Excavations  
(Reproduced Courtesy of Mark Hylkema, Caltrans 1995).

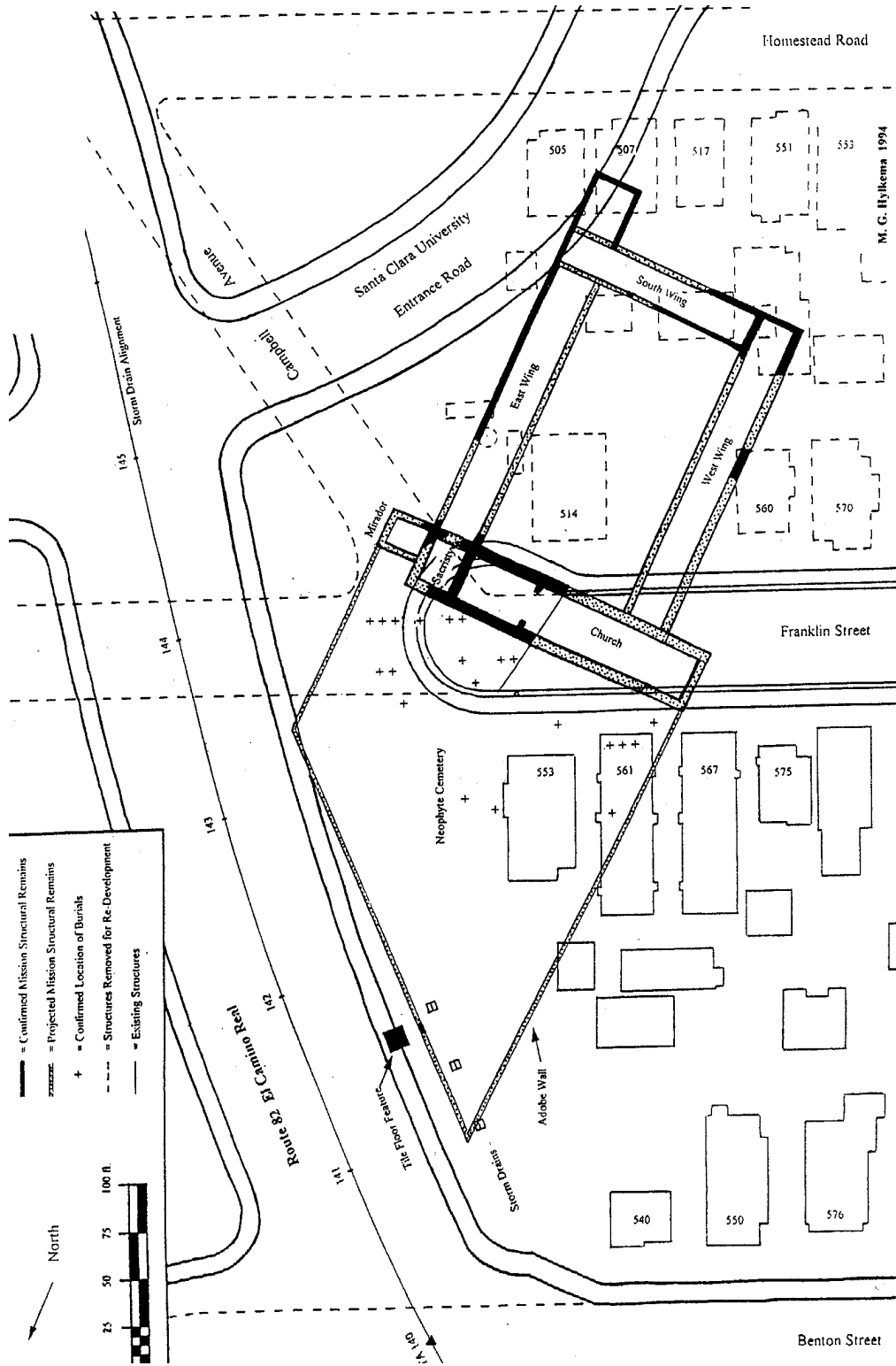


Fig. 12. Caltrans Reconstruction of the Third Mission Quadrangle (Reproduced courtesy of Mark Hylkema, Caltrans 1995).





Fig. 13. Neophyte house cobble foundation (12 KV Electrical Project 1996.10).

### The Fourth Mission Church

As work began on the new quadrangle, an adobe building was hurriedly erected to the east of the construction site. The 1818 and 1819 *Informés* describe the building and finishing of this temporary church with *ladrillos* and *tejas*. The 1854 George Black plat (Fig. 14) indicates a building some 30 by 94 feet in size with a porch running the entire length of the western wall. It served in this capacity until the dedication of the last quadrangle on the feast day of Santa Clara—August 11, 1825. Spearman (1963:53) suggests that during those five years Father Catalá would have lived in the new building “to guard the...Eucharist,” and supervise the new construction project, while Viader continued to oversee activities in the Murguía complex. He further argues (1963:57-59), on the basis of the 1842 Waseurtz af Sandels sketch, that a cemetery was established to the east of this structure (Fig. 15). This conclusion cannot be supported today.

Following the dedication of the new quadrangle, this structure was pressed into service as a dormitory for neophyte boys (Spearman 1963:53). After secularization, it was occupied by “Candalaría” the mistress, and the children of Santa Clara’s last Franciscan priest, Father José María del Refugio Suárez del Real (Geiger 1969:251; McKevitt 1979:11; Skowronek and Garcia 1995; Spearman 1963:55). Suárez del Real hurriedly left Santa Clara in 1851 when there arose questions regarding the legality of his sales of church property. Candalaría remained in the building, now across Alviso Street from the all male Santa Clara College. Much to the chagrin of the Jesuit Fathers she operated a *fandango* or dance hall there through the

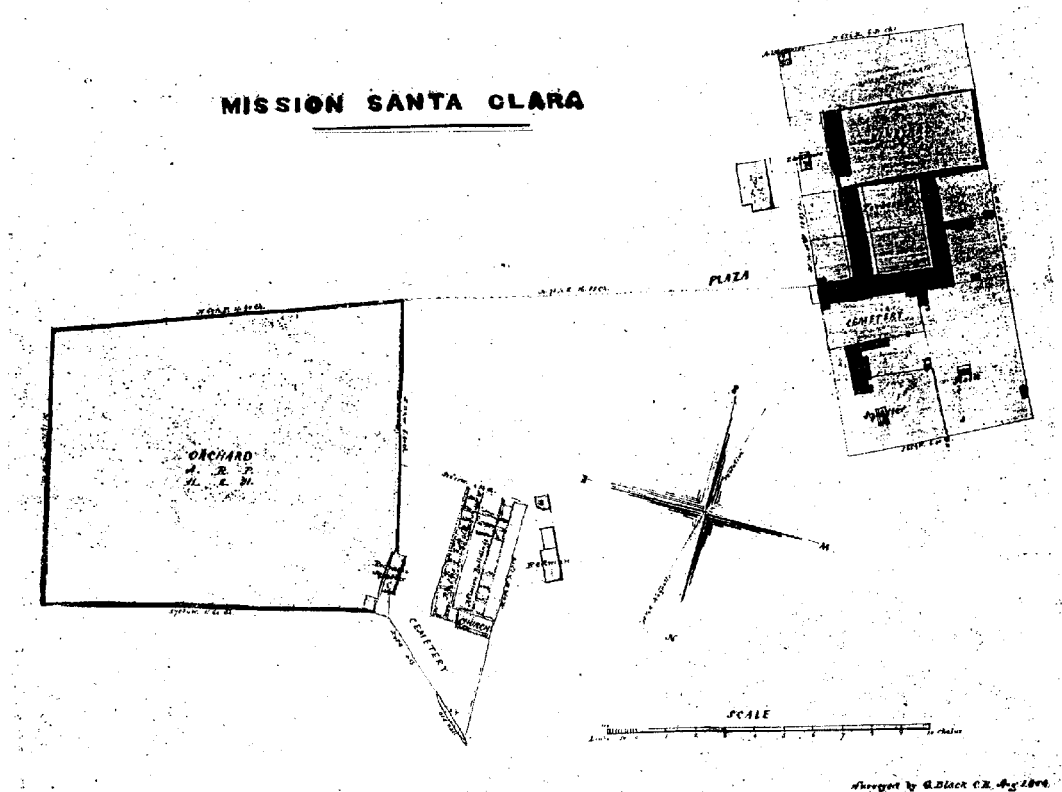


Fig. 14. The 1854 Black Plat of Mission Santa Clara (Reproduced Courtesy of Mark Hylkema, Caltrans 1995).



Fig. 15. The 1842 drawing by Waseurtz at Sandels of Mission Santa Clara showing the alleged cemetery site on the left of the sketch (Courtesy Santa Clara University Archives, CN # 308).



Fig. 16. The Sodality Athletic Association baseball field April 29, 1905 (Courtesy Santa Clara University Archives, CN # 35).

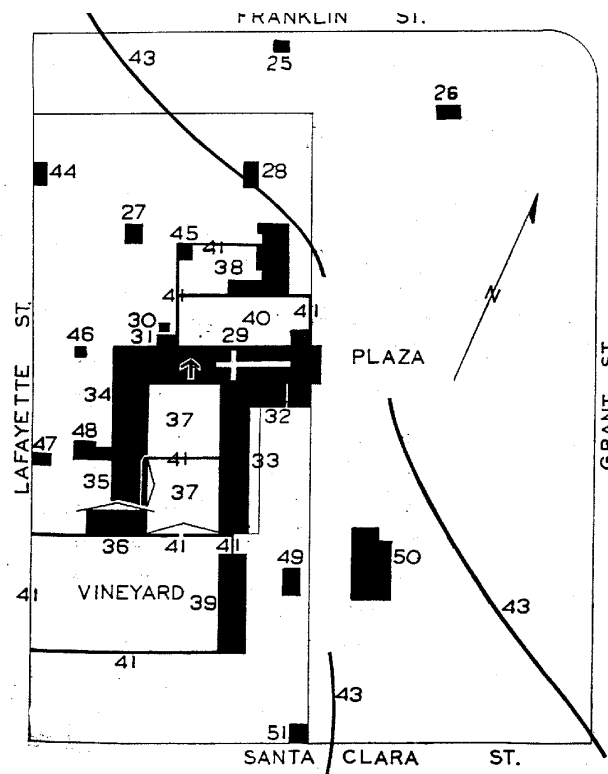


Fig. 17. Hendry and Bowman Map (1940:717) identifying #50—the Fourth Church—as a squatter's house. (Reproduced Courtesy Bancroft Library, University of California, Berkeley).

1850s. In addition to dancing there were reportedly alcohol, gambling, a brothel and numerous fights and killings in the building (McKevitt 1979:62).

The property was bought by Santa Clara College in 1860 by Father Felix Cicaterri from “*la favorita*” of Suárez del Real for \$800 (McKevitt 1979:63). In 1867, following the very wet winters of 1861 and 1862, the building was demolished. The adobe blocks were spread across the surrounding grounds, and the land was unused until the construction of the Sodality Athletic Association baseball field in the 1890s (Fig. 16). In 1924, Santa Clara University expanded across Alviso Street and built Kenna Hall on this parcel. This was the first new construction on this plot since the construction of the adobe church a century earlier. It seems that the demolition of this building erased all memory of its former function. In 1940 Hendry and Bowman (1940:717) misidentified the structure as one built in the 1840s by a squatter (Fig. 17 ). While Spearman (1963) would rectify this error, it was assumed that the site of the fourth mission church was destroyed during the construction of other buildings on the block (Fig. 18).

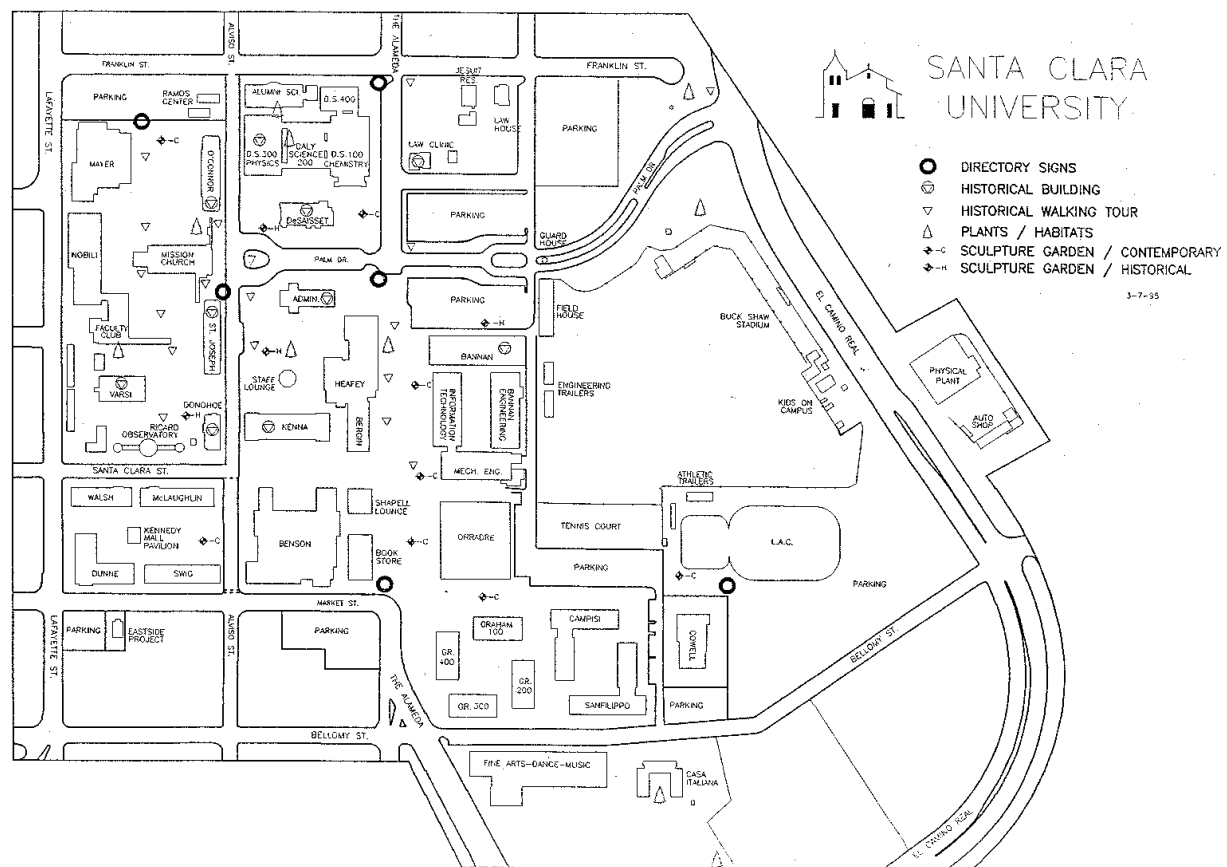


Fig. 18. The Santa Clara University campus today.

### Rediscovering the Fourth Mission Church

In the spring of 1995, Santa Clara University undertook a series of major gas, electric, and waterline construction projects—all work that required deep trenching. The Santa Clara University Archaeology Research Lab saw this as an opportunity to sample the campus for intact archaeological deposits related to the Prehistoric, Spanish, Mexican, and Victorian eras. This information would later be used for the development of a campus-wide research design for cultural resource management. Monitoring of these construction activities was done in-house or through a subcontracting CRM firm.

In April, the excavation of trenches for electric lines and light post stanchions revealed two, parallel cobble foundations. A meter in width, and some eight meters apart, they represent the northern extension or sacristy of the church. At the same time, to the west of these foundations, immediately adjacent to Alviso Street, were found large concentrations of fragments of roof and floor tiles. It is thought that this is associated with the demolition of the structure in the 1860s.

Later, in November, the Archaeology Research Lab undertook test excavations to the west of the fourth mission church in anticipation of water line construction (Skowronek 1996). An adobe soil horizon was discovered during this project. This zone represents the 1867 demolition of the structure. Additionally, a Mexican period feature was identified. This trash deposit

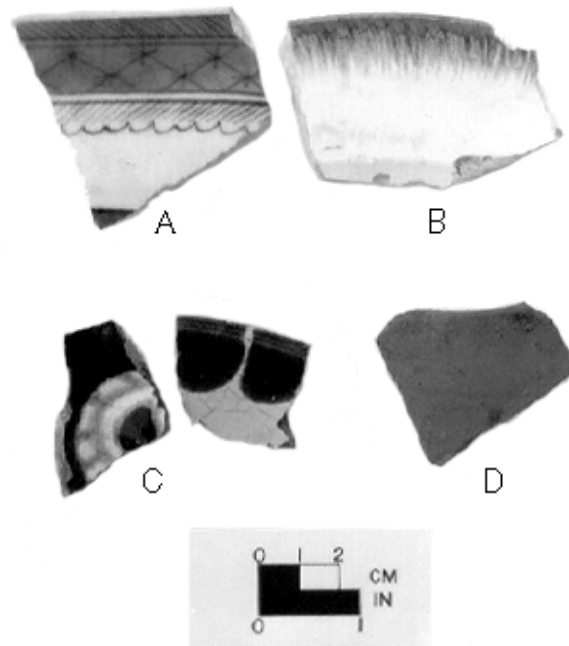


Fig. 19. Ceramics from the Fourth Church—A. Chinese Export Porcelain; B. English Shell-edged Earthenware; C. Mexican Majolicas; D. Mission-made Earthenware.

not only contained construction materials such as *tejas*, *ladrillos*, and cut nails, but also faunal and clothing remains. Perhaps the most important discovery was that of 178 ceramic tableware fragments. They included Chinese export porcelain (6.2%), stonewares (2.3%), Mexican-made majolicas (2.3%), mission-made wares and other earthenwares (1.2%) and English-made plain, hand painted, and transfer printed creamwares and pearlwares (88%) (Fig. 19). The hand-painted wares include broad brushed and fine-lined overglazed floral patterns. All of these refined earthenwares were manufactured in the Stoke-on-Trent area of Staffordshire, England, and date from the 1820s and 1830s. Of particular note was the discovery of a red paste overglazed decorated pearlware, a type that has heretofore not been reported in the archaeological literature of the California missions (David Barker personal communication to Wizorek, October 1996). The high frequency of this latter category of English-made ceramics, clearly underscores the growing importance of European trade over that of internal Mexican trade in the third and fourth decades of the nineteenth century.

The most exciting discovery relating to the fourth church was made not in the field but in the darkroom. In conjunction with another project, the staff of the Santa Clara University Archeology Research Lab gained access to the scrapbook of the Santa Clara Woman's Club. Since 1907, this club has been housed in the Peña adobe, the only remaining part of the Murguía mission complex. The photograph taken in the early 1860s focuses on the three story Jesuit Faculty Residence. It was built during the Civil War on top of the earlier adobe wing of the mission quadrangle. In the left foreground is the northern facade of the fourth mission church (Fig. 20). The only known photograph of this building known to exist, it clearly shows a gabled roof-line that closely matches that depicted in the William Newton Bartholomew 1851 sketch of the mission complex (Fig. 21).

Finally, some consideration must be given to Father Spearman's (1963:57) claim that a cemetery was associated with the fourth church. He cited the fenced area to the left of the church depicted in the 1842 Waseurtz af Sandel sketch, and the 1924 discovery of flexed burials during the construction of Kenna Hall. Later, in September of 1987, Professor David R. Huelsbeck (Memo to President William Rewak, Nov. 6, 1987) wrote of the discovery of other human remains to the east of the fourth church site under the Heafy Law Library. In 1995, more burials were found in conjunction with the forementioned construction activities. Although they were mapped and left in situ, and as such no formal analysis was conducted, there was no evidence of mission-era glass or shell beads. Neither was there evidence for extended nor of coffin burials. All of the above traits have been associated with burials discovered at the Murguía (Third Church) complex (Hylkema 1995) and the last (Fifth Church) mission complex (Wizorek and Skowronek 1996; Wizorek 1996). Because the Murguía complex was not totally abandoned until the 1825 dedication of the "Mission Heights" complex, it is possible that the old cemetery was used rather than the dedication of yet another *campo santo*. While positive evidence for this cannot be known until there are controlled excavations, the careful monitoring of recent construction projects did not reveal any indication of an historic period cemetery.



Fig. 20. Only known photograph of the Fourth Church. Image emphasized in left foreground.  
(Reproduced Courtesy Santa Clara Woman's Club).

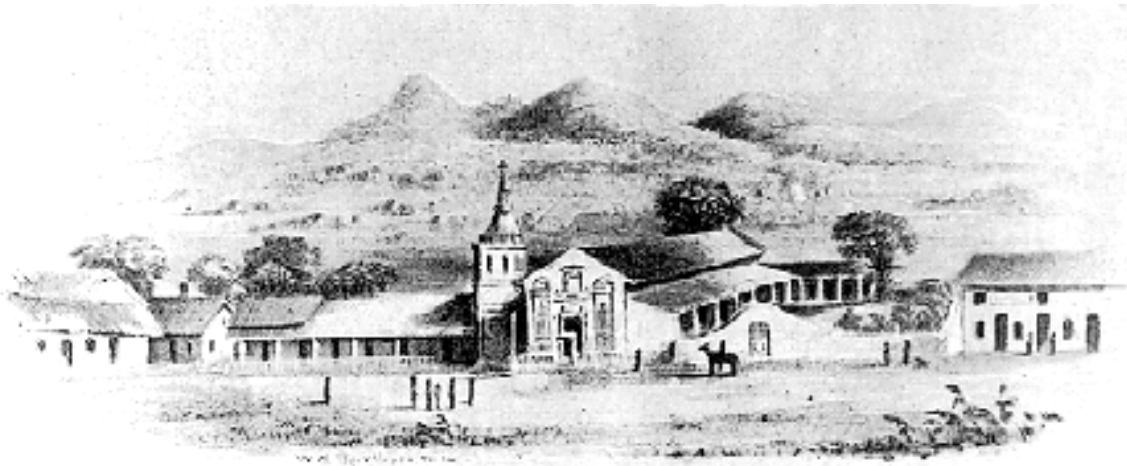


Fig. 21. The William Newton Bartholomew 1851 sketch of Mission Santa Clara  
(Courtesy Santa Clara University Archives, CN # 309).

### The Fifth Church and Complex

The fifth mission church was constructed between 1822 and 1825 on the site of the present (sixth) mission/university church (Hendry and Bowman 1940:700-Fig. 22). The mission complex included the traditional layout of church, vineyard, close, and cemetery as well as the outlying orchards, outbuildings, granaries, and the neophyte housing area built as part of the third church complex. In the century between the dedication of the fifth mission church and its destruction by fire in October, 1926, the other adobe buildings that comprised the complex were gradually demolished to make room for classrooms and dormitories. Today only one building, the “Faculty Club” and an adobe wall still survive (Fig. 23).

Archaeological work on the fifth church complex has been limited. During renovations of the “Faculty Club” in 1982, limited testing within one of the rooms was conducted by the late B. Mark Lynch of Santa Clara University. The artifacts from this project are curated at the Santa Clara University Archaeology Research Lab. Although Lynch did not live to complete this project a report summarizing Lynch’s discoveries was completed by the Santa Clara University Archaeology Research Lab (Jenkins et al. 1998). This work confirmed that this *ladrillo*-floored building once served as a location for food preparation and consumption (Spearman 1963:74).

To date, the largest study of the fifth mission complex has focused on the cemetery which adjoins the north side of the church (Fig. 14). Originally, the cemetery was longer than the present church building. A reference from a legal document, cited in Hendry and Bowman (1940:713), quotes testimony given by Antonio Sunol indicating that the old cemetery (the third church) was not being used after 1826. This statement implies that the fifth mission church cemetery came into use at about this time. It ceased to be used in 1851. No stones or grave crosses have survived. A new site for the mission cemetery was selected a short walk from the new college, near the home of Don Fernando Berryessa. That site is today’s Santa Clara Mission Cemetery.

With the dissolution of the mission system came the eventual transference of the mission church complex. The Roman Catholic Diocese established a Jesuit college on-site, changing the emphasis from educating the native population to native sons as *gente de razon*. The area of the cemetery in the late nineteenth century became the location of the student chapel. Father Robert Kenna (College president from 1883-1888) in 1885 started plans for the construction of a brick chapel on top of the old cemetery. This building is now gone, destroyed in the 1926 fire, but the steps leading up to it are still in place on the west side of the cemetery wall (Fig. 24).

The years from 1823 to 1848 saw the mission complex go through many changes. Foremost is the transfer of Alta California from Spain to Mexico. One of the first actions of the Mexican regime was to end governmental/religious control of people and property. Thus, secularization of the mission and mission property actively began. The break up of Mission Santa Clara lands began in 1837 and continued until the United States conquered the province. During this transitional time, the mission church still served the community as both parish and graveyard. As such, the cemetery reflects the patterns of life and death in that three-decade period.





Fig. 22. The current (1928) Santa Clara "Mission" Church.



Fig. 23. The 1822 "Faculty Club" and Adobe Wall.



Fig. 24. Steps to the Student Chapel that stood over the 1825-1851 neophyte cemetery.

### **Archaeology at the Fifth Mission Church Cemetery**

Found during trenching activities for a campus-wide lighting project in 1995 were foundations from the 1885 student chapel and graves from the Mission cemetery. Four clusters of human remains were discovered within the excavation pits along the Rose Garden wall. One of these included two individuals, an adult and a possible adolescent. No scientific study was conducted of the human remains other than to identify the bones as being human. Along with the fragmentary human remains were cultural materials including shell and glass beads, redwood board fragments, and overlying these, construction debris from the student chapel.

The human remains were very poorly preserved when compared to other burials found on campus (e.g., CA-SCI-755). These characteristics may be the result of two European practices: the application of lime and the use of coffins. The Mission church cemetery is reported to have included over 2,000 individuals. This high number of burials in such a small area must have caused several problems, such as odors and limited space for future interments. To alleviate both of these, lime may have been used. In European communities, a common practice was to throw lime over graves in an attempt to prevent odors and also to hasten the decomposition of the flesh, especially in overcrowded cemeteries (Curl 1972:133; Koch 1983:221). The fragmentary and spongy nature of the bones may be the result of this practice.

Soil samples were taken at five locations within the three excavation trenches in order to test for the presence of lime. In addition, soil from the Alameda burial (CA-SCI-755) #3 was also tested for comparative purposes. Soil was tested with a commercial pH soil testing kit in

order to evaluate the acid level of the soil. Lime, an alkaline, is calcium oxide. When dry, it is referred to as quicklime. A neutral or alkaline soil may indicate the use of lime. Alkaline soils are defined by an unusually high amount of soluble mineral salts, such as chlorides, sulfates, carbonates, and bicarbonates of sodium, potassium, magnesium, and calcium.

In general, soils in the Santa Clara area are Sunnyvale clay which naturally has a high content of lime (U.S. Department of Agriculture 1958). Soils identified around the campus also include native alluvium and modern fill soils. The testing indicated primarily neutral or alkaline soils. This condition fits the general soil pattern for the area of a high content of lime. However, the testing does not rule out the possibility that lime was added during burial to speed up the natural processes. It should be pointed out that prehistoric remains (CA-SCI-755) along the Alameda were found in much better condition.

The use of lime in a Spanish colonial context has been documented at Nuestra Señora de la Soledad, St. Augustine, Florida. Soledad was the town's parish church (1599-1784) during both the First Spanish period (1565-1763) and British period (1763-1784), of the "Oldest City." Burials were located both within and next to the church. Lime was used in an attempt to prevent odors as might be expected in a confined area such as the interior of the church. In general, both shroud and coffin burials were dusted with lime (Koch 1983:221-222).

Another contributing factor to the condition of the remains is the presence of redwood board fragments above and below the clusters of bone (One should note that no detailed digging occurred to define the limits of the wood). Redwood contains acids and, when in contact with the remains, would have sped up the decomposition of the flesh and later the bone. Redwood was also noted in the trench walls and in the back dirt. The presence of boards suggested coffins. However, no coffin hardware, such as handles, were found. Probing around the remains confirmed that the wood was not related to later construction debris from the chapel. Aside from coffins, an alternative explanation for the wood is the possibility that planks were placed over a portion of the body for protection. Reports indicate that at Mission San José roof tiles were used over neophyte burials (Galvan 1993).

The nearby Santa Cruz Mountains with its vast stands of redwood trees provided a source for building materials for Mission Santa Clara and the growing population of the Santa Clara Valley. The lumber industry supplied building materials and cleared land for farming (Payne 1987:105). Issac Graham, a Virginian, built the first water-powered sawmill seven miles north of Santa Cruz around 1841-1842. Sawn lumber was available in the 1840s to use with the burials at the mission cemetery (Dillon and Dillon 1993:12-13).

Another indicator of coffins is the presence of nails and tacks. Of particular note is a brass domed tack with wood adhered to the shaft. Numerous square cut nails also were found, twelve of which still had wood adhered to the shaft. None of the wood or nails show any indications of being burned. Lack of burning suggests that the wood and nails were not from the student chapel, which burned to the ground in 1926. These nails and tacks fall within the size range of nails and tacks found at Santa Barbara Presidio Chapel cemetery where coffins have been documented (Costello and Walker 1987).

It is unclear if the remains were shrouded. Shrouded burials were a common Hispanic mortuary pattern. The shroud was looked upon as a symbol of the Resurrection in light of Christ's simple burial (Harmer 1963:52): "Then he took it down and wrapped it in a linen shroud, and laid him in a rock-hewn tomb, where no one had ever been laid" (Luke 23:53). The *amortajamiento* (shrouding) of the individual was done as quickly as possible after death before the body stiffened (Foster 1960:145).

Traditionally, Christian burials place the head to the west, facing the rising sun where it is thought that Christ will appear at the Resurrection. Spanish customs, however, practiced different orientations including the head facing to the east, the feet facing the church or the cemetery gate (Foster 1960:148). The hands were usually crossed on the chest. Burials occurred inside the church or immediately adjacent to it. At the California missions, these rules were followed. However, orientation was not determined with the rose garden burials. The last feature of the burials was the inclusion of personal items of adornment, shell and glass beads. The presence of grave goods is not common amongst the California mission burials. At La Purísima Concepción, all except one burial were devoid of artifacts (Humphrey 1965). A different picture is seen at Santa Clara's cemeteries. At the third mission cemetery (1781-1825), some 6,000 shell and 484 glass beads were found in burials (Hylkema 1995) and at the fifth mission church cemetery, over 2,000 beads were recovered. All shell beads were made by Native American peoples and glass beads were manufactured by Europeans. The beads were found with the clusters of burials and in the screening of back dirt. Permission was given by the "most likely descendent," Ann Marie Sayers, to study these beads.

Glass beads (Table 2) totaled 2347 and included both wire wound and drawn beads. Drawn beads are the earliest and most commonly produced variety. A wide range of colors (Munsell 1984) were represented including: whites (white n. 494, Munsell N9; ivory n. 1118, Munsell 5Y 8/1), black (n. 466; Munsell N1), rose (total 10), green (n. 1; Munsell Hue 10GY 4/4), blues (dark blue, total 16; royal blue-faceted, total 3; barrel shaped, total 21, Munsell Hue 5B 3/2), and brown (total 3). In addition, 215 Cornaline d'Alepo beads (Munsell Hue 5R 4/6), a compound, two tone bead, were found. Two varieties of d'Alepo beads were noted, an opaque red with a transparent green interior (total 214) and one opaque red, white interior. Sizes ranged from 2 mm to 5 mm in diameter and from 2 to 4 mm in length. Cornaline d'Alepo, Type DIVa6 (Van Bueren in Hylkema 1995:84), were also found at the third mission site and at other locations in California (e.g., Fort Ross, *ibid.*; San Buenaventura, Gibson 1976:109).

The sample of wire wound beads is much smaller and included large spherical light blue beads. In general, glass beads found at Santa Clara were manufactured in Venice or Bohemia (Van Bueren 1995:85).

Correlates of the white and black seed beads are found in the earlier samples from the third Mission. The smallest of these beads are less than 1 mm. In general, these tiny beads were not made before 1817 when new technology was developed to manufacture perfectly round microbeads. The beadmaking industry developed new machinery to create these small beads; however, because of the difficulty in threading the beads, they quickly went out of circulation (Dubin 1987:111). However, larger 2 mm beads, beginning in 1840, were traded in bulk as

Table 2. Glass beads from the 1825-1851.

Bead Type	Color/Munsell	Size Range	Count
Seed	White/N9	1.0 to 4.5mm dia., 0.5 to 3.5mm length	494
Drawn	Ivory/5Y 8/1	1.5 to 5mm dia., 1.0 to 4mm length	1118
Seed	Black/N1	1.0 to 5mm dia., 0.5 to 4mm length	466
Drawn	Rose	2.5 to 6mm dia., 4.0 to 7mm length	10
Drawn	Green/10GY 4/4	5.0mm dia., 5.0mm length	1
Seed	Dark Blue	2.0 to 3.0mm dia., 1.5 to 2mm length	16
Drawn and Faceted	Royal Blue 5B 3/2	5.0 to 6mm dia, 5mm length	3
Drawn and Barrel shaped	Royal Blue 5B 3/2	3.0 to 5.5mm dia., 5.0 to 6mm length	21
Drawn	Brown	1.0 to 4mm dia., 1.0 to 3mm length	3
Cornaline d'Alepo type DIVa6	Red and Green	2.0 to 5mm dia., 2.0 to 4mm length	214
Cornaline d'Alepo	Red and White	3.0mm dia., 2.0mm length	1
Wire Wound	Clear	5.0 to 5.5mm dia., 4.0 to 4.5mm length	2
Wire Wound	Light Blue 5B 5/1	9.0 to 11mm dia., 8.0 to 9mm length	7

result of the standardization of manufacturing techniques in Venice and Bohemia (Dubin 1987:274).

Found with the glass beads were four varieties of shell beads including: abalone pendants, clam *Tivela* tubes, clam beads, and three types of *Olivella* beads. A look at shell bead perforations indicate both mission and non-mission manufacturing locations. Biconically drilled holes are assumed to represent indigenous methods of drilling, while cleanly drilled holes suggest a mission manufactured bead. Drilling methods include the use of stone, bone, sea lion whiskers (as in the case of *Tivela* tubular beads), and metal needles. Shell beads were commonly used by California Native American groups as money and as burial offerings.

A total of eight abalone/*Haliotis* pendants and five fragments were found. The pendants were recovered in screening of back dirt from pits one and two. In general, all pendants have one aperture and are four sided except for one pentagon (Fig. 25A).

Two *Tivela* tube beads were recovered in two of the three clusters of remains (Fig. 25B). These beads were made from large clam shells and traditionally, the central aperture was drilled with sea lion whiskers. This bead type was used more as a sign of status than for money (King 1978:61).

The largest sample of shell beads recovered were the clam disk type (Fig. 25 C). Studies (Gifford 1947; Hylkema 1995:74-75) on this type of bead have grouped the variations according to size (diameter) and length (beads or cylinders). Gifford (1947) who did a detailed study

of California shell beads has organized the clam shell disks into two types: AV (tubes in which length exceeds the width) and V (flat or oval beads). Further division included sub-types based upon maximum diameter of the beads. Those measuring less than 25 mm in diameter with one central perforation are typed V1a and those greater than 25 mm are typed V1b. Both of these types are smooth-edged without any decorative incising or grooved exterior sides.

Clam shell disk beads previously identified at Mission Santa Clara include V1aII and V1aIII (Gifford 1947; Hylkema 1995:74-75). In the excavations along the rose garden wall a total of 110 beads were found including both stone and metal ground apertures. These beads are also smoothed edged without any decoration. The diameter range was from 5 mm to 17 mm. Length ranged from 1.5 mm to 9 mm. The mean diameter is 7.5 mm and length is 3 mm. Based upon Gifford's description the beads fall within the V1a type. Of special note is a rather large bead which measured 17 mm in diameter and 9 mm in length. Its aperture was conically ground.

The three types of *Olivella* beads included whole, callus lipped, and callus wall disk (H1hb) types. Based upon the size range and ground spires the whole *Olivella* shell beads (n. 7), fit into Bennyhoff and Hughes (1987) A1b (medium) and A1c (large) subdivisions. Both stone and metal drilled callus lipped beads (total 6; Fig. 25 D) were found, indicating traditional and post-contact methods of manufacturing. Finally, the most common *Olivella* type (n. 26), bead was the callus wall disk. Because of the rough edges found on these beads they are classed as type H1hb (based upon Bennyhoff and Hughes nomenclature 1987). Similar to this bead is the H1a classed bead which is distinguished by ground edges. Both groups of beads have the same average dimensions, however, in the later period grinding diminished during the Late Mission period, 1800 to 1816 (Gibson 1976).

The discovery of the human remains allows us to ask questions of the blending, mixing, and separation of the indigenous population with Europeans at the end of the mission period. During the Mexican period (1822-1848), a number of changes took place including the dissolution of the mission system, the expansion of the ranchos and commercial markets, and the influx of many new groups of people from North America, Europe, and Asia. However, with all these changes, life's patterns surrounding birth and death, changed slowly on the mission.

From this period, limited information is available on one of these patterns—mortuary practices. The rituals surrounding the last rites are long forgotten, and we today can only conjecture how people gathered to say good-bye. This is due in part to the fact that the ritual was done with perishable items—organic materials (seeds, tobacco), words, and emotions. The cultural material record is limited and includes generally the body and perhaps grave goods. The written record also is incomplete and consists of the Roman Catholic burial service and written descriptions which focus on a particular moment.

In writing about the Native Americans at Mission Santa Clara on November 4, 1814, Fathers Magín Catalá and José Viader (Geiger and Meighan 1976:99) reported, "the Indians, during funerals and burials have no other ceremony than crying or screaming until they get tired, and sometimes they also bury the dead's clothes and jewelry."

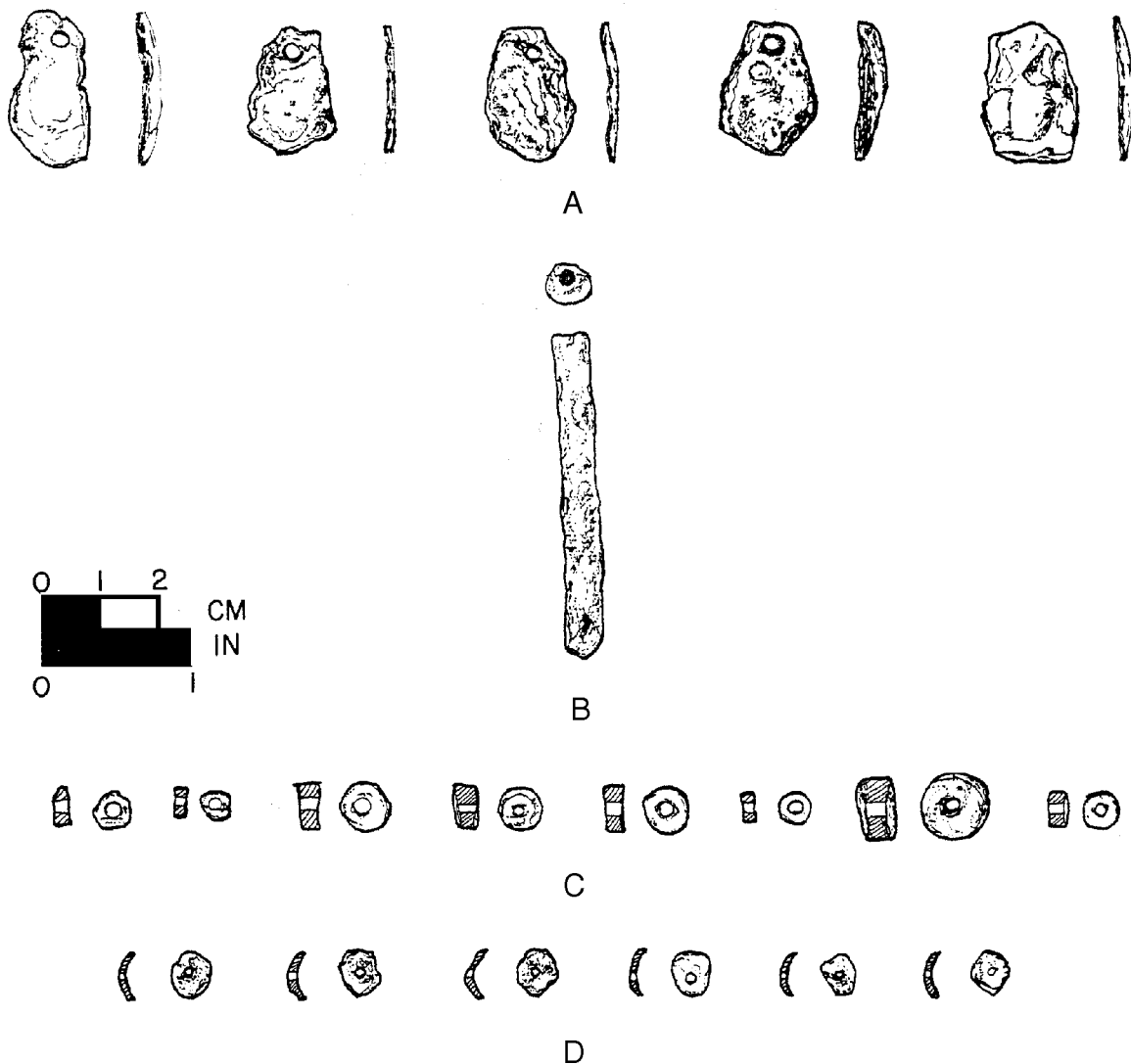


Fig. 25. A. Abalone/*Haliotis* Pendants; B. *Tivela* Clam Shell Tube Beads;  
C. Clam Shell Disk Beads; D. *Olivella* Shell Beads

Whether Native American or European, this was obviously a very emotional moment for the community. In general, the indigenous peoples of Santa Clara and Central Valleys practiced both flexed burials and cremations. Included with burials were a variety of grave goods—shell beads, charmstones, seeds, and other personal belongings (Chartkoff and Chartkoff 1984:233; Levy 1978: 468, 490-491). The burial pattern seen at the fifth mission church cemetery consists of the European mortuary practice of extended burial, probable shrouding of the corpse, and placement in an east-west orientation. Some individuals were adorned with personal items. It is within the adornment that a syncretism occurs between European and Native practices.

A suggested time frame for these remains is the late Mexican period (post-1840), based upon the 1 mm size glass beads, the callus wall disk beads, and cut wood. As noted, the technology to manufacture the microbeads did not exist until after 1817 and callus wall disk beads (H1hb) were made during the late Mission period. In addition, lumbering operations did not begin in the Santa Cruz Mountains until after 1841.

The exposure of the remains brought to light how pre-contact indigenous practices were blended with the prescribed Roman Catholic rituals of the time. It is evident that a syncretism was taking place in the public mortuary activities. Burial was not completely free of pre-contact ritual, for example, the inclusion of a large number and varied number of shell beads. This suggests a continuation of ethnic identity. The priests stopped cremation and ensured the orderly burial of the neophytes, but it is the presence of shell beads and pendants in public burials that emphasizes the pre-contact pattern still maintained as late as the 1840s and 1850s.

We no longer know the names of these individuals, but we can sense that they were highly thought of in their community. This esteem is surely demonstrated by both the number and variety of traditional and European made grave goods. Although their names are forgotten, we can still appreciate their presence as part of this Mexican-period community.

At Santa Clara University we have formulated a burial policy that has come to be known as “the Three Rs—Respect, Research, and Reburial” (Skowronek 1997). In this view all parties must respect the position of the other and the deceased individuals. As an institution of higher education Santa Clara University hopes to further our knowledge of past lifeways through respectful analysis. Ultimately, however, whether research is conducted or not, reburial always follows in a timely fashion and in a location that is agreeable to all. And so, as part of this respect, on September 11, 1995, the Native American community represented by Ann Marie Sayers, Kathy Petty, and Juanita Ingalls were joined with the Roman Catholic church (Fr. McKevitt, S.J., Pastor of the Jesuit community), archaeologists, faculty, staff, and students of Santa Clara University to re-inter the remains and grave goods.

### **Future Research**

From the location of mission sites and the description of the buildings that comprised them, to the elucidation of cultural continuity and change on the mission frontier, the work on Mission Santa Clara de Asís has only just begun.

Today the areas with the highest probability of containing evidence of the mission sites are rapidly being destroyed through development. Nonetheless, it is still likely that we can discover the original mission sites using the same combination of maps, documents, and oral histories used by earlier researchers, but also adding a new piece of data—aerial photography and landsat imagery. The Santa Clara University Archaeology Research Lab is currently studying these new data for earthfast evidence of the first mission sites. When potential targets are identified they will be tested for evidence dating to the target era.

In addition to the first two sites, buildings associated with the later complexes still await discovery and description. One of the most important of these is the neophyte *ranchería*. As



the first prolonged locality for inter-cultural exchange in the south Bay Area, the neophyte village at mission Santa Clara de Asís represents a critical locus of enquiry for the diachronic understanding of the acculturative processes associated with culture contact in California. Is there evidence for pre-contact continuity in diet, subsistence technology, social organization, and ideology in these more “private” areas of the mission complex? The demographic make-up of the mission changed through time from strictly Ohlone to a heterogenous population that included Miwoks and Yokuts. Are “ghettos” of specific ethnic groups visible in the archaeological record?

Within this reconstruction of past lifeways is the larger issue of conditions in the missions. No one will deny that Native American population declined in California after 1769. Some have claimed that disease, inadequate food, heavy work, and psychological stress combined to make the missions miasmatic cesspools of death (e.g., Jackson 1994; Jackson and Castillo 1995). Others have said that diet was adequate to sustain health (e.g., Huelsbeck 1986b). At Santa Clara we are beginning to grapple with the issues of health through the cooperative study of human remains. Currently, our work is focusing on prehistoric remains inadvertently uncovered during the Alameda Mall project. This research includes osteological and paleopathological analysis, extraction of DNA, and N-14/15, and C-13 analyses. By developing a data base on the pre-contact Native American populations found at Santa Clara we will be able to better define local lifeways. The carbon and nitrogen assay will help determine diet and so, aid us in assessing dietary stress, an important issue to consider when addressing syncretism during the mission period. Finally, DNA analysis will help us identify groups from one another. Not only will this aid in the delineation of prehistoric population movements, but when added to the other biological information, can aid us in assessing the health of specific populations in the pre- and post-contact eras.

Slowly, the many faces of the mission and its associated community are being revealed through the endeavors of the newly created Santa Clara University Archaeology Research Lab. In cooperation with the University physical plant, the ARL has begun to formulate a research design for the campus and adjacent neighborhoods of the City of Santa Clara. Now, with each turn of a shovel or a backhoe, the fleeting evidence of our mission past is being identified toward the final elucidation of these and other questions.

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