

City of Scotts Valley CITY COUNCIL STAFF REPORT

DATE: April 19, 2017

TO: Honorable Mayor and City Council

FROM: Scott Hamby, Public Works Director

APPROVED: Jenny Haruyama, City Manager

SUBJECT: **APPROVAL OF FINAL DESIGN FOR THE MOUNT HERMON ROAD/SCOTTS VALLEY DRIVE/WHISPERING PINES DRIVE INTERSECTION IMPROVEMENT PROJECT AND AMENDMENT NO. 1 TO AGREEMENT FOR PROFESSIONAL SERVICES**

SUMMARY OF ISSUE

In 2014, the City was awarded a Regional Transportation Improvement Program funding request by the Santa Cruz County Regional Transportation Commission (RTC) for the Mt. Hermon Road/Scotts Valley Drive/Whispering Pines Drive Intersection Operations Improvement Project. The project will double the length of the left turn lane from northbound Mt. Hermon Road to eastbound Whispering Pines Drive, modify existing signals, resynchronize intersection timing and improve pedestrian and bicycle safety with improvements to sidewalks, curb ramps, striping and pavement markings. The resulting improvements will provide more efficient use of the transportation system by reducing vehicle stops; especially during peak commute hours. The improvements in traffic flow and progression also have corresponding reductions in vehicle emissions. These improvements are included as a mitigation measure for the Town Center Project.

On March 16, 2016, the City entered into an agreement with Mesiti-Miller Engineering (MME) to design the intersection project. This design has recently been completed and has been reviewed by the RTC Bicycle Committee and the City's Traffic Safety Advisory Committee (TSAC). The project was recommended for approval by the City's TSAC.

Additionally, this project allows for use of green painted bike boxes at all approaches. Multiple configurations have been included in intersection design; however, if it is determined that the bike boxes create unintended traffic impacts or should not be used for other reasons, they may be modified or eliminated from the project.

Overall, the project involves:

- Lengthening the westbound left-turn lane from Mt. Hermon Road to Whispering Pines Drive to provide adequate storage for projected queues.
- Re-striping the northbound approach on Whispering Pines Drive to provide separate left-turn, through and right-turn lanes.

- Modifying the signal to eliminate the split phasing and allow for protected left-turn phasing for the northbound Whispering Pines Drive and southbound Scotts Valley Drive approaches.
- Installing bicycle loop detectors and provide new crosswalk striping on all approaches on Mt. Hermon Road and Scotts Valley Drive.
- Restriping bike lanes with green lane treatments.
- Installing bicycle boxes at all approaches.
- Installing pedestrian signal faces with countdown indicators on all approaches on Mt. Hermon Road and Scotts Valley Drive.
- Install Accessible Pedestrian Signals (APS) which include pedestrian push buttons with audible and vibrating features.
- Reconstructing the curb return on the southeast corner to square up the intersection, slightly shorten the crosswalks and provide ADA compliant improvements.
- Installing Rectangular Rapid Flashing Beacons (RRFB) for the southbound approach to enhance awareness of pedestrians crossing the free flow right turn lane.
- Replacing asphalt concrete pavement to repair rutted stopping zones.
- Installing asphalt micro seal, new striping and new pavement markers to increase visibility.
- Realigning and widening crosswalks to improve pedestrian crossing safety.
- Installing larger pedestrian refuge areas within the existing traffic islands.
- Relocating storm drain inlets to outside of the crosswalks.
- Installing new curb ramps at all four corners and flatter crosswalks to improve accessibility.
- Installing a new signal pole in a better location.
- Installing all new traffic signals, wiring and detection loops.

Amendment to Design Agreement

Due to the complexity of this project, the City's contract engineers, MME and Traffic Engineers Mott MacDonald (MM), attended additional meetings and were subject to two separate peer reviews not anticipated when the original agreement was approved. The peer reviews were required in order to ensure the project improvements were consistent with the recommendations in the Town Center Environmental Impact Report (EIR). A complete list of work completed is reflected in the attached amendment.

FISCAL IMPACT

There will be no impact to the General Fund. The total project cost is estimated to be \$758,375; approximately \$346,000 is funded by the Regional Transportation Improvement Program. The remaining balance of \$412,375 will be paid with City development impact fees. Prior to the start of the project, staff will bring forward a recommended contractor and construction agreement for Council consideration.

Amendment No.1 will be paid with development impact fees and increase the contract amount by \$28,056. This will increase the total contract amount from \$139,800 to \$167,856.

STAFF RECOMMENDATION

Staff recommends that Council consider and take the following actions:

1. Approve the plans for the Mount Hermon Road/Scotts Valley Drive/Whispering Pines Drive Intersection Improvement Project and allow staff and design engineers to determine the appropriate use of bike boxes.
2. Approve Amendment No. 1 to the Professional Services Agreement with Mesiti-Miller Engineering for the design of the Mount Hermon Road/Scotts Valley Drive/Whispering Pines Drive Intersection Improvement Project.

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LEGEND (THIS SHEET)

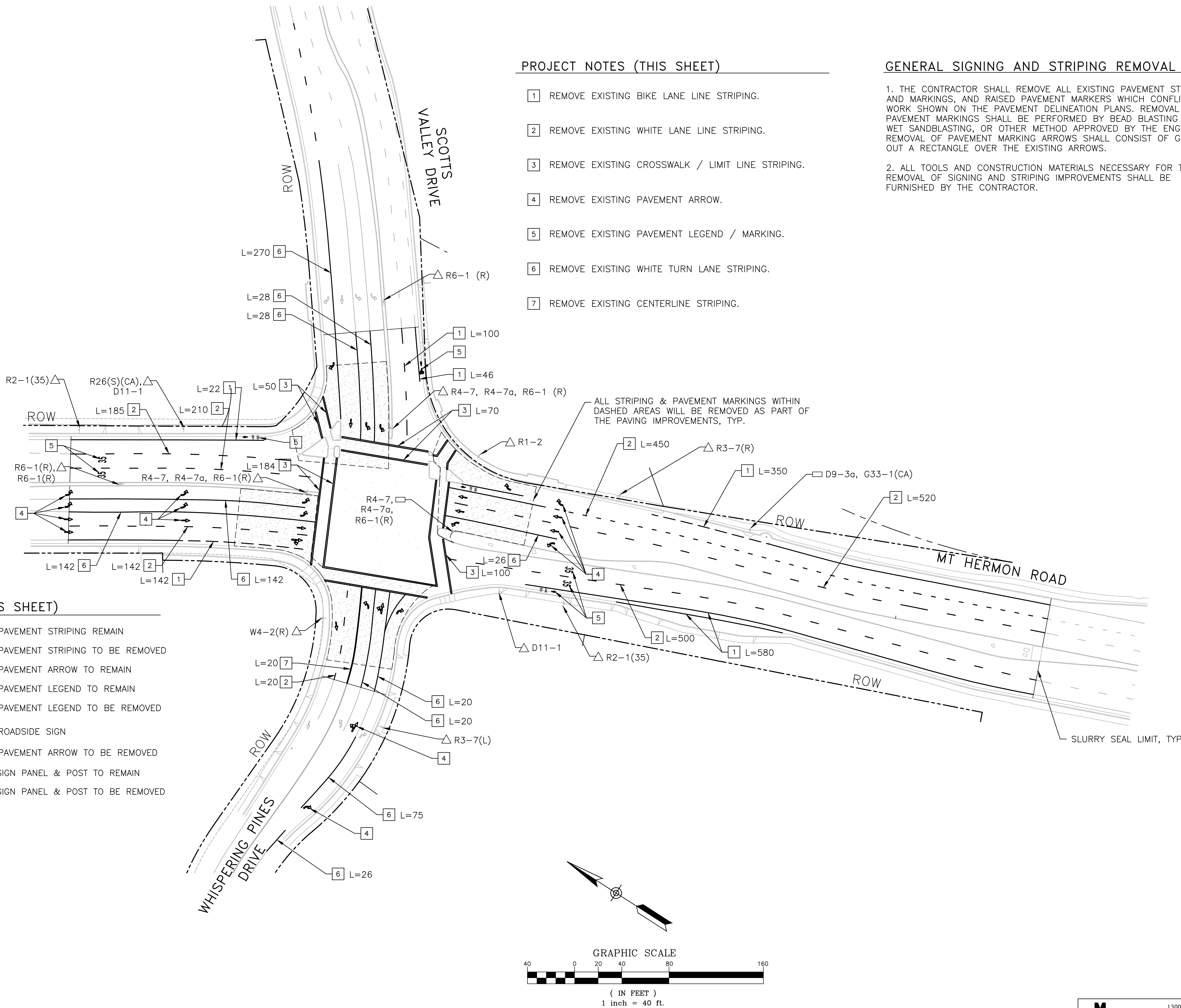
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PROJECT NOTES (THIS SHEET)

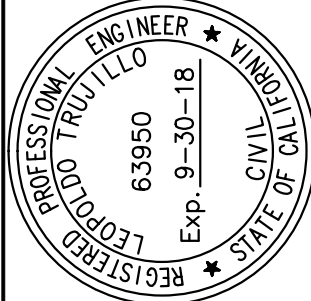
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- 2 REMOVE EXISTING WHITE LANE LINE STRIPING.
- 3 REMOVE EXISTING CROSSWALK / LIMIT LINE STRIPING.
- 4 REMOVE EXISTING PAVEMENT ARROW.
- 5 REMOVE EXISTING PAVEMENT LEGEND / MARKING.
- 6 REMOVE EXISTING WHITE TURN LANE STRIPING.
- 7 REMOVE EXISTING CENTERLINE STRIPING.

GENERAL SIGNING AND STRIPING REMOVAL NOTES

1. THE CONTRACTOR SHALL REMOVE ALL EXISTING PAVEMENT STRIPING AND MARKINGS, AND RAISED PAVEMENT MARKERS WHICH CONFLICT WITH WORK SHOWN ON THE PAVEMENT DELINEATION PLANS. REMOVAL OF PAVEMENT MARKINGS SHALL BE PERFORMED BY BEAD BLASTING OR WET SANDBLASTING, OR OTHER METHOD APPROVED BY THE ENGINEER. REMOVAL OF PAVEMENT MARKING ARROWS SHALL CONSIST OF GRINDING OUT A RECTANGLE OVER THE EXISTING ARROWS.
2. ALL TOOLS AND CONSTRUCTION MATERIALS NECESSARY FOR THE REMOVAL OF SIGNING AND STRIPING IMPROVEMENTS SHALL BE FURNISHED BY THE CONTRACTOR.



| REV. | DESCRIPTION | BY | DATE |
|------|------------------------|----|----------|
| 1 | FOR CLIENT REVIEW ONLY | RC | 8/2/2016 |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |



MT HERMON RD / SCOTTS VALLEY DR
INTERSECTION IMPROVEMENTS

PREPARED AT THE REQUEST OF
CITY OF SCOTTS VALLEY
SCOTTS VALLEY, CA 95066

SIGNING AND STRIPING
REMOVAL PLAN

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|-------------|--------|
| DRAWN BY: | ET |
| CHECKED BY: | LT |
| JOB NUMBER: | 366673 |

SHEET

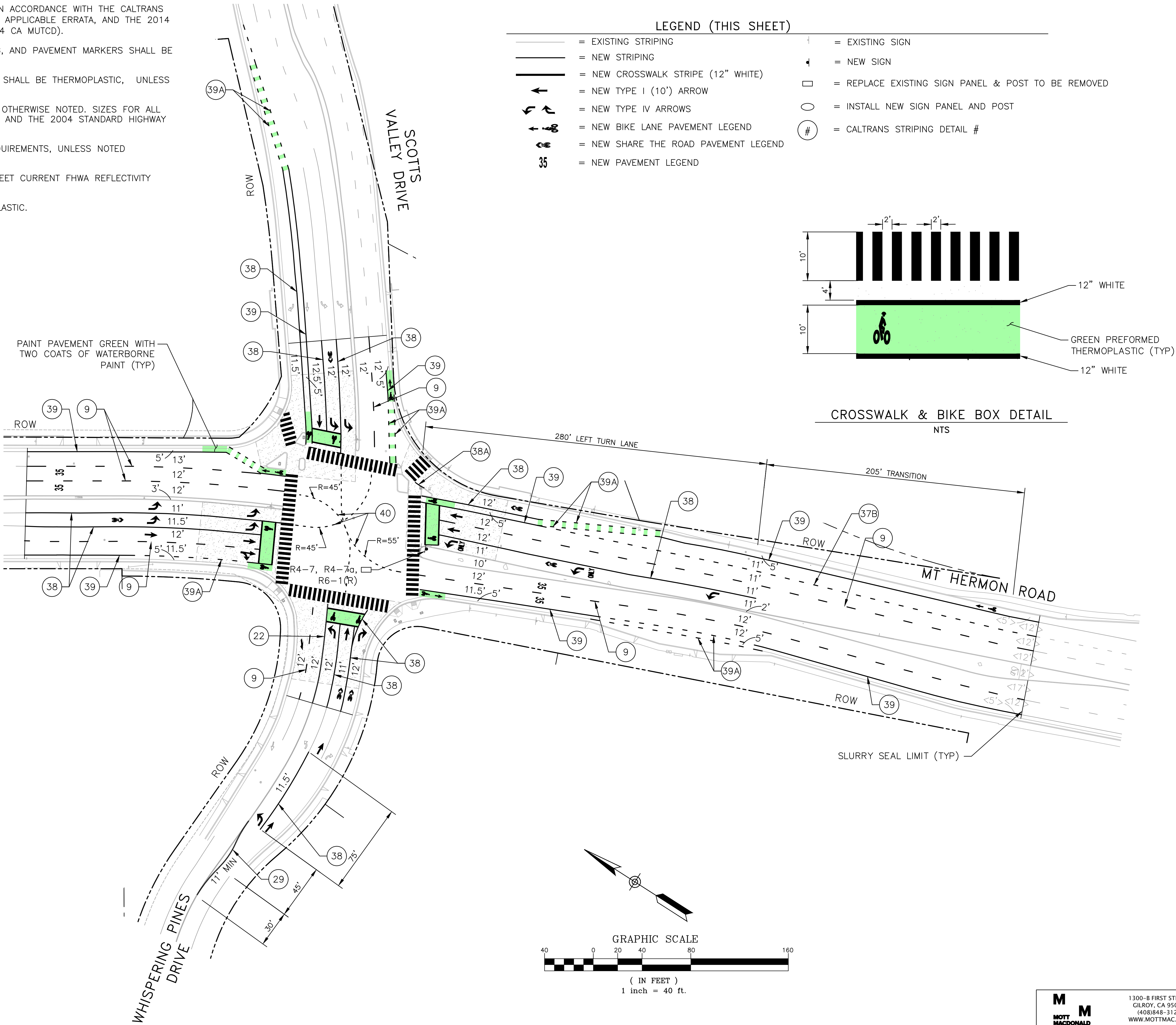
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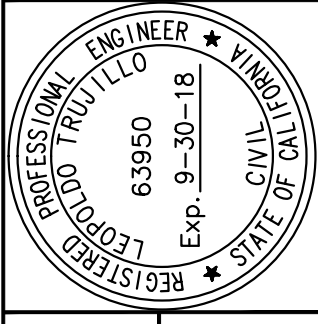


1300-B FIRST STREET
GILROY, CA 95020
(408)848-3122
WWW.MOTTMAC.COM

PAVEMENT DELINEATION GENERAL NOTES

1. ALL STRIPING AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALTRANS STANDARD SPECIFICATIONS AND STANDARD PLANS (2015) AND ALL APPLICABLE ERRATA, AND THE 2014 CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (2014 CA MUTCD).
2. ALL CONSTRUCTION MATERIALS, PAINT, THERMOPLASTIC STRIPING, AND PAVEMENT MARKERS SHALL BE FURNISHED BY THE CONTRACTOR.
3. ALL NEW STRIPING, PAVEMENT LEGEND AND SYMBOL MARKINGS SHALL BE THERMOPLASTIC, UNLESS OTHERWISE NOTED ON PLANS.
4. ALL SIGN CALL-OUTS ARE PER THE 2014 CA MUTCD, UNLESS OTHERWISE NOTED. SIZES FOR ALL NEW SIGNS SHALL BE STANDARD SIZES PER THE 2014 CA MUTCD AND THE 2004 STANDARD HIGHWAY SIGNS MANUAL, UNLESS OTHERWISE NOTED ON THE PLANS.
5. ALL NEW SIGNS SHALL BE STANDARD COLORS PER MUTCD REQUIREMENTS, UNLESS NOTED OTHERWISE.
6. ALL SIGNS SHALL BE A MINIMUM HIP STYLE III SHEETING TO MEET CURRENT FHWA REFLECTIVITY REQUIREMENTS.
7. ALL GREEN MARKINGS SHALL BE PREFORMED GREEN THERMOPLASTIC.



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| DATE | 8/2/2016 | BY | RC | DESCRIPTION | REV. | FOR CLIENT REVIEW ONLY | Δ | Δ | Δ | Δ |
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|  | | | | | | | | | | |
| MT HERMON RD / SCOTTS VALLEY DR INTERSECTION IMPROVEMENTS | | | | | | | | | | |
| PREPARED AT THE REQUEST OF CITY OF SCOTTS VALLEY SCOTTS VALLEY, CA 95066 | | | | | | | | | | |
| SIGNING AND STRIPING PLAN | | | | | | | | | | |
| DRAWN BY: ET | | | | | | | | | | |
| CHECKED BY: LT | | | | | | | | | | |
| JOB NUMBER: 366673 | | | | | | | | | | |
| SHEET | | | | | | | | | | |
| PD-2 | | | | | | | | | | |



April 14, 2017

Scott Hamby

Director of Public Works
City of Scotts Valley
701 Lundy Lane
Scotts Valley, CA 95066

**Re: Contract Amendment Request #1 - Mt Hermon Rd/Scotts Valley Drive
Intersection Improvement Project
Additional Professional Services for Traffic Alternatives Evaluation
MME Project No: 15248-1**

Dear Scott,

We respectfully submit this amendment to our existing agreement for the following additional professional services:

1. Mesiti-Miller Engineering (MME) attendance at seven additional meetings in addition to the four contracted meetings at 4 hours per meeting. $7 \times 4 \times \$190/\text{hr} = \$5,320$
 - i. 2016-04-27: Project Kickoff Meeting (included)
 - ii. 2016-06-06: Bike Committee Meeting
 - iii. 2016-06-14: Meeting with elderly & disabled
 - iv. 2016-07-28: Meeting with County Traffic Engineer to review signage and striping
 - v. 2016-08-08: Traffic & Safety Committee
 - vi. 2016-09-07: City Council Meeting
 - vii. 2016-12-06: Project Meeting at City PW office to review 90% (included)
 - viii. 2016-12-15: Meeting with Contractor to review phasing and schedule (included)
 - ix. 2017-01-10: Traffic Modeling Meeting at MME office (included)
 - x. Anticipated meeting to discuss peer review and EIR coordination
 - xi. Anticipated meeting with Traffic & Safety Committee
2. Mott MacDonald (MM) Traffic Engineering attendance at six additional meetings in addition to the three meetings included in the original scope of work at 4 hours per meeting. $6 \times 4 \times \$240/\text{hr} \times 1.1 = \$6,336$
 - i. 2016-04-27: Project Kickoff Meeting (included)
 - ii. 2016-06-06: Bike Committee Meeting
 - iii. 2016-06-14: Meeting with elderly & disabled
 - iv. 2016-08-08: Traffic & Safety Committee
 - v. 2016-09-07: City Council Meeting
 - vi. 2016-12-06: Project Meeting at City PW office to review 90% (included)
 - vii. 2017-01-10: Traffic Modeling Meeting at MME office (included)
 - viii. Anticipated meeting to discuss peer review and EIR coordination
 - ix. Anticipated meeting with Traffic & Safety Committee



Mesiti-Miller Engineering, Inc.
Civil and Structural Engineering

3. MM's preparation and refinement of four additional design alternatives in addition to the two conceptual design options included in our scope to meet Town Center requirements. $20.8 \text{ hours} \times \$240/\text{hr} \times 1.1 = \$5,500$
 - i. 2016-05-19: Developed options 1, 2A, 2B, & 2C
 - ii. 2016-06-06: Refined Options 1 & 2B, and developed Option 3
 - iii. 2016-06-14: Refined Options 1 & 3
 - iv. 2016-07-11: Refined Option 3B
 - v. 2016-08-04: Refined Option 3B
4. MME's design review, coordination, and refinement of four additional design alternatives in addition to the two conceptual design options included in our scope at 4 hours per alternative. $4 \times 4 \times \$190/\text{hr} = \$3,040$
5. MM's Signal Timing Plans at all 6 corridor intersections to reflect the adjusted signal timing at the MHR / SVD intersection at 4 hours per intersection. $6 \times 4 \times \$240/\text{hr} \times 1.1 = \$6,340$
6. MME's anticipated design revisions and coordination to the 100% design based on outcomes from the anticipated two meetings at 8 hours. $8 \times \$190/\text{hr} = \$1,520$

Accordingly we are requesting authorization for additional compensation of **\$28,056**.

| | |
|---------------------------|-----------------|
| Mesiti-Miller Engineering | \$9,880 |
| <u>Mott MacDonald</u> | <u>\$18,176</u> |
| Total | \$28,056 |

Thank you for the opportunity to continue to provide engineering support services.

Respectfully yours,

Rodney Cahill, P.E.
Principal

Approved By: _____ Date: _____

Printed Name: _____

April 17, 2017

Scotts Valley City Council
1 Civic Center Drive
Scotts Valley, CA 95066

Re: intersection Improvements, Item # 2, April 19, 2017 Council Meeting

Dear Councilmembers:

The Bicycle Committee of the Regional Transportation Commission (RTC) appreciates that bicycle-friendly elements are included in the proposed Mount Hermon Road/Scotts Valley Drive/Whispering Pines Drive intersection improvement plans. Incorporating these, along with pedestrian-friendly elements, will make the intersecting roadways more complete streets – an objective of the RTC and the State. We do note that from a cyclist's (and pedestrian's) safety and comfort perspective, converting the three channelized right turn lanes into close to or actual right angle turn lanes would have been preferable. In the absence of making such a major revision, we do appreciate that City has added bike signing and markings, including such relatively newer elements as sharrows and dashed green lanes in conflict zones. Generally, these are appropriately shown on the plans before you. We do have a few recommended revisions that we hope you direct your staff to incorporate into the final plans. These are listed in the attachment.

One new element of the proposed plans is the bike box, as highlighted in your staff report. We thank you for being open to incorporating this feature. Instead of cyclists having to cross three lanes of moving traffic in order to make left turns, the bike boxes offer an exclusive means for left-turning cyclists to position themselves during red lights. Some cyclists already make this maneuver at or near the crosswalk – adding bike boxes will delineate a formal location at the intersection for cyclists to use and motorists to stay outside of. This should reduce the potential for motor vehicle-bicycle conflict and enhance cyclists' comfort. We do note that since bike boxes are a recent innovation, data on their safety and effectiveness is sparse. But, they have been well-received and hence are worthy of trying. Since bike boxes are not yet official traffic control devices, the FHWA (Federal Highway Administration) will grant the City permission to install them upon submitting a written request pursuant to "Interim Approval for Optional Use of an Intersection Bicycle Box"

https://mutcd.fhwa.dot.gov/resources/interim_approval/ia18/index.htm . We recommend directing your staff to do so. The proposed intersection plans mostly conform to these FHWA requirements. We do offer a few recommended revisions to be in full compliance, again listed in the attachment.

The Bicycle Committee really appreciates that your staff has consulted with us throughout the process of preparing various iterations of the intersection improvement plans. Our recommendations are based on experience, consultation with others, and research into standards and practices. We remain available to, and hope you, continue collaboration. It would be helpful for motorists and cyclists alike for the City to publicize how bike boxes and green lanes work and we stand ready to assist. Through Santa Cruz County Health Services Agency's Bicycle Safety Observation Study and other similar efforts, we can also offer help in collecting data on motorist and cyclist experiences with the bike boxes. This can provide valuable information from what will be the pioneer bike box installation in the County.

In summary, we appreciate that bike-friendly elements have been included in the intersection improvement plans and we hope that you approve them with the attached recommended revisions.

Sincerely,

Amelia Conlen
Bicycle Advisory Committee Chair

attachment

DRAFT

Bicycle Committee Recommended Revisions to the Mount Hermon Road/Scotts Valley Drive/Whispering Pines Drive Intersection Improvement Plans

1. Add sharrows to beginning and middle of westbound Scotts Valley Dr. channelized right turn lane;
2. Continue eastbound Whispering Pines Dr. bike lane across free right turn lane to the intersection, designed with sharrows and green lane treatment similar to northbound Mt. Hermon (this can be accomplished by reducing each of the four 12-foot wide travel lanes there to 11 feet), and remove the sharrow in the right through travel lane;
3. Add "Begin Right Turn Lane, Yield to Bikes" signs;
4. Do not install "Share the Road" signs, instead install "Bikes May Use Full Lane" signs for the three channelized right turn lanes;
5. Add advance stop lines placed at least 10 feet in advance of the intersection stop lines;
6. Add "STOP HERE ON RED" sign at the advance stop line defining the bicycle box with an "EXCEPT BICYCLES" word legend plaque below;
7. Install "NO TURN ON RED" sign on southbound Mount Hermon Rd. approach to the intersection;
8. If the above recommendation to continue the bike lane on Whispering Pines Dr. through to the bike box is not implemented, then delete that bike box (because the guidelines require an at least 50 foot long bike lane approaching a bike box);
9. Cut back or slope up the islands adjacent to the northbound Mt Hermon Rd. and westbound Scotts Valley Dr. bike boxes in order to provide refuges for cyclists waiting to traverse the bike box so they don't block through bicycle travel on a green light;
10. Establish signal sequencing that supports use of the bike boxes -- best would seem to be either left turn arrow turns green first at each leg or both left turn and straight through signal at each leg turn green at the same time; through signals turning green before left turn signals turn green could put cyclists in the bike box at risk.