



**BOARD OF DIRECTORS
REGULAR MEETING AGENDA
February 6, 2019 – 1:30 PM
5401 Old Redwood Highway, 1st Floor
Petaluma, CA 94954**

1. Call to Order
2. Election of Vice-Chairperson
3. Approval of the January 16, 2019 Board Meeting Minutes
4. Public Comment on Non-agenda Items
5. Board Member Announcements
6. General Manager's Report
7. Consent
 - a. Authorize the General Manger to Execute the Collective Bargaining Agreement between Sonoma-Marín Area Rail Transit District and International Brotherhood of Teamsters Local Union Number 665 for the period of January 28, 2019 to June 30, 2021; and Approve a Resolution to Authorize Fiscal Year 2018-19 Budget Amendment
8. Authorize the General Manager to Execute Contract Amendment No. 6 Burke, Williams and Sorenson, LLP in an amount of \$200,000 for Legal Services
9. Authorize the General Manager to Execute Contract No. CV-BB-18-002 with Ghilotti Bros., Inc. in an amount of \$158,500 for Concrete and Electrical Modifications to the Rail Operations Center Maintenance Pit in Preparation for Installation of a Wheel Truing Machine
10. Next Regular Meeting Board of Directors, February 20, 2019 – 1:30 PM – 5401 Old Redwood Highway, 1st Floor, Petaluma, CA 94954
11. Adjournment

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DOCUMENTS: Documents distributed by SMART for its monthly Board meeting or committee meetings, and which are not otherwise privileged, may be inspected at SMART's office located at 5401 Old Redwood Highway, Suite 200, Petaluma, CA 94954 during regular business hours. Documents may also be viewed on SMART's website at: www.sonomamarintrain.org. Materials related to an item on this Agenda submitted to SMART after distribution of the agenda packet are available for public inspection at the SMART Office. For information about accessing SMART meetings by public transit, use the trip planner at www.511



**BOARD OF DIRECTORS
REGULAR MEETING MINUTES**

January 16, 2019 - 1:30 PM

5401 Old Redwood Highway, 1st Floor
Petaluma, CA 94954

1. Call to Order

Chair Fudge called the meeting to order at 1:30pm. Directors Arnold, Connolly, Eddie, Hillmer, Lucan, Mackenzie, Pahre, Phillips and Rabbitt were present. Director Zane absent.

2. Elections of Chairperson and Vice-Chairperson

Chair Fudge stated the procedure for the election of Chair and Vice-Chair as follows: 1) By rotation, it is turn for a Board Member from Marin County to be Chair and a Sonoma County Board Member to be Vice-Chair; 2) Chair and Vice-Chair will assume responsibility at the following Board Meeting in February; 3) Chair calls for nomination, after everyone who wishes to make a nomination has done so, nominations are closed and votes will be taken.

Director Hillmer wished everyone a Happy New Year. He stated that he would like to reflect on values and for SMART to continue to move forward in leadership. The lives that were lost last year shall rise to the top upon the reflections of SMART's successes and challenges. He is very grateful for the wonderful staff and management that have a very important responsibility of safety to the public. Lastly, he said that SMART continues to move the project forward as promised to the residents of Sonoma and Marin Counties. He thanked Chair Fudge for her service.

Director Hillmer proceeded to nominate Director Phillips for Chair and Vice-Chair Arnold second the nomination. She stated that when a member is elected official an appointed to a regional board, the member(s) need to make decisions based on a region as various member had learned.

Director Phillips thanked Director Hillmer's comments and Chair Fudge and Vice Chair Arnold for their service these last two years. SMART is very fortunate to have an excellent staff, he added. He also said that in year 2020 his schedule will be very hectic; therefore, he would like the Board to consider appointing Director Lucan for Chair in 2020. Chair Fudge said that they

will bring the subject back to the board for discussion in one-year.

MOTION: Director Hillmer nominated Director Phillips for Chair. Vice-Chair Arnold seconds nomination. The motion carried 10-0-0 (Director Zane absent).

Director Lucan nominated Director Mackenzie for Vice-Chair.

MOTION: Director Lucan nominated Director Mackenzie for Vice-Chair. Director Rabbitt second nomination. The motion carried 10-0-0 (Director Zane absent).

Vice-Chair Mackenzie thanked everyone for the nomination. He stated that a creation of commuter rail module has been a motivating factor in his political career which started in Sonoma County back in 1990's

3. Approval of the December 5, 2018 Board Minutes

MOTION: Director Phillips moved approval of the December 5, 2018 Board Minutes as presented. Director Eddie second. The motion carried 9-0-0 (Director Zane absent; Director Lucan abstained).

Director Pahre left 1:50pm

Director Lucan announced that his son Noah Frank Lucan was born on November 28th at 5:08 am and at 4 weeks old he has taken his 1st SMART train ride.

4. Public Comment

Richard Brand stated that SB 1029 can have a positive or negative effect with SMART's objectives. He said that the North Coast Railroad Authority took action at their January 9th meeting and suggested that SMART updated the public at the next Board Meeting.

David Schonbrunn distributed the latest California Rail News to board members. He stated that there is an article on SMART that points out the current problem with the timing of the connections at the San Rafael Transit Center. Also, his organization produced a proposal for North Bay Rail, that would use existing track, which is a different model of what SMART has used. He would be happy to discuss and present if invited.

Duane Bellinger complimented the train staff on this raining day. He stated that the Adobe Lumber site is usually floods during raining season. Also, there are maps of Petaluma and San Rafael

Daisy Pistey-Lyhne thanked Directors Fudge, Zane and General Manager Mansourian for continuing the Jennings Avenue Crossing discussion with the City of Santa Rosa. She also voiced her concerns and urged the Board to move forward with the construction of the

Jennings Avenue Crossing. She read the petition letter that residents near the Jennings Avenue Crossing signed.

5. Board Members Announcements

Chair Fudge announced that today is Director James Eddie's last board meeting. He has served on the Board for about over 20-years. Director Eddie stated that he has been on the Golden Gate Bridge Board for 24-years and later was appointed to the SMART Board. He thanked the General Manager Mansourian for his leadership in moving the project forward. He also stated that it's very rewarding to see the progress SMART has accomplished.

Chair Fudge appreciates Director Eddie's wisdom on the Board. She stated that they are some young people trying to conquer the world and they need to consider and listen to the wisdom people who started what is here now.

Director Eddie acknowledged the Friends of SMART for their support and help along the way.

Director Mackenzie stated that "farmer Jim Eddie" will be missed. He thanked Director Eddie for his wisdom and joining the Golden Gate Bridge Board for keeping the dream alive.

Director Rabbitt thanked Chair Fudge for her support and passion for SMART, and for doing an excellent job in facilitating the Board meetings. He said it has been an honor serving with you Director Eddie on SMART Board and Golden Gate Bridge Board. His institutional history and having a vision have really helped with various projects. He thanked him for his service.

Director Phillips stated he and Al Boro, former Mayor of San Rafael, speak on occasion and stated that they both agree that Director Eddie is a genuine nice person and is needed in a crowd like this.

Vice Chair Arnold stated that she met Director Eddie at the Golden Gate Bridge Board Meeting when she was appointed to that Board. He was very instrumental on Golden Gate Board when SMART's was just getting started.

Comments

David Schonbrunn thanked Director Eddie for his service. The best way to honor his service would be to extend service to Willits.

6. General Manager's Report

General Manager Mansourian thanked Director Eddie for his kind words and his years of service. He stated that Director Eddie was a Board Member with the Northwestern Pacific Railroad Authority and approved Resolution No. 95-8, which helped secured the right-of-way from Healdsburg south to Novato and east from Ignacio in Marin to the point known as Lombard in Napa County.

He thanked outgoing Chair Fudge and Vice-Chair Arnold for their dedication in serving the Board.

Chair Fudge stated that in 2010 when she was the Board Chair, it was a tough time for SMART, since the Board had to phase out the project due to the recession. She is honored to have served as Chair during the start of passenger service and thanked the Board for the opportunity to address the public at the opening ceremony. It's nice to have a united Sonoma and Marin County Board.

Vice Chair Arnold thanked outgoing Chair Fudge for her dedication for the SMART project and having knowledge of the trains.

General Manager Mansourian announced that the 1 million rider will be approaching us this week. Stay tune for the announcement and celebrating with SMART's Rider. Also, the 100,000-bicycle celebration is approaching soon and will keep you posted of that announcement.

He said that SMART has submitted a grant application for \$27.5 million to the Active Transportation Program that will be considered by the Metropolitan Transportation Commission. The SMART Board has three active MTC commissioners, Directors Connolly, Mackenzie and Rabbitt.

Director Mackenzie stated that the Metropolitan Transportation Commission Program Allocation Committee will consider the Active Transportation Program applications in February. The SMART Board has been actively involved in working toward the realization of a continuously Multiple Use Pathway, which has been a vision for many. Also, he thanked outgoing Chair Fudge and Vice Chair Arnold for working hard to have a unified Board. He said the Chair Fudge payed a huge political price in 2010 when she addressed the residents of Sonoma and Marin counties that SMART will be phasing the project due to the recession.

Lastly, Chair Fudge stated that SMART has an amazing staff. She thanked the General Manager Mansourian for his dedication to the organization.

7. Consent
 - a. Approval of Monthly Financial Reports
 - b. Authorize the General Manager to Execute a Sole-Source Purchase from SMA Railway Technology in an amount of \$80,000 for the purchase of specialized Diesel Multiple Unit Auxiliary Generator and Spare Components

Chair Fudge asked for Board and public comments on the proposed Consent Agenda.

MOTION: Director Arnold moved approval of the Consent Agenda as presented. Director Mackenzie second. The motion carried 9-0-0 (Directors Pahre and Zane absent)

8. Authorize the General Manager to Execute Contract Amendment No. 5 to Contract No. VS-IS-16-003 with the GBS Group in an amount of \$618,702 for the installation of Wi-Fi Equipment to Four (4) New Diesel Multiple Units and performance of on-going maintenance services

Information Technology Manager, Dan Hurlbutt stated that the item for your approval today is to authorize the General Manager to execute Contract Amendment No. 5 with The GBS Group to expand Wi-f service for the four (4) additional cars and continue to provide ongoing support, monitoring, operations, and maintenance for the on-board vehicles.

Therefore, staff recommends your approval to Authorize the General Manager to Execute Contract Amendment No. 5 with GBS Group in an amount of \$618,702.

MOTION: Director Eddie moved to Authorize the General Manager to Execute Contract Amendment No. 5 to Contract No. VS-IS-16-003 with the GBS Group in an amount of \$618,702 for the installation of Wi-Fi Equipment to Four (4) New Diesel Multiple Units and performance of on-going maintenance services as presented. Director Phillips second. The motion carried 9-0-0 (Directors Pahre and Zane absent).

9. Next Regular Meeting Board of Directors, February 6, 2019 – 1:30 PM – 5401 Old Redwood Highway, 1st Floor, Petaluma, CA 94954
10. Adjournment – Meeting adjourned at 2:23PM.

Respectfully submitted,

Leticia Rosas-Mendoza
Clerk of the Board

Approved on: _____



February 6, 2019

Gary Phillips, Chair
Transportation Authority of Marin

Jake Mackenzie, Vice-Chair
Sonoma County Mayors' and
Councilmembers Association

Judy Arnold
Marin County Board of Supervisors

Damon Connolly
Marin County Board of Supervisors

Jim Eddie
Golden Gate Bridge,
Highway/Transportation District

Debora Fudge
Sonoma County Mayors' and
Councilmembers Association

Dan Hillmer
Marin County Council of Mayors and
Councilmembers

Eric Lucan
Transportation Authority of Marin

Barbara Pahre
Golden Gate Bridge,
Highway/Transportation District

David Rabbitt
Sonoma County Board of Supervisors

Carol Russell
Sonoma County Mayors' and
Councilmembers Association

Shirlee Zane
Sonoma County Board of Supervisors

Farhad Mansourian
General Manager

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Sonoma-Marin Area Rail Transit Board of Directors
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954

SUBJECT: Authorize the General Manager to Execute a Collective Bargaining Agreement with the International Brotherhood of Teamsters, Local Union Number 665, and approve related Fiscal Year 2018-19 Budget Amendment

Dear Board Members:

RECOMMENDATION:

Authorize the General Manager to Execute the Collective Bargaining Agreement with the International Brotherhood of Teamsters, Local Union Number 665, for the period of January 28, 2019 to June 30, 2021, and approve Resolution No. 2019-01 to amend the Position Authorizations Salaries.

SUMMARY:

This agreement would be the first collective bargaining agreement between SMART and the Teamster's Union which represents the District's Track Maintenance Supervisors (2 Full Time Employees or 2FTE). The Teamsters Union also represents District employees in the Track Maintainer, Signal Technician and Bridge Tender job classes under a separate collective bargaining agreement.

The agreement retains the District's current policies with modifications to salaries and benefits as indicated below.

The agreed upon terms include:

Term: January 28, 2019 – June 30, 2021

Salaries:

- Effective January 28, 2019 the rate of pay for all represented employees will be as shown in the table below.

Job Class	Step 1	Step 2	Step 3	Step 4	Step 5
Track Maintenance Supervisor	\$45.45	\$47.73	\$50.11	\$52.62	\$55.25

- This wage represents a three percent (3%) increase above the current top hourly rate for the Track Maintenance Supervisor job class.
- An additional three percent (3%) wage increase will be effective on July 1, 2019.
- There will be no additional salary increases, such as Cost of Living Adjustments, for the life of the agreement, which expires on June 30, 2021.

Standby Pay:

- An employee on standby status will be paid the equivalent of four (4) hours pay at the employee's straight time rate for each twenty-four (24) hour period the employee is on standby status or for a period from the end of the employee's work shift and the beginning of the next shift, if the assignment is less than 24 hours. Standby pay will be offset by any actual hours worked if called out to work.
- Standby pay does not count toward the calculation of CALPERS pension benefits, vacation and sick time accruals, or overtime.

Benefits:

- Effective the pay period beginning January 28, 2019 the current cap on compensatory time will be increased from 40 hours to 80 hours.

FISCAL IMPACT: The Fiscal Year 2018-19 budget includes funding for the contract amendment, no additional funds are needed. The agreement will require a resolution to adjust the position authorizations listed in the approved budget.

Annual number of FTE impacted:		2
Annual Baseline Cost of Employees (current):	\$	334,776
Weighted Annual Increased Cost of Agreement (salaries+ benefits):	\$	18,322.14
Total Incremental Cost of Agreement:	\$	45,805.34

REVIEWED BY: Finance  Counsel 

Very truly yours,



Lisa Hansley
Human Resources Manager

Attachment(s): 1) Resolution No. 2019-01
2) Teamsters Collective Bargaining Agreement

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT AMENDING RESOLUTION NO. 2018-12 TO REVISE THE ANNUAL BUDGET FOR FISCAL YEAR 2018-19 TO PROVIDE FOR REVISED POSITION AUTHORITY

WHEREAS, as part of its approval of the Annual Budget for Fiscal Year 2018-19, the Board duly considered the annual expenditures necessary for the Sonoma-Marín Area Rail Transit District; and

WHEREAS, on June 06, 2018, the Board adopted Resolution No. 2018-12 approving the annual budget for Fiscal Year 2018-19; and

WHEREAS, Resolution No. 2018-12 considered the creation of employee positions and fixed the compensation and salary for those positions; and

WHEREAS, the Board desires to Amend the Annual Budget to provide the revised position authority for increased salary and benefit expenditures.

NOW, THEREFORE, BE IT RESOLVED THAT THE Fiscal Year 2018-19 Budget for the Sonoma-Marín Area Rail Transit District attached as Exhibit A to Resolution 2018-12 is hereby amended to revise Table 5, Fiscal Year 2018-19 Proposed Position Authorizations, to reflect position revisions as shown below.

Position	FTE	Salary Range Annual		Salary Range: Hourly	
		Low	High	Low	High
Track Maintenance Supervisor	2	\$ 94,536	\$ 114,920	\$ 45.45	\$ 55.25

BE IT FURTHER RESOLVED except as specifically amended or supplemented by this Resolution, Resolution No. 2018-12, together with all supplements, amendments and exhibits thereto is, and shall continue to be, in full force and effect as originally adopted, and nothing contained herein shall, or shall be construed to, modify, invalidate or otherwise affect any provision of Resolution No. 2018-12.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Sonoma-Marín Area Rail Transit District held on the 6th Day of February, 2019, by the following vote:

- DIRECTORS:**
 AYES:
 NOES:
 ABSENT:
 ABSTAIN:

Gary Phillips, Chair, Board of Directors
 Sonoma-Marín Area Rail Transit District

ATTEST:

Leticia Rosas-Mendoza, Clerk of the Board of Directors
 Sonoma-Marín Area Rail Transit District

MEMORANDUM OF UNDERSTANDING
BETWEEN
INTERNATIONAL BROTHERHOOD OF TEAMSTERS LOCAL NO. 665
AND
SONOMA MARIN AREA RAIL TRANSIT
SUPERVISORS UNIT

JANUARY 28, 2019 – JUNE 30, 2021

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ARTICLE 1 - RECOGNITION

1.1 The SONOMA MARIN AREA RAIL TRANSIT herein after referred to as (SMART) recognizes the INTERNATIONAL BROTHERHOOD OF TEAMSTERS LOCAL UNION NO. 665 herein after referred to as (UNION) as the formally recognized employee organization for the following job classes:

1.1.1 Track Maintenance Supervisors

1.2 SCOPE AND DEFINITIONS

1.2.1 This Memorandum of Understanding (MOU) will apply to the work performed by the employees specified herein and governs the rates of pay, hours of service, and working conditions of all such employees engaged in the duties of the job classes specified above in section 1.1.1.

1.2.2 SMART may not contract out work normally performed by an employee in a bargaining unit covered by this MOU without the agreement of the Union.

1.2.3 It is understood that the duties and responsibilities of employees in a bargaining unit covered by this MOU between the UNION and SMART will not be assigned to others except in emergencies and when required by temporary operational needs.

ARTICLE 2 - UNION MEMBERSHIP

2.1 All employees covered by this Memorandum of Understanding who have been so employed for at least thirty (30) days prior to the ratification of this Memorandum of Understanding shall have the right to become members of the Union and shall remain members in good standing until such time as they notify the Union that they no longer wish to be dues paying members. Employees hired after the effective dates of this Memorandum of Understanding or who were hired prior to the effective date of this Memorandum of Understanding but had less than thirty (30) days of service with SMART on the effective date shall within thirty (30) days after employment have the right to become members of the Union and shall remain members in good standing, until such time as they notify the Union that they no longer wish to be dues paying members. Pursuant to SB 866, it is the Union's responsibility to provide timely notice of dues deduction authorizations to the District. The District requires ten (10) working days' notice of dues deduction authorization for an employee prior to the date the first deduction is to take effect.

2.2 Employees wishing to discontinue membership for reasons other than separation from employment shall give notice to the Union that they wish to discontinue dues deductions. Pursuant to SB 866, it is the Union's responsibility to provide timely

notice of dues deduction revocations to the District. Once notification has been received by the District to stop dues deductions for an employee, the change will be implemented at the beginning of the first pay period following the date that the District received notice.

2.2.1 If the employee authorizes dues payment by payroll deduction, the appropriate sum shall be deducted by SMART and paid to the Union on a monthly basis after collection of dues. The amount of dues deductions are determined by the Union and shall be provided in writing to the District on a quarterly basis at minimum or more frequently if changes in membership occur. The District will continue to honor deduction authorizations as specified by the Union until new authorization lists or revocations are provided by the Union.

2.2.2 If the employee joins the Union but chooses not to authorize payroll deductions, payments of dues shall be received by the Union not later than the following:

- (a) For employees who have been employed by SMART for more than thirty (30) days upon the effective date of this Memorandum of Understanding, an appropriate initiation fee shall be paid to the Union no later than ten (10) days after notification of this provision by the Union. For employees with less than thirty (30) days of employment with SMART upon the effective date of this Memorandum of Understanding, an appropriate initiation fee shall be paid to the Union by the thirtieth (30th) day following the commencement of employment;
- (b) Thereafter, dues shall be paid to the Union in full on or before the first day of each calendar month; and
General assessments (relating to costs associated with negotiating collective bargaining agreements, administering same and adjusting grievances. Pursuant to said collective bargaining agreement(s) with SMART shall be paid to the Union in full on or before the date set by the Union at the time of Assessment, or if no date is set, within ten (10) days of the call of the assessment by the Union. The Union shall be responsible for promptly notifying Union members of such assessments.

2.2.3 The Union and SMART acknowledge the provisions of §3502.5 of the California Government Code and agree that nothing contained in this section shall act to supersede or waive any of the employee's rights contained herein.

2.2.4 The Union agrees to indemnify and hold harmless SMART for any loss or damage sustained which arises from the operation of this section.

2.2.5 In the event there is a change in the law whereby any provision hereof becomes invalid or if for any reason any provision of this Agreement is rendered unlawful by decision of a court of competent jurisdiction, this Agreement shall be either forthwith deemed amended to comply with the change or decision in question and those provisions not affected by the change in law shall remain in full force and effect. If this occurs, at the election of either party this provision may be reopened for further negotiations.

ARTICLE 3 - DUES CHECKOFF

- 3.1 The Union will be granted permission by SMART to have regular dues of its member employees deducted from their paychecks, in accordance with the procedures prescribed by SMART.
- 3.2 Dues deductions shall be for a specified amount and shall be made only upon the voluntary written authorization of the Union member, which authorization meets all of the requirements for the assignment of wages as set forth in §300 of the California Labor Code. Dues deduction authorization may be revoked and the dues check-off payroll discontinued at any time by the Union member upon voluntary written notice to the Union. The Union will inform the District within seven (7) calendar days of the revocation.
- 3.3 The member employee's earnings must be regularly sufficient after legal and required deductions are made, to cover the amounts of the dues check off authorized. In the case of a member employee who is in a non-pay status during any part of the pay period and the salary is not sufficient to cover the whole withholding, no deductions shall be made. In this connection, all other legal and required deductions have priority over Union dues.
- 3.4 Neither the Union nor the member employees shall be charged a service fee for the deduction of regular Union dues as hereinabove provided for.

- 3.5 Dues withheld by SMART shall be transmitted to the officer designated in writing by the Union as the person authorized to receive such funds at the address specified. Funds may also be transmitted by Automatic Clearing House (ACH) or other accepted electronic banking process
- 3.6 The Union shall indemnify, defend and hold SMART harmless against any claim made and against any suit instituted against SMART on account of check-off of Union dues. In addition, the Union shall refund to SMART any amount paid to it in error upon presentation of supporting evidence.

ARTICLE 4 - NON-DISCRIMINATION

- 4.1 SMART is an equal opportunity employer and makes employment decisions on the basis of merit. In accordance with applicable law, the District prohibits discrimination based on race, color, religion, creed, sex, marital status, age, national origin or ancestry, physical or mental disability, medical condition, genetic information, military or veteran status, sexual orientation, gender, gender identity, gender expression, or any other consideration protected by federal, state or local laws. All such discrimination is unlawful. The District's commitment to equal opportunity employment applies to all persons involved in the operations of the District and prohibits unlawful discrimination by any employee of the District, including Supervisors and co-workers.

ARTICLE 5 - MANAGEMENT RIGHTS

- 5.1 The exclusive rights of the District shall include, but not be limited to, the right to determine the organization of District, as well as its purpose and mission; to set standards of service to be offered to the public; and, through its management officials, to exercise control and discretion over its organization and operations; to establish and effect administrative regulations which are consistent with law and the specific provisions of any collective bargaining agreements that may exist; to direct its employees; to take disciplinary action; to lay off its employees; to determine whether District goods and services shall be made, purchased, or contracted for; to determine the methods, means, and personnel by which the District's services are to be provided, purchased, or contracted; to determine qualifications for employment; to schedule and assign work and overtime; and to otherwise act in the interest of efficient service to the public.
- 5.2 All matters pertaining to the management of operations, such as the type and kind of service rendered to the public, the equipment used, workload, the administration of discipline and efficiency, the standards of hire, promotion and transfer of employees, and their discipline and discharge for cause are within the discretion of SMART. SMART's rules, policies and procedures, as may be amended from time to time, are necessary for efficient operations and infraction of these rules

shall constitute cause for disciplinary action, up to and including discharge. Depending on the facts and circumstances involved in each situation, SMART may choose to begin disciplinary action at any step up to and including termination.

ARTICLE 6 - UNION STEWARDS

- 6.1 SMART agrees to recognize two (2) stewards: one (1) chief steward (Union Representative on Site) and one (1) alternate to represent employees in the bargaining unit covered by this MOU. The Union must inform SMART, in writing, of an employee's designation as a shop steward or alternate.
- 6.2 The shop steward, as much as possible, shall perform their duties as a shop steward when not scheduled to work. If the shop steward must perform any duties during regularly scheduled work hours, it shall be kept to a minimum and shall not interfere with normal operations. The shop steward must request time off in advance to perform his/her duties during regularly scheduled work hours. Absent an emergency, the request must be in writing and submitted at least forty-eight (48) hours in advance. The release of shop stewards from work to perform their duties will depend on SMART'S operational needs as determined by SMART.
- 6.3 SMART will not compensate the shop steward for performing any duties as a shop steward, except as otherwise provided for in this Memorandum of Understanding. The shop steward shall be allowed time off during their normal working hours to handle grievances or meet with SMART representatives concerning matters affecting employees' working conditions without loss of pay, provided that such meetings shall not exceed one (1) hour unless mutually agreed upon by the parties.
- 6.4 A maximum of two (2) employees shall serve on the Union bargaining team. A maximum of one (1) employee shall be released from work by SMART to attend negotiations between the Union and SMART. However, the employee released by SMART will be paid their regular rate of pay for negotiations held during their regularly scheduled work hours.

ARTICLE 7 - BULLETIN BOARDS

- 7.1 SMART agrees to supply and provide suitable space for the Union bulletin board at each work location where bargaining unit members are employed. Postings by the Union on such boards are to be confined to official business of the Union and on the Union's official letterhead. In each location, there shall be a covered bulletin board. Union stewards shall have a key for the Union bulletin boards. SMART shall not remove, tamper with, or alter any notice posted by the Union unless such notice is harmful to SMART. Any such notice removed by SMART shall be re-posted if the Union's position is sustained through the grievance procedure

ARTICLE 8 - UNION ACCESS TO WORK LOCATIONS

8.1 Within reasonable circumstances, a Union business representative shall have access to SMART premises at a mutually agreeable time to investigate or adjust grievances, or conduct other necessary Union business. Except for emergency circumstances, requests for access to the Rail Operations Center (ROC) and other SMART Operations facilities will be made 48 hours in advance.

ARTICLE 9 - SENIORITY

9.1 SMART shall maintain a departmental seniority list for the employees in each bargaining unit covered by this agreement. Departmental seniority means the length of time an employee has been employed by SMART in their respective job class within a bargaining unit covered by this agreement. When more than one (1) employee has the same employment date, the employees' relative positions on the seniority list shall be determined by birth date.

9.2 An employee's seniority shall be terminated for the following reasons:

9.2.1 Resignation or termination of employment;

9.2.2 Layoff for a period of more than twelve (12) months;

9.2.3 Failure to respond within ten (10) days to a notice of recall during layoff or failure to return to work within fourteen (14) days after a recall notice;

9.2.4 Failure to return to work following an approved leave of absence.

ARTICLE 10 - PERFORMANCE EVALUATIONS

10.1 An annual employee evaluation system shall be used for all probationary and regular employees.

10.2 SMART shall determine the use and significance, if any, of job performance evaluations in determinations regarding, but not limited, examinations, promotions, demotions, transfers, dismissals and suspensions.

10.3 Employees shall have access to their evaluations on file in Human Resources.

- 10.4 All employees will sign the evaluation indicating their receipt of the evaluation within ten (10) calendar days of receipt. An employee who is dissatisfied with his/her review may prepare and submit a written response within thirty (30) calendar days following receipt of the evaluation. The response will be submitted to the General Manager with a copy to the Human Resources Manager. The response will be placed with the evaluation in the employee's personnel file. The employee has no further means of challenging or appealing a performance evaluation. Performance evaluations are not grievable.

ARTICLE 11 - PROBATIONARY PERIOD

- 11.1 The probationary period shall be a trial period during which SMART evaluates the employee's ability, competency, fitness and other qualifications to do the work for which they are employed.
- 11.2 All new employees shall be on probation for twelve (12) months immediately following their date of hire. If an employee is absent from work for good cause during the probationary period, probation may, be extended day for day by SMART to allow the employee to complete the full twelve (12) months. New probationary employees may be disciplined or discharged at the total discretion of SMART and such actions shall not be subject to review under any provision of this Memorandum of Understanding.

ARTICLE 12 – PROMOTIONS, VACANCIES AND TRANSFERS

- 12.1 Employees who are transferred or promoted out of the bargaining unit, and who fail to successfully complete the probationary period of the new position (for a reason that does not disqualify them from employment in any classification), may elect to return to their original position, in their previous classification within the bargaining unit. Employees shall have a maximum of six (6) months during which they can return to their previous position. Employees shall have no right to return to the bargaining unit after six (6) months. An employee who returns to an available position within the six- (6) month period shall retain his/her departmental seniority.
- 12.2 SMART shall notify the Union of all job openings within the bargaining units covered by this Memorandum of Understanding. The Union may refer qualified applicants for such openings. In interviewing and hiring of such job openings, SMART will not discriminate against any applicant referred by the Union. Applicants referred by the Union will participate in the competitive process as would any other applicant.

- 12.3 Applicants who meet the qualifications of the position descriptions will undergo a selection process as determined by SMART. This process may include, but is not limited to, screening of the most qualified applicant for job suitability and skills assessment, such as written, hands on, video or interview.

ARTICLE 13 - TRAINING

- 13.1 SMART encourages employees to keep their job-related skills current and to look for opportunities to enhance those skills. The Division Superintendent or designee will meet with each employee in a bargaining unit covered by this agreement once a year through the performance evaluation process to assess individual training and career development needs.
- 13.2 When appropriate, SMART will provide employees the opportunity to attend job-related training, including, but not limited to, conferences and seminars. Voluntary training sessions attended after an employee's work hours are unpaid.
- 13.3 Upon approval by SMART, the employee will be reimbursed for expenses related to attending job-related, pre-approved training as allowed per SMART's travel policy, vehicle use guidelines and applicable state and federal law.
- 13.4 Employees in a bargaining unit covered by this agreement will be required to attend training classes and take examinations connected with their duties as required by Federal, State, Local and Agency regulations. Examinations may be written or oral and include physical examinations, geographical qualification examinations and service examinations as required by state and Federal Railroad Administration regulations.

ARTICLE 14-SAFETY

- 14.1 When an employee is injured at work so as to require that he/she be excused from work by an authorized representative of Management, he/she shall be paid for the balance of the shift (regular pay) on which the injury occurred. Subsequent physician's visits, if necessary, will be charged to sick leave if not scheduled outside of the employee's regular working hours. A copy of the accident report shall be given to the employee. Sick leave pay will not commence until the following day after the injury/illness.
- 14.2 In those cases where an employee receives worker's compensation benefits under the District's plan and is granted sick leave during a disability resulting from an on-the-job injury, DISTRICT shall receive credit against any Workers'

Compensation Insurance granted to him, until such leave is exhausted. Payments to the employee will not exceed 100% of regular base pay.

- 14.3 When, after the employee returns to work, there is a bona fide re-injury of the original injury on the job and an authorized representative of Management acting on the recommendation of a doctor excuses the employee from work, he/she shall be paid for the balance of the shift.
- 14.4 The employer and employee are required to comply with Cal-OSHA standards and Federal Railroad Administration Regulations.
- 14.5 SMART will hold regular division specific meetings in which Supervisors will have the opportunity to discuss safety matters as well as other operational issues. Safety matters that are of an urgent nature should be directed in writing to the division Superintendent.

ARTICLE 15 – GRIEVANCE PROCEDURE

- 15.1 A grievance must be in writing, and is defined as a complaint that there has been noncompliance with or a misinterpretation or misapplication of this Memorandum of Understanding or a work rule or resolution of SMART. Grievances will be processed in accordance with SMART policy HRM-0011 Grievance Procedure as modified herein.
 - 15.1.2. Selection appeals, disciplinary action, examination appeals, release from Probationary period, complaints of discrimination, the content of performance evaluations and reviews are not grievable hereunder.
 - 15.1. 3. A grievance may be filed by an employee on his/her own behalf or by the Union.
 - 15.1. 4. If it is asserted that the grievance is outside of the scope of procedures or definitions contained herein, such assertion will be evaluated and ruled upon at each step. Such claim will not halt the further processing of the grievance until Step 4 of the resolution process is reached, as defined below. At Step 4, the General Manager will evaluate the assertion, and make a ruling prior to hearing the grievance on its merits. If the General Manager rules that the matter is not grievable hereunder, the grievance will be dismissed and cannot be processed further.
 - 15.1.5 Disputes concerning the applicability of the Grievance Procedure that persist beyond step 4 may be submitted to step 5, Arbitration, for determination. The Arbitrator will decide the grievability of the issue before taking evidence concerning the

merits of the dismissed grievance. If the Arbitrator decides that the dispute is Grievable, the matter will be referred back to Step 4 for consideration of the merits.

15.1.6. For the purposes of this grievance procedure, "Working Days" shall be defined as those in a normal, five-day work week, Monday through Friday.

15.2 GRIEVANCE TIME LIMITS

15.2. 1. Time limits specified in each step of the procedure shall be strictly observed and may only be extended by mutual agreement of the parties in writing.

15.2. 2. Failure of a grievant to observe a time limit shall terminate the grievance. Failure of the party to whom the grievance is submitted to observe the time limits shall give the Union the right to move the grievance to the next level.

15.3 PROCEDURE

15.3. 1. The District recognizes that disputes should be resolved at the lowest possible administrative level. The grievance procedure shall be followed in its entirety before further actions are taken to seek resolution to the dispute. When the grievance is filed by a bargaining unit employee, the grievant may be represented by the Union or a Union Steward throughout the grievance process.

15.4 INFORMAL GRIEVANCE - STEP 1

15.4. 1. The employee will discuss the grievance with his/her immediate supervisor within ten (10) working days of the event giving rise to the grievance, or within ten (10) working days of when the employee knew of or could have reasonably discovered such action or occurrence. The supervisor shall give his/her decision to the employee within ten (10) working days following the discussion.

15.4. 2. Presentation of an informal grievance will be a prerequisite to the institution of a formal grievance.

15.5 FORMAL GRIEVANCE

15.5. 1. **STEP 2 - GRIEVANCE FORM:** Within fifteen (15) working days, if the grievant is not satisfied with the informal response, or he/she has not received a response from the supervisor within the ten (10) working day limit specified above, the employee or the Union may initiate a formal grievance. A formal grievance shall be initiated by completing and filing a Grievance Form with the Human Resources Department with a copy to the supervisor and the Union. The form must contain:

- i. Name(s) of grievant;
- ii. Position title(s);
- iii. Department(s);

- iv. Mailing Address(es);
- v. A clear statement of the nature of the grievance, citing applicable rule, regulation, policy or contract language;
- vi. The date upon which the event giving rise to the alleged grievance occurred;
- vii. The date upon which the informal discussion with the supervisor took place;
- viii. A proposed solution to the grievance;
- ix. The date of execution of the Grievance Form

15.5. 2. RESOLUTION PROCESS: After filing the Grievance Form with Human Resources, the process for resolving the grievance is as follows:

- i. STEP 3: Within twenty (20) working days after a formal grievance is filed, the Department Manager will investigate the grievance, confer with the Union in an attempt to resolve the grievance and make a decision in writing.
- ii. STEP 4: If the grievance is not resolved in Step 3 to the satisfaction of the Union, within ten (10) working days of receipt of the Department Manager's decision, the Union may request consideration of the grievance by the General Manager, by notifying the Human Resources Department in writing.
 - 1) Within twenty (20) working days after such notification, the General Manager will investigate the grievance, conferring with person(s) affected to the extent he or she deems necessary, and will render a decision in writing.
 - 2) If the written decision of the General Manager resolves the grievance to the satisfaction of the Union, it will bind the Parties.
 - 3) If the Union is not satisfied with the decision of the General Manager or has not received a response within the time limits specified in Step 4, the Union may proceed to Step 5.
- iii. STEP 5 ARBITRATION: Should the matter remain unresolved in Step 4 above, a final consideration of the grievance to Step 5, arbitration, may be filed in writing with the Human Resources Department not more than fifteen (15) working days from receipt of the General Manager's decision.
 - 1) The grievance will be determined by an arbitrator, provided that the District and the grievant agree on the issues to be arbitrated.

- 2) As soon as possible, but no later than twenty (20) working days, after receipt of the Step 4 request for arbitration, the District and the Union shall select an arbitrator. If the parties are unable to agree upon an arbitrator, they shall request a list of five (5) names from the State Conciliation and Mediation Services and shall strike names until an arbitrator is selected.
- 3) Both parties will endeavor to submit the grievance to the arbitrator within twenty (20) working days after selection.
- 4) The Arbitrator(s) will neither add to, detract from, nor modify or ignore the existing language of any District rules, policies or regulations in considering any issue properly before them. If the arbitrator sustains the grievance, he/she shall fashion an appropriate remedy that does not conflict with any provisions contained in any District rule, policy or regulation.
- 5) The Arbitrator(s) will expressly confine themselves to the precise issues being raised by the grievance and submitted to them, and will have no authority to consider any other issue not so submitted.
- 6) Any monetary award in favor of the grievant is limited to lost wages or benefits suffered measured from the date of the grievance forward. In no event will the Arbitrator(s) award any other type of monetary award, including, but not limited to, attorney's fees.
- 7) The decision will be final and binding on all parties.

15.5.3. GENERAL CONSIDERATIONS

- i. The Human Resources Department will act as the central repository for all grievance records.
- ii. All expenses of arbitration will be shared equally by the District and the Union.
- iii. Failure on the part of the District or the grievant to appear in any case before an arbitrator, without good cause, will result in forfeiture of the case and responsibility for payment of all costs of arbitration.
- iv. The grievant's or Union designee's signature is required at each step of the grievance procedure.
- v. A copy of the grievance will be provided to the General Manager at each step of the grievance process.
- vi. There will be no amendments of a grievance without the approval of both parties in writing.

- vii. Mediation may be used by both parties to assist them in resolving grievances. The decision to utilize mediation will be voluntary. Mediation may be held at any step prior to submission of the final appeal under Step 5 of the grievance procedure.

ARTICLE 16 – DISCIPLINE

- 16.1 SMART has the right to discipline or discharge regular employees for just cause. SMART employs a progressive disciplinary program, which program may include, but is not limited to, counseling, verbal warning, written warning, suspension, and discharge. Disciplinary action may begin at any step in the program depending upon the seriousness of the infraction. The District will notify the employee and the Union by certified mail of the commencement of a disciplinary investigation within seven (7) calendar days of the District's knowledge of the act or occurrence.
- 16.2 The causes for which an employee may be disciplined or discharged shall include, but not be limited to, the following:
 - 16.2.1 Dishonesty
 - 16.2.2 Insubordination
 - 16.2.3 Intoxication or use of alcoholic beverages or illegal drugs while on duty or on SMART property.
 - 16.2.4 Sexual harassment or other harassment of fellow employees.
 - 16.2.5 Violation of SMART rules or policies.
 - 16.2.6 Violation or non-compliance with federal and state operating rules and regulations, including Federal Railroad Administration rules and regulations.
 - 16.2.7 Violence and/or threats of violence in the workplace.
- 16.3 SMART will inform regular employees in writing as to the reasons for a discharge or suspension.
- 16.4 Regular employees (those who have completed the Probation Period) claiming that they were unjustly disciplined or discharged may challenge the discipline or discharge through the Discipline policy and procedures set forth in SMART's Discipline Policy, HRM-0018. HRM-0018 and any modifications thereto are incorporated into this Agreement and are binding on all parties. The Regular employee may be represented by the Union throughout the disciplinary process. Except as provided in paragraph 16.5, no employee in a bargaining unit covered by this agreement will be disciplined, suspended or dismissed from the service until a fair and impartial formal investigation has been conducted by an authorized Department Manager.

- 16.5 Except when a serious act or occurrence is involved, or as required by Federal Railroad Administration regulations, an employee in a bargaining unit covered by this agreement will not be held out of service in disciplinary matters before a formal investigation is conducted. A serious act or occurrence is defined in section 16.2 above.
- 16.5.1 If an employee in a bargaining unit covered by this agreement is held out of service before a formal investigation, the District may elect to put the employee on Administrative Leave of Absence with pay during the disciplinary process. Holding an employee out of service before a formal investigation or paying the employee for being out of service for less than a serious act or occurrence is not prejudging the employee.
- 16.6 The General Manager's or designee's decision shall only be appealed by the employee or by the Union on the employee's behalf to an Arbitrator selected by the Parties.
- 16.6.1 The request for arbitration may be filed in writing with the Human Resources Department not more than fifteen (15) working days from receipt of the General Manager's decision, or the right to appeal the decision is forfeited.
- 16.6.2 The decision will be resolved by an arbitrator, provided that the District and the Union agree on the issues to be arbitrated.
- 16.6.3 As soon as possible, but no later than twenty (20) working days, after receipt of the request for arbitration, the District and the Union shall select an arbitrator. If the parties are unable to agree upon an arbitrator, they shall request a list of five (5) names from the State Conciliation and Mediation Services and shall strike names until an arbitrator is selected.
- 16.6.4 Both parties will endeavor to submit the appeal to the arbitrator within twenty (20) working days after selection.
- 16.6.5 The decision of the arbitrator will be final and binding on all parties.
- 16.6.6 The Arbitrator(s) will neither add to, detract from nor modify or ignore the existing language of any District rules, policies or regulations in considering any issue properly before them. If the arbitrator sustains the decision, he/she shall fashion an appropriate remedy that does not conflict with any provisions contained in any District rule, policy or regulation.
- 16.6.7 The Arbitrator(s) will expressly confine themselves to the precise issues being raised by the appeal and submitted to them, and will have no authority to consider any other issue not so submitted.
- 16.6.8 Any monetary award in favor of the employee is limited to lost wages and benefits suffered measured from the date of the imposed discipline forward. In

no event will the Arbitrator(s) award any other type of monetary award, including, but not limited to, attorney's fees.

- 16.6.9 All expenses of arbitration will be shared equally by the District and the employee.
- 16.6.10 Failure on the part of the District or the employee to appear in any matter before an arbitrator, without good cause, will result in forfeiture of the matter and responsibility for payment of all costs of arbitration.
- 16.6.11 Mediation may be used by both parties to assist them in resolving the disciplinary matter. The decision to utilize mediation will be voluntary. Mediation may be held at any step prior to submission of the final appeal to arbitration.

ARTICLE 17 - LEAVES OF ABSENCE

- 17.1. All leave time, including Holiday, Sick and Vacation leave will be processed in accordance with District policy HRM-0022. Leaves, except as modified herein. From time to time it may be necessary to modify District leave policy as required by Local, State or Federal law. Should the District be required by law to modify a leave policy, the District will notify the UNION in writing of the required change. Any other proposed changes not required by law will be subject to the provisions of the Meyers-Milias Brown Act.

17.2. HOLIDAYS

- 17.2.1. The DISTRICT observes various District designated holidays each year. Regular full-time and part-time employees are eligible for paid District designated holidays. To be eligible for Holiday pay, employees must work or be in paid status on the employee's regularly scheduled work days the day before and the day after the holiday.
- 17.2.2. Paid holidays are as follows:
 - 1. New Year's Day - January 1st
 - 2. Martin Luther King, Jr.'s Birthday, third Monday in January.
 - 3. President's Day, the third Monday in February
 - 4. Memorial Day, the last Monday in May.
 - 5. Independence Day, July 4th.
 - 6. Labor Day, the first Monday in September.
 - 7. Veteran's Day, November 11th.
 - 8. Thanksgiving Day
 - 9. The day following Thanksgiving Day
 - 10. Christmas Day, December 25th.
 - 11. Two (2) Floating Holidays
 - 12. Each day appointed by the Governor of the State of California and formally recognized by the Board of Directors as a day of mourning or other special

observance.

17.2.3. Floating Holidays. Effective January 1, 2018, two eight (8) hour days per year will be deemed as floating holidays, which may be taken at any time during the calendar year in which it is accrued provided a written request is made in advance and the supervisor approves such request in writing. Floating holiday pay will be pro-rated for part-time employees. Employees eligible for floating holidays are regular, Probationary, and at-will. Temporary and contracted employees are not eligible for floating holiday pay. Floating holiday pay must be taken in increments of eight (8) hours. Floating holiday hours must be used in the year that they are accrued and will not carry over from one calendar year to the next. If an eligible employee does not use their floating holiday hours during the calendar year, one eight (8) hour day may be paid out as cash. Floating holiday hours are not eligible to be paid out upon separation of employment from the District. New hires hired prior to June 1st of each year will receive two floating holidays. New hires hired between June 1st and August 31st of each year will receive one (1) floating holiday. New hires on or after September 1st will not receive the floating holidays for that year. Supervisor approval is needed prior to scheduling a floating holiday.

17.3. VACATION ACCRUAL AND PAY

17.3.1 All regular full-time employees are eligible to accrue vacation leave based on hours worked on a maximum forty (40) hour workweek. Part-time employees who work a minimum of 20 hours per week shall accrue vacation on a pro-rata basis. Usage and accrual shall be governed by the same rules and regulations applicable to full time employees. Vacation accrual schedules can be found in District policy HRM-0022 – Leaves.

17.3.2 Vacation Buyback. Each represented employee may request once a calendar year to receive payment for up to eighty (80) hours of accrued vacation hours, provided that there is a minimum remaining balance of eighty (80) hours following payment. Such requests may be made bi-weekly during any pay period.

17.3.3 Vacation Bid - Employees shall bid for vacation leave once every 12 months according to seniority order in each respective job class. Employees will be given confirmation for bids submitted.

17.3.4 Additional Vacation Time – To allow for flexibility throughout the year, after the annual bid process has been completed, employees may request additional vacation or compensatory time off as needed. All such requests must be scheduled in advance and receive Supervisor approval. The District reserves the right to deny additional time off requests due to Operational needs.

17.4. SICK LEAVE ACCRUAL AND PAY

17.4.1 Regular full-time and part-time employees are eligible to receive sick pay. Each DISTRICT full-time employee will accrue up to 12 sick days (96 hours) per year, with no limit on accumulation. Regular part-time employees who work at least 20 hours per week are eligible to accrue paid sick leave on a pro-rata basis. In accordance with AB 1522, Article 1.5, Section 246 (b)(1), the minimum sick leave accrual rate for regular part-time employees who work at least 20 hours per week will be one hour per every 30 hours worked. Usage and accrual of said benefits shall be governed by the same rules and regulations applicable to full-time employees. Use of sick leave will be consistent with District policy HRM-0022 Leaves, Section 3, Sick Time Accrual and Pay.

17.5. MEDICAL AND OTHER LEGALLY REQUIRED LEAVES OF ABSENCE

17.5.1 Leaves of Absence are periods of time in which an employee is permitted to be away from work without being terminated or considered to have voluntarily resigned. Completion of the Probationary Period is required, except where state or federal laws require otherwise. Examples of circumstances where a leave of absence is appropriate are work-related disabilities, military duty and medical disabilities, (including pregnancy). In instances where the leave occurs during the Probationary Period, the Probationary period is extended by the time an employee is out on a leave. Leaves are generally unpaid time off, unless the employee is eligible for and has accrued time under the sick or vacation plans.

17.5.2 The General Manager or designee, on a case-by-case basis, may grant a leave of absence (LOA), depending on the nature of the leave and the business needs at that time. It is the employee's responsibility to maintain contact by phone or in writing, with their supervisor and/or the Human Resources Department while he/she is on a LOA. The employee must provide documentation supporting the need for the leave (e.g., physician's visit certification) and keep it up-to-date. Any holidays that occur while an employee is on a LOA are not paid unless the use of accrued sick, compensatory and/or vacation time on the day prior to and after the District holiday is used. Vacation and sick time do not accrue during a leave if an employee is in unpaid leave status.

17.5.3 All legally required leaves will be administered according to SMART policy HRM-0022 – Leaves. SMART reserves the right to update this policy as required to comply with changes in State, Federal or local laws.

ARTICLE 18 - HEALTH AND LIFE INSURANCE

18.1 SMART provides each employee with a comprehensive group insurance plan as outlined in District Policy HRM-0019 Employee Benefits.

18.2 New employees who work a minimum of 20 hours per week are eligible to participate in District health and welfare benefits on the first day of the month following their date of hire. Employer contributions toward benefit premiums for part-time employees will be pro-rated.

18.3 At appropriate normal open enrollment periods or other enrollment periods as arranged by the District for initial enrollment, the District's group insurance plans shall be made available to employees covered by this Agreement.

18.4 Coordination of Benefits. If an employee and their spouse or other qualified dependent both work for the District, benefits received under group policies will be coordinated with any other Employer-provided benefits an employee or dependent may have. This means an employee and their dependent(s) may not receive double coverage under any plan offered by the District.

ARTICLE 19 - PENSION PLAN

19.1 CalPERS Retirement Plan

19.1.1 SMART and each employee, who is scheduled to work twenty (20) hours per week or who actually works one thousand (1,000) hours or more in a fiscal year, shall continue to contribute to the Public Employees' Retirement System in accordance with the applicable rules and regulations.

19.1.2 Employees hired after January 1, 2013 shall be covered by the terms of 2%@Age 62 retirement plan.

19.2 457 B Deferred Compensation

19.2.1 The DISTRICT has available to all employees a 457 b Deferred Compensation Plan. This plan allows employees to make voluntary contributions, on a pre-tax basis, for their own retirement savings. For employees hired after June 1, 2012, the DISTRICT will match employee voluntary contributions up to a maximum of 2% of annual base salary.

ARTICLE 20 - WAGES

Wages for this Unit of employees will be as shown below:

Job Class	Step 1	Step 2	Step 3	Step 4	Step 5
Track Supervisor	\$45.45	\$47.73	\$50.11	\$52.62	\$55.25

20.1 A three percent (3%) wage increase, (as shown in the chart above) upon ratification of the agreement. Wages will be effective on the first day of the pay period in which the agreement is ratified.

20.2 A three percent (3%) wage increase effective July 1, 2019.

ARTICLE 21 – TEMPORARY PROMOTION

- 21.1 When an incumbent in a position is on an extended leave or a position becomes vacant, the General Manager may choose to fill a position by temporarily promoting an existing SMART employee. In order to be considered for temporary promotion, the candidate must meet the minimum qualifications of the higher job class. Only such vacancies expected to last for thirty (30) days or longer may be filled by temporary promotion.
- 21.2 When a regular employee is temporarily assigned to substantially fulfill the duties of a higher position for thirty (30) or more working days, the employee will be temporarily promoted, in writing, and given a temporary merit increase of *up to 5%* above the employee's current pay level in his/her regular position.
- 21.3 A single assignment performed in a higher classification does not qualify an employee for temporary promotion pay consideration. Further, when the work associated with a vacant position is redistributed to several employees, rather than given to one individual on an interim basis, no single individual will be deemed to be working in a higher class and eligible for temporary promotion.
- 21.4 When an employee is promoted to a position in which he or she has, immediately preceding the appointment, served in a temporary promotion capacity, the employee will be given time credit for the acting service. Credit shall begin on the effective date of the temporary appointment and will count toward the completion of the Probationary period in the new position.

- 21.5 When the incumbent of the higher-level class returns to work or is replaced on a permanent basis by another individual from an employment list, the individual promoted on a temporary basis will be returned to his/her former job class and rate of pay.

ARTICLE 22 - UNIFORMS

- 22.1 SMART will provide uniforms and laundering service for employees covered by this agreement. Uniforms are only to be worn at work or while going to and from the work site.
- 22.2 Uniforms should be clean, pressed, and in good repair and with attention to appropriate personal grooming and hygiene. Visible tattoos will be covered on employees whose jobs require them to interact directly with the public
- 22.3 All employees will wear a SMART provided identification card on the outer most clothing item at all times during working hours.
- 22.4 Employees may be required to wear safety equipment or clothing at certain times while performing specific job functions.

ARTICLE 23 - TRANSIT VEHICLES

- 23.1 SMART will provide pool vehicles that will be available for use by employees as needed for the performance of their job functions.
- 23.2 Employees will be responsible for keeping the vehicles reasonably clean and inspected, per the District's Vehicle Use Guidelines but in no case are they responsible for normal wear and tear.
- 23.3 All vehicles will be equipped with an emergency kit.

23.4 It is each employee's responsibility to inform SMART if any emergency items are missing.

ARTICLE 24 - CIVIC DUTY TIME OFF

24.1 SMART encourages employees to serve as jurors or witnesses when called. Full-time and part-time regular employees will receive full pay while serving on jury or witness duty. An employee must notify his/her Supervisor of the need for time off for jury or witness duty as soon as a notice or summons from the court or a subpoena is received. Proof of attendance shall be required when the employee returns to work.

24.2 An employee may retain such payment as may be allowed for travel but shall make payable to SMART any and all fees which the employee may receive in payment for service as a juror. Employees are required to provide written verification of having served from the court clerk. If work time remains after any day of jury or witness duty, the employee will be expected to return to work for the remainder of their work schedule.

24.3 For positions covered under the FRA Hours of Service law, the employee will not be required to perform any work during the 24-hour period in which the jury duty is served.

ARTICLE 25 - OVERTIME AND WORK SCHEDULES

25.1 Overtime

25.1.1 Overtime compensation for non-exempt employees will be paid at the rate of one and one-half (1 ½) times the regular rate for all hours worked in excess of eight hours worked in a day or forty (40) hours worked in a workweek.

25.1.2 Hours spent attending Jury Duty, compensatory time off, sick leave, holiday pay and vacation leave do not count toward the number of hours needed before an employee is eligible for overtime compensation.

25.1.3 Any non-exempt employee in a bargaining unit covered by this agreement who works six (6) consecutive days in a workweek will be paid for work on the seventh (7th) consecutive day at the overtime rate of one and one-half times the regular rate of pay for the first eight hours worked and double the employee's regular rate for all hours worked in excess of eight (8) hours. Work week is defined as Monday through Sunday.

25.2 Compensatory Time

25.2.1 Non-exempt employees may elect compensatory time off for any overtime work performed. Compensatory time off is earned at time and one half.

Employees may accumulate a maximum of eighty (80) hours of compensatory time off. Once the maximum number of hours has been accrued, the employee shall receive overtime pay as described in Paragraph 25.1. Employees may not elect additional compensatory time off in lieu of overtime until they fall below the maximum eighty (80) hour accumulation.

25.2.2 No employee shall take compensatory time off without the prior approval of the employee's supervisor.

25.2.3 Each employee who is separated from District service shall be entitled to payment for accrued compensatory time at the employee's base hourly rate of pay at the time of the employee's separation or as otherwise required by law.

25.3 All employees must submit a timesheet indicating hours worked.

25.4 Standby Pay

25.4.1 An employee on standby status will be paid the equivalent of four (4) hours pay at the employee's straight time rate for each twenty-four (24) hour period the employee is on standby status, or for a period from the end of the employee's work shift and the beginning of the employee's next shift, if the standby assignment is less than 24 hours. Standby pay does not count toward the calculation of overtime. Standby pay will be offset by any actual hours worked if called out to work. While on standby, the employee must be fit for duty.

25.4.2 Any employee who is on standby until the next shift or for a twenty-four (24) hour period and is called out for work shall be paid at the applicable rate of pay for all actual hours worked. Overtime rates will apply to all hours actually worked in excess of eight (8) hours per day or forty (40) hours per week.

25.5 Rest and Meal Periods

25.5.1 Two (2) paid breaks are to be allowed during the regular shift, each of which shall be no more than ten (10) minutes. One off duty thirty (30) minutes meal period shall be allowed and shall be unpaid time.

25.5.2 For employees whose job duties require the employee to remain at the work site or facility during the meal period, the meal period shall be considered an "on duty" meal period and shall be paid.

25.5.3 Rest and Meal periods may not be combined.

ARTICLE 26- SHIFT BIDDING AND EXTRA WORK

- 26.1 Employees shall bid shifts according to the seniority order in each respective job class. Assignments will be made to employees in seniority order from bids submitted prior to the close of the bid period every twelve (12) months. Employees will be given confirmation for bids submitted. SMART reserves the right to deny a bid if an employee does not have the required skills or training for the position. SMART will distribute shift schedules to be bid upon at least seven (7) days prior to the day on which the bid process will be held. Actual bidding will take place at least fourteen (14) calendar days prior to the day on which the bid will take effect.
- 26.2 Each employee will submit their bid on the date designated. If an employee is absent for their assigned bid day, the employee may bid by phone or give a proxy bid in writing to a shop steward to bid for the employee. If an employee does not bid on the assigned bid day or fails to submit a proxy bid, the employee will fall to the bottom of the list and bid in the last position. Final results will be posted within 24 hours of the close of the bid in each District facility where bargaining unit members are employed.
- 26.3 Employees on a leave of absence who will not be able to work at least two (2) months of the bid period will not be permitted to bid, unless SMART and the Union mutually agree to permit the employee to bid. If the employee returns to work during the bid period, SMART will assign the employee to an open shift.
- 26.4 SMART reserves the right to determine staffing levels of daily assignments. If a shift becomes open between bidding cycles and SMART determines to cover all or part of that shift, the coverage of that shift will be filled based on:
- (a) Availability within the Hours of Service regulations; and
 - (b) By seniority order.
- 26.5 An employee returning to duty after being absent less than 30 days by reason of sickness, temporary disability, suspension, leave of absence or vacation, will be returned to the current vacant assignment. Upon the next shift bid period, the employee may exercise their seniority to bid to a new assignment.

- 26.6 The Union shop steward will work with a SMART representative in processing the shift bids. All bids will be submitted in writing to the Division Superintendent or designee. The Superintendent will post copies of all bids submitted.

ARTICLE 27 – FURLOUGH

- 27.1 For the purposes of this section, furlough or layoff, is defined as a reduction in force whereby the total number of budgeted position allocations in a job classification is reduced. A furlough may also include establishing unpaid days off to avoid the reduction of budgeted positions. When SMART determines it necessary to reduce the workforce, employees shall be furloughed in inverse seniority order within classification. A furlough is an involuntary separation and is not subject to the grievance and arbitration procedure.
- 27.2 SMART shall give fourteen (14) days' notice to employees that they will be furloughed. If SMART elects not to give fourteen (14) days' notice, SMART shall pay the employee their regular rate of pay for each day that notice was not given, up to a maximum of two (2) weeks' pay. The provisions for notice shall not apply if notice of furlough is prevented due to fire, storm, major breakdown, labor dispute or other cause beyond the control of SMART.
- 27.3 The DISTRICT will pay for two months of the employee's COBRA medical coverage provided the employee has completed one or more years of service. Note: Under CALPERS medical, the employee is eligible to receive an additional month of medical insurance coverage after separation from employment if the employee is able to pay their portion of the premium (15%) prior to the start of COBRA eligibility.
- 27.4 Employees on furlough will be recalled to work in seniority order within classification. Employees on furlough shall remain on the seniority list for purpose of recall for a period not to exceed twelve (12) months following furlough. Employees who are recalled within twelve (12) months will retain all seniority accrued in prior service. Benefits do not accrue during a furlough period. Employees will have vacation, compensatory and sick leave cashed out per District policies.

- 27.5 Any employee who rejects a recall offer, fails to respond to the notice of recall within ten (10) days of receipt of certified mail, or fails to return to work within fourteen (14) days after a recall notice shall be removed from the seniority list.
- 27.6 In a case of a reduction in force, SMART will meet and confer with the Union over the effects of the furlough.
- 27.7 As required per AB 2224, Section 150143, the District agrees that it will not contract out the performance of services performed by or fairly claimable by the employees of the bargaining unit without the agreement of the accredited representative of that bargaining unit's employees.

ARTICLE 28 - EMPLOYEE ASSISTANCE PROGRAMS

- 28.1 The DISTRICT and UNION are committed to protecting the safety, health and well-being of all employees, the public and other individuals in the workplace. The District provides an Employee Assistance Program (EAP) to all Employees as part of its benefits program.
- 28.2 Substance Abuse: As required by District policy and Federal Railroad Administration Regulations, the District has developed a Drug and Alcohol Free Workplace Policy and 49 CFR Part 219 Compliance Plan (APPENDIX A). All Employees in the bargaining unit are covered under the provisions of this plan.
- 28.3 Employees in the bargaining unit are also eligible to seek help for substance abuse or mental health issues with the Teamsters Assistance Program (TAP). Employees are encouraged to seek assistance through the District's EAP or the TAP when needed.

ARTICLE 29 - NO STRIKES, WORK STOPPAGES OR LOCKOUTS

- 29.1 The Union agrees that during the life of this Memorandum of Understanding there shall be no strikes, slowdowns, or any other form of work stoppage, including sympathy strikes and SMART agrees that there shall be no lockouts.

ARTICLE 30 – ACCESS TO NEW HIRE INFORMATION

- 30.1 The DISTRICT will notify the UNION of all new hires at least one week prior to the new employee’s start date. All new hires will receive a new employee orientation on their first day of employment. The DISTRICT agrees to allocate a thirty (30) minute timeframe during the new hire orientation schedule for UNION representatives to meet with the new employee(s). A UNION representative will contact a representative of the District’s human resources department at least twenty-four hours in advance of the new hire orientation date to arrange a time to meet with the new employee during the orientation process. If UNION does not wish to send a representative to the new hire orientation, they may provide written materials to the DISTRICT Human Resources Department which will be provided to the new employee.
- 30.2 The DISTRICT will provide the UNION with EMPLOYEE contact information within 30 days of the date of hire pursuant to AB 119, Section 3558 of the government code.

ARTICLE 31 - TERM OF AGREEMENT

31.1 This Memorandum of Understanding shall become effective _____ and remain in effect to and including June 30, 2021, and thereafter shall automatically be renewed from year to year unless either party shall give notice in writing to the other party at least sixty (60) days prior to the end of the initial term of a desire to amend, modify, or terminate this Memorandum of Understanding. If such notice or notices are not given, the Memorandum of Understanding shall be deemed to be renewed for the succeeding year.

IN WITNESS WHEREOF, the duly authorized representatives of the parties hereto, having met and conferred in good faith, have caused their names to be subscribed this _____ day of _____, 2019.

FOR SMART

FORTHE UNION

APPROVED

RATIFIED

Farhad Mansourian
General Manager

Michael Yates
Business Representative

Attest

SMART NEGOTIATORS

TEAMSTERS NEGOTIATORS

Jessica Sutherland
Assistant General Counsel

Ryan Kohler
Employee Representative

Lisa Hansley
SMART Human Resources

Samuel Herroz
Employee Representative

APPENDIX A

FEDERAL RAILROAD ADMINISTRATION CONTROL OF ALCOHOL AND DRUG USE

(49 CFR PART 219)

**MODEL PART 219
RAILROAD COMPLIANCE PLAN**

Sonoma-Marín Area Rail Transit

June 12, 2017

Date of FRA Plan Approval: June 11, 2017

MODEL PART 219 RAILROAD COMPLIANCE PLAN

FRA's Model Part 219 Railroad Compliance Plan has been developed by FRA as a tool to assist railroads in complying with the requirements of Title 49, Code of Federal Regulations Part 219 with respect to submission and approval of random alcohol and drug testing and the required programs. This plan, although initially developed for the smaller railroads, may be used by all railroads regardless of class.

Only railroads that are required to comply with Part 219 are authorized to use Federal authority. Therefore, entities having less than 16 covered service employees (unless they operate on tracks of another railroad or otherwise engage in joint operations with another railroad except as necessary for purposes of interchange) are not authorized to utilize Federal authority to conduct Federal random or reasonable cause testing. In those instances, a railroad should use "Company Policy Testing" as their authority. All railroads subject to Part 219.3 would still be responsible for complying with Subpart C – Post-Accident testing requirements.

Simply signing and adopting this plan does not constitute compliance. The actions required by the regulation must be in accordance with regulatory requirements to achieve compliance. **In all cases where there is a difference between this plan and 49 CFR Part 219 or 49 CFR Part 40, the CFR takes precedence.**

NOTE: Title 49, CFR Part 40 requires employers to have a Designated Employer Representative (DER), defined in 40.3 as "An employee authorized by the employer to take immediate action(s) to remove employees from safety-sensitive duties, or cause employees to be removed from these covered duties, and to make required decisions in the testing and evaluation processes. The DER also receives test results and other communications for the employer, consistent with the requirements of Part 40. Service agents cannot act as DERs." In the past, this person may have been referred to as the Program Administrator.

NOTE: Please make all entries, changes, or additions to this model plan in bold, italics, color, or other distinguishing manner in order to expedite review by the FRA Drug & Alcohol Program Specialist.

I. Policy Statement

Sonoma-Marín Area Rail Transit recognizes the problem of substance abuse in today's society. This problem poses particular concerns to an employer who is subject to governmental regulations and seeks to promote the safety of the general public. This railroad has a concern for the safety, health and well being of its employees as well as an obligation to comply with the United States Department of Transportation (DOT) and Federal Railroad Administration (FRA) regulations. This railroad will comply with all statutes and regulations administered by the FRA in implementing the required Part 219 Drug and Alcohol Program.

Programs have been established on this railroad which requires regulated employees to demonstrate their safety posture through complying with:

1. Urine screens to detect the presence of marijuana, cocaine, opioids, phencyclidine and amphetamines (See 49 CFR § 40.85 and 49 CFR § 40.87);
2. Breath alcohol tests to detect the unauthorized use of alcohol; and
3. Breath, urine, blood and tissue (fatality) testing after qualifying FRA post-accident events.

In accordance with the applicable Federal regulations, this railroad prohibits persons who perform work regulated by the Federal Hours of Service Laws (see 49 U.S.C. §§ 21101-21108) and/or performing duties as Maintenance-of-Way (MOW) workers as described in the definition of "Roadway Worker" in § 214.7 from being under the influence and/or possession of illegal substances and/or under the influence of alcohol while on duty or within four hours of reporting for regulated service. Additionally, illegal substance use is prohibited on or off duty, except as allowed in 49 CFR § 219.103.

II. Identifying Information.

Railroad:

Name: Sonoma-Marín Area Rail Transit

Address: 5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954

Phone: 707-794-3330

E-Mail: cday-flynn@sonomamarintrain.org

Designated Employer Representative:

Name: Colleen Day-Flynn Address: (If different from above)

Phone: 707-794-3326

E-Mail: cday-flynn@sonomamarintrain.org

Assistant Designated Employer Representative:

Name: Yasamin Mora Serrano Address: (If different from above)

Phone: 707-794-3080

E-Mail: ymserrano@sonomamarintrain.org

Medical Review Officer:

Name: Paul Teynor, MD

Address: 76 E 6790 S

Midvale, UT 84047

Phone: 815-486-5400

Testing Laboratory (must be on HHS list of certified labs):

Name: Clinical Reference Laboratory

Address: 8433 Quivira Road

Lenexa, KS 66215

Phone: 913-492-3652

Substance Abuse Professional (SAP):

Name: Lisa Wolper, SAP

Address: 825 College Ave

Santa Rosa, CA 95404

Phone: 707-524-8864

III. Scope

This policy applies to all railroad personnel (including contractors and volunteers) who perform regulated duties subject to either the Federal Hours of Service Laws “Covered Service” and/or performing Maintenance-of-Way (MOW) duties covered by the definition of “Roadway Worker” in § 214.7.

This railroad has a total of 54 regulated service employees (including volunteers and contractors) who perform “Hours of Service” functions.

This railroad has a total of 10 regulated service employees (including volunteers and contractors) who perform “Roadway Worker” functions.

The total number of all regulated employees (**include both covered service and roadway workers**) at the time of this submission is: 64.

(Include any contracted employees in the above counts.)

If applicable, identify the following for the contractor (**if you have multiple regulated service contractors please add appendix at the end of this document with the following information**):

Name of contractor: _____
Regulated Service performed for your railroad: _____
Address: _____
Contact Person: _____
Email address: _____
Phone: _____

Identify whether you operate on tracks of another railroad (or otherwise engage in joint operations with another railroad, except as necessary for purposes of interchange). If so, which railroad (s) and mileage: _____

Previous Employer Checks: This railroad is required to check on the drug and alcohol testing record of employees it is intending to use to perform regulated duties. This railroad will, after obtaining an employee’s written consent, request information from DOT-regulated employers who have employed the employee during any period during the two years before the date of the employee’s application or transfer into regulated service. **See 49 CFR 40.25.**

An employee must also be asked whether he or she tested positive (or refused to test) on any Federal pre-employment drug or alcohol test administered by a DOT employer to which the employee applied for, but did not obtain regulated service work during the past two years.

With respect to any employee who violated a DOT drug and alcohol regulation, documentation of the employee’s successful completion of DOT return-to-duty requirements (including Federal follow-up tests) must be provided to this railroad.

IV. Testing Programs

There are numerous situations when Federal **drug and/or alcohol tests** must be administered for the railroad to be in compliance with 49 CFR Part 219. Personnel performing functions listed in Section III of this policy will be required to submit to a drug and/or alcohol test in the instances set forth, as follows:

- 1) **Pre-Employment Drug Testing** – (49 CFR 219.501) Applicants will be informed that all individuals this company will use for regulated service must be drug-free. Passing a Federal pre-employment drug test is a condition prior to performing regulated service duties. If an applicant refuses to submit to the drug test, or tests positive on the drug test, the applicant will not be considered qualified to perform regulated service and will not be offered a position in regulated service.

Federal Pre-Employment Alcohol Testing (Optional) – (49 CFR 219.502) Authorized but not required. This railroad chooses to conduct Federal alcohol pre-employment testing?

Place an “X” in one of the following boxes:

Yes No

- 2) **Federal Reasonable Suspicion Testing** – (49 CFR 219.301)
Regulated service personnel will be required to submit to a Federal drug and/or alcohol test whenever a properly trained supervisory employee of this railroad has reasonable suspicion that a regulated employee is currently under the influence of or impaired by a controlled substance or alcohol. Reasonable suspicion must be based on specific, contemporaneous personal observations the supervisor can articulate concerning the employee’s appearance, behavior, speech, body odor, chronic effects or withdrawal effects.

Part 219.11(g) requires supervisory employees to have education and training on alcohol misuse and controlled substance use. The training will cover the physical, behavioral, speech and performance indicators of probable alcohol misuse and use of controlled substances. It will also prepare the supervisors to make the decisions necessary in reasonable suspicion and FRA post-accident situations (i.e., what is a qualifying event and who is to be tested).

The observation for alcohol must be made by at least one qualified supervisory employee who has received proper training in the signs and symptoms of alcohol use per 219.11(g). Documentation of this decision must be maintained, as required by Part 219 Subpart J.

The observation for drugs must be made by at least two qualified supervisory employees, one of which has received proper training in the signs and symptoms of drug use/misuse per 219.11(g). One qualified supervisor must be on-site, but the supervisor trained per 219.11(g), although preferred does not have to be the supervisor on-site. Documentation of this decision must be maintained, as required by Part 219 Subpart J.

If operating on tracks of another railroad, this railroad will coordinate with the host railroad and decide how the supervisor on the site will immediately communicate and coordinate decisions to test and who will administer the necessary testing. In all reasonable suspicion cases, the supervisor will ensure that the regulated service person is transported immediately to a collection

site for a timely collection of a urine and/or breath specimen. If the regulated service person is deemed not fit to return to work, the supervisor will arrange transportation for the person. This is not a Federal requirement, but safety will be better assured if accomplished.

Supervisors must document their observations that led them to decide there was a “reasonable suspicion” to have the regulated service person subjected to Federal drug and/or alcohol testing.

- 3) **Federal Reasonable Cause Testing** – (49 CFR 219.401) **Authorized but not required.** **A railroad must choose whether or not to conduct Federal drug and alcohol Reasonable Cause testing.** If a railroad selects to conduct Federal (DOT) Reasonable Cause testing, then the railroad cannot perform company (non-DOT) testing for any event described in 219.403. If a railroad selects to conduct company (non-DOT) Reasonable Cause testing, then the railroad cannot perform DOT testing for any event described in 219.403.

This railroad chooses to conduct Federal Reasonable Cause drug and alcohol testing for all train accident/incidents and rule violations that meet the criteria of 49 CFR 219.403. Please check the appropriate box:

Place an “X” in one of the following boxes: Yes No

A Federal reasonable cause drug and/or alcohol test may be required (employer’s decision) when a regulated service employee:

- a. Was involved in a qualifying Train accident/incident per 219.403 (a) and a supervisor has a reasonable belief based on specific and articulable facts that the regulated service person’s acts or omissions contributed to the occurrence or severity of the accident/incident; or
- b. Committed a rule violation described in 219.403 (b).

If operating on tracks of another railroad, this railroad will coordinate with the host railroad and decide how the supervisor on the site will immediately communicate and coordinate decisions to test and who will administer the necessary testing. In all reasonable cause cases, the supervisor will ensure that the regulated service person is transported immediately to a collection site for a timely collection of a urine and/or breath specimen. If the regulated service person is deemed not fit to return to work, the supervisor will arrange transportation for the person. This is not a Federal requirement, but safety will be better assured if accomplished.

Supervisors must document their observations that led them to decide there was a “reasonable cause” to have the regulated service person subjected to Federal drug and/or alcohol testing.

- 4) **FRA Post-Accident Drug/Alcohol Testing** – (49 CFR 219.201)

FRA regulations require blood and urine specimens from all surviving **regulated service personnel** when they are directly involved in a qualifying accident or incident. Tissues are also

collected, in addition to urine and blood from any fatality involving an on-duty railroad employee (**direct or “regulated service” contractual employee**). Events requiring FRA post-accident testing include (note regulatory exceptions will be followed):

1. **Major Train Accident** involving any rail equipment accident with reportable damages in excess of the current calendar year reporting threshold under 49 CFR Part 225 and one or more of the following:
 - a. A fatality (any fatality).
 - b. A release of hazardous materials from railroad “lading” that results in an evacuation or reportable injury caused by the hazmat release.
 - c. Damage to railroad property of **\$1.5 Million** or more.
2. **Impact Accident** involving reportable damage in excess of the current reporting threshold that results in:
 - a. A reportable injury; or
 - b. Damage to railroad property of \$150,000 or more.
3. **Fatal Train Incident** involving any on-duty railroad employee or regulated contractor employee where damages do not exceed the current reporting threshold.
4. **Passenger Train Accident** with a reportable injury to any person in a train accident involving damage in excess of the current reporting threshold that involves a passenger train.
5. **Human-Factor Highway-Rail Grade Crossing Accident/Incident** meeting one of the following criteria:
 - i. Regulated employee interfered with the normal functioning of a grade crossing signal system, in testing or otherwise, without first providing for the safety of highway traffic that depends on the normal functioning of such a system, as prohibited by § 234.209, is subject to testing.
 - ii. Train crewmember who was, or who should have been, flagging highway traffic to stop due to an activation failure of a grade crossing system, as provided § 234.105 (c)(3), is subject to testing.
 - iii. Regulated employee who was performing, or should have been performing, the duties of an appropriately equipped flagger (as defined in § 234.5), but who failed to do so, due to an activation failure, partial activation, or false activation of the grade crossing signal system, as provided by § 234.105 (c)(1) and (2), 234.106, or 234.107 (c)(1)(i), is subject to testing.
 - iv. If there is a fatality of any regulated service employee regardless of fault. (fatally injured regulated employee must be tested)

- v. If regulated employee violates an FRA regulation or railroad operating rules and whose actions may have played a role in the cause or severity of the accident/incident, is subject to testing.

Testing Decision: For an accident that meets the criteria for a Major Train Accident, all assigned **crew members of all involved trains and on-track equipment** must be tested. Test any other regulated service employees that had a possible role in the cause or severity of the accident.

For an Impact Accident, Fatal Train Incident, Passenger Train Accident or Human-Factor Highway-Rail Grade Crossing Accident/Incident, Test any other regulated service employees that had a possible role in the cause or severity of the accident. The railroad must exclude other regulated service employee if the responding railroad representative can immediately determine, on the basis of specific information, that the employee had no role in the cause(s) or severity of the accident/incident (considering any such information immediately available at the time).

For a fatal train incident, the fatally injured employee cannot be excluded from being tested.

If there is a fatality of any regulated service employee as result of a Highway-Rail Grade Crossing Accident/Incident, the fatally injured regulated employee must be tested regardless of fault.

Exceptions from Testing: No test may be required in the case of a collision between railroad rolling stock (including any on-track equipment) and a motor vehicle or other highway conveyance at a rail/highway grade crossing, unless it meets the criteria set forth above in Item 5 (i-v).

No test may be required in the case of an accident/incident the cause and severity of which are wholly attributable to a natural cause (e.g., flood, tornado, or other natural disaster) or to vandalism or trespasser(s), as determined on the basis of objective and documented facts by the railroad representative responding to the scene.

The railroad supervisor(s) on the scene will make timely determinations as to the event being a qualifying event and which regulated service employees (if any) are required to be tested according to the rule.

This railroad will identify the appropriate personnel who must be tested and then ensure that specimens are collected and shipped.

A. Random Drug and Alcohol Testing – (49 CFR 219.601)

The railroad is responsible for ensuring that the random program meets regulatory requirements and is approved by FRA (see Appendix A). The principles which are required in the FRA regulation for the plan to be in compliance are attached (see Appendix B). The selection process will ensure that each regulated service person has an equal chance of being selected at every random selection. The random plan shall ensure that testing is accomplished at the beginning and at the end of the duty period for alcohol. The minimum annual random percentage of alcohol testing at either end of the duty period is 10 percent over the course of the year.

Regulated Service (Covered Service)

Current employers must test at a minimum of **25 percent annual rate for drugs and 10 percent annual rate for alcohol** for employees who perform regulated duties subject to the Federal Hours of Service Laws “**Covered Service**”. A railroad is permitted to test at a higher rate than the minimum. You must identify if you are testing at a higher rate and if so, the rate(s):

Regulated Service (Roadway Worker)

Beginning June 12, 2017, Current employers must test at a minimum **50 percent annual rate for drugs and 25 percent annual rate for alcohol** for employees who perform regulated duties defined as “**Roadway Worker**” in 49CFR § 214.7.

A railroad is permitted to test at a higher rate than the minimum. You must identify if you are testing at a higher rate and if so, the rate(s):

Random Testing Pools:

- a) Identify and maintain an up-to-date database or list of all personnel working in regulated service (at least once per quarter) and ensure they are all in the random pool(s). Identify how many random testing pools you have. For example, most short line railroads will have only one random pool, but larger railroads may have multiple pools (**FRA recommends Roadway Workers be placed in separate and stand-alone random pools. Railroads not normally required to submit MIS reports as required by 49 CFR Part 219.800 should contact Sam Noe to discuss the combining of random pools**): SMART and ADTS will maintain the following pools: (1) DOT/FRA Hours of Service Pool; and (1) MOW/Roadworker Pool (To be included in a ADTS consortium pool)
-

- b) Identify what regulated service employee crafts/functions are in each of the railroad’s random testing pool(s). For example, engineers, conductors, brakemen, switchmen, utility employees, hostlers, mechanical employees performing hostling duties, train dispatchers, signal maintainers, roadway workers, etc.

Hours of Service Pool: Engineer, Conductor, Engineer-Conductor, Controller Supervisor, Vehicle Maintenance Technician, Supervisor Vehicle Maintenance, Signal Technician, Signal Technician Supervisor, , Bridge Tenders, Facilities Maintenance Supervisor, Facilities Maintenance Technicia Track Maintenance Supervisor n

MOW ADTS Consortium: Track Maintainer, Track Maintenance Supervisor, Track Maintenance Supervisor

Random Selection and Testing Procedures:

1. There are only two acceptable methods of selection: computer program or random number table. The lottery style, e.g., drawing names out of a hat is no longer an acceptable method of selection. Identify your railroad's method of selection: Computer Program coordinated by our TPA, ADTS, LLC
2. Identify whether your railroad is making selections by name, ID number, train number, job number, etc. : ID #
3. Random Pools are in a consortium or managed by a Third Party Administrator (TPA):
Yes No
4. If using C/TPA pools, please provide name of the C/TPA pool: SMART's MOW pool will be in the ADTS DOT-MOW/Roadway Worker Consortium
5. If your railroad is using a consortium/third party administrator (C/TPA) to assist in random testing, identify the following information for the C/TPA:
Name of C/TPA: ADTS Alcohol and Drug Testing Services, LLC
Address: 2700 E. Sunset Road, Suite #7 Las Vegas, NV 89120
Contact Person: Jana Stephens Ghigo
Phone: 702-769-9871

Please mark the following services the C/TPA are performing for your railroad:

- None
 - Random Pool Maintenance
 - Random Pool Selections
 - Collection Services - Drug
 - Collection Services - Alcohol
 - HHS Laboratory
 - Medical Review Officer (MRO)
 - Substance Abuse Professional (SAP)
 - Employee Assistance Professional (EAP)
 - Drug and Alcohol Counselor (DAC)
 - Other: _____
6. Identify how often your railroad is making selections, e.g., monthly or quarterly:
Monthly

Note: If selecting quarterly in order to maintain the deterrent effect of random testing for very small railroads and contractors, FRA is requiring each individual random testing

pool established under subpart G to select and randomly test at least one entry per quarter, even if fewer tests are needed to meet FRA’s minimum random testing rates.

Objective Procedure, if making quarterly selections:

7. Identify how you determine whether a selection is to be tested for drugs, for alcohol, or both:

TPA’s Random Selection results by Employee ID #

8. Identify your testing “window,” e.g., 30 days.

30 Days

Note that if you’re making monthly selections, the testing windows may not exceed 30 days and not past the end of the month. If you’re making quarterly selections, the testing window is 90 days but not past the end of the quarter.

9. Provide additional descriptions of your random testing selection procedure, as applicable:

10. This railroad will safeguard these selection records to ensure that information concerning collection dates and selections are not disclosed until necessary to arrange for collection or provide notifications.
11. These random testing records are required to be maintained for 2 years. This includes an electronic or hard copy “snapshot” of the random testing pool each time selections are made, a copy of the list of selected employees, a copy of the drug chain of custody form and/or alcohol testing form, and the reason for not testing any of the selected employees.
12. In the event that all or a clearly defined portion of the railroad is subject to an emergency such as a flood or severe ice storm, the ranking operations officer on duty is authorized to declare an emergency by completing a memorandum setting forth the facts necessitating this action. If such an emergency determination is made, the date/time of the emergency and random drug/alcohol tests that were suspended must be entered into the DER’s files. Random selections not administered because of the emergency are deemed void, and the selection numbers will be adjusted later to make the required percentage.
13. Only a substantiated medical emergency involving the selected person or an emergency involving an immediate family member (e.g., birth, death, or a medical emergency) provides the basis for excusing a regulated employee/person from being tested once notified. A medical emergency is defined as an acute medical condition requiring immediate emergency care. A person excluded under these criteria must provide substantiation from a credible outside professional (e.g., doctor, hospital, law enforcement officer, school authority, court official) which can be furnished prior to this release or within a reasonable

period of time after the emergency has been resolved. Such excluded (excused) persons will not be tested based on this selection.

14. Once the regulated service person selection is made, the DER will arrange notification. No prior notification will be given. A selected person will only be tested during his/her tour of duty, extended only long enough to complete testing but not to exceed Federal hours of service law requirements. The person, once notified, must proceed to the selected testing facility IMMEDIATELY. Identify how your railroad will notify selected employees: The employee's supervisor will notify the employee with a written notification indicating the type of testing (drug and / or alcohol)
-

15. The collection date and time during the selection period (testing window) will be varied by the DER to ensure that it cannot be anticipated. It is not necessary for the railroad to randomly select the "testing date."

V. Drug Testing Procedures

The designated collection agents will be qualified and follow the proper collection procedures as described in 49 CFR Part 40.

- a. The Medical Review Officer (MRO) will review drug test results as required in 49 CFR Part 40. All test results will be reported exclusively through the MRO.
- b. A laboratory certified by the Department of Health and Human Services/ Substance Abuse and Mental Health Service Administration (DHHS/ SAMHSA), under the Mandatory Guidelines for Federal Workplace Drug Testing Programs, will perform all drug testing.
- c. Test results will be reported from the laboratory only to the MRO for review and action consistent with 49 CFR Part 40.
- d. The name of the individual providing the specimen will remain confidential and will not be provided to the laboratory performing the test. The testing laboratory is only able to identify the specimen by the specimen ID number printed on the chain-of-custody form. The laboratory will only use a urine custody and control form consistent with the requirements of 49 CFR Part 40.
- e. The designated laboratory will only test for the drugs listed in 49 CFR 40.85.
- f. The MRO will verify the results and report (using procedures in 49 CFR Part 40) to the DER whether the test was positive or negative and the drugs for which there was a positive result.

- g. External blind performance testing of specimens is now only required for those employers or C/TPAs with an aggregate of 2,000 or more DOT-regulated employees per 49 CFR 40.103.

VI. Alcohol Testing Procedures

Breath alcohol testing will be performed by fully trained and certified Breath Alcohol Technicians (BAT) using the National Highway Traffic Safety Administration (NHTSA) approved testing devices. The results will be documented on an approved Federal Breath Alcohol Testing Form and will be signed by the employee and the BAT. At the time of the alcohol test, the employee will receive a copy of the test result, with an identical copy being sent to the railroad's DER.

- a. Negative results. The DER will be mailed a copy of the negative test results.
- b. Positive results. The BAT will immediately and directly notify the railroad's DER if the test results are positive (0.02 percent or higher) who will take appropriate action to remove or restrict the employee from regulated service as required by Part 219.

VII. Drug Test Results

For any FRA testing, the railroad should as a "best practice" notify the employee in writing of test results.

Positive or Otherwise Non-Negative Results. If the laboratory reports the drug test result as POSITIVE or otherwise non-negative, the following procedures will be followed:

- a. The MRO will immediately inform the regulated service person of the result and offer the person the opportunity for an interview to discuss the test result. If the MRO has difficulty reaching the employee, the procedures set forth in 49 CFR 40.131 will be followed.
- b. The MRO will complete and document the review as required by 49 CFR Part 40 Subpart G, determining if the external chain of custody was intact, if the person has a legitimate medical explanation for the presence of any controlled substance, and whether there is any basis to question the scientific sufficiency of the test results. In the case of an opiate positive, the MRO will also make the special determinations required by the regulation.
- c. If the MRO verifies the test result as positive, the MRO will report the result to the railroad's DER. If the MRO determines that the result is non-negative and the non-negative result cannot be explained, the appropriate regulatory action will be pursued. The chart at Appendix D delineates the appropriate action. The MRO will report the verified test result in accordance with 49 CFR § 40.163. The MRO will not provide the DER with the quantitative test results unless the employee, as stipulated in the regulation, disputes the test.

Negative results. If the MRO has determined that the drug test is NEGATIVE, the MRO will accomplish the required administrative review and report the negative results to the railroad's DER in accordance with 49 CFR § 40.163.

Negative-dilute results. Unless the MRO directs a railroad to conduct a recollection under direct observation (for a result with creatinine from 2 to 5 mg/dL), per 40.197, a negative-dilute is considered a negative test, although a railroad may, but is not required to direct the employee to immediately take another test. Such recollections must not be collected under direct observation unless there is another basis to do so. A railroad must treat all regulated employees the same. For example, it must not retest some employees and not others. A railroad may establish different policies for different types of tests (e.g., conduct retests in pre-employment situations, but not in random test situations). **This railroad's policy for negative-dilutes is as follows:** SMART will conduct retests for pre-employment only.

VIII. Confidentiality

- a. Medical information a regulated person provides to the MRO during the verification process is treated as confidential by the MRO and is not communicated to the railroad except as provided in Part 40.
- b. Confidentiality of Federal drug or alcohol testing results will be maintained as required by the regulations. For example:
 1. The laboratory observes confidentiality requirements as provided in the regulations. This railroad does not advise the laboratory of the identity of persons submitting specimens. The laboratory performing the testing must keep all records pertaining to the drug test for a period of two years.
 2. All test results will remain exclusively in the secure files of the MRO. The MRO will observe strict confidentiality in accordance with the regulations and professional standards. The MRO will retain the reports of individual test results as required in Part 219 Subpart J.
 3. The DER will maintain all test results reported by the MRO, both positive and negative, in secure storage. The results will be retained as required in Part 219 Subpart J. Other personnel will be informed of individual test results only in the case of positive tests and authorized only on a need-to-know basis.

IX. Regulated Service Personnel Training Program (49 CFR 219.11)

Each regulated service person will receive a copy of this policy and the other information requirements in 49 CFR Part 219.23 (e) which clearly states the prohibitions required by the regulation. In addition, each regulated person will be given information concerning the problems caused by alcohol or controlled substances and available methods of intervening when an alcohol or controlled substance problem is suspected, including confrontation, referral to an employee assistance program and/or referral to management.

X. Prescription Drugs (40 CFR 219.103)

The use of controlled substances (on Schedules II through V of the controlled substance list) is not prohibited as long as they are prescribed or authorized by a medical practitioner and used at the dosage prescribed or authorized. Either one treating medical professional or a railroad-designated physician should determine that use of the prescription(s) at the prescribed or authorized dosage is consistent with the safe performance of the employee's duties. Regulated service employees should also seek the advice of a medical professional whenever they are taking any over-the-counter drug that may adversely affect the safe performance of duties.

XI. Compliance with Testing Procedures

- a. All regulated service personnel/applicants requested to undergo a Federal drug and/or alcohol test are required to promptly comply with this request. This railroad expects all prospective and current regulated service personnel to exercise good faith and cooperation in complying with any procedures required under this policy. Refusal to submit to a Federal drug or alcohol test required under FRA rules, engaging in any conduct which jeopardizes the integrity of the specimen or the reliability of the test result, or any other violations of the prohibited conduct in 49 CFR 219.101 or 219.102 could subject the person to disciplinary action (up to and including termination), independent and regardless of any test result. This includes failure to show up on time for a drug/alcohol test, failing to remain at the testing site until the testing process is complete, etc. (see 40.191).
- b. All DOT Federal return-to-duty and follow-up urine specimens must be collected under direct observation (using the direct observation procedures in 40.67 (i)). Note that a SAP may also require return-to-duty and follow-up "drug" tests in addition to alcohol tests following an alcohol positive of 0.04 percent or greater.
- c. Direct Observation Urine Collection Procedures: The collector (or observer) must be the same gender as the employee. If the collector is not the observer, the collector must instruct the observer about the procedures for checking the employee for prosthetic or other devices designed to carry "clean" urine and urine substitutes AND for watching the employee urinate into the collection container. The observer will request the employee to raise his or her shirt, blouse or dress/skirt, as appropriate, above the waist, just above the navel; and lower clothing and underpants to mid-thigh and show the observer, by turning around, that the employee does not have such a device.
 - 1) If the employee has a device, the observer immediately notifies the collector; the collector stops the collection; and the collector thoroughly documents the circumstances surrounding the event in the remarks section of the testing form. The collector notifies the DER. This is a refusal to test.
 - 2) If the employee does not have a device, the employee is permitted to return his/her clothing to its proper position for the observed collection. The observer must watch the urine go from the employee's body into the collection container. The observer must watch as the employee takes the specimen to the collector. The collector then completes the collection process.

3) Failure of the employee to permit any part of the direct observation procedure is a refusal to test.

- d. As a minimum, a regulated service person will be removed from FRA regulated service for a minimum of nine months if there is a finding of “refusal to test.”

XII. Positive Test Results

- a. **Alcohol positive of 0.02 to 0.039:** Regulated service personnel should receive written notification of test results which are other than negative. A Federal positive drug test or a Federal alcohol test result of 0.02 percent or greater or a refusal to test will result in immediate removal from regulated service under FRA regulations. A positive alcohol test of at least 0.02 percent but less than 0.04 percent will result in the removal of the person from regulated service for at least eight hours. The railroad is not prohibited from taking further action under its own company policy.
- b. **Federal violation:** A regulated service person with an MRO verified positive drug test or a breath alcohol test result of 0.04 percent or greater (or a refusal) has violated Federal regulations and must be immediately removed from regulated service. Prior to or upon withdrawing the employee from regulated service, the railroad must provide notice to the employee of the reason for this action. If the employee denies that the test result is valid evidence of alcohol or drug use prohibited by 219.101 or 219.102, the employee may demand and must be provided an opportunity for a prompt post-suspension hearing. **See 219.104 (c) for the hearing provisions.**

Even if the railroad does not wish to keep the employee in its employment, it must provide the above hearing (if requested) and at a minimum provide the employee with a list of qualified Substance Abuse Professionals. Prior to returning to regulated service the employee will be required to undergo an evaluation by a qualified Substance Abuse Professional (SAP) that is railroad approved, to determine the need for treatment and/or education. The employee will be required to participate and comply with the SAP-recommended treatment and any after-care or follow-up treatment that may be recommended or required.

After successful treatment, for a Federal positive drug test (or alcohol test result of 0.04 percent or greater), per the SAP’s requirements, the person must provide a Federal return-to-duty urine specimen and/or breath specimen for testing (which is negative) prior to being allowed to return to regulated service. In addition, the person will be subject to additional unannounced Federal follow-up testing, as determined by the SAP, for a maximum period of 60 months, with a minimum of six tests being performed in the first twelve months (**engineers and conductors – SAP will require a minimum of 6 drug tests and 6 alcohol tests in the first 12 months**). Failure to comply with these provisions and remain alcohol and/or drug-free will result in subsequent removal from regulated service and could result in disciplinary action, up to and including termination. Note: Federal regulation does not guarantee the employee will maintain an employment relationship. This is determined via employer and employee

negotiation. These Federal return-to-duty and follow-up drug tests must be collected under direct observation.

- c. Identify other employer sanctions (if applicable) for a Federal alcohol test result of at least 0.02 percent but less than 0.04 percent:

___ If the alcohol confirmation test is 0.02% - 0.039%, SMART employees will be removed from covered service until their next regularly scheduled duty, but for not less than 8 hours. They need not be evaluated by a SAP, nor are they required to comply with any other FRA requirements before returning to duty.

Identify other employer sanctions (if applicable) for a Federal alcohol test result of 0.04 percent or greater:

___ SMART will follow the FRA regulations in this instance. SMART will also invoke the following Company policy: Employees who violate the District's drug and alcohol policy with a 0.04 percent or greater alcohol test result will be removed from the workplace immediately. The employee will be subject to disciplinary action and may be required to enter rehabilitation at the cost of the employee. An employee required to enter rehabilitation who fails to successfully complete the program will be terminated from employment.

Identify other employer sanctions (if applicable) for a Federal positive drug test:

___ SMART will follow the FRA regulations in this in this instance. SMART will also invoke the following Company policy: Employees who violate the District's drug and alcohol policy with a positive drug test result will be removed from the workplace immediately. The employee will be subject to disciplinary action and may be required to enter rehabilitation at the cost of the employee. An employee required to enter rehabilitation who fails to successfully complete the program will be terminated from employment.

XIII. Self-referral, Co-worker referral, and Non-peer referral (optional) Policies

This railroad's policy to comply with 49 CFR Part 219.1001 and 49 CFR Part 219.1003 is as follows:

Employment Relationship. As per 219.1003(b), a regulated employee who enters and follows the tenants of this program as discussed below, will maintain his or her position upon successful completion of an education, counseling, and treatment program as specified by a Drug and Alcohol Counselor (DAC). Before the employee is charged with conduct sufficient to warrant dismissal, the employee must seek assistance through the railroad for his or her alcohol or drug use problem or be

referred for such assistance by another employee or by a representative of the employee's collective bargaining unit.

Imminent Detection. An employee may not use the referral program for the purpose of avoiding the imminent and probable detection of a rule violation by a supervising employee. No employee may take advantage of self-referral after being notified of a testing event or while in imminent risk of being detected for possession of alcohol or controlled substances.

Reasonable Suspicion. In the case of a Co-worker referral or a Non-peer referral (optional), if the employee accepts the referral and has agreed to a Rule G waiver, there is no need for the railroad to perform a Federal reasonable suspicion test. If the Federal reasonable suspicion test occurs, the referral takes precedence and a written request shall be submitted to the FRA Drug and Alcohol Program Manager for permission for reclassification to non-DOT status. This will allow the employer to vacate the return-to-duty and follow-up (RTD/FU) requirements of the reasonable suspicion test violation. Thus, the co-worker referral will take precedence and all subsequent RTD/FU testing will be appropriately conducted under non-DOT/company authority as per Part 219 Subpart K. In this scenario, the reasonable suspicion positive test result(s) are not subject to 49 CFR Part 40.25 requests from any subsequent DOT-regulated employers.

In the case of a Co-worker referral or a Non-peer referral (optional), when the employee does not accept the referral and does not agree to a Rule G waiver, the railroad must properly observe the employee for signs and symptoms of alcohol and/or drug use/misuse. If signs and symptoms are observed, the railroad must perform a Federal reasonable suspicion testing. In this scenario, the reasonable suspicion positive test result(s) are subject to DOT-regulated RTD/FU testing and 49 CFR Part 40.25 requests from any subsequent DOT-regulated employers.

Referral Sources. The railroad must specify whether, and under what circumstances, its policy provides for the acceptance of referrals from other sources, including (at the option of the railroad) supervisory employees. Identify acceptable referral sources besides the affected regulated service employee:

This company accepts referrals from non-peer sources? Yes No

Examples of non-peer sources include friends and family, etc. that contact the railroad. A railroad representative will meet with the employee in person regarding the information and determine whether to the employee is unsafe to work with or in violation of 49 CFR Part 219. If the railroad representative determines that employee is unsafe, the employee may either accept or reject the referral.

If rejected, a railroad representative trained in signs and symptoms would perform a Rule G observation on the employee in question. If signs and symptoms are present, then the railroad representative would order reasonable suspicion testing of the on-duty employee.

General Conditions. If the employee accepts the referral they must contact the DAC within 3 days.

The employee must cooperate with the DAC in the recommended course of counseling or treatment. Locomotive engineers and conductors that do not cooperate with the DAC will be considered to have active substance abuse disorders as per 49 CFR Part 240.119 and 49 CFR Part 242.115 and would have their confidentiality waived.

Once an employee has contacted the DAC, the DAC's evaluation shall be completed within 10 working days. If more than one evaluation is required, the evaluations must be completed within 20 working days.

No follow-up treatment, care, or testing shall exceed 24 months unless it involved a Part 219 violation.

Confidentiality. The railroad treats the referral and subsequent handling, including counseling and treatment, as confidential. With respect to a certified locomotive engineer, conductor or a candidate for certification, the policy of confidentiality is waived (to the extent that the railroad shall receive from the Employee Assistance Professional (EAP) or DAC, official notice of the substance abuse disorder and shall suspend or revoke the certification, as appropriate) if the person at any time refuses to cooperate in a recommended course of counseling or treatment.

Any drug and/or alcohol testing conducted pursuant to this railroad's referral policy is non-Federal testing because a violation of Federal regulations has not occurred.

Leave of Absence. The railroad will grant a minimum leave of absence that the DAC recommends to complete a primary education, counseling, or treatment program and to establish control over the employee's drug or alcohol abuse problem. An employee with an active substance abuse disorder may not perform regulated service until the DAC reports that safety is no longer effected.

Return to Service. The employee will be returned to service on the recommendation of the DAC. The employee must be returned to service within five working days of the DAC's notification to the railroad that the employee is fit to return to regulated service and the receipt of a follow-up testing plan as per Part 219.1003(h)(2). The railroad may condition the employee's return on a return-to-duty medical evaluation.

This railroad requires a return-to-duty medical evaluation? Yes No

Compensation. 49 CFR Part 219.1001(d)(1) does not require the railroad to compensate the employee for any period that the regulated employee is restricted from performing regulated service under the referral program. However, compensation at a nominal rate has been seen to markedly increase participation in the referral program to enhance safety at the railroad.

This railroad compensates employees while engaged in a referral program of education, counseling, and treatment? Yes No

Compensation is at _0% of regular pay while participating in a referral program.

Self-referral: Regulated employees may contact the DAC at the following telephone and/or email address and contact hours:

Drug and Alcohol Counselor (DAC):
Contact person: Lisa Wolper
Address: 825 College Ave
Santa Rosa, CA
Phone: 707-524-8864

Optional Provisions.

1. The policy may provide that it does not apply to an employee who has previously been assisted by the railroad under a policy or program substantially consistent with 49 CFR Part 219.1005(c) or who has previously elected to waive investigation under 49 CFR

Part 219.1005 (co-worker report policy).

Adopts this option: Yes No

If you checked the above option "No", please identify how many times and/or at what intervals an employee may use the referral programs: An employee may only utilize this option once over the course of their employment with SMART.

2. A referral policy may provide that the rule of confidentiality is waived if the employee at any time refuses to cooperate in a DAC's recommended course of counseling or treatment; and/or the employee is later determined, after investigation, to have been involved in an alcohol or drug related disciplinary offense growing out of subsequent conduct. Identify whether you adopt the first, second, or both options:

Adopts Both Options: Yes No

Adopts 1st Option only: Yes No

Adopts 2nd Option only: Yes No

3. The policy may provide that, in order to invoke its benefits, the employee must report to the contact designated by the railroad either during non-duty hours (i.e., at a time when the employee is off duty); or while unimpaired and otherwise in compliance with the railroad's alcohol and drug rules consistent with 219.1005(d). Identify whether you adopt this optional provision:

Adopts this option: Yes No

4. The policy may require successful completion of a return-to-service medical examination as a further condition on reinstatement in regulated service. Identify whether you adopt this optional provision:

Adopts this option: Yes No

5. Other Optional Provisions: _____

Co-worker referral General Conditions and Procedures.

1. The alleged violation must come to the attention of the railroad as a result of a report by a co-worker that the employee was apparently unsafe to work with or was, or appeared to be, in violation of Part 219 or the railroad’s alcohol and drug rules.
2. If the railroad representative determines that the employee is in violation, the railroad will immediately remove the employee from service in accordance with its existing policies and procedures. The railroad must allow the employee the opportunity to accept the co-worker referral. If rejected, the railroad may proceed to reasonable suspicion testing based on signs and symptoms of prohibited alcohol or drug use as determined by a trained supervisor.

Alternate Programs.

The railroad may request FRA to consider the following alternate program to fulfill the requirements under 49 CFR Part 219.1001 with more favorable conditions to regulated employees troubled by drug or alcohol abuse problems. The alternate program must have the concurrence of the recognized representatives of the railroad employees as per 49 CFR Part 219.1007(b):

If applicable enter alternate program in this box.

This company requests FRA to consider an alternate program for consideration?

Yes No

Submit to the FRA Drug and Alcohol Program Manager at:

U.S. Department of Transportation
Federal Railroad Administration, Office of Railroad Safety - RRS-19
1200 New Jersey Avenue SE
Washington DC 20590

##

APPENDIX A

Once the FRA has approved a Random drug and alcohol testing plan, the railroad will receive an approval letter, which includes these conditions.

STANDARD APPROVAL CONDITIONS FOR RANDOM TESTING PROGRAMS

1. **This approval is effective upon receipt with respect to all matters within its scope. FRA reserves administration jurisdiction over all approvals and may reopen review based upon experience gained during implementation (audits).**
2. **Approval of the subject random testing program does not constitute or imply the granting of a waiver or exemption from any provision of Federal law or regulation. Compliance with all applicable provisions of 49 CFR Parts 219 and 40 is required. All random program plans must be applied in accordance with the criteria listed in this Appendix A and Appendix B.**
3. **Approval is contingent upon the railroad making appropriate amendments to the program to conform to any pertinent regulatory amendments that may be issued hereafter. Any such program amendments that may be required shall be submitted to the Associate Administrator for Safety at FRA by the effective date of the subject regulatory amendments, or by the expiration of 30 days from publication of the regulatory amendments in the *Federal Register*, whichever is later.**
4. **Amendments to the program shall be submitted as required by 49 CFR 219.605 and 49 CFR 219.607 and 49 CFR 219.609 and shall not be implemented prior to approval. The following guidance is provided with respect to when a program is deemed to have been amended.**
 - A. Any change in the selection methodology, the criteria for scheduling collections, non-availability criteria, or other structural element is a program amendment. Any change in the organizational level at which a function is carried out is a program amendment.
 - B. Substitution of incumbents performing the same function at the same organizational level (persons or contractors/volunteers) is not deemed to amend the program. Notification of these changes would be appreciated to assist FRA in maintaining liaison, but is not required.
 - C. Any change in a program that is occasioned by an amendment of an applicable DOT/FRA regulation and that involves the exercise of discretion to choose between or among one or more courses of action is a program amendment required to be filed under item 3 above. Any non-discretionary change in a program that is required by amendment of an applicable DOT/FRA regulation is not considered a program amendment requiring approval; however, the Office of Safety, FRA, would appreciate receipt of an informational copy of the revised program document showing current compliance.
 - D. Any case not addressed above may be resolved by contacting the Office of Safety, Administrator for Safety or that individual's delegate.

APPENDIX B

CRITERIA FOR ASSESSING DEPARTMENT OF TRANSPORTATION (DOT)

RANDOM DRUG AND ALCOHOL TESTING PROGRAMS

Section I. Random Testing Pools

- A. Random pool(s) must accurately and completely include all regulated service personnel. Whoever is performing the safety-sensitive "regulated service", regardless of job title or status, is subject to 49 CFR Part 219 requirements (supervisors, volunteers, contractors, etc.). Pool lists must be retained for a minimum of two years.
- B. An employer may not mix regulated service and non-regulated service personnel in the same pool.
- C. Multiple pools for an employer are acceptable.
- D. Employees do not need to be placed in separate pools for drug and alcohol testing selection.
- E. **Employees from different DOT operating administrations can be included in the same pool. It is strongly recommended, however, that employers not mix groups of personnel subject to different drug or different alcohol testing rates (i.e., having some employees subject to a 50% rate for drugs and other employees subject to a 25% rate in the same pool). If they do, they must test the entire pool at the highest selection rate for any of the groups with personnel in the pool.**
- F. **Pools may not be diluted with regulated service personnel who rarely perform regulated service duties (i.e., less than once per quarter).**
- G. **Pools must be routinely updated (i.e., at least monthly for employers with either a changing workforce or seasonal employees; and quarterly for employers with a generally stable workforce).**
- H. **Besides individual employees, specific jobs (i.e., third shift main dispatcher at XYZ location) or operational units (i.e., trains) may also be pool entries. However, there may not be a significant difference in the size of the entries in the pool.**
- I. **Pool entries may not be constructed in a way which could result in a manager/supervisor having discretion as to who would be actually provide a sample (e.g., a specific job cannot be selected with multiple people working in it at the same time, but with only one to be tested).**

Section II. Random Selections

- A. Everyone in a pool must have an equal chance of selection in each selection period.
 - 1. No individual, job, or operational unit may be removed from the pool if it is still actively performing regulated service. However, employees doing de minimus regulated service may be eliminated from the pool (see Section I.-F).
 - 2. There may be no selections without replacement (i.e., an individual cannot be removed

from the pool because he or she was previously tested).

3. No selection weightings are allowed which would increase or decrease the chance of any individual being selected.

B. The following selection options are acceptable. Note that manual selection using names or social security numbers drawn out of a hat (or equivalent) is no longer an acceptable practice:

1. Computer programs which randomly select entries from an employee list without apparent bias. The specific selection criteria used by the computer must be extensively detailed in writing, and each computer draw must be retained as a record for a minimum of two years; or

2. Manual selection from a list of employees using a random-number table. The specific criteria used to select from the table must be documented in writing, including detail on how the initial starting point in the table was determined. Each draw, as well as a copy of the table portion used, must be retained as a record for a minimum of two years. See Appendix C for Model Procedures to Conduct a FRA-Acceptable Random Testing Program Using a Random Number Table for Selections.

C. If the employee testing pool is so small that it does not allow testing each selection period, then the employer must have in place a mechanism to randomly determine which selection periods will have selections and which will not. The specific criteria used to make this determination must be detailed in writing and the determination itself must be retained as a record for a minimum of two years.

D. If required drug and alcohol testing rates are different (i.e., 25% for drugs and 10% for alcohol) and a single pool is being used, it is permissible to select one list of employees and designate a proportion for both drug and alcohol testing and a proportion for drug testing only. The specific criteria used to make this determination must be detailed in writing, and the master selection list with both sub-groups clearly identified must be retained as a record for a minimum of two years.

E. Employers should carefully monitor significant changes in its workforce in order to ensure that an appropriate number of tests will be conducted each year. Unless otherwise directed by the DOT Operating Administration, changes in the employee base of greater than 10% in a quarter should result in a recalculation of total tests required.

Section III. Implementation of Random Collections

A. Collections must be distributed unpredictably throughout the designated testing period, covering all operating days (including holidays) and shifts (24-hour clock). There is no expectation that day/night or shift collection distributions be equal but there has to be sufficient testing to establish deterrence by generally mirroring employer operations.

B. Collections must be unpredictable within a work shift (some collections must be conducted at the beginning, middle, and end). There is no expectation that "within-shift" collection distributions be equal. Sufficient testing must be conducted at the start, middle and end of shifts to provide deterrence. Both beginning of and ending of shift collections are particularly important. For alcohol testing, at least 10% of successful collections must fall within each period of the shift.

- C. No discretion is allowed with collection dates or collection times which would result in a subjective choice by a field manager/supervisor as to who was actually collected. That is, if a test time frame is permitted in the employer's program, a manager/supervisor with knowledge of specific personnel assignments may not have discretion in the selection of who will be tested.**
- D. Specific reasons for "no-tests" must be documented in writing by the employer, with records maintained for two years. Acceptable reasons for no-tests should relate to critical safety concerns, unforeseen or unpredictable significant adverse impact to operations, or employee illness or vacation.**

Section IV. Records

- A. All records which support the random testing program, including notes, memoranda, pool makeups, number tables, etc., must be retained for a minimum of two years.**



Gary Phillips, Chair
Transportation Authority of Marin

February 6, 2019

Jake Mackenzie, Vice-Chair
Sonoma County Mayors' and
Councilmembers Association

Sonoma-Marin Area Rail Transit Board of Directors
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954

Judy Arnold
Marin County Board of Supervisors

SUBJECT: Approval of Burke, Williams & Sorenson, LLP, Contract Amendment
No. 6

Damon Connolly
Marin County Board of Supervisors

Dear Board Members:

Jim Eddie
Golden Gate Bridge,
Highway/Transportation District

RECOMMENDATION:

Debora Fudge
Sonoma County Mayors' and
Councilmembers Association

Authorize the General Manager to execute the Amendment No. 5 with Burke, Williams & Sorenson, LLP, Legal Services in the amount of \$200,000, for a contract not-to-exceed \$950,000 and extend the term of the contract to June 30, 2020.

Dan Hillmer
Marin County Council of Mayors and
Councilmembers

SUMMARY:

Eric Lucan
Transportation Authority of Marin

Since 2015 Burke, Williams & Sorensen, LLP has assisted SMART in litigation matters and a number of real estate negotiations. Burke, Williams & Sorensen, LLP has specialized legal expertise in variety of real estate, transportation, joint powers authorities and local governmental agencies matters. We anticipate the continued need for Burke, Williams & Sorensen, LLP's specialized experience in real estate negotiations, transactions and litigation support.

Barbara Pahre
Golden Gate Bridge,
Highway/Transportation District

David Rabbitt
Sonoma County Board of Supervisors

Carol Russell
Sonoma County Mayors' and
Councilmembers Association

We recommend approval of this amendment to retain the services of Burke, Williams & Sorensen, LLP for supplemental specialized legal support on an as-needed basis. Contract Amendment No. 6 provides for an additional twelve-month term extension for a not-to-exceed amount of \$950,000.

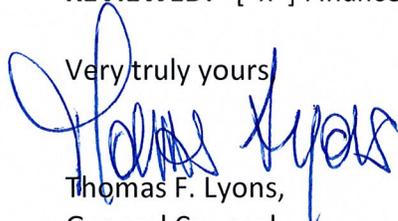
Shirlee Zane
Sonoma County Board of Supervisors

FISCAL IMPACT: Funding for the amendment is included in the Fiscal Year 2018-19 budget therefore no additional funds are necessary.

Farhad Mansourian
General Manager

5401 Old Redwood Highway
Suite 200
Petaluma, CA 94954
Phone: 707-794-3330
Fax: 707-794-3037
www.sonomamarintrain.org

REVIEWED: [x] Finance  [] Counsel 

Very truly yours

Thomas F. Lyons,
General Counsel

Attachment(s): Burke, Williams & Sorensen, LLP Contract Amendment No. 6

**SIXTH AMENDMENT TO AGREEMENT FOR CONSULTANT SERVICES
BETWEEN THE SONOMA-MARIN AREA RAIL TRANSIT DISTRICT
AND BURKE, WILLIAMS & SORENSEN, LLP**

This SIXTH AMENDMENT dated as of (the "Fifth Amendment") to the Legal Services Agreement by and between the SONOMA-MARIN AREA RAIL TRANSIT DISTRICT ("SMART") and BURKE, WILLIAMS & SORENSEN, LLP ("CONSULTANT"), dated as of April 1, 2015 (the "Original Agreement," and as supplemented and amended by the First Amendment, Second Amendment, Third Amendment, Fourth Amendment, Fifth Amendment and this Sixth Amendment, the "Agreement").

RECITALS

WHEREAS, SMART and CONSULTANT previously entered into the Original Agreement to provide specialized legal services on April 1, 2015; and

WHEREAS, SMART and CONSULTANT previously entered various amendments between September 15, 2015 and April 18, 2018 to increase the not-to-exceed amount and extend the term of the Agreement;

WHEREAS, SMART desires to amend the Agreement to increase the not to exceed amount of the Agreement by \$200,000 for a total not-to-exceed amount of \$950,000, and extend the term to June 30, 2020.

NOW, THEREFORE, in consideration of the recitals set forth above and the covenants contained herein, it is mutually agreed by and between the parties that:

AGREEMENT

1. "**ARTICLE 5. LEGAL FEES AND BILLING PRACTICES**" the last paragraph in Article 5 is hereby replaced in its entirety with the following:

“This engagement is subject to a Not to Exceed cap in the amount of \$950,000. Should additional fees or costs be contemplated, this agreement can be amended by mutual agreement of the parties”;

2. "**ARTICLE 19. TERM**" is hereby amended as follows:

“The term of this Agreement shall remain in effect until June 30, 2020. Notwithstanding any other provision of this Agreement, at any time and without cause, both parties shall have the right, at their sole discretion, to terminate this Agreement by giving 30 days written notice to the other party.”

3. Except to the extent the Agreement is specifically amended or supplemented hereby, the Agreement, together with all supplements, amendments and exhibits thereto is, and shall continue to be, in full force and effect as originally executed, and nothing contained herein shall, or shall be construed to, modify, invalidate, or otherwise affect any provision of the Agreement.

-----THIS SPACE INTENTIONALLY LEFT BLANK-----

IN WITNESS WHEREOF, the parties hereto have executed this Sixth Amendment as set forth below.

SONOMA-MARIN AREA RAIL TRANSIT DISTRICT

Dated: _____

By _____
Farhad Mansourian, General Manager

APPROVED AS TO FORM:

Dated: _____

By _____
District Counsel

BURKE, WILLIAMS & SORENSEN, LLP

Dated: _____

By _____
Benjamin L. Stock, Esq.



Gary Phillips, Chair
Transportation Authority of Marin

Jake Mackenzie, Vice-Chair
Sonoma County Mayors' and
Councilmembers Association

Judy Arnold
Marin County Board of Supervisors

Damon Connolly
Marin County Board of Supervisors

Jim Eddie
Golden Gate Bridge,
Highway/Transportation District

Debra Fudge
Sonoma County Mayors' and
Councilmembers Association

Dan Hillmer
Marin County Council of Mayors and
Councilmembers

Eric Lucan
Transportation Authority of Marin

Barbara Pahre
Golden Gate Bridge,
Highway/Transportation District

David Rabbitt
Sonoma County Board of Supervisors

Carol Russell
Sonoma County Mayors' and
Councilmembers Association

Shirlee Zane
Sonoma County Board of Supervisors

Farhad Mansourian
General Manager

5401 Old Redwood Highway
Suite 200
Petaluma, CA 94954
Phone: 707-794-3330
Fax: 707-794-3037
www.sonomamarintrain.org

February 6, 2019

Sonoma-Marina Area Rail Transit Board of Directors
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954

SUBJECT: Authorize the General Manager to Execute Contract No. CV-BB-18-002 with Ghilotti Bros., Inc. in an amount of \$158,500 for Concrete and Electrical Modifications to the Rail Operations Center Maintenance Pit in Preparation for Installation of a Wheel Truing Machine

Dear Board Members:

RECOMMENDATION:

In 2018, your Board approved the purchase of a wheel truing machine for the Rail Operation Center in order to reduce operating costs and increase vehicle reliability. This contract provides the necessary vehicle maintenance pit modifications required to install and power the wheel truing machine. We recommend authorizing the General Manager to execute Contract No. CV-BB-18-002 with Ghilotti Bros., Inc. in the amount of \$158,500 for electrical, concrete, and structural modifications.

SUMMARY:

The anticipated installation of a new wheel truing machine requires that the Rail Operations Center vehicle maintenance pit be modified to accept the machine. These modifications include a 480-volt, 300-amp power supply, strengthening of the floor slab due to the weight of the machine, a modified rail support system to accommodate removal of a portion of the rail in the pit, ethernet communications to the machine, and modifying the edge of the pit wall to accommodate the shape of the machine.

As part of SMART's invitation to Bid, SMART also requested optional pricing for water proofing a portion of the vehicle maintenance pit. Bidders were informed that this optional work pricing would not be included in the determination of the lowest bidder and therefore not included in the price on the following page. We are recommending including this optional work to the project for an additional amount of \$16,500, making the not-to-exceed amount \$158,500.

A formal Invitation to Bid (IFB) was issued to procure a contractor to provide the necessary modification for installation of the wheel truing machine at SMART's Rail Operation Center. SMART received a total of three responsive and responsible bids from the following vendors:

1. Ghilotti Bros., Inc. - \$142,000.00
2. Summit Signal, Inc. - \$180,429.35
3. FRC, Inc. - \$312,851.00

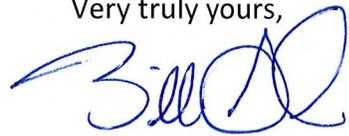
Ghilotti Brothers Inc.'s bid was deemed the lowest responsive responsible bid.

Staff recommends authorizing the General Manager to execute Contract No. CV-BB-18-002 with Ghilotti Bros., Inc. in the amount of \$158,500 for electrical, concrete, and structural modifications to the Rail Operations Center Maintenance Pit in Preparation for a Wheel Truing Machine.

FISCAL IMPACT: Funding is included in the Fiscal Year 2018-19 budget and is supported by Senate Bill 1 funding from the State of California.

REVIEWED BY: [x] Finance  [x] Counsel 

Very truly yours,



Bill Gamlen, P.E.
Chief Engineer

c: Ghilotti Bros. Contract Agreement No. CV-BB-18-002

AGREEMENT FOR CONTRACTOR SERVICES

This agreement (“Agreement”), dated as of _____, 2019 (“Effective Date”) is by and between the Sonoma-Marín Area Rail Transit District (hereinafter “SMART”), and Ghilotti Bros., Inc. (hereinafter “Contractor”).

RECITALS

WHEREAS, Contractor represents that it is a duly qualified contractor, experienced in the areas of commercial concrete modification, electrical upgrades, construction, and related services; and

WHEREAS, in the judgment of the Board of Directors of SMART, it is necessary and desirable to employ the services of Contractor to perform concrete and electrical modifications at SMART’s Rail Operation Center in preparation for a Wheel Truing Machine; and

NOW, THEREFORE, in consideration of the foregoing recitals and the mutual covenants contained herein, the parties hereto agree as follows:

AGREEMENT

Article 1. Recitals.

Section 1.01 The above Recitals are true and correct.

Article 2. List of Exhibits.

Section 2.01 The following exhibits are attached hereto and incorporated herein:

- (a) Exhibit A: Scope of Work & Timeline
- (b) Exhibit B: Fee Schedule
- (c) Exhibit C: Concrete Work Details
- (d) Exhibit D: Electrical Work Details
- (e) Exhibit E: Specifications
- (f) Exhibit F: Prevailing Wage Report

Article 3. Request For Services.

Section 3.01 Initiation Conference. SMART's Chief Engineer, Bill Gamlen, or his designee, will initiate all requests for services through an Initiation Conference, which may be in person, by telephone, or by email. During the Initiation Conference, SMART's Chief Engineer and Contractor will establish and agree on a specific task for the project.

Section 3.02 Amount of Work. SMART does not guarantee a minimum or maximum amount of work under this Agreement.

Article 4. Scope of Services.

Section 4.01 Scope of Work. Contractor shall perform services within the timeframe outlined in **Exhibit A** (cumulatively referred to as the "Scope of Work").

Section 4.02 Cooperation With SMART. Contractor shall cooperate with SMART's Chief Engineer, or his designee, in the performance of all work hereunder.

Section 4.03 Performance Standard. Contractor shall perform all work hereunder in a manner consistent with the level of competency and standard of care normally observed by a person practicing in Contractor's profession. If SMART determines that any of Contractor's work is not in accordance with such level of competency and standard of care, SMART, in its sole discretion, shall have the right to do any or all of the following: (a) require Contractor to meet with SMART to review the quality of the work and resolve matters of concern; (b) require Contractor to repeat the work at no additional charge until it is satisfactory; (c) terminate this Agreement pursuant to the provisions of Article 7; or (d) pursue any and all other remedies at law or in equity.

Section 4.04 Assigned Personnel.

- (a) Contractor shall assign only competent personnel to perform work hereunder. In the event that at any time SMART, in its sole discretion, desires the removal of any person or persons assigned by Contractor to perform work hereunder, Contractor shall remove such person or persons immediately upon receiving written notice from SMART.
- (b) Any and all persons identified in this Agreement or any exhibit hereto as the project manager, project team, or other professional performing work hereunder on behalf of the Contractor are deemed by SMART to be key personnel whose services were a material inducement to SMART to enter into this Agreement, and without whose services SMART would not have entered into this Agreement. Contractor shall not remove, replace, substitute, or otherwise change any key personnel without the prior written consent of SMART.

(c) In the event that any of Contractor's personnel assigned to perform services under this Agreement become unavailable due to resignation, sickness or other factors outside of Contractor's control, Contractor shall be responsible for timely provision of adequately qualified replacements.

(d) Contractor shall assign the following key personnel for the term of this Agreement:

Tom Hyland, General Superintendent

Article 5. Payment.

For all services required hereunder, Contractor shall be paid in accordance with the following terms:

Section 5.01 Contractor shall invoice SMART on a task basis, detailing the tasks performed pursuant to the Scope of Work requested by Chief Engineer, and the hours worked. SMART shall pay Contractor within 30 days after submission of the invoices.

Section 5.02 Contractor shall be paid, as full compensation for the satisfactory completion of the work described in the Scope of Work (**Exhibit A**) on a Task basis in accordance with the budget established in **Exhibit B**, provided, however, that Contractor agrees to perform all services described in the Scope of Work for the negotiated amount of \$158,500.00, regardless of whether it takes Contractor more time to complete or costs are more than anticipated. The not-to-exceed (NTE) amount for this Agreement is \$158,500.00 which includes labor, supervision, applicable surcharges such as taxes, insurance and fringe benefits as well as indirect costs, overhead and profit allowance, equipment, materials and supplies; in no case shall Contractor be reimbursed for an amount in excess of the NTE amount without a formal written amendment to this Agreement. The hourly rates included herein are for SMART's evaluation, review and auditing purposes only. Contractor shall submit its invoices in arrears on a monthly basis in a form approved by the Chief Financial Officer. The invoices shall show or include: (i) the task(s) performed; (ii) the time in hours devoted to the task(s); and (iii) the hourly rate or rates of the persons performing the task(s). Contractor shall also provide certified payroll reports at the time of the invoice submission and include the prevailing wage reports (Exhibit F).

Section 5.03 Contractor must submit all invoices on a timely basis, but no later than thirty (30) days from the date the services/charges were incurred. District shall not accept invoices submitted by Contractor after the end of such thirty (30) day period without District pre-approval. Time is of the essence with respect to submission of invoices and failure

by Contractor to abide by these requirements may delay or prevent payment of invoices or cause such invoices to be returned to the Contractor unpaid.

Article 6. Term of Agreement.

Section 6.01 The term of this Agreement shall remain in effect until April 30, 2019 unless terminated earlier in accordance with the provisions of **Article 7** below.

Article 7. Termination.

Section 7.01 Termination Without Cause. Notwithstanding any other provision of this Agreement, at any time and without cause, SMART shall have the right to terminate this Agreement by giving 30 days written notice to the other party.

Section 7.02 Termination for Cause. Notwithstanding any other provision of this Agreement, should Contractor fail to perform any of its obligations hereunder, within the time and in the manner herein provided, or otherwise violate any of the terms of this Agreement, SMART may immediately terminate this Agreement by giving Contractor written notice of such termination, stating the reason for termination.

Section 7.03 Delivery of Work Product and Final Payment Upon Termination. In the event of termination by either party, Contractor, within 14 days following the date of termination, shall deliver to SMART all materials and work product subject to **Section 12.08** and shall submit to SMART an invoice showing the services performed, hours worked, and copies of receipts for reimbursable expenses up to the date of termination.

Section 7.04 Payment Upon Termination. Upon termination of this Agreement by SMART, Contractor shall be entitled to receive as full payment for all services satisfactorily rendered and expenses incurred hereunder, an amount which bears the same ratio to the total payment specified in the Agreement as the services satisfactorily rendered hereunder by Contractor bear to the total services otherwise required to be performed for such total payment; provided, however, that if services are to be paid on an hourly or daily basis, then Contractor shall be entitled to receive as full payment an amount equal to the number of hours or days actually worked prior to termination times the applicable hourly or daily rate; provided further that if SMART terminates the Agreement for cause pursuant to **Section 7.02**, SMART shall deduct from such amount the amount of damage, if any, sustained by SMART by virtue of the breach of the Agreement by Contractor.

Section 7.05 Authority to Terminate. The Board of Directors has the authority to terminate this Agreement on behalf of SMART. In addition, SMART's Chief

Engineer or General Manager, in consultation with SMART Counsel, shall have the authority to terminate this Agreement on behalf of SMART.

Article 8. Indemnification

Contractor agrees to accept all responsibility for loss or damage to any person or entity, including SMART, and to indemnify, hold harmless, and release SMART, its officers, agents, and employees, from and against any actions, claims, damages, liabilities, disabilities, or expenses, that may be asserted by any person or entity, including Contractor, to the extent caused by the Contractor's negligence, recklessness or willful misconduct in its performance or obligations under this Agreement. Contractor agrees to provide a complete defense for any claim or action brought against SMART based upon a claim relating to Contractor's performance or obligations under this Agreement. Contractor's obligations under this Section 8 apply whether or not there is concurrent negligence on SMART's part, but to the extent required by law, excluding liability due to SMART's conduct. SMART shall have the right to select its legal counsel at Contractor's expense, subject to Contractor's approval, which shall not be unreasonably withheld. This indemnification obligation is not limited in any way by any limitation on the amount or type of damages or compensation payable to or for Contractor or its agents under workers' compensation acts, disability benefits acts, or other employee benefit acts.

Article 9. Insurance.

With respect to performance of work under this Agreement, Contractor shall maintain and shall require all of its subcontractors, Contractors, and other agents to maintain, insurance as described below.

Section 9.01 Workers' Compensation Insurance. Workers' Compensation as required by the State of California, with Statutory Limits, and Employer's Liability insurance with limit of no less than \$1,000,000 per accident for bodily injury or disease.

Section 9.02 General Liability Insurance. Commercial General Liability insurance covering products-completed and ongoing operations, property damage, bodily injury and personal injury using an occurrence policy form, in an amount no less than \$2,000,000 per occurrence, and \$4,000,000 aggregate. Said policy shall include a Railroads CG 24 17 endorsement removing the exclusion of coverage, if applicable, for bodily injury or property damage arising out of operations within 50 feet of any railroad property and affecting any railroad bridge, trestle, tracks, roadbeds, tunnel, underpass or crossing.

Section 9.03 Automobile Insurance. Automobile Liability insurance covering bodily injury and property damage in an amount no less than \$1,000,000 combined single limit for each occurrence. Said insurance shall include coverage for owned, hired, and non-owned vehicles. Said policy shall also include a CA 20 70 10 13 endorsement removing the

exclusion of coverage for bodily injury or property damage arising out of operations within 50 feet of any railroad bridge, trestle, track, roadbeds, tunnel, underpass or crossing.

Section 9.04 Contractors Pollution Insurance. Contractors Pollution Liability insurance in an amount no less than \$2,000,000 per incident. The Contractor's Pollution Liability policy shall be written on an occurrence basis with coverage for bodily injury, property damage and environmental damage, including cleanup costs arising out of third-party claims, for pollution conditions, and including claims of environmental authorities, for the release of pollutants caused by construction activities related to the Contract. Coverage shall include the Contractor as the named insured and shall include coverage for acts by others for whom the Contractor is legally responsible.

Coverage to be provided for bodily injury to or destruction of tangible property, including the resulting loss of use thereof, loss of use of tangible property that has been physically injured, and natural resource damage. There shall be no exclusions or limitations regarding damages or injury from existence, removal or abatement of lead paint. There shall be no insured vs. insured exclusion in the policy.

Section 9.05 Railroad Protective Liability. Prior to commencement of construction activities, Contractor shall procure and maintain Railroad Protective Liability insurance, in SMART's name, with limits of liability of no less than \$5,000,000 per occurrence, for losses arising out of injury to or death of all persons, and for physical loss or damage to or destruction of property, including the loss of use thereof. The additional named insureds shall be the Sonoma-Marín Area Rail District.

Section 9.06 Endorsements. Prior to commencing work, Contractor shall file Certificate(s) of Insurance with SMART evidencing the required coverage and endorsement(s) and, upon request, a certified duplicate original of any of those policies. Said endorsements and Certificate(s) of Insurance shall stipulate:

- (a) SMART, its officers, and employees shall be named as additional insured on all policies listed above.
- (b) That the policy(ies) is Primary Insurance and the insurance company(ies) providing such policy(ies) shall be liable thereunder for the full amount of any loss or claim which Licensee is liable, up to and including the total limit of liability, without right of contribution from any other insurance effected or which may be effected by the Insureds.
- (c) Inclusion of the Insureds as additional insureds shall not in any way affect its rights either as respects any claim, demand, suit or judgment made, brought or recovered against Licensee. Said policy shall protect Contractor and the Insureds in the same manner as though a separate policy had been issued to each, but nothing in said policy shall operate to increase the insurance company's liability as set forth in its policy beyond the amount

or amounts shown or to which the insurance company would have been liable if only one interest had been named as an insured.

- (d) Contractor hereby grants to SMART a waiver of any right to subrogation which any insurer of said Contractor may acquire against SMART by virtue of the payment of any loss under such insurance. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not SMART has received a waiver of subrogation endorsement from the insurer.
- (e) The insurance policy(ies) shall be written by an insurance company or companies acceptable to SMART. Such insurance company shall be authorized to transact business in the state of California.

SMART reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other circumstances.

Section 9.07 Deductibles and Retentions. Contractor shall be responsible for payment of any deductible or retention on Contractor's policies without right of contribution from SMART. Deductible and retention provisions shall not contain any restrictions as to how or by whom the deductible or retention is paid. Any deductible or retention provision limiting payment to the name insured is not acceptable.

Section 9.08 Claims Made Coverage. If any insurance specified above is written on a claims-made coverage form, Contractor shall:

- (a) Ensure that the retroactive date is shown on the policy, and such date must be before the date of this Agreement or beginning of any work under this Agreement;
- (b) Maintain and provide evidence of similar insurance for at least three (3) years following project completion, including the requirement of adding all additional insureds; and
- (c) If insurance is cancelled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to Agreement effective date, Contractor shall purchase "extending reporting" coverage for a minimum of three (3) years after completion of the work.

Section 9.09 Documentation. The following documentation shall be submitted to SMART:

- (a) Properly executed Certificates of Insurance clearly evidencing all coverages and limits required above. Said Certificates shall be submitted prior to the execution of this Agreement. Contractor agrees to maintain current Certificates of Insurance evidencing

the above-required coverages and limits on file with SMART for the duration of this Agreement.

- (b) Copies of properly executed endorsements required above for each policy. Said endorsement copies shall be submitted prior to the execution of this Agreement. Contractor agrees to maintain current endorsements evidencing the above-specified requirements on file with SMART for the duration of this Agreement.
- (c) Upon SMART's written request, Contractor shall provide certified copies of the insurance policies to SMART. Said policy copies shall be submitted within thirty (30) days of SMART's request. After the Agreement has been signed, signed Certificates of Insurance shall be submitted for any renewal or replacement of a policy that already exists, at least ten (10) days before expiration or other termination of the existing policy.

Section 9.10 Policy Obligations. Contractor's indemnity and other obligations shall not be limited by the foregoing insurance requirements.

Section 9.11 Material Breach. If Contractor, for any reason, fails to maintain insurance coverage, which is required pursuant to this Agreement, the same shall be deemed a material breach of this Agreement. SMART, in its sole option, may terminate this Agreement and obtain damages from Contractor resulting from said breach. Alternatively, SMART may purchase such required insurance coverage, and without further notice to Contractor, SMART may deduct from sums due to Contractor any premium costs advanced by SMART for such insurance. These remedies shall be in addition to any other remedies available to SMART.

Article 10. **Prosecution of Work.**

When work is requested of Contractor by SMART, all due diligence shall be exercised and the work accomplished without undue delay, within the performance time specified in the Task Order. Performance of the services hereunder shall be completed within the time required herein, provided, however, that if the performance is delayed by earthquake, flood, high water, or other Act of God, the time for Contractor's performance of this Agreement shall be extended by a number of days equal to the number of days Contractor has been delayed.

Article 11. **Extra or Changed Work.**

Extra or changed work or other changes to the Agreement may be authorized only by written amendment to this Agreement, signed by both parties. Minor changes, which do not increase the amount paid under the Agreement, and which do not significantly change the scope of work or significantly lengthen time schedules may be executed by the General Manager in a form approved by SMART Counsel. The Board of Directors, General Manager or Chief Engineer must authorize all other extra or changed work. The parties expressly recognize that SMART

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personnel are without authorization to order extra or changed work or waive Agreement requirements. Failure of Contractor to secure such written authorization for extra or changed work shall constitute a waiver of any and all right to adjustment in the Agreement price or Agreement time due to such unauthorized work and thereafter Contractor shall be entitled to no compensation whatsoever for the performance of such work. Contractor further expressly waives any and all right or remedy by way of restitution and quantum meruit for any and all extra work performed without such express and prior written authorization of SMART.

Article 12. Representations of Contractor.

Section 12.01 Standard of Care. SMART has relied upon the professional ability and training of Contractor as a material inducement to enter into this Agreement. Contractor hereby agrees that all its work will be performed and that its operations shall be conducted in accordance with generally accepted and applicable professional practices and standards as well as the requirements of applicable federal, state and local laws, it being understood that acceptance of Contractor's work by SMART shall not operate as a waiver or release.

Section 12.02 Status of Contractor. The parties intend that Contractor, in performing the services specified herein, shall act as an independent contractor and shall control the work and the manner in which it is performed. Contractor is not to be considered an agent or employee of SMART and is not entitled to participate in any pension plan, worker's compensation plan, insurance, bonus, or similar benefits SMART provides its employees. In the event SMART exercises its right to terminate this Agreement pursuant to **Article 7**, above, Contractor expressly agrees that it shall have no recourse or right of appeal under rules, regulations, ordinances, or laws applicable to employees.

Section 12.03 Taxes. Contractor agrees to file federal and state tax returns and pay all applicable taxes on amounts paid pursuant to this Agreement and shall be solely liable and responsible to pay such taxes and other obligations, including but not limited to state and federal income and FICA taxes. Contractor agrees to indemnify and hold SMART harmless from any liability which it may incur to the United States or to the State of California as a consequence of Contractor's failure to pay, when due, all such taxes and obligations. In case SMART is audited for compliance regarding any withholding or other applicable taxes, Contractor agrees to furnish SMART with proof of payment of taxes on these earnings.

Section 12.04 Records Maintenance. Contractor shall keep and maintain full and complete documentation and accounting records concerning all services performed that are compensable under this Agreement and shall make such documents and records available to

SMART for inspection at any reasonable time. Contractor shall maintain such records for a period of four (4) years following completion of work hereunder.

Section 12.05 Conflict of Interest. Contractor covenants that it presently has no interest and that it will not acquire any interest, direct or indirect, that represents a financial conflict of interest under state law or that would otherwise conflict in any manner or degree with the performance of its services hereunder. Contractor further covenants that in the performance of this Agreement no person having any such interests shall be employed. In addition, if requested to do so by SMART, Contractor shall complete and file and shall require any other person doing work under this Agreement to complete and file a “Statement of Economic Interest” with SMART disclosing Contractor’s or such other person’s financial interests.

Section 12.06 Nondiscrimination. Contractor shall comply with all applicable federal, state, and local laws, rules, and regulations in regard to nondiscrimination in employment because of race, color, ancestry, national origin, religion, sex, marital status, age, medical condition, pregnancy, disability, sexual orientation or other prohibited basis, including without limitation, SMART’s Non-Discrimination Policy. All nondiscrimination rules or regulations required by law to be included in this Agreement are incorporated herein by this reference

Section 12.07 Assignment Of Rights. Contractor assigns to SMART all rights throughout the world in perpetuity in the nature of copyright, trademark, patent, right to ideas, in and to all versions of the plans and specifications, if any, now or later prepared by Contractor in connection with this Agreement. Contractor agrees to take such actions as are necessary to protect the rights assigned to SMART in this Agreement, and to refrain from taking any action which would impair those rights. Contractor’s responsibilities under this provision include, but are not limited to, placing proper notice of copyright on all versions of the plans and specifications as SMART may direct, and refraining from disclosing any versions of the plans and specifications to any third party without first obtaining written permission of SMART. Contractor shall not use or permit another to use the plans and specifications in connection with this or any other project without first obtaining written permission of SMART.

Section 12.08 Ownership And Disclosure Of Work Product. All reports, original drawings, graphics, plans, studies, and other data or documents (“documents”), in whatever form or format, assembled or prepared by Contractor or Contractor’s subcontractors, Contractors, and other agents in connection with this Agreement shall be the property of SMART. SMART shall be entitled to immediate possession of such documents upon completion of the work pursuant to this Agreement. Upon expiration or termination of this Agreement, Contractor shall promptly deliver to SMART all such documents, which have not already been provided to SMART in such form or format, as SMART deems appropriate. Such documents shall be and will remain the property of SMART without restriction or limitation. Contractor may retain copies of the above- described documents but agrees not to disclose or discuss any

information gathered, discovered, or generated in any way through this Agreement without the express written permission of SMART.

Article 13. Demand for Assurance.

Each party to this Agreement undertakes the obligation that the other's expectation of receiving due performance will not be impaired. When reasonable grounds for insecurity arise with respect to the performance of either party, the other may in writing demand adequate assurance of due performance and until such assurance is received may, if commercially reasonable, suspend any performance for which the agreed return has not been received. "Commercially reasonable" includes not only the conduct of a party with respect to performance under this Agreement, but also conduct with respect to other agreements with parties to this Agreement or others. After receipt of a justified demand, failure to provide within a reasonable time, but not exceeding thirty (30) days, such assurance of due performance as is adequate under the circumstances of the particular case is a repudiation of this Agreement. Acceptance of any improper delivery, service, or payment does not prejudice the aggrieved party's right to demand adequate assurance of future performance. Nothing in this **Article 13** limits SMART's right to terminate this Agreement pursuant to **Article 7**.

Article 14. Assignment and Delegation.

Neither party hereto shall assign, delegate, sublet, or transfer any interest in or duty under this Agreement without the prior written consent of the other, and no such transfer shall be of any force or effect whatsoever unless and until the other party shall have so consented.

Article 15. Method and Place of Giving Notice, Submitting INVOICES and Making Payments.

All notices, invoices, and payments shall be made in writing and shall be given by personal delivery, U.S. Mail or email. Notices, invoices, and payments shall be addressed as follows:

If to SMART: Sonoma-Marín Area Rail Transit District
5401 Old Redwood Highway, Suite 200
Petaluma, CA 94954
billing@sonomamarintrain.org

If to Contractor: Ghilotti Bros., Inc.
Attn: Thomas Barr, P.E., V.P.
525 Jacoby Street
San Rafael, CA 94901
(415) 454-7011
tomb@ghilottibros.com

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When a notice, invoice or payment is given by a generally recognized overnight courier service, the notice, invoice or payment shall be deemed received on the next business day. When a copy of a notice, invoice or payment is sent by facsimile or email, the notice, invoice or payment shall be deemed received upon transmission as long as (1) the original copy of the notice, invoice or payment is promptly deposited in the U.S. mail and postmarked on the date of the facsimile or email (for a payment, on or before the due date), (2) the sender has a written confirmation of the facsimile transmission or email, and (3) the facsimile or email is transmitted before 5 p.m. (recipient's time). In all other instances, notices, invoices and payments shall be effective upon receipt by the recipient. Changes may be made in the names and addresses of the person to whom notices are to be given by giving notice pursuant to this paragraph.

Article 16. Miscellaneous Provisions.

Section 16.01 No Waiver of Breach. The waiver by SMART of any breach of any term or promise contained in this Agreement shall not be deemed to be a waiver of such term or provision or any subsequent breach of the same or any other term or promise contained in this Agreement.

Section 16.02 Construction. To the fullest extent allowed by law, the provisions of this Agreement shall be construed and given effect in a manner that avoids any violation of statute, ordinance, regulation, or law. The parties covenant and agree that in the event that any provision of this Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder of the provisions hereof shall remain in full force and effect and shall in no way be affected, impaired, or invalidated thereby. Contractor and SMART acknowledge that they have each contributed to the making of this Agreement and that, in the event of a dispute over the interpretation of this Agreement, the language of the Agreement will not be construed against one party in favor of the other. Contractor and SMART acknowledge that they have each had an adequate opportunity to consult with counsel in the negotiation and preparation of this Agreement.

Section 16.03 Consent. Wherever in this Agreement the consent or approval of one party is required to an act of the other party, such consent or approval shall not be unreasonably withheld or delayed.

Section 16.04 No Third-Party Beneficiaries. Nothing contained in this Agreement shall be construed to create and the parties do not intend to create any rights in third parties.

Section 16.05 Applicable Law and Forum. This Agreement shall be construed and interpreted according to the substantive law of California, regardless of the law of conflicts to the contrary in any jurisdiction. Venue for any action to enforce the terms of this

Agreement or for the breach thereof shall be in the Superior Court of the State of California in the County of Marin.

Section 16.06 Captions. The captions in this Agreement are solely for convenience of reference. They are not a part of this Agreement and shall have no effect on its construction or interpretation.

Section 16.07 Merger. This writing is intended both as the final expression of the Agreement between the parties hereto with respect to the included terms and as a complete and exclusive statement of the terms of the Agreement, pursuant to Code of Civil Procedure Section 1856. No modification of this Agreement shall be effective unless and until such modification is evidenced by a writing signed by both parties.

Section 16.08 Acceptance of Electronic Signatures and Counterparts. The parties agree that this Contract, Agreements ancillary to this Contract, and related documents to be entered into this Contract will be considered executed when the signature of a party is delivered by scanned image as an attachment to electronic mail. Such scanned signature must be treated in all respects as having the same effect as an original signature. Each party further agrees that this Contract may be executed in two or more counterparts, all of which constitute one and the same instrument.

Section 16.09 Licensing Laws. The contractor shall comply with the provisions of Chapter 9 of Division 3 of the Business and Professions Code concerning the licensing of contractors. All contractors shall be licensed in accordance with the laws of the State of California and any Contractor not so licensed is subject to the penalties imposed by such laws. Prior to commencing any work under the Contract, all Subcontractors must show that they hold appropriate and current California contractor's Licenses. The Contractor shall provide such Subcontractor information, including the class type, license number and expiration date to the District.

Section 16.10 Prevailing Wage. Contractor and each Subcontractor shall pay to all workers employed on the Work not less than the prevailing rate of wages as determined in accordance with the Labor Code as indicated herein.

All contractors/vendors doing business with public agencies throughout the State of California (including SMART) shall comply with applicable labor compliance requirements including, but not limited to prevailing wages, SB 854, Labor Code Sections 1725.5, 1771, 1774, 1775, 1776, 1777.5, 1813, and 1815. Public Works Contractor Registration Program, Electronic Certified

Payroll Records submission to the State Labor Commissioner and other requirements described at <http://www.dir.ca.gov/Public-Works/Contractors.html>.

Applicable projects are subject to compliance monitoring and enforcement by the California Department of Industrial Relations.

Section 16.11 Payment Bond. Contractor shall be required to furnish a Payment Bond (Labor and Materials Bond) in an amount not less than 100 percent of the Contract price, excluding allowances. Payment bond shall be executed by an admitted surety insurer (California Civil Code Section 9554). An “admitted surety insurer” shall be defined as follows:

A corporate insurer or a reciprocal or interinsurance exchange to which the Insurance Commissioner has issued a certificate of authority to transact surety insurance in this state, as defined in Section 105 of the Insurance Code (California Code of Civil Procedures Section 995.120).

Section 16.12 Performance Bond. Contractor shall be required to furnish a Performance Bond in an amount not less than 100 percent of the Contract price, excluding allowances. Performance bond shall be executed by an admitted surety insurer (California Civil Code Section 9554). An “admitted surety insurer” shall be defined as follows: A corporate insurer or a reciprocal or interinsurance exchange to which the Insurance Commissioner has issued a certificate of authority to transact surety insurance in this state, as defined in Section 105 of the Insurance Code (California Code of Civil Procedures Section 995.120).

Section 16.13 Liquidated Damages. Liquidated damages will be assessed at a rate of \$1,000 per day if the work is not completed by the specified deadline stated in Exhibit A Scope of Work. SMART will provide Contractor with fourteen (14) calendar days’ notice for when the 72-hour period is to begin as part of Project # 1.

Section 16.14 Warranty Requirements. Contractor shall provide a warranty of sixty (60) calendar days for materials and workmanship.

Section 16.15 Property Damage. The contractor shall be responsible for any damages to existing infrastructure and any adjacent property, resulting from Contractor’s negligence. The Contractor shall reimburse SMART any and all costs to restore, repair, and

replace all property, regardless of ownership, which is damaged or altered by the Contractor's or its Subcontractor's negligence.

Section 16.16 Disposal of Materials. Contractor shall be responsible for the proper disposal of all related materials and equipment in accordance with all state and local laws and regulations.

Section 16.17 Time of Essence. Time is and shall be of the essence of this Agreement and every provision hereof.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the Effective Date.

CONTRACTOR: _____

By: _____

Its : _____

Date: _____

SONOMA-MARIN AREA RAIL TRANSIT (SMART)

By: _____
Farhad Mansourian, General Manager

Date: _____

CERTIFICATES OF INSURANCE ON FILE WITH AND APPROVED AS TO SUBSTANCE FOR SMART:

By: _____
Ken Hendricks, Procurement Coordinator

Date: _____

APPROVED AS TO FORM FOR SMART:

By: _____
District Counsel

Date: _____

EXHIBIT A
SCOPE OF WORK & TIMELINE

I. PURPOSE

The Sonoma-Marín Area Rail Transit District (SMART) owns and operates a commuter rail line from Northern Santa Rosa, CA to Larkspur, CA with planned extension to Cloverdale, CA. SMART is preparing its Rail Operation Center (ROC) in Santa Rosa, CA for the installation of a lathe type wheel truing machine, which will require the concrete and electrical modifications described below in the “Detailed Scope of Work” to be complete in advance of the installation.

II. PROJECT MANAGEMENT

SMART’s Chief Engineer, Bill Gamlen, or his designee will initiate all work to Contractor in writing and will monitor all progress.

III. LOCATION OF WORK

All work to be performed at:

SMART’s Rail Operation Center (ROC)
3748 Regional Parkway
Santa Rosa, CA 95403

IV. FACILITY ACCESS

The Rail Operation Center is a secure facility. Contractor is required to check in with SMART’s Project Manager and Operations Staff at the beginning of each day prior to coming on-site and at the end of each day prior to leaving the job site.

Contractor shall enter the premises through the front gate or coordinate with SMART Project Management staff to enter through the double gate at the North end of the Rail Yard.

Contractor shall be required to provide and bring a portable restroom for its employees for the duration of the project.

V. WORK HOURS

Contractor work hours shall be from 8:00am to 5:00pm (PST), unless otherwise authorized by SMART's project manager in writing.

VI. EQUIPMENT STAGING

Contractor may stage equipment directly next to the vehicle maintenance pit as well as directly outside the North end of the Rail Operation Center. Contractor shall coordinate all equipment staging with SMART's Project Management and Operations team.

VII. DETAILED SCOPE OF WORK

The lowest responsive responsible bidder will provide the following services when under contract with SMART:

The Scope of work is divided into three categories: Concrete Modifications, Electrical Modifications, and Pit Leak Sealing.

Project 1: Concrete Modifications:

The elements of the scope of work for concrete modifications associated with the installation of SMART's wheel truing machine.

- 1) Create a Cutout in the East Wall of the Vehicle Maintenance Pit
- 2) Thicken Existing Reinforced Concrete Floor Slab
- 3) Remove Two Rail Support Pillars, Replace in New Location with New Type, Modify Two Existing Rail Support Pillars

The cutout and electrical work to occur early, and the pillar removal and rail support modification occur immediately before the machine is delivered and installed to minimize disruption to maintenance activities at the vehicle maintenance pit.

1. Create a Cutout in the East Wall of the Vehicle Maintenance Pit
 - a. Reference Exhibit C - Concrete Work Details, pages 1 through 4
 - b. SMART staff shall be responsible for the removal of all light fixtures that are currently installed in the work area prior to contractor starting work.
 - c. Demolish portion of existing concrete floor as needed to create 2'-6" wide x 2'-6" deep x 10" tall cut-out in upper wall, east side of maintenance pit. Refer to Exhibit C – Concrete Work Details for location, dimensions, reinforcing, and details for guard (see items c. and f. below)

- d. Do not cut existing rebar. After the demolition and removal of concrete, bend and tie rebar as needed to provide reinforcement as shown on Exhibit C – Concrete Work Details.
 - e. Install 4 each 3/4” diameter sockets flush with finished floor surface to allow installation of removable guard. (See item h.iii below)
 - f. Install 2 each hand rail post pockets in line with existing safety railing. See Sleeve for Removable Post detail in Exhibit C – Concrete Work Details.
 - g. Form and pour 4,000 psi normal-weight concrete to create cutout and allow concrete to cure
 - h. Strip forms and clean / smooth surface as needed to match existing floor surface
 - i. Install safety guard around top of cutout.
 - i. Fabricate expanded steel machinery guard, 3 sided, 3 feet tall, with U- edging welded onto all exposed edges, paint safety yellow, and bolt to concrete floor as shown on Exhibit C – Concrete Work Details. Guard shall be removable.
 - ii. 3/4” x #9 Steel Expanded Metal – Flattened with Expanded Steel U Edging welded to all exposed edges of expanded metal
 - iii. Carefully size and install guard with oversight by SMART’s Engineering team. The location needs to provide 31” minimum clearance to the adjacent building support beam
 - j. Specifications to Follow
 - i. 03 11 00 Concrete Forming
 - ii. 03 20 00 Concrete Reinforcing
 - iii. 03 35 00 Concrete Finishing
2. Thicken Existing Reinforced Concrete Floor Slab
- a. Reference Exhibit C - Concrete Work Details, pages 5 through 9
 - b. Demolish a portion of the concrete floor, preserve reinforcing steel, deepen the area, add reinforcing steel, and pour back thickened floor slab (S001 Partial Plan & Section A)
3. Remove Two Rail Support Pillars, Replace in New Location with New Type, Modify Two Rail Support Pillars to Remain
- a. Reference Exhibit C – Concrete Work Details, pages 5 through 9
 - b. Contractor shall cut and remove a portion of the existing rail and supporting H beam to the exact dimensions as shown on page 9 of 9
 - i. SMART Maintenance of Way staff will be responsible for cutting the rail with rail saw. Contractor shall coordinate timing of this action with SMART’s Maintenance of Way team.
 - ii. Contractor shall mark out rail cut locations
 - iii. SMART Engineering staff shall confirm location of mark out before cutting

- iv. SMART staff shall perform the rail cutting with Contractor support to remove the cut material
- v. Support beam shall be abrasive/saw cut and shall not be torch cut
- vi. W8x48 support beam may be re-purposed for the new support structure column
- c. Remove two 18-inch diameter concrete columns
- d. Fabricate and install rail supports at south end of cut-out portion
- e. Modify two existing 18-inch diameter concrete columns at north end of cut-out portion
- f. After the Wheel Truing Machine is installed and leveled (to be performed by the third-party Wheel Truing Machine provider), Contractor shall:
- g. Pressure grout pad under machine and floor jacks
 - i. Form and pressure inject grout, remove forms & clean
 - ii. 2-inch thick pad under machine & floor jacks requires approximately 135 gallons of grout
- h. Specifications to Follow
 - i. As shown on S001
 - ii. 03 11 00 Concrete Forming
 - iii. 03 20 00 Concrete Reinforcing
 - iv. 03 35 00 Concrete Finishing

While performing any and all work, contractor shall maintain a clean and safe work environment to minimize disruption to SMART's Vehicle Maintenance Operations. At the end of each work day, Contractor shall leave the work site clean and in a safe manner so that SMART's Maintenance activities can continue safely.

Project 2: Electrical Modifications:

This scope of work directs the Contractor to provide a 300-amp, 460-volt, 60-hertz, 3-phase electrical service with disconnect from the Rail Operation Center (ROC) electrical room to the North East corner of the vehicle maintenance pit and final connection from the disconnect to the new high-voltage panel (to be installed by the third-party Wheel Truing Machine provider), and to run communication cable along the electrical conduit.

1. Reference Exhibit D - Electrical Work Details
2. Provide and install a rigid metallic conduit run approximately 250 feet from the Rail Operation Center (ROC) electrical room to the North East corner of the vehicle maintenance pit.
 - a. The conduit shall run along the wall and roof struts and avoid overhead crane path of travel
 - b. Contractor to bring the conduit down the East wall to point closest to the corner of the pit.

- c. The cables will need to be stubbed through the roof of the electrical room into the panel within the room.
 - d. Cut approximately a 6-inch wide and deep channel in the concrete floor to the edge of the vehicle maintenance pit
 - i. The conduit shall not interfere with the overhead crane.
 - e. Place conduit in the new cut-out.
 - f. Place non-shrink grout in the new cutout and around the conduit. Form grout even and level with floor
 - g. The electrical power shall connect at the Main Switchboard MS2. Contractor shall size the conduit, cables, breakers, and panels per NEC for the load. SMART's existing breakers are GE Spectra RMS series.
 - h. Contractor shall ensure cables are grounded accordingly.
3. Provide and install a fused disconnect rated at 300-amp, 460-volt. This means fused at 300amps and that the circuit feeding it is protected also with a 300-amp breaker.
 - a. Install on the wall of vehicle maintenance pit at location shown in Exhibit C – Concrete Work Details.
 - b. Do not energize at this time
 4. Provide final connection from new disconnect to new high voltage panel (installed by the third-party Wheel Truing Machine provider)
 - a. **This work to be scheduled to occur as soon as the new high voltage panel is installed**
 5. Provide 4 each CAT 6 communication cable which will run from the connection point inside the electrical room to location near pit
 - a. One cable runs into the pit for connection to SMART's new wheel truing machine. Place in conduit in concrete floor and terminate near fused disconnect with 20ft of slack
 - b. One cable runs to the wall near the pit and shall terminate with 10ft of slack
 - c. Two cable runs 310 feet total length, terminate, coil slack at wall near pit
 - d. Communication cables may be bundled and hung along the electrical conduit run. One communication cable to be in the conduit through the concrete floor into the pit
 - e. Testing of Cables shall include: Continuity testing and review of termination point.
 6. Specifications to Follow
 - a. 03 61 11 Non-Shrink Grout
 - b. 20 70 26 Common Materials & Methods for Electrical Systems
 - c. 26 25 26 Grounding & Bonding for Electrical Systems
 - d. 26 24 24 Circuit Breakers & Panelboards

While performing any and all work, contractor shall maintain a clean and safe work environment to minimize disruption to SMART's Vehicle Maintenance Operations. At the end of each work day, Contractor shall leave the work site clean and in a safe manner so that SMART's Maintenance activities can continue safely.

Project 3: Leak-sealing Portions of the Pit Floor/Wall Cold Joint

Leak-sealing Portions of the Pit Floor/Wall Cold Joint:

- a. Provide leak-sealing for 400 linear feet of concrete pit slab cracks and pit slab to pit wall cold joint in locations as directed by SMART's Engineering Team
- b. It is anticipated that the leak sealing consists of injected epoxy or grout
- c. It is anticipated that the leak-sealing work occurs early and in conjunction with the cut-out work should SMART move forward with this project.

While performing any and all work, contractor shall maintain a clean and safe work environment to minimize disruption to SMART's Vehicle Maintenance Operations. At the end of each work day, Contractor shall leave the work site clean and in a safe manner so that SMART's Maintenance activities can continue safely.

VIII. TIMELINE FOR EACH PROJECT

Project # 1

Create Cutout in the East Wall of Vehicle Maintenance Pit is high priority work. SMART requires work to be completed no later than March 29, 2019. SMART will schedule and coordinate work with Contractor. This work shall be completed during normal business hours (Monday-Friday, 8:00am-5:00pm (PST))

Removal of Rail Support Pillars and Installation of New Rail Supports shall take place 72 hours prior to SMART receiving and installing the wheel truing machine, which is scheduled for late March/early April 2019. The 72-hour period is critical in order to minimize disruption to the vehicle maintenance daily operations. SMART will coordinate with contractor on exact timelines once finalized. Contractor shall be flexible and work within SMART's scheduling constraints. This work shall be completed during normal business hours (Monday-Friday, 8:00am-5:00pm (PST))

Project # 2

Most of the Electrical Modification work shall be completed no later than March 29, 2019. The electrical final connection from the new disconnect to the new high voltage panel will need to take place approximately the same day the Wheel Truing Machine is installed. Contractor shall be flexible and work within SMART's

scheduling constraints. This work shall be completed during normal business hours (Monday-Friday, 8:00am-5:00pm (PST)).

Project # 3

Pit Leak Sealing will be considered high priority work. SMART shall require work to be completed no later than March 29, 2019. SMART will schedule and coordinate work with Contractor. This work shall be completed during normal business hours (Monday-Friday, 8:00am-5:00pm (PST))

Contractor shall partner with SMART and the 3rd party Wheel Truing Machine contractor on any final design reviews to ensure concrete and electrical modifications meet all specifications of the wheel truing machine's installation placement requirements. Contractor shall also be available and provide support as needed during the installation of the Wheel Truing Machine into the modified concrete pit and shall resolve any concrete issues that may arise at this time.

IX. ACCEPTANCE CRITERIA

Upon completion of each project, SMART's Chief Engineer or his designee will perform final inspections and walk-throughs with the contractor's project manager to ensure all work has been completed to SMART's specifications. Upon SMART's Chief Engineer or his designee's determination that the work meets all requirements, SMART will provide a written notice of acceptance of the work.

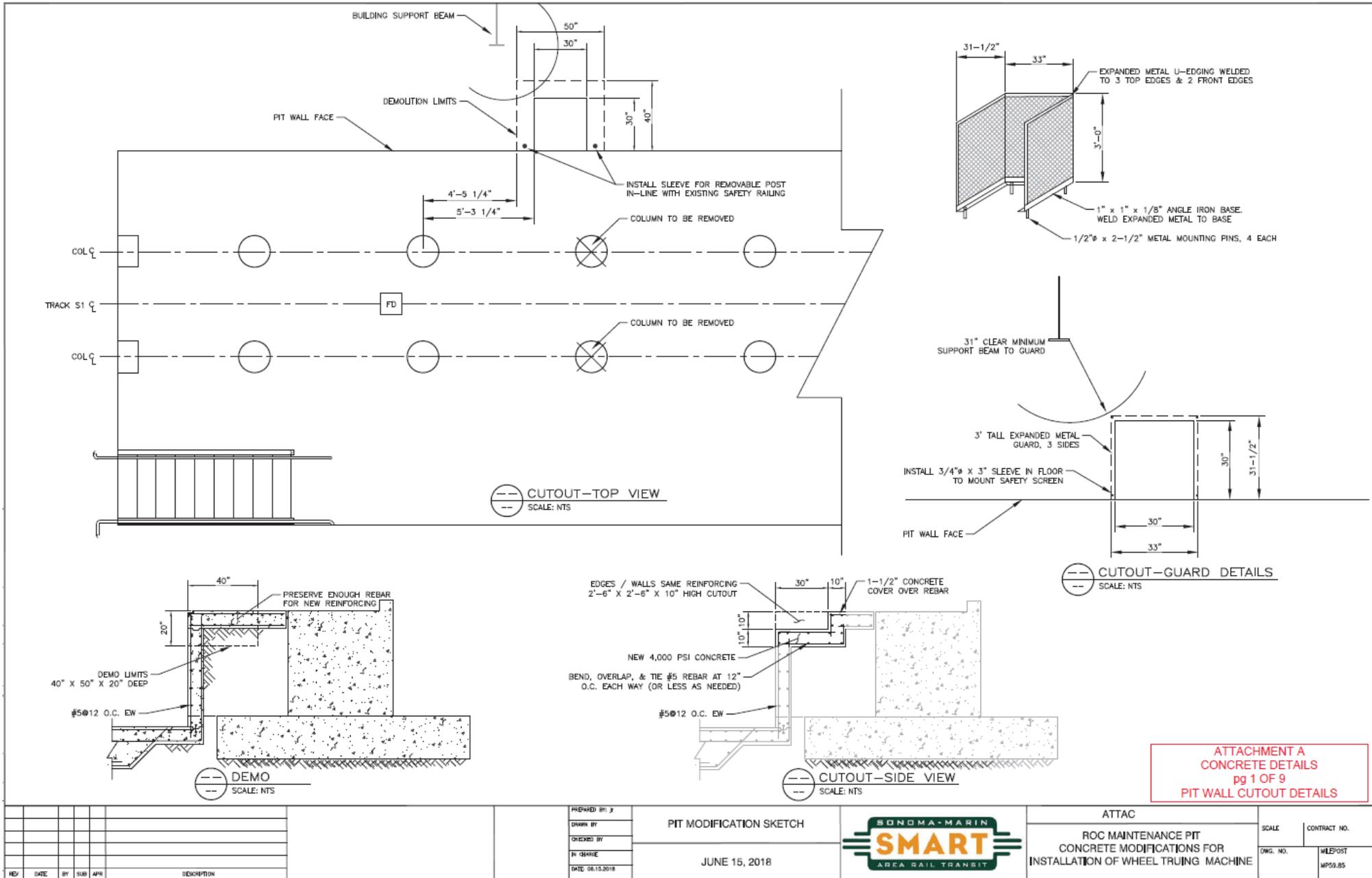
**EXHIBIT B
SCHEDULE OF RATES**

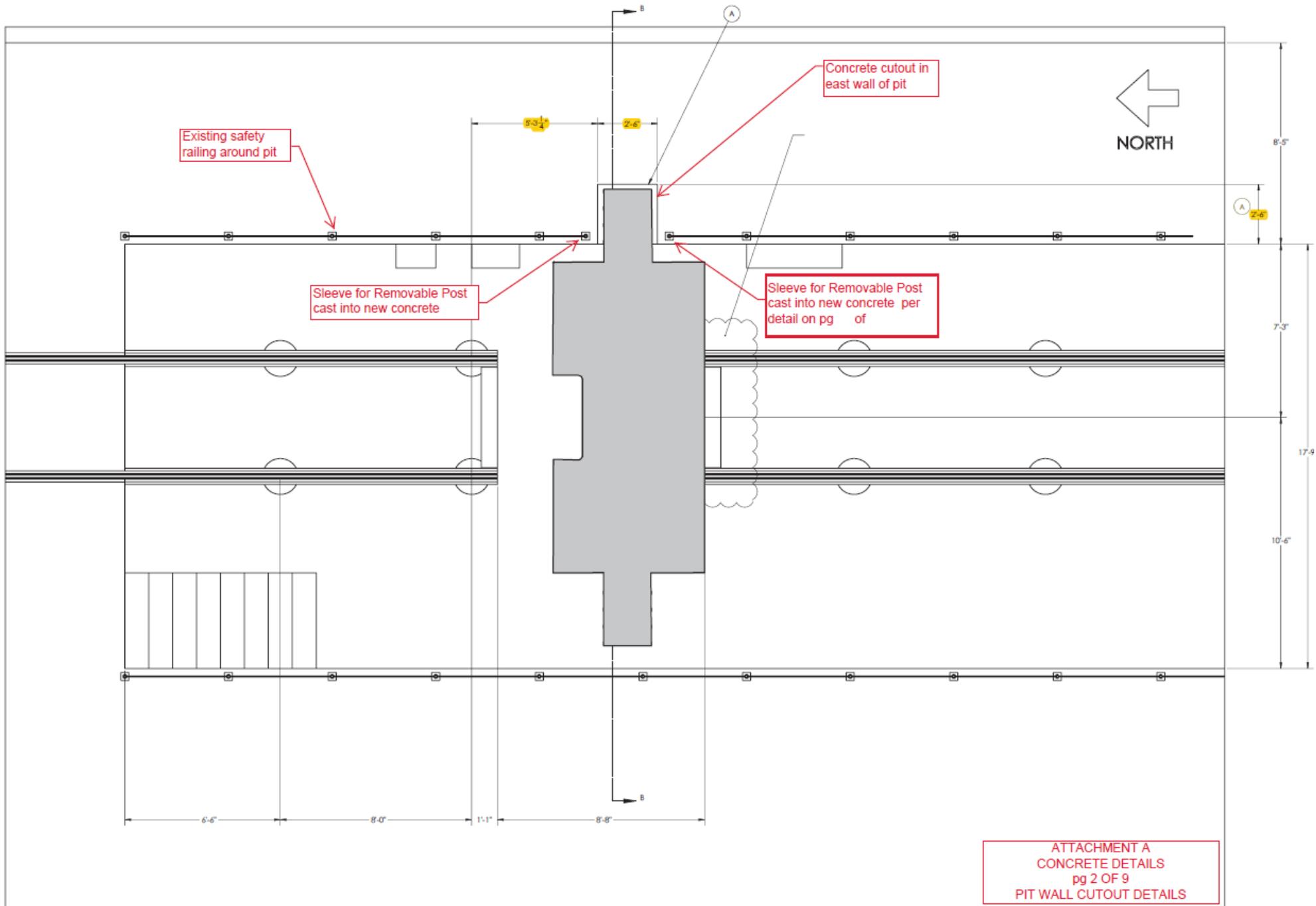
PROJECT #	ITEM DESCRIPTION	BID UNIT	COST
1	Create Cut-Out in East Wall of the Vehicle Maintenance Pit	*LS	\$20,000.00
	Thicken Existing Reinforced Concrete Floor Slab	*LS	\$32,000.00
	Remove Two Rail Support Pillars	*LS	\$25,000.00
2	Electrical Modifications	*LS	\$65,000.00
3	Pit Leak Sealing Portions of the Pit Floor/Wall Cold Joint	*LS	\$16,500.00
TOTAL			\$158,500.00

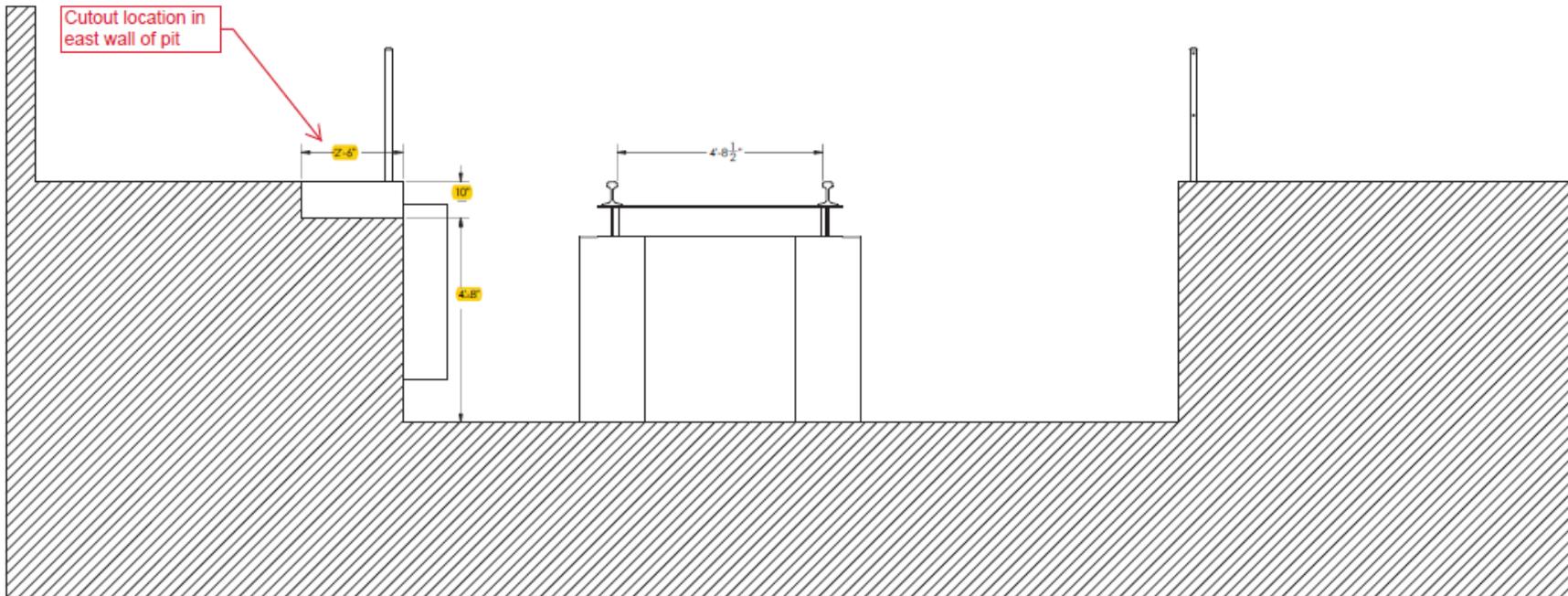
The above lump sum project costs are fully burdened and include all labor, materials, permits, tax, insurance, and all other indirect and direct costs associated with performing the work described in Exhibit A "Scope of Work & Timeline".

Contractor shall submit Certified Payroll reports when submitting invoices. This information is for SMART's evaluation, review, and auditing purposes only.

EXHIBIT C – CONCRETE WORK DETAILS

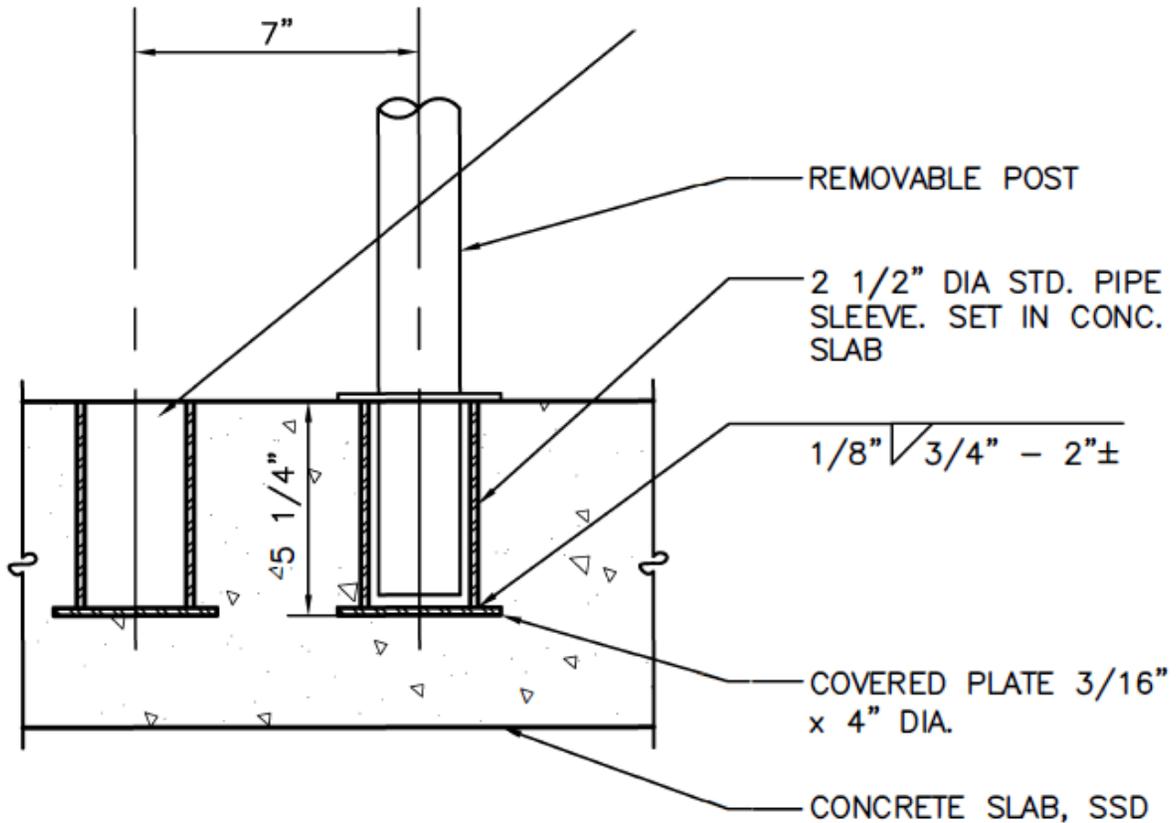






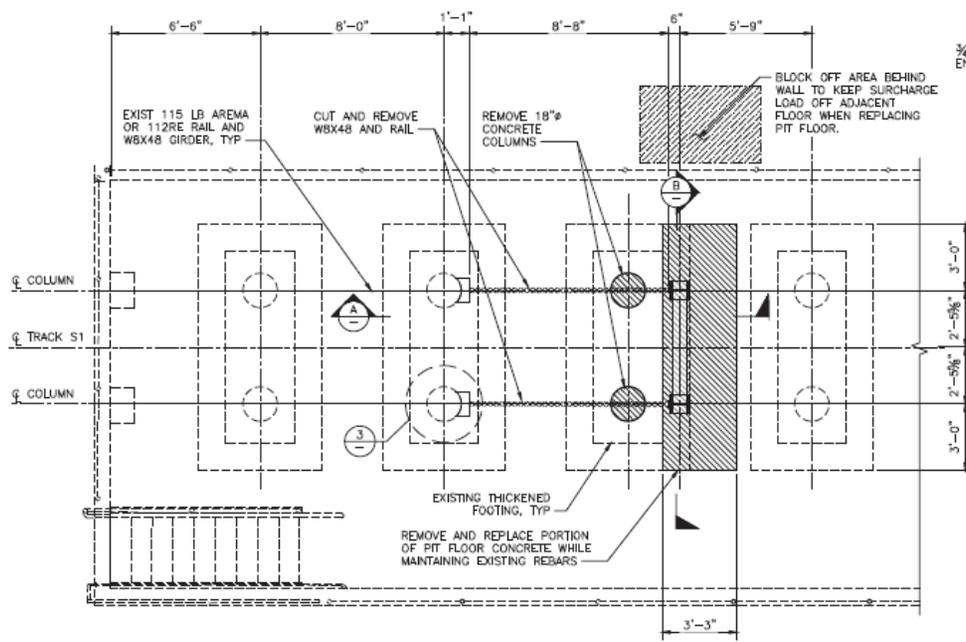
SECTION B-B
SCALE 1 : 18

ATTACHMENT A
CONCRETE DETAILS
pg 3 OF 9
PIT WALL CUTOUT DETAILS

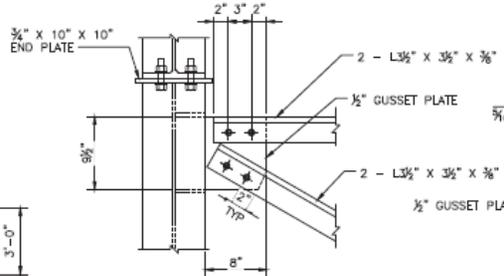


3 SLEEVE FOR REMOVEABLE POST
 3A502 SCALE: 3"=1'-0"

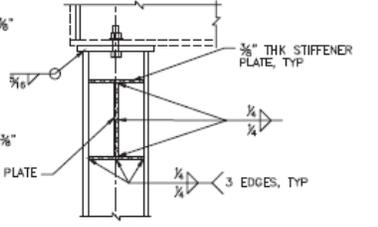
ATTACHMENT A
 CONCRETE DETAILS
 pg 4 OF 9
 PIT WALL CUTOUT DETAILS



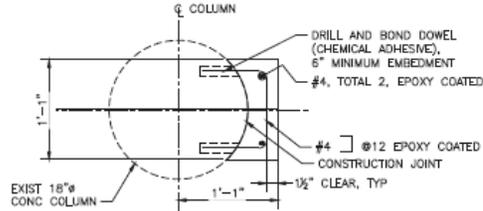
PARTIAL PLAN
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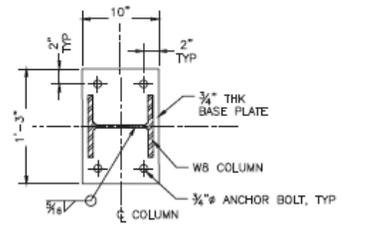
DETAIL 1
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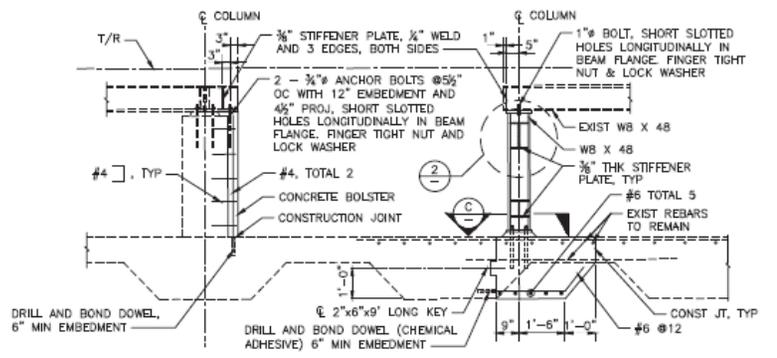
DETAIL 2
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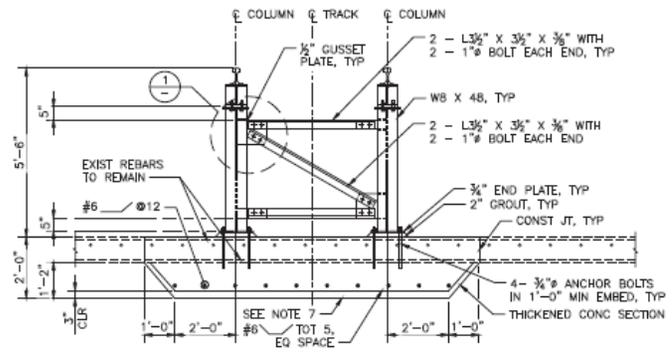
DETAIL 3
 SCALE: 1-1/2" = 1'-0"



SECTION C
 SCALE: 1-1/2" = 1'-0"



SECTION A
 SCALE: 1/2" = 1'-0"



SECTION B
 SCALE: 1/2" = 1'-0"

SPECIFICATIONS:

1. CONSTRUCT IN ACCORDANCE WITH CALTRANS STANDARD SPECIFICATIONS, 2015 EDITION, AND THIS DRAWING.
2. CONSTRUCTION JOINTS SHALL BE PREPARED PER SECTION 51-1.03D(4).
3. DRILL AND BOND DOWELS PER SECTION 51-1.03E
4. CHEMICAL ADHESIVE SHALL COMPLY WITH THE AUTHORIZED MATERIAL LIST AT [HTTP://WWW.DOT.CA.GOV/AML/](http://www.dot.ca.gov/aml/)
5. FIELD VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL
6. STEEL FABRICATORS SHALL BE PAINTED TO MATCH EXISTING STEEL.
7. PLACE NEW CONCRETE ON SOIL RECOMPACTED TO A RELATIVE COMPACTION OF AT LEAST 95%.

MATERIALS:

CONCRETE:	f'c = 4000 PSI
REINFORCING STEEL:	ASTM A615 GRADE 60
STRUCTURAL STEEL:	ASTM A36
BOLTS:	ASTM A325
ANCHOR BOLTS:	F1554 GRADE 36

REV	DATE	BY	SUB	APP	DESCRIPTION

RAILPROS
 15265 Alton Parkway | Suite 140 | Irvine | California | 92618
 (714) 734-8755
 www.railpros.com

PREPARED BY
R. MATTHEWS
 DRAWN BY
E. ESTEPA
 CHECKED BY
D. YANG
 IN CHARGE
B. BERGER
 DATE
 11/30/18

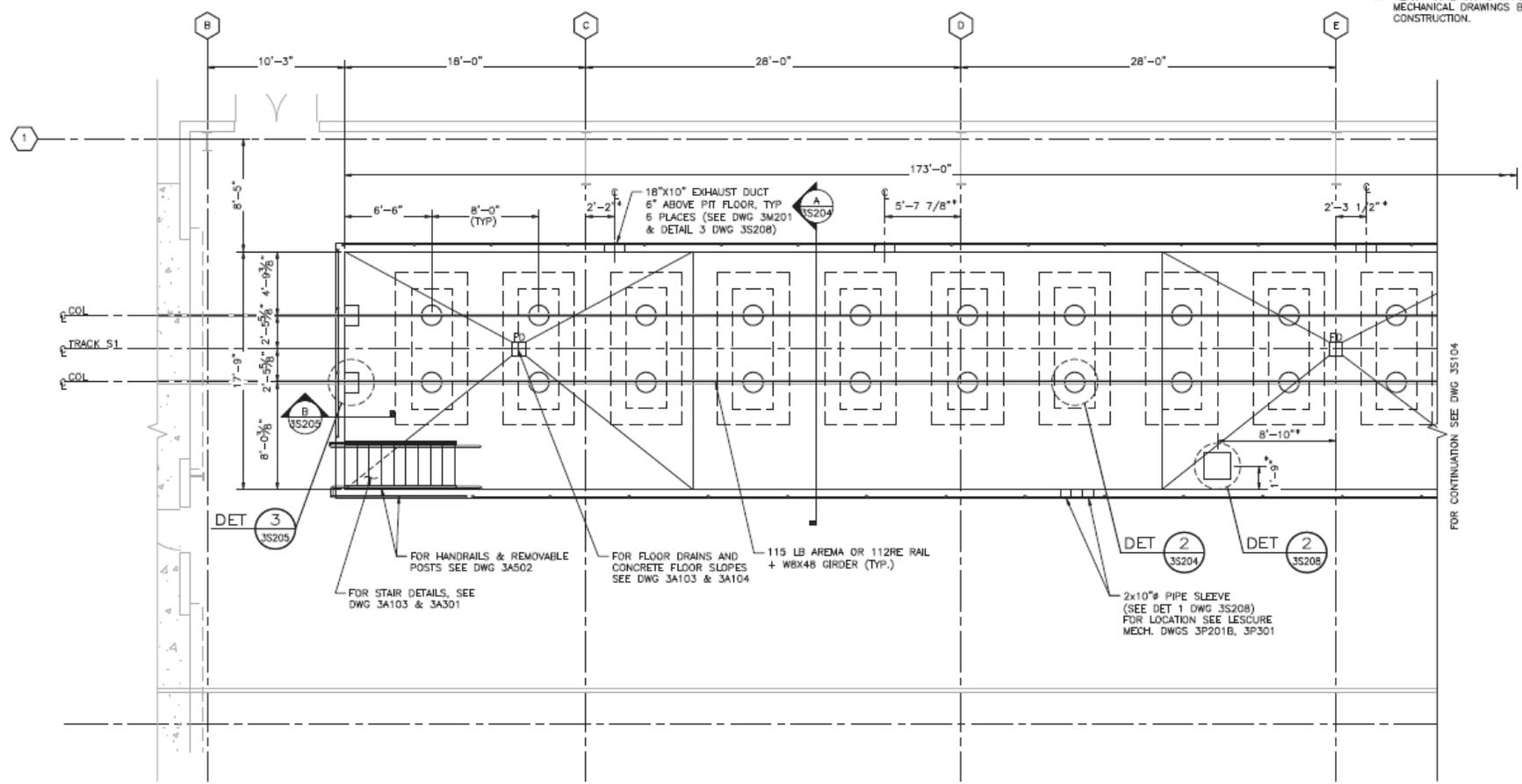
ISSUED FOR
 CONSTRUCTION

SONOMA-MARIN
SMART
 AREA RAIL TRANSIT

SMART MAINTENANCE FACILITY
 MAINTENANCE PIT MODIFICATIONS
 PLAN, SECTIONS AND DETAILS
 SHEET 1 OF 1

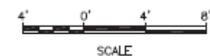
CADD FILENAME Pit-1.dwg	CONTRACT NO.
SCALE AS NOTED	MILEPOST
DWG. NO. S001	

NOTES:
 1. VERIFY DIMENSIONS MARKED "*" WITH MECHANICAL DRAWINGS BEFORE CONSTRUCTION.



PLAN
 SCALE: 1/4"=1'-0"

ATTACHMENT A
 CONCRETE DETAILS
 pg 6 OF 9
 REFERENCE DOCUMENT
 NORTH END OF MAINTENANCE PIT



REV	DATE	BY	SUB	APP	DESCRIPTION
1	20141020				REVISED DUCT AND PIPE SLEEVE SIZE.
0	20140814				ISSUED FOR CONSTRUCTION

SHIMMICK
 CONSULTANTS
 AECOM

DESIGNED BY
 S. KOLANKAYA
 CHECKED BY
 K. GRAHAM
 DESIGNED BY
 S. KOLANKAYA
 IN CHARGE
 M. HU
 DATE
 AUG 22, 2014

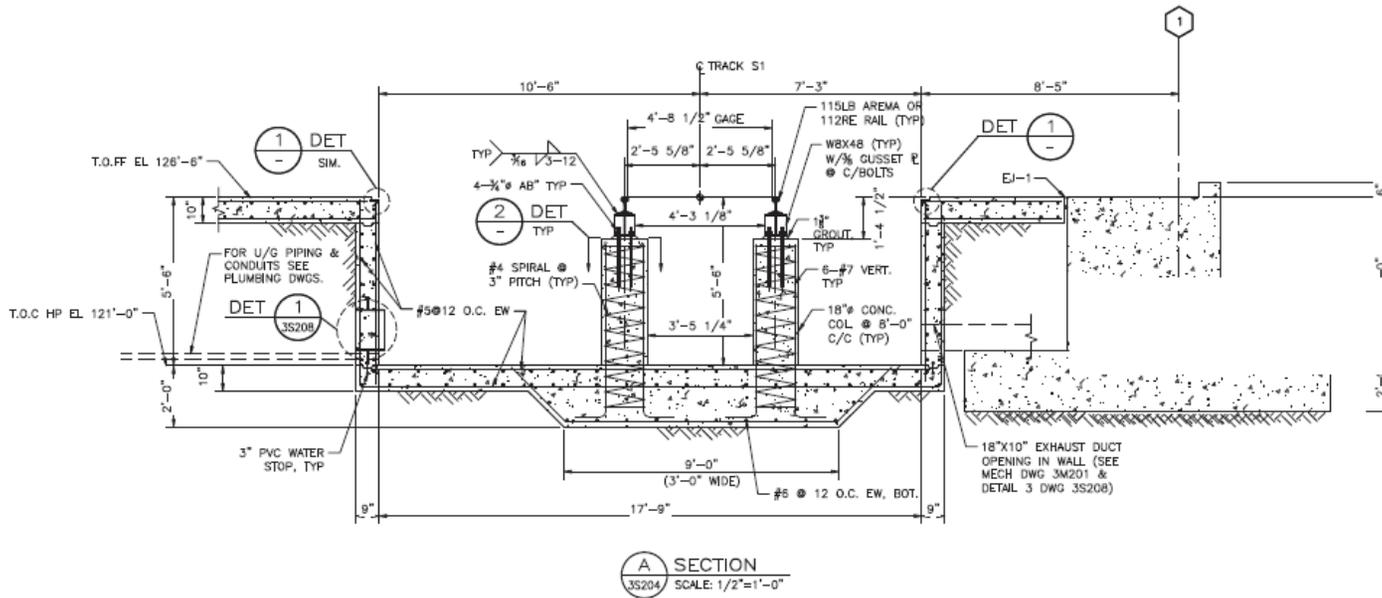
DESIGN PACKAGE 3
 ISSUED FOR CONSTRUCTION

SONOMA-MARIN
SMART
 AREA RAIL TRANSIT

CONTRACT PACKAGE #4
 MAINTENANCE FACILITY
 MAINTENANCE PIT PLAN

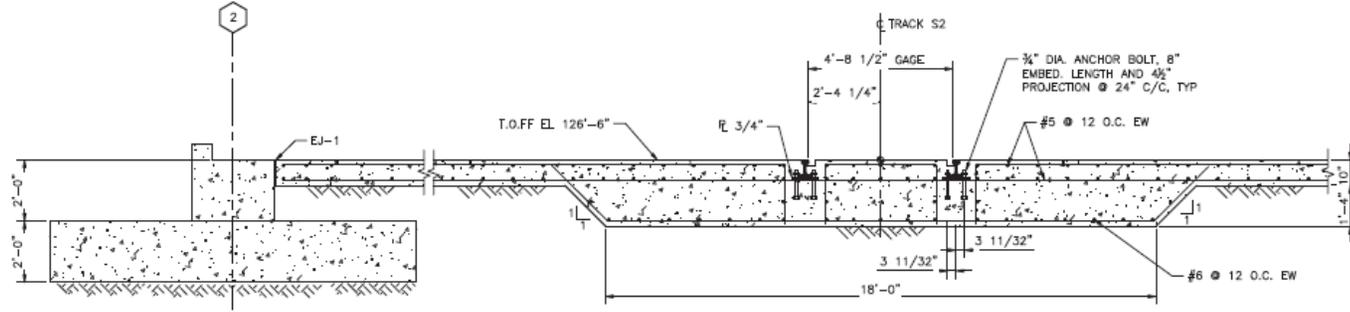
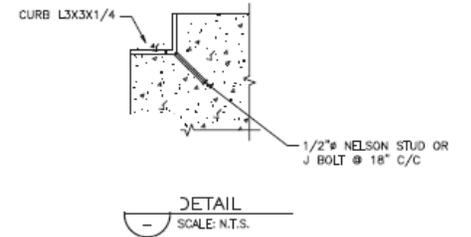
DATE PLOTTED
 3S103.dwg
 SCALE
 AS NOTED
 CONTRACT NO.
 CV-DB-12-001
 DWG. NO.
 3S103
 MILEPOST
 -

SHEET 59 OF 143

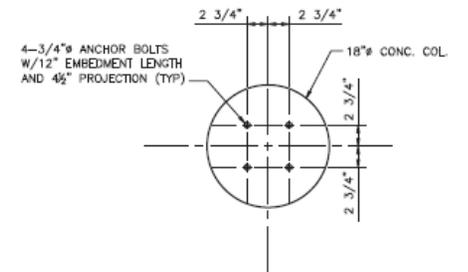


A SECTION
3S204 SCALE: 1/2"=1'-0"

NOTE:
COLUMN DESIGN LOADS ARE BASED ON DWG A0138887882
WT = 181,497 LBS, AXLE LOAD IS 45,374 LBS.



B SECTION
3S204 SCALE: 1/2"=1'-0"



**ATTACHMENT A
CONCRETE DETAILS
pg 8 OF 9
REFERENCE DOCUMENT
FLOOR SLAB & PILLAR DETAILS**

REV	DATE	BY	SUB	APP	DESCRIPTION
0	20140814				ISSUED FOR CONSTRUCTION

SHIMMICK
CONSTRUCTION

AECOM

PREPARED BY
S. KOLANKAYA

DRAWN BY
K. GRAHAM

CHECKED BY
S. KOLANKAYA

IN CHARGE
M. HU

DATE
AUG 22, 2014

DESIGN PACKAGE 3

ISSUED FOR CONSTRUCTION

BONOMA-MARIN

SMART

AREA RAIL TRANSIT

CONTRACT PACKAGE #4

MAINTENANCE FACILITY
PIT SECTIONS AND DETAILS
SECTIONS & DETAILS

SHEET 64 OF 143

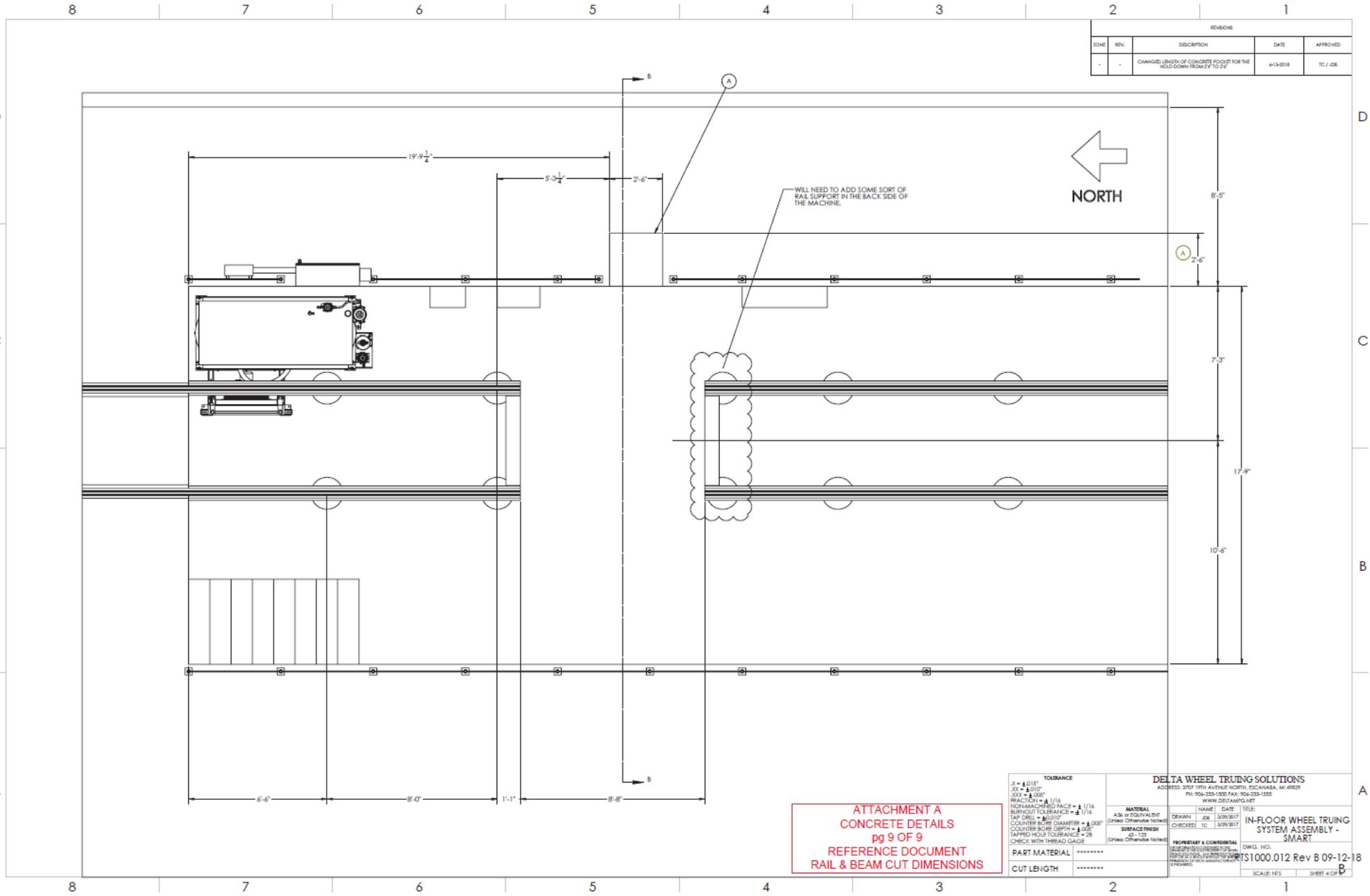
GRID FILENAME
3S204.dwg

SCALE
AS NOTED

DWG NO.
3S204

CONTRACT NO.
CV-DB-12-001

MILEPOST
-

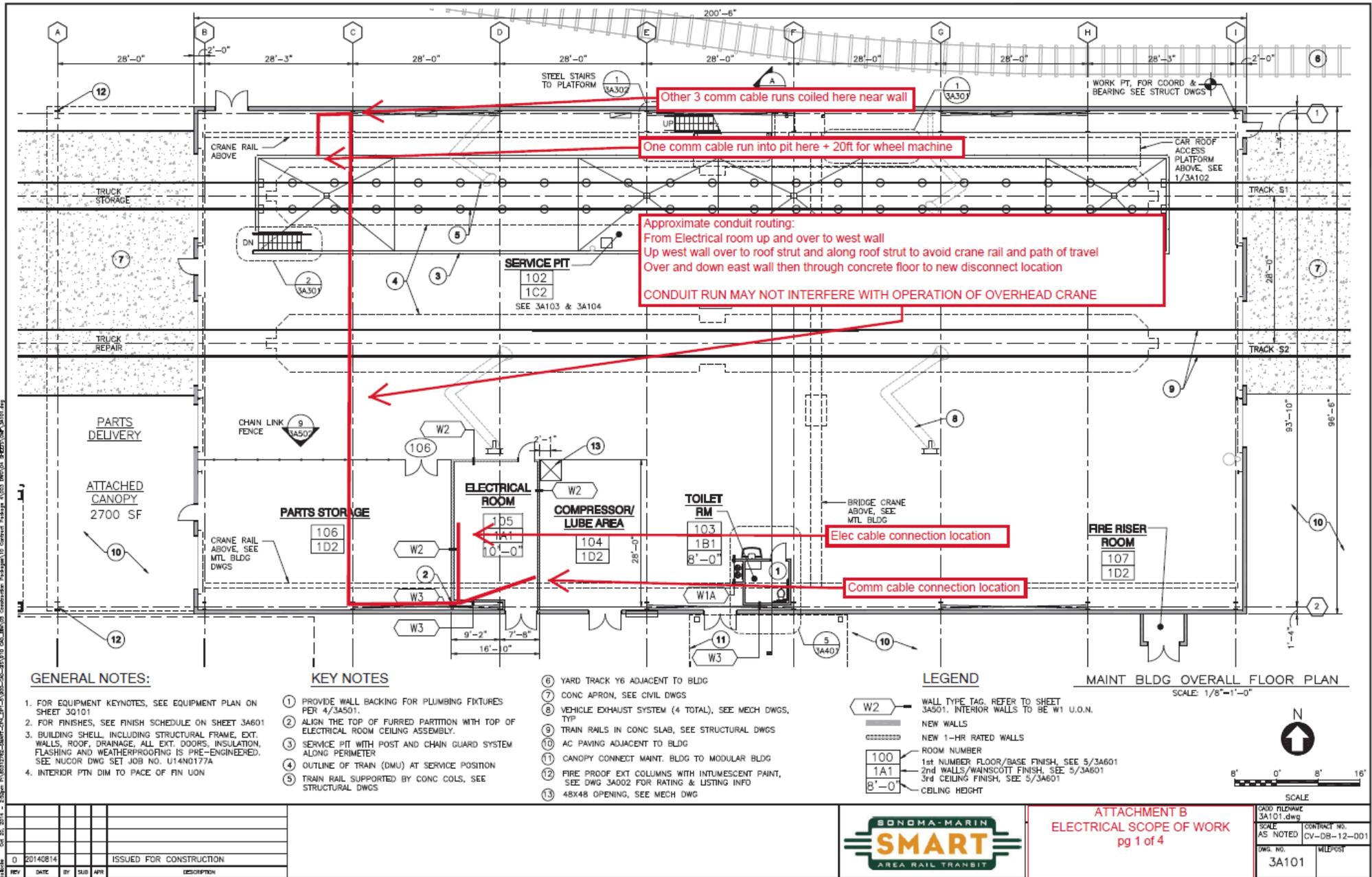


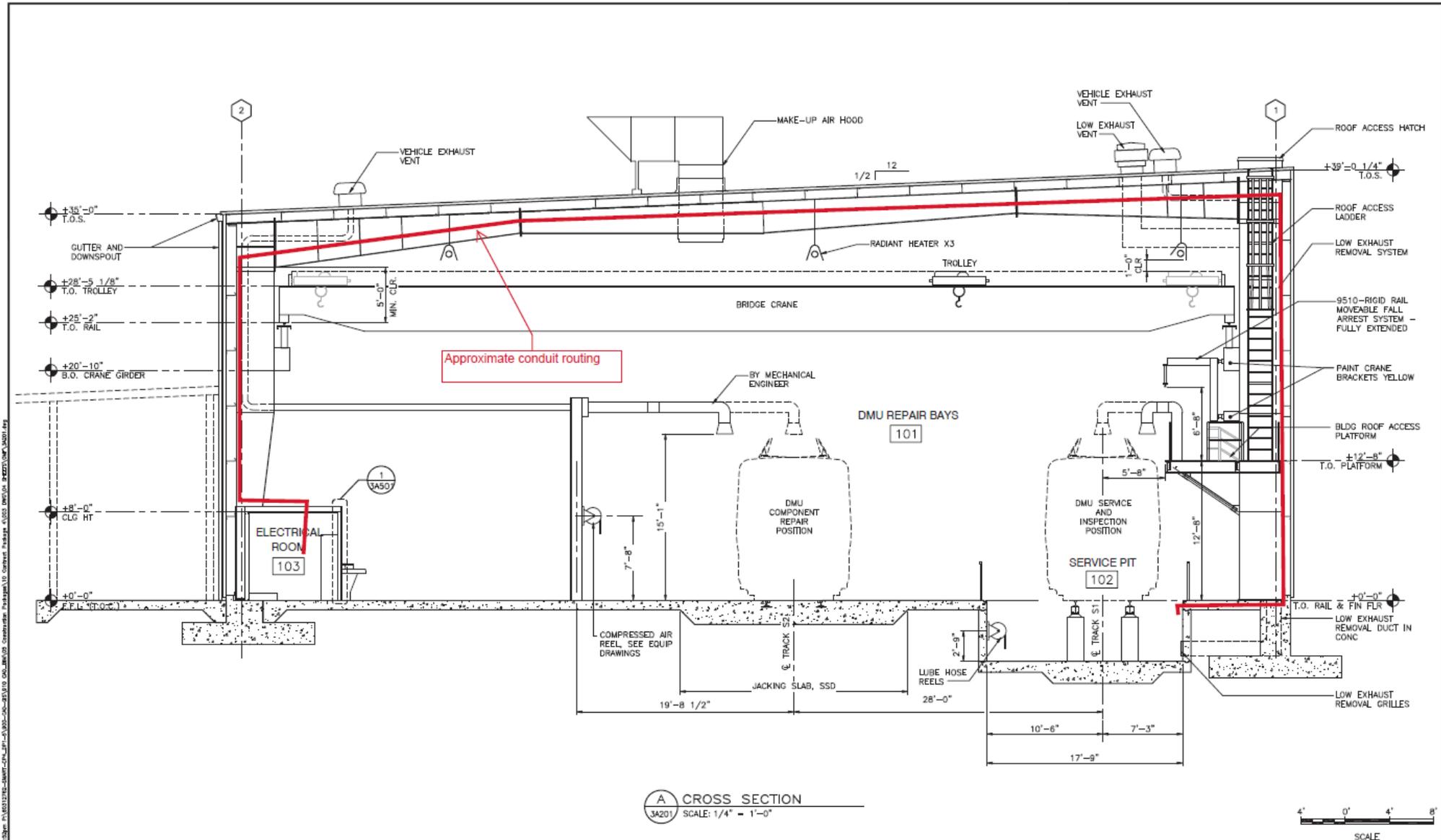
REVISIONS				
DATE	REV	DESCRIPTION	DATE	APPROVED
-	-	CHANGED LENGTH OF CONCRETE POCKET FOR THE HOLD DOWN FROM 6" TO 2"	4-13-2018	TC / JCB

ATTACHMENT A
 CONCRETE DETAILS
 pg 9 OF 9
 REFERENCE DOCUMENT
 RAIL & BEAM CUT DIMENSIONS

TOLERANCE ±1 = ±.015" XX = ±.010" XXX = ±.005" BRACKETED = ±.005" NON-MATCHED FACE = ±.1/16" BURNDOUT TOLERANCE = ±.1/16" TAP DRILL = ±.0010" COUNTER BORE DIAMETER = ±.0005" COUNTER BORE DEPTH = ±.002" TAPPED HOLE TOLERANCE = ±.002" CHECK WITH THREAD GAGE	DELTA WHEEL TRUING SOLUTIONS ADDRESS: 3707 19TH AVENUE NORTH, ESCANABA, MI 49829 PH: 906-226-1000 FAX: 906-226-1555 WWW.DELTAWHEELTRUING.COM		
	MATERIAL A36 OR EQUIVALENT SURFACE FINISH 60 - 130 (Unless Otherwise Noted)	NAME JCB DATE 12/29/2017 CHECKED TC 12/29/2017	TITLE IN-FLOOR WHEEL TRUING SYSTEM ASSEMBLY - SMART
PART MATERIAL ***** CUT LENGTH *****	PROPRIETARY & CONFIDENTIAL DELTA WHEEL TRUING SOLUTIONS 3707 19TH AVENUE NORTH, ESCANABA, MI 49829 PH: 906-226-1000 FAX: 906-226-1555 WWW.DELTAWHEELTRUING.COM		
DWG. NO. TS1000.012 Rev B 09-12-18		SCALE: NPS SHEET 4 OF 8	

EXHIBIT D – ELECTRICAL WORK DETAILS





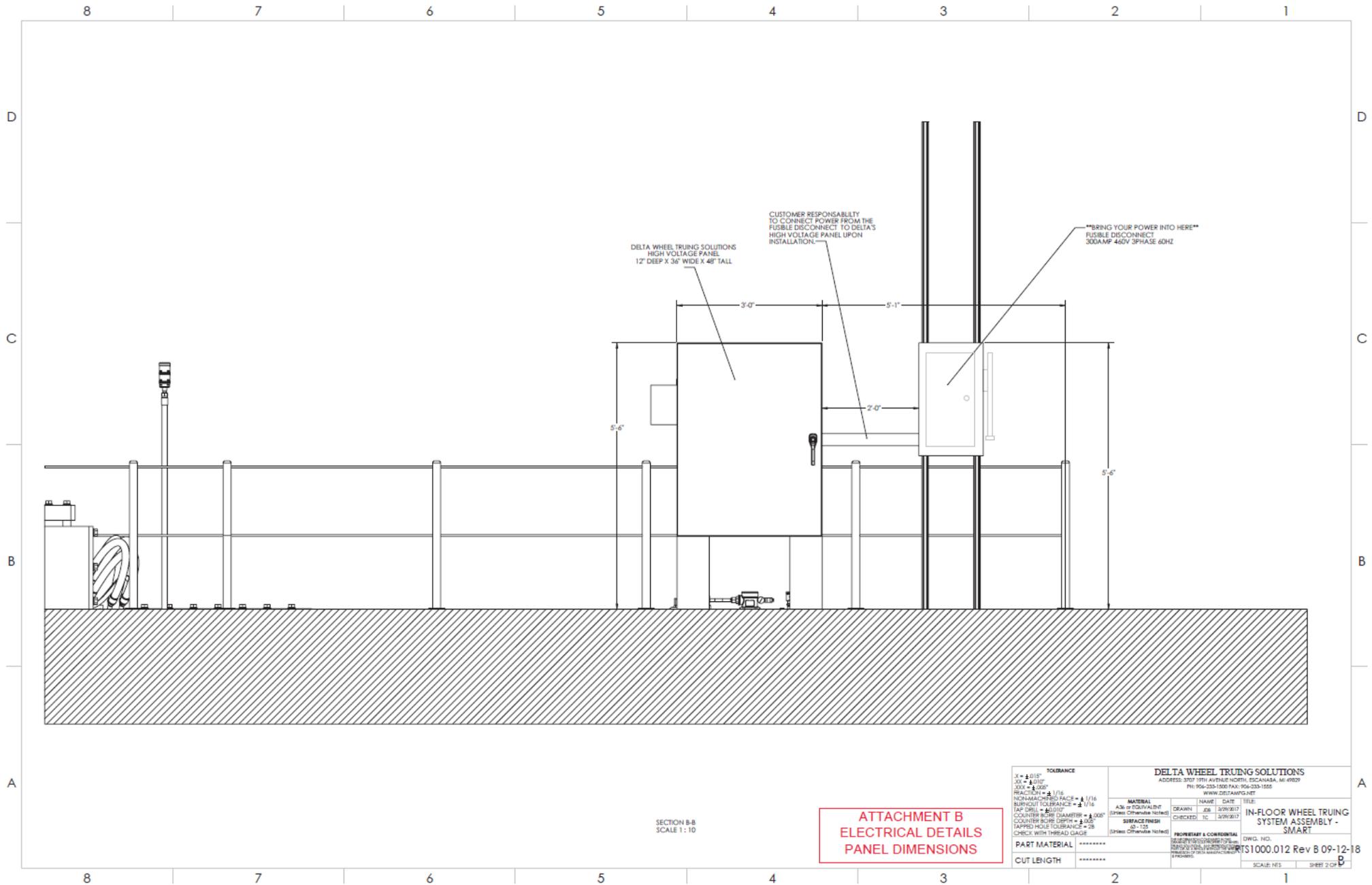
A CROSS SECTION
3A201 SCALE: 1/4" = 1'-0"

REV	DATE	BY	SUB	APP	DESCRIPTION
1	20141020				"TOP OF RAIL = FINISH FLOOR LEVEL" NOTE
0	20140814				ISSUED FOR CONSTRUCTION



ATTACHMENT B
ELECTRICAL SCOPE OF WORK
pg 2 of 4

DRAW FILENAME 3A201.dwg SCALE AS NOTED DWG. NO. 3A201	CONTRACT NO. CV-DB-12-001 DATE PLOTTED
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SECTION B-B
SCALE 1 : 10

**ATTACHMENT B
ELECTRICAL DETAILS
PANEL DIMENSIONS**

TOLERANCE ± = $\pm 0.015"$ XX = $\pm 0.010"$ XXX = $\pm 0.005"$ FRAC. CT. = $\pm 1/16$ NON-MACHINED FACE = $\pm 1/16$ BURRNOUT TOLERANCE = $\pm 1/16$ TAP DRILL = $\pm 0.010"$ COUNTER BORE DIAMETER = $\pm 0.005"$ COUNTER BORE DEPTH = $\pm 0.005"$ TAPPED HOLES TOLERANCE = $\pm 0.005"$ CHECK WITH THREAD GAUGE	DELTA WHEEL TRUING SOLUTIONS ADDRESS: 3707 19TH AVENUE NORTH, ESCANABA, MI 49829 PH: 906-233-1888 FAX: 906-233-1555 WWW.DELTAWTG.NET	
	MATERIAL AS-B or EQUIVALENT (Specify Otherwise Noted)	DATE DRAWN: JSM 2/29/2017 CHECKED: TC 2/29/2017
PART MATERIAL *****	SURFACE FINISH 60-120 (Specify Otherwise Noted)	PROPRIETARY & CONFIDENTIAL ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE
CUT LENGTH *****	DWG. NO. ST1000.012 Rev B 09-12-18	SCALE: NTS SHEET 2 OF 8

EXHIBIT E – SPECIFICATIONS

SECTION 03 11 00

CONCRETE FORMING

PART 1 - GENERAL

1.01 SUMMARY

This Section includes:

Transport, labor, materials, and equipment to design, install, and remove formwork, including screeds, and related work for cast-in-place concrete.

Setting in forms, anchor bolts, metal inserts, sleeves, etc., embedded in concrete.

Miscellaneous concrete work, including but not limited to areaways, cast-in-place valve boxes, pits, splash blocks, equipment bases, and other items as shown or required to complete the work.

1.02 REFERENCES

A. ACI: American Concrete Institute:

ACI 117, Specifications for Tolerances for Concrete Construction and Materials.

ACI 347, Guide to Formwork for Concrete.

ACI 318, Building Code Requirements for Structural Concrete.

SSPWC: Standard Specifications for Public Works Construction.

AREMA: American Railway Engineering and Maintenance of Way Association.

CPUC: California Public Utilities Commission, General Orders 26-D and 118.

CBC: California Building Code (CCR Title 24 Part 2).

1.03 SUBMITTALS – NOT USED

1.04 QUALITY ASSURANCE

A. Quality Assurance:

Construct forms according to ACI 347 and conforming to tolerances specified in ACI 301, as applicable, unless exceeded by code requirements or otherwise indicated or specified.

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1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials for forms in timely manner to ensure uninterrupted progress.
- B. Store materials by methods that prevent damage and permit ready access for inspection and identification.

PART 2 – PRODUCTS

2.01 GENERAL

- A. Formwork and accessories shall be in good working condition to hold the line and grade required by the design. Non-metal materials may be reused provided they are completely cleaned and reconditioned, and capable of producing concrete work of required quality.

2.02 FORM MATERIAL

- A. Form material shall be compliant with formwork designer's requirements.
- B. Form material shall meet the grade, thickness, size and the requirements of the form design.

PART 3 - EXECUTION

3.01 FORMWORK

- A. Provide for openings, offsets, keyways, recesses, moldings, reglets, chamfers, blocking, screeds, bulkheads, anchorages, inserts, and other features as required.
- B. Formwork shall not be braced against track that will be used for the passing of trains.
- C. Formwork including all bracing shall not impair the railroad track clearances.
- D. Conform to ACI 301 and ACI 347 except as exceeded by the requirements of Code, regulatory agencies, or specifications. Formwork tolerances shall conform to ACI 117.
- E. At station platforms make provision for expansion joints at all re-entrant corners and at a maximum of 20 feet in each direction.
- F. Corners and Angles: Provide 3/4 inch by 3/4 inch beveled chamfer strips for all exposed concrete corners and angles unless otherwise indicated. Form concealed concrete corners and angles square unless otherwise indicated.

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- G. Reglets and Rebates: Form required reglets and rebates to receive frames, flashing, and other equipment. Obtain required dimensions, details, and precise positions for work to be installed under other sections and form concrete accordingly.
- H. Form Joints: Fill joints to produce smooth surfaces and intersections. Use polymer foam or equivalent fillers at joints and where forms abut or overlap existing concrete to prevent leakage of mortar.
- I. Recesses, Drips, and Profiles: Provide smooth milled wood or preformed rubber or plastic shapes of types shown and required.
- J. Cleanouts and Cleaning: Provide temporary openings in all wall forms and other vertical forms for cleaning and inspection. Clean forms and surfaces to receive concrete prior to placing.

1.02 FORM CONSTRUCTION

- A. Forms shall be checked for conforming to the lines and grades of the design prior to concrete placement.

Formwork surfaces that were in good condition and accepted for use, but were damaged during removal and handling, shall be brought into working condition prior to reuse.

- B. Forms shall be braced or tied to maintain the desired position, shape, and alignment during and after concrete placement.
- C. Form panels on each side of the panel joint shall be aligned, by means of supports or fasteners common to both panels, to result in a continuous unbroken concrete plane surface.
- D. Forms shall be brought to a true line and grade, or a wooden guide strip shall be provided at the proper location on the forms so that the top surface can be finished with a screed or template for concrete which is to be finished to a specified elevation, slope, or contour.
- E. Support form materials by structural members spaced sufficiently close to prevent deflection. Formwork tolerances shall not exceed the limits in ACI 117.
- F. Provide formwork sufficiently tight to prevent leakage of cement paste during concrete placement. Solidly butt joints and provide backup material at joints as required to prevent leakage and fins.
- G. Accurately place and securely support items to be built into the concrete.

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- H. Sides of all footings and grade beams shall be formed, unless permission is obtained to place concrete directly against earth. Where this permission is granted, the footing or grade beam dimension shall be increased by 3 inches. Remove formwork prior to backfilling operations.

3.03 FORM COATINGS

- A. Coat form contact surfaces with form coating material before reinforcement is placed.
- B. Do not allow excess form coating to accumulate in the forms or to come in contact with surfaces that will bond to fresh concrete.
- C. Apply form coating in strict accordance with the manufacturer's written recommendations.

3.04 CONCRETE PLACEMENT

- A. The rate of deposition of concrete in forms shall be controlled to prevent deflections of the forms or form panels in excess of the deflections permitted by these specifications.

3.05 REMOVAL OF FORMS

- A. Take care in removing forms to avoid surface gouging, corner or edge breakage, and other damage to the concrete.
- B. Solidly pack form tie holes, rod holes, and similar holes in the concrete as specified in Section 03 30 00, Cast-In-Place Concrete.
- C. Do not remove concrete forms until concrete attains sufficient strength to support its own weight and all superimposed loads as determine by testing field cured concrete cylinders, but not sooner than specified in ACI 347, paragraph 3.7.
- D. Store reusable forms for exposed architectural concrete to prevent damage to contact surfaces.

3.06 FORMWORK TOLERANCES

- A. Deflection: Limit deflection of forming surfaces from concrete pressure to L/240.
- B. Finish Lines of Concrete: Position formwork to maintain hardened concrete finish lines within following permissible deviations.

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Variation from Plumb:

In 10 feet	1/4 inch
In 20 feet	3/8 inch
In 40 feet or more	3/4 inch

Variation from Level or Grades Indicated

In 10 feet	1/4 inch
In 20 feet	3/8 inch
In 40 feet or more	3/4 inch

Cross-Sectional Dimensions

Minus	1/4 inch
Plus	1/2 inch

- C. Slab Openings: Variations in size and location of sleeves and slab openings shall not exceed 1/4 inch.
- D. Station Platforms: The platform edge facing the track shall be formed and built to the following tolerances:
- E. Vertical edge of the platform shall be constructed at 5'-7" from design track centerline, with horizontal tolerance of 1/4" +/-.
- F. Top surface of the platform shall be constructed at 4'-0" above design top of rail with a vertical tolerance of +0 / -1/4".

3.07 SURVEY AND ADJUSTMENT

- A. Verify the positioning of the formwork utilizing appropriate measuring devices to ensure conformance with the lines and grades of the design.

3.08 EMBEDDED PIPING AND ROUGH HARDWARE

- A. Where work of other sections require openings for passage of pipes, conduits, and other inserts in the concrete, obtain all dimensions and other information from installer of same. All necessary pipe sleeves, anchors, or other required inserts shall be accurately installed as part of the work of other sections, according to following requirements.

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- B. Conduits or Pipes: Locate so as not to reduce strength of concrete. In no case place pipes, other than conduits, in a slab 4-1/2 inches thick or less. Conduit buried in a concrete slab shall not have an outside diameter greater than 1/3 the slab thickness nor be placed below the bottom reinforcing steel or over top reinforcing steel.
- C. Sleeves: Pipe sleeves may pass through slabs or walls if not exposed to rusting or other deterioration and are of uncoated or galvanized iron or steel. Provide sleeves of diameter large enough to pass any hub or coupling on pipe, including any insulation.
- D. Conduits: Conduits may be embedded in walls only if the outside diameter does not exceed 1/3 the wall thickness, are spaced no closer than 3 diameters on centers, and do not impair the strength of the structure.

3.09 FIELD QUALITY CONTROL

- A. Inspection: Obtain inspection and approval of forms from Quality Manager before placing concrete.

END OF SECTION 03 11 00

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SECTION 03 20 00
CONCRETE REINFORCING

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section specifies the labor, materials, and equipment necessary and incidental to placing reinforcing bars and mesh for cast-in-place concrete and masonry. It also specifies miscellaneous concrete work, including but not limited to areaways, cast-in-place valve boxes, pits, splash blocks, equipment bases, and other items as shown or required to complete the work as indicated in the Contract Drawings.

1.02 REFERENCES

- A. Reference Standards:

American Concrete Institute (ACI):

ACI 301, Specifications for Structural Concrete.

ACI 318, Building Code Requirements for Structural Concrete.

ACI SP-66, ACI Detailing Manual.

ASTM International (ASTM):

American Welding Society (AWS):

AWS D1.4, Structural Welding Code—Reinforcing Steel.

California Department of Transportation (Caltrans): Standard Specifications Section 52, Reinforcement.

American Railway Engineering and Maintenance-of-Way Association (AREMA)

Manual for Railway Engineering.

1.03 SUBMITTALS

- A. General

Submittals shall be made in accordance with Section 01 33 00 included in the General Requirements.

Plans and Procedures:

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Plan, procedures, and materials for anchoring reinforcing bars into existing concrete.

Certificates:

Manufacturer or supplier's certification that products meet specified requirements.

Welding operator's certificate.

1.04 PRODUCT DATA AND SHOP DRAWINGS:

- A. Shop Drawings indicating bar sizes, spacing, locations, and quantities of reinforcing steel and wire fabric, bending and cutting schedules, supporting and spacing devices, and lengths of any lap splices.
- B. Product data for mechanical couplers.
- C. Product data for epoxy bonding adhesive.

1.05 QUALITY ASSURANCE

- A. Quality Assurance.
- B. Perform work in accordance with ACI 301, ACI SP-66, ACI 318, and Caltrans Standard Specifications.
- C. Employ certified welding operators for all welding both in shop and in field if welding rebar is required.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in a timely manner to ensure uninterrupted progress.
- B. Store materials by methods that permit ready access for inspection and identification.
- C. Bundle bars, tag with identification, and transport and store so as not to damage any material. Use tags indicating size, length, and other marking shown on placement drawings. Maintain tags after bundles are broken.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Reinforcing Steel: ASTM A615 or ASTM A706, Grade 60, for structural concrete.
- B. Spiral Reinforcement: ASTM A82.

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- C. Mechanical Couplers: Sleeve-threaded per Caltrans Standard Specifications Section 52 - 1.08C(2).
- D. Magnesium Phosphate Concrete: Conform to Caltrans Standard Specifications Section 51-1.02C.
- E. Welded Wire Fabric: ASTM A185, furnished in sheets only.
- F. Welding Electrodes: AWS D1.4, Table 5.1 and 5.5 low hydrogen electrodes, E9018 for Grade 60 steel, E70XX Series for grade 40 steel.

2.02 ACCESSORY MATERIALS

- A. Tie Wire: ASTM A82, annealed copper-bearing steel, minimum 0.0625 inch (16 gauge) uncoated diameter.

Tie Wire shall be galvanized only if indicated in the Drawings.

Chairs and Similar Support Items:

Standard manufactured products conforming to CRSI Manual of Standard Practice.

Use dense precast concrete supports with embedded wire ties for reinforcement placed on grade. Elsewhere, use wire bar supports.

Items in contact with formed surfaces shall not have the potential of staining concrete surfaces exposed to view.

2.03 FABRICATION

- A. Comply with CRSI Manual of Standard Practice for fabrication of reinforcing steel.
- B. Fabricate bars of the indicated sizes and bend and form to required shapes and lengths by methods not injurious to materials. Do not heat reinforcement for bending. Bend bars No. 6 size and larger in the shop only. Bars with unscheduled kinks or bends are subject to rejection. Use only tested and approved bar materials.
- C. Use only ASTM A706 steel where welding is proposed. Perform welding, where shown or approved, by the direct electric arc process in accordance with AWS D1.4 using specified low-hydrogen electrodes. Preheat 6 inches each side of joint. Protect joints from drafts during the cooling process; accelerated cooling is prohibited. Do not tack weld bars. Clean metal surfaces to be welded of all loose scale and foreign material. Clean welds each time electrode is changed and chip burned edges before placing welds.

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- D. When wire brushed, the completed welds must exhibit uniform section, smooth welded metal, feather edges without undercuts or overlays, freedom from porosity and clinkers, and good fusion and penetration into the base metal. Cut out welds or parts of welds found defective with chisel and replace with proper welding. Prequalification of welds shall be in accordance with Code.

PART 3 - EXECUTION

3.01 PLACEMENT

- A. Coordinate with placement of formwork, formed openings, and other work.
- B. Install mechanical couplers in accordance with manufacturer's instructions.
- C. Place, support, and secure reinforcement against displacement. Do not deviate from required position. Spot welding of chairs or other items to reinforcing steel is not permitted.
- D. Provide additional reinforcing bars at wall and slab openings as detailed.
- E. Drill, install, and bond reinforcing steel dowels into existing concrete as indicated on the drawings, in accordance with Caltrans Standard Specifications Section 52 using the approved magnesium phosphate concrete (not mortar) and in accordance with the approved plan, procedures, and materials.
- F. Maintain concrete cover around reinforcing as indicated on drawings.
- G. Accurately place bars and wire tie in precise position where bars cross. Bend ends of wire ties away from the forms. Wire tie bars to corners of ties and stirrups. Support bars according to CRSI's Placing Reinforcing Bars using approved accessories and chairs. Place precast concrete cubes with embedded wire ties to support reinforcing steel bars in concrete placed on grade and in footings. Use care not to damage vapor barriers where they occur.
- H. Do not splice reinforcing bars at the points of maximum stress except where indicated. Lap splices as shown or required to develop the full strength or stress of bars. Stagger splices in horizontal wall bars at least 48 inches longitudinally in alternate bars and opposite faces.
- I. Field weld bars only where specified for fabrication.
- J. Take adequate precautions to assure that reinforcing position and spacing is maintained during placement of concrete.

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- K. Lap one full mesh plus 2 inches, but not less than 6 inches. At splices, wire tie, and support the same as specified for bars.

3.02 FIELD QUALITY CONTROL

- A. Quality Manager will perform field inspections under Section 01 45 00 included in the General Requirements. Reinforcement shall be placed in accordance with the approved detailed shop drawings.
- B. Obtain inspection and approval of reinforcing before concrete is placed.
- C. Whether welding is done in the shop or at the site, perform welding of reinforcing bars under inspection of the testing laboratory welding inspector retained by the Contractor.

END OF SECTION 03 20 00

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SECTION 03 35 00
CONCRETE FINISHING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Repair of surface defects
- B. Finishing of formed surfaces
- C. Slabs and flatwork
- D. Curing

1.02 RELATED SECTIONS

- A. Concrete formwork is specified in Section 03 11 00 - Concrete Forming.
- B. Cast-in-place concrete is specified in Section 03 30 00 - Cast-In-Place Concrete.
- C. Concrete topping slabs for station concourse and platforms are specified in Section 03 53 00 - Concrete Topping.

1.03 REFERENCES

- A. American Association of State Highway and Transportation Officials (AASHTO):
 - 1. AASHTO M182 Burlap Cloth Made from Jute or Kenaf
- B. American Concrete Institute (ACI):
 - 1. ACI 117 Standard Specification for Tolerances for Concrete Construction and Materials
 - 2. ACI 301 Standard Specifications for Structural Concrete
 - 3. ACI 308 Standard Practice for Curing Concrete
 - 4. ACI 503.4 Standard Specification for Repairing Concrete with Epoxy Mortars
- C. American Society for Testing and Materials (ASTM):
 - 1. ASTM C33 Specification for Concrete Aggregates
 - 2. ASTM C150 Specification for Portland Cement

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3. ASTM C171 Specifications for Sheet Materials for Curing Concrete
 4. ASTM C309 Specification for Liquid Membrane-Forming Compounds for Curing Concrete
 5. ASTM C881 Specification for Epoxy-Resin-Base Bonding Systems for Concrete
 6. ASTM E1155 Standard Test Method for Determining F_F Floor Flatness and F_L Floor Levelness Numbers
- D. State of California, Department of Transportation (CalTrans), Standard Specifications:
1. Section 51 Concrete Structures

1.04 SUBMITTALS

- A. General: Refer to Section 01 33 00 - Submittal Procedures, and Section 01 33 23 - Shop Drawings, Product Data, and Samples, for submittal requirements and procedures. Submittals involving exposed concrete finishes require approval of the Engineer before they may be incorporated in the Work.
- B. Shop Drawings: Submit drawings, or diagrams to scale, that indicate the location in plan and elevation of all concrete finishes.
- C. Product Data: Submit manufacturers' product data for manufactured products.
- D. Samples:
 1. Submit 1/2-pint sample container of aluminum oxide and silicon carbide abrasive grit for review and acceptance where "non-slip finish" is indicated.
 2. Submit samples not less than 12 inches by 12 inches in size of each type of sand blast finish, indicating materials and methods used to produce the sand blast finishes. Review by the Engineer will be for color and texture only. Approved samples will become the Engineer's control samples.

1.05 QUALITY ASSURANCE

- A. Finishes:
 1. Finishing of formed concrete surfaces shall conform to applicable requirements of ACI 301.

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2. Finishes for slabs and flatwork shall conform to applicable requirements of ACI 301.
 3. Special architectural finishes for formed concrete surfaces shall conform with applicable requirements of ACI 301.
 4. Bridge deck finishes shall conform to applicable requirements of Caltrans Standard Specifications Section 51.
- B. Curing: Conform to requirements of ACI 301 and ACI 308, as applicable, and requirements specified herein.
- C. Requirements of Regulatory Agencies: Comply with air pollution regulations of governing authorities for sand-blasting activities and operations.

PART 2 - PRODUCTS

2.01 TOOLS AND EQUIPMENT: The Contractor shall furnish all materials, tools, equipment, facilities, and services as required for performing the required concrete-finishing work.

2.02 REPAIR AND FINISHING MATERIALS

- A. Portland Cement: ASTM C150, Type II, of same brand as used in the work. Furnish white portland cement where required to produce color matching color of surrounding concrete.
- B. Aggregate:
1. For Bonding Grout: ASTM C33, washed clean sand passing a No. 30 sieve.
 2. For Patching Mortar: ASTM C33, washed clean, graded fine aggregate of suitable size for areas to be repaired. Clean coarse aggregate up to Size No. 8 may be added for repair of larger pockets and voids.
- C. Commercial Patching Mortar: A structural repair mortar may be furnished if appropriate for the use and approved by the Engineer.
- D. Epoxy Patching Mortar: As specified in ACI 503.4 for Epoxy Mortar.
- E. Epoxy Adhesive: ASTM C881, Type II or Type V, epoxy-based bonding agent.
- F. Anti-Slip Abrasive Grit: Virgin grain Aluminum Oxide or Silicon Carbide particles, or a mixture of the two.

2.03 CURING MATERIALS

- A. Damp Curing Materials:

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1. Waterproof Sheet Materials: ASTM C171, waterproof paper with white paper face, polyethylene film pigmented white, or white burlap-polyethylene sheeting.
 2. Burlap: AASHTO M182, of class or weight suitable for the use and location. Do not use burlap where concrete is exposed to direct sunlight.
- B. Curing Compound: ASTM C309, liquid membrane-forming curing compound, Type 1, Class A or B as appropriate for the use or location.
1. Where concrete surfaces will receive architectural finishes, such as resilient floor coverings or paint, or membrane waterproofing, membrane-forming curing compound shall not leave a coating or residue that will impair bond of adhesives, paints, and coatings with concrete.

PART 3 - EXECUTION

3.01 REPAIR OF SURFACE DEFECTS

- A. Repair Standards: Repair of surface defects shall conform with applicable requirements of ACI 301. When using epoxy mortar, conform with applicable requirements of ACI 503.4.
- B. Surface Defects:
1. Repair of surface defects shall begin immediately after form removal. For repair with epoxy mortar, concrete shall be dry.
 2. Surface defects are defined to include: form-tie holes, air voids or pockets, bug holes with a nominal diameter or depth greater than 1/4-inch, honeycombed areas, rock pockets, visible construction joints, fins and burrs.
 3. Repair of surface defects shall be tightly bonded and shall result in concrete surfaces of uniform color and texture, matching adjacent surfaces, and free of shrinkage cracks.
- C. Repair Work:
1. Remove honeycombed and other defective concrete down to sound concrete. Saw-cut the edges perpendicular to the surface or slightly undercut. Feather-edges will not be permitted. Dampen the area to be patched and an area at least 6 inches wide surrounding it to prevent absorption of water from the patching mortar.
 2. Where rock pockets or similar defects or voids expose steel reinforcement, cutout to solid surface behind the reinforcing steel to provide suitable key-lock for patching mortar. Patching mortar shall envelope the exposed reinforcing bar.

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3. Bond patching mortar to concrete with bonding grout or epoxy adhesive. Bonding grout shall consist of 1 part portland cement to 1 part No. 30 mesh sand, mixed to the consistency of a thick cream, and then well brushed onto the concrete. Bond commercial patching mortar to concrete in accordance with the manufacturer's instructions.
4. Make the patching mortar of the same materials and of approximately the same proportions as used for the concrete, except omit the coarse aggregate. Use not more than 1 part portland cement to 2-1/2 parts sand by damp loose volume, and substitute white portland cement for a portion of the regular gray portland cement to produce patching mix matching the surrounding concrete in color when dry. Determine the proportion of white portland cement by trial mixes and test areas, prior to repair of actual defective areas.
5. After surface water has evaporated from the area to be patched, brush the bond coat well into the surface. When the bond coat begins to lose the water sheen, apply the patching mortar. Compact the mortar into place and strike off so as to leave the patch slightly higher than the surrounding surface. To permit initial shrinkage, leave the patch undisturbed for at least 1 hour before being finally finished. Keep the patched area damp for 7 days or in accordance with manufacturer's instructions.
6. Neatly finish patched surfaces to match adjacent surrounding surface texture of concrete. Grind or fill surfaces to produce level and plumb, true planes.
7. For walls exposed in the finish work, form tie holes shall be patched and finished flush with adjacent surface. For holes passing entirely through walls, a plunger type injection gun or other suitable device shall be used to completely fill the holes.
8. Patching of honeycombed areas or rock pockets that are too large and unsatisfactory for mortar patching shall be cut out to solid surface, keyed, and packed solid with matching concrete to produce firm bond and flush surface. Patching shall match texture of adjacent surfaces where exposed in the finished work.
9. Repair work in exposed locations that does not match the texture and color of surrounding adjacent surfaces or that was not well performed shall be removed and performed again until the repair work conforms with Specification requirements.
10. Surfaces to receive membrane waterproofing shall have fins and loose material removed, and voids and cracks patched flush with adjacent surfaces.
11. Completed repairs shall be cured as herein specified under Article 3.04, Curing.

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3.02 FINISHING OF FORMED SURFACES

A. Unexposed Surfaces:

1. Concrete that will not be exposed in the completed structure shall be any form finish as specified in Section 03 11 00 - Concrete Forming, and ACI 301 for "rough form finish."
2. Concrete to receive membrane waterproofing shall receive a "smooth form finish" in accordance with ACI 301.

B. Exposed Surfaces: Unless indicated otherwise, concrete that will be exposed in the completed structure shall receive the following finishes as indicated:

1. Smooth Form Finish: Conform to ACI 301.
2. Smooth Rubbed Finish: Conform to ACI 301.
3. Grout Cleaned Finish: Conform to ACI 301.
4. Unspecified Finish: When finish is not indicated, provide "smooth form finish" as specified above.

C. Sand Blast Finish:

1. Blasting Operations and Requirements:
 - a. Apply sandblasted finish to exposed concrete surfaces where indicated.
 - b. Perform sand blasting at least 72 hours after placement of concrete. Coordinate with formwork construction, concrete placement schedule, and formwork removal to ensure that surfaces to be blast finished are blasted at the same age for uniform results.
 - c. Determine type of nozzle, nozzle pressure, and blasting techniques required to match the Engineer's control samples.
 - d. Abrasive blast corners and edge of patterns carefully, using back-up boards, to maintain uniform corner or edge line.
2. Depths of Cut: Use an abrasive grit of proper type and gradation to expose aggregate and surrounding matrix surface to match the Engineer's control samples as follows:
 - a. Brush Sand Blast Finish: Remove cement matrix to expose face of fine aggregate; no reveal.

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- b. Light Sand Blast Finish: Expose fine aggregate with occasional exposure of coarse aggregate; maximum 1/16-inch reveal.
 - c. Medium Sand Blast Finish: Generally expose coarse aggregate; 3/16-inch to 1/4 inch reveal.
3. Surface Continuity: Perform sand blast finishing in as continuous an operation as possible, utilizing the same work crew to maintain continuity of finish on each surface or area of work. Maintain patterns of variances in depths of cuts as indicated.
 4. Construction Joints: Use technique acceptable to the Engineer to achieve uniform treatment of construction joints.
 5. Protection and Repair:
 - a. Protect adjacent materials and finishes from dust, dirt, and other surface or physical damage during abrasive blast finishing operations. Provide protection as required and remove from site at completion of the work.
 - b. Repair or replace other work damaged by finishing operations.
 6. Clean-up: Maintain control of concrete chips, dust, and debris in each area of the work. Clean up and remove such material at the completion of each day of operation. Prevent migration of airborne materials by use of tarpaulins, wind breaks, and similar containing devices.

3.03 SLABS AND FLATWORK

- A. Placement and Finishing Standards: Slabs and flatwork shall be placed, consolidated, and finished in accordance with applicable requirements of ACI 301. Coordinate with Section 03 30 00 - Cast-In-Place Concrete, as applicable.
 1. High volume fly ash concrete (HVFA) exhibits little or no bleed water. Commence finishing as soon as power screeding is complete, and commence initial curing as soon as finishing has been completed.
- B. Placement:
 1. Slabs and flatwork shall be placed and finished monolithically. Strike off and screed slabs to true, plane surfaces at required elevations, and thoroughly compact concrete with vibrators, floats, and tampers to force coarse aggregate below the surface. Finish slab within four hours of concrete placement.
 2. Whether indicated or not, in areas where drains occur, slope finished slab to drains. Slope shall be a minimum of 1/8-inch per foot unless otherwise indicated.

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- C. Slab Finishes: Unless indicated otherwise, slabs and flatwork shall receive the following finishes as indicated:
1. Scratched Finish: Conform to ACI 301. Provide "scratched finish" for slab substrates to receive cementitious toppings or finishes, such as terrazzo or mortar setting bed for ceramic tile.
 2. Floated Finish: Conform to ACI 301. Provide "floated finish" for track slabs and mud slabs and for slabs and flatwork to receive roofing and membrane waterproofing.
 3. Troweled Finish: Conform to ACI 301. Provide "troweled finish" for interior slabs and flatwork to be exposed in the completed structure, for slabs to receive resilient floor coverings, and for flatwork to receive elastomeric bearing pads.
 4. Broom Finish: Conform to ACI 301. Exact texture and coarseness of the broom finish shall match the approved site mock-up. Provide fine or medium-coarse "broom finish" as indicated for exterior sidewalks and paving, exterior ramps, equipment and transformer pads, and subway invert slab.
 5. Nonslip Finish: Conform to ACI 301. Nonslip materials shall be aluminum oxide and silicone carbide grit particles. Provide "nonslip finish" for interior pedestrian ramps, walkways, subway cross-passage floors, and other floor areas where indicated.
 6. Swirl Pattern Finish: Provide for garage floors. After basic floating operations have been completed, hand float slabs using wood float to produce a continuous swirl patterned surface, free from porous spots, irregularities, depressions, and small pockets or rough spots such as may be caused by accidentally disturbing particles of coarse aggregate embedded near surface. Use natural arm circular motion to produce rows of approximately one-foot radius swirl pattern covering approximately half of the preceding row with each successive row.
 7. Unspecified Finish: When finish is not indicated or specified, provide finishes as specified in ACI 301.

D. Surface Tolerances: As specified herein:

1. Flat Tolerance: Slabs and flatwork with "troweled finish" and with "nonslip finish."
2. Straightedge Tolerance: Slabs and flatwork with fine "broom finish" or medium-coarse "broom finish."
3. Bullfloated Tolerance: Slabs and flatwork with "scratched finish," with "floated finish," and with coarse "broom finish."

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E. Joints:

1. Construction, expansion, isolation, and contraction joints shall be located as indicated. Construction joints shall act as contraction joints. Where additional contraction joints are required to prevent shrinkage cracks, saw-cut such joints. All joints shall be straight and true to line. Saw-cut joints not less than twelve hours nor more than twenty-four hours after placing concrete, unless otherwise approved by the Engineer.
2. Mark-off lines or edges at formed construction and expansion joints shall be finished with 1/4-inch radius curved edging tool, neat and true to line, uniform throughout.

3.04 CURING

- A. Curing Standards: Curing of concrete shall conform with applicable requirements of ACI 301 and ACI 308, except that the duration of the curing period shall be seven days. Curing with earth, sand, sawdust, straw, and hay will not be permitted.
- B. Curing Requirements:
1. Concrete shall be cured with waterproof sheet materials, damp burlap, or curing compounds.
 2. Curing compounds shall not be used on top of ballasted aerial structures and on surfaces when their use may be detrimental to bonding of concrete, mortar, membrane waterproofing, caulking and sealants, adhesives, plaster, paint, or the specified surface finish or coating.
- C. Damp Curing:
1. Vertical surfaces shall be cured by keeping the forms wet at all times and by leaving the forms in place as long as possible as specified in Section 03 11 00 - Concrete Forming. After removal of forms, concrete shall be kept continuously damp by fog spraying or otherwise washing down the concrete in an accepted manner until ten days after placing. Protect exposed surfaces by covering with sheet materials or burlap kept continuously moist.
 2. Horizontal surfaces shall be cured and protected by covering the finished surfaces with waterproof sheet materials or damp burlap, left in place for a minimum of seven days and kept continuously moist.
 3. Fog spray freshly placed slabs until finishing operations commence. Allow no slabs to become dry until finishing operations are complete.

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- D. Curing HVFAC: Initiate damp curing as soon as finishing has been completed. Damp cure for a minimum of seven days. Continue curing for a total of 28 days. Curing after initial ten days may be by damp curing or using membrane-forming curing compound. Use evaporation reducer between finish operations, as necessary, to protect concrete from rapid drying
- E. Curing Compound: Application of curing compound shall conform to applicable requirements of ACI 308.

3.05 PROTECTION

- A. Protect exposed concrete surfaces, including flatwork, as required to prevent damage from impact or strains.
- B. Protect fresh concrete from drying winds, rain, damage, or soiling.
- C. Refer to Section 03 30 00 - Cast-In-Place Concrete, Article 3.09, for additional requirements.

3.06 TOLERANCES

- A. Formed Surfaces: Conform with applicable requirements of ACI 117.
 - 1. Where elastomeric bearing pads are indicated, the level plane upon which bearing pads are placed shall not vary more than 1/16-inch from a 10-foot straightedge placed in any direction across the area and the area shall extend a minimum of 1 inch beyond the limits of the pads.
 - 2. Bearing surfaces of girders on a slope or girders with a camber shall be finished on a horizontal/level plane so that loads are uniformly distributed over the entire surface of the elastomeric bearing pads.
 - 3. The finished plane shall not vary more than 1/8-inch from the elevation indicated.
- B. Slabs and Flatwork: Conform to applicable classification requirements of ASTM E1155, as follows:
 - 1. Very Flat Tolerance: FF 50, FL30. True plane with maximum variation of 1/8-inch in 10 feet when measured with a 10-foot straightedge placed anywhere on the slab in any direction.
 - 2. Flat Tolerance: FF 30, FL20. True plane with maximum variation of 3/16-inch in 10 feet when measured with a 10-foot straightedge placed anywhere on the slab in any direction.
 - 3. Straightedge Tolerance: FF 20, FL 15. True plane with maximum variation of 5/16-inch in 10 feet when measured with a 10-foot straightedge placed anywhere on the slab in any direction.

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4. Bullfloated Tolerance: FF 15, FL 13. True plane with maximum variation of 1/2 inch in 10 feet when measured with a 10-foot straightedge placed anywhere on the slab in any direction.

END OF SECTION 03 35 00

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SECTION 03 61 11
NON-SHRINK GROUT

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Cementitious Grout
- B. Epoxy Grout
- C. Epoxy Adhesive

1.02 RELATED SECTIONS

- A. Masonry grout for filling cells of unit masonry is specified in Section 04 22 00 - Concrete Unit Masonry.
- B. Grout for filling and finishing joints of ceramic tile and cut stone is specified in applicable sections under Division 9 - Finishes.

1.03 DEFINITION:

- A. For the purpose of these Specifications, "non-shrink grout" shall be defined as a high-strength mortar or grout which does not shrink in the plastic state, is dimensionally stable in the hardened state, and bonds permanently to a clean metal baseplate and concrete substrate.

1.04 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. ACI 503.2 Specification for Bonding Plastic Concrete to Hardened Concrete with a Multi-Component Epoxy Adhesive
- B. American Society for Testing and Materials (ASTM):
 - 1. ASTM C109 Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or 50-mm Cube Specimens)
 - 2. ASTM C157 Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete
 - 3. ASTM C579 Test Methods for Compressive Strength of Chemical Resistant Mortars, Grouts, Monolithic Surfacing and Polymer Concretes

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- 4. ASTM C827 Test Method for Change in Height at Early Ages of Cylindrical Specimens from Cementitious Mixtures
 - 5. ASTM C881 Specification for Epoxy-Resin-Base Bonding Systems for Concrete
 - 6. ASTM C1090 Test Method for Measuring Changes in Height of Cylindrical Specimens from Hydraulic-Cement Grout
 - 7. ASTM C1107 Specification for Packaged Dry, Hydraulic-Cement Grout (Non-shrinkable)
- C. U. S. Army Corps of Engineers, Concrete Research Division (CRD):
- 1. CRD-C620 Standard Method of Sampling Fresh Grout
 - 2. CRD-C621 Non-shrink Grout

1.05 SUBMITTALS

- A. General: Refer to Section 01 33 00 - Submittal Procedures, and Section 01 33 23 - Shop Drawings, Product Data, and Samples, for submittal requirements and procedures.
- B. Product Data: Submit manufacturer's product data and installation instructions.
- C. Certification: Submit certificates of compliance or laboratory test reports which indicate the following:
 - 1. Materials used in the grout are free from metallic components and corrosion-producing elements.
 - 2. Materials meet specified shrinkage and compressive strength requirements.

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Handle grout the same as concrete with regard to temperature and curing, as specified in Section 03 30 00 - Cast-In-Place Concrete and Section 03 35 00 - Concrete Finishing.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Cementitious Grout: Provide non-shrink, non-metallic, non-corrosive cement-based grout conforming to the following requirements:
 - 1. Applicable Standards: ASTM C1107 and CRD-C621.

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2. Grout shall be manufactured specifically for use in supporting heavy loads (loads in excess of 300 pounds per square foot concentrated load or 100 pounds per square foot uniform load). Grout: ASTM C1107, Grade A, B, or C, as appropriate for the condition or circumstance.
 3. Shrinkage at 28 days: No shrinkage before hardening (0.00 shrinkage when tested in accordance with ASTM C827); no shrinkage after hardening (0.00 shrinkage when tested in accordance with CRD-C621).
 4. Compressive strength, minimum:
 - a. At one day: 1000 psi
 - b. At three days: 2500 psi
 - c. At seven days: 3500 psi
 - d. At 28 days: 5000 psi
 5. Initial setting time, after addition of water: approximately one hour at 70 degrees F.
 6. Provide nonsag trowelability or flowability as necessary for the particular application.
- B. Water: Clean and potable, free of impurities detrimental to grout.
- C. Epoxy Grout: Provide non-shrink, non-metallic, non-corrosive epoxy grout conforming to the following requirements:
1. Grout shall be manufactured specifically for use in supporting heavy loads.
 2. Shrinkage at 28 days: None (0.00 shrinkage when tested in accordance with ASTM C827 modified procedure) with a minimum effective bearing area (EBA) of 95 percent coverage of the tested base plate.
 3. Compressive strength, minimum: 10,000 psi at seven days, when tested in accordance with ASTM C579.
 4. Initial setting time: Approximately one hour at 70 degrees F.
 5. Provide flowable consistency as necessary for the particular application.
 6. Epoxy grouts which are volatile and which give off noxious fumes are not acceptable.
- D. Epoxy Adhesive: ASTM C881, Type V, epoxy-based bonding agent.

2.02 MIXING

- A. Mix grout ingredients for both cementitious grout and epoxy grout in accordance with the respective manufacturer's mixing instructions and recommendations. Mix grout materials in proper mechanical mixers.

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- B. Mix grout as close to work area as possible.

2.03 SOURCE QUALITY CONTROL

- A. Inspections and Tests: Perform visual inspections and shrinkage tests using an appropriate independent testing laboratory, and strength tests as necessary to verify performance requirements of grout. Sampling and testing of grout shall conform with applicable ASTM or CRD-C620 requirements.

- B. Visual Inspections: Perform visual inspection of the grout mixing and placement to determine and verify that grout consistency, slump, and stiffness are appropriate and proper for the location and type of installation.

- C. Shrinkage Tests:

- 1. Cementitious Grout: Grout shall meet the following performance requirements:

- a. Expansion: 0.4 percent maximum at 3, 14, and 28 days. Grout shall exhibit no displacement when tested in accordance with ASTM C157.
 - b. Shrinkage: None (0.00 shrinkage at 28 days when tested in accordance with ASTM C827 and ASTM C1090). There shall be no vertical volume shrinkage of grout in the plastic or hardened stage at any time.

- 2. Epoxy Grout: Grout shall meet the following performance requirements:

- a. Expansion: Grout shall exhibit no displacement when tested in accordance with ASTM C827 and ASTM C157, modified procedures.
 - b. Shrinkage: None (0.00 shrinkage when tested in accordance with ASTM C827, modified procedure; specific gravity of indicator ball will be changed to approximately 1.0).
 - c. Effective Bearing Area: 95 percent minimum coverage of the tested base plate.

- D. Strength Tests: Compressive strength of grout shall meet the following requirements:

- 1. Cementitious Grout: 5,000 psi minimum at 28 days when tested in accordance with ASTM C109.
 - 2. Epoxy Grout: 10,000 psi minimum at 7 days when tested in accordance with ASTM C579.

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PART 3 - EXECUTION

3.01 SURFACE PREPARATION

- A. Concrete surfaces to receive grout shall be prepared by chipping, sandblasting, water blasting, or other accepted methods to remove defective concrete, laitance, dirt, oil, grease, and other foreign matter to achieve sound, clean concrete surfaces. Lightly roughen concrete for bond, but not enough to interfere with proper placement of grout.
- B. Cover concrete areas with protective waterproof covering until ready to place grout.
- C. Remove foreign matter from steel surfaces to be in contact with grout. Clean contact steel surfaces as necessary by wire brushing and wiping dust clean.
- D. Align and level components to be grouted, and maintain in final position until grout placement is complete and accepted.
- E. Install forms for grout around the column base plates and other spaces to be grouted. The tops of such forms shall be one inch above the surfaces to be grouted.
- F. Remove protective waterproof covering and clean contaminated surfaces immediately before grouting.
- G. Provide air-relief holes in large baseplates and in baseplates where underneath obstructions may cause air entrapment.
- H. Saturate concrete surfaces with clean water, and remove excess water immediately before grouting.
- I. Where necessary or appropriate for better bond, epoxy adhesive may be applied to clean, dry substrate surfaces in accordance with applicable requirements of ACI 503.2.

3.02 PLACING GROUT

- A. Place grout in accordance with the respective manufacturer's installation instructions and recommendations. Pour grout from one side only until grout rises at least one inch above the plate on opposite side of said plate. Strapping and plunging or other recommended method may be used to force grout to flow under the entire area.
- B. Neatly trowel edges of grout base, tapered at an angle of 60 degrees when measured from the horizontal, or as indicated. Provide dry-pack cementitious grout where additional grout is required for shoulders.
- C. Do not remove leveling shims for at least 48 hours after grout has been placed.

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- D. After shims have been removed, if used, fill voids with grout, packing the material with a suitable tool.
- E. Do not use grout which has begun to set or if more than one hour has elapsed after initial mixing.

3.03 CURING

- A. Cementitious grout shall be cured the same as specified for concrete in Section 03 35 00 - Concrete Finishing.
- B. Epoxy grout shall be cured as recommended by the grout manufacturer.

END OF SECTION 03 61 11

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SECTION 20 70 26

COMMON MATERIALS AND METHODS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Connectors and insulating tapes
- B. Switches
- C. Receptacles
- D. Cover plates
- E. Disconnecting devices
- F. Individual control relays
- G. Nameplates

1.02 INTERFACE AND COORDINATION

- A. Interface and coordinate the work of this Section with the other Sections and other Divisions of these Specifications, as required to provide a complete and operable electrical installation.
- B. Interface and coordinate also with Division 20 - Facility Services Sections, which require electrical equipment and services as part of the mechanical installation.
- C. Interface and coordinate electrical services and work with the jurisdictional utility company and the District, as applicable.
- D. Interface and coordinate with work completed or in progress or to be performed under other sections of these Specifications or by other contractors. Make indicated connections to previously completed work. Where future connections to or extensions of the work are indicated, provide safe and convenient provisions for such future connections and extensions.

1.03 MEASUREMENT AND PAYMENT

- A. Not Applicable to this project.

1.04 REFERENCES

- A. American Society for Testing and Materials (ASTM):

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1. ASTM D1000 Test Method for Pressure-Sensitive Adhesive-Coated Tapes Used for Electrical and Electronic Applications
 2. ASTM D1518 Test Method for Thermal Transmittance of Textile Materials
 3. ASTM D3005 Specification for Low-Temperature Resistant Vinyl Chloride Plastic Pressure-Sensitive Electrical Insulating Tape
 4. ASTM D5034 Test Methods for Breaking Strength and Elongation of Textiles Fabrics (Grab Test)
 5. ASTM 5035 Test Method for Breaking Force and Elongation of Textile Fabrics (Strip Method)
- B. Institute of Electrical and Electronics Engineers (IEEE):
1. IEEE C37.35 Guide for the Application, Installation, Operation, and Maintenance of High-Voltage Air Disconnecting and Interrupter Switches
- C. National Electrical Manufacturers Association (NEMA):
1. NEMA KS 1 Enclosed and Miscellaneous Distribution Equipment Switches (600 Volts Maximum)
 2. NEMA WC 7 Cross-Linked-Thermosetting-Polyethylene-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy
 3. NEMA WD 1 General Requirements for Wiring Devices
- D. National Fire Protection Association (NFPA):
1. NEPA 130 Standard for Fixed Guideway Transit Systems
- E. Underwriters Laboratories Inc. (UL):
1. UL 20 General-Use Snap Switches
 2. UL 486A Wire Connectors and Soldering Lugs for Use with Copper Conductors
 3. UL 486C Splicing Wire Connectors
 4. UL 498 Attachment Plugs and Receptacles
 5. UL 514A Metallic Outlet Boxes

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1.05 DESCRIPTION

- A. The Contract Drawings show raceways, wiring, and electrical facilities diagrammatically and do not show offsets, fittings, and accessories that may be required because of obstructing structural features and architectural finishes, interfering pipelines, ducts, and facility services equipment. The Contractor shall be responsible for investigating all such conditions and for determining the need for routing electrical raceways around such obstructions and interferences. The Contractor shall provide all such additional fittings, appurtenances, and accessories as required for routing raceways and wiring around obstructions and interferences and for providing complete and operable electrical systems and installations.

1.06 REGULATORY REQUIREMENTS

- A. In addition to the foregoing referenced standards, the regulatory requirements that govern electrical work of these Specifications include the following codes and regulations:

- 1. California Code of Regulations:
 - a. Title 8, Industrial Relations, Division 1, Chapter Safety Orders
 - b. Title 8, Industrial Relations, Division 1, Chapter 4, Orders
 - c. Title 19, Public Safety, State Fire Marshal
 - d. Title 24, Part 2, California Building Code
 - e. Title 24, Part 3, California Electrical Code
 - f. Title 24, Part 6, California Energy Code
 - g. Title 24, Part 9, California Fire Code
- 2. General Orders and Regulations of the State of California, Public Utilities Commission.
- 3. National Electrical Safety Code (NEC)

1.07 SUBMITTALS

- A. General: Refer to Section 01 33 00 - Submittal Procedures, and Section 01 33 23 - Shop Drawings, Product Data, and Samples, for submittal requirements and procedures.
- B. List of Materials: At least 30 days before beginning the work of this Section, submit a list of materials and equipment proposed for use together with applicable standards. Give name of manufacturer, brand name, and catalog number of each

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item. Submit the list complete at one time, with items arranged and identified in numerical sequence by Specification Section and Article number.

C. Compliance with Applicable Standards:

1. Where equipment or materials are specified to conform to the standards of organizations such as ANSI, ASTM, IEEE, NEMA, and UL, submit evidence of such conformance for review and record purposes.
2. The label or listing of the specified agency will be acceptable evidence.
3. Instead of the label or listing, the Contractor may submit a written certificate from an approved, nationally recognized testing organization, adequately equipped and competent to perform such services, stating that the items have been tested and that the units conform to the specified standard.
4. Submit evidence of compliance to seismic safety requirements of the California Building Code and the California Electrical Code.

D. Factory Test and Inspection Certification:

1. Except as otherwise specified herein, where factory tests and inspections for materials and equipment for which tests and inspections specified in referenced documents are waived, provide certified copies of reports for tests performed on previously manufactured identical materials or equipment within the previous 12 months.
2. Accompany test reports by signed statements from the manufacturer certifying that the previously tested material or equipment is physically, mechanically, and electrically identical to that proposed for the project. Include wiring and control diagrams.

E. Shop Drawings: Submit Shop Drawings showing conduit layout and the exact location and arrangement of conduits stubbed into future equipment, cabinets, pull boxes and assigned spaces, conduit sleeves for future exposed conduits, and for fabricated work being furnished and installed under these Specifications. Submit such drawings before rough-in work, fabrication, and within ample time to prevent delays in the Work. Include electrical diagrams for equipment and equipment installation.

F. Field Test Reports: Submit certified field test reports of field tests, verifying compliance of equipment and systems with Specification requirements.

G. Operation and Maintenance Manuals: Submit operation and maintenance instructions and data, in accordance with the requirements of Section 01 78 23 - Operation and Maintenance Data. Include recommended maintenance materials and spare parts list for all installed equipment.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Furnish materials and equipment of design, sizes, and ratings as indicated.
- B. Furnish materials and equipment bearing label or classification listing of a national recognized testing laboratory where UL standards exist and such product labeling or listing is available. Electrical materials shall comply with the California Electrical Code.
- C. Methods of fabrication, assembly, and installation are optional unless otherwise indicated.
- D. Provide products that are free from defects that may impair performance, durability, or appearance.
- E. Materials manufactured for use as raceways (except PVC conduit), boxes, cabinets, equipment enclosures, and their surface finish material shall be capable of being subjected to temperatures up to 932 degrees F (500 degrees C) for one hour and shall not support combustion as specified in NFPA 130, Section 2.4.1.1.

2.02 CONNECTORS AND INSULATING TAPES

- A. Splice and Terminal Connectors:
 - 1. Provide termination fittings for use with the cable furnished, NEMA standard, and conforming to UL 486A.
 - 2. Termination and splice fittings for No. 10 AWG and smaller conductors shall be compression type. Wires to be connected shall be grouped together and fitted into an appropriately sized tin plated copper sleeve. After compressing with an appropriate tool, the connector shall be covered with a nylon-insulating cap. Wire splices shall comply with UL 486C. Screw-on and spring pressure type connectors are prohibited.
 - 3. Termination and splice fittings for No. 8 AWG and larger conductors shall be tool-applied compression connectors of material and design compatible with the conductors for which they are used.
 - 4. Terminal connectors for conductors size No. 4/0 and larger shall be long-barrel, double-compression type, and shall be furnished with two NEMA standard bolting holes in the pad if 2 holes are required.
 - 5. Provide cold shrink insulator for every compression type connector.
- B. Insulating Material for Splices and Terminations:
 - 1. Provide insulating material for splices and terminations of type accepted by the Engineer for the particular use, location and voltage.

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2. Plastic electrical insulating tape for general use shall be vinyl plastic with rubber based pressure sensitive adhesive, and shall be pliable at temperature of minus 18 degrees C to 105 degrees C. When tested in accordance with ASTM D3005, the tape shall have the following minimum properties:
 - a. Thickness: 7 mils.
 - b. Breaking Strength: 15 pounds per inch.
 - c. Elongation: 200 percent.
 - d. Dielectric Strength: 10 kV/mil.
 - e. Insulation Resistance (Direct method of electrolytic corrosion): 10 MΩ.
3. Rubber electrical insulating tape for protective over-wrapping shall be silicone rubber with a silicone pressure-sensitive adhesive. When tested in accordance with ASTM D1000, the tape shall have the following minimum properties:
 - a. Elongation: 525 percent.
 - b. Dielectric Strength: 13 kV.
 - c. Insulation Resistance (Indirect Method of Electrolytic Corrosion): 10 MΩ.
4. Arc-proof tape shall be flexible, conformable organic fabric, coated one side with a flame-retardant flexible elastomer, self-extinguishing, with the following minimum properties:
 - a. Thickness, ASTM D1000: 55 mils.
 - b. Tensile Strength, ASTM D5034: 50 pounds per inch.
 - c. Thermal Conductivity, ASTM D1518: 0.0478 Btu (h/ft²/°F).
 - d. Electrical Arc Resistance: Withstand 200 A arc for 40 seconds.
5. Mark each tape package to indicate shelf-life expiration date.

2.03 SWITCHES

- A. Provide ac tumbler-toggle switches conforming to minimum requirements of UL 20 and the requirements herein specified, of specification grade and heavy-duty type. Switches mounted outdoors shall be weatherproof.

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- B. Provide switches that operate in any position and are fully enclosed with entire body and cover of molded phenolic, urea or melamine. Do not use fiber, paper, or similar insulating material for body or cover.
- C. Equip switches with metal mounting yoke with plaster ears, insulated from the mechanism and fastened to the switch body by bolts, screws, rivets, or other substantial means that meet test requirements.
- D. Provide a green-colored equipment grounding screw on the yoke.
- E. Provide the section of the yoke normally intended to bear on the surface outside the box with a minimum over-all dimension of 3/4 inch, measured at right angles to the longitudinal axis of the yoke.
- F. Switch contacts shall be silver or silver alloys.
- G. Switches shall be back or side wired with terminals of screw or combination screw-clamp type.
- H. Terminal screws shall be No. 8 or larger, captive or terminal type.
- I. Provide wiring terminals capable of receiving and holding wire sizes as follows:

<u>SWITCH RATING</u>	<u>WIRE SIZE, AWG NO.</u>
20 A	12 and/or 14
30 A	10

- J. Switches for use on incandescent or fluorescent lighting circuits shall be fully rated 20 A at 120 V or 277 V.
- K. Switches controlling straight resistance loads may be snap switches as specified herein, of the proper rating up to 30 A at 120 - 277 V.
- L. Provide 120 - 277 V ac snap switches capable of withstanding tests as outlined in NEMA WD 1, Paragraphs WD 1-2.04, WD 1-2.05A, WD 1-2.05C, WD 1-2.05E2, WD 1-2.05F2, and WD 1-2.05G. If requested by the Engineer, submit evidence that the types of switches proposed have satisfactorily withstood these tests.

2.04 RECEPTACLES

- A. Receptacle Standards: Connector and outlet receptacles shall conform with UL 498 and NEMA WD 1 for heavy-duty general use type.
- B. Convenience-Outlet Receptacles:
 - 1. Provide receptacles with fire-resistant non-absorptive hotmolded phenolic composition bodies and bases and with metal plaster ears integral with

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supporting member. Receptacles shall be flush type, except where otherwise indicated.

2. Wall receptacles shall be NEMA 20R configuration single or duplex receptacles as indicated.
 3. Provide receptacles and plugs (caps) with light-colored terminal facilities for neutral connections, amber or brass-colored for phase conductor connections, and green-colored hexagonal machine screws for the equipment grounding conductor or connections.
 4. Contacts of the receptacles, including the grounding contact, shall be double-grip bronze type with spring steel backup clips so that both sides of each male prong of the plug will be in firm contact.
 5. Provide receptacles with self-grounding clip or mounting strap screws.
- C. GFCI Receptacles: Ground fault circuit interrupter (GFCI) duplex receptacles shall be 120 V, 60 Hz, 20 A with built-in test, reset buttons, and ground fault tripped indication. They shall interrupt the circuit within 1/30 second on a five-milliampere earth leakage current. They shall be designed for end of run installation or with provisions for feeding through to protect other outlets on the circuit. Maximum circuit capacity for the latter shall be 20 A. The receptacles shall be furnished with necessary wire connectors, clips, mounting screws, and instructions. Provide GFCI duplex receptacles conforming to California Electrical Code in public areas and trainways.
- D. Clock Receptacles:
1. Provide receptacles for clocks, at mounted at height of clock recessed so that male cap will be flush with the wall to permit the clock to cover the outlet.
 2. Provide plates, including finishes, as specified for cover plates, adapted to the recessed receptacles and with substantial hooks to support the clocks.
 3. Receptacles for surface-mounted clocks shall be connected to the building 120 V electrical system.
 4. Where clock receptacles are indicated or specified, furnish the grounded type, and provide with a ground jumper.

2.05 COVER PLATES

- A. Provide cover plates for each switch, receptacle, and special purpose outlet.
- B. Provide multi-gang plates for multi-gang boxes.
- C. Provide cover plates conforming to UL 514A.

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- D. Provide cover plates of brushed stainless steel in ancillary spaces, mechanical rooms, fan rooms, electrical closets, ac switchboard rooms, traction power substations, and unfinished areas.
- E. For special purpose outlets commercially produced using special material, configuration and size, provide plates of brushed stainless steel and of a design for the particular application.
- F. Provide stainless steel cover plates of 0.040 inch thickness for flush devices.
- G. Provide cover plates in public areas of die cast copper free aluminum, UL listed for wet locations and self-closing spring door.

2.06 DISCONNECTING DEVICES

- A. Safety Switch Type Disconnecting Devices: Provide safety switch disconnecting devices, enclosed, conforming to IEEE C37.35.
- B. Heavy-duty Safety Switches (600 V ac):
 - 1. Provide heavy-duty safety switches having electrical characteristics, ratings, and accessories as indicated.
 - 2. Provide switches with NEMA 12 industrial duty enclosures, with nameplates conforming to the requirements described elsewhere in this section. Nameplates shall be mounted on the enclosure front, and shall contain identification of switch type, catalog number, and hp ratings.
 - 3. Provide handle with visible blades; reinforced fuse clips; non-teasible, positive, quick-make quick-break mechanism; and padlockable in the OFF and ON positions.
 - 4. Provide switches meeting NEMA KS 1 requirements.

2.07 INDIVIDUAL CONTROL RELAYS:

- A. Control relays shall have convertible contacts rated a minimum of 10 A, 600 V. Verify coil voltage, and number and type of contacts. Furnish in NEMA 1 enclosures.

2.08 NAMEPLATES

- A. Provide nameplates for identification of switchboard assemblies, motor control centers, equipment, and devices with the following characteristics:
 - 1. Nameplates for indoor installations shall be 1/16-inch thick lamicaid, with beveled edges, black background, and white letters. Nameplates shall be mounted using stainless steel rivets, or attached using permanent adhesive.

2. Nameplates for outdoor installations shall be metallic sheet with enamel painted white letters on black background. Nameplates shall be mounted using stainless rivets.
3. Nameplate sizes:
 - a. Switchboard and motor control center assemblies nameplates shall be four-inch wide with 2-1/2 inch lettering.
 - b. Individual cabinet and major equipment nameplates shall be 2-1/2 inch wide with 1/2-inch lettering.
 - c. Nameplates for switches, relays, and other devices mounted inside cabinets shall be 3/4-inch wide with 3/16-inch lettering.
4. Nameplate legends shall be submitted for District approval.

PART 3 - EXECUTION

3.01 INSTALLATION REQUIREMENTS

- A. Install electrical materials, equipment, appurtenances, and accessories in locations as indicated, rigid and secure, plumb and level, and in alignment with related and adjoining work to provide a complete and operable system. Do not weld electrical materials for attachment or support.
- B. Provide anchor bolts and anchorage items as required, and field check to ensure proper alignment and location. Provide templates, layout drawings, and supervision at the jobsite to ensure correct placing of anchorage items in concrete. Check embedded items for correctness of location and detail before concrete is placed.
- C. Install supporting members, fastenings, framing, hangers, bracing, brackets, straps, bolts, and angles as required to set and connect the work rigidly. Conform with the seismic restraint requirements of the California Building Code and the California Electrical Code.
- D. Control erection tolerance requirements so as to not impair the strength, safety, serviceability, or appearance of the installations. Determine exact locations of conduit. Route conduit parallel to building lines unless otherwise indicated.
- E. The trade size, type, and general routing and location of conduits, raceways, and boxes shall be as indicated or specified.
- F. Install exposed conduit so as to avoid conflicts with other work. Install horizontal raceways close to the ceiling or ceiling beams, and above water or other piping wherever possible.

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- G. Install individual conductors and multiple-conductor sheathed cables in conduits, raceways, cable trays, ducts, and trenches as indicated to complete the wiring systems.
- H. Install switches, receptacles, special purpose outlets, and cover plates complete in a neat manner in accordance with the California Electrical Code and local electrical codes. Plug unused openings in boxes, cabinets, and equipment.
- I. Use of explosive fasteners is prohibited.
- J. All electrical equipment, panels, telephone, and fire alarm panels shall be sealed against dust, whenever dusty conditions are present inside the rooms or outside, during the construction period.

3.02 CONDUIT AND FITTINGS

- A. Provide as indicated and required in accordance with the requirements of Section 20 50 13 -Raceways for Facility Services

3.03 EQUIPMENT, APPURTENANCES, AND INSTALLATION ACCESSORIES

- A. Provide conduit hangers and inserts, pull cords, outlet boxes, junction and pull boxes, metal and plastic cable tray systems, and underfloor ductwork as indicated and required in accordance with the requirements of Section 20 50 13 - Raceways for Facility Services.

3.04 WIRING

- A. Wiring Requirements:
 1. Provide wiring as indicated and required in accordance with the requirements of Section 26 05 24 - Low Voltage Wires and Cables.
 2. Furnish wires and cables to the site in unbroken standard coils or reels to which shall be attached a tag bearing the manufacturer's name, trade name of the wire, and the UL label for 600 V wire and cable.
 3. Provide wiring complete as indicated. Provide ample slack wire for motor loops, service connections, and extensions. In outlet or junction boxes provided for installation of equipment by others, tape ends of wires and install blank covers.
 4. Measure insulation resistance of the wiring system before connection to terminal blocks, motors, switchboards, motor control centers, transformers, panelboards, and control cabinets.
 5. Do not bend cables during installation, either permanently or temporarily, to radii less than 12 times the outer diameters, except where conditions make the specified radius impracticable and shorter radii are permitted by the California Electrical Code and NEMA WC 7, Appendix N.

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6. Secure and neatly bundle with nylon straps cables inside panelboards, control cabinets, switchboards, motor control centers, terminal cabinets, junction boxes, and pull boxes.
 7. Identify wiring as specified in Section 26 05 24 - Low Voltage Wires and Cables.
- B. Cable Supports: Install cable supports for vertical feeders in accordance with the California Electrical Code.
- C. Splices and Terminations:
1. Make wire and cable splices only in outlet, junction or pull boxes, or in equipment cabinets. Splices in conduit or raceway will not be permitted. Make splices by means of compression type connectors, and cover with tape to an insulation level equal to that of the cable.
 2. Use positive type connector installation tools as recommended by the manufacturer.
 3. Mechanical hand tools, with dies for each conductor size as recommended by the manufacturer, may be used on conductor sizes through 6 AWG.
 4. For conductor sizes larger than 6 AWG, use hydraulic tools with hexagonal or circumferential installing dies for each conductor size, as recommended by the manufacturer.
 5. For inspection purposes, clearly mark die numbers on the installed connectors.
 6. Before installation, apply anticorrosion electrical joint compound to conductors and terminal bolting pads.
 7. Wire and cable shall be continuous from power source to equipment. Where splices are required, they shall be made only in approved fittings or junction boxes and shall be subject to approval by the Engineer. Follow manufacturer's instructions in splicing wire and cable.
 8. Fixture Wire: Make splices in lighting circuits with insulated crimp-type connectors.
 9. Control Cables: Each wire held with screw-type terminals shall be terminated using insulated sleeve (nylon), ring tongue-type or locking spade-type, crimp-on lugs. For wires sizes below 10 AWG terminating into tubular clamp-type terminals, the conductor shall be stripped and terminated bare.

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10. Heat-shrinkable or cold shrink insulator shall be centered over the compression sleeve of the connector and shrunk tight to cover the connector sleeve.

3.05 WIRING DEVICES

- A. Locate switches 4 feet above finished floor and general-purpose duplex convenience receptacles 15 inches above finished floor per ADA requirements as applicable, except as otherwise indicated.
- B. Attach receptacles rigidly to outlet boxes by means of two stainless steel screws.
- C. For exterior and damp locations, surface or embedded, mount receptacles in watertight cast metal outlet boxes with threaded hubs or bosses and equipped with gasketed spring cover.
- D. Provide NEMA 3R locking type male plugs for equipment permanently connected to exterior GFCI type receptacles and subject to spray or hose cleaning.

END OF SECTION 20 70 26

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SECTION 26 05 26

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Grounding and bonding equipment
- B. Grounding rods
- C. Bare conductors
- D. Bus bar
- E. Single conductor insulated wire
- F. Terminal lugs
- G. Jumpers
- H. Compression Connections
- I. Compression Tools
- J. Bolted Connectors
- K. Exothermic Welding System

1.02 MEASUREMENT AND PAYMENT

- A. Not Applicable to this project.

1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM B3 Specification for Soft or Annealed Copper Wire
 - 2. ASTM B187 Specification for Copper Bar, Bus Bar, Rod and Shapes
- B. Institute of Electrical and Electronics Engineers (IEEE):
 - 1. IEEE 837 Qualifying Permanent Connections Used in Substation Grounding

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- 2. IEEE 142 IEEE Recommended Practice for Grounding of Industrial and Commercial Power Systems
- C. Underwriters Laboratories Inc. (UL):
 - 1. UL 467 Grounding and Bonding Equipment
- D. California Code of Regulations
 - 1. Title 24, Part 3 California Electrical Code
- E. National Fire Protection Association (NFPA) Standards
 - 1. NFPA 70 National Electrical Code
 - 2. NFPA 780 Standard for the Installation of Lightning Protection Systems.

1.04 REGULATORY REQUIREMENTS

- A. Refer to Section 20 70 26 - Common Materials and Methods for Electrical Systems, for requirements.
- B. Refer to Section 01 45 24 - Testing Program Requirements, for requirements.
- C. Refer to Criteria Electrical - Stations and Wayside Systems Structures for Grounding and Electrical Isolation Requirements.

1.05 SUBMITTALS

- A. General: Refer to Section 01 33 00 - Submittal Procedures, and Section 01 33 23 – Shop Drawings, Product Data, and Samples, for submittal requirements and procedures.
- B. Shop Drawings:
 - 1. Submit Shop Drawings showing locations of ground rods, grounding connections, locations of embedded and buried grounding conductors, and locations of stubouts and pigtails for future connections to the grounding system by others. Drawings shall also indicate locations of test points to measure grounding resistance.
 - 2. Submit Shop Drawings showing electrical systems and equipment grounding and bonding connection schematic diagrams.
- C. Product Data: Submit manufacturers' product data of manufactured materials.
- D. Test Reports: Submit copies of certified test reports of grounding resistance tests, including method of measurement.

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1.06 DELIVERY, STORAGE AND HANDLING

- A. Provide marking on wire and cable in accordance with applicable standards. Each item shall be UL-labeled.
- B. Ship each item of equipment and materials securely wrapped, packaged, and labeled for safe handling in shipment and to avoid damage.
- C. Store equipment and materials in secure and dry storage facility.

PART 2- PRODUCTS

2.01 EQUIPMENT AND MATERIALS

- A. Grounding and Bonding Equipment: Conform to UL 467 and the additional requirements specified herein.
- B. Ground Rods: Medium carbon steel core, copper-clad by the molten weld casting process, size of 1 inch in diameter by 10 feet long or as indicated, UL listed.
- C. Bare Conductors: ASTM B3, Class B stranded, annealed copper conductor, unless otherwise indicated, size as indicated.
- D. Bus Bar: ASTM B187, 98 percent conductivity copper, size as indicated.
- E. Single Conductor Insulated Wire: Refer to Section 26 05 24 - Low Voltage Wires and Cables. Use insulated ground wire for grounding communication and train control systems.
- F. Terminal Lugs: Refer to Section 20 70 26 - Common Materials and Methods for Electrical Systems
- G. Jumpers: Tin-plated copper, braided, flexible jumper.
- H. Connectors Compression Connections: Connectors and compression tools of a single manufacturer. Connectors shall have an inspection port for use in checking proper conductor insertion.
- I. Compression Tools: For field quality control, compression tools shall not release before completion of the compression cycle and shall emboss the die index number into the connector as the crimp is completed.
- J. Bolted connectors: Burndy, or approved equal.
- K. Exothermic Welding System:
 - 1. Provide dual-component exothermic welds with molds and accessories of a single manufacturer.

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2. Manufacturer: Erico, Thermoweld, or approved equal.

PART 3 - EXECUTION

3.01 INSTALLATION OF GROUNDING SYSTEM

A. Ground Connections:

1. Provide exothermically welded or compression-type terminal lugs for buried or embedded connections using materials qualified in accordance with IEEE 837. Bolted connections shall not be buried or embedded. For compression-type connectors, the tool for crimping shall emboss the die index number into the connector as the crimp is completed. Each compression-type connector shall have an inspection port for use in checking proper conductor insertion.
2. All connections shall be made in accordance with the manufacturer's requirements. All connections shall be cleaned and coated with a bitumastic epoxy before backfilling.
3. Above ground connections shall be made using materials qualified in accordance with IEEE 837. All connections shall be made in accordance with the California Electrical Code and the manufacturer's recommendations.
4. Provide continuous ground conductor or splice using connections qualified in accordance with IEEE 837. All splice connections shall be made in accordance with the manufacturer's requirements.
5. Connect the bus bar to station ground system as indicated. Provide waterstops on ground cable risers, where the risers enter the structure.

B. Ground Rods:

1. Bury ground rods vertically with rod top a minimum of one foot below grade as indicated. Use ground rod as indicated for main grounding system. If extensive rock formation is encountered, relocate ground rods to a new location as approved by the Engineer.
2. Interconnect ground rods with minimum 250 kcmil stranded bare copper cable or as indicated.
3. Ground the frames of motors larger than 25 hp by a ground conductor carried in the power conduit. Provide a ground conductor sized in accordance with the California Electrical Code.
4. Ground the non-current-carrying metal enclosures of transformers with a conductor sized as indicated or as required by the California Electrical Code.

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- C. Grounding Wires: All grounding wires shall be as indicated and sized to provide adequate conduction path for all possible faults and electrical interference currents.
- D. Grounding Requirements: Provide separate systems and equipment grounding as indicated. Ground metallic conduits, raceways, under-floor ducts, cable trays, boxes, cabinets, exposed expansion joints, lighting fixtures, and receptacles in accordance with the California Electrical Code.

3.02 FIELD QUALITY CONTROL

- A. Ground Resistance:
 - 1. Test the grounding system by the fall-of-potential method under the observation of the Engineer. Unless otherwise indicated, demonstrate that total ground resistance does not exceed 5 ohms.
 - 2. The ground resistance shall not exceed 0.5 ohms as measured from equipment racks to ground plate in train control rooms and from wayside devices to system ground bus or ground rod connection.
 - 3. To meet these resistance requirements, if necessary, bury additional ground rods or use electrolytic grounding electrodes, or soldier piles as grounding conductors.
- B. Ground System Continuity: Test equipment enclosures, transformers, distribution panel ground buses, ground stations and ground rods.

END OF SECTION 26 05 26

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SECTION 26 24 24

CIRCUIT BREAKERS AND PANELBOARDS

PART 1- GENERAL

1.01 SECTION INCLUDES

- A. Enclosed circuit breakers.
- B. Panelboards and load centers.

1.02 MEASUREMENT AND PAYMENT

- A. Not Applicable to this project.

1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM B187 Specification for Copper Bar, Bus Bar, Rod and Shapes
- B. National Electrical Manufacturers Association (NEMA):
 - 1. NEMA AB 1 Molded Case Circuit Breakers and Molded Case Switches
 - 2. NEMA PB 1 Panelboards
- C. Underwriters Laboratories Inc. (UL):
 - 1. UL 50 Enclosures for Electrical Equipment
 - 2. UL 67 Panelboards
 - 3. PG&E PG&E Greenbook

1.04 REGULATORY REQUIREMENTS

- A. Refer to Section 20 70 26 - Common Materials and Methods for Electrical Systems, for requirements.

1.05 SUBMITTALS

- A. General: Refer to Section 01 33 00 - Submittal Procedures, and Section 01 33 23 – Shop Drawings, Product Data, and Samples, for submittal requirements and procedures.
 - 1. Refer to local utility electrical service requirements for meter centers.

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- B. **Product Data:** Submit manufacturers' product data for specified equipment and materials. Include the following information for each item:
 - 1. Manufacturer's model number or item identification;
 - 2. UL listing and rating;
 - 3. Critical dimensions and mounting arrangement; and
 - 4. Replacement parts list.

- C. **Shop Drawings:** Submit Shop Drawings and electrical diagrams as follows:
 - 1. **Enclosures:** Drawings showing materials and methods of construction, door arrangement, conduit hub and knockout locations, and identification of intended panelboard or load center.
 - 2. **Circuit Breakers:** Drawings showing circuit for which intended, voltage ratings, insulation level, current rating, interrupting ratings, and time-current curves.
 - 3. **Panelboards and Load Centers:** Drawings showing base material, general arrangement, location, and identification of each circuit breaker and the circuit breaker information specified above, location and identification of terminals, location of barriers, applicable UL 67 Tables A through F information, wiring diagrams, and identification of the enclosure for which intended.

- D. **Test Reports:** Submit copies of certified reports of factory and field tests performed in accordance with the applicable referenced standards and specification requirements.

1.06 QUALITY ASSURANCE

- A. Select a manufacturer who has been regularly engaged in the manufacture of similar equipment and has met UL requirements.
- B. Conform to NEMA AB 1, NEMA PB 1, and California Electrical Code, as applicable.
- C. Components of the same type, size, rating, functional characteristics, and manufacture shall be interchangeable.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Provide markings on each circuit breaker, panelboard, and load center in accordance with the referenced standard. Each item shall be UL labeled.
- B. Ship each unit securely wrapped, packaged, and labeled for safe handling in shipment and to avoid damage or distortion.

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- C. Store circuit breakers, panelboards, and load centers in secure and dry storage facility.

PART 2 - PRODUCTS

2.01 EQUIPMENT

A. Enclosed Circuit Breakers:

- 1. Provide NEMA AB 1, molded case, quick-make quick-break bolt-on type, with thermal-magnetic type overload trip, interchangeable unit for frame rated 125 A and above. Breakers shall include the following requirements as indicated:
 - a. Number of poles;
 - b. Rated voltage and continuous current;
 - c. Rated interrupting current; and
 - d. Trip setting.

B. Panelboards and Load Centers: NEMA PB 1 or UL 67, with the following additional requirements:

- 1. Enclosure: NEMA 12 or UL 50 fabricated from galvanized steel, surface-mounted unless otherwise indicated, tamperproof, with the following additional requirements:
 - a. Gutter size:

<u>Main Bus Rating Amperes</u>	<u>End Gutter Size (Inches)</u>	<u>Side Gutter Size (Inches)</u>
225 and below	6	5
400 and over	8	8
 - b. Provide interior components mounted on reinforced steel backplate for rigid support and accurate alignment.
 - c. Provide device or mechanism for enclosure grounding.
- 2. Hardware and Trim:
 - a. Panelboards shall be designed for surface or flush mounting as indicated, and shall contain a hinged door fitted with a combination latch and door lock, accommodating a master key. Provide one flat key

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tumbler cylinder-type, nickel-plated door lock conforming to the station masterkey system, two keys per lock.

- b. Nameplates or other permanent identification shall be provided for each circuit breaker, which shall mount adjacent to the individual circuit breakers. A directory frame with acrylic plastic face and printed directory, 8-1/2 inches by 11 inches, shall be provided and mounted on the back of the door.
 - c. Flush-mounted panelboards shall be provided, with means to plumb and align the front of the panel with respect to the adjacent finished surfaces.
 - d. Unless otherwise specified, finish shall be a metallic surface thoroughly cleaned, degreased, primed with an approved corrosion-inhibitive primer, and then finished with heavy-duty, industrial-grade polyurethane enamel.
3. Bus Bars: ASTM B187, 98 percent conductivity copper, with silver-plated contact surface, and the following additional requirements:
- a. Provide neutral bus of the same rating as that of phase bus.
 - b. Provide main lugs or main circuit breaker of rating as indicated.
 - c. Provide a grounding bus.
4. Each panelboard or load center shall have a main circuit breaker with same continuous rating as main bus ampere rating when the panelboard or the load center is located in the space other than that within the sight of the location of the feeder protective device on supply side.
5. Nameplates: Provide nameplates showing panelboard number. Nameplates shall conform to the requirements of Section 20 70 26 - Common Materials and Methods for Electrical Systems.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install panelboards and load centers at locations indicated with the top 6 feet, 6 inches above the floor and the bottom not less than 12 inches above the floor, unless specifically indicated otherwise. Use multi-sectional panelboards and load centers to meet these spacings if necessary. Line up tops of trims to present neat appearance.
- B. Mount panelboards and load centers in place with front straight and plumb, and anchor in accordance with applicable requirements of the California Building Code.

26 24 24 - 4

- C. When a feeder serves more than one panelboard or panelboard section, install a separate junction box or provide adequate gutter area for termination of feeders and bus taps.
- D. Provide circuit breakers of proper ratings for all branch circuits. Connect branch circuit wires as indicated. Connect neutral wires of branch circuits to the neutral bar of the same panelboard as the branch circuit.
- E. Make conduit connections in accordance with Section 20 50 13 - Raceways for Facility Services
- F. Make cable connections in accordance with Section 26 05 24 - Low Voltage Wires and Cables.
- G. Ground panelboards and load centers in accordance with Section 26 05 26 - Grounding and Bonding for Electrical Systems.
- H. Bus connections shall be made only by means of machine screws into threaded holes, or with through-bolts with washers and nuts. Connections shall be provided with lockwashers for mechanical locking.

3.02 DIRECTORY OF CIRCUITS

- A. Provide each panelboard and load center with a typewritten circuit directory located on the inside of the enclosure.

3.03 FIELD QUALITY CONTROL

- A. Perform the following tests under observation of the Engineer, and submit certified test reports of all tests. Furnish equipment and instruments required to perform the tests.
 1. Test circuits for connections in accordance with the wiring diagram.
 2. Test that insulation resistance to ground of non-grounded conductors is a minimum of ten megohms
 3. Test panelboard and load center enclosures for continuity to the grounding system.
 4. Test operation of circuits and controls. When testing, operate each control a minimum of ten times and each circuit continuously for a minimum of 1/2-hour.
 5. Test that each panel has a balanced load.
 6. Maintain a log of all tests.

END OF SECTION 26 24 24

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EXHIBIT F - PREVAILING WAGE REPORT
PUBLIC WORKS PAYROLL REPORTING FORM

NAME OF CONTRACTOR: OR SUBCONTRACTOR:		CONTRACTOR'S LICENSE NO.: SPECIALITY LICENSE NO.:		ADDRESS:																				
PAYROLL NO.:		FOR WEEK ENDING:		SELF-INSURED CERTIFICATE NO.:																				
				PROJECT OR CONTRACT NO.:																				
				WORKERS' COMPENSATION POLICY NO.:																				
				PROJECT AND LOCATION:																				
(1) NAME, ADDRESS AND SOCIAL SECURITY NUMBER OF EMPLOYEE	(2) NO. OF WITH- HOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	(4) DAY							(5) TOTAL HOURS	(6) HOURLY RATE OF PAY	(7) GROSS AMOUNT EARNED		(8) DEDUCTIONS, CONTRIBUTIONS AND PAYMENTS								(9) NET WGS PAID FOR WEEK		CHECK NO.
			M	T	W	TH	F	S	S															
			DATE																					
			HOURS WORKED EACH DAY																					
											THIS PROJECT	ALL PROJECTS	FED. TAX	FICA (SOC. SEC.)	STATE TAX	SDI	VAC/ HOLIDAY	HEALTH & WELF.	PENSION					
													TRAIING.	FUND ADMIN	DUES	TRAV/ SUBS.	SAVINGS	OTHER*	TOTAL DEDUC- TIONS					
											THIS PROJECT	ALL PROJECTS	FED. TAX	FICA (SOC. SEC.)	STATE TAX	SDI	VAC/ HOLIDAY	HEALTH & WELF.	PENSION					
													TRAIING.	FUND ADMIN	DUES	TRAV/ SUBS.	SAVINGS	OTHER*	TOTAL DEDUC- TIONS					
											THIS PROJECT	ALL PROJECTS	FED. TAX	FICA (SOC. SEC.)	STATE TAX	SDI	VAC/ HOLIDAY	HEALTH & WELF.	PENSION					
													TRAIING.	FUND ADMIN	DUES	TRAV/ SUBS.	SAVINGS	OTHER*	TOTAL DEDUC- TIONS					
											THIS PROJECT	ALL PROJECTS	FED. TAX	FICA (SOC. SEC.)	STATE TAX	SDI	VAC/ HOLIDAY	HEALTH & WELF.	PENSION					
													TRAIING.	FUND ADMIN	DUES	TRAV/ SUBS.	SAVINGS	OTHER*	TOTAL DEDUC- TIONS					

Form A-1-131 (New 2-80)

S = STRAIGHT TIME
O = OVERTIME

*OTHER - Any other deductions, contributions and/or payments whether or not included or required by prevailing wage determinations must be separately listed. Use extra sheet(s) if necessary

CERTIFICATION **MUST** be completed
(See reverse side)

GHILOTTI BROS., INC.
AGREEMENT
CV-BB-18-002