Measure B

Consolidated Biological Mitigation Project

Year 11 Monitoring Report

January to December 2014

Santa Clara Valley Transportation Authority

Submitted December 2014

Prepared by: Dan Stephens, Principal, H. T. Harvey and Associates (HTH)
Max Busnardo, Sr. Restoration Ecologist, HTH
Matt Quinn, Project Manager, HTH

Data Collection and Analysis by: Megan Granato (née Malone), Restoration Ecologist, HTH
Kaitlin Schott, Restoration Ecologist, HTH

Reviewed by: Ann Calnan, VTA Senior Environmental Planner

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CHAPTER 1.0: EXECUTIVE SUMMARY

1.1 OVERVIEW

The Santa Clara Valley Transportation Authority's (VTA) Consolidated Biological Mitigation Project (CBMP) comprises two locations along Coyote Creek at Tennant Road and Riverside Drive in south San Jose, Santa Clara County. The sites have three different habitat elements, including riparian and shaded riverine aquatic (SRA) habitat at both sites as well as wetland habitat at the Riverside Drive site. The sites were planted in the fall/winter 2003/2004 and monitoring of the sites began in 2004 (Year 1) in accordance with the Project's Habitat Mitigation and Monitoring Plan (MMP) (H. T. Harvey and Associates 2000).

At the end of Year 5 (2008), the Tenant Road riparian mitigation areas and the SRA mitigation areas at both sites were performing well and had met their success criteria; however, the Riverside Drive riparian mitigation areas fell short of their requirements. The CDFW and RWQCB were consulted to discuss these sites in detail and elicit feedback on a preferred adaptive management and monitoring approach. Formal meetings were held with representatives from these agencies on 11 December 2008 and 28 May 2009. As a result of these discussions, agency sign-off was requested for the Tenant Road riparian mitigation area and all SRA areas, and a remedial management approach was proposed for the Riverside Drive riparian mitigation areas (H. T. Harvey & Associates 2010a). The remedial measures for Riverside Drive were outlined in *a Year 5 Update and Permit Amendment Request memo* and included a reassessment of the target habitat, a significant replanting effort, a California sycamore pilot planting project, and revised monitoring methods and success criteria for riparian planting areas A-1, A-2, B, C, D, E-1, and E-2 (Figure 2-2) (H. T. Harvey & Associates 2009).

It was determined that a more appropriate target habitat for the riparian mitigation areas would comprise coast live oak riparian woodland and valley oak woodland. Therefore, a new plant palette was created that was more appropriate for these target habitats, including coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), toyon (*Heteromeles arbutifolia)*, sticky monkey flower (*Mimulus auranticus*), holly leaf cherry *(Prunus ilicifolia*), coffeeberry (*Frangula californica*), California rose (*Rosa californica*), and blue elderberry (*Sambucus nigra*). In January 2010, a total of 445 plants from the above species list were installed at Riverside Drive areas A-1, A-2, and B. To address herbivory and gopher damage at the sites, plants were installed with gopher cages and oversized foliage protection cages. Larger planting holes were excavated and amended to improve the site's excessively drained and nutrient-poor soils. New irrigation systems were also installed in planting areas A-1, A-2, and B to provide irrigation to new replants as well as existing plants, which were installed in the initial planting effort (H. T. Harvey & Associates 2010b).

The California sycamore pilot planting project was intended to provide information on the feasibility for native plant nurseries to provide genetically pure native California sycamores for mitigation projects and compare the relative success of trees propagated from cuttings versus those propagated from seed. The pilot project called for the installation of 40 sycamores from seed and 40 from cuttings. The native plant nursery was able to provide 46 saplings from seed but only succeeded in producing one rooted cutting. The sycamores were installed in January 2010 in areas A-1, A-2, B, and E-2 and were to be monitored separately from the other mitigation plantings through Year 13 (2016) to determine any difference in establishment rates for plantings from seed versus cuttings.

1.2 MONITORING METHODS AND RESULTS

1.2.1 VEGETATION MONITORING

H. T. Harvey & Associates conducted the Year 11 (2014) riparian mitigation monitoring at the Riverside Drive riparian planting areas (A-1, A-2, and B) in accordance with the MMP and agency-approved

monitoring methods (H. T. Harvey & Associates 2009). The Year 11 (2014) monitoring requirements include planting survival, photo documentation. Results continue to show that high quality oak woodland is establishing at the replanted areas.

The final success criterion for plant survival requires a 60% survival in Year 11 (Year 5 following the replanting effort). The percent survival across all species exceeded this criterion at 82% survival.

The sycamores have been closely monitored since they were planted. All of the plantings grown from seed had characteristics indicating that they are sycamore and London plane tree hybrids and were removed. No evidence of hybrid sycamore re-sprouting was observed during mitigation monitoring. However, the planting propagated from a cutting does not appear to be a hybrid and is continuing to be maintained.

1.3 MANAGEMENT RECOMENDATIONS

Our management recommendations are summarized as follows:

1) **Weeding**. Hand weeding within the planting basins and mowing/weed whipping within the planting areas should continue.

2) **Noxious/invasive plant control.** Noxious/invasive plant control measures should be continued, with particular attention paid to stinkwort (*Dittrichia graveolens*), mustard (*Brassica nigra*), and yellow star thistle (*Centaurea solstitialis*).

3) **Irrigation.** During Year 12 (2015) maintenance monitoring events qualified biologists will evaluate site conditions and recommend irrigation events as necessary. The sustained drought conditions of the past three growing seasons may necessitate irrigation despite the age of plantings and proximity to the end of the monitoring period.

4) **Foliage protection.** All foliage protection cages should be maintained to protect plants from herbivory. If plant height exceeds the cage height or the cage is restricting plant growth, the cage should be adjusted accordingly.

5) **Sycamore Monitoring and Treatment**. The locations where seed-propagated California sycamore pilot planting trees were installed should continue to be monitored for re-sprouting. In the event that re-sprouting is observed, re-sprouts should be cut at the base, the stumps should be painted with a County-approved herbicide, and all tree material removed from the project site.

CHAPTER 2.0: INTRODUCTION

This Year 11 (2014) Monitoring Report has been prepared in accordance with the *Santa Clara Valley Transportation Authority Measure A/B Projects Riparian and Wetland Habitats Mitigation and Monitoring Plan* (MMP) (H. T. Harvey and Associates 2000) and the *Year 5 Update and Permit Amendment Request mem*o (H. T. Harvey & Associates 2009) to document the current status of the project. This report is a continuation to the *Measure B Consolidated Biological Mitigation Project Years 1-5, 7-9 Monitoring Reports (2004-2008, 2010-2013)* (Santa Clara Valley Transportation Authority 2005, 2006, 2007, 2008, 2010, 2011, 2012, 2013).

Background

The Santa Clara Valley Transportation Authority (VTA) Consolidated Biological Mitigation Project (CBMP) addresses the biological impacts of the 1996 Measure B Transportation Improvement Program. The CBMP is located in south San Jose, Santa Clara County, and includes two mitigation sites (Figure 2-1):

- *Riverside Drive.* The Riverside Drive mitigation site is located along Coyote Creek beginning 800 meters (m) (2625 feet [ft]) downstream of Riverside Drive and continuing downstream for approximately 1.6 kilometers (km) (5250 ft). This site includes riparian, shaded riverine aquatic (SRA), and wetland mitigation areas.
- *Tennant Road.* The Tennant Road mitigation site is located along Coyote Creek between Silicon Valley Boulevard and State Route 85. This site includes riparian and SRA mitigation areas.

The CBMP is required to compensate for impacts to approximately 4.72 acres of California Department of Fish and Wildlife (CDFW) and Regional Water Quality Control Board (RWQCB) jurisdictional area including 1,626 linear feet of SRA impacts. The project is also required to compensate for impacts to approximately 0.24 acre of United States Army Corps of Engineers (USACE) jurisdictional wetland area. Table 2-1 provides a summary of the impacts and compensatory mitigation.

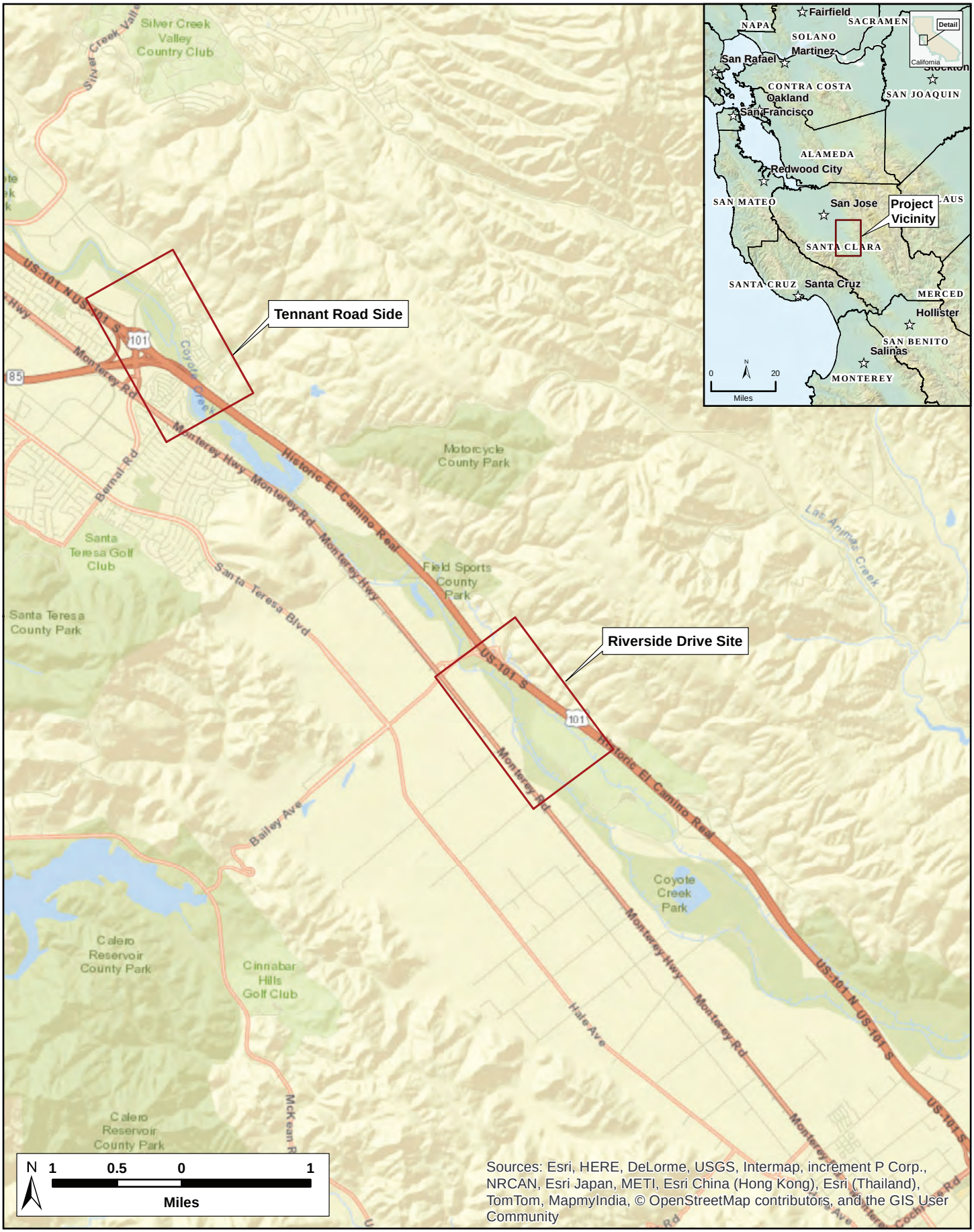
Table 2-1: Mitigation Acres Created by Habitat Type

Habitat Type	Mitigation Goal	Actual Mitigation Acres
Riparian	9.13 acres, plus remove 2 acres of *Arundo donax*	15.87 acres, including removal of 2.93 acres of *Arundo donax*
SRA	4,833 linear feet	6,000 linear feet
Wetland[1]	0.49 acre	0.82 acre[2]

Note:
[1] The Riverside Drive wetland site was designed to create 0.75 acre jurisdictional wetland. However, based on a visual assessment of plant growth and GPS mapping, the variation in groundwater depths has increased the wetland area.
[2] A formal delineation was performed in Year 3.

The riparian and wetland mitigation sites were constructed and planted in fall 2003, and SRA plantings (i.e., willow and cottonwood cuttings) were installed in the winter of 2003/2004. All revisions to the original design were documented in as-built drawings (Santa Clara Valley Transportation Authority 2004). Monitoring of the Tennant Road and the Riverside Drive riparian, SRA, and wetland mitigation areas commenced in 2004 (Year 1).

At the end of Year 5 (2008), the Tenant Road riparian mitigation areas and the SRA mitigation areas at both sites were performing well and had met their success criteria; however, the Riverside Drive riparian mitigation areas fell short of their requirements. The CDFW and RWQCB were consulted to discuss these



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

N:\Projects3500\3518-01\Reports\Year 11\Fig 2-1 Vicinity Map.mxd

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Figure 2-1: Site Locations
Consolidated Biological Mitigation Project (3518-01)
December 2014

sites and provide feedback on a preferred adaptive management and monitoring approach. Formal meetings were held with representatives from these agencies on 11 December 2008 and 28 May 2009. As a result of these discussions, agency sign-off was requested for the Tenant Road riparian mitigation area and all SRA areas, and a remedial management approach was proposed for the Riverside Drive riparian mitigation areas (H. T. Harvey & Associates 2010a). The remedial measures for Riverside Drive were outlined in *a Year 5 Update and Permit Amendment Request Memorandum* and included a reassessment of the target habitat, a significant replanting effort, a California sycamore (*Platanus racemosa*) pilot planting project, and revised monitoring methods and success criteria for riparian planting areas A-1, A-2, B, C, D, E-1, and E-2 (Figure 2-2) (H. T. Harvey & Associates 2009).

The MMP focused on planting riparian species at the Riverside Drive riparian mitigation area. It was determined that a more appropriate target habitat for the riparian mitigation areas would comprise coast live oak riparian woodland and valley oak woodland. Therefore, a new plant palette was created that was more appropriate for these target habitats, including coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), toyon (*Heteromeles arbutifolia)*, sticky monkey flower (*Mimulus auranticus*), holly leaf cherry *(Prunus ilicifolia*), coffeeberry (*Frangula californica*), California rose (*Rosa californica*), and blue elderberry (*Sambucus nigra*). The revised habitat target and plant palette was approved by the CDFW and RWQCB. In January 2010, a total of 445 plants from the above species list were installed at Riverside Drive areas A-1, A-2, and B. To address herbivory and gopher damage at the sites, plants were installed with gopher cages and oversized foliage protection cages. Larger planting holes were excavated and amended to improve the site's excessively drained and nutrient-poor soils. New irrigation systems were also installed in planting areas A-1, A-2, and B to provide irrigation to new replants as well as existing plants, which were installed in the initial planting effort (H. T. Harvey & Associates 2010b).

The California sycamore pilot planting project was intended to provide information on the feasibility for native plant nurseries to provide genetically pure native California sycamores for mitigation projects and also compare the relative success of trees propagated from cuttings versus those propagated from seed. The pilot project called for the installation of 40 sycamores from seed and 40 from cuttings. The sycamores were to be installed in areas A-1, A-2, B, and E-2 and monitored separately from the other mitigation plantings for the remainder of the project's monitoring period to determine any difference in establishment rates for plantings from seed versus cuttings. The native plant nursery was able to provide 46 saplings from seed but succeeded in producing only one rooted cutting. The available sycamores were installed in January 2010 in areas A-1, A-2, B, and E-2 and are tracked separately from the mitigation plantings to determine if they are native genetic stock or hybridized.

Beginning in Year 7 (2010), the monitoring methods and success criteria were adjusted for the Riverside Drive riparian areas in accordance with the *Year 5 Update and Permit Amendment Request Memorandum*, and monitoring was discontinued at the Tenant Road riparian mitigation area and all SRA areas (H. T. Harvey & Associates 2009). In Year 7 (2010), the Riverside Drive wetland mitigation site met its mitigation requirements and agency sign-off was requested. In Year 8 (2011) the CBMP met its success criteria for the Riverside Drive riparian sites, including avian monitoring and plant survival and health and vigor in planting areas A-1, A-2, and B. In Year 9 (2012), plant survival in Riverside Drive areas A-1, A-2, and B again exceeded the minimum requirement. In Year 10 (2013), average tree heights for all species except California bay laurel were greater in Year 10 than when they were last measured in Year 7, and the decrease in average height of California bay laurel was minimal. In Year 10 tree density and tree diversity exceeded the success criterion. Finally, in Year 10 the final avian monitoring was conducted.

This report documents CBMP conditions during 2014, which is the eleventh year of the 13 year monitoring program.

N:\Projects\3500\3518-01\Reports\Year 1\1\Fig 2-2 Riparian Planting Areas.mxd

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Figure 2-2: Riverside Drive Riparian Planting Areas

Consolidated Biological Mitigation Project (3518-01)

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CHAPTER 3.0: MITIGATION MONITORING

3.1 POST CONSTRUCTION ACTIVITIES

As-built drawings for the initial construction of the project were completed on 18 August 2004. A second as-built technical memorandum was completed on 31 March 2010 following the completion of the replanting effort at Riverside Drive riparian planting areas A-1, A-2, and B (H. T. Harvey & Associates 2010b). The replanting design, monitoring, and maintenance requirements are outlined in the *Year 5 Update and Permit Amendment Request Memorandum* (H. T. Harvey & Associates 2009). The project's original as-built included monitoring Sheets M-1 to M-9, which show the locations of monitoring plots, transects, and photo-documentation points for the Riverside Drive riparian planting areas (Appendix A). These monitoring plots and photo-documentation points will continue to be used to track plant survival and health and vigor at areas A-1, A-2, and B and tree height at all the Riverside Drive planting areas. Plant survival at areas A-1, A-2, and B will be tracked against the number of replants installed, as documented in the 31 March 2010 as-built technical memorandum (H. T. Harvey & Associates 2010b).

Active maintenance, including irrigation, weed and invasive plant control, and maintenance of foliage protection cages has occurred in areas A-1, A-2, and B for the past 4 years and will continue on an as-needed basis.

3.2 MONITORING SCHEDULE

The revised monitoring schedule for the project, as outlined in the *Year 5 Update and Permit Amendment Request Memorandum*, is presented in Table 3-1 (HTH 2009). For Year 11 (2014), monitoring efforts included plant survival and photo documentation in riparian planting areas A-1, A-2, and B. No mitigation monitoring is scheduled for 2015.

Table 3-1: Monitoring and Reporting Schedule for the Riverside Drive Riparian Mitigation Areas.

Parameter	Riverside Mitigation Area	2010 (Year 7)	2011 (Year 8)	2012 (Year 9)	2013 (Year 10)	2014 (Year 11)	2015 (Year 12)	2016 (Year 13)
Plant Survival	A-1, A-2, B only	X	X	X		X		
Tree Height	All Riparian Planting Areas	X			X			X
Plant Health and Vigor	All Riparian Planting Areas in Year 7 and only A-1, A-2, B in Years 8 and 9	X	X	X				
Tree Density	All Riparian Planting Areas	X			X			X
Plant Diversity	All Riparian Planting Areas in Year 7 and only A-1, A-2, B in Years 10 and 13	X			X			X
Avian Monitoring	All Riparian Planting Areas		X		X			
Percent Cover	Wetland	X						

CHAPTER 4.0: METHODS

4.1 PLANT SURVIVAL

Plant survival was calculated by counting all of the surviving mitigation replants, which were installed during replanting efforts in January 2010 and the winter of 2010/2011. These quantities were compared with the original number of replants installed in 2010. Plant survival for each species is determined as follows:

Percent Plant Survival Species A = (Total Number of Replants Alive in 2014/Total Number of Replants Installed in January 2010) * 100

Additional replanting efforts in the winter of 2010/2011 expanded the planting palette and increased numbers of some of the species already replanted in January 2010. Additionally, over the course of replant establishment, the combination of mortality and natural recruitment of planted species has caused some of the planting basins to contain multiple species or a species from the original planting palette that naturally recruited. In some cases, these factors result in percent survival greater than 100% for a given species.

4.2 PHOTO-DOCUMENTATION

Photo-documentation of all Riverside Drive planting areas was conducted on 7 August 2014 and 26 September 2014 from a number of fixed photo-documentation point locations, as shown on the original As-Built drawings, sheets M-1 through M-7 (Appendix A). Photos are included in Appendix B (Photo B-1 to B-10).

4.3 CALIFORNIA SYCAMORE PILOT PLANTING PROJECT

During plant survival monitoring, one remaining California sycamore that was propagated from a cutting was observed and the planting location at all previously removed hybrid sycamores were inspected for the presence of re-sprouts.

CHAPTER 5.0: RESULTS AND DISCUSSION

5.1 PLANT SURVIVAL

M. Granato, M.S. and K. Schott, M.S. (HTH) collected vegetation data at the Riverside Drive riparian planting areas on 7 August 2014. This section presents the Year 11 monitoring results for plant survival. Photo-documentation is included in Appendix B.

The Year 11 (2014) plant survival results for planting areas A-1, A-2, and B are presented by species in Table 5-1.

All individual species had high to moderate rates of survival, with the exception of toyon and sticky monkey flower. The toyon had a survival of 53%; however, the majority of this species' mortality occurred in Year 8 (2011) when it suffered from an outbreak of fire blight (*Erwinia amylovora*). Sticky monkey flower had a low survival rate of 18% with continued mortality throughout the monitoring period. The percent survival of sticky monkey flower dropped from 70% in Year 8 (2011) to 50% in Year 9 (2012) to the current 18% in Year-11 (2014). All other species planted had percent survival rates of 65% or greater.

The overall plant survival was 82% in Year 11. The final success criterion for plant survival is 60% in Year 11 (Year 5 following the replanting effort) and the Year 11 criterion was met.

Table 5-1: Plant Survival by Species of Replants installed in 2010-2011 at the Riverside Drive Riparian Mitigation Areas A-1, A-2, and B.

Species	Number of Replants Installed in Jan. 2010	Number of Replants Alive in Year 11 (2014)	Percent Survival
box elder *Acer negundo*	n/a	2	n/a[1]
California sagebrush *Artemisia californica*	40	35	88%
coyote brush *Baccharis pilularis*	40	31	78%
coffeeberry *Frangula californica* (formerly *Rhamnus californica*)	40	26	65%
toyon *Heteromeles arbutifolia*	40	21	53%
sticky monkey flower *Mimulus auranticus*	40	7	18%
holly leaf cherry *Prunus ilicifolia*	35	27	77%
coast live oak *Quercus agrifolia*	60	51	85%
valley oak *Quercus lobata*	60	58	97%
California rose *Rosa californica*	45	46	102%[2]
Mexican/blue elderberry *Sambucus nigra* (formerly *S. mexicana*)	45	61	135%[2]
Total	**445**	**365**	**82%**

Notes:
[1] Box elder was not installed in the January 2010 replanting effort but was included as a replacement plant in the winter of 2010/2011.
[2] Values are greater than 100% because California rose and blue elderberry were included as replacement plants in the winter of 2010/2011.

5.2 CALIFORNIA SYCAMORE PILOT PLANTING PROJECT

As reported in the Year 8 and Year 9 monitoring reports (Santa Clara Valley Transportation Authority 2011 and 2012), all of the sycamores, with the exception of the individual in replanting area A-2 which was propagated from a cutting, showed characteristics indicative of hybridization. Girdling of hybrid sycamores was conducted prior to 2 April 2014. No evidence of hybrid sycamore re-sprouting was observed as part of Year-11 monitoring.

CHAPTER 6.0: CONCLUSIONS AND RECOMMENDATIONS

As of Year 11 (2014), the Riverside Drive replanting areas are continuing to perform well. The sites as a whole are providing early successional oak-dominated riparian woodland habitat. It is anticipated that with continued maintenance, as outlined below, the sites will meet the project's mitigation goals.

No vegetation monitoring is scheduled for Year 12 (2015), however restoration ecologists will observe and interpret the vegetation conditions during maintenance monitoring events in order to provide ongoing vegetation maintenance recommendations.

To help ensure that the performance and final success criteria are met at the Riverside Drive riparian mitigation sites, we recommend continued maintenance in planting areas A-1, A-2, and B. All maintenance activities should be performed in accordance with Santa Clara Valley Transportation Authority specifications and include the following:

1) **Weeding**. Hand weeding within the planting basins and mowing/weed whipping within the planting areas should continue.

2) **Noxious/invasive plant control.** Noxious/invasive plant control measures should be continued, with particular attention paid to stinkwort (*Dittrichia graveolens*), mustard (*Brassica nigra*), and yellow star thistle (*Centaurea solstitialis*).

3) **Irrigation.** During Year 12 (2015) maintenance monitoring events qualified biologists will evaluate site conditions and recommend irrigation events as necessary. The sustained drought conditions of the past three growing seasons may necessitate irrigation despite the age of plantings and proximity to the end of the monitoring period.

4) **Foliage protection.** All foliage protection cages should be maintained to protect plants from herbivory. If plant height exceeds the cage height or the cage is restricting plant growth, the cage should be adjusted accordingly.

5) **Sycamore Monitoring and Treatment**. The locations where seed-propagated California sycamore pilot planting trees were installed should continue to be monitored for re-sprouting. In the event that re-sprouting is observed, re-sprouts should be cut at the base, the stumps should be painted with a County-approved herbicide, and all tree material removed from the project site.

CHAPTER 7.0: REFERENCES

H. T. Harvey and Associates. 2000. Santa Clara Valley Transportation Authority 1996 Measures A+B Transportation Improvement Program, Riparian and Wetland Habitats Mitigation and Monitoring Plan. Prepared for the Santa Clara Valley Transportation Authority.

H. T. Harvey & Associates. 2009. Year 5 Update and Permit Amendment Request Memo (addressed to Dave Johnston of the California Department of Fish and Game and Brian Wines of the California Regional Water Quality Control Board), dated August 14, 2009 and revised November 10, 2009.

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Santa Clara Valley Transportation Authority. 2011. Measure B Consolidated Biological Mitigation Project Year 8 Monitoring Report, Monitoring period: January 1 – December 31, 2011. Submitted 2011.

Santa Clara Valley Transportation Authority. 2012. Measure B Consolidated Biological Mitigation Project Year 9 Monitoring Report, Monitoring period: January 1 – December 31, 2012. Submitted 2012.

Santa Clara Valley Transportation Authority. 2013. Measure B Consolidated Biological Mitigation Project Year 10 Monitoring Report, Monitoring period: January 1 – December 31, 2013. Submitted 2013.

APPENDIX A

AS BUILT PLANS – MONITORING SHEETS M-1 TO M-9

MATCH LINE – SEE SHEET M-2

CONSTRUCTION CHANGES

VTA CONTRACT NO. 02022
DATE ACCEPTED 8/18/04

AS BUILT

RESIDENT ENGINEER RACHAEL KEISH
REVISIONS BY: TD DATE: 8/19/04
DELINEATED BY: VCJ DATE: 8/23/04
DELINEATION CHECKED BY: BR DATE: 9/9/04

ROUTE 101

Access Route

Project Limit

AREA E2

SRA 7 T-1 S
SRA 7 T-1 N
SRA 12 T-1 S
SRA 12 T-1 N
E1 T-3 S
E1 T-1 S
E1 P-1 SE
E1 P-1 SW
E1 P-1 NE
E1 P-1 NW
E1 P-2 SW
E1 P-2 SE
E1 P-2 NE
E1 T-2 S
E1 P-3 NE
E1 P-3 SE
E1 P-3 SW
E1 P-2 NW
E1 T-2 N
E1 P-3 NW
E1 T-3 N
E1 T-1 N

Photo Point 4.E2.1
E2 T-1 S
E2 P-1 SE
E2 P-1 NE
E2 T-1 N
E2 P-1 NW
E2 P-1 SW

AREA E1

Photo Point 1.E1.1

Access Route

Project Limit

Coyote Creek

Project Limit

M-1

REGISTERED PROFESSIONAL ENGINEER
RACHAEL R. KEISH
Rachael R. Keish
C 63627
EXP. 9-30-06
CIVIL
STATE OF CALIFORNIA

Photo Points Legend

Example: 7.A2.1
7 = Photo Point Number
A2 = Planting Area Designation
1 = Number of Photo Point in Each Area

Monitoring Points Legend

Example: C P-1 SE
C = Planting Area Designation at Riverside Drive Site
P-1 = Plot One
SE = South East Corner of Plot

Transect Points Legend

Example: C T-1 N
C = Planting Area Designation at Riverside Drive Site
T-1 = Transect One
N = North End of Transect

SCALE IN METERS
10 0 5 10 20 30 40 50
1 : 500

NO.	DATE	REVISIONS

SUBMITTED
URS
55 South Market Street
Suite 1650
San Jose, California
Tel: (408) 297-9585
Fax: (408) 297-6962

DESIGNED GCC | CHECKED OR
DRAWN VCJ | CADD FILE NAME

Timothy Lee
REGISTERED ENGINEER

REGISTERED PROFESSIONAL ENGINEER TIMOTHY JOHN LEE No. C 50605 Exp. 9/30/05 CIVIL STATE OF CALIFORNIA

APPROVED
SANTA CLARA VALLEY TRANSPORTATION AUTHORITY
3331 NORTH FIRST STREET, BLDG. B
SAN JOSE, CA 95134-1906

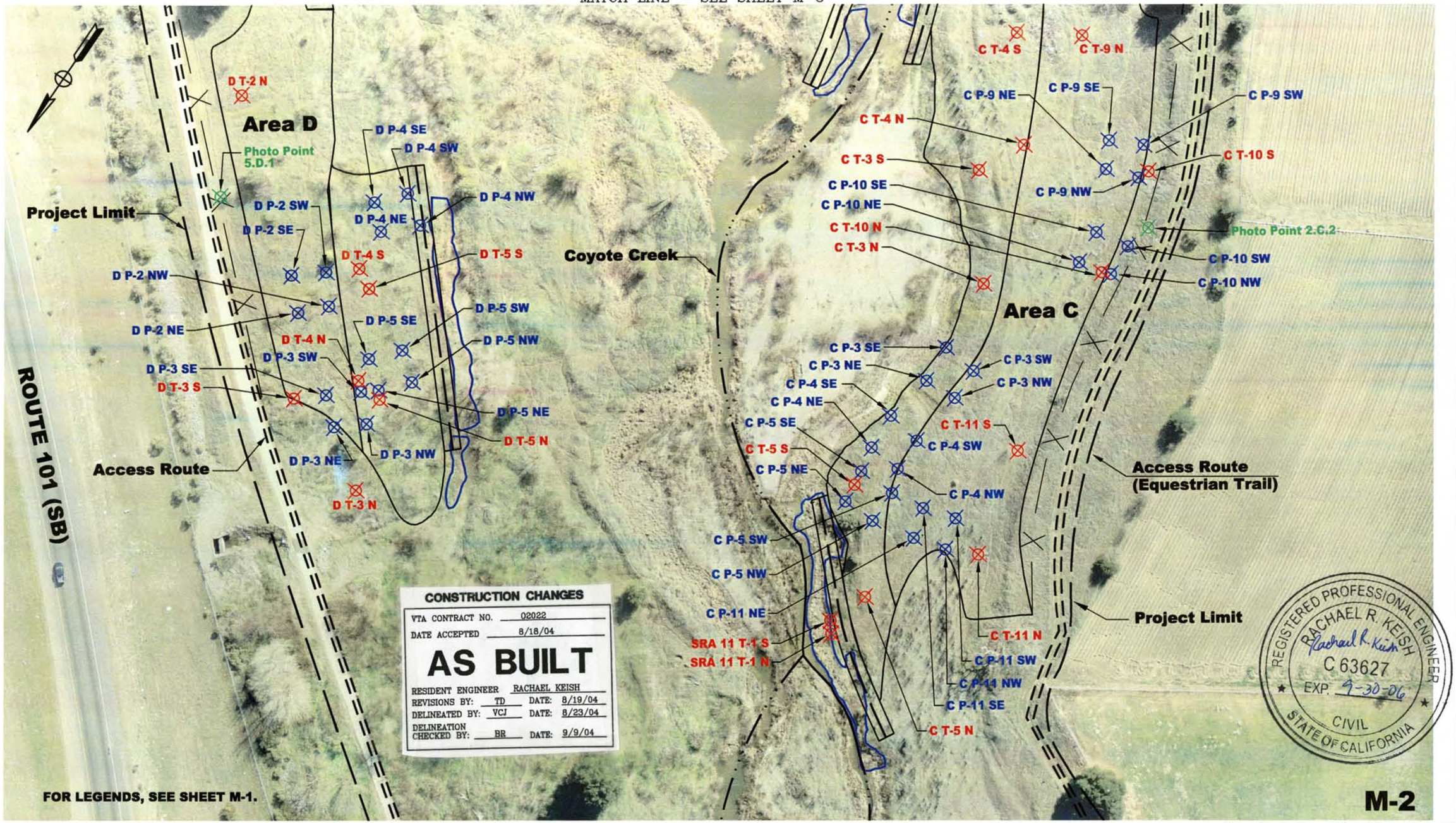
CADD FILE DATE 07/27/2001 | SCALE 1:500
PLOT DATE 07/31/2001 | BOARD APPROVAL DATE

CONSOLIDATED BIOLOGICAL MITIGATION PROJECT, PHASE II
MONITORING POINTS

SHEET 44 OF –
DRAWING NO.
REVISION

PCA NO. | CONTRACT NO. S00227 | FILE LOCATION

MATCH LINE – SEE SHEET M-3



CONSTRUCTION CHANGES

VTA CONTRACT NO. 02022
DATE ACCEPTED 8/18/04

AS BUILT

RESIDENT ENGINEER RACHAEL KEISH
REVISIONS BY: TD DATE: 8/19/04
DELINEATED BY: VCJ DATE: 8/23/04
DELINEATION CHECKED BY: BR DATE: 9/9/04

REGISTERED PROFESSIONAL ENGINEER
RACHAEL R. KEISH
C 63627
EXP. 9-30-06
CIVIL
STATE OF CALIFORNIA

FOR LEGENDS, SEE SHEET M-1.

M-2

MATCH LINE – SEE SHEET M-1

SCALE IN METERS
10 0 5 10 20 30 40 50
1 :500

NO.	DATE	REVISIONS

SUBMITTED
URS
55 South Market Street
Suite 1650
San Jose, California
Tel: (408) 297-9585
Fax: (408) 297-6962

DESIGNED GCC | CHECKED OR
DRAWN VCJ | CADD FILE NAME

Timothy Lee
REGISTERED ENGINEER
No. C 50605 Exp. 9/30/05 CIVIL STATE OF CALIFORNIA

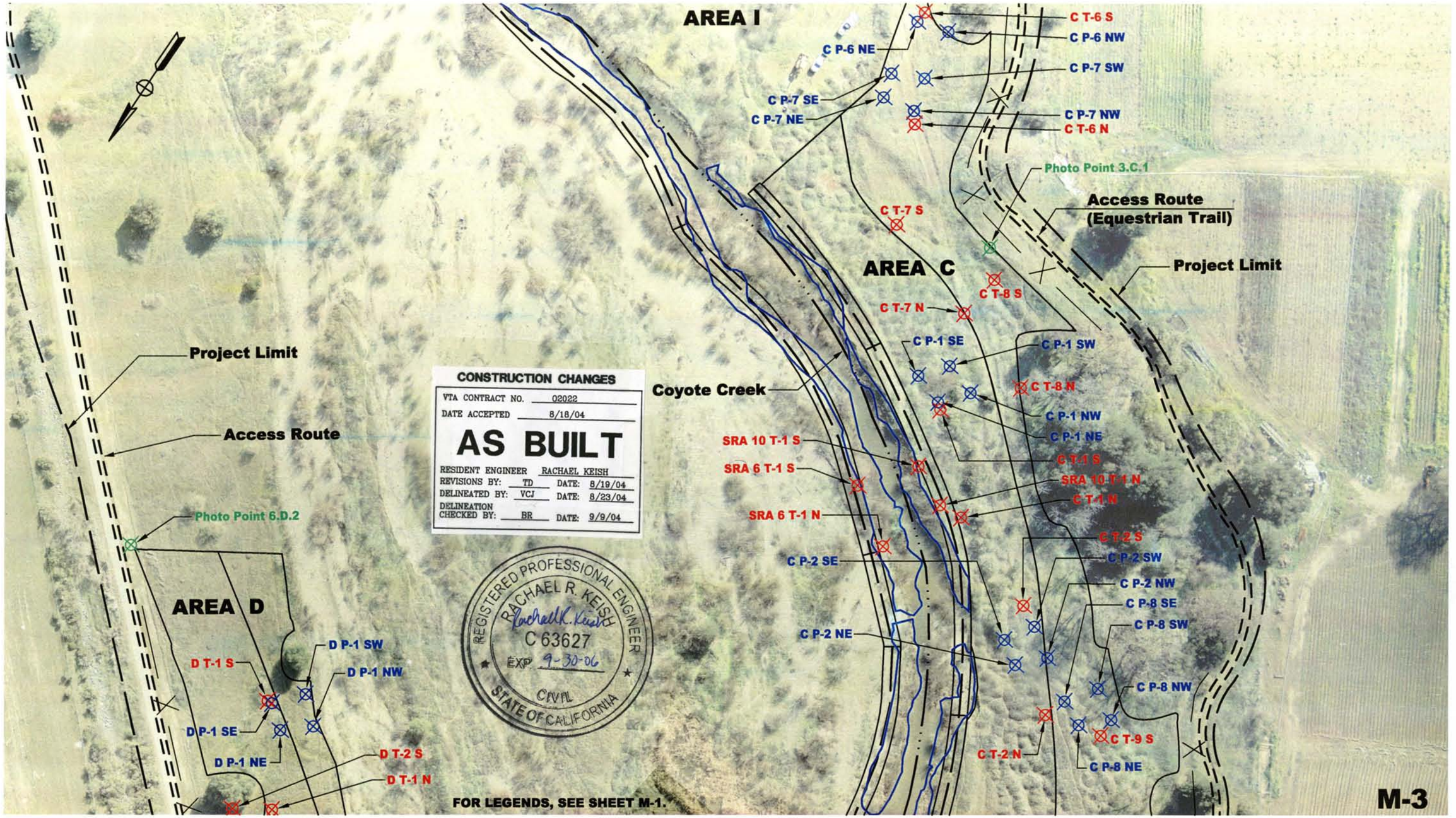
APPROVED
SANTA CLARA
VALLEY TRANSPORTATION AUTHORITY
3331 NORTH FIRST STREET, BLDG. B
SAN JOSE, CA 95134-1906

CADD FILE DATE 07/27/2001 | SCALE
PLOT DATE 07/31/2001 | BOARD APPROVAL DATE

CONSOLIDATED BIOLOGICAL MITIGATION PROJECT, PHASE II
MONITORING POINTS

SHEET 45 OF –
DRAWING NO.
REVISION

PCA NO. | CONTRACT NO. | FILE LOCATION



SCALE IN METERS

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1 : 500

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55 South Market Street
Suite 1650
San Jose, California
Tel: (408) 297-9585
Fax: (408) 297-6962

DESIGNED GCC | CHECKED OR
DRAWN VCJ | CADD FILE NAME

Timothy Lee
REGISTERED ENGINEER

REGISTERED PROFESSIONAL ENGINEER TIMOTHY JOHN LEE No. C 50605 Exp. 9/30/05 CIVIL STATE OF CALIFORNIA

APPROVED
SANTA CLARA
VALLEY TRANSPORTATION AUTHORITY
3331 NORTH FIRST STREET, BLDG. B
SAN JOSE, CA 95134-1906

CADD FILE DATE 07/27/2001 | SCALE
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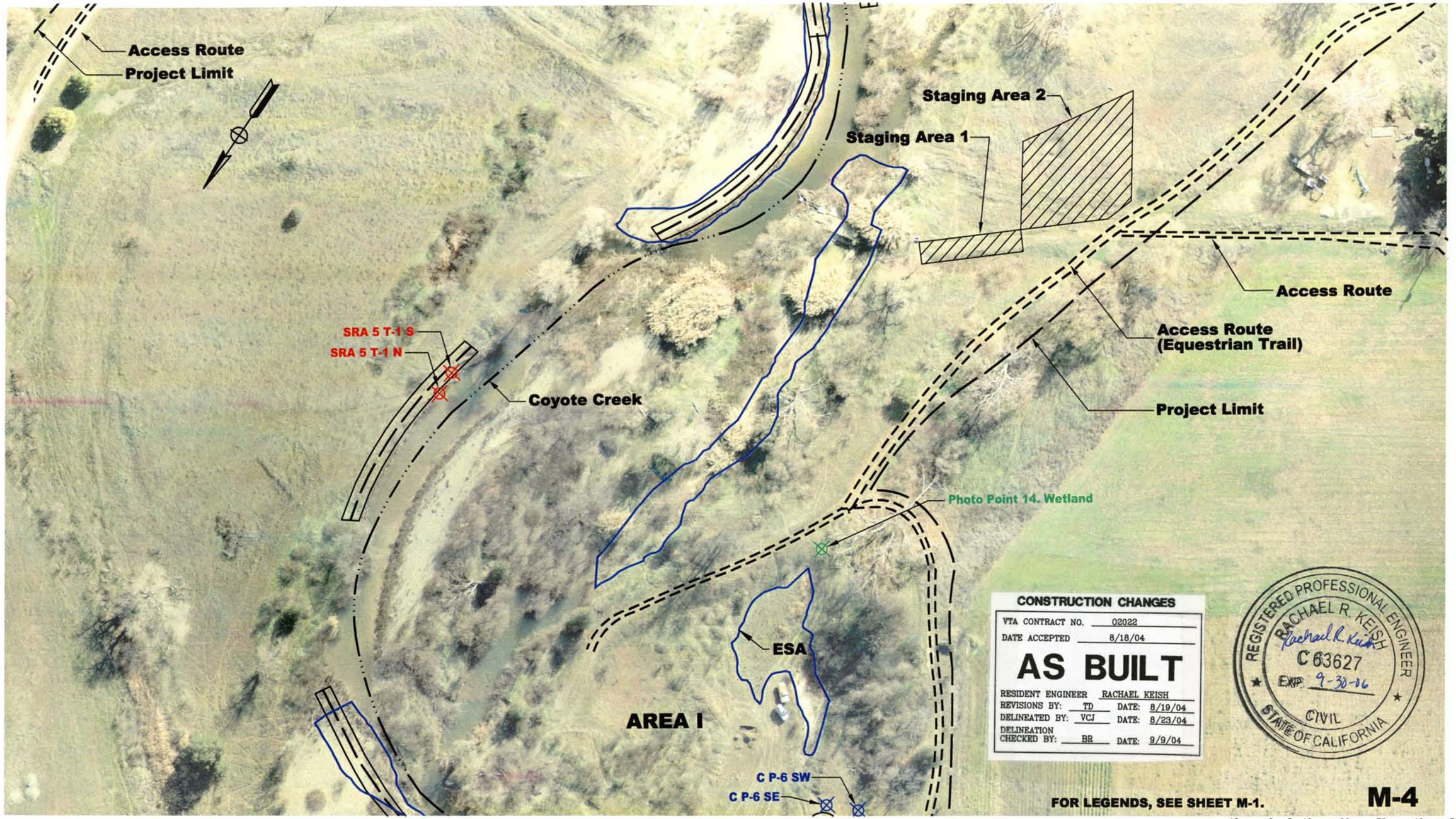
CONSOLIDATED BIOLOGICAL
MITIGATION PROJECT, PHASE II
MONITORING POINTS

SHEET 46 OF –
DRAWING NO.
REVISION

PCA NO. | CONTRACT NO. | FILE LOCATION

MATCH LINE – SEE SHEET M-5



CONSTRUCTION CHANGES

VTA CONTRACT NO. 02022
DATE ACCEPTED 8/18/04

AS BUILT

RESIDENT ENGINEER RACHAEL KEISH
REVISIONS BY: TD DATE: 8/19/04
DELINEATED BY: VCJ DATE: 8/23/04
DELINEATION CHECKED BY: BR DATE: 9/9/04

REGISTERED PROFESSIONAL ENGINEER
RACHAEL R. KEISH
Rachael R. Keish
C 63627
EXP. 9-30-06
CIVIL
STATE OF CALIFORNIA

FOR LEGENDS, SEE SHEET M-1.

M-4

MATCH LINE – SEE SHEET M-3

SCALE IN METERS
10 0 5 10 20 30 40 50
1 : 500

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MONITORING POINTS

PCA NO. | CONTRACT NO. | FILE LOCATION

SHEET 47 OF –
DRAWING NO.
REVISION

MATCH LINE – SEE SHEET M-4

MATCH LINE – SEE SHEET M-6

Coyote Creek Golf Course

SRA 9 T-1 N

SRA 9 T-1 S

Area B Soil Disposal Area

Photo Point 10.B.1

B P-1 NE

B P-1 SE

SRA 4 T-1 N

SRA 4 T-1 S

SRA 8 T-1 N

SRA 8 T-1 S

SRA 3 T-1 N

SRA 3 T-1 S

Access Route

Project Limit

B T-1 N

B T-3 N

B T-4 N

AREA B

B T-4 S

B P-2 NE

B T-2 N

B P-4 NE

B P-4 SE

B T-1 S

B P-1 SW

B T-3 S

B T-2 S

B P-1 NW

B P-2 SE

Coyote Creek

B P-3 NE

B P-3 NW

B P-3 SE

B P-3 SW

B P-2 NW

B P-2 SW

B P-4 NW

B P-4 SW

Photo Point 11.B.2

Project Limit

Access Route (Equestrian Trail)

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M-5

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MONITORING POINTS

SHEET 48 OF –

DRAWING NO.

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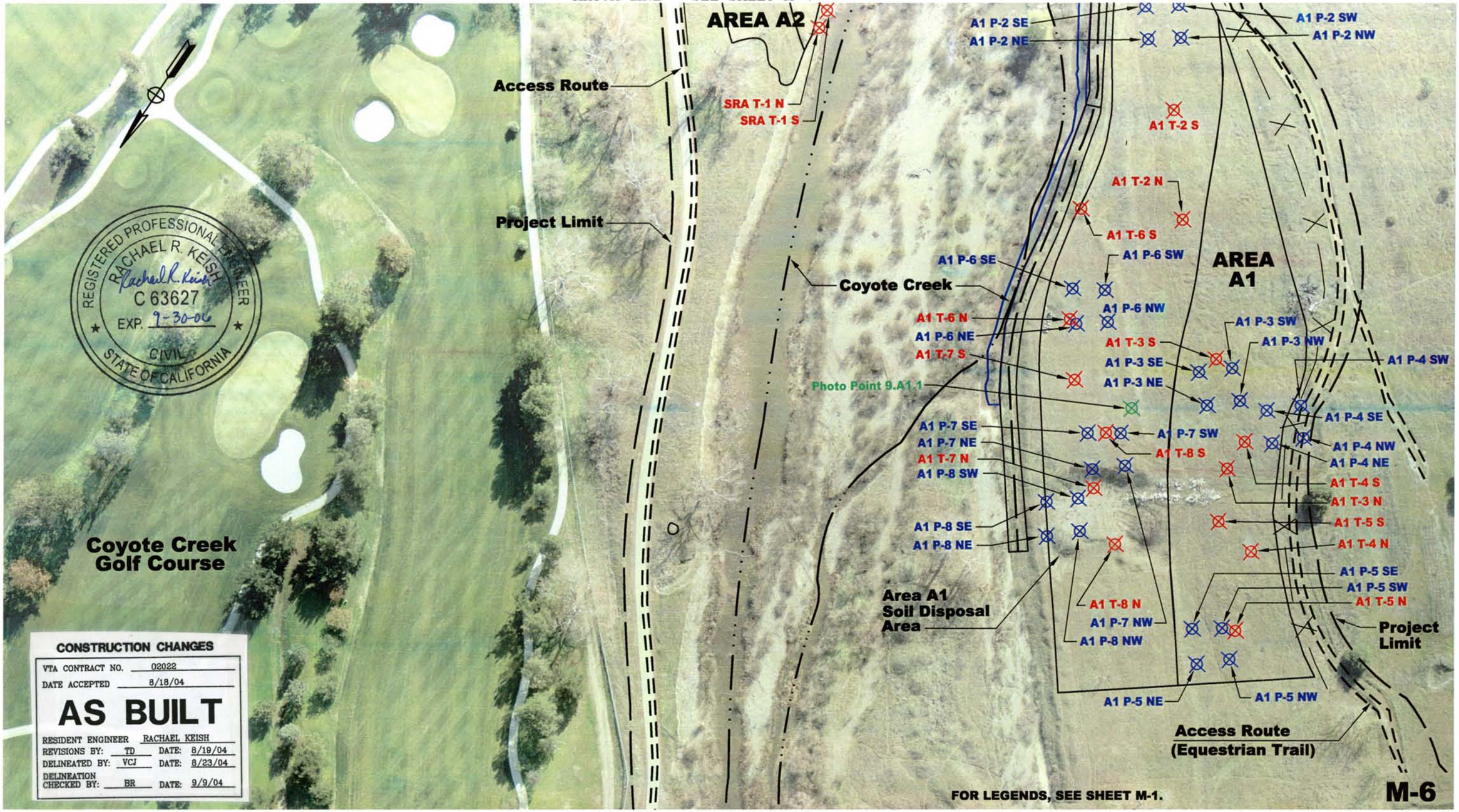
PCA NO. | CONTRACT NO. | FILE LOCATION

MATCH LINE – SEE SHEET M-7



REGISTERED PROFESSIONAL ENGINEER
RACHAEL R. KEISH
Rachael R. Keish
C 63627
EXP. 9-30-06
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FOR LEGENDS, SEE SHEET M-1.

M-6

MATCH LINE – SEE SHEET M-5

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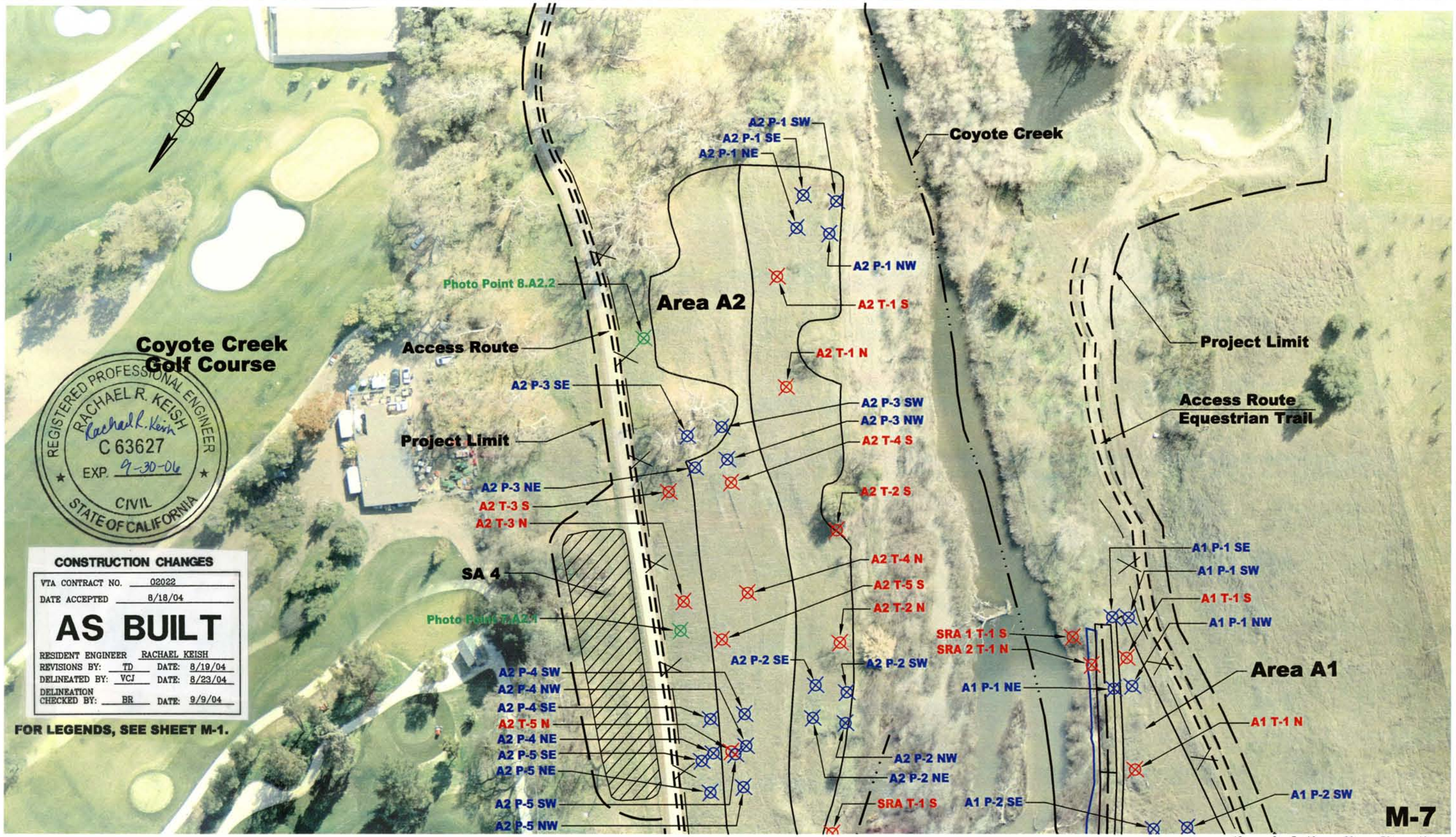
MONITORING POINTS

SHEET 49 OF –
DRAWING NO.
REVISION

PCA NO. | CONTRACT NO. | FILE LOCATION



REGISTERED PROFESSIONAL ENGINEER
RACHAEL R. KEISH
Rachael R. Keish
C 63627
EXP. 9-30-06
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MATCH LINE – SEE SHEET M–6

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CONSOLIDATED BIOLOGICAL
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MONITORING POINTS

SHEET 50 OF –
DRAWING NO.
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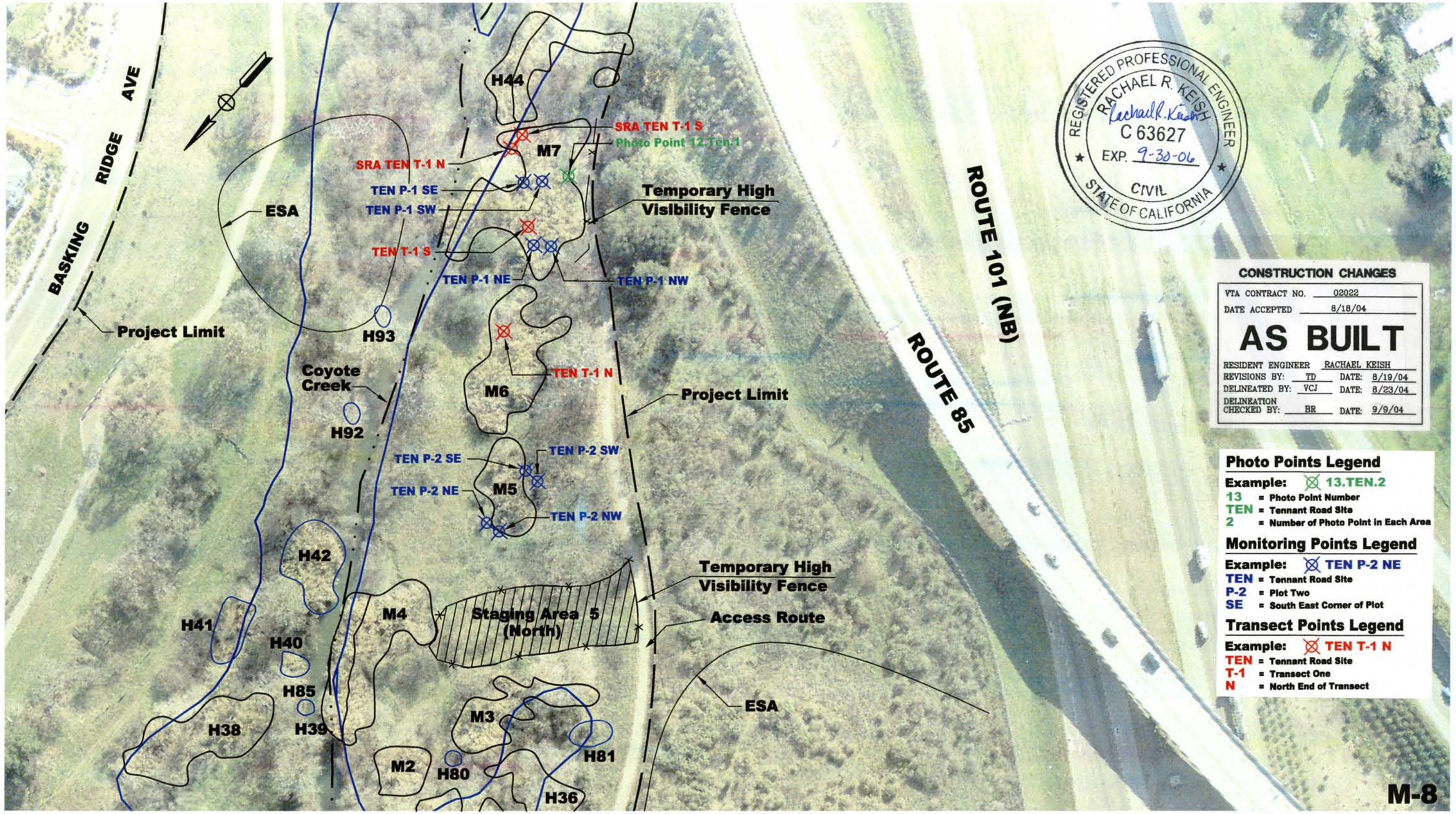

REGISTERED PROFESSIONAL ENGINEER
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Rachael R. Keish
C 63627
EXP. 9-30-06
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Photo Points Legend

Example: 13.TEN.2
13 = Photo Point Number
TEN = Tennant Road Site
2 = Number of Photo Point in Each Area

Monitoring Points Legend

Example: TEN P-2 NE
TEN = Tennant Road Site
P-2 = Plot Two
SE = South East Corner of Plot

Transect Points Legend

Example: TEN T-1 N
TEN = Tennant Road Site
T-1 = Transect One
N = North End of Transect

M-8

MATCH LINE – SEE SHEET M-9

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1 :500

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CIVIL
STATE OF CALIFORNIA

APPROVED
SANTA CLARA
VALLEY TRANSPORTATION AUTHORITY
3331 NORTH FIRST STREET, BLDG. B
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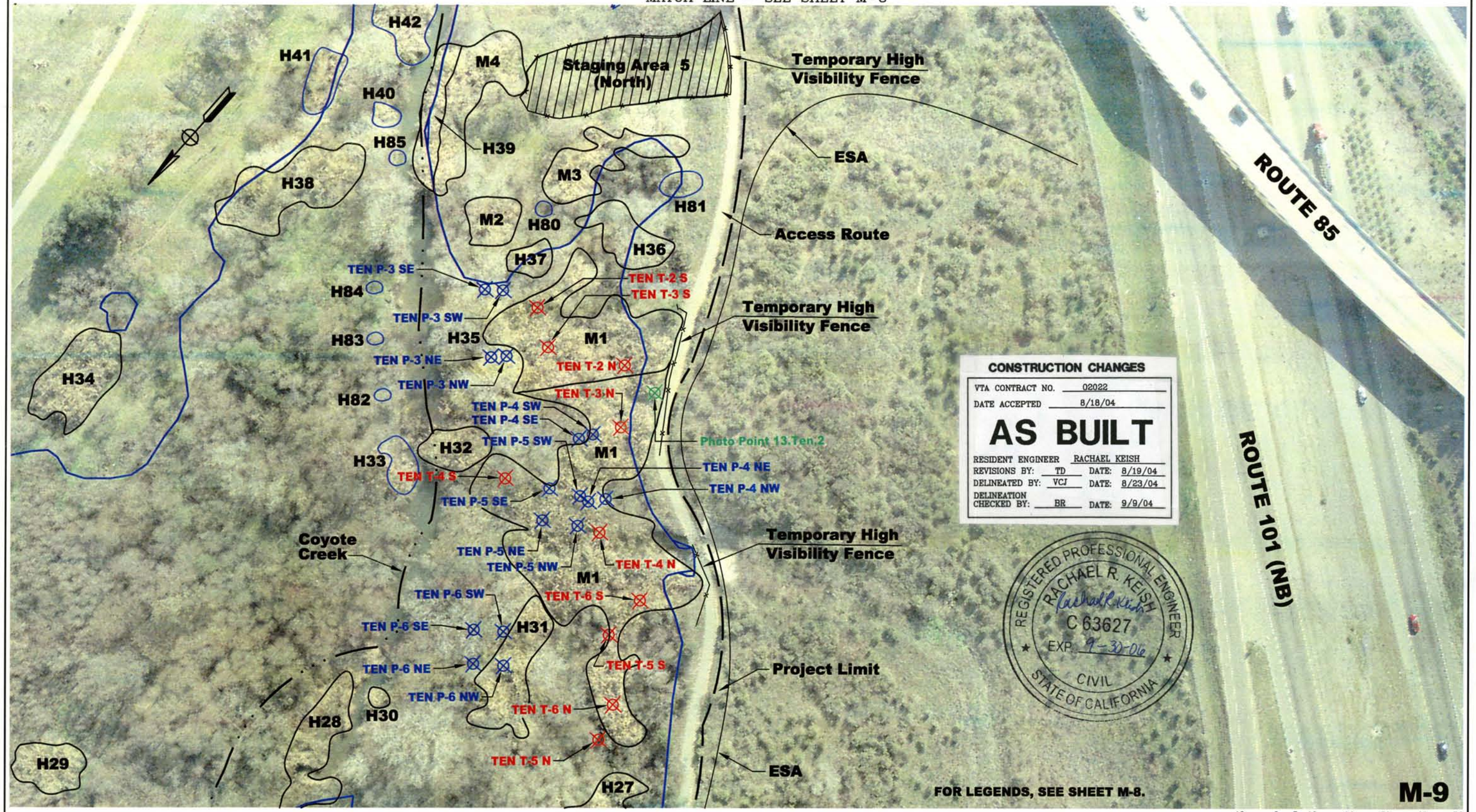
CONSOLIDATED BIOLOGICAL MITIGATION PROJECT, PHASE II

TENNANT ROAD MONITORING POINTS

SHEET 51 OF –
DRAWING NO.
REVISION

PCA NO. | CONTRACT NO. S00227 | FILE LOCATION

MATCH LINE – SEE SHEET M-8



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REGISTERED PROFESSIONAL ENGINEER
RACHAEL R. KEISH
C 63627
EXP. 9-30-06
CIVIL
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FOR LEGENDS, SEE SHEET M-8.

M-9

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URS
55 South Market Street
Suite 1650
San Jose, California
Tel: (408) 297-9585
Fax: (408) 297-6962

DESIGNED GCC | CHECKED OR
DRAWN VCJ | CADD FILE NAME

Timothy Lee
REGISTERED ENGINEER

REGISTERED PROFESSIONAL ENGINEER
TIMOTHY JOHN LEE
No. C 50605
Exp. 9/30/05
CIVIL
STATE OF CALIFORNIA

APPROVED
SANTA CLARA VALLEY TRANSPORTATION AUTHORITY
3331 NORTH FIRST STREET, BLDG. B
SAN JOSE, CA 95134-1906

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CONSOLIDATED BIOLOGICAL MITIGATION PROJECT, PHASE II

TENNANT ROAD MONITORING POINTS

SHEET 52 OF –
DRAWING NO.
REVISION

PCA NO. | CONTRACT NO. 500227 | FILE LOCATION

APPENDIX B

PHOTO-DOCUMENTATION OF YEAR 11 SITE CONDITIONS

Photo B-1. Photo-documentation point 7.A2.1 (23 July 2013).

Photo B-2. Photo-documentation point 7.A2.1 (26 September 2014).

Photo B-3. Photo-documentation point 8.A2.2 (23 July 2013).

Photo B-4. Photo-documentation point 8.A2.2 (7 August 2014).

Photo B-5. Photo-documentation point 9.A1.1 (29 July 2013).

Photo B-6. Photo-documentation point 9.A1.1 (7 August 2014).

Photo B-7. Photo-documentation point 10.B.1 (29 July 2013).

Photo B-8. Photo-documentation point 10.B.1 (7 August 2014).

Photo B-9. Photo-documentation point 11.B.2 (23 July 2013).

Photo B-10. Photo-documentation point 11.B.2 (7 August 2014).