

NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY
AGREEMENT NO. 13-12

CONTRACT FOR CONSTRUCTION

THIS AGREEMENT, made and concluded in triplicate this **18th day of September, 2013**, by and between the **NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY**, a political subdivision of the State of California, hereinafter referred to as “NCTPA”, and **ERBCO CONSTRUCTION SERVICES, INC.**, hereinafter referred to as “CONTRACTOR”;

TERMS

ARTICLE I. In consideration of the payments and covenants hereinafter mentioned, to be made and performed by NCTPA, and under the conditions expressed in the two (2) bonds attached hereto, Contractor shall, at Contractor’s own cost and expense, do all the work and furnish all materials, except such as are specified herein to be furnished by NCTPA, necessary to construct and complete in a good, workmanlike and substantial manner and to the satisfaction of the NCTPA Board of Directors that project known as **SOSCOL GATEWAY TRANSIT CENTER HUB SIGNAGE**, which shall be constructed in the City of Napa, California, in accordance with the Plans and Specifications (“Plans”) entitled, **SOSCOL GATEWAY TRANSIT CENTER HUB SIGNAGE**, including any addenda thereto, the Bid submitted by Contractor (“Bid Proposal”), the General Conditions, the 2006 Standard Specifications of the State of California Department of Transportation (“Standard Specifications”), and Labor Surcharge and Equipment rental rates in effect on the date the work is accomplished. The Plans, Bid Proposal, General Conditions, Standard Specifications, and Labor Surcharge and Equipment rental rates are hereby incorporated by reference as if set forth herein.

ARTICLE II. NCTPA hereby promises and agrees with Contractor to employ, and does hereby employ, Contractor to provide the materials and to do the work according to the terms and conditions herein contained for the prices hereinafter set forth, and hereby contracts to pay the same at the time, in the manner, and upon the conditions set forth herein, and both parties hereby agree, for themselves, their heirs, executors, administrators, successors and assigns, to full performance of the covenants contained herein.

ARTICLE III. It is further expressly agreed by and between the parties that if there is any conflict between the Bid Proposal of Contractor and any of the other terms of this Contract, then such other terms shall control and any such conflicting terms of the Bid Proposal shall not be deemed to have been accepted by NCTPA.

ARTICLE IV. Contractor agrees to receive and accept the following prices as full compensation for furnishing all materials and for doing all the work contemplated and embraced in this Contract; for all loss and damage, arising out of the nature of such work, from the action of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the work until its acceptance by the Board of Directors of NCTPA and for all risks of every description connected with the work; for all expenses incurred by or in consequence of the suspension or discontinuance of work; and for well and faithfully completing the work and the whole thereof in the manner and according to the Plans, Special Provisions, and Standard Specifications and the requirements of the Engineer under them, to wit:

SOSCOL GATEWAY TRANSIT CENTER HUB SIGNAGE

ITEM	UNITS	QUANTI TIES	ITEM PRICE	TOTAL
TOTAL BASE BID				\$185,000.00
WRITTEN TOTAL BASE BID	ONE HUNDRED EIGHTY FIVE THOUSAND AND NO/100 DOLLARS			

Payment for the work shall be made in accordance with the provisions of Section 9 of the Standard Specifications, except as modified by Public Contract Code sections 7107 and 22300, incorporated hereby into this Contract:

IN WITNESS WHEREOF, this Contract has been approved by NCTPA and Contractor as of the date first set forth on page C-1 of this Contract.

NAPA COUNTY TRANSPORTATION AND
PLANNING AGENCY

By _____
Kate Miller, Executive Director

"NCTPA"

ATTEST: Secretary of the Napa County
Transportation and Planning Agency

By _____
Karalyn E. Sanderlin

By _____
Harry N. How III

"Contractor"

APPROVED AS TO FORM
By: _____ AGENCY COUNSEL
Date: _____

NOTE: Signature of those executing for the Contractor must be acknowledged by Notary Public.

FEDERAL CONTRACT CLAUSES

1. AMENDMENTS

Any changes in the activities to be performed under this Agreement shall be incorporated in written amendments, which shall specify the changes in work performed and any adjustments in compensation and schedule. All amendments shall be executed by the NCTPA Executive Director or a designated representative and CONTRACTOR. No claim for additional compensation or extension of time shall be recognized unless contained in a duly executed amendment.

2. TERMINATION

Contractor's failure to perform any term or condition of this Agreement as a result of conditions beyond its control such as, but not limited to, war, strikes, fires, floods, acts of God, governmental restrictions, power failures, or damage or destruction of any network facilities or servers, shall not be deemed a breach of this Agreement, and may be cause for termination of the Agreement.

3. RETENTION OF RECORDS

Contractor agrees to keep, in accordance with generally accepted accounting principles, all records pertaining to the project for audit purposes for a minimum of three (3) years following final payment to Contractor or four (4) years following the fiscal year of the last expenditure under this Agreement, whichever is longer, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case Contractor agrees to maintain same until NCTPA, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto.

4. AUDITS

Contractor agrees to grant NCTPA or any agency that provides NCTPA with funds for the Project, including but not limited to, the U.S. Department of Transportation, FTA, the Comptroller General of the United States, the State, and their authorized representatives access to Contractor's books and records for the purpose of verifying that funds are properly accounted for and proceeds are expended in accordance with the terms of the Agreement. All documents shall be available for inspection during normal business hours at any time while the Project is underway, and for the retention period specified herein. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

Contractor further agrees to include in all its third-party contracts hereunder a provision to the effect that the contractor agrees that NCTPA, the U.S. Department of Transportation, FTA, the Comptroller General of the United States, the State, or any of their duly authorized representatives shall have access to and the right to examine any directly pertinent books, documents, papers, and records of such subcontractor, during normal business hours, for the term specified above. The term "contract" as used in this clause excludes agreements not exceeding \$25,000.

5. LICENSE TO WORK PRODUCTS (reserved)

6. EQUAL EMPLOYMENT OPPORTUNITY/ CIVIL RIGHTS

In accordance with Title VI of the Civil Rights Act, as amended (42 U.S.C. § 2000d); Section 303 of the Age Discrimination Act of 1975, as amended (42 U.S.C. § 6102); Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. § 12132; and 49 U.S.C. § 5332 for federally funded projects, Contractor agrees that it will not, on the grounds of race, religious creed, color, national

origin, age, physical disability, or sex, discriminate or permit discrimination against any employee or applicant for employment

7. DISADVANTAGED BUSINESS ENTERPRISES (DBE)

The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of the Napa County Transportation and Planning Agency to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. All firms qualifying under this solicitation are encouraged to submit bids/proposals. Award of this contract will be conditioned upon satisfying the requirements of this bid specification. These requirements apply to all bidders/offers, including those who qualify as a DBE. A DBE contract goal of 10 percent has been established for this contract. The bidder/offers shall make good faith efforts, as defined in Appendix A, 49 CFR Part 26 (Attachment 1), to meet the contract goal for DBE participation in the performance of this contract.

The bidder/offers will be required to submit the following information: (1) the names and addresses of DBE firms that will participate in the contract; (2) a description of the work that each DBE firm will perform; (3) the dollar amount of the participation of each DBE firm participating; (4) Written documentation of the bidder/offers's commitment to use a DBE subcontractor whose participation it submits to meet the contract goal; (5) Written confirmation from the DBE that it is participating in the contract as provided in the commitment made under (4); and (5) if the contract goal is not met, evidence of good faith efforts.

The contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 15 days from the receipt of each payment the prime contract receives from NCTPA. The prime contractor agrees further to return retainage payments to each subcontractor within thirty days after the subcontractors work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the NCTPA. This clause applies to both DBE and non-DBE subcontracts.

Failure to comply with the terms of this provision may result in any or all of the following actions including but not limited to:

1. A finding of material breach of contract
2. Suspension of payment of invoices
3. Bringing to the attention of the Department of Transportation any false, fraudulent, or dishonest conduct in connection with the program, so that DOT can take the steps (e.g., referral to the Department of Justice for criminal prosecution, referral to the DOT Inspector General, action under suspension and debarment or Program Fraud and Civil Penalties result) provided in 26.109.

The obligation of the bidder/offers is to make good faith efforts. The bidder/offers can demonstrate that it has done so either by meeting the contract goal or documenting good faith efforts. Examples of good faith efforts are found in Appendix A to Part 26. Forms 1 and 2 should be provided as part of the solicitation documents.

8. INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS

FEDERAL CONTRACT CLAUSES (CONT.)

In the event that this project is funded by FTA in whole or in part, all contractual provisions required by DOT, as set forth in FTA Circular 4220.1E are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any NCTPA requests which would cause NCTPA to be in violation of the FTA terms and conditions.

9. ACCESS REQUIREMENTS FOR INDIVIDUALS WITH DISABILITIES (Reserved)

10. STATE ENERGY CONSERVATION PLAN

Contractor shall comply with all mandatory standards and policies relating to energy efficiency that are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. § 6321)

11. DEBARMENT

Contractor certifies that neither it nor any of its participants, principals, or subcontractors is or has been debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions, as they are defined in 49 CFR Part 29, by any Federal agency or department. Contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by NCTPA. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to NCTPA, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

12. CLEAN AIR AND WATER POLLUTION ACTS

Contractor agrees to comply with the applicable requirements of all standards, orders, or requirements issued under the Clean Air Act (42 U.S.C. § 7401 *et seq.*), the Clean Water Act (33 U.S.C. § 1251 *et seq.*), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR Part 15). The Contractor agrees to report each violation to NCTPA and understands and agrees that NCTPA will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office. (2) The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance.

13. LOBBYING

Contractor agrees to comply with the restrictions on the use of federal funds for lobbying activities set forth in 31 U.S.C. § 1352 and 49 CFR Part 20. In addition, in the event the Agreement exceeds \$100,000, Contractor agrees to comply with the Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, as amended by the Lobbying Disclosure Act of 1995, P.L. 104-65 and shall file the certification required by 49 CFR Part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an

employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient. APPENDIX A, 49 CFR PART 20--CERTIFICATION REGARDING LOBBYING Certification for Contracts, Grants, Loans, and Cooperative Agreements (To be submitted with each proposal or offer exceeding \$100,000).

14. INDEMNIFICATION

To the fullest extent permitted by law, Contractor shall hold harmless, defend at its own expense, and indemnify NCTPA and the officers, agents, employees and volunteers of NCTPA from any and all liability, claims, losses, damages or expenses, including reasonable attorney's fees, for personal injury (including death) or damage to property, from claims that to the extent they arise out of, pertain to, or relate to the negligent acts or omissions of Contractor or its officers, agents, employees, volunteers, contractors and subcontractors in rendering professional services under this Agreement which constitute negligence, recklessness, or willful misconduct, excluding, however, such liability, claims, losses, damages or expenses arising from the negligence or willful acts of NCTPA or its officers, agents, employees or volunteers or any third parties. Notwithstanding the foregoing, the parties agree that Contractor's obligation to defend the NCTPA is solely limited to reimbursing NCTPA for its reasonable costs for defending a claim including reasonable attorney's fee, incurred by NCTPA which are ultimately determined to be due to Contractor's negligence, recklessness or willful misconduct. Each party shall notify the other party immediately in writing of any claim or damage related to activities performed under this Agreement.

15. COMPLIANCE WITH LAWS

Contractor shall comply with any and all laws, statutes, ordinances, rules, regulations, and requirements of the federal, state or local government, and any agency thereof, including, but not limited to NCTPA, the U.S. DOT and FTA, which relate to or in any manner affect the performance of this Agreement. Those law, statutes, ordinances, rules, regulations, and procedural requirements that are imposed on NCTPA as a Recipient of federal or state funds are hereby in turn imposed on Contractor (including, but not limited to, 49 CFR Part 18, "Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments"), and are herein incorporated by this reference and made a part hereof.

16. BUY AMERICA REGULATIONS

Contractor agrees to comply with 49 U.S.C. 5323(j) and 49CFR Part 661 which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. An Offeror must submit to the FTA recipient the appropriate Buy America certification with all proposals on FTA-funded contracts, except those subject to a general waiver. The Buy America Certification may be found on file in the offices of NCTPA. Proposals or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower tier subcontractors.

17. COMPLIANCE WITH FTA REGULATIONS

Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Master Agreement between NCTPA and FTA, as they may be amended or

FEDERAL CONTRACT CLAUSES (CONT.)

promulgated from time to time during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this contract.

18. DAVIS-BACON ACT

(a) Minimum wages

(i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) Except with respect to helpers as defined as 29 CFR 5.2(n)(4), the work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) With respect to helpers as defined in 29 CFR 5.2(n)(4), such a classification prevails in the area in which the work is performed.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of

Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(v)(A) The contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions,

FEDERAL CONTRACT CLAUSES (CONT.)

including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination with 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (1)(iv) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(b) Withholding

The NCTPA shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, Trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the NCTPA may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(c) Payrolls and basic records

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or Trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and Trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the NCTPA for transmission to the Federal Transit Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR part 5. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the

Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government printing office, Washington, DC 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be maintained under 29 CFR part 5 and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Federal Transit Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(d) Apprentices and Trainees

(i) Apprentices - Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

FEDERAL CONTRACT CLAUSES (CONT.)

Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractors or subcontractors registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division of the U.S. Department of Labor determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees - Except as provided in 29 CFR 5.16, Trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of Trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every Trainee must be paid at not less than the rate specified in the approved program for the Trainee level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the Trainee program. If the Trainee program does not mention fringe benefits, Trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a Trainee rate who is not registered and participating in a Training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any Trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a Training program, the contractor will no longer be permitted to utilize Trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity - The utilization of apprentices, Trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(e) Compliance with Copeland Act requirements: The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(f) Subcontracts: The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the Federal Transit Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any

subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(g) Contract termination: debarment - A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(h) Compliance with Davis-Bacon and Related Act requirements: All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(i) Disputes concerning labor standards: Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(j) Certification of eligibility:

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

19 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

(a) Overtime requirements: No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(b) Violation; liability for unpaid wages; liquidated damages : In the event of any violation of the clause set forth in paragraph (1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

(c) Withholding for unpaid wages and liquidated damages : The (write in the name of the grantee) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may

FEDERAL CONTRACT CLAUSES (CONT.)

be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

(d) Subcontracts: The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

20. NO GOVERNMENT OBLIGATION TO THIRD PARTIES

(a) Contractor acknowledges and agrees that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to NCTPA, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

(b) The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

21. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS AND RELATED ACT

(a) The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

(b) The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under

the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate. (3) The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject

PERFORMANCE BOND

**NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY
PERFORMANCE BOND**

KNOW ALL PERSONS BY THESE PRESENTS THAT WE, ERBCO CONSTRUCTION SERVICES, INC., whose address is 433 35TH AVENUE, SAN FRANCISCO, CALIFORNIA, 94121, as Principal, and _____, duly authorized under the laws of the State of California to become solely surety bonds and undertakings, as Surety, are jointly and severally held and firmly bound unto the NAPA COUNTY TRANSPORTATION AGENCY, a joint powers agency of the State of California, as Oblige, in the full and just sum of **** ONE HUNDRED EIGHTY FIVE THOUSAND AND NO/100 DOOLARS **** lawful money of the United States of America, to be paid to he said Oblige, successors or assigns; for which payment, well and truly be made, we bind ourselves, our heirs, executors, successors, administrators and assigns, jointly and severally, firmly by these presents.

THE CONDITION of the foregoing obligation is such that; whereas, the above bounden Principal has entered into a contract, or is about to enter into a contract with the Oblige to do and perform the following work, to-wit: **SOSCOL GATEWAY TRANSIT CENTER HUB SIGNAGE** as is more specifically set forth in said contract, to which contract reference is hereby made.

NOW, THEREFORE, if the said Principal shall well and truly do the said work, and fulfill each and every of the covenants, conditions and requirements of the said contract in accordance with the plans and specifications, then the above obligation shall be null and void, otherwise is shall remain in full force and effect.

THE SURETY does hereby consent to any and all alterations, modifications and revisions to the agreement secured by this bond including but not limited to, any extension of time for performance or modifications in manner of performance which may be agreed upon and between the Oblige and the Principal, and the Surety does hereby waive notice of any alterations, modifications, revisions, or extensions.

SEALED with our seals and dated this ____ day of _____, 20____.

Principal (Contractor): _____ Surety: _____

By: _____ By: _____

By: _____, Attorney in Fact

Signatures for Principal and Surety must be acknowledged before Notary Public

APPROVED AS TO FORM: MINH C. TRAN,
Napa County Counsel

By: _____

PAYMENT BOND

**NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY
LABOR AND MATERIAL BOND**

KNOW ALL PERSONS BY THESE PRESENTS THAT WE, ERBCO CONSTRUCTION SERVICES, INC., as Principal, and _____, duly authorized under the laws of the State of California to become solely surety bonds and undertakings, as Surety, are held and firmly bound unto any and all materialmen, persons, companies or corporations furnishing materials, provisions, provender or other supplies used in, upon, for or about the performance of the work contracted to be executed or performed under the contract hereinafter mentioned, and all persons, companies or corporations renting or hiring teams, or implements or machinery, for or contributing to said work to be done, and all persons who performed work or labor upon the same, and whose claim has not been paid by the design builder, company or corporation, in the just and full sum of ****ONE HUNDRED EIGHTY FIVE THOUSAND AND NO/100 DOLLARS **** for the payment whereof, well and truly be made, said Principal and Surety bind themselves, their heirs, administrator's successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION of the foregoing obligation is such that; whereas, the above bounden Principal has entered into a contract, or is about to enter into a contract with the NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY, a joint powers agency of the State of California, to do and perform the following work, to-wit: **SOSCOL GATEWAY TRANSIT CENTER HUB SIGNAGE.**

NOW, THEREFORE, if the above bounden Principal, person, company or corporation, or his or its subcontractor fail to pay for any materials, provisions, provender, other supplies, or terms used in, upon for or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to such work or labor, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Principal or the subcontractors of the Principal pursuant to Section 13020 of the Unemployment insurance Code with respect to the work and labor, then the Surety of this bond will pay the same, in an amount not exceeding the sum specified in this bond as well as a reasonable attorney's fee, which shall be fixed and awarded by the court to the prevailing party in said suit, said attorney's fee to be taxed as costs in said unit and to be included in the judgment therein rendered.

THE SURETY does hereby consent to any and all alterations, modifications and revisions to the contract above referred too, and work and labor under which is secured by this bond, including but not limited to, any extension of time for performance or modifications in manner of performance which may be agreed upon by and between the NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY and the Principal, and the Surety does hereby waive notice of any alterations, modifications, revisions, or extensions.

THIS BOND is executed and filed to comply with the provision of the act of Legislature of the State of California as designated in Civil Code 3247-3251, inclusive, and all amendments thereto and shall inure to the benefit of any of the persons named in Civil Code Section 3181 so as to give a right of action to those person or their assigns in any suit brought upon the bond.

SEALED with our seals and dated this ____ day of _____, 20____.

Principal (Contractor): _____ Surety: _____

By: _____ By: _____

By: _____, Attorney in Fact

Signatures for Principal and Surety must be acknowledged before Notary Public

APPROVED AS TO FORM: MINH C. TRAN,
Napa County Counsel

By: _____



ERBCO Construction Services, INC

Business Address: 433 35th Avenue

San Francisco, CA. 94121

Phone: 408-288-9500/408-846-1600

License # 942839

Napa County Transportation and Planning Agency
Re: Soscol Gateway Transit Center Hub Signage
IFB # 2013-01

Attn: Lawrence E. Gawell / Procurement Officer
Dated: 8/19/2013

Dear Mr. Gawell,

We are pleased to present to you our proposal for the above referenced project. Our proposal is a complete scope of work in accordance with the project's plans and specifications **without exception**. Generally, our proposal provides for all labor, materials and equipment necessary for the purchase, installation of and integration of real time transit information signs including fabrication and installation of way finding and transit information signage at the Soscol Gateway Transit Center located at 625 Burnell Street in Napa, California.

Our proposal is presented in response to your August 15th request for final pricing and in accordance with your IFB # 2013-01. Any further documentation, including bond and insurance certificates, DBE good faith effort will be forwarded to upon our notice to proceed with the project.

Proposal: \$185,000.00

Terms and Conditions: Progress payments based on a Schedule of Values mutually agreed to between ERBCO and NCTPA and will be made part of the contract agreement.

Exclusions: Any permits and fees.

Please do not hesitate to contact me should you have any questions. We look forward to working with you soon,

Truly,

Harry N. How III

Kulick, Renee

From: Gawell, Lawrence
Sent: Tuesday, September 03, 2013 2:04 PM
To: Kulick, Renee
Subject: FW: final pricing for Soscol
Attachments: Microsoft Word - Revised proposal Final.docx.pdf

Lawrence E. Gawell
Program Manager/Chief Procurement & Compliance
Napa County Transportation & Planning Agency
625 Burnell St.
Napa, CA 94559-2912
Tel: (707) 259-8636
Fax: (707) 259-8638
Email: lgawell@nctpa.net

From: Harry How [<mailto:hnh@erbacon.com>]
Sent: Monday, August 19, 2013 7:58 AM
To: Gawell, Lawrence
Subject: final pricing for Soscol

Good Morning Larry,

In order to come up with our final pricing I was able to secure some concessions from the RTU supplier and graphics supplier, and took a cut on the management, administration, and metal fabrication in order to come up with our final proposal. On a side note, I have enjoyed working with you and Diana in the past few weeks and hope we will be favorably considered for the project. We are very experienced with these types of projects and you will find we are very hard working and easy to work with. I am confident that we are the most qualified to deliver this project on time and on budget.

We look forward to the opportunity to work with you.

Truly,

Harry N. How III



ERBCO Construction Services, INC

Business Address: 433 35th Avenue

San Francisco, CA. 94121

Phone: 408-288-9500/408-846-1600

License # 942839

Napa County Transportation and Planning Agency

Re: Soscol Gateway Transit Center Hub Signage

IFB # 2013-01

Attn: Lawrence E. Gawell / Procurement Officer

Dated: 8/01/2013

Subject: Revised project breakdown

Dear Mr. Gawell,

I am forwarding you our revised project cost breakdown for the above referenced project as per your request. I have high lighted in red the items that were changed. These changes were made following our meeting and site visit earlier this week. The meeting was very was helpful and as you can see resulted in a substantial overall project cost savings.

We look forward to working with you and should you have any further questions please do not hesitate to call me.

Thank you for your consideration,

Harry N. How III

Soscol Gateway Transit Center Hub Signage Break Down
IFB # 2013-01

Revised 7/31/13

SHOP FABRICATION	DESCRIPTION	QTY	VALUE
Submittals and Design	Preconstruction/Design Meetings	Shop drawings and design	LS \$5,500.00
Signage	Graphics/Artwork	Lay out/Production	LS \$12,000.00
Monument sign	One Sided	Shop Fabrication	1 - A \$8,750.00
Free standing kiosks	Wayfinding Kiosks	Shop Fabrication	2 - A, B \$20,000.00
Transit Information Display	FreeStanding TID's	Shop Fabrication	1 - A,B,C,D \$18,000.00
Transit Information Display	Wall Mounted TID's	Shop Fabrication	1 - (Group of 3 - A) \$7,200.00
Information Flag	Flag 4-sided post-mounted cube	Delivery on Site	1 - A,B,C,D \$2,000.00
Information Flag	Flag 3-sided wall-mounted cube	Shop Fabrication	1 - A,B,C \$1,600.00
Signage/Overhead	Breezeway Transit Connection Signs	Shop Fabrication	2 - A, B \$6,600.00
RTD's	Real-Time Displays	SL4600TID1 As Specified	4 - A \$33,000.00
Finishes	Prep and Paint	Breeze way and cubes only	LS \$2,500.00
Handling	Packaging for protection	Shop Labor	13 - Components \$1,300.00
Delivery	Job Site Delivery	Truck - Off Hoad	\$300.00
TOTAL SHOP FABRICATION			\$118,750.00

FIELD CONSTRUCTION	CONSTRUCTION ACTIVITY	VALUE
Mobilization	Site mobilization of tools and equipment	LS \$3,500.00
Utility locates	Locations of existing underground utilities/layout	LS \$800.00
Site controls	Storm/sewer and minor traffic control	LS \$2,500.00
Concrete for monument sign	Rebar, forms and footings, concrete placement stnp, sandblast	1 \$11,000.00
Concrete Demolition	Saw cutting for RTD's	LS \$1,600.00
Concrete Restoration	Pour back concrete RTD's	LS \$1,600.00
Monument sign installation	Anchor,epoxy, and grout	1 - A \$1,600.00
RTD installation	Anchor, epoxy and grout	4 - A \$5,500.00
Free Standing TID Installation	Anchor, epoxy and grout	1 - A,B,C,D \$1,800.00
Wall Mounted TID Installation	Anchor, epoxy and grout	1 - (Group of 3 - A) \$1,200.00
Way Finding Kiosks installation	Anchor, epoxy and grout	2 - A, B \$800.00
Post mounted cube installation	Anchor, hardware	1 - A,B,C,D \$400.00
Wall mounted cube installation	Anchor	1 - A,B,C \$1,250.00
Breezeway Connection Installation	Overhead installation	2 - A, B \$2,250.00
Excavations for electrical	Excavation, and sweep up to J boxes and RTD's	LS \$1,600.00
Electrical light posts	Remove and reset light poles for electrical	4 \$0.00
Electrical conduit and wire for power	Conduit and wire, wire pull and terminations	LS \$8,500.00
Electrica/ Communications	Programming/WFI set up	LS \$3,200.00
Disposal	Off haul and disposal of debris	LS \$1,600.00
Tasting and Commissioning	Field start up Commission and training	LS \$3,200.00
Demobilization	Final site clean up	LS \$1,200.00
TOTAL CONSTRUCTION		\$55,100.00

EQUIPMENT	DESCRIPTION	VALUE
Truck	Field trucks(Forman and Labor)	LS \$1,500.00
Excavation and Compaction	Rammers	LS \$500.00
Concrete	Saws, vibrators, generator, breakers	LS \$650.00
Dust Control and fire suppression	Safety Water buffalo	1 \$1,200.00
Material Handling	Telescoping forklift	1 \$900.00
Personnel Lift	Overhead signs	1 \$250.00
Fuel	Job site fuel trucks and equipment	LS \$1,200.00
Small tools and supplies	Miscellaneous small tools and supplies	LS \$500.00
Delivery	Jobsite equipment pick up and delivery	LS \$350.00
TOTAL EQUIPMENT		\$5,550.00

ADMINISTRATION	DESCRIPTION	VALUE
Bonding and Insurance	Payment and performance bond and insurance	LS \$6,500.00
Project Management		LS \$8,500.00
Office and Administration		LS \$6,000.00
TOTAL ADMINISTRATION		\$21,000.00

SUMMARY BREAKDOWN

SHOP FABRICATION	\$118,750.00
FIELD CONSTRUCTION	\$55,100.00
EQUIPMENT	\$5,550.00
ADMINISTRATION	\$21,000.00
Subtotal	\$200,400.00
SALES TAXES	\$3,650.00
GRAND TOTAL	\$204,050.00

Art Work Break Down	Description	QTY	Value
Monument Signage	4" and 7" Letters Aluminum custom cut/fabrication and logos	1 - A	\$4,750.00
Post Mounted cube	Information Flag sign 14" x 14" 4 side custom digital	1 - A,B,C,D	\$2,200.00
Wall Mounted Cube	Information Flag sign 14" x 14" 3 side custom digital	1 - A,B,C	\$1,650.00
Breezeway Way finding	Breezeway Transk Connection Signs 14" x 96" Vinyl on Lexan	2 - A, B	\$3,400.00
Way Finding Kiosks	Custom Digital Inserts printed Maps	MTG	\$0.00
Total			\$12,000.00



ERBCO Construction Services, INC

Business Address: 433 35th Avenue

San Francisco, CA. 94121

Phone: 408-288-9500/408-846-1600

License # 942839

Napa County Transportation and Planning Agency

Re: Soscol Gateway Transit Center Hub Signage

IFB # 2013-01

Attn: Lawrence E. Gawell / Procurement Officer

Dated: 7/25/2013

Dear Mr. Gawell,

Pursuant to your request, I am forwarding you the project cost breakdown for the above referenced project as per your request. It is broken down in line items that incorporate the entire project. I made some final adjustments to the project proposal due primarily to the fact that Diana indicated to me that there will be not LED lighting incorporated into the way finding signage which reduced electrical field work and shop labor fabrication/material costs.

By way of introduction, our shop designer, electrician, and field foreman are available to you for a meeting to answer any remaining questions you may have.

Thank you for your consideration,

Harry N. How III

**Soscol Gateway Transit Center Hub Signage Break Down
IFB # 2013-01**

SHOP FABRICATION	DESCRIPTION	QTY	VALUE
Submittals and Design	Preconstruction/Design Meetings	Shop drawings and design	LS \$5,500.00
Signage	Graphics/Artwork	Lay out/Production	LS \$22,000.00
Monument sign	One Sided	Shop Fabrication	1 - A \$8,750.00
Free standing kiosks	Wayfinding Kiosks	Shop Fabrication	2 - A, B \$22,500.00
Transit Information Display	FreeStanding TID's	Shop Fabrication	1 - A,B,C,D \$18,000.00
Transit Information Display	Wall Mounted TID's	Shop Fabrication	1 - (Group of 3 - A) \$7,200.00
Information Flag	Flag 4-sided post-mounted cube	Delivery on Site	1 - A,B,C,D \$2,000.00
Information Flag	Flag 3-sided wall-mounted cube	Shop Fabrication	1 - A,B,C \$1,600.00
Signage/Overhead	Breezeway Transit Connection Signs	Shop Fabrication	2 - A, B \$6,600.00
RTD's	Real-Time Displays	SL460011D1 As Specified	4 - A \$33,000.00
Finishes	Prp and Point	As Specified	LS \$3,500.00
Handling	Packaging for protection	Shop Labor	13 - Components \$1,300.00
Delivery	Job Site Delivery	Truck - Off Hoad	\$300.00
TOTAL SHOP FABRICATION			\$132,250.00

FIELD CONSTRUCTION	CONSTRUCTION ACTIVITY	VALUE
Mobilization	Site mobilization of tools and equipment	LS \$3,500.00
Utility locates	Locations of exsisting underground utilities/layout	LS \$800.00
Site controls	Storm/sewer and minor traffic control	LS \$2,500.00
Concrete for monument sign	Rebar, forms and footings, concrete placement strip, sandblast	1 \$15,000.00
Concrete Demolition	Electrical trench, monument sign, saw cutting and core drilling	LS \$4,500.00
Concrete Restoration	Pour back concrete electrical trench	LS \$2,200.00
Monument sign Installation	Anchor,epoxy, and grout	1 - A \$1,600.00
RTD Installation	Anchor, epoxy and grout	4 - A \$5,500.00
Free Standing TID Installation	Anchor, epoxy and grout	1 - A,B,C,D \$1,800.00
Wall Mounted TID Installation	Anchor, epoxy and grout	1 - (Group of 3 - A) \$1,200.00
Way Finding Kiosks Installation	Anchor, epoxy and grout	2 - A, B \$800.00
Post mounted cube installation	Anchor, hardware	1 - A,B,C,D \$400.00
Wall mounted cube installation	Anchor	1 - A,B,C \$1,250.00
Breezeway Transit Connection Installation	Overhead installation	2 - A, B \$2,250.00
Excavations for electrical	Excavation,sand,backfill and compact	LS \$3,000.00
Electrical light posts	Remove and reset light poles for electrical	4 \$3,000.00
Electrical conduit and wire for power	Conduit and wire in trench, wire pull and terminations	LS \$8,500.00
Electrica/ Communications	Programing/WFI set up	LS \$3,200.00
Disposal	Offf haul and disposal of debris	LS \$1,600.00
Testing and Commissioning	Field start up Commission and training	LS \$3,200.00
Demobilization	Final site clean up	LS \$1,200.00
TOTAL CONSTRUCTION		\$67,000.00

EQUIPMENT	DESCRIPTION	VALUE
Truck	Field trucks(Forman and Labor)	LS \$1,500.00
Excavation and Compaction	Excavator and rammers	LS \$800.00
Concrete	Core drills, vibrators, generator,breakers	LS \$650.00
Dust Control and fire suppression	Water buffalo	1 \$1,200.00
Material Handling	Telescoping forklift	1 \$1,850.00
Personnel Lift	Overhead signs	1 \$250.00
Fuel	Job site fuel trucks and equipment	LS \$1,200.00
Small tools and supplies	Miscellaneous small tools and supplies	LS \$500.00
Delivery	Jobsite equipment pick up and delivery	LS \$350.00
TOTAL EQUIPMENT		\$5,850.00

ADMINISTRATION	DESCRIPTION	VALUE
Bonding and Insurance	Payment and performance bond and insurance	LS \$7,000.00
Project Management		LS \$8,500.00
Office and Administration		LS \$6,000.00
TOTAL ADMINISTRATION		\$21,500.00

SUMMARY BREAKDOWN	
SHOP FABRICATION	\$132,250.00
FIELD CONSTRUCTION	\$67,000.00
EQUIPMENT	\$5,850.00
ADMINISTRATION	\$21,500.00
Subtotal	\$226,600.00
SALES TAXES	\$8,336.00
GRAND TOTAL	\$234,936.00



ERBCO Construction Services, INC

Business Address: 433 35th Avenue
San Francisco, CA. 94121
Phone: 408-288-9500/408-846-1600
License # 942839

Napa County Transportation and Planning Agency
Re: Soscol Gateway Transit Center Hub Signage
IFB # 2013-01
Attn: Lawrence E. Gawell / Procurement Officer
Dated: 7/19/2013

Dear Mr. Gawell,

We are pleased to present to you our sealed proposal for the above referenced project. Our proposal is a complete scope of work in accordance with the project's plans and specifications: Generally, our proposal provides for all labor, materials and equipment necessary to purchase, install and integrate real time transit information signs and to fabricate, purchase and install way finding and transit information signage at the Soscol Gateway Transit Center located at 625 Burnell Street in Napa, California.

Specifically, the plan sheet details call for the following:

- Monument Sign 1-sided monument sign: SG5.01/1 EA
- Way finding Kiosks 2-sided freestanding: SG5.01/3 EA
- Transit Information Display (TID) cases 4-sided freestanding: SG5.02/5 EA
- Transit Information Display (TID) cases 3 wall-mounted cases: SG5.01/2 EA
- Information Flag 4-sided post-mounted cube: SG5.02/7 EA
- Information Flag 3-sided wall-mounted cube: SG5.02/6 EA
- Breezeway Transit Connection Signs 2-sided ceiling/overhead mounted: SG5.01/5 EA
- Real-Time Displays NEMA4 High-brightness LCD screen: SG5.01/4 E
- Suntronic All-Weather Outdoor Kiosk
- Stand Model SL4600 or approved equal.

Our proposal package is presented on the NCTPA format as requested. Any further documentation, including bond and insurance certificates will be forwarded to you upon your request. Please do not hesitate to contact me should you have any questions. We look forward to work with you soon,

Truly,

Harry N. How III

BID FORM
(MAY BE DETACHED AND SUBMITTED ALONE)

TO THE BOARD OF DIRECTORS
OF NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY
NAPA, CALIFORNIA

FOR:
SOSCOL GATEWAY TRANSIT CENTER HUB SIGNAGE PROJECT

NAME OF BIDDER ERBCO CONSTRUCTION SERVICES
BUSINESS P.O. BOX P.O. Box 50
CITY, STATE, ZIP SAN MARTIN, CA. 95046
BUSINESS STREET ADDRESS 432 35TH AVENUE,
(Please include even if P.O. Box used)
CITY, STATE, ZIP SAN FRANCISCO, CA. 94121
TELEPHONE NO: AREA CODE (415) 702-6057
FAX NO: AREA CODE () SAME
CONTRACTOR LICENSE NO. 942839

The work for which this bid is submitted is for construction in conformance with the special provisions (including the payment of not less than the State general prevailing wage rates or Federal minimum wage rates), the project plans described below, including any addenda thereto, the contract annexed hereto, and also in conformance with the California Department of Transportation Standard Plans, dated May, 2006, the Standard Specifications, dated May, 2006, and the Labor Surcharge and Equipment Rental Rates in effect on the date the work is accomplished.

The special provisions for the work to be done are dated 1-25-2013 and are entitled:

NCTPA
STATE OF CALIFORNIA
TECHNICAL SPECIFICATIONS FOR
SOSCOL GATEWAY TRANSIT CENTER REGIONAL HUB SIGNAGE PROJECT R.5

The project plans dated 3/15/2013 for the work to be done are part of the special provisions.

Bids are to be submitted for the entire work. The bidder shall set forth for each unit basis item of work a unit price and a total for the item, and for each lump sum item a total for the item, all in clearly legible figures in the respective spaces provided for that purpose. In the case of unit basis items, the amount set forth under the "Item Total" column shall be the product of the unit price bid and the estimated quantity for the item.

In case of discrepancy between the unit price and the total set forth for a unit basis item, the unit price shall prevail, except as provided in (a) or (b), as follows:

- (a) If the amount set forth as a unit price is unreadable or otherwise unclear, or is omitted, or is the same as the amount as the entry in the item total column, then the amount set forth in the item total column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price;
- (b) (Decimal Errors) If the product of the entered unit price and the estimated quantity is exactly off by a factor of ten, one hundred, etc., or one-tenth, or one-hundredth, etc. from the entered total, the discrepancy will be resolved by using the entered unit price or item total, whichever most closely approximates percentagewise the unit price or item total in the NCTPA's Final Estimate of cost.

If both the unit price and the item total are unreadable or otherwise unclear, or are omitted, the bid may be deemed irregular. Likewise if the item total for a lump sum item is unreadable or otherwise unclear, or is omitted, the bid may be deemed irregular unless the project being bid has only a single item and a clear, readable total bid is provided.

Symbols such as commas and dollar signs will be ignored and have no mathematical significance in establishing any unit price or item total or lump sums. Written unit prices, item totals and lump sums will be interpreted according to the number of digits and, if applicable, decimal placement. Cents symbols also have no significance in establishing any unit price or item total since all figures are assumed to be expressed in dollars and/or decimal fractions of a dollar. Bids on lump sum items shall be item totals only; if any unit price for a lump sum item is included in a bid and it differs from the item total, the items total shall prevail.

The foregoing provisions for the resolution of specific irregularities cannot be so comprehensive as to cover every omission, inconsistency, error or other irregularity which may occur in a bid. Any situation not specifically provided for will be determined in the discretion of the NCTPA, and that discretion will be exercised in the manner deemed by NCTPA to best protect the public interest in the prompt and economical completion of the work. The decision of the NCTPA respecting the amount of a bid, or the existence or treatment of an irregularity in a bid, shall be final.

If this bid shall be accepted and the undersigned shall fail to enter into the contract and furnish the 2 bonds in the sums required by the State Contract Act, with surety satisfactory to NCTPA within 8 days, not including Saturdays, Sundays and legal holidays, after the bidder has received notice from the NCTPA that the contract has been awarded, NCTPA may, at its option, determine that the bidder has abandoned the contract, and thereupon this bid and the acceptance thereof shall be null and void and the forfeiture of the security accompanying this bid shall operate and the same shall be the property of NCTPA. The undersigned, as bidder, declares that the only persons or parties interested in this bid as principals are those named herein; that this bid is made without collusion with any other person, firm, or corporation; that the location of the proposed work has been carefully examined, along with the annexed proposed form of contract, and the plans therein referred to; and Contractor proposes, and agrees if this bid is accepted, that Contractor will contract with NCTPA in the form of the copy of the contract annexed hereto, to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the contract, in the manner and time therein prescribed, and according to the requirements of the Engineer as therein set forth, and that Contractor will take in full payment therefore the following prices, to wit:

SOSCOL GATEWAY TRANSIT CENTER HUB SIGNAGE PROJECT

BASE BID[illegible]**TOTAL BASE BID**

TOTAL BASE BID: 244,500.⁰⁰/XX

TOTAL BASE BID (Written Number): ~~TWO HUNDRED FOUR HUNDRED~~
TWO HUNDRED AND FORTY-FOUR THOUSAND FIVE HUNDRED
DOLLARS

ADDENDUM ACKNOWLEDGEMENT

Bidder acknowledges receipt of the following addenda which are attached to the bid:

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

LIST OF SUBCONTRACTORS

Pursuant to Section 4100 to 4113 of the Public Contract Code, Section 2-1.054, "Required Listing of Proposed Subcontractors," and Section 8-1.01 "Subcontracting" of the Standard Specifications, Section 2-1.01, "General," of the special provisions and, each bidder shall complete and submit this form with his bid in accordance with the following instructions.

1. For each subcontract item to be performed by a subcontractor, the following shall be indicated herein: the company name of the subcontractor, the portion of work to be performed and the location of the place of business.
2. Only one subcontractor shall be listed for each craft unless there is an alternate bid in which case a different subcontractor, when so designated, may be listed for the alternate work.
3. All fields must be completed as specified or bid will be rejected.

Subcontractor Name (Company Name)	Portion of Work (i.e. Electrical, Striping, Roofing, etc.)	Location of Business (City and State)
EDWARD R. BACON COMPANY, INC.	ELECTRICAL	SACRAMENTO, CALIFORNIA SAN MARTIN, CALIFORNIA

(THE BIDDER'S EXECUTION ON THE SIGNATURE PORTION OF THIS BID SHALL ALSO CONSTITUTE AN ENDORSEMENT AND EXECUTION OF THOSE CERTIFICATIONS WHICH ARE A PART OF THIS BID)

EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

The bidder ERBCO CONSTRUCTION SERVICES, INC, proposed subcontractor EDWARD R. BACON COMPANY, INC, hereby certifies that he has ☒, has not ☐, participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

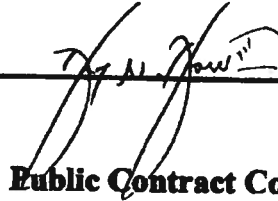
Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

PUBLIC CONTRACT CODE

Public Contract Code Section 10285.1 Statement

In conformance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder has , has not ✓ been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or Federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The bidder must place a check mark after "has" or "has not" in one of the blank spaces provided. The above Statement is part of the Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Statement. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.



Public Contract Code Section 10162 Questionnaire

In conformance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

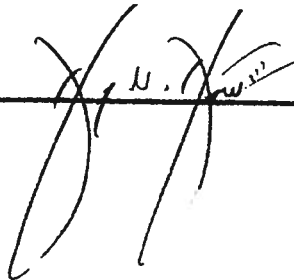
Yes No ✓

If the answer is yes, explain the circumstances in the following space.

Public Contract Code 10232 Statement

In conformance with Public Contract Code Section 10232, the Contractor, hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

Note: The above Statement and Questionnaire are part of the Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Statement and Questionnaire.
Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

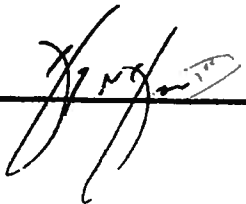
A handwritten signature in black ink, consisting of stylized, overlapping loops and strokes, is written over a solid horizontal line.

Noncollusion Affidavit
(Title 23 United States Code Section 112 and
Public Contract Code Section 7106)

To the NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY

In conformance with Title 23 United States Code Section 112 and Public Contract Code 7106 the bidder declares that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Note: The above Noncollusion Affidavit is part of the Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Noncollusion Affidavit.
Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.


A horizontal line with a handwritten signature written over it.

DEBARMENT AND SUSPENSION CERTIFICATION

TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29

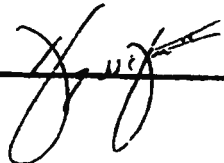
The bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, manager:

- is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal agency;
- has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal agency within the past 3 years;
- does not have a proposed debarment pending; and
- has not been indicted, convicted, or had a civil judgement rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Notes: Providing false information may result in criminal prosecution or administrative sanctions. The above certification is part of the Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Certification.

A handwritten signature in black ink, appearing to be "J. W. [unclear]", is written over a solid horizontal line.

BIDDERS SECURITY

Accompanying this bid is

N/A
(NOTICE: INSERT THE WORDS "CASH(\$ _____)," "CASHIER'S CHECK,"
"CERTIFIED CHECK," OR "BIDDER'S BOND," AS THE CASE MAY BE.)

in amount equal to at least ten percent (10%) of the total of the bid.

The names of all persons interested in the foregoing bid as principals are as follows:

IMPORTANT NOTICE

If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer, and manager thereof; if a copartnership, state true name of firm, also names of all individual copartners composing firm; if bidder or other interested person is an individual, state first and last names in full.

ERBCO CONSTRUCTION SERVICES, INC

HARRY NASH HOW III -> PRESIDENT

HARRY NASH HOW II -> VICE PRESIDENT

DAVID C. HOW -> SECRETARY

Licensed in conformance with an act providing for the registration of Contractors,

License No. 94-2839

Classification(s) A + B

ADDENDA -

This bid is submitted with respect to the changes to the contract included in addenda number/s 1A

(Fill in addenda numbers if addenda have been received and insert, in this Bid, any Engineer's Estimate sheets that were received as part of the addenda.)

By my signature on this bid I certify, under penalty of perjury under the laws of the State of California, that the foregoing questionnaire and statements of Public Contract Code Sections 10162, 10232 and 10285.1 are true and correct and that the bidder has complied with the requirements of Section 8103 of the Fair Employment and Housing Commission Regulations (Chapter 5, Title 2 of the California Administrative Code). By my signature on this bid I further certify, under penalty of perjury under the laws of the State of California and the United States of America, that the Noncollusion Affidavit required by Title 23 United States Code, Section 112 and Public Contract Code Section 7106; and the Title 49 Code of Federal Regulations, Part 29 Debarment and Suspension Certification are true and correct.

Date: 7/17/2013



[Signature]
PRESIDENT
Signature and Title of Bidder

Business Address P.O. Box 52, SAN MARTIN, CA. 95046

Place of Business SAN FRANCISCO

Place of Residence SAN FRANCISCO

**NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY
STATE OF CALIFORNIA**

BIDDER'S BOND

We, N/A _____ as Principal, and

as Surety are bound unto the Napa County Transportation and Planning Agency, State of California, hereafter referred to as "Obligee", in the penal sum of ten percent (10%) of the total amount of the bid of the Principal submitted to the Obligee for the work described below, for the payment of which sum we bind ourselves, jointly and severally,

THE CONDITION OF THIS OBLIGATION IS SUCH, THAT:

**WHEREAS, THE PRINCIPAL IS SUBMITTED TO THE OBLIGEE,
for the SOSCOL GATEWAY TRANSIT CENTER HUB SIGNAGE PROJECT**

for which bids are to be opened at _____ on _____
(Insert place where bids will be opened) (Insert date of bid opening)

NOW, THEREFORE, if the Principal is awarded the contract and, within the time and manner required under the specifications, after the prescribed forms are presented to him for signature, enters into a written contract, in the prescribed form, in conformance with the bid, and files two bonds with the Obligee, one to guarantee faithful performance of the contract and the other to guarantee payment for labor and materials as provided by law, then this obligation shall be null and void; otherwise, it shall remain in full force.

In the event suit is brought upon this bond by the Obligee and judgment is recovered, the Surety shall pay all costs incurred by the Obligee in such suit, including a reasonable attorney's fee to be fixed by the court.

Dated: _____, 20 ____.

Principal

Surety
By _____
Attorney-in-fact

CERTIFICATE OF ACKNOWLEDGEMENT

State of California
City/County of _____ SS

On this _____ day of _____ in the year 20 ____ before me
_____, personally appeared _____,

Attorney-in-fact
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to this instrument as the attorney-in-fact of _____, and acknowledged to me that he (she) subscribed the name of the said company thereto as surety, and his (her) own name as attorney-in-fact.

(SEAL)

Notary Public

BIDDER'S QUESTIONNAIRE

NCTPA IFB 2013-01

SOSCOL GATEWAY TRANSIT CENTER HUB SIGNAGE PROJECT

This questionnaire is an integral part of a bidder's bid, and shall be completed. Failure to provide the required information may cause rejection of your bid. All references and information shall be current and traceable. If the bidder is a joint venture, each venturer shall prepare a separate form.

NAME OF BIDDER: ERBCO CONSTRUCTION SERVICES, INC

PRINCIPAL OFFICE ADDRESS 433 35TH AVE
SAN FRANCISCO

TELEPHONE 408-288-9508 FAX 408-846-1662
(AREA CODE)

E-MAIL ADDRESS: HNH@ERBACON.COM

1. Are you an individual ____, a partnership ____, a corporation ☒, or a joint venture ____? (Check appropriate business structure).

If partnership, list names and addresses of partners; if corporation, list names of officers and directors and State of incorporation; if joint venture, list names and addresses of venture's and, if any venturer is a corporation, partnership or joint venture, list the same information for each such corporation, partnership and joint venturer.

NAME	ADDRESS
<u>HARRY NASH HOW II</u>	<u>433 35TH AVENUE, SAN FRANCISCO, CA. 94121</u>
<u>HARRY NASH HOW II</u>	<u>1108 ARROYO DRIVE, PEBBLE BEACH, SAN FRANCISCO, CA. 95901</u>
<u>DAVID C. HOW</u>	<u>" " " " " "</u>

2. How many years has your organization been in business as a contractor under your present business name? 5 Years.

3. How many people does your firm currently employ? 8 in Napa County? 0

4. Of the people employed, what are the job classifications involved in the services required by this solicitation, and how many people are assigned to each classification?

JOB CLASSIFICATION	NO. OF EMPLOYEES
<u>OPERATOR/FORMAN</u>	<u>2</u>
<u>LABOR</u>	<u>2</u>

5. What is the location of your facility located in Napa County? What is the square footage of this facility? (If the facility is not in Napa County, indicate the location and square footage of the nearest facility to NCTPA's Administrative Offices on Burnell Street).

N/A

6. What are the types and number of vehicles you will use in the performance of services required by this solicitation?

TYPE	NUMBER
TRUCK? PICK-UP	2
MATERIAL HANDLING	2

7. List the names of companies and public agencies that you have furnished service to within the last twelve months.

NAME OF CLIENT	BUSINESS ADDRESS	TYPE OF BUSINESS	PERSON TO CONTACT	TELEPHONE
CALIF STATE PARKS REC	55 KELLY STREET	PARKS MAINT	CINDY SPENCER	850-222-5725
STATE OF CALIFORNIA CALTRANS	SACRAMENTO	CONSTRUCTION	ALEX	510-286-6372
REDWOOD ENGINEERING	2836 EL CAMINO REAL	ENGINEERING	BEN CERNEY	650-368-9908
UCC R RETREATS	1324 S. POINT RD	CONSTRUCTION	MIKE CARA	800-678-5102

8. List the names of companies and public agencies that you have current orders for the same or similar service.

NAME OF CLIENT	AUTHORITY	BUSINESS ADDRESS	TYPE OF BUSINESS	PERSON TO CONTACT	TELEPHONE
GOLDEN GATE BRIDGE		PRESIDIO STATION/ST	SIGNAGE	JIM	415-882-2299
MITSUBISHI ELEVATOR		OAKLAND	SIGNAGE	JOHN SPALDING	209-986-4816
STATE CALIF PARKS/REC		55 KELLY STREET	SIGNAGE	CINDY	650-222-5725

9. Have you or your organization, or any officer or partner thereof, failed to complete a contract? If so, give details:

NO

10. Is any litigation pending against your organization? If so, give details:

NO

11. Are you a registered SBE/DBE/UDBE? If yes, with which agency do you hold your certification:

STATE OF CALIFORNIA DEPARTMENT OF GENERAL SVC.

The undersigned certifies that (s)he is legally authorized by the bidder to make the statements and representations contained in this document, and represents and warrants that the foregoing information is true and accurate to the best of his knowledge, and intends that the Napa County Transportation and Planning Agency, Napa County, California, rely thereon in evaluating the bidder.

Name of Company: ERBCO CONSTRUCTION SERVICES, INC

Signature: 

Printed Name/Title: Harry N. How III - PRESIDENT

Date: 7/17/2013

NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY

STATE OF CALIFORNIA

NOTICE TO CONTRACTORS

BID NO.2013-01

Pursuant to California Public Contract Code section 22000 *et seq.*, sealed bids for the work shown on the plans entitled Soscol Gateway Transit Center Hub Signage Project will be received at the Napa County Transportation and Planning Agency, 625 Burnell Street, Napa, CA 94559, until 2:30 p.m., May 29, 2013 at which time they will be publicly opened and read.

Proposals shall provide all labor, materials and equipment necessary to purchase, install and integrate real time transit information signs and to fabricate and install wayfinding and transit information signage at the Soscol Gateway Transit Center located at 625 Burnell Street in Napa California.

Proposals shall be submitted under sealed cover plainly marked as a proposal, and identifying the project to which the proposal relates and the date of the bid opening therefore. Proposals must be accompanied by a Bidders Bond (or cash, cashier's check) in an amount equal to ten percent (10%) of the bid. Bids which are not properly marked will be rejected. Bids are required for the entire work called for by the Plans and Specifications, and neither partial nor contingent bids will be considered.

WEBSITE REGISTRATION: Bidders must register on NCTPA's website as a condition of bidding to insure receiving notification of any potential addendums or other pertinent information, as well as notification of closing and award even if this was a manually processed bid invitation. Go to www.nctpa.net and select the <http://www.nctpa.net/procurement-opportunities>. The system will lead you through the registration process. You will get a confirmation email of your registration that you must acknowledge and then you are a confirmed registered vendor. If any addendums or notifications for this solicitation or future solicitations of similar items are posted to the NCTPA website, you will receive email notification.

This contract is subject to state contract nondiscrimination and compliance requirements pursuant to Government Code, Section 12990.

Bidder shall be licensed under the provisions of Chapter 9, Division 3 of the Business and Professions Code of the State of California to do the type of work contemplated in the project; Bidder shall possess a valid Contractor's License issued by the Contractor's State License Board at the time of bid submission. The class of license shall be Class C-45 and/or C-10;

OBTAINING CONTRACT DOCUMENTS: The Bid Packet may be viewed at the office of the Napa County Transportation and Planning Agency, 625 Burnell St., Napa, California. Copies of the contract documents, specifications and drawings may be obtained by logging on to the NCTPA web site at www.nctpa.net. Bid sets may also be obtained at Fryes Printing Inc., 1050 Lincoln Ave, Napa CA 94558, (707) 254-1391, upon payment of copying costs. All bidders must register on-line at nctpa.net order to be considered responsive and to receive addenda notifications.

A mandatory pre-bid site visit and bidder's conference will be held at NCTPA, 625 Burnell Street, Napa, California on May 14, 2013 @ 2:00 p.m., local time. Bidders are encouraged to visit the site before or after the meeting at 625 Burnell Street, Napa, California.

Inquiries or questions based on alleged patent ambiguity of the plans, specifications or estimate must be communicated as a bidder inquiry prior to bid opening. Any such inquiries or questions, submitted after bid opening, will not be treated as a bid protest.

All questions must be mailed, faxed or e-mailed by 5:00 p.m., local time, on May 17, 2013, to Lawrence E. Gawell,

NCTPA, 625 Burnell Street, Napa, California, 94559; Fax # 707-259-8638; lgawell @nctpa.net. No questions will be accepted after this date. No response will be given to questions received by phone.

The successful bidder shall furnish a Labor and Material Bond and a Performance Bond, each equal to 100% of the contract price with good and sufficient surety.

Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates in the county in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. The general prevailing wage rates are on file and may be viewed at <http://www.dir.ca.gov/dlsr/pwd/index.htm>. Addenda to modify wage rates, if necessary, will be issued to holders of the project book entitled "Special Provisions, Notice to Contractors, Proposal and Contract for the project.

Future effective general prevailing wage rates, which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the general prevailing wage rates.

If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, the Contractor and subcontractors shall pay not less than the higher wage rate. NCTPA will not accept lower State wage rates not specifically included in the Federal minimum wage determinations. This includes "helper" (or other classifications based on hours of experience) or any other classification not appearing in the Federal wage determinations. Where Federal wage determinations do not contain the State wage rate determination otherwise available for use by the Contractor and subcontractors, the Contractor and subcontractors shall pay not less than the Federal minimum wage rate that most closely approximates the duties of the employees in questions.

The U.S. Department of Transportation (DOT) provides a toll-free "hotline" service to report bid-rigging activities. Bid rigging activities can be reported Mondays through Fridays, between 8:00 a.m. and 5:00 p.m., Eastern Time, Telephone No. 1-800-424-9071. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities. The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

No bid will be considered unless it is made on a blank form furnished by NCTPA and is made in accordance with the provisions of the proposal requirements and conditions set forth under Section 2 of the Standard Specifications of the State California, Department of Transportation, dated July 2006, except as modified in the above referred Special Provisions. Bids containing interlineations, changes or strikeouts will be deemed non-responsive.

Protest procedures: Any bid protest must be submitted in writing to the Executive Director, NCTPA, 625 Burnell St., Napa, CA 94559 in accordance with the procedures outlined in the NCTPA Procurement Policies and Procedures Manual. The procedure and time limits set forth therein are mandatory and are the bidder's sole and exclusive remedy in the event of bid protest. Failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing of a claim against NCTPA under the California Government Code or legal proceedings.

The NCTPA reserves the right to reject any or all bids.

Dated 5/1, 2013



KATE MILLER
Executive Director

GENERAL CONDITIONS FOR SOSCOL GATEWAY TRANSIT CENTER HUB SIGNAGE PROJECT
TABLE OF CONTENTS

SECTION 1. SPECIFICATIONS AND PLANS.....	2
SECTION 2. PROPOSAL REQUIREMENTS AND CONDITIONS.....	3
2.1 GENERAL/BIDDER QUALIFICATIONS AND ELIGIBILITY FOR AWARD:.....	3
SECTION 3. AWARD AND EXECUTION OF CONTRACT.....	4
3.1 AWARD OF CONTRACT:.....	4
3.2 CONTRACT BONDS:.....	4
3.3 EXECUTION OF CONTRACT:.....	4
3.4 FAILURE TO EXECUTE CONTRACT:.....	4
3.5 RETURN OF PROPOSAL GUARANTEES:.....	4
SECTION 4. BEGINNING OF WORK, TIME OF COMPLETION, LIQUIDATED DAMAGE, TERMINATION	5
SECTION 5. GENERAL	6
5.1 LABOR NONDISCRIMINATION.....	6
5.2 PREVAILING WAGE	6
5.3 PUBLIC SAFETY	6
5.4 YEAR 2000 COMPLIANCE	7
5.5 HOLD HARMLESS/INDEMNIFICATION/INSURANCE.....	7
5.6 EXAMINATION AND AUDIT	8
5.7 SIGN LOCATION.....	8
5.8 REMOVAL OF ASBESTOS AND HAZARDOUS SUBSTANCES.....	8
5.9 SUBCONTRACTOR AND DBE RECORDS.....	9
5.11 PERFORMANCE OF SUBCONTRACTORS.....	9
5.12 SUBCONTRACTING.....	9
5.13 PROMPT PROGRESS PAYMENT TO SUBCONTRACTORS	9
5.14 PAYMENTS.....	9
5.15 GUARANTEES.....	12

**NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY
STATE OF CALIFORNIA**

**GENERAL CONDITIONS
SOSCOL GATEWAY TRANSOT CENTER HUB SIGNAGE PROJECT**

SECTION 1. SPECIFICATIONS AND PLANS

The work embraced herein shall be done in accordance with the Standard Specifications dated May 2006, and the Standard Plans dated May 2006, of the Department of Transportation, insofar as the same may apply, and these special provisions.

In case of conflict between the Standard Specifications and these special provisions, the special provisions shall take precedence over and be used in lieu of the conflicting portions.

Amendments to the Standard Specifications set forth in these special provisions shall be considered as part of the Standard Specifications for the purposes set forth in Section 5-1.04, "Coordination and Interpretation of Plans, Standard Specifications and Special Provisions," of the Standard Specifications. Whenever either the term "Standard Specifications is amended" or the term "Standard Specifications are amended" is used in the special provisions, the indented text or table following the term shall be considered an amendment to the Standard Specifications. In case of conflict between such amendments and the Standard Specifications, the amendments shall take precedence over and be used in lieu of the conflicting portions.

The first sentence of the first paragraph of Section 1-1.29, "Plans," of the Standard Specifications is amended to read:

The official project plans, and Standard Plans, profiles, typical cross sections, working drawings and supplemental drawings, or reproductions thereof, approved by the Engineer, show the location, character, dimensions and details of the work to be performed.

DEFINITIONS AND TERMS

As used herein, unless the context otherwise requires, the following terms have the following meaning:

NCTPA. Napa County Transportation and Planning Agency

Department of Transportation. The Board of Directors of the Napa County Transportation and Planning Agency, State of California.

Director of Transportation. The Chairman of the Board of Directors of the Napa County Transportation and Planning Agency, State of California.

Engineer. NCTPA Engineer, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

Laboratory. The established laboratory of the Materials and Research Department of Transportation of the State of California or laboratories authorized by the Engineer to test materials and work involved in the contract.

State. The Napa County Transportation and Planning Agency.

Transportation Building, Sacramento. Napa County Transportation and Planning Agency office, State of California.

State Highway Engineer. NCTPA Engineer.

Standard Specifications. The 2006 edition of the Standard Specifications of the State of California, Department of Transportation. Any reference therein to the State of California or a State agency, office or officer shall be interpreted to refer to the Napa County Transportation and Planning Agency or its corresponding agency, office or officer acting under this contract.

State of California. Napa County Transportation and Planning Agency

SECTION 2. PROPOSAL REQUIREMENTS AND CONDITIONS

2.1 GENERAL/BIDDER QUALIFICATIONS AND ELIGIBILITY FOR AWARD:

Each bidder shall complete and submit with the bid, the Bidder's Questionnaire contained in these documents. If the bidder is a joint venture, each joint venture shall prepare and submit a separate form. Failure to complete and return the Bidder's Questionnaire shall be grounds for rejection of the bid. Three Copies of the bid must be received in sealed envelope with bidder's company name, bid number, closing date & time noted on the outside of the envelop. At this time electronically submitted bids will not be accepted.

When Federal, State or Local law or ordinance requires a special license or permit, a bidder must be properly licensed prior to submitting a bid and furnish evidence of such with the bid.

In order for a bidder to be eligible to be awarded the Contract, the bid must be responsive to the Solicitation and NCTPA must be able to determine that the bidder is responsible to perform the Contract satisfactorily.

Bids deviating or taking exception to the Solicitation requirements will not be considered.

Bidder shall have the equipment, organization, facilities and financial capability to perform the services required by this Solicitation. No work shall be brokered under this Solicitation.

Bidder shall Be licensed under the provisions of Chapter 9, Division 3 of the Business and Professions Code of the State of California to do the type of work contemplated in the project; Bidder shall possess a valid Contractor's License issued by the Contractor's State License Board at the time of bid submission. The class of license shall be Class C-45 and/or C-10;

Website Registration: Bidders must register on NCTPA's website as a condition of bidding to insure receiving notification of any potential addendums or other pertinent information, as well as notification of closing and award even if this was a manually processed bid invitation. Go to www.nctpa.net and select <http://nctpa.net/procurement-opportunities>. The system will lead you through the registration process. You will get a confirmation email of your registration that you must acknowledge and then you are a confirmed registered vendor. If any addendums or notifications for this solicitation or future solicitations of similar items are posted to the NCTPA website, you will receive an e-mail notification.

The bidder's attention is directed to the provisions in Section 2, "Proposal Requirements and Conditions," of the Standard Specifications and these special provisions for the requirements and conditions which the bidder must observe in the preparation of the proposal form and the submission of the bid.

In addition to the subcontractors required to be listed in conformance with Section 2-1.054, "Required Listing of Proposed Subcontractors," of the Standard Specifications, each proposal shall have listed therein the portion of work that will be done by each subcontractor listed when that portion is equal to or greater than one-half of one percent of the total work. A sheet for listing the subcontractors is included in the Proposal.

The form of Bidder's Bond mentioned in the last paragraph in Section 2-1.07, "Proposal Guaranty," of the Standard Specifications will be found in the Proposal packet.

Pursuant to Public Contract Code Section 22300 the Contractor is hereby permitted to substitute securities of the kind listed below in place of the ten percent (10%) retention withheld in accordance with this section, or any other moneys withheld by NCTPA to insure performance of this contract. At the request and expense of the Contractor, securities equivalent to the amount or amounts withheld may be deposited directly with NCTPA, or with a state or federally chartered bank as the escrow agent, who shall pay such moneys to the Contractor upon satisfactory completion of this contract. The Executive Director is authorized to execute documents necessary for this purpose. The Contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall be entitled to receive any interest thereon. Securities eligible for investment under this provision shall include those listed in Government Code, Section 16430, or bank or savings and loan certificates of deposit. The ten percent (10%) retention or other moneys withheld will not be released to the Contractor until NCTPA has satisfied itself that the substitution of securities has been made in accordance with the provisions of this paragraph.

In conformance with Public Contract Code Section 7106, a Noncollusion Affidavit is included in the Proposal. Signing the Proposal shall also constitute signature of the Noncollusion Affidavit.

The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of Title 49 CFR (Code of Federal Regulations) part 26 in the award and administration of US DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate. Each subcontract signed by the bidder must include this assurance.

Failure of the bidder to fulfill the requirements of the Special Provisions for submittals required to be furnished after bid opening, including but not limited to escrow bid documents, where applicable, may subject the bidder to a determination of the bidder's responsibility in the event it is the apparent low bidder on a future public works contracts.

2.2 (Reserved)

2.3 (Reserved)

SECTION 3. AWARD AND EXECUTION OF CONTRACT

3.1 AWARD OF CONTRACT:

Contracts shall be awarded to the lowest responsive and responsible bidder found to have the fitness, quality, and capacity to satisfactorily deliver the goods and services as detailed in the bid package. Any potential contract award will be subject to a NCTPA technical and business evaluation of the bidder prior to any contract award. NCTPA reserves the right to reject any and all bids or to waive any formalities or technicalities in any bid in the interest of the authority and to award it to the best interest of the authority. Single conforming bids are subject to price or cost analysis by the Authority. Bids will be valid for review and award up to 90 days after bid opening. The specific basis of award is designated on the Bid Form Schedule of Prices sheet that is a part of this bid document.

The award of the contract, if it be awarded, will be made within sixty (60) days from the date bids are opened, to the lowest responsible bidder, whose proposal complies with all the requirements prescribed. The contract shall be in the form of the contract attached to these bid documents.

3.2 CONTRACT BONDS:

The successful bidder shall furnish three (3) good and sufficient bonds issued by a corporate surety in good financial standing and authorized and admitted to transact a surety business in the State of California (three copies each) for purposes and in the amounts stated below. These bonds, together with the executed contract, shall be submitted within ten (10) days after receipt of the Notice of Award.

Performance Bond: A performance bond shall be furnished to guarantee the faithful performance of the terms and conditions of the contract by the contractor, which shall be executed in a sum of not less than one hundred percent of the contract price.

Labor and Materials Bond: A labor and materials bond (payment bond) shall be furnished in accordance with Chapter 7, Section 3247 et seq. of the California Civil Code to guarantee NCTPA against any and all claims of subcontractors or other third parties furnishing labor, materials, or supplies for the contract, which shall be executed in a sum of one hundred percent (100%) of the contract price.

Whenever any surety or sureties on any such bonds, or on any bonds required by law for the protection of the claims of laborers and materials-men become insufficient, or NCTPA has cause to believe that such surety or sureties have become insufficient, a demand in writing may be made of the contractor for such further bond or bonds or additional surety, not exceeding that originally required, as is considered necessary considering the extent of the work remaining to be done. Thereafter no payment shall be made upon such contract to the contractor or any assignees of the contractor until such bond or bonds or additional surety has been furnished.

3.3 EXECUTION OF CONTRACT:

The contract shall be signed by the successful bidder and returned, together with three copies each of any required contract bonds and the correct insurance certificates within ten (10) calendar days after the successful bidder has received notice that that contract has been awarded. If the successful bidder is a corporation, the contract shall be signed by two corporate officers, one from each of the following two groups: a) the chairman of the board, president or any vice-president; b) the secretary, any assistant secretary, chief financial officer, or any assistant treasurer. In the alternative, if the contract contains a corporate seal, it may be executed by one corporate official.

3.4 FAILURE TO EXECUTE CONTRACT:

Failure to execute a contract and file acceptable bonds and insurance certificates as hereunder required within ten (10) calendar days after the successful bidder has received notice that the contract has been awarded shall be just cause for the annulment of the award and the forfeiture of the proposal guaranty. If the successful bidder refuses or fails to execute the contract, NCTPA may award the contract to the second lowest responsible bidder. If the second lowest responsible bidder refuses or fails to execute the contract, NCTPA may award the contract to the third lowest responsible bidder. On the refusal or failure of the second or third lowest bidders to execute the contract, such bidders guarantees shall be likewise forfeited to NCTPA.

3.5 RETURN OF PROPOSAL GUARANTEES:

Within ten (10) days after the opening of bids, NCTPA will return the proposal guarantees accompanying the proposals of all except the three lowest responsible bidders. Proposal guarantees of the three lowest responsible bidders will be held until the contract has been finally executed, after which they will be returned to the bidders.

The executed contract documents shall be delivered to the following address: Napa County Transportation and Planning Agency, 625 Burnell St., Napa, CA 94559.

SECTION 4. BEGINNING OF WORK, TIME OF COMPLETION, LIQUIDATED DAMAGES, TERMINATION

Attention is directed to the provisions in Section 8-1.03, "Beginning of Work," in Section 8-1.06, "Time of Completion," and in Section 8-1.07, "Liquidated Damages," of the Standard Specifications and these special provisions.

4.1 BEGINNING OF WORK

The Contractor shall begin work within 15 calendar days after receipt of a Notice to Proceed. This work shall be diligently prosecuted to completion before the expiration of 90 calendar days beginning on the fifteenth calendar day after approval of the contract.

4.2 LIQUIDATED DAMAGES

The Contractor shall pay to NCTPA the sum of \$1,000 per day, for each and every calendar day's delay in finishing the work in excess of the number of working days prescribed above.

4.3 TERMINATION OF CONTRACT.

In-lieu of the provisions of Section 8-1.08 of the Standard Specifications the following shall apply.

Whenever, in the opinion of the Board of Directors the said work is neglected by the Contractor, or the same is not prosecuted with the diligence and force specified, meant and intended in and by the terms of this contract, it shall be lawful for the Board of Directors to make a requisition upon the Contractor for such additional specific force or such additional specific material to be brought into the work under this contract or to remove improper material from the grounds, and its due and faithful fulfillment requires; of which action of the Board of Directors due notice in writing of not less than five days shall be served upon the Contractor or its agent having charge of the work; and if the Contractor fails to comply with such requisition within five days, it shall be lawful for the Board of Directors to employ upon such work the additional force or supply the materials as specifically required as aforesaid; and the amount paid for such additional force or material shall be charged against the Contractor and be deducted from Contractor's next or subsequent estimate and payment, or the same or any part thereof not so deducted may be recovered from the Contractor or his sureties.

Moreover, if the Contractor fails to comply with such requisition within five days, the Board of Directors may declare the contract terminated and may itself proceed to complete the work herein specified or may engage any other person or persons to do the same. Upon the completion of such work, the Board of Directors through its proper office or officers shall cause a statement to be made of the default of the Contractor as aforesaid, and in completing the work itself or by any other person or persons. Should the amount in such statement be more than the amount would have been due the Contractor upon the completion of the work by him, the difference shall be paid by the Contractor to NCTPA.

SECTION 5. GENERAL

5.1 LABOR NONDISCRIMINATION.

Attention is directed to the following Notice that is required by Chapter 5 of Division 4 of Title 2, California Code of Regulations.

NOTICE OF REQUIREMENT FOR NONDISCRIMINATION PROGRAM (GOV. CODE, SECTION 12990)

Your attention is called to the "Nondiscrimination Clause", set forth in Section 7-1.01A(4), "Labor Nondiscrimination," of the Standard Specifications, which is applicable to all nonexempt contracts and subcontracts, and to the "Standard California Nondiscrimination Construction Contract Specifications" set forth therein. The Specifications are applicable to all nonexempt state construction contracts and subcontracts of \$5,000 or more.

5.2 PREVAILING WAGE.

The State general prevailing wage rates determined by the Director of Industrial Relations, for the county or counties in which the work is to be done, are available at the following address: California Department of Industrial Relations: <http://www.dir.ca.gov/dlsr/pwd/index.htm>. These wage rates are not included in the Proposal and Contract for the project. Changes, if any, to the general prevailing wage rates will be available at the same location. The Federal minimum wage rates are attached to these specifications.

5.3 PUBLIC SAFETY

The Contractor shall provide for the safety of traffic and the public in conformance with the provisions in Section 7-1.09, "Public Safety," of the Standard Specifications and these special provisions.

The Contractor shall install temporary railing (Type K) between a lane open to public traffic and an excavation, obstacle or storage area when the following conditions exist:

- A. Excavations.—The near edge of the excavation is 12 ft or less from the edge of the lane, except:
 - 1. Excavations covered with sheet steel or concrete covers of adequate thickness to prevent accidental entry by traffic or the public.
 - 2. Excavations less than 1 ft deep.
 - 3. Trenches less than 1 ft wide for irrigation pipe or electrical conduit, or excavations less than 1 ft in diameter.
 - 4. Excavations parallel to the lane for the purpose of pavement widening or reconstruction.
 - 5. Excavations in side slopes, where the slope is steeper than 1:4 (vertical:horizontal).
 - 6. Excavations protected by existing barrier or railing.
- B. Temporarily Unprotected Permanent Obstacles.—The work includes the installation of a fixed obstacle together with a protective system, such as a sign structure together with protective railing, and the Contractor elects to install the obstacle prior to installing the protective system; or the Contractor, for the Contractor's convenience and with permission of the Engineer, removes a portion of an existing protective railing at an obstacle and does not replace such railing complete in place during the same day.
- C. Storage Areas.—Material or equipment is stored within 12 ft of the lane and the storage is not otherwise prohibited by the provisions of the Standard Specifications and these special provisions.

The approach end of temporary railing (Type K), installed in conformance with the provisions in this section "Public Safety" and in Section 7-1.09, "Public Safety," of the Standard Specifications, shall be offset a minimum of 15 ft from the edge of the traffic lane open to public traffic. The temporary railing shall be installed on a skew toward the edge of the traffic lane of not more than 1 ft transversely to 10 ft longitudinally with respect to the edge of the traffic lane. If the 15 ft minimum offset cannot be achieved, the temporary railing shall be installed on the 10 to 1 skew to obtain the maximum available offset between the approach end of the railing and the edge of the traffic lane, and an array of temporary crash cushion modules shall be installed at the approach end of the temporary railing.

Temporary railing (Type K) shall conform to the provisions in Section 12-3.08, "Temporary Railing (Type K)," of the Standard Specifications. Temporary railing (Type K), conforming to the details shown on 1999 Standard Plan T3, may be used. Temporary railing (Type K) fabricated prior to January 1, 1993, and conforming to 1988 Standard Plan B11-30 may be used, provided the fabrication date is printed on the required Certificate of Compliance.

Temporary crash cushion modules shall conform to the provisions in "Temporary Crash Cushion Module" of these special provisions.

GENERAL CONDITIONS

Except for installing, maintaining and removing traffic control devices, whenever work is performed or equipment is operated in the following work areas, the Contractor shall close the adjacent traffic lane unless otherwise provided in the Standard Specifications and these special provisions:

Approach Speed of Public Traffic (Posted Limit) (Miles Per Hour)	Work Areas
45 Miles Per Hour	Within 6 feet of a traffic lane but not on a traffic lane
35 to 45 Miles Per Hour	Within 3 feet of a traffic lane but not on a traffic lane

The lane closure provisions of this section shall not apply if the work area is protected by permanent or temporary railing or barrier.

When traffic cones or delineators are used to delineate a temporary edge of a traffic lane, the line of cones or delineators shall be considered to be the edge of the traffic lane, however, the Contractor shall not reduce the width of an existing lane to less than 10 ft without written approval from the Engineer.

When work is not in progress on a trench or other excavation that required closure of an adjacent lane, the traffic cones or portable delineators used for the lane closure shall be placed off of and adjacent to the edge of the traveled way. The spacing of the cones or delineators shall be not more than the spacing used for the lane closure.

Suspended loads or equipment shall not be moved nor positioned over public traffic or pedestrians.

Full compensation for conforming to the provisions in this section "Public Safety," including furnishing and installing temporary railing (Type K) and temporary crash cushion modules, shall be considered as included in the contract prices paid for the various items of work involved and no additional compensation will be allowed therefore.

5.4 YEAR 2000 COMPLIANCE

This contract is subject to Year 2000 Compliance for automated devices in the State of California.

Year 2000 compliance for automated devices in the State of California is achieved when embedded functions have or create no logical or mathematical inconsistencies when dealing with dates prior to and beyond 1999. The year 2000 is recognized and processed as a leap year. The product shall operate accurately in the manner in which the product was intended for date operation without requiring manual intervention.

The Contractor shall provide the Engineer a Certificate of Compliance from the manufacturer in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications for all automated devices furnished for the project.

5.5 HOLD HARMLESS/INDEMNIFICATION/INSURANCE.

The Contractor shall agree to defend, indemnify and hold harmless the NCTPA as well as NCTPA's officers, agents and employees from any claim, loss or liability including without limitation, those for personal injury (including death) or damage to property, arising out of or connected with any acts or omissions of the Contractor or its officers, agents, or employees when performing any activities or obligations required of the Contractor under the Contract.

Hold Harmless/Indemnification: To the fullest extent permitted by law, Contractor shall hold harmless, defend at its own expense, and indemnify NCTPA and the officers, agents, employees and volunteers of NCTPA from any and all liability, claims, losses, damages or expenses, including reasonable attorney's fees, for personal injury (including death) or damage to property, arising from all acts or omissions to act of Contractor or its officers, agents, employees, volunteers, contractors and subcontractors in rendering services under this Agreement, excluding, however, such liability, claims, losses, damages or expenses arising from the sole negligence or willful acts of NCTPA or its officers, agents, employees or volunteers. Each party shall notify the other party immediately in writing of any claim or damage related to activities performed under this Agreement. The parties shall cooperate with each other in the investigation and disposition of any claim arising out of the activities under this Agreement, providing that nothing shall require either party to disclose any documents, records or communications that are protected under peer review privilege, attorney-client privilege, or attorney work product privilege.

Insurance: Contractor shall obtain and maintain in full force and effect throughout the term of this Agreement, and thereafter as to matters occurring during the term of this Agreement, the following insurance coverage:

- (1) **Workers' Compensation insurance.** If and to the extent required by law during the term of this Agreement, Contractor shall provide workers' compensation insurance for the performance of any of Contractor's duties under this Agreement; including but not limited to, coverage for workers' compensation and disability, and shall provide NCTPA with certification of all such coverages upon request by NCTPA.
- (2) **Liability insurance.** Contractor shall obtain and maintain in full force and effect during the term of this Agreement the following liability insurance coverages, issued by a company licensed (admitted) to transact business in the State of California and having an A.M. Best rating of A VII or better:

- (i) **General Liability.** Commercial general liability [CGL] insurance coverage (personal injury, property damage, product and completed operations) of not less than TWO MILLION DOLLARS (\$2,000,000) combined single limit per occurrence, covering liability or claims for any personal injury, including death, to any person and/or damage to the property of any person arising from the acts or omissions of Contractor or any officer, agent, or employee of Contractor under this Agreement. If the coverage includes an aggregate limit, the aggregate limit shall be no less than FIVE MILLION DOLLARS (\$5,000,000). Product and Completed Operations Insurance shall be maintained for a minimum period of four (4) years after final payment, and Contractor shall continue to provide evidence of such coverage on an annual basis during the four-year period.
- (ii) **Comprehensive Automobile Liability Insurance.** Comprehensive automobile liability insurance (Bodily Injury and Property Damage) on owned, hired, leased and non-owned vehicles used in conjunction with Contractor's business of not less than THREE HUNDRED THOUSAND DOLLARS (\$300,000) combined single limit per occurrence.

Notwithstanding the foregoing, any failure by Contractor to maintain required insurance coverage shall not excuse or alleviate Contractor from any of its other duties or obligations under the contract. In the event Contractor retains or utilizes any subcontractors or sub-consultants in performance of the work, Contractor shall assure that any such subcontractor has first obtained, and shall maintain, all of the insurance coverage requirements set forth above.

Endorsements: All policies shall contain or be endorsed to contain the following provisions: Coverage shall not be canceled by either party, except after thirty (30) days prior written notice has been provided to the entity unless canceled for non-payment, and then ten (10) days notice shall be given.

Liability Policies: Policies shall contain or be endorsed to contain the following provisions: For any claims related to this project, the Contractor's insurance coverage shall be primary and any insurance or self-insurance maintained by NCTPA shall be excess of the Contractor's insurance and shall not contribute with it.

Napa County Transportation and Planning Agency, its officers, agents and employees are to be named as additional insured on a form equivalent to CG20 10 with an edition date prior to 2004.

Other Insurance Provisions: No policy required by this section shall prohibit Contractor from waiving any right of recovery prior to loss. Contractor hereby waives such right with regard to the indemnitees.

All insurance coverage amounts provided by Contractor and available or applicable to this agreement are intended to apply to the full extent of the policies. Nothing contained in this contract limits the application of such insurance coverage. Coverage for an additional insured shall NOT be limited to its vicarious liability. Defense costs must be paid in addition to coverage amounts.

Self-insured retentions and/or deductibles above \$10,000 must be declared to NCTPA. At NCTPA's option, the Contractor may be required to provide claims administrator information and a financial guarantee in a form satisfactory to NCTPA to guarantee payment of loss and related investigations, claims administration and defense expenses.

Verification of Coverage and Certificates of Insurance: Contractor shall furnish NCTPA with original certificates and endorsements effecting coverage required above. Certificates and endorsements shall make reference to policy numbers. All certificates and endorsements are to be received and approved by NCTPA before work commences and must be in effect for the duration of the contract. NCTPA reserves the right to require complete copies of all required policies and endorsements.

5.6 EXAMINATION AND AUDIT

NCTPA, any federal or state grantor agency funding all or part of the compensation payable hereunder, the State Controller, the Comptroller General of the United States, or the duly authorized representatives of any of the above, shall have access to any books, documents, papers and records of CONTRACTOR which are directly pertinent to the subject matter of this Agreement for the purpose of making audit, examination, excerpts and transcriptions. Except where longer retention is required by any federal or state law, CONTRACTOR shall maintain all required records for at least four (4) years after NCTPA makes final payment for any other work authorized hereunder and all pending matters are closed, whichever is later.

5.7 SIGN LOCATION

All sign and display locations shown on the plans are schematic in nature. The final location of the signs and displays shall be determined and field located by the NCTPA Project Manager. The contractor shall be responsible for the relocation of any signs or displays placed in areas other than the location as explicitly directed by the NCTPA Project Manager.

5.8 REMOVAL OF ASBESTOS AND HAZARDOUS SUBSTANCES.

In conformance with Section 25914.1 of the Health and Safety Code, removal of asbestos or hazardous substances including exploratory work to identify and determine the extent of the asbestos or hazardous substance will be performed by separate contract.

If delay of work in the area delays the current controlling operation, the delay will be considered a right of way delay and the Contractor will be compensated for the delay in conformance with the provisions in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

5.9 SUBCONTRACTOR AND DBE RECORDS

The Contractor shall maintain records showing the name and business address of each first-tier subcontractor.

Required for ALL construction contracts administered under the Caltrans Standard Specifications, dated July, 2002. However this should be deleted if no DBE goals are specified.

5.10 (Reserved)

5.11 PERFORMANCE OF SUBCONTRACTORS

The subcontractors listed by the Contractor in conformance with Section 2-1.054, "Required Listing of Proposed Subcontractors," of the Standard Specifications, shall perform the work and supply the materials for which they are listed, unless the Contractor has received prior written authorization to perform the work with other forces or to obtain the materials from other sources.

The Contractor should notify the Engineer in writing of any changes to its anticipated DBE participation. This notice should be provided prior to the commencement of that portion of the work.

5.12 SUBCONTRACTING

Attention is directed to the provisions in Section 8-1.01, "Subcontracting," of the Standard Specifications and these special provisions.

The provisions in the third paragraph of Section 8-1.01, "Subcontracting," of the Standard Specifications, that the Contractor shall perform with the Contractor's own organization contract work amounting to not less than 50 percent of the original contract price, is not changed by the Federal Aid requirement specified under "Required Contract Provisions Federal-Aid Construction Contracts" in Section 14 of these special provisions that the Contractor perform not less than 30 percent of the original contract work with the Contractor's own organization.

Each subcontract and any lower tier subcontract that may in turn be made shall include the "Required Contract Provisions Federal-Aid Construction Contracts" in Section 8 of these special provisions. Noncompliance shall be corrected. Payment for subcontracted work involved will be withheld from progress payments due, or to become due, until correction is made. Failure to comply may result in termination of the contract.

Pursuant to the provisions in Section 1777.1 of the Labor Code, the Labor Commissioner publishes and distributes a list of contractors ineligible to perform work as a subcontractor on a public works project. This list of debarred contractors is available from the Department of Industrial Relations web site at:

<http://www.dir.ca.gov/DLSE/Debar.html>.

5.13 PROMPT PROGRESS PAYMENT TO SUBCONTRACTORS

A prime contractor or subcontractor shall pay any subcontractor not later than 10 days of receipt of each progress payment in accordance with the provision in Section 7108.5 of the California Business and Professions Code concerning prompt payment to subcontractors. The 10 days is applicable unless a longer period is agreed to in writing. Any delay or postponement of payment over 30 days may take place only for good cause and with the agency's prior written approval. Any violation of Section 7108.5 shall subject the violating contractor or subcontractor to the penalties, sanction and other remedies of that section. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor. This provision applies to both DBE and non-DBE subcontractors.

5.14 PAYMENTS.

Attention is directed to Section 9 of the Standard Specifications, which is incorporated as though fully set forth, with the following exceptions:

- (a) Force Account Payment. In-lieu of the first paragraph of Section 9-1.03A(3) "Equipment Rental", the following shall apply:

Equipment rental rates shall be those rental rates applicable on contracts advertised by the State of California, Department of Transportation on the date of call for bids on this contract.

(b) Arbitration Section 9-1.10 of the Standard Specifications is deleted in its entirety.

(c) Claims. All claims under this contract shall be subject to the following statutory requirements:

Public Contract Code Section 20104 Application of article; provisions included in plans and specifications

- (a) This article applies to all public works claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise between a contractor and a local agency.
- (b)
 - (1) "Public work" has the same meaning as in Sections 3100 and 3106 of the Civil Code, except that "public work" does not include any work or improvement contracted for by the state or the Regents of the University of California.
 - (2) "Claim" means a separate demand by the contractor for (A) a time extension, (B) payment of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the local agency.
- (c) The provisions of this article or a summary thereof shall be set forth in the plans or specifications for any work which may give rise to a claim under this article.
- (d) This article applies only to contracts entered into on or after January 1, 1991.

Public Contract Code Section 20104.2 Claims; requirements, tort claims excluded
For any claim subject to this article, the following requirements apply:

- (a) The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.
- (b)
 - (1) For claims of less than fifty thousand dollars (\$50,000), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.
 - (2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.
 - (3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information whichever is greater.
- (c)
 - (1) For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the local agency shall respond in writing to all written claim within 60 days of receipt of the claim, or may request in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.
 - (2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.
 - (3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.
- (d) If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the local agency's response or within 15 days of the local agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues

in dispute. Upon a demand, the local agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.

- (e) Following the meet and confer conference, if the claim or any portion remains in dispute, the claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.
- (f) This article does not apply to tort claims and nothing in this article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

Public Contract Code Section 20104.4 Civil action procedures; mediation and arbitration: trial de novo: witness
The following procedures are established for all civil actions filed to resolve claims subject to this article:

- (a) Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both parties. The process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.
- (b)
 - (1) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.
 - (2) Notwithstanding any other provision of law, upon stipulation of parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.
 - (3) In addition to Chapter 2.5 (commencing with Section 1141.10) Title 3 of Part 3 of the Code of Civil Procedure, any party who receiving an arbitration award requests a trial de novo but does obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other arising out of the trial de novo.
- (c) The court may, upon request by any party, order any witnesses participate in the mediation or arbitration process.

Public Contract Code Section 20104.6 Payment of portion of claim which is undisputed; of interest on arbitration award or judgment.

- (a) No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.
- (b) In any suit filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

Final Payment. Payment will be made in accordance with the provisions of Section 9-1.07 of the Standard Specifications provided however that in no event will the final payment be made within 35 calendar days after the filing of Notice of Completion.

The final estimate shall be conclusive and binding against both parties to the contract on all questions relating to the performance of the contract and the amount of work done thereunder and compensation therefore.

5.15 GUARANTEES.

All work performed and equipment or material furnished shall be guaranteed for one (1) year from date of acceptance against any inherent or developed defects of material or workmanship.

All guarantee normally provided by the manufacturers of equipment or material installed under this project shall be furnished to NCTPA and shall remain in force for their normal life.

BID FORM
(MAY BE DETACHED AND SUBMITTED ALONE)

**TO THE BOARD OF DIRECTORS
OF NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY
NAPA, CALIFORNIA**

FOR:
SOSCOL GATEWAY TRANSIT CENTER HUB SIGNAGE PROJECT

NAME OF BIDDER _____
BUSINESS P.O. BOX _____
CITY, STATE, ZIP _____
BUSINESS STREET ADDRESS _____
(Please include even if P.O. Box used)
CITY, STATE, ZIP _____
TELEPHONE NO: **AREA CODE ()** _____
FAX NO: **AREA CODE ()** _____
CONTRACTOR LICENSE NO. _____

The work for which this bid is submitted is for construction in conformance with the special provisions (including the payment of not less than the State general prevailing wage rates or Federal minimum wage rates), the project plans described below, including any addenda thereto, the contract annexed hereto, and also in conformance with the California Department of Transportation Standard Plans, dated May, 2006, the Standard Specifications, dated May, 2006, and the Labor Surcharge and Equipment Rental Rates in effect on the date the work is accomplished.

The special provisions for the work to be done are dated 1-25-2013 and are entitled:

**NCTPA
STATE OF CALIFORNIA
TECHNICAL SPECIFICATIONS FOR
SOSCOL GATEWAY TRANSIT CENTER REGIONAL HUB SIGNAGE PROJECT R.5**

The project plans dated 3/15/2013 for the work to be done are part of the special provisions.

Bids are to be submitted for the entire work. The bidder shall set forth for each unit basis item of work a unit price and a total for the item, and for each lump sum item a total for the item, all in clearly legible figures in the respective spaces provided for that purpose. In the case of unit basis items, the amount set forth under the "Item Total" column shall be the product of the unit price bid and the estimated quantity for the item.

In case of discrepancy between the unit price and the total set forth for a unit basis item, the unit price shall prevail, except as provided in (a) or (b), as follows:

- (a) If the amount set forth as a unit price is unreadable or otherwise unclear, or is omitted, or is the same as the amount as the entry in the item total column, then the amount set forth in the item total column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price;
- (b) (Decimal Errors) If the product of the entered unit price and the estimated quantity is exactly off by a factor of ten, one hundred, etc., or one-tenth, or one-hundredth, etc. from the entered total, the discrepancy will be resolved by using the entered unit price or item total, whichever most closely approximates percentagewise the unit price or item total in the NCTPA's Final Estimate of cost.

If both the unit price and the item total are unreadable or otherwise unclear, or are omitted, the bid may be deemed irregular. Likewise if the item total for a lump sum item is unreadable or otherwise unclear, or is omitted, the bid may be deemed irregular unless the project being bid has only a single item and a clear, readable total bid is provided.

Symbols such as commas and dollar signs will be ignored and have no mathematical significance in establishing any unit price or item total or lump sums. Written unit prices, item totals and lump sums will be interpreted according to the number of digits and, if applicable, decimal placement. Cents symbols also have no significance in establishing any unit price or item total since all figures are assumed to be expressed in dollars and/or decimal fractions of a dollar. Bids on lump sum items shall be item totals only; if any unit price for a lump sum item is included in a bid and it differs from the item total, the items total shall prevail.

The foregoing provisions for the resolution of specific irregularities cannot be so comprehensive as to cover every omission, inconsistency, error or other irregularity which may occur in a bid. Any situation not specifically provided for will be determined in the discretion of the NCTPA, and that discretion will be exercised in the manner deemed by NCTPA to best protect the public interest in the prompt and economical completion of the work. The decision of the NCTPA respecting the amount of a bid, or the existence or treatment of an irregularity in a bid, shall be final.

If this bid shall be accepted and the undersigned shall fail to enter into the contract and furnish the 2 bonds in the sums required by the State Contract Act, with surety satisfactory to NCTPA within 8 days, not including Saturdays, Sundays and legal holidays, after the bidder has received notice from the NCTPA that the contract has been awarded, NCTPA may, at its option, determine that the bidder has abandoned the contract, and thereupon this bid and the acceptance thereof shall be null and void and the forfeiture of the security accompanying this bid shall operate and the same shall be the property of NCTPA. The undersigned, as bidder, declares that the only persons or parties interested in this bid as principals are those named herein; that this bid is made without collusion with any other person, firm, or corporation; that the location of the proposed work has been carefully examined, along with the annexed proposed form of contract, and the plans therein referred to; and Contractor proposes, and agrees if this bid is accepted, that Contractor will contract with NCTPA in the form of the copy of the contract annexed hereto, to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the contract, in the manner and time therein prescribed, and according to the requirements of the Engineer as therein set forth, and that Contractor will take in full payment therefore the following prices, to wit:

SOSCOL GATEWAY TRANSIT CENTER HUB SIGNAGE PROJECT

BASE BID[illegible]**TOTAL BASE BID**

TOTAL BASE BID: _____

TOTAL BASE BID (Written Number): _____

ADDENDUM ACKNOWLEDGEMENT

Bidder acknowledges receipt of the following addenda which are attached to the bid:

Addendum No. _____ Date _____.

Addendum No. _____ Date _____.

Addendum No. _____ Date _____.

Addendum No. _____ Date _____.

Addendum No. _____ Date _____.

Addendum No. _____ Date _____.

LIST OF SUBCONTRACTORS

Pursuant to Section 4100 to 4113 of the Public Contract Code, Section 2-1.054, "Required Listing of Proposed Subcontractors," and Section 8-1.01 "Subcontracting" of the Standard Specifications, Section 2-1.01, "General," of the special provisions and, each bidder shall complete and submit this form with his bid in accordance with the following instructions.

1. For each subcontract item to be performed by a subcontractor, the following shall be indicated herein: the company name of the subcontractor, the portion of work to be performed and the location of the place of business.
2. Only one subcontractor shall be listed for each craft unless there is an alternate bid in which case a different subcontractor, when so designated, may be listed for the alternate work.
3. **All fields must be completed as specified or bid will be rejected.**

Subcontractor Name (Company Name)	Portion of Work (i.e. Electrical, Striping, Roofing, etc.)	Location of Business (City and State)

(THE BIDDER'S EXECUTION ON THE SIGNATURE PORTION OF THIS BID SHALL ALSO CONSTITUTE AN ENDORSEMENT AND EXECUTION OF THOSE CERTIFICATIONS WHICH ARE A PART OF THIS BID)

EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

The bidder _____, proposed subcontractor _____, hereby certifies that he has _____, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

PUBLIC CONTRACT CODE

Public Contract Code Section 10285.1 Statement

In conformance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder has ____, has not ____ been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or Federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The bidder must place a check mark after "has" or "has not" in one of the blank spaces provided. The above Statement is part of the Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Statement. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Public Contract Code Section 10162 Questionnaire

In conformance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

Yes _____ No _____

If the answer is yes, explain the circumstances in the following space.

Public Contract Code 10232 Statement

In conformance with Public Contract Code Section 10232, the Contractor, hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

Note: The above Statement and Questionnaire are part of the Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Statement and Questionnaire.
Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Noncollusion Affidavit
(Title 23 United States Code Section 112 and
Public Contract Code Section 7106)

To the NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY

In conformance with Title 23 United States Code Section 112 and Public Contract Code 7106 the bidder declares that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Note: The above Noncollusion Affidavit is part of the Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Noncollusion Affidavit.
Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

DEBARMENT AND SUSPENSION CERTIFICATION

TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29

The bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, manager:

- is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal agency;
- has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal agency within the past 3 years;
- does not have a proposed debarment pending; and
- has not been indicted, convicted, or had a civil judgement rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Notes: Providing false information may result in criminal prosecution or administrative sanctions. The above certification is part of the Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Certification.

BIDDERS SECURITY

Accompanying this bid is _____

(NOTICE: INSERT THE WORDS "CASH(\$ _____)," "CASHIER'S CHECK,"
"CERTIFIED CHECK," OR "BIDDER'S BOND," AS THE CASE MAY BE.)

in amount equal to at least ten percent (10%) of the total of the bid.

The names of all persons interested in the foregoing bid as principals are as follows:

IMPORTANT NOTICE

If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer, and manager thereof; if a copartnership, state true name of firm, also names of all individual copartners composing firm; if bidder or other interested person is an individual, state first and last names in full.

Licensed in conformance with an act providing for the registration of Contractors,

License No. _____ Classification(s) _____

ADDENDA -

This bid is submitted with respect to the changes to the contract included in addenda number/s _____

(Fill in addenda numbers if addenda have been received and insert, in this Bid, any Engineer's Estimate sheets that were received as part of the addenda.)

By my signature on this bid I certify, under penalty of perjury under the laws of the State of California, that the foregoing questionnaire and statements of Public Contract Code Sections 10162, 10232 and 10285.1 are true and correct and that the bidder has complied with the requirements of Section 8103 of the Fair Employment and Housing Commission Regulations (Chapter 5, Title 2 of the California Administrative Code). By my signature on this bid I further certify, under penalty of perjury under the laws of the State of California and the United States of America, that the Noncollusion Affidavit required by Title 23 United States Code, Section 112 and Public Contract Code Section 7106; and the Title 49 Code of Federal Regulations, Part 29 Debarment and Suspension Certification are true and correct.

Date: _____

Sign

Here

Signature and Title of Bidder

Business Address _____

Place of Business _____

Place of Residence _____

**NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY
STATE OF CALIFORNIA**

BIDDER'S BOND

We, _____
_____ as Principal, and

as Surety are bound unto the Napa County Transportation and Planning Agency, State of California, hereafter referred to as "Obligee", in the penal sum of ten percent (10%) of the total amount of the bid of the Principal submitted to the Obligee for the work described below, for the payment of which sum we bind ourselves, jointly and severally,

THE CONDITION OF THIS OBLIGATION IS SUCH, THAT:

**WHEREAS, THE PRINCIPAL IS SUBMITTED TO THE OBLIGEE,
for the SOSCOL GATEWAY TRANSIT CENTER HUB SIGNAGE PROJECT**

for which bids are to be opened at _____ on _____
(Insert place where bids will be opened) (Insert date of bid opening)

NOW, THEREFORE, if the Principal is awarded the contract and, within the time and manner required under the specifications, after the prescribed forms are presented to him for signature, enters into a written contract, in the prescribed form, in conformance with the bid, and files two bonds with the Obligee, one to guarantee faithful performance of the contract and the other to guarantee payment for labor and materials as provided by law, then this obligation shall be null and void; otherwise, it shall remain in full force.

In the event suit is brought upon this bond by the Obligee and judgment is recovered, the Surety shall pay all costs incurred by the Obligee in such suit, including a reasonable attorney's fee to be fixed by the court.

Dated: _____, 20 ____.

Principal

Surety
By _____
Attorney-in-fact

CERTIFICATE OF ACKNOWLEDGEMENT

State of California
City/County of _____ SS

On this _____ day of _____ in the year 20 ____ before me
_____, personally appeared _____,

Attorney-in-fact
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to this instrument as the attorney-in-fact of _____, and acknowledged to me that he (she) subscribed the name of the said company thereto as surety, and his (her) own name as attorney-in-fact.

(SEAL)

Notary Public

BIDDER'S QUESTIONNAIRE

NCTPA IFB 2013-01

SOSCOL GATEWAY TRANSIT CENTER HUB SIGNAGE PROJECT

This questionnaire is an integral part of a bidder's bid, and shall be completed. Failure to provide the required information may cause rejection of your bid. All references and information shall be current and traceable. If the bidder is a joint venture, each venturer shall prepare a separate form.

NAME OF BIDDER: _____

PRINCIPAL OFFICE ADDRESS _____

TELEPHONE _____ FAX _____
(AREA CODE)

E-MAIL ADDRESS: _____

1. Are you an individual ____, a partnership ____, a corporation ____, or a joint venture ____? (Check appropriate business structure).

If partnership, list names and addresses of partners; if corporation, list names of officers and directors and State of incorporation; if joint venture, list names and addresses of venture's and, if any venturer is a corporation, partnership or joint venture, list the same information for each such corporation, partnership and joint venturer.

NAME	ADDRESS
_____	_____
_____	_____
_____	_____

2. How many years has your organization been in business as a contractor under your present business name? _____ Years.
3. How many people does your firm currently employ? _____ in Napa County? _____
4. Of the people employed, what are the job classifications involved in the services required by this solicitation, and how many people are assigned to each classification?

JOB CLASSIFICATION	NO. OF EMPLOYEES
_____	_____
_____	_____
_____	_____
_____	_____

5. What is the location of your facility located in Napa County? What is the square footage of this facility? (If the facility is not in Napa County, indicate the location and square footage of the nearest facility to NCTPA's Administrative Offices on Burnell Street).

6. What are the types and number of vehicles you will use in the performance of services required by this solicitation?

TYPE	NUMBER

7. List the names of companies and public agencies that you have furnished service to within the last twelve months.

NAME OF CLIENT	BUSINESS ADDRESS	TYPE OF BUSINESS	PERSON TO CONTACT	TELEPHONE

8. List the names of companies and public agencies that you have current orders for the same or similar service.

NAME OF CLIENT	BUSINESS ADDRESS	TYPE OF BUSINESS	PERSON TO CONTACT	TELEPHONE

9. Have you or your organization, or any officer or partner thereof, failed to complete a contract? If so, give details:

10. Is any litigation pending against your organization? If so, give details:

11. Are you a registered SBE/DBE/UDBE? If yes, with which agency do you hold your certification:

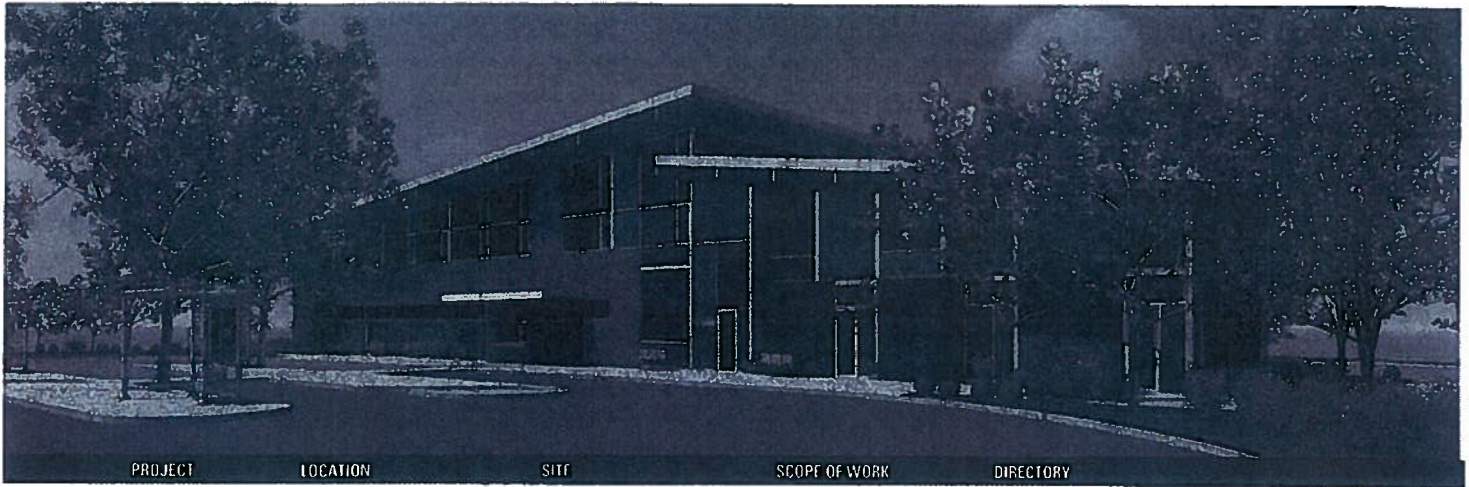
The undersigned certifies that (s)he is legally authorized by the bidder to make the statements and representations contained in this document, and represents and warrants that the foregoing information is true and accurate to the best of his knowledge, and intends that the Napa County Transportation and Planning Agency, Napa County, California, rely thereon in evaluating the bidder.

Name of Company: _____

Signature: _____

Printed Name/Title: _____

Date: ____/____/____



PROJECT

**SCSOL GATEWAY
TRANSIT CENTER**
Regional Hub
Signage Program

LOCATION

NAPA, CALIFORNIA



SITE

625 BURNELL STREET



SCOPE OF WORK

Regional Hub Signage Program
to include wayfinding and
connectivity

DIRECTORY

OWNER

NCTPA
625 Burnell Street
Napa, CA 94559

CONTACT

Diana C. Meehan
707.259.8327
dmeehan@nctpa.net

ARCHITECT

Kappe + Du Architects
801 D Street
San Rafael, CA 94901

Jiane Du
415.457.7801 x 2
jiane@kappedu.com

ENGINEERING

Mark Thomas & Company, Inc.
3000 Oak Road, Suite 650
Walnut Creek, CA 94597

Shawn O'Keefe
925.938.0383 x 222
sokeefe@markthomas.com

LANDSCAPE ARCHITECT

Merrill Morris Partners
249 Front Street
San Francisco, CA 94111

Scott Stohler
415.291.8960
sstohler@merrill-morris.com

ENVIRONMENTAL GRAPHIC DESIGN

Matthew Williams Design
1450 4th Street, Studio 9
Berkeley, CA 94710

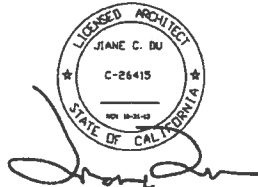
Matthew Williams
510.559.1830
mww@matthewwilliamsdesign.com

Technical Specifications R.5

100% Design Final

1.25.2013

These Technical Specifications have been prepared under the direct supervision of:



Jiane Du
Architect

415.457.7801 x 2
jiane@kappedu.com

Kappe + Du Architects
801 D Street
San Rafael, CA 94901

1. General

Provide all labor, materials and equipment necessary to purchase, install and integrate real time transit information signs and to fabricate, purchase and install wayfinding and transit information signage at the Soscol Gateway Transit Center located at 625 Burnell Street in Napa, California, but not limited to, the following sign types:

1. Transit Center Identification (Monument) Sign
2. Wayfinding Kiosks
3. Transit Information Displays
4. Information Flags
5. Breezeway Transit Connection Signs
6. Real-Time Displays

A. ORDER OF PRECEDENCE

Should there be conflicts or contradictions between these Technical Specifications and the Design Plans, in the general case, these Technical Specifications shall take precedence and prevail over the Design Plans. However, in the case where the Design Plans provide more explicit detail than these Technical Specifications, the Design Plans shall prevail. In all cases, should there be any differences in requirements between these Technical Specifications and the Design Plans, the more stringent requirements shall apply.

The Contractor shall thoroughly examine the Contract Documents, Design Plans and Technical Specifications and shall report any discrepancies, ambiguities or differences, and shall request interpretation of the NCTPA Project Manager and Designee before proceeding with the work.

B. DESCRIPTION OF WORK

1. Indications on the drawings or in any section of the specifications of an article, material, operation or method require that the Contractor shall provide each item or service of quality noted. The Contractor shall also perform each operation prescribed according to the conditions stated and shall provide all necessary labor, equipment, materials and incidentals to complete the work to the satisfaction of the NCTPA Project Manager and Designee.
2. Questions pertaining to the work that require clarification shall be referred to the NCTPA Project Manager and Designee for clarification prior to bid date. After execution of the Contract, no allowance will be made in favor of the Contractor for failing to check dimensions and methods of construction and reporting any clarifications.
3. Generally, the drawings indicate dimensions, positions, and kinds of materials as are necessary to give a comprehensive idea of the construction contemplated. All authorized alterations affecting the requirements and information given on the Design Plans shall be in writing. These Technical Specifications are intended to indicate the quality and application of materials. Work not particularly detailed, marked or specified shall be the same as similar work that is detailed, marked or specified.
4. Product and vendor information provided in Appendix A-1-A Kiosk Design Plans and these technical specifications are strictly for reference only. Contractor shall submit shop drawings detailing the kiosks with matching size, color and function based on these plans and the specifications contained herein. Use of the listed products and vendors is not required.
5. The message, location and orientation of each sign shall be approved by the NCTPA Project Manager and Designee prior to fabrication and again prior to installation. No Transit Center ID sign structure shall be placed on top of any underground utility.

6. If differences in sign quantities occur, the sign schedule shall be used to determine the quantity.
7. Contractor shall provide sign foundation and sign attachment designs for all Transit Center ID signs. Sign foundation detail and loading and sign attachment detail and loading shall be designed and approved by a licensed Structural Engineer. Sign attachment design includes mounting on existing walls, poles, and ceiling railing at the Soscol Gateway Transit Center.
8. Contractor shall field verify Electrical Engineering design as listed below prior to ordering electrical materials. Contractor shall verify all electrical and communications conduits, junction boxes and circuits. Contractor shall verify operations of proposed communications links (wireless and hardwire) to existing routers and install additional equipment (e.g. external antennas, extenders) as necessary for complete and functioning system.
9. Real time signs must comply with MTC's sign specifications titled Regional Real-Time Signs Physical Requirements and Specifications (Version 4.3) which is available at <http://www.mtc.ca.gov/planning/tcip/>.
10. At locations where real time signs are installed above existing transit information display signs, Contractor will have to uninstall existing transit information display signs and poles and may have to make slight adjustments to the placement of the base plates and poles for installation and access to electrical and communications infrastructure.
11. While the Contractor may propose alternative means and methods for sign fabrication and installation, substantial deviations from design intent will not be considered, and extensions to project schedule related to any substantial deviation requests will not be considered. The NCTPA Project Manager and Designee shall determine whether any deviations shall be considered as substantial. Any delays resulting from the review of alternative means and methods proposed by the Contractor will not constitute an automatic extension of the schedule and no delay penalties will be granted nor paid therefore.
12. Submittals such as shop drawings shall be submitted to the NCTPA Project Manager and Designee as instructed elsewhere in these Technical Specifications.
13. The Shop Drawings shall be approved by the NCTPA Project Manager and Designee before any work involving the drawings is performed. It is expressly understood that approval of the Contractor's shop drawings shall not relieve the Contractor of any responsibility under the contract for the successful completion of the work in conformity with the requirements of the Design Plans and these Technical Specifications. Approval of the shop drawings shall not operate to waive any of the requirements of the Design Plans and these Technical Specifications, or relieve the Contractor of any obligation thereunder, and defective work, materials and equipment may be rejected notwithstanding the approval.

Table A-1.1: Summary of Signs

Description	Detail	Sheet	Unit
Monument Sign	1-sided monument sign	SG5.01/1	EA
Wayfinding Kiosks	2-sided freestanding	SG5.01/3	EA
Transit Information Display (TID) cases	4-sided freestanding	SG5.02/5	EA
Transit Information Display (TID) cases	3 wall-mounted cases	SG5.01/2	EA
Information Flag	4-sided post-mounted cube	SG5.02/7	EA
Information Flag	3-sided wall-mounted cube	SG5.02/6	EA
Breezeway Transit Connection Signs	2-sided ceiling/overhead mounted	SG5.01/5	EA
Real-Time Displays	NEMA4 High-brightness LCD screen	SG5.01/4	EA
	Suntronic All-Weather Outdoor Kiosk Stand Model SL4600 or approved equal.		

C. CODES, STANDARDS, AND PUBLICATIONS REFERENCE

1. Codes, standards and publications listed and referenced in these Technical Specifications form a part of these Technical Specifications. Except where otherwise indicated, the latest editions on the date bids are due shall be applicable.
2. ANSI/ICC A117.1-2003 – Standard for Accessible and Usable Buildings and Facilities
3. ADA Accessibility Guidelines for Buildings and Facilities (ADAAG)
4. National Fire Protection Association (NFPA) – NFPA 70: National Electrical Code
5. State of California Department of Transportation, Standard Specifications, May 2006
6. Contractor guarantees that at any time up to and including ten (10) years from the date of final acceptance by the Metropolitan Transportation Commission (MTC) sign coatings will conform to these minimum performance characteristics:

FILM PROPERTY	METHOD	REQUIREMENT
Weathering- Units Color Retention	ANSI/ASTM D-2244	Maximum 5E (Hunter) Color Change
Weathering Color Retention Step	ASTM D-1535 Specifying Color by the Munsell System (Visual Comparison with "Control" Sample)	Maximum Difference: 0.5 Hue 0.1 Value Step 0.4 Chroma Step
Weathering- Gloss Retention Degree	ASTM D-523 60 Degree Glossimeter	Maintain High Gloss Minimum of 75
Weathering- Chalk Resistance	ASTM D-659 Evaluating Degree of Chalking of Exterior Paints	Minimum Rating of 6
Resistance to Acid Acid Pollutants	30 Minutes Exposure to 70% HN03 Vapors Color Change	Maximum 5 E units
Direct Impact Resistance	Gardner Impact Tester 1/10 inch Distortion ASTM D-2794	No Chipping or Removal of Material
Abrasion Resistance	ASTM D0968 Abrasion Resistance of Coatings of Paint, Varnish, Lacquer, and Related Products by the Falling Sand Method	40 Minimum
Temperature Resistance	-	-65 deg F to +200 deg F
Weathering and Protection Resistance	-	See Note 1

1. All static signs shall be resistant to steam, acids, aromatics, scratching, ink, stickers, adhesives, and paint. All markings, inks, or paints shall be readily removed with soap and water or environmentally safe solvents without harm to the signs.

D. SUBMITTALS

1. Submit manufacturer's technical literature and all related diagrams for all signage, including but not limited to the following sign types:
 - a. Transit Center Identification (Monument) Sign
 - b. Wayfinding Kiosks
 - c. Transit Information Displays
 - d. Information Flags
 - e. Breezeway Transit Connection Signs
 - f. Real-Time Displays
2. Manufacturer Information
 - a. Provide overview literature describing manufacturer's overall scope of products and manufacturing capabilities.
 - b. Provide URL for manufacturer's web site; web site must provide access to technical data, images and detailed product for all items that from the product's assembly. Otherwise, the detailed information shall be provided by the Contractor that has been generated by the manufacturer.
 - c. Provide manufacturer's toll-free telephone number for product support.
 - d. Provide complete list of materials proposed for use under this contract, including manufacturer's catalog number and description for each product in typewritten form. Obtain NCTPA Project Manager and Designee's approval of materials before proceeding.
3. Quantities
 - a. Provide five (5) paper copies of submittal or an Adobe Acrobat PDF.

E. SHOP DRAWINGS AND PRODUCT DATA PROCEDURES

1. The Contractor shall visit the site to determine specific installation conditions. Contractor shall then submit to the NCTPA Project Manager and Designee for review, Shop Drawings indicating the specific mounting devices, materials and processes for each sign type and mounting condition.
2. Shop Drawings shall be submitted for review prior to fabrication. Shop drawings shall show design, materials (kind, thickness, and finish), dimensions, connections, mountings and other details necessary to ensure that they accurately interpret the Design Plans and these Technical Specifications and shall also show adjoining work in such detail as required providing proper connection with it.
3. Contractor will not be allowed to submit partial sets of shop drawings for any sign type. Partial submittals will be returned without any review. No allowance for additional time in the schedule shall be granted should any shop drawings be returned for incompleteness.
4. Shop drawings shall be presented in a clear and thorough manner, drawn to scale and not subsequently reduced to fit a drawing format. Title each drawing with the Contract name and sign number(s) and location(s).
5. Identify field dimensions; show relation to critical features, work, or adjacent products.
6. Shop Drawings shall show typical message copy, graphics, symbols and finish for each different sign face.
7. Contractor shall provide detailed shop drawings for every sign type which shall include materials, dimensions, mountings, colors and any other installation details for the complete sign assembly prior to fabrication of the signs. These shop drawings shall be submitted for review and approval by the NCTPA Project Manager and Designee.
8. Shop drawings that are submitted shall be complete drawings that have been fully engineered with all applicable and relevant details provided in each drawing for each sign type.
9. It is expressly understood that approval of the Contractor's shop drawings shall not relieve the Contractor of any responsibility under the contract for the successful completion of the work in conformity with the requirements of the Design Plans and any specifications. Approval of the shop drawings shall not operate to waive any of the requirements of the plans and any specifications or relieve the Contractor of any obligation thereunder, and defective work, materials and equipment may be rejected notwithstanding the approval.

10. Field meetings may be called to facilitate review at the discretion of the NCTPA Project Manager and Designee.
11. Submit for approval full-size message patterns and/or film positives of selected sample messages and graphics to be selected by the NCTPA Project Manager and Designee and as may be required in other sections of the specifications.
12. Contractor may request, in writing, permission from the NCTPA Project Manager and Designee to use equipment or material of a different type in place of the equipment or material specified.
13. The NCTPA Project Manager and Designee, before considering or granting the request, may require the Contractor to furnish, at the Contractor's expense, evidence satisfactory to the NCTPA Project Manager and Designee that the equipment or material proposed for use by the Contractor is capable of producing work equal to, or better than, that which can be produced by the equipment or material specified.
14. If permission is granted by the NCTPA Project Manager and Designee, it shall be understood that the permission is granted for the purpose of testing the quality of work actually produced by the equipment or material and is subject to continuous attainment of results which, in the opinion of the NCTPA Project Manager and Designee, are equal to, or better than, that which can be obtained with the equipment or material specified.
15. The NCTPA Project Manager and Designee shall have the right to withdraw any permission at any time that the NCTPA Project Manager and Designee determines that the alternative equipment or material is not producing work that is equal, in all respects, to that which can be produced by the equipment or material specified.
16. Upon withdrawal of permission by the NCTPA Project Manager and Designee, the Contractor will be required to use the equipment or material originally specified and shall, in accordance with the directions of the NCTPA Project Manager and Designee, remove and dispose of or otherwise remedy, at the Contractor's expense, any defective or unsatisfactory work produced with alternative equipment or material.
17. Neither MTC nor the Contractor shall have any claim against the other for either the withholding or the granting of permission to use alternative equipment or material, or for the withdrawal of the permission.
18. Permission to use alternative equipment or material in place of equipment specified will only be granted where the equipment or material is new or improved and its use is deemed by the NCTPA Project Manager and Designee to be in the furtherance of the purposes of these Technical Specifications.
19. Nothing in these Technical Specifications shall relieve Contractor of the responsibility for furnishing materials or producing finished work of the quality specified in these Technical Specifications or in the Design Plans.

F. SAMPLES AND PROCEDURES

1. Sample Requirements: All samples shall be submitted together. Samples shall be 10 inches x 10 inches in size of all sign materials with the required colors and finishes to show quality, type, range, texture and other specified characteristics.
2. Samples shall be submitted from the same source, which will supply the actual job. Samples of materials or products, which are normally furnished in containers or packages, which bear descriptive labels and/or application or installation instructions, shall be submitted with such labels and/or instructions.
3. All Samples shall be labeled, tagged, or otherwise clearly identified. Labels or tags shall set forth the name of the Project, Project Number, sign or signs, location or locations and other facilities for which the Sample is being submitted, Contractor, Subcontractor, and/or supplier, the name of the manufacturer, fabricator, or processor, the trade designation, grade and quality of the material of the product, the date of submittal, and specific identification of each sample and a precise reference to the Specification Section and paragraph wherein the material, product, or element of the work is specified. Each label or tag shall have sufficient clear space to permit the application of the review stamps to the Contractor and the NCTPA Project Manager and Designee.

G. DELIVERY, STORAGE AND HANDLING

1. Deliver materials to installation site in manufacturer's original packaging. Handle products in accordance with manufacturer's instructions. Store in dry, secure location, protected against direct sunlight and excessive heat.

H. QUALITY ASSURANCE

1. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of a specified quality.
2. Comply fully with manufacturer's instructions, including each step in sequence.
3. Should manufacturer's instructions conflict with the Contract Documents, Design Plans and these Technical Specifications (i.e., project plans and these Technical Specifications), the Contractor shall request clarification from the NCTPA Project Manager and Designee before proceeding.
4. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
5. Work shall be performed by persons qualified to produce workmanship of specified quality.
6. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.
7. To establish a standard of quality, design, and function desired, portions of these Technical Specifications and Design Plans have been based on products of manufacturers mentioned hereafter. When specific products of manufacturers are mentioned, it is to be noted that equal products of other manufacturers shall be reviewed by the NCTPA Project Manager and Designee upon receipt of adequate supporting data and samples in accordance with CSI Section 01620, Product Options and Substitutions.
8. Produce high quality and accurate shop drawings clearly showing all of the necessary installation, mounting and construction details for each sign type.

I. PERFORMANCE STANDARDS

1. Provide written calculations and stamped shop drawings by a professional engineer legally authorized to practice in the state of California. Signage must be engineered to meet International Building Codes (IBC) including any and all wind-loading and seismic criteria.

J. EXTRA MATERIALS

1. In addition to materials required for completions under this contract as described in the Design Plans and Technical Specifications, furnish four one-gallon units of each color of finish paint to the NCTPA Project Manager and Designee for future touch-up work.
2. Submit samples of all finish coatings proposed for use on the sign panels, brackets, frames, trim, poles, base plates, etc.; samples shall be on actual materials, where practicable, in size not less than 10 inches x 10 inches square; show colors and finish sheens representative of final installations; label samples to indicate material, methods, colors, and sheen. Submit samples to the NCTPA Project Manager and Designee for approval before proceeding.

2. Product Material And Processes

A. MATERIALS – GENERAL

1. Each required sign structure and panel type is specified in the Design Plans as well as the general fabrication and mounting details. The Contractor shall develop construction details and fabrication engineering on the shop drawings. Final responsibility for the development and execution of the fabrication and installation detail drawings rests with the Contractor.
2. Provide materials, which have been selected for their surface flatness, smoothness and freedom from surface blemishes wherever exposed to view in the finished unit. Exposed-to-view surfaces, which exhibit pitting, seam marks, roller mark, die marks, "oil-canning", stains, discoloration, or other imperfections on the finished units will not be acceptable.
3. Where metal surfaces or fasteners will be in contact with dissimilar materials, coat the surfaces with epoxy paint or provide other means of dielectric separation as recommended by manufacturer to prevent galvanic corrosion.

B. BREEZEWAY TRANSIT CONNECTION SIGNS

1. Description
The breezeway transit connection sign shall be a static, exterior and interior overhead hanging sign.
2. Materials
 - a. Aluminum Sheet and Plate: ASTM B 209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of Alloy 5005-H32.
 - b. Aluminum Extrusions: Manufactured by SignComp or equal. ASTM B 221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of Alloy 6063-T5.
 - c. Applied Vinyl: 3M Scotchcal Translucent Graphic Film Series 3630 or equal, cast vinyl film for both interior and exterior use approved by film manufacturer for application to substrate. Film shall have matte surface finish with uniform color; clear, permanent, pressure-sensitive adhesive; and a translucent synthetic liner. Thickness of film without adhesive: 2 mils. Overall thickness of film: 3–4 mils. Tensile strength: 5 pounds/inch at 73 degrees F. Chemical resistance: Resists mild alkalis, mild acids, and salt.
 - d. Applied Vinyl with Protective Top Coat: 3M Scotchcal Translucent Graphic Film Series 3632 GPS or equal. Refer to specifications for Series 3630 with addition of protective top coat. Low-sheen finish.
 - e. Paint: Matthews Acrylic Polyurethane, or equal. Multi-component opaque paint material consisting of pigmented base and activator. UV resistant, satin sheen. Use primer and undercoats as recommended in writing by paint manufacturer for specific substrate.
 - f. Gaskets and Seals: Provide neoprene gaskets as indicated on the Design Plans.
3. Cabinet Signs
 - a. Cabinet Sign Frames: Extruded-Aluminum Frames: Mitered with concealed anchors and welded.
 - b. Brackets: Fabricate brackets and fittings for wall-mounted signs from extruded aluminum to suit cabinet sign construction and mounting conditions indicated. Fabricate pendants for overhead-mounted signs as indicated on the Design Plans. Factory paint brackets in color indicated.
 - c. Panel Material: Aluminum sheet.
 - d. Artwork Materials: Translucent and opaque areas of interior sign panels shall be applied vinyl sheet. Opaque areas of exterior sign panels shall be painted. Translucent portions of exterior signs shall be vinyl sheet with protective top coat.

4. Aluminum Finishes
 - a. Paint Finish: Acrylic polyurethane paint as specified herein.
 - b. Color and Gloss:
 - i. Typical: Black, satin gloss.
 - ii. Interior of Box: White, reflective.
5. Accessories
 - a. Anchors and Inserts: Provide stainless steel anchorages. Refer to Design Plans for specific anchors.
 - b. Stainless steel double head bird tension wire and support post. (Fly Bye Bird Control).
 - c. "New York Wire" aluminum tension spring. Attached to top of aluminum channel that holds aluminum face plate. Install only at top of aluminum face plate.
 - d. Aluminum channel adhered to aluminum face plate with silicone. Four per face, all four sides.
 - e. Neoprene foam tape. Adhered to sign cabinet.
6. Fabrication
 - a. Factory-assemble units and apply finishes and graphics in accordance with manufacturer's standards and approved shop drawings.
 - b. Fillet weld post to base plate. Base plate shall be perpendicular to post within plus or minus one degree.
7. Artwork
 - a. Unless otherwise specified in these Technical Specifications, the NCTPA Project Manager and Designee will furnish electronic files showing the required logos, fonts, and layout of typical sign for use by the Contractor. The Contractor shall furnish graphic design services to design each sign face.
 - b. The software of the artwork file will be as designated in these Technical Specifications, if applicable.
8. Execution
 - a. Verify that substrates are stable and capable of supporting the weight of signage units.
 - b. Verify that substrates have been adequately prepared to securely anchor signage units.
9. Preparation and Installation
 - a. Clean surfaces thoroughly prior to installation.
 - b. Protect surrounding finishes and fixtures from damage by work of this Section
 - c. Install in accordance with manufacturer's installation instructions.
 - d. Install in accordance as detailed in the Design Plans and approved shop drawings.
 - e. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.
 - f. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.
 - g. Bracket-Mounted Signs: Provide brackets, fittings, and hardware for mounting signs that project from walls and are suspended from ceilings. Attach brackets and fittings securely to walls and ceilings with concealed fasteners and anchoring devices to comply with Design Plans.
10. Cleaning and Protection
 - a. Clean exposed surfaces in accordance with manufacturer's instructions.
 - b. Protect exposed surfaces from damage by subsequent construction.
11. Submittals
 - a. Shop Drawings: Show fabrication and installation details for signs and mounting devices.
 - i. Show sign mounting heights, locations of supports, and accessories.
 - ii. Provide message list, typestyles, graphic elements, and layout for each sign.
 - iii. Submit half-size color laser print outs of each sign face for approval.

- b. Samples: Submit the following samples for verification:
 - i. Corner of aluminum frame showing mitered and welded corner with finish, each leg of corner a minimum of 8 inches long.
 - ii. Aluminum sheet, 8 by 10 inches.
 - iii. Applied Vinyl for both interior and exterior, as applicable, including each operator logo, icons and other symbols as requested by the NCTPA Project Manager and Designee, 8 by 10 inches.
 - c. Prototype:
 - i. Upon NCTPA Project Manager and Designee's request, build prototype of each specific sign type requested, to demonstrate aesthetic and operational effects and verify and set quality standards for fabrication and installation. Modify prototype and shop drawings as required by the NCTPA Project Manager and Designee in order to obtain NCTPA Project Manager and Designee's approval.
 - ii. Approved prototype may become part of the completed Work with the NCTPA Project Manager and Designee's written permission.
 - iii. Either deliver prototype to location indicated by the NCTPA Project Manager and Designee or make them available for NCTPA Project Manager and Designee's review at Contractor or fabricator's facility within the nine-county San Francisco Bay Area. The Contractor may also elect to have the prototype signs approved at a Manufacturer's facility outside the nine-county San Francisco Bay Area, with all travel costs for NCTPA Project Manager and/or his/her designee to be borne by the Contractor.
12. Measurement and Payment
- Separate measurement and payment will not be made for work required under this Section. All costs in connection with the work specified herein will be considered to be included with the related item of work in the Bid Schedule of the Bid Form, or incidental to the Work.

C. WAYFINDING KIOSKS

- 1. Description
- The wayfinding kiosk shall be a static, interior and exterior, two-sided, pole-mounted sign.
- 2. General
 - a. Basis-of-design product: Subject to compliance with requirements, provide either the named product or comparable product from another manufacturer. Alternate manufacturers and systems must be approved by architect.
 - i. Provide kiosks as fabricated by Sign Source or Arcus 600 series Mast Information System approved equivalent in all features and functions.
 - ii. Attention is directed to Appendix A1-A: Kiosk Design Plans for additional details.
 - b. Provide modular signage and information system with signage elements consisting of curved face panels attached to a rigid internal structure.
 - c. Provide modular signage and information system suitable for both indoor use and for all-weather outdoor use. System shall incorporate proper venting to allow proper air flow and weep holes w/ insect screens for proper water drainage. Proper gasketing also shall be incorporated so as to eliminate water entry into cabinet.
- 3. Accessories
- Anchors and Inserts: Provide stainless steel anchorages. Refer to Design Plans for specific anchors.
- 4. Fabrication
 - a. Factory-assemble units and apply finishes and graphics in accordance with manufacturer's standards and approved shop drawings.
 - b. Fillet weld post to base plate. Base plate shall be perpendicular to post within plus or minus one degree.

- c. Signage is to incorporate Nixalite Model S bird control wire strip in open housing attached to top of cabinet with clips. All mechanical attachments must be sealed with silicone to assure no water can penetrate into cabinet. Housing to include drain channels to allow water to drain away from sign cabinet.
- d. Cut frame extrusions to length. Drill, tap and countersink holes for tamper-resistant stainless steel security screws if applicable.
- e. Cut aluminum separation plates to size.
- f. Cut curved face panels to length.
- g. Cut internal and external pipes to proper length
- h. Cut openings for acrylic window and insert carrier.
- i. Cut out end plate to match cross-sectional profile of signage unit. Provide countersunk mounting holes.
- j. Fabricate housing to accept Nixalite bird control
- k. Apply acrylic enamel and anti-graffiti finish.
- i. Prepare metal surfaces for finishing according to manufacturer's process specifications.
- i. Apply anti-graffiti top coat.
- l. Apply non-reflective vinyl graphics per Design Plans and/or shop drawings.
- m. Weld internal separation plates and pipes to frame extrusions to assure rigid structure.
- n. Install end plate using self-threading screws in bosses provided in frame extrusion.
- o. Secure face panels to frame with continuous stainless steel piano hinge.
- p. Install compression stainless steel lock mechanisms.
- q. Install gasketing as required to eliminate water entry inside cabinet.
- r. Install welded stainless steel base plate and inner pipe sleeve per drawing details.
- s. Provide modular signage and information system configured as a double-sided vertical Mast
 - i. Nominal signage width: 24" (20.25" graphic area).
 - ii. Nominal signage depth: 8" – series 600.
 - iii. Nominal signage body height: 66".
 - iv. Nominal overall height: 99.5".
 - v. Nominal mast height (exposed pipe): 30".
 - vi. Curved Face Panels (2 per sign – 1 per side) consisting of aluminum with 0.125" minimum thickness.
- t. Provide continuous aluminum piano hinge welded to door frame and cabinet.
- u. Install 1" aluminum tube drains at bottom welded to cabinet and internal baffles.
- v. Provide black plastic vents at bottom of cabinet.
- w. Mounting
 - i. Provide curved face panels with two (2) extruded aluminum edges.
 - a) Extruded edges shall be both bonded, using exterior grade weather resistant structural adhesive and mechanically fastened to back of curved face panel.
 - Extruded edges shall incorporate integral continuous grooves capable of supporting acrylic windows, diffusers and sheet graphics.
 - Extruded edges shall be internal and completely concealed from view in the assembled signage unit.
 - Face panel to include two welded stiffener plates. One located near top of panel and one near bottom of panel.
 - ii. Curved face panels (2 per sign) shall incorporate a continuous stainless steel piano hinge which mechanically fastens to signage sub-frame.

- iii. Curved face panels to incorporate compression locking mechanisms (2) per side. All units to be keyed alike. Lock plate mechanism shall be adjustable to allow appropriate door closure alignment. Compression lock: Southco E3-55-27 or approved equivalent.
- iv. Curved face panels shall be installed with extruded edges mounted to frame structure with stainless steel continuous piano hinge along left side.
- v. Mounting clip for map graphics attached to panel with screws. Clips shall be Instagrip Snap-Lok #140-96 or approved equivalent.
- x. Finish: main body.
 - i. Anti-graffiti polyester finish.
 - ii. Color: to match Anodized Silver.
 - iii. Header background color – applied using acrylic enamel automotive finish to match Pantone 363C Green. Header to receive exterior grade anti-graffiti top coat.
- y. Surface applied vinyl graphics
 - i. Orange Circle to match 151C w/ black border
 - ii. Lettering to be white
- z. Window and graphic receiving panel at Curved Face Panel
 - i. Cut window opening (20.25"w x 46"h) in curved face panels
 - ii. Provide .125" clear lexan window material attached to door panel with studs and nuts. Window shall be retained in window opening using slots provided in the curved face panel's extruded edge profile.
 - iii. Provide curved aluminum graphic receiving panel mounted to sub-frame behind window area. Graphic to be secured to receiving panel via integral self-closing clip devices mounted to panel. Self-closing clips shall be mechanically fastened to receiving panel.
 - iv. Gasketing shall be installed above window opening at inside of face panel so as to channel water and moisture away from graphic insert.
- aa. Internal structure consisting of two (2) frame extrusions connected by a series of separation plates.
 - i. Frame Extrusions
 - a) Material: extruded aluminum.
 - b) Finish: one color polyester coat
 - c) Color: to match body of sign
 - d) Overall width: 5.61"
 - e) Overall depth: 2.115"
 - f) Extruded profile shall incorporate a hollow square tubular section with an outside measurement of 2.05" x 2.05" and in inside measurement of 1.65".
 - g) Extruded profile shall incorporate a trapezoidal section 2.115" deep that serves as the exposed outer edge of the assembled signage unit.
 - h) Extruded profile shall incorporate two (2) continuous .15" diameter bosses capable of accepting self-threading end cap attachment screws.
 - i) All extruded profile elements shall be part of a continuous, one-piece extrusion.
 - j) Left and right frame extrusions shall be identical.
 - k) Frame extrusion shall have a minimum weight of 3.8 lbs. per lineal foot.
 - ii. Center Support Structure
 - a) Outer Aluminum Pipe Sleeve – 3.5" SCH. 40 aluminum welded to internal sign cabinet 0.25" thk. separation plates.
 - b) Internal Pipe Sleeve – 3" SCH 40 stainless steel (welded to stainless steel base plate). Use neoprene gasketing between outer and internal pipe sleeves to eliminate movement between the two.

- c) Base Plate: 0.5" thick stainless steel plate with holes to accept pre-engineered ¾-10 acorn style stainless machine screws for attachment to internally threaded adhesive anchors in mounting substrate. Base plate shall not include any mechanical attachments or projections that would be considered a tripping hazard.
 - iii. End plate
 - a) Material: aluminum plate, .125" thickness
 - b) Finish: anti-graffiti
 - c) Color: as specified
 - iv. Weatherproofing
 - a) Provide appropriate gasketing for exterior use so as not to allow water entry to inside of cabinet.
 - v. Security
 - a) Incorporate (2) keyed-alike locking mechanism per side.
- 5. Artwork
Unless otherwise specified in the Contract Documents, Design Plans and these Technical Specifications, the NCTPA Project Manager and Designee will furnish the map insert.
- 6. Execution
 - a. Verify that substrates are stable and capable of supporting the weight of signage units.
 - b. Verify that substrates have been adequately prepared to securely anchor signage units.
- 7. Preparation and Installation
 - a. Clean surfaces thoroughly prior to installation.
 - b. Protect surrounding finishes and fixtures from damage by work of this Section
 - c. Install in accordance with manufacturer's installation instructions.
 - d. Install in accordance as detailed in the Design Plans and approved shop drawings.
 - e. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.
 - f. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.
 - g. Bracket-Mounted Signs: Provide brackets, fittings, and hardware for mounting signs that project from walls and are suspended from ceilings. Attach brackets and fittings securely to walls and ceilings with concealed fasteners and anchoring devices to comply with Design Plans.
- 8. Cleaning and Protection
 - a. Clean exposed surfaces in accordance with manufacturer's instructions.
 - b. Protect exposed surfaces from damage by subsequent construction.
- 9. Submittals
 - a. Shop Drawings: Show fabrication and installation details for signs and mounting devices.
 - i. Show sign mounting heights, locations of supports, and accessories.
 - ii. Show door with specific details on window construction and attachment details to the door frame.
 - iii. Show all gaskets and details on mounting, attachment and installation.
 - iv. Provide message list, typestyles, graphic elements, and layout for each sign.
 - v. Submit half-size laser print outs of each sign face for approval.
 - vi. Wiring Diagrams: Power and control wiring (as necessary).

- b. Samples: Submit the following samples for verification:
 - i. Corner of aluminum frame showing mitered and welded corner with finish, each leg of corner a minimum of 8 inches long.
 - ii. Acrylic sheet, 8 by 10 inches.
 - iii. Acrylic sheet with translucent and opaque finish; for both interior and exterior, as applicable, 8 by 10 inches.
 - iv. Samples of translucent film in each color required.
 - c. Prototype:
 - i. Upon NCTPA Project Manager and Designee's request, build prototype of each specific sign type requested, to demonstrate aesthetic and operational effects and verify and set quality standards for fabrication and installation. Modify prototype and shop drawings as required by the NCTPA Project Manager and Designee in order to obtain NCTPA Project Manager and Designee's approval.
 - ii. Approved prototype may become part of the completed Work with the NCTPA Project Manager and Designee's written permission.
 - iii. Either deliver prototype to location indicated by the NCTPA Project Manager and Designee or make them available for NCTPA Project Manager and Designee's review at Contractor or fabricator's facility within the nine-county San Francisco Bay Area. The Contractor may also elect to have the prototype signs approved at a Manufacturer's facility outside the nine-county San Francisco Bay Area, with all travel costs for NCTPA Project Manager and/or his/her designee to be borne by the Contractor.
10. Measurement and Payment
- Separate measurement and payment will not be made for work required under this Section. All costs in connection with the work specified herein will be considered to be included with the related item of work in the Bid Schedule of the Bid Form, or incidental to the Work.

D. TRANSIT INFORMATION DISPLAYS

- 1. Description
 - a. The transit information display shall be a static, interior and exterior, pole and wall mounted structure with several different possible assembly options including the installation of real-time displays. Refer to the Design Plans for details on the different assembly options.
- 2. General
 - a. Provide modular signage and information system with signage elements consisting of a series of bent panels and internal frame structures attached to a rigid pole and base plate structure. Refer to the Design Plans.
 - b. Provide modular signage and information system suitable for both indoor use and for all-weather outdoor use. The TID assembly shall incorporate proper venting to allow proper air flow and weep holes with insect screens for proper water drainage. Proper gasketing also shall be incorporated so as to eliminate water entry into cabinet.
 - c. Anchors and Inserts: Provide stainless steel anchorages for all surfaces, materials and conditions including, but not limited to, poles, crossbars, walls, frames, panels, doors and beams, and other conditions as depicted in the Design Plans. Refer to the Design Plans for specific anchoring conditions.
 - d. Fabricate signs to comply with requirements indicated for materials, thickness, finishes, colors, designs, shapes, sizes and details of construction as shown on the Design Plans.
 - e. All signs must comply with ADA requirements for placement and clearances.
 - f. Insofar as practicable, fabrication, assembly and fitting of the work shall be executed in the shop or factory with the various parts or assemblies ready for installation at the site.

- g. Work that cannot be shop or factory assembled shall be given a trial fit at the shop or factory to assure proper and expeditious field assembly.
 - h. All fabricated sign joints, corners, miters, etc., shall be accurately machined, filed and fitted, and rigidly framed together at joints and contact points.
 - i. All work shall be carefully matched to produce a perfect continuity of lines and design. Materials in contact shall have hairline joints, unless otherwise shown on the Design Plans, and shall be painted smooth to give a monolithic appearance. All mechanical fasteners shall match color and finish of the sign area where they occur.
 - j. All metal surfaces that are to be in contact with concrete or dissimilar metals shall have an applied heavy coating of bituminous paint.
 - k. Produce smooth, even, level sign panel surfaces, constructed to remain flat under installed conditions within tolerances specified for the particular product.
 - l. All removable members shall be carefully machined and fitted and shall be secured by mechanical fasteners of proper size and approved spacing.
 - m. The Contractor, when applicable, shall incorporate the latest proven technological achievements in the field of sign manufacturing to achieve maximum service life and superior attractiveness of appearance.
3. Materials
- a. Stainless steel sheets, plates and extrusions where specified as single panels, or for forming and/or welding, shall be in the thickness shown on the Design Plans and shall be of an alloy and temper recommended by the producer or finisher for the type of use and finish indicated, and with not less than the strength and durability properties specified in ASTM A240 and ASTM A480.
 - b. All screws, bolts, fasteners, poles, crossbars, baseplates, door latches and hinges shall be stainless steel.
 - c. Non-Reflective opaque vinyl sheet, with satin matte finish sheen, where shown on the Design Plans, shall be 3M Series or equal. 3M Series Vinyl or equal shall have the following construction (unless otherwise noted):
 - i. Total thickness – 0.003 inches to 0.004 inches.
 - ii. Adhesive: permanent pressure sensitive
 - iii. Liner: 78# white Kraft
 - iv. Where screen process printing is required, ink series-3900 opaque, 9700 UV shall be used.
 - d. Ferromagnate Laminate: Provide ferromagnate laminate coating bonded to the stainless steel bent plate.
 - e. Tempered Glass:
 - i. Provide clear tempered glass: ASTM C1048, Type 1 transparent flat, Quality Q3, Kind FT fully tempered, Condition A uncoated float glass with horizontal tempering.
 - ii. Tempered glass shall bear the manufacturer's identification as to type and thickness. Such identification for glazing shall be permanently etched so as to be visible after glass has been installed
 - f. For exposed sign materials, which require selection of materials with integral or applied colors, surface textures or other characteristics related to appearance, provide color matches indicated.
 - g. All finish sheen is to be satin unless otherwise noted. Where sheen is specified or is listed as standard for approval for the contract, the terms refer to tested luster, shine or sheen of the dry film and for purposes of this specification, are defined when tested with a 60 degree Gloss meter, as follows:
 - i. Flat - 10 degree gloss or less
 - ii. Eggshell - 11 to 19 degree gloss
 - iii. Satin - 20 to 30 degree gloss
 - iv. Semi-gloss - 31 to 74 degree gloss
 - v. Gloss - 75 degree or more gloss

- h. All stainless steel exterior surfaces, except where required to be hot dip galvanized, shall be prepared and painted with a 3-coat Polyurethane primer and top coat system as follows:
 - i. Remove grease and dirt and clean metal by commercial blast cleaning.
 - ii. Apply one (1) coat of epoxy primer to a thickness of four (4) mils when dry.
 - iii. Apply two (2) finish coats of Polyurethane enamel to a thickness of two (2) mils for a finished coat of four (4) mils.
 - iv. Finish sheen is to be gloss.
- i. Each coat of paint shall be applied as a continuous film of uniform thickness free of pores. Any thin spots or missed areas shall be repainted and permitted to dry before the following coat of paint is applied.
- j. During the application of paint, care shall be taken to prevent runs and sags. Should either occur, the application shall be sanded out and repainted.
- k. After drying, any areas of paint damaged for any cause shall be removed, the surface again prepared and then repainted with the same paint and same thickness as the damaged area.
- l. Sign stainless steel frames, where indicated in the Design Plans shall be constructed of standard structural steel shapes, tube and/or steel plates. All welds shall be full penetration welds and shall be ground smooth unless otherwise shown on the Design Plans.
- m. Design, detailing, fabrication and installation shall conform to the requirements of the following publications unless otherwise noted
 - i. "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials (AASHTO).
 - ii. "Standard Specifications for Highway Signs, Luminaries, and Traffic Signals" adopted by AASHTO.
 - iii. Standard Code of the American Welding Society for Arc Welding in Building Construction.
 - iv. Recommendations of the American Hot-Dip Galvanizers Association.
 - x. Tentative Recommended Practices for Providing High Quality Zinc Coatings (Hot- Dip) on Assembled Projects. ASTM Designation A 123.
 - 1) Caltrans (California Department of Transportation) Guidelines.
- n. Structural steel shall be made from new billets of domestic manufacture conforming to ASTM Specification A-36.
- o. Structural tubing shall be ASTM A500, Grade B (FY=46KSI).
- p. All hardware used in supplying and connecting the various structures shall be high-strength bolts nuts, and suitable hardened washers. Connection bolts for shop and field connections shall be stainless steel.
- q. Stainless steel bolts, nuts, and washers shall be fabricated from material suitable for their intended use.
- r. Expansion anchors shall be HILTI concrete anchors or an approved equal.
- s. Anchor bolts shall be fabricated from quenched and tempered steel studs with coarse, grade 60 threads. Nuts shall be heavy hex. Washers shall be suitable hardened washers. Anchor bolts, nuts, and washers shall be stainless steel.
- t. Mechanical fasteners shall be concealed, unless otherwise indicated and shall be noncorrosive to either sign materials or sign structure.
- u. Bolted connection shall be made with ASTM A-325 Type F High Strength bolts with diameter as noted.
- v. A240 and ASTM A480, Type 316, minimum 14 gauge.

4. Fabrication
 - a. Fabrication shall be clean and true and in accordance with applicable National codes and specifications. All contact surfaces, whether bolted or welded, shall be checked for true plane faces and the absence of burns or other obstructions to snug fits.
 - b. Factory-assemble units and apply finishes and graphics in accordance with manufacturer's standards and approved shop drawings.
 - c. Fillet weld pole to base plate (see Design Plans). Base plate shall be perpendicular to post within plus or minus one degree.
 - d. Apply acrylic enamel and anti-graffiti finish.
 - e. Prepare metal surfaces for finishing according to manufacturer's process specifications.
 - f. Apply anti-graffiti top coat.
 - g. Apply non-reflective vinyl graphics per project Sign Schedule and/or shop drawings.
 - h. Weld internal separation plates and pipes to frame extrusions to assure rigid structure.
 - i. Install end plate using self-threading screws in bosses provided in frame extrusion.
 - j. Secure face panels to frame with continuous stainless steel piano hinge.
 - k. Install stainless lock mechanisms.
 - l. Install gasketing as required to eliminate water entry inside cabinet.
 - m. Install welded stainless steel base plate and bolted cross beam members per drawing details.
 - n. Install Grip A Strip rail or approved equal in the TID cases to attach and hold the maps firmly inside the TID case. The rail shall be mounted permanently to the TID case using the manufacturer supplied mounting brackets.
 - o. Install door latch assembly to prop and hold open the TID case door. The door latch assembly shall be constructed of stainless steel and shall be able to prop open the case door at angles of 70 and 90 degrees measured against the TID face.
 - p. Welding
 - i. Welds and welding shall be installed as shown in the Design Plans and shall conform to the standards of the American Welding Society for the type of work being done.
 - ii. Electrodes shall be low hydrogen E-70 series rods.
 - iii. Welders shall be tested, qualified and certified in accordance with A.W.S. Code for Welding in Building Construction. Welding in the shop and field shall be in conformance with A.W.S. Code for Welding in Building Construction.
 - iv. Welds in shop and field shall be thoroughly cleaned of scale, slag, etc., before any shop or field paint is applied.
 - q. Methods
 - i. All work in shop and field shall be carefully laid out.
 - ii. Field measure in the field to assure a fit and avoid immovable obstructions.
 - iii. Sign structures shall be true vertical and properly aligned.
 - r. Grouting shall be supplied and installed by the Contractor.
 - s. Where galvanized steel is called for on the Design Plans or these Technical Specifications, it shall be hot-dip galvanized.
 - t. Shop painting shall be done in accordance with Section 3.06 Finishes – Organic Coatings.
 - u. All abrasions and field welds shall be given a "touch-up" coating using the same paints used in the shop.
5. Artwork
 - a. Unless otherwise specified in the Design Plans and these Technical Specifications, the NCTPA Project Manager and Designee will furnish and install the map inserts.

6. Preparation and Installation

- a. The Contractor shall inspect all location, surfaces, and other works previously installed by others and promptly report to the NCTPA Project Manager and Designee any conditions that might impair the durability or appearance of his/her work.
- b. Contractor shall make himself familiar with the Design Plans and shall provide all signs and graphics required as shown on the Design Plans and these Technical Specifications.
- c. The Contractor shall thoroughly examine the Design Plans and Technical Specifications, carefully checking the dimensions before commencing work, and shall report any discrepancy that occurs, and shall request interpretation before proceeding with the work.
- d. Should there be conflicts or contradictions between these Technical Specifications and the Design Plans, these Technical Specifications shall take precedence and prevail over the Design Plans. However, in the case where the Design Plans provide more explicit detail than these Technical Specifications, the Design Plans shall prevail. In all cases, should there be any differences in requirements between these Technical Specifications and the Design Plans, the more stringent requirements shall apply. Where special job conditions occur, or where there is uncertainty as to interpretation, before execution of the work, Contractor shall inform the NCTPA Project Manager and Designee for clarification and information.
- e. Contractors shall make complete on-site measurements before commencing fabrication. Dimensions shall not be determined by scale or rule, and final fabrication measurements shall not be made from graphic scale layouts, which functions as guides only.
- f. Deliver all signage and graphics products and materials in protective wrapping and store protected from weather, moisture and soiling.
- g. All signs shall be installed as indicated by the sign details as specified in the Design Plans. All surfaces receiving application of signs shall first be cleaned of all dirt and/or accumulated foreign matter.
- h. All signs are to be cleaned after installation to remove all smears, smudges, dust, dirt or other surface obscuring. If sign had a temporary cover, cleaning will be required to remove dust and dirt from the sign surface where the cover is removed. Cover to be disposed of properly off site.
- i. All painted surfaces of signs to be restored to factory shipped conditions using a fabricator provided touch up paint or other specified process that is acceptable to the NCTPA Project Manager and Designee, for all areas needing touch up, or if colors are light or rubbed off due to shipping or installation.
- j. Contractor shall assume full liability, with regard to damages and losses as a result of incorrect and/or insufficient sign fabrication and installation.
- k. The Contractor shall assume the responsibility for the location of concealed post-tensioned cables in concrete before drilling for concrete anchors, with positive detection devices.
- l. Install the work plumb, level and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8 inch in 8 feet-0 inches for plumb and level with maximum 1/32 inch offset in flush adjoining structural, free from distortion or other defects of appearance.
- m. The Contractor shall coordinate with the NCTPA Project Manager and Designee or Hub Operator Project Manager, and will allow for an appropriate area for all deliveries to be assembled for inspection prior to installation.
- n. The Contractor will provide time in scheduling a job for sufficient time to allow for corrections and repairs to be completed at job site before installation if needed.
- o. In general, the signs shown on the Design Plans are located schematically. The Contractor shall notify the NCTPA Project Manager and Designee of any location changes from those indicated on the Design Plans and gain approval before sign installation.

- p. The Contractor shall layout, measure, and mark each sign location by sign identification code for review and approval before proceeding with installation.
 - q. The Contractor shall lay out all the work and make all surveys necessary for the satisfactory completion of the work in accordance with the Design Plans and these Technical Specifications. The Contractor shall be responsible for all measurements required for the execution of the work.
 - r. The Contractor shall furnish, at his/her expense, such templates, platforms, equipment, tools, and materials, and all labor as may be required in layout of any part of the work shown on the Design Plans.
 - s. It shall be the responsibility of the Contractor to maintain and preserve all marks established until authorized to remove them, and if such marks are destroyed by the Contractor or through his/her negligence, prior to their authorized removal, the Contractor shall promptly replace them. The MTC shall require that work be suspended at any time when survey marks established by the Contractor are not reasonably adequate to permit satisfactory prosecution and control of the work.
 - t. The Contractor shall provide competent and experienced personnel for all layout work. All survey and layout performed by the Contractor will be subject to verification.
 - u. Unless designated otherwise by the Design Plans and these Technical Specifications, all salvageable materials and equipment shall remain the property of the NCTPA Project Manager and Designee or the Hub Project Manager. Material and equipment not retained by the NCTPA Project Manager and Designee shall become the property of the Contractor and shall be removed from the site by the Contractor.
 - v. All debris shall be removed daily from the site by the Contractor and disposed of in a legal manner. No vending of materials is permitted on project site.
7. Cleaning and Protection
- a. Clean exposed surfaces in accordance with manufacturer's instructions.
 - b. Protect exposed surfaces from damage by subsequent construction.
8. Submittals
- a. Shop Drawings: Show all fabrication and installation details for the transit information display assembly and mounting devices. Refer to Section I.D.3 of these Technical Specifications for more detail on the requirements of the shop drawings.
 - i. Show sign mounting heights, dimensions, locations of supports, materials, thicknesses and any other relevant accessories of the entire TID assembly.
 - ii. Submit half-size laser print outs of each sign for approval.
 - b. Samples: Submit the following samples for verification:
 - i. A corner of aluminum frame showing mitered and welded corner with its finish. Each leg of a corner shall be a minimum of 8 inches long.
 - ii. Tempered Glass, 8 by 10 inches.
 - iii. Ferromagnetic Laminate for both interior and exterior, as applicable, 8 by 10 inches.
 - iv. Finish for TID poles and base plates, 8 by 8 inches.
 - v. Samples of translucent film in each color required.
 - vi. Sample of the TID door handle, corner sample only.
 - vii. Samples of TID map holder (Grip A Strip or equal), four minimum.
 - c. Prototype:
 - i. Upon NCTPA Project Manager and Designee's request, build prototype of each specific sign type requested, to demonstrate aesthetic and operational effects and verify and set quality standards for fabrication and installation.

- ii. Modify prototype and shop drawings as required by the NCTPA Project Manager and Designee in order to obtain NCTPA Project Manager and Designee's approval. Approved prototype may become part of the completed Work with the NCTPA Project Manager and Designee's written permission.
- iii. Either deliver prototype to location indicated by the NCTPA Project Manager and Designee or make them available for NCTPA Project Manager and Designee's review at Contractor or fabricator's facility within the nine-county San Francisco Bay Area. The Contractor may also elect to have the prototype signs approved at a Manufacturer's facility outside the nine-county San Francisco Bay Area, with all travel costs for NCTPA Project Manager and/or his/her designee to be borne by the Contractor.

9. Measurement and Payment

Separate measurement and payment will not be made for work required under this Section. All costs in connection with the work specified herein will be considered to be included with the related item of work in the Bid Schedule of the Bid Form, or incidental to the Work.

E. REAL-TIME DISPLAYS (RTD)

1. Description

- a. The Real-Time Display (RTD) shall provide hub and sign-location specific real-time information regarding transit departures. It shall be installed in interior and exterior locations with several different mountings, including mounting to a Transit Information Display Structure (existing or new) or on existing walls. Refer to the Design Plans for details on the different installation and mounting options.
- b. In addition to the requirements and specifications contained within these Technical Specifications, the RTD assembly shall meet or exceed all of the requirements and specifications defined in the Regional Real-Time Signs, Physical Requirements and Specifications (Version 4.3) which is available at <http://www.mtc.ca.gov/planning/tcip>.

2. General

- a. The Real-Time Display shall consist of the following elements:
 - i. Screen (Sign)
 - ii. Sign Controller (Field Hardened Computer)
 - iii. Communications and Telemetry (i.e., Ethernet, wireless, serial, etc.)
 - iv. Enclosure (Housing)
 - v. Mounting Elements
- b. The RTD shall be furnished with an operating system, graphical user interface and commercially-available Internet browser software (Internet explorer (latest version) or approved equivalent) that shall have the ability to display the specific contents of a web page generated by the 511 website for real-time transit information. See Display Configuration below for more details.
- c. The RTD units shall be furnished and installed as a complete and fully integrated unit that is assembled, tested and delivered by a single manufacturer. As approved in writing by the NCTPA Project Manager or his/her designee, the individual elements that form each RTD assembly may be manufactured by different companies, but each RTD assembly shall be assembled and delivered as a single integrated unit, fully tested at the assembling manufacturer's facilities for compliance with these Technical Specifications. There will be no exceptions.
- d. The RTD units shall be fully warrantied by the manufacturer who assembles, tests and delivers the units. Refer to the Warranty section elsewhere in the Invitation for Bid and these Technical Specifications for more details on the terms of the warranty.
- e. The testing of the integrated RTD units shall be conducted at the manufacturer's facilities. The manufacturer shall provide Factory Acceptance Test (FAT) documentation that shall accompany each RTD unit upon delivery.

- f. See "Conduit and Wiring", "Fiber Optic Cable" and "Communications Equipment" for additional information regarding power and communications for the real-time displays.
 - g. Anchors and Inserts: Provide stainless steel anchorages. Refer to Design Plans for specific anchors.
 - h. Fabricate signs to comply with requirements indicated for materials, thickness, finishes, colors, designs, shapes, sizes and details of construction as shown on the Contract Documents, Design Plans and these Technical Specifications.
 - i. All signs must comply with ADA requirements for placement, clearances and text height.
 - j. Insofar as practicable, fabrication, assembly and fitting of the work shall be executed in the shop with the various parts or assemblies ready for installation at the site.
 - k. Work that cannot be shop assembled shall be given a trial fit at the shop to assure proper and expeditious field assembly.
 - l. All fabricated sign joints, corners, miters, etc., shall be accurately machined, filed and fitted, and rigidly framed together at joints and contact points.
 - m. All work shall be carefully matched to produce a perfect continuity of lines and design. Materials in contact shall have hairline joints, unless otherwise shown on the drawings, and shall be painted smooth to give a monolithic appearance. All mechanical fasteners shall match color and finish of the sign area where they occur.
 - n. Concealed surfaces to be in contact with concrete or dissimilar metals shall have an applied heavy coating of bituminous paint.
 - o. Produce smooth, even, level sign panel surfaces, constructed to remain flat under installed conditions within tolerances specified for the particular product.
 - p. All removable members shall be carefully machined and fitted and shall be secured by mechanical fasteners of proper size and approved spacing.
 - q. The Contractor, when applicable, shall incorporate the latest proven technological achievements in the field of sign manufacturing to achieve maximum service life and superior attractiveness of appearance.
3. Materials
- a. The screen (sign) shall meet the following minimum specifications:
 - i. Minimum size: 45" diagonal (active display area)
 - ii. Minimum colors: 16 million
 - iii. Multiple inputs: Single signal connector (HD15); optional connectors: DVI, composite, S-video
 - iv. Brightness levels: 600 cd/m2 (candelas per square meter)
 - v. Minimum resolution: 1920 x 1080
 - vi. Contrast Ratio: 2000:1
 - vii. Viewing Angles (Horizontal/Vertical): 178 degrees/178 degrees
 - b. The sign controller (computer) shall meet the following minimum specifications:
 - i. CPU: 2.5GHz dual core (Intel Duo or equal)
 - ii. Memory: 4GB RAM
 - iii. Hardware Drive: 50GB
 - iv. Ethernet: 10/100 Base-T network interface card (10/100/1000 Base-T optional)
 - v. Wireless card with 802.11b, 802.11g and 802.11n
 - vi. Connectors: EIA-232 (2 ports), USB 2.0 (2 ports)
 - vii. Keyboard/mouse: USB
 - viii. Combination CD RW/DVD ROM drive
 - ix. Humidity Operation: 5-90% non-condensing

Any deviations from these display and sign controller specifications shall be submitted in writing to the NCTPA Project Manager and Designee for consideration and approval, prior to ordering the assembly.

- c. The sign controller shall be provided with a remote reboot feature where the controller can be re-booted from a remote location when network communications is established.
 - d. The sign controller shall be provided with an environmental sensor that is able to monitor the temperature and humidity of the sign enclosure.
 - e. It shall be the Contractor's responsibility to seek MTC consideration and approval in writing for any RTD that does not meet these minimum specifications. Contractor shall be responsible for any and all costs associated with the RTD procurement should a proposed RTD be rejected due to failure to meet the minimum specifications should the Contractor provide the submittals to MTC after the unit(s) have been ordered or delivered, no exceptions.
 - f. The sign enclosure (housing) shall consist of the following specifications:
 - i. The screen and sign controller shall be contained in a single stainless steel housing and anti-glare reflective protection for the screen.
 - ii. The housing shall meet the following minimum specifications:
 - a) Integrated 120V power source for both screen and sign controller. If power source is not within 5 feet of the screen and sign controller, an in-line cut-off (disconnect) switch shall be furnished and installed.
 - b) Stainless steel shall conform to material requirements as described in Section D, Transit Information Displays.
 - c) At all locations, the RTD enclosures shall be IP65-rated for exterior installations (outdoor-rated). These enclosures shall have Air Conditioning (AC) units to maintain proper operating temperature for the real-time display sign and controller.
 - d) At all locations, the RTD enclosures shall incorporate anti-theft security features. All nuts and bolts for attaching mounting bar to TID poles and for attaching sign enclosure to mounting bar or walls shall be stainless steel tamperproof security fasteners (Slot-Lok® or approved equivalent). A minimum of two wrenches for nut and bolt removal shall be supplied for each sign enclosure.
4. Fabrication
- a. Fabrication shall be clean and true and in accordance with applicable National codes and specifications. All contact surfaces, whether bolted or welded, shall be checked for true plane faces and the absence of burns or other obstructions to snug fits.
 - b. Factory-assemble units and apply finishes and graphics in accordance with manufacturer's standards and approved shop drawings.
 - c. Apply acrylic enamel and anti-graffiti finish. Apply anti-graffiti for the top coat.
 - d. Prepare metal surfaces for finishing according to manufacturer's process specifications.
 - e. Apply non-reflective vinyl graphics per project Sign Schedule and/or shop drawings.
 - f. Weld internal separation plates and pipes to frame extrusions to assure rigid structure.
 - g. Install end plate using self-threading screws in bosses provided in frame extrusion.
 - h. Secure face panels to frame with continuous stainless steel piano hinge, or as recommended or fabricated by the manufacturer.
 - i. Install stainless steel lock mechanisms.
 - j. Install gasketing as required to eliminate water entry inside RTD cabinet.
 - k. Install welded stainless steel base plate and bolted cross beam members per drawing details.
 - l. Methods
 - i. All work in shop and field shall be carefully laid out.
 - ii. Field measure in the field to assure a fit and avoid immovable obstructions.
 - iii. Sign structures shall be true vertical and properly aligned.

- m. Grouting supplied and installed by the Contractor.
 - n. Where galvanized steel is called for on the Contract or these Technical Specifications, it shall be hot-dip galvanized.
 - o. Shop painting shall be done in accordance with Section 3.06 Finishes – Organic Coatings.
 - p. Where specified in the Design Plans that the RTD shall be painted, the paint shall be Matthews Acrylic Polyurethane, or equal. Multi-component opaque paint material consisting of pigmented base and activator. UV resistant, satin sheen. Use primer and undercoats as recommended in writing by paint manufacturer for specific substrate.
 - q. All abrasions and field welds shall be given a “touch-up” coating using the same paints used in the shop.
5. Artwork
There shall be no artwork supplied or installed for the real-time display.
6. Preparation and Installation
- a. The Contractor shall inspect all location, surfaces, and other works previously installed by others and promptly report to the NCTPA Project Manager and Designee any conditions that might impair the durability or appearance of his/her work.
 - b. Contractor shall make himself familiar with the Contract Documents, Design Plans and these Technical Specifications and shall provide all real-time displays required as shown on the Contract Documents, Design Plans and these Technical Specifications. The Contractor shall thoroughly examine the Contract Documents, Design Plans and these Technical Specifications, carefully checking the dimensions before commencing work, and shall report any discrepancy that occurs, and shall request interpretation before proceeding with the work.
 - c. Should there be conflicts or contradictions between these Technical Specifications and the Design Plans, these Technical Specifications shall take precedence and prevail over the Design Plans. However, in the case where the Design Plans provide more explicit detail than these Technical Specifications, the Design Plans shall prevail. In all cases, should there be any differences in requirements between these Technical Specifications and the Design Plans, the more stringent requirements shall apply.
 - d. Where special job conditions occur, or where there is uncertainty as to interpretation, before execution of the work, contractor shall inform the NCTPA Project Manager and Designee for clarification and information.
 - e. Contractors shall make complete on-site measurements before commencing fabrication. Dimensions shall not be determined by scale or rule, and final fabrication measurements shall not be made from graphic scale layouts, which functions as guides only.
 - f. Deliver all signage and graphics products and materials in protective wrapping and store protected from weather, moisture and soiling.
 - g. All signs are to be cleaned after installation to remove all smears, smudges, dust, dirt or other surface obscuring. If sign had a temporary cover, cleaning will be required to remove dust and dirt from the sign surface where the cover is removed. Cover to be disposed of properly off site.
 - h. All painted surfaces of signs to be restored to factory shipped conditions using a fabricator provided touch up paint or other specified process that is acceptable to the NCTPA Project Manager and Designee, for all areas needing touch up, or if colors are light or rubbed off due to shipping or installation.
 - i. Contractor shall assume full liability, with regard to damages and losses as a result of incorrect and/or insufficient sign fabrication and installation.
 - j. The Contractor shall assume the responsibility for the location of concealed post-tensioned cables in concrete before drilling for concrete anchors, with positive detection devices.
 - k. Install the work plumb, level and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8 inch in 8 feet-0 inches for plumb and level with maximum 1/32 inch offset in flush adjoining structural, free from distortion or other defects of appearance.

- l. The Contractor will coordinate with the NCTPA Project Manager and Designee, and will allow for an appropriate area for all deliveries to be assembled for inspection prior to installation. The Contractor will provide time in scheduling a job for sufficient time to allow for corrections and repairs to be completed at job site before installation if needed.
 - m. In general, the signs shown on the Sign Location Plans are located schematically. The Contractor shall notify the NCTPA Project Manager and Designee of any location or installation modification changes from those indicated on the Sign Location Plans and gain approval before installation.
 - n. The Contractor shall layout, measure, and mark each sign location by sign identification code for review and approval before proceeding with installation.
 - o. The Contractor shall lay out all the work and make all surveys necessary for the satisfactory completion of the work in accordance with the Design Plans and these Technical Specifications. The Contractor shall be responsible for all measurements required for the execution of the work.
 - p. The Contractor shall furnish, at his/her expense, such templates, platforms, equipment, tools, and materials, and all labor as may be required in layout of any part of the work shown on the Contract Documents, Design Plans and these Technical Specifications. It shall be the responsibility of the Contractor to maintain and preserve all marks established until authorized to remove them, and if such marks are destroyed by the Contractor or through his/her negligence, prior to their authorized removal, the Contractor shall promptly replace them. The MTC shall require that work be suspended at any time when survey marks established by the Contractor are not reasonably adequate to permit satisfactory prosecution and control of the work.
 - q. The Contractor shall provide competent and experienced personnel for all layout work. All survey and layout performed by the Contractor will be subject to verification.
 - r. Unless designated otherwise by the Contract Documents, Design Plans and these Technical Specifications all salvageable materials and equipment shall remain the property of the NCTPA Project Manager and Designee or the Hub Project Manager. Material and equipment not retained by the NCTPA Project Manager and Designee shall become the property of the Contractor and shall be removed from the site by the Contractor.
 - s. All debris shall be removed daily from the site by the Contractor and disposed of in a legal manner. No vending of materials is permitted on project site.
- 7. Cleaning and Protection
 - a. Clean exposed surfaces in accordance with manufacturer's instructions.
 - b. Protect exposed surfaces from damage by subsequent construction.
- 8. Submittals
 - a. Shop Drawings: Refer to Section G of these Technical Specifications for more detail on the requirements of the shop drawings.
 - i. Show fabrication and installation details for signs, controller, cables, mountings, housing, conduits, pullboxes, and mounting devices including any mounting crossbars.
 - ii. Submit data sheets for all electronic units that are part of the real-time display assembly including all communications equipment, peripherals and connections.
 - iii. Submit manufacturer's written certification of the IP rating of the RTD enclosure.
 - b. Samples: Submit the following samples for verification:
 - i. Corner of housing frame
 - ii. Mounting assembly for the RTD for pole and wall mountings.

- c. Prototype:
 - i. Upon NCTPA Project Manager and Designee's request, build prototype of each specific sign type requested, to demonstrate aesthetic and operational effects and verify and set quality standards for fabrication and installation. Real-time display assembly prototype shall include mounting attachment for all installation assemblies (wall-mounted, existing pole-mounted, new pole-mounted) and recommended anti-theft security features.
 - ii. Modify prototype and shop drawings as required by the NCTPA Project Manager and Designee in order to obtain NCTPA Project Manager and Designee's approval. Approved prototype may become part of the completed Work with the NCTPA Project Manager and Designee's written permission.
 - iii. Either deliver prototype to location indicated by the NCTPA Project Manager and Designee or make them available for NCTPA Project Manager and Designee's review at Contractor or fabricator's facility within the nine-county San Francisco Bay Area. The Contractor may also elect to have the prototype signs approved at a Manufacturer's facility outside the nine-county San Francisco Bay Area, with all travel costs for NCTPA Project Manager and/or his/her designee to be borne by the Contractor.
- 9. RTD Configuration and Setup
 - a. Contractor shall coordinate with the Hub Project Manager on the procurement and installation of a new Internet connection within the MPOE as designated on the Design Plans.
 - b. Where noted on the Design Plans to use an existing Internet connection, Contractor shall coordinate with the Hub Project Manager to provide and configure the required equipment and cabling as shown in the Design Plans to establish communications between the existing Internet access point and each real-time display that will use the existing Internet connection.
 - c. Unless otherwise noted in the Design Plans, the Contractor, on behalf of the Hub Project Manager, shall apply for and procure the new Internet connections, pay for all associated connection and setup fees and ensure a complete and functional Internet connection.
 - d. The minimum available bandwidth for the RTD sign shall be 384 Kbps at the Internet connection point. This minimum bandwidth applies to both dedicated and shared Internet connections.
 - e. The display computer shall be configured by the Contractor to retrieve the contents of a website designated by the NCTPA Project Manager and Designee.
 - f. Contractor shall notify the NCTPA Project Manager and Designee at least three (3) weeks prior to the testing of the RTD. This will enable the NCTPA Project Manager to start the process of attaining the URL for the 511 website.
 - g. The URL for the website will be provided by the NCTPA Project Manager after the three (3) week notification period by the Contractor that the RTD will be tested.
 - h. Upon receipt of the URL by the Contractor, the Contractor shall be responsible for configuring the browser to access the URL, retrieve its contents, display the contents on the display screen and maintain the website display contents.
 - i. All automatic updates of any kind for the controller shall be disabled (turned off).
 - j. When the website is displayed on the screen, it shall be displayed in full screen view, i.e., there shall be no visible borders or other information displayed on the screen other than that generated by the website.
 - k. The display screen shall be able to automatically transition to "screen saver" mode when there is no activity on the website, and shall be able to automatically transition out of "screen saver" mode without any manual intervention when activity on the website resumes.

10. RTD Testing

- a. The Contractor shall conduct the testing of each RTD using the test guidelines as described in the Regional Real-Time Signs, Physical Requirements and Specifications (Version 4.3) which is available at <http://www.mtc.ca.gov/planning/tcip>.
- b. The Contractor shall take these test guidelines and develop detailed test plans and procedures to be approved by the NCTPA Project Manager and Designee.
- c. All RTD testing shall be performed in the presence of the NCTPA Project Manager and Designee.

11. Measurement and Payment

Separate measurement and payment will not be made for work required under this Section. All costs in connection with the work specified herein will be considered to be included with the related item of work in the Bid Schedule of the Bid Form, or incidental to the Work.

F. ELECTRICAL AND COMMUNICATIONS FIELD VERIFICATION

- iii. Per ANSI/ TIA/EIA-568-B, the maximum cable distance for Category (CAT) 5e cable running in the horizontal cabling system is 300 feet. Contractor shall field verify actual CAT5e cable distances to determine compliance with the above referenced standard. If field verified CAT 5e cable distance is in excess of 300 feet, the Contractor shall determine if Fast Ethernet (100 Mbps) communication is functional over field verified cabled distance (e.g., outside ANSI/ TIA/ EIA standard). If Contractor determines that communication is not functional, the Contractor shall propose an alternative solution to provide communication between the telecommunication Main Point Of Entry (MPOE) and proposed sign location.
- iv. Prior to starting work, Contractor shall verify proposed wireless links between existing routers and Real-Time Display. If Contractor determines that communication is not functional, the Contractor shall propose locations and type of external antennas necessary for functioning wireless link.
- v. Contractor shall field verify and submit the following prior to ordering circuit breaker or power conductor materials:
 - a. Contractor to coordinate with Hub Project Manager and identify location(s) and/or positions for new circuit breakers within existing power panel(s) and submit power panel table(s) to the NCTPA Project Manager and Designee for approval. The submittals shall show the new proposed circuit breaker sizes and positions agreed to with the Hub Project Manager.
 - b. Contractor shall perform a 48-hour load test of the existing power panel(s) and submit to the NCTPA Project Manager and Designee, a summary of the load test data obtained along with a summary of the new proposed loads for each new breaker(s). The proposed load(s) submitted shall be based on the Contractor proposed electronic equipment at the new sign/ MPOE location(s) based on these Technical Specifications and the Design Plans.
 - c. If the existing panel does not support 120 VAC (single phase), the Contractor shall add a transformer and submit a proposed design modification for approval.
 - d. The NCTPA Project Manager and Designee will provide written approval for the Contractor to proceed with ordering the new panel materials stipulated in a, b and c above.

Contractor shall field verify the following prior to ordering power conductor materials:

- a. Contractor shall coordinate with Hub Project Manager to identify all existing cables in conduit runs where new cables are required and submit a summary to the NCTPA Project Manager and Designee for review identifying the following:
 - i. The size of the existing conduit;
 - ii. The type and size (O.D.) of the new proposed cables based on the Contractor's material submittal
 - iii. The type and size (O.D.) of existing cables as well as the function of each of the existing cables (e.g., what devices are connected to the cable.)

- b. Contractor to coordinate with Hub Project Manager to identify the following:
 - i. Allowable outage periods (Time-of-day and day-of-week) for disconnecting and re-connecting these existing cables.
 - ii. The proposed disconnect points of the existing cable.
 - iii. The pull box locations that the disconnected cable will be temporarily pulled back into and coiled.
- c. The NCTPA Project Manager and Designee will provide a written approval for the Contractor to proceed with ordering the new materials.

G. CONDUIT AND WIRING

- 1. Description
Contractor shall furnish and install conduit and wiring as necessary to provide power and communications connections for complete and functioning real-time display system. Conduits shall be metal or non-metallic type and installed in buildings, attached to structures, into cabinets, into service cabinets and into existing and new pull boxes located in concrete walkways. Contractor shall install circuit breakers, in-line cutoff (disconnect) switches, pull boxes and duplex receptacles. Refer to the Design Plans for conduit routing and conductor types.
- 2. General
All conduits, pull boxes, and wiring shall conform with Caltrans Standard Specifications and Standard Plans (May 2006), the latest version of the National Electrical Code (NEC) and the latest version of the National Electrical Safety Code (NESC).
- 3. Materials
 - a. All exposed conduits and all conduits entering Transit Information Display (TID) structure poles shall be galvanized rigid steel. All other conduits shall be Schedule 80 PVC.
 - b. Circuit breakers shall meet the following minimum specifications:
 - i. UL-listed
 - ii. Single pole, sized as per Design Plans
 - c. In-line cutoff (disconnect) switches shall meet the following minimum specifications:
 - i. Manually operated switch
 - ii. 25A rating
 - iii. Weatherproof
 - iv. UL-listed (outdoor-rating)
 - v. Lockable with locks provided by Contractor, or use agency-furnished pad-lock, at NCTPA Project Manager or his/her designee's discretion.
 - vi. Mounting options to include rear pole mounting, cabinet mounting, and DIN rail mounting.
 - d. Duplex receptacles shall meet the following minimum specifications
 - i. UL-listed (outdoor-rating)
 - ii. Lockable with locks provided by Contractor, or use agency-furnished pad-lock, at NCTPA Project Manager or his/her designee's discretion
- 4. Fabrication
 - a. Fabrication shall be clean and true and in accordance with applicable National codes and specifications. All contact surfaces, whether bolted or welded, shall be checked for true plane faces and the absence of burns or other obstructions to snug fits.

- b. Methods
 - i. All work in shop and field shall be carefully laid out.
 - ii. Field measure in the field to assure a fit and avoid immovable obstructions
 - iii. Sign structures shall be true vertical and properly aligned.
- c. Grouting supplied and installed by the Contractor.
- d. All abrasions and field welds shall be given a "touch-up" coating using the same paints used in the shop.
- 5. Artwork
Not applicable
- 6. Preparation and Installation
 - a. The Contractor shall inspect all location, surfaces, and other works previously installed by others and promptly report to the NCTPA Project Manager and Designee any conditions that might impair the durability or appearance of his/her work.
 - b. Contractor shall make himself familiar with the Contract Documents, Design Plans and these Technical Specifications and shall provide all real-time displays required as shown on the Contract Documents, Design Plans and these Technical Specifications. The Contractor shall thoroughly examine the Contract Documents, Design Plans and these Technical Specifications, carefully checking the dimensions before commencing work, and shall report any discrepancy that occurs, and shall request interpretation before proceeding with the work.
 - c. Should there be conflicts or contradictions between these Technical Specifications and the Design Plans, these Technical Specifications shall take precedence and prevail over the Design Plans. However, in the case where the Design Plans provide more explicit detail than these Technical Specifications, the Design Plans shall prevail. In all cases, should there be any differences in requirements between these Technical Specifications and the Design Plans, the more stringent requirements shall apply.
 - d. Where special job conditions occur, or where there is uncertainty as to interpretation, before execution of the work, contractor shall inform the NCTPA Project Manager and Designee for clarification and information. Contractors shall make complete on-site measurements before commencing fabrication. Dimensions shall not be determined by scale or rule, and final fabrication measurements shall not be made from graphic scale layouts, which functions as guides only.
 - e. Wiring shall conform with latest National Electrical Code.
 - f. If conductors are shown to be spliced in pullboxes, they shall be spliced using method described in the latest Caltrans Standard Specifications.
 - g. All conductors shall be permanently labeled and identified in each and every pullbox.
 - h. Concrete impacted by installation of pull boxes and conduit shall be removed from existing scoreline to existing scoreline at 5" depth (min). Replacement concrete shall conform in materials, thickness, depth and appearance to the existing concrete.
- 7. Cleaning and Protection
 - a. Clean exposed surfaces in accordance with manufacturer's instructions.
 - b. Protect exposed surfaces from damage by subsequent construction.
- 8. Submittals
 - a. Shop Drawings:
 - i. Show fabrication and installation details for materials including proposed mounting equipment.
- 9. Measurement and Payment
 - a. Separate measurement and payment will not be made for work required under this Section. All costs in connection with the work specified herein will be considered to be included with the related item of work in the Bid Schedule of the Bid Form, or incidental to the Work.

H. FIBER OPTIC CABLE

1. General

- a. Fiber optic cables shall be supplied in the configurations shown on the plans and specified in these Technical Specifications.
- b. Contractor shall submit for approval technical data sheets for the fiber optic cable prior to purchase.
- c. Each fiber optic cable shall be suitable for underground conduit/duct placement. The fiber optic cable shall be rated as optical fiber nonconductive riser - OFNR.
- d. Additionally, there will be ancillary drop and connecting (patching) optical fiber cables procured under this Contract and these Technical Specifications, which are more precisely described elsewhere in this document.
- e. All materials furnished, assembled, fabricated or installed under this item shall be new, corrosion resistant and in strict accordance with the details shown on the plans and in these Technical Specifications. All fibers in the cables shall be usable fibers and free of surface imperfections and occlusions, in order to meet or exceed all of the optical, mechanical, and environmental requirements contained in these Technical Specifications
- f. All cables shall be free of material or manufacturing defects and dimensional non-uniformity that would:
 - i. Interfere with the cable installation employing accepted cable installation practices.
 - ii. Degrade the transmission performance and environmental resistance after installation.
 - iii. Inhibit proper connection to interfacing elements.
 - iv. Otherwise yield an inferior product.
 - v. Each fiber optic cable for this project shall be all-dielectric, use dry water-blocking material, duct type, with loose buffer tubes, and shall conform to these Technical Specifications.
- g. The Contractor shall furnish, install, splice and test all the required fiber optic cable. All splicing kits, fiber optic cable caps, moisture/water sealants, terminators, splice trays, patch cords, connectors, pig tails and accessories to complete the fiber optic network shall be provided as incidentals. All equipment for installation, splicing and testing shall be provided by the Contractor.
- h. All fiber optic glass/cable on this project shall be from the same qualified manufacturer regularly engaged in the production of optical fiber material.
- i. The optical fibers shall be contained within buffer tubes. The buffer tubes shall be stranded around an all-dielectric central member. Aramid yarn and/or fiberglass shall be used as a primary strength member, and a medium or high-density polyethylene outside jacket shall provide overall protection.
- j. The cable shall be qualified as compliant with Chapter XVII, of Title 7, Part 1755.900 of the Code of Federal Regulations, "REA Specification for Filled Fiber Optic Cables."
- k. The optical fiber cable outer jacket shall be marked with manufacturer's name, the month and year of manufacture, the words "Optical Cable," telecommunications handset symbol as required by Section 350G of the National Electrical Safety Code (NESC®), fiber count, fiber type, and sequential meter marks.
- l. Other specifications include:
 - i. The markings shall be repeated every two (2) feet.
 - ii. The actual length of the cable shall be within -0/+1% of the length marking.
 - iii. The marking shall be in a contrasting color to the cable jacket.
 - iv. The marking shall be approximately 0.1 inches in height and must be permanent and weatherproof.
- m. All fiber cables shall also be labeled at both ends and within each pull box.
- n. Unless otherwise noted on the plans, the optical fiber shall be 62.5/125 micrometer multimode fiber EIA Class Ia.
- o. The multimode fiber cores must have graded (parabolic) refractive index profiles with core diameters of 62.5+/- 3.0 micrometers when measured in accordance with either EIA/TIA-455-58A, or EIA/TIA-455-176.

- p. The core noncircularity of multimode fibers must not exceed 6 percent when measured in accordance with either EIA/TIA-455-45B or EIA/TIA-455-176.
- q. The outside diameter of the glass fiber must be 125 +/- 2.0 micrometers when measured in accordance with any one of the following test methods:
 - i. EIA/TIA-455-45B;
 - ii. EIA/TIA-455-176; or
 - iii. EIA/TIA-455-48B, Methods A or B.
- r. The individual fibers must be proof tested at a minimum tensile stress of 0.35 gigapascal for approximately one second when measured in accordance with EIA/TIA-455-31B.

PARAMETERS	MULTIMODE
Type	Graded Index
Core diameter	62.5 µm (nominal)
Cladding diameter	125 µm ±1.0 µm
Core to Cladding Offset	≤0.8 µm
Coating Diameter	250 µm ±15 µm
Cladding Non-circularity defined as: $[1 - (\text{min. cladding dia} \div \text{max. cladding dia.})] \times 100$	≤1.0%
Tensile Strength	>800 psi (0.7 GN/m ²)
Attenuation: (-40 C to +70 C) @850 nm	≤ 3 dB/km
@1300 nm	≤ 1 dB/km
Chromatic Dispersion:	
Zero Dispersion Wavelength	1295 to 1315 nm
Zero Dispersion Slope	≤0.101 ps/(nm ² *km)
Cut-Off Wavelength	<1260 nm
Crush Resistance	> 22 N/cm

2. Color Coding

- a. In buffer tubes containing multiple fibers, length of fiber shall be distinguishable from others in the same tube by means of color-coding according to the following:

COLOR CODING

1. Blue (BL)	3. Green (GR)	5. Slate (SL)	7. Red (RD)	9. Yellow (YL)	11. Rose (RS)
2. Orange (OR)	4. Brown (BR)	6. White (WT)	8. Black (BK)	10. Violet (VL)	12. Aqua (AQ)

- b. Buffer tubes containing fibers shall be color-coded with distinct and recognizable colors according to the table listed above for fibers.
- c. Colors shall be in accordance with the Munsell color shades (ASTM d 1535-01) and shall meet EIA/TIA-598 "Color Coding of Fiber Optic Cables."
- d. Color formulations shall be compatible with fiber coatings and buffer tube filling compounds, and be heat stable. Colors shall not fade or smear or be susceptible to migration and shall not affect transmission characteristics of optical fibers and shall not cause fibers to stick together.

3. Cable Construction
 - a. Fiber optic cable shall consist of, but not limited to, the following components:
 - i. Buffer tubes
 - ii. Central member
 - iii. Filler rods
 - iv. Stranding
 - v. Core and cable flooding
 - vi. Tensile strength member
 - vii. Ripcord
 - viii. Outer jacket
4. Buffer Tubes
 - a. Clearance shall be provided in loose buffer tubes between fibers and insides of tubes to allow for expansion without constraining fibers. Fibers shall be loose or suspended within tubes and shall not adhere to insides of buffer tubes. Buffer tubes shall contain a maximum of 12 fibers.
 - b. Loose buffer tubes shall be extruded from material having a coefficient of friction sufficiently low to allow free movement of fibers. Material shall be tough and abrasion resistant to provide mechanical and environmental protection of fibers and permit safe intentional "scoring" and breakout without damaging or degrading internal fibers.
 - c. Buffer tube filling compound shall be a homogeneous hydrocarbon-based gel with anti-oxidant additives used to prevent water intrusion and migration. Filling compound shall be non-toxic and dermatologically safe to exposed skin, chemically and mechanically compatible with cable components, non-nutritive to fungus, non-hygroscopic and electrically non-conductive. Filling compound shall be free from dirt and foreign matter and shall be readily removable with conventional nontoxic solvents.
 - d. Buffer tubes shall be stranded around a central member by a method, such as the reverse oscillation stranding process that will prevent stress on fibers when the cable jacket is placed under strain.
5. Central Member
 - a. The central member functions as an anti-buckling element and shall be a glass reinforced plastic rod with similar expansion and contraction characteristics as the optical fibers and buffer tubes. A symmetrical linear overcoat of polyethylene may be applied to central members to achieve optimum diameter to ensure proper spacing between buffer tubes during stranding.
6. Filler Rods
 - a. Fillers may be included in cables to maintain symmetry of cable cross-sections. Filler rods shall be solid medium or high-density polyethylene. The diameter of filler rods shall be the same as the outer diameter of buffer tubes.
7. Stranding
 - a. Completed buffer tubes shall be stranded around the overcoated central member using stranding methods, lay lengths and positioning so cables meet mechanical, environmental and performance specifications. A polyester binding shall be applied over stranded buffer tubes to hold them in place. Binders shall be applied with sufficient tension to secure buffer tubes to central members without crushing buffer tubes. Binders shall be non-hygroscopic, non-wicking (or rendered so by the flooding compound) and dielectric with low shrinkage.
8. Core and Cable Flooding
 - a. Cable core interstices shall contain a water blocking material to prevent water ingress and migration. Water blocking material shall be a polyolefin based compound, which fills the cable core interstices, or an absorbent polymer, which fills voids and swells to block ingress of water. Flooding compound or material shall be homogeneous, non-hygroscopic, electrically non-conductive, non-nutritive to fungus, nontoxic, dermatologically safe, and compatible with other cable components.

9. Tensile Strength Member
 - a. Tensile strength shall be provided by high tensile strength Aramid yarns or fiberglass helically stranded evenly around cable cores and shall not adhere to other cable components.
10. Ripcord
 - a. Cables shall contain at least one ripcord under the jacket for easy sheath removal.
11. Outer Jacket
 - a. Jackets shall be free of holes, splits, and blisters and shall be medium or high-density polyethylene (PE), or medium density cross-linked polyethylene with minimum nominal jacket thickness of 1 mm \pm 0.076 mm. Jacketing material shall be applied directly over tensile strength members and water blocking materials and shall not adhere to Aramid strength materials. Polyethylene shall contain carbon black to provide ultraviolet light protection and shall not promote fungus growth.
 - b. Jackets or sheaths shall be marked with the manufacturer's name, the words "Optical Cable", the number of fibers, "SM", year of manufacture, and sequential measurement markings every meter. Actual cable lengths shall be within -0/+1 percent of length markings. Markings shall be a contrasting color to cable jackets. Heights of markings shall be 2.5 mm \pm 0.2 mm.
12. Cable Performance
 - a. Fiber optic cable shall withstand water penetration when tested with one meter static head or equivalent continuous pressure applied at one end of a one meter length of filled cable for one hour. No water shall leak through open cable ends. Testing shall be in accordance with EIA-455-82 (FOTP-82), "Fluid Penetration Test for Fluid-Blocked Fiber Optic Cable."
 - b. A representative sample of cable shall be tested in accordance with EIA/TIA-455-81 (FOTP-81), "Compound Flow (Drip) Test for Filled Fiber Optic Cable". No preconditioning period shall be conducted. Cables shall exhibit no flow (drip or leak) at 70°C as defined in the test method.
 - c. Crush resistance of finished fiber optic cables shall be 220 N/cm applied uniformly over the length of cables without showing evidence of cracking or splitting when tested in accordance with EIA-455-41 (FOTP-41), "Compressive Loading Resistance of Fiber Optic Cables". Cables shall not exhibit measurable increase in attenuation after removal of load. Testing shall be in accordance with EIA-455-41 (FOTP-41), except that loads shall be applied at the rate of 3 mm to 20 mm per minute and maintained for 10 minutes.
 - d. Cables shall withstand 25 cycles of mechanical flexing at a rate of 30 \pm 1 cycles/minute.
 - e. Outer cable jacket cracking or splitting observed under 10x magnification shall constitute failure. Testing shall be conducted in accordance with EIA-455-104 (FOTP-104), "Fiber Optic Cable Cyclic Flexing Test," with sheave diameters a maximum of 20 times the outside diameter of cables. Cables shall be tested in accordance with Test Conditions I and II of (FOTP-104).
 - f. Cables shall withstand 20 impact cycles, with a total impact energy of 5.9 N•m. Impact testing shall be conducted in accordance with TIA/EIA-455-25B (FOTP-25) "Impact Testing of Fiber Optic Cables and Cable Assemblies." Cables shall not exhibit evidence of cracking or splitting.
13. Packaging and Shipping Requirements
 - a. Documentation of compliance to specifications shall be provided to the Hub Project Manager prior to ordering materials.
 - b. Attention is directed to "Fiber Optic Testing," of these special provisions.
 - c. Completed cables shall be packaged for shipment on reels. Cables shall be wrapped in weather and temperature resistant covering. Ends of cables shall be sealed to prevent ingress of moisture.
 - d. Ends of cables shall be securely fastened to reels to prevent cables from coming loose during transit. Four meters of cable on ends of cables shall be accessible for testing.

- e. Cable reels shall have durable, weatherproof labels or tags showing the manufacturer's name, cable type, the actual length of cable on reels, the Contractor's name, the contract number, and the reel number. A shipping record shall be included in a weatherproof envelope showing the above information, including the date of manufacture, cable characteristics (size, attenuation, bandwidth, etc.), factory test results, cable identification number and other pertinent information.
 - f. Minimum hub diameter of reels shall be at least 30 times the diameter of the cable. Fiber optic cable shall be in one continuous length per reel with no factory splices in fibers. Reels shall be marked to indicate the direction reels should be rolled to prevent loosening of cables.
 - g. Installation procedures and technical support information shall be furnished at the time of delivery.
14. Labeling
- The Contractor shall label fiber optic cabling in a permanent consistent manner. Tags shall be of a material designed for long term permanent labeling of fiber optic cables. Metal tags shall be stainless steel with embossed lettering. Non-metal label materials shall be approved by the Hub Project Manager and marked with permanent ink. Labels shall be affixed to cables per the manufacturer's recommendations and shall not be affixed in a manner, which will cause damage to fibers. Handwritten labels will not be allowed.
15. Installation
- a. Cable installation shall be in conformance with the procedures specified by the cable manufacturer. The Contractor shall submit the manufacturer's recommended procedures for pulling fiber optic cable at least 20 working days prior to installing cable. Mechanical aids may be used provided that a tension measuring device, and break-away swivel are placed in tension to the end of cables. Tension in cables shall not exceed 2225 N or the manufacturer's recommended pulling tension, whichever is less.
 - b. During cable installation, the bend radius shall be a minimum of 20 times the outside diameter. Cable grips for installing fiber optic cables shall have a ball bearing swivel to prevent cables from twisting during installation.
 - c. Fiber optic cable shall be installed using a cable pulling lubricant recommended by the fiber optic cable manufacturer and a pull rope conforming to the provisions in "Conduit" of these special provisions. Personnel shall be stationed at splice vaults and pull boxes through which cables are pulled to lubricate and prevent kinking or other damage.
 - d. Fiber optic cable shall be installed without splices except where allowed on the plans. Mid-span access splices or Fiber distribution Unit terminations shall involve fibers being spliced as shown on the plans. Cable splices shall be located in splice closures installed in pull boxes.
16. Splicing
- a. Splices shall be performed by qualified personnel approved by the Project Engineer. Personnel performing the splices shall have successfully completed no less than 2,000 fusion splices.
 - b. Field splices shall be done in splice vaults, cabinets, and in splice trays housed in splice closures. Splices in cabinets shall be done in splice trays housed in Fiber Distribution Units.
 - c. Fiber splices shall be fusion type unless otherwise specified. Mean splice loss shall not exceed 0.07 dB per splice and shall be obtained by measuring loss through splices in both directions and averaging the resultant values.
 - d. Splices shall be protected with a metal reinforced thermal shrink sleeve. The mid-span access method shall be used to access individual fibers in cables for splicing to other cables. Cable manufacturers recommended procedures and approved tools shall be used for mid-span access. Only fibers to be spliced shall be cut. Buffer tubes and individual fibers not being used in mid-span access shall not be modified or damaged.
 - e. Individual fibers shall be looped one full turn within splice trays to avoid micro bending. A 45 mm minimum bend radius shall be maintained during installation and after final assembly in optical fiber splice trays. Bare fibers shall be individually restrained in splice trays. Optical fibers in buffer tubes and placement of bare optical fibers in splice trays shall not produce tensile force on optical fibers.

17. Splice Closures

- a. Fiber optic field splices shall be enclosed in splice closures, complete with splice organizer trays, brackets, clips, cable ties, seals and sealant, as needed. Splice closures shall be suitable for direct burial or pull box applications. Manufacturer's installation instructions shall be supplied to the Hub Project Manager prior to installation of splice closures. Location of splice closures shall be where a splice is required as shown on the plans, where designated by the Hub Project Manager, or described in these special provisions.
- b. Splice closures shall conform to the following specifications:
 - i. Non-filled thermoplastic case.
 - ii. Rodent proof, water proof, re-enterable and moisture proof.
 - iii. Cable entry ports shall accommodate 10-mm to 25-mm diameter cables.
 - iv. Multiple grounding straps.
 - v. Accommodate a minimum of 6 splice trays.
 - vi. Suitable for "butt" or "through" cable entry configurations.
 - vii. Place no stress on finished splices within splice trays.
- c. The Contractor shall verify the quality of splices prior to sealing splice closures. Splice closures shall not be sealed until link testing is performed and is approved by the Hub Project Manager.

18. Splice Trays

- a. Each splice tray shall accommodate a minimum of 12 fusion splices and shall allow a minimum bend radius of 45 mm. Individual fibers shall be looped one full turn within splice trays to allow for future splicing. Stress shall not be applied on fibers when located in final position. Buffer tubes shall be secured near entrances of splice trays. Splice tray covers may be transparent. Splice trays shall conform to the following:
 - i. Accommodate up to 12 fusion splices.
 - ii. Place no stress on completed splices within the tray.
 - iii. Stackable with a snap-on hinge cover.
 - iv. Buffer tubes securable with channel straps.
 - v. Accommodate a fusion splice with the addition of an alternative splice holder.
 - vi. Be labeled after splicing is completed.
- b. Only one splice tray may be secured by a bolt through the center of the tray in fiber termination units. Multiple trays shall be securely held in place per the manufacturer's recommendation.

19. Terminations

- a. Cables shall continue within conduit to the designated cable termination point. Components shall be the size and type required for the specified fiber.
- b. At the Fiber Distribution Unit, the cable jacket of outside plant cable, shall be removed exposing the Aramid yarn, filler rods, and buffer tubes. The exposed length of buffer tubes shall be at least the length recommended by the Fiber Distribution Unit manufacturer, which allows the tubes to be secured to the splice trays. Buffer tubes shall be secured to splice trays in which they are to be spliced. The remainder of the tubes shall be removed to expose sufficient length of fibers to properly install on splice trays, conforming to the requirements in "Splicing," of these Technical Specifications.
- c. When applicable, moisture-blocking gel shall be removed from exposed buffer tubes and fibers. The transition from the buffer tube to the bundle of jacketed fibers shall be treated by an accepted procedure for sleeve tubing, shrink tube and silicone blocking of the transition to prevent future gel leak. Manufacturer directions shall be followed to ensure gel will not flow from ends of buffer tubes throughout the specified temperature range. Individual fibers shall be stripped and prepared for splicing.
- d. Factory terminated pigtails shall be spliced and placed in splice trays.
- e. Fibers inside fiber optic cables entering Fiber Distribution Units (FDU) shall be terminated and labeled. Attention is directed to "Fiber Distribution Unit" of these special provisions.

20. Pigtails

- a. Cables for cable assemblies shall be made of fiber meeting the performance requirements of these special provisions for the fiber optic cable being connected.
- b. Pigtails shall be of simplex (one fiber) construction, in 900- m tight buffer form, surrounded by Aramid yarn for strength, with a PVC jacket with manufacturer's identification information, and a nominal outer jacket diameter of 3 mm. Multimode simplex cable jackets shall be orange. Pigtails shall be factory terminated and tested and at least one meter in length.
- c. Jumpers may be of simplex or duplex design. Duplex jumpers shall be duplex round cable construction and shall not have zipcord (Siamese) construction. Jumpers shall be at least 2 m in length.
- d. Outer jackets of duplex jumpers shall be yellow. The 2 inner simplex jackets shall be contrasting colors to provide easy visual identification for polarity.
- e. Connectors shall be ceramic ferrule ST or SC type for multimode fiber. Indoor or outdoor ST connector body housings shall be nickel-plated zinc or glass reinforced polymer construction. Indoor or outdoor SC connector body housings shall be glass reinforced polymer.
- f. Associated couplers shall be the same material as connector housings.
- g. Connectors shall be the 2.5 mm connector ferrule type with Zirconia Ceramic material with a PC (Physical Contact) pre-radiused tip.
- h. All connectors shall have an operating temperature range from -40C to +70C.
- i. Terminations shall provide a minimum 222 N pull out strength. Factory test results shall be documented and submitted to the Hub Project Manager prior to installing connectors. Multimode connectors shall have an orange color on the body and boot.
- j. Field terminations shall be limited to splicing of adjoining cable ends and cables to ST or SC pigtails.
- k. Connectors shall be factory-installed and tested.
- l. Unmated connectors shall have protective caps installed.

21. Testing

- a. Testing shall include tests on elements of passive fiber optic components at the factory, after delivery to the project site but prior to installation, and after installation but prior to connection to other portions of the systems. The Contractor shall provide personnel, equipment, instrumentation, and materials necessary to perform testing. The Hub Project Manager shall be notified at least two (2) working days prior to field tests. Notification shall include the exact location or portion of system to be tested.
- b. Documentation of test results shall be provided to the Hub Project Manager within five (5) working days after testing.
- c. A minimum of 15 working days prior to arrival of cable at the site, the Contractor shall provide detailed test procedures for field testing for the Hub Project Manager's review and approval. Procedures shall include tests involved and how tests are to be conducted. Test procedures shall include the model, manufacturer, configuration, calibration, and alignment procedures for proposed test equipment.

22. Factory Testing

Documentation of compliance with fiber specifications as listed in the Fiber Characteristics Table shall be supplied by the original equipment manufacturer. Before shipment, but while on shipping reels, 100 percent of fibers shall be tested for attenuation. Copies of the results shall be maintained on file by the manufacturer with a file identification number for a minimum of 7 years, attached to cable reels in waterproof pouches, and submitted to the Contractor and to the Hub Project Manager.

23. Arrival On Site

Cables and reels shall be physically inspected on delivery and 100 percent of fibers shall be attenuation tested to confirm that cable meets requirements. Failure of a fiber in the cable shall be cause for rejection of the entire reel. Test results shall be recorded, dated, compared and filed with copies accompanying shipping reels in weatherproof envelopes. Attenuation deviations from shipping records of greater than 5 percent shall be brought to the attention of the Hub Project Manager. Cables shall not be installed until completion of testing and written approval of the Hub Project Manager. Copies of traces and test results shall be submitted to the Hub Project Manager. If test results are unsatisfactory, the reel of fiber optic cable shall be considered unacceptable and records corresponding to that reel of cable shall be marked accordingly. Unsatisfactory reels of cable shall be replaced with new reels of cable at the Contractor's expense. New reels of cable shall be tested to demonstrate acceptability. Copies of test results shall be submitted to the Hub Project Manager.

24. After Cable Installation

- a. Index matching gel will not be allowed in connectors during testing. After fiber optic cable has been pulled, but before breakout and termination, 100 percent of fibers shall be tested with an OTDR for attenuation. Test results shall be recorded, dated, compared, and filed with previous copies of these tests. Copies of traces and test results shall be submitted to the Hub Project Manager. If OTDR test results are unsatisfactory, the fiber optic cable segment of cable will be rejected. Unsatisfactory segments of cable shall be replaced with new segments, without additional splices, at the Contractor's expense. New cable segments shall be tested to demonstrate acceptability. Copies of test results shall be submitted to the Hub Project Manager.

25. Power Meter and Light Source

At the conclusion of OTDR testing, 100 percent of fiber links shall be tested end-to-end with a power meter and light source, in accordance with EIA Optical Test Procedure 171 and in the same wavelengths specified for OTDR tests. Tests shall be conducted in one direction as directed by the Hub Project Manager. The Insertion Loss (1C) shall be calculated. Test results shall be recorded, compared, and filed with the other recordings of the same links. Test results shall be submitted to the Hub Project Manager. These values shall be recorded and provided in summary table and submitted to the Hub Project Manager for review and approval within five (5) working days of completing the test.

26. OTDR Testing

After fiber cable has been installed and are ready for activation, 100 percent of fibers shall be tested with OTDR for attenuation at wavelengths of 850 nm and 1300 nm. OTDR testing shall be performed in both directions (bi-directional) on fibers. Test results shall be generated from software of test equipment, recorded, dated, compared and filed with previous copies. A hard copy printout and an electronic copy on a CD of traces and test results shall be submitted to the Hub Project Manager. The average of the 2 losses shall be calculated and recorded in the Cable Verification Worksheet in Appendix D. The OTDR shall be capable of recording and displaying anomalies of at least 0.02 dB. Connector losses shall be displayed on OTDR traces.

27. Test Failures

If link loss, measured from the power meter and light source, exceeds the calculated link loss or the actual location of fiber ends does not agree with the expected location of fiber ends, fiber optic links will not be accepted. Unsatisfactory segments of cable or splices shall be replaced with new segments of cables or splices at the Contractor's expense. OTDR testing, power meter and light source testing, and Cable Verification Worksheet shall be completed for repaired links to determine acceptability. Copies of test results shall be submitted to the Hub Project Manager. Removal and replacement of segments of cable shall be considered as removal and replacement of a single contiguous length of cable connecting 2 splices and 2 connectors. Removal of a section containing a failure will not be allowed.

28. Fiber Optic System Performance Margin Design Criteria

Installed system performance margin shall be at least 6 dB for links. If the design system performance margin is less than 6 dB, the Hub Project Manager shall be notified of the Contractor's plan to meet this requirement.

I. COMMUNICATIONS EQUIPMENT

1. Description
Contractor shall furnish and install communications equipment to allow real-time displays to connect to the internet and 511 transit information webpage server. Communications equipment consists of Wide Area Network (WAN) routers, both wired and wireless, and Ethernet switches. Refer to the Design Plans for equipment location and types.
2. General
 - a. All equipment shall be compatible with each other and communications equipment installed at real-time displays for a complete and functioning system.
 - b. Wide Area Network (WAN) routers and service provisions shall be approved by the NCTPA Project Manager and Designee and the WAN service provider (e.g., AT&T) for connection to their network.
 - c. For WAN connections that have been procured by others, Contractor shall coordinate with Hub Project Managers to verify and confirm that the WAN connections are functional and ready to use with the WAN routers and for the real-time displays.
 - d. WAN wireless routers (e.g., 4G) and wireless service provisions shall be approved by the NCTPA Project Manager and Designee or Hub Project Manager.
 - e. The bandwidth connection for all WAN communications links (wireline and wireless) shall meet the requirements and specifications in the Regional Real-Time Signs, Physical Requirements and Specifications (Version 4.3) which is available at <http://www.mtc.ca.gov/planning/tcip>.

3. Materials and Equipment

Ethernet Switch

- a. The Ethernet switch shall be a managed switch meeting the following specifications and standards at a minimum:
 - i. Institute of Electrical and Electronic Engineers (IEEE) 802.1Q Local and Metropolitan Area Networks – Virtual Bridged Local Area Networks.
 - ii. IEEE 802.1P: Traffic Class Expediting and Dynamic Multicast Filtering – Draft 8.
 - iii. IEEE 802.3X: IEEE Standards for Local and Metropolitan Area Networks; Specifications for 802.3 Full Duplex Operation.
 - iv. IEEE 802.1W: IEEE Standards for Local and Metropolitan Area Networks – Common Specifications – Part 3: Media Access Control (MAC) Bridges – Amendment 2 Rapid Configuration.
 - v. IEEE 802.11: IEEE Standards for Wireless Local Area Area Networks (WLAN)
 - vi. Layer 3 Routing: RIP, v1, 2 and 3, and OSPF.
 - vii. SNMP version 2 and 3.
 - viii. Federal Communications Commission (FCC) Rules and Regulations Vol. II, Part 15 for Class A Equipment Electronic Compatibility and Susceptibility (Product electromagnetic compatibility is required).
 - ix. National Electronics Manufacturers Association (NEMA) TS – 2, Traffic Control System.
The following clauses apply:
 - a) 2.1.2: Voltage.
 - b) 2.1.3: Frequency Range.
 - c) 2.1.4: Power Interruption.
 - d) 2.1.5: Temperature and Humidity, as modified herein.
 - e) 2.1.6: Transients, Power Service.
 - f) 2.1.7: Transients, Input-output terminals.
 - g) 2.1.8: Nondestruct Transient Immunity.
 - h) 2.1.12: Vibration.
 - i) 2.1.13: Shock.

- x. Underwriters Laboratory (UL) 60950 Safety Requirements for Information Technology (IT) Equipment (applicable to equipment safety).
- xi. Military Handbook MIL-HD8K-217F-2 Military Handbook for "Reliability Prediction of Electronic Equipment", Notice 2.
- xii. 6 port (minimum) 10/100 Base TX RJ-45.
- xiii. Operate non-blocking at full wire speed on all ports.
- xiv. Support remote reset and remote management.
- xv. Support IGMP snooping.
- xvi. Support IP Multicast filtering.
- xvii. Support remote turn on/off Base TX ports. UL-listed
- xviii. Support 802.11b/g/n (Wi-fi b) for wireless communication connection to real-time transit display as specified on the Project Plans.
- xix. SNMP version 2 and 3.
- b. The 10/100 Base TX port shall connect via an RJ-45 connector. The ports shall operate as half-duplex or full-duplex (IEEE 802.3x) over 100m segment lengths and provide auto-negotiation and Medium Dependent Interface/Medium Dependent Interface, Crossover (MDI/MDIX) capability.
- c. The field switch shall provide the following advanced Layer 2 functions: IEEE 802.1Q VLAN with support for a minimum of 128 Virtual Local Area Networks (VLAN), IEEE 802.1P priority queuing, IEEE 802.1W rapid spanning tree (required), IEEE 802.3X flow control greater than or equal to 1,028, support automatic address learning of a minimum 4,096 Medium Access Control (MAC) addresses and greater than or equal to 1,028 static MAC address.
- d. The field switch shall provide the following port security function: ability to configure static MAC addresses, ability to disable automatic address learning per ports; known hereafter as secure port, secure ports only forward statically configured MAC addresses, trap and alarm upon any unauthorized MAC address and shut-down for programmable duration. Port shutdown requires administrator to manually reset the port before communications are allowed, all the above activities are done remotely.
- e. The field switch shall provide the following network management functions: SNMPv3 (RFC 2273), RMON (RFC 1757), Port Mirroring (RFC 1757), Spanning Tree (IEEE 802.1D), Rapid Spanning Tree (IEEE 802.1W).
- f. The field switch shall support telnet, Trivial File Transfer Protocol (TFTP) or File Transfer Protocol (FTP), Command Line Interface (CLI) and Simple Network Management Protocol (SNMP).
- g. The field switch shall have an integrated web interface. Reset/Reboot and firmware shall be supported via all methods listed above. All parameters and settings (network management, security, Layer 2 features, etc.) shall be user configurable through the maintenance port, web interface Telnet and all other supported remote management tools.
- h. The field switch shall allow for stand-alone shelf mounting unit and DIN rail mounting.
- i. The field switch shall include a power status indicator.
- j. Physical Characteristics:
 - i. The weight shall not exceed 6 lbs.
 - ii. Environmental: The field switch shall conform to functional and performance specifications as defined herein when operated in the following environment.
 - a) Temperature: -20°C to +74°C.
 - b) Humidity: 5 to 95 percent relative humidity, non-condensing.
 - c) Cooling shall be by convection with case acting as heat sink. No cooling fan shall be used.

- iii. Power: Nominal 120 VAC, 60 Hz. The unit shall be provided with all power conversion and regulation necessary to support electronics operation. The power input circuitry shall be designed to protect the electronics from damage by a power surge or under-voltage condition. Power consumption shall not exceed 20 Watts.
- k. The field switch shall have the following minimum indicators:
 - i. Power: On, Off.
 - ii. Network status per port: Transmit, receive, link, speed.
 - iii. Status indicators shall be Light Emitting Diode (LED).
- l. All connectors, indicators and replaceable components shall be permanently marked and traceable to the supplied documentation, including schematics and parts list. The external markings shall include the product function name, model number, serial number and manufacturer's name.
- m. The field switch shall have a minimum Mean Time Between Failures (MTBF) of 40,000 hours.
- n. Each unit shall have a unique MAC address, MAC address shall be derived from an address space of 10,000 sequential addresses.
- o. Warranty: The field switch shall be warranted for a minimum of 3 years. The warranty shall guarantee the field switch to be free from defects from assembly, fabrication and materials. The warranty shall begin upon acceptance of the switch installation by the NCTPA Project Manager and Designee.

WAN Router (DSL)

- a. Functional Specifications
 - i. T1.413 ANSI ADSL DMT issue 2
 - ii. G.992.1 ITU G.DMT support
 - iii. G.992.2 ITU G.Lite support
 - iv. G.992.3 ITU G.hs ADSL type negotiation
- b. Hardware
 - i. Alcatel DynaMiTe ADSL Chipset or approved equal
 - ii. Processor Speed: 50 MHz
 - iii. DRAM Memory: 32 MB
 - iv. Flash Memory: 8 MB
 - v. Ethernet: 4 port hub – 10 Mbps
 - vi. Console: RJ-45
 - vii. Power Supply: Universal 100-240 VAC
- c. Safety
 - i. UL 1950/ CSA 950-95, Third Edition
 - ii. IEC 950: Second Edition with Amendments 1, 2, 3, and 4
 - iii. EN60950:1992 with Amendments 1, 2, 3, and 4
 - iv. CS03, Canadian Telecom requirements
 - v. AS/NZS 3260: 1996 with Amendments 1, 2, 3, and 4
 - vi. ETSI 300-047
 - vii. TS 001 with Amendment 1
 - viii. EMI
 - ix. AS/NRZ 3548:1992 Class B
 - x. CFR 47 Part 15 Class B
 - xi. EN60555-2 Class B
 - xii. EN55022 Class B

- xiii. VCCI Class II
- xiv. ICES-003, Issue 2, Class B, April 1997S
- xv. IEC 1000-3-2
- d. Immunity
 - i. IEC 1000-4-2 (EN61000-4-2)
 - ii. IEC 1000-4-3 (ENV50140)
 - iii. IEC 1000-4-4 (EN61000-4-4)
- e. Environmental
 - i. Non-operating temperature: -4 to 149° F (-20 to 65° C)
 - ii. Non-operating humidity: 5 to 95%, relative humidity (non-condensing)
 - iii. Operating temperature: 32 to 104° F (0 to 40° C)
 - iv. Operating humidity: 10 to 85%, relative humidity (non-condensing)
- f. Power
 - i. AC input voltage: 100 to 250 VAC, 50 to 60 Hz
 - ii. Power consumption: 6 to 23W (idle-maximum consumption)
 - iii. Power supply rating: 29W
 - iv. Telephone Port Power: -24V and -71V

Wireless WAN (4G) Router

- a. Network:
 - i. 4G LTE and GSM/GPRS/EDGE/TD-SCDMA/WCDMA/HSDPA/HSUPA/HSPA/HSPA+
 - ii. 4G: 700/2100MHz, 1800/2600MHz
 - iii. GSM/GPRS/EDGE: 850/900/1800/1900Mhz
 - iv. UMTS/WCDMA/HSDPA/HSUPA/HSPA/HSPA+: 850/900/1900/2100Mhz
 - v. Data Speed:
 - a) HSDPA: 7.2Mbps downlink, 384kbps uplink
 - b) HSUPA: 7.2Mbps downlink, 5.76mbps uplink
 - c) HSPA: 21Mbps downlink, 5.76mbps uplink
 - d) HSPA+: 21/42Mbps downlink, 5.76mbps uplink
 - e) 4G LTE: 100Mbps
- b. Function:
 - i. Connect to Internet, Data Transform, Fax, SMS Port: USB2.0 (2 ports)
- c. Power:
 - i. Supply voltage range 7 - 26VDC (9V nominal)
 - ii. Class 4 (2W) for EGSM900
 - iii. Class 1 (1W) for GSM1800
- d. Electromagnetic Compatible:
 - i. Electrostatic Discharge (ESD): 3 class
 - ii. Radiated, radio-frequency, electromagnetic field immunity test: 3 class
- e. Environment:
 - i. Storage Temperature: -40 ~ 85°C
 - ii. Working Temperature: -30 ~ 75°C
 - iii. Humidity: 95% (non-condensing)

Media Converter

- a. The media converters shall enable the conversion from copper media (10/100 BASE-TX) to multimode fiber optic media (100 BASE-FX) and meet or exceed the following specifications:
 - i. Complies with IEC61850 EMC and Environment requirement, and IEEE1613 standard for substation and power automation
 - ii. Complies with EN50121-4 EMC requirement for Railway applications Complies with NEMA TS1 & TS2 Environmental requirements for Traffic control equipment.
 - iii. Provide 768K bits buffer memory
 - iv. 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX
 - v. Full wire-speed forwarding rate
 - vi. Standards: IEEE802.3, 10BASE-T; IEEE802.3u, 100BASE-TX/100BASE-FX; IEEE802.3x
 - vii. Forward and Filtering Rate: 14,880pps for 10Mbps; 148,810pps for 100Mbps
 - viii. Packet Buffer Memory: 768Kbits
 - ix. Processing Type: Store-and-Forward
 - x. Half-duplex back-pressure and IEEE802.3x full-duplex flow control
 - xi. Operating Temperature: -40°C to 75°C (-40°F to 167°F) Tested @ -40°C to 85°C (-40°F to 185°F)
 - xii. Storage Temperature: -40°C to 85°C (-40°F to 185°F)
 - xiii. Ambient Relative Humidity: 5% to 95% (non-condensing)
 - xiv. Input Voltage: 12 to 48VDC (Terminal Block) /12VDC(DC Jack)
 - xv. Power Consumption: 2.4W MAX. 0.2A @ 12VDC, 0.05A @ 48VDC
 - xvi. Overload Current Protection: Present
 - xvii. Reverse Polarity Protection: Present
 - xviii. Casing: Aluminum, IP30 rated
- b. Regulatory Approvals:
 - i. ISO Manufactured in an ISO9001 facility
 - ii. Safety: UL508
 - iii. EMI: FCC Part 15, Class A
 - iv. EN61000-6-4
 - v. EN55022
 - vi. EN61000-3-2
 - vii. EN61000-3-3
 - a) EMS: IEC61850-3 & IEEE1613: Substation & Power automation applications
 - b) EN50121-4: Railway Applications
 - c) EN61000-6-2
 - d) EN61000-4-2 (ESD Standards)
 - viii. Contact: + / - 8KV; Criteria B
 - ix. Air: + / - 15KV; Criteria B
 - x. EN61000-4-3 (Radiated RFI Standards)
 - xi. 35V/m, 80 to 1000MHz; 80% AM Criteria A
 - xii. EN61000-4-4 (Burst Standards)
 - xiii. Signal Ports: + / - 4KV; Criteria A
 - xiv. D.C. Power Ports: + / - 4KV; Criteria A
 - xv. EN61000-4-5 (Surge Standards)
 - xvi. Signal Ports: + / - 2KV; Line-to-Line; Criteria A

- xvii. D.C. Power Ports: + / - 2KV; Line-to-earth; Criteria A
- xviii. EN61000-4-6 (Induced RFI Standards)
- xix. Signal Ports: 10Vrms @ 0.15 - 80MHz; 80% AM Criteria A
- xx. D.C. Power Ports: 10Vrms @ 0.15 - 80MHz; 80% AM
- xxi. Criteria A
- xxii. EN61000-4-8 (Magnetic Field Standards)
- xxiii. 1000A/m @ 50, 60Hz; Criteria A
- xxiv. Environmental Test Compliance
 - a) IEC60068-2-6 Fc (Vibration Resistance)
 - b) 5g @ 10 - 150Hz, Amplitude 0.35mm (Operation/Storage/Transport)
 - c) IEC60068-2-27 Ea (Shock)
 - d) 25g @ 11ms (Half-Sine Shock Pulse; Operation)
 - e) 50g @ 11ms (Half-Sine Shock Pulse; Storage/Transport)
 - f) IEC60068-2-32 Ed (Free Fall) 1M (3.281ft.)
- c. Power Supply:
 - i. Inrush Current: 15A/115VAC or 30A/230VAC
 - ii. Over Voltage Protection: 27.6 - 32.4V
 - iii. Over-Current Protection: 105 - 160% rated output power
 - iv. Protection Type Constant current limiting, recovers automatically
 - v. Safety:
 - vi. UL60950-1, TUV EN60950-1 approved, design refer to EN50178
 - vii. EMI Conduction & Radiation:
 - viii. EN55011, EN55022 (CISPR22) Class B
 - ix. EMS Immunity:
 - x. EN61000-4-2, 3, 4, 5, 6, 8, 11, ENV50204, EN55024, EN61000-6-2 (EN50082-2), EN61204-3 heavy industrial level, Criteria A
- 4. Fabrication
 - a. Fabrication shall be clean and true and in accordance with applicable National codes and specifications. All contact surfaces, whether bolted or welded, shall have true plane faces and the absence of burrs or other obstructions to snug fits.
 - b. All communications equipment shall be manufactured in a factory. No field fabrication or assembly of any of the communications equipment will be allowed.
 - c. Methods
 - i. Subject to manufacturer's fabrication process.
 - ii. Field measure in the field to assure a fit and avoid immovable obstructions.
- 5. Artwork
Not applicable
- 6. Preparation and Installation
 - a. The Contractor shall inspect all location, surfaces, and other works previously installed by others and promptly report to the NCTPA Project Manager and Designee any conditions that might impair the durability or appearance of his/her work.
 - b. Contractor shall make himself familiar with the Contract Documents, Design Plans and these Technical Specifications and shall provide the communications equipment as shown on the Contract Documents, Design Plans and these Technical Specifications. The Contractor shall thoroughly examine the Contract Documents, Design Plans and these Technical Specifications, carefully checking the dimensions and designs before commencing work, and shall report any discrepancy that occurs, and shall request interpretation before proceeding with the work.

- c. Should there be conflicts or contradictions between these Technical Specifications and the Design Plans, these Technical Specifications shall take precedence and prevail over the Design Plans. However, in the case where the Design Plans provide more explicit detail than these Technical Specifications, the Design Plans shall prevail. In all cases, should there be any differences in requirements between these Technical Specifications and the Design Plans, the more stringent requirements shall apply.
 - d. Where special job conditions occur, or where there is uncertainty as to interpretation, before execution of the work, contractor shall inform the NCTPA Project Manager and Designee for clarification and information.
 - e. Contractors shall make complete on-site measurements before commencing fabrication. Dimensions shall not be determined by scale or rule, and final fabrication measurements shall not be made from graphic scale layouts, which functions as guides only.
 - f. Provide all jumper cables and power supplies/cables necessary to complete all communications equipment connections.
 - g. The Contractor shall label all communications equipment with project and location designation. Labeling shall be done in a neat, professional manner using permanent methods and products approved by the NCTPA Project Manager and Designee. The Contractor shall label cables with all necessary information to properly identify the cable and it's mating connection.
 - h. Contractor shall coordinate with the Hub Project Manager to develop all settings and configurations for each communications equipment item and each RTD assembly including, but not limited to, IP addresses, VLANs, domain names, routing tables, access control lists, and any other configuration items required by the Hub Project Manager.
 - i. The Contractor shall demonstrate that the equipment and the systems furnished and installed function as specified. Test procedures shall be submitted for review and approval. Contractor shall conduct tests in the presence of the NCTPA Project Manager and Designee using approved test procedures. Contractor shall submit the test results using approved test data forms. If the equipment or systems fail any part of the test, make necessary corrections and repeat that test at no additional cost to MTC.
7. Cleaning and Protection
- a. Clean exposed surfaces in accordance with manufacturer's instructions.
 - b. Protect exposed surfaces from damage by subsequent construction.
8. Submittals
- a. Submit manufacturer's technical literature for communications equipment, including the following documentation for each switch or router provided.
 - iii. Initial configuration (This document shall provide both hardware and software settings).
 - iv. Setup and configuration settings including all addressing and routing information.
 - v. User's manual.
 - vi. Test Procedures
 - vii. Test Results
 - b. Shop Drawings:
 - i. Show fabrication and installation details for materials including proposed mounting equipment.
9. Measurement and Payment
- Separate measurement and payment will not be made for work required under this Section. All costs in connection with the work specified herein will be considered to be included with the related item of work in the Bid Schedule of the Bid Form, or incidental to the Work.

J. TRAINING

The Contractor shall conduct a hands-on training session for the operations and troubleshooting of the real-time display assemblies, and their associated communications equipment. The purpose of the training is to provide the Hub Owners and their support and maintenance staff the knowledge to be able to conduct operations and maintenance of the real-time display system elements described here in these technical specifications. It is a requirement that the training to be provided shall be tailored specifically on the operations and maintenance activities of each of the hardware and software units of the real-time display assemblies and communications equipment such that the Hub Owner and their support staff are able to properly and effectively monitor, manage and make any configuration changes as necessary over the course of operating the real-time display system.

The Contractor shall coordinate, organize, and conduct one half-day hands-on training session that walks through the installation process, off-the-shelf software requirements, hardware minimal and optimal requirements for the system, and all operator and system administrator functions of the real-time display system and communications equipment. The training shall be conducted for up to sixteen (16) attendees at a facility to be designated by the NCTPA Project Manager or his/her designee. The Contractor shall be responsible for coordination and providing all equipment needed for the training session.

10. Measurement and Payment

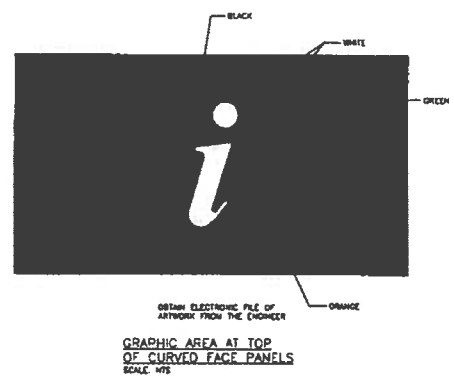
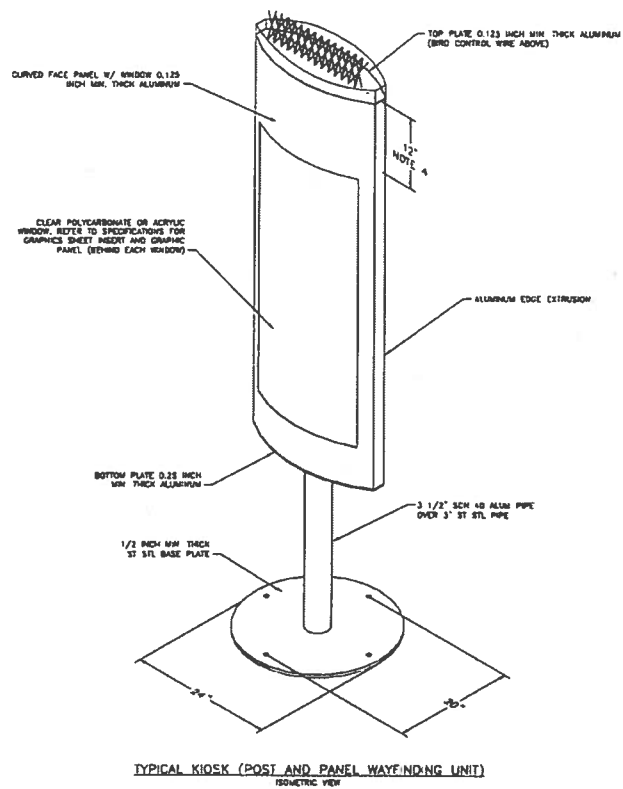
Separate measurement and payment will not be made for work required under this Section. All costs in connection with the work specified herein will be considered to be included with the related item of work in the Bid Schedule of the Bid Form, or incidental to the Work.


Appendix A-1-A: Kiosk Design Plans

Product and vendor information is strictly for reference only. Contractor shall install kiosks with matching size, color and function based on these plans, the Design Plans and these Technical Specifications. Use of the listed products and vendors is not required.

Index of Drawings

TITLE	PAGE
Wayfinding Kiosks	
Typical kiosk, post and panel wayfinding unit, isometric view	003
Typical kiosk, post and panel wayfinding unit, elevations and details	004
Typical kiosk and post base plate details	005
Breezeway Transit Connection Signs	
Typical graphic layout detail	010
Overhead wayfinding illuminated cabinet sign, elevations	011
Overhead wayfinding illuminated cabinet sign, plans and sections	012
Overhead wayfinding illuminated cabinet sign, assembly diagram	013
Overhead wayfinding sign, sections and details	014
Overhead wayfinding illuminated cabinet sign, LED module assembly	015
Overhead wayfinding sign support details	020
Transit Information Displays & Information Flags	
Surface mount: maps/schedule case elevation, sections, and isometric	025
Four-sided freestanding maps/schedule case frame elevation, sections, and details	028
Information flag, three-faced, elevations and plan	034
Information flag, three-faced, cube assembly diagram	035
Information flag, four-faced, cube assembly diagram and mounting detail	036



										REGIONAL TRANSIT WAYFINDING GUIDELINES & STANDARDS		STANDARD DRAWINGS		DATE: 01	
REGIONAL TRANSIT WAYFINDING GUIDELINES & STANDARDS										 METROPOLITAN TRANSPORTATION COMMISSION		TYPICAL KIOSK POST AND PANEL WAYFINDING UNIT SCHEMATIC VIEW		SHEET NO. 002	

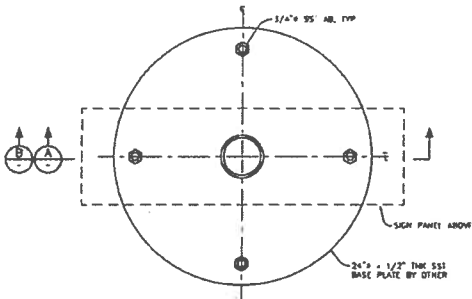
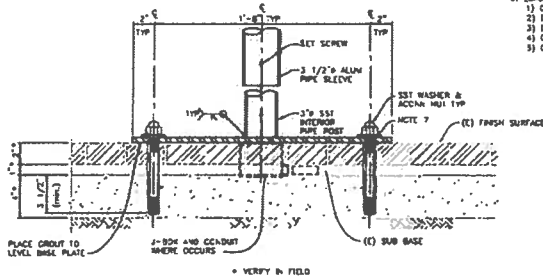


PLATE DETAIL
SCALE: 3" = 1'-0"



TYPICAL KIOSK BASE PLATE DETAIL (A)
SCALE: 3" = 1'-0"

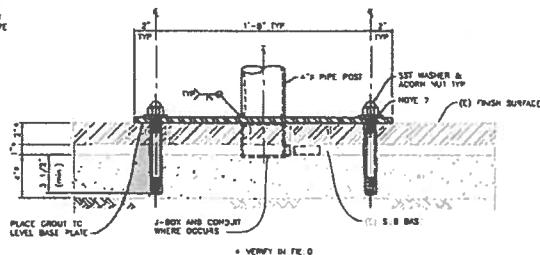
NOTES:

- THIS DRAWING IS LIMITED TO ANCHOR SYSTEM ONLY. ALL OTHER MEMBERS RELATED TO STREET KIOSK, BASE PLATE, AND ITS CONNECTION BETWEEN KIOSK POST AND BASE PLATE, ARE NOT COVERED IN THIS DRAWING.
- THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PERTAINING TO THE WORK PRIOR TO MATERIAL FABRICATION AND/OR CONSTRUCTION. FIELD CONDITIONS DIFFERENT FROM THOSE NOTED ON THE DRAWINGS SHALL BE PROMPTLY BROUGHT TO THE ATTENTION OF THE ENGINEER.
- ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- BASES OF DESIGN:
 - WIND LOAD: REFER TO CBC SECTION 1609.
 - BASE WIND SPEED: 85 MPH
 - SURFACE ROUGHNESS CATEGORY: B
 - EXPOSURE CATEGORY: B
 - IMPORTANCE FACTOR FOR WIND LOAD: 1.0
- SEISMIC LOAD: REFER TO CBC SECTION 1613
 - SITE CLASS: 3
 - SEISMIC DESIGN CATEGORY: 0
 - MAPPED MCE SPECTRAL RESPONSE ACCELERATION
 - $S_a = 1.5g$
 - $S_1 = 0.004g$
 - SITE COEFFICIENT
 - $I_v = 1.0$
 - $I_e = 1.0$
 - IMPORTANCE FACTOR: 1.0
- LOAD COMBINATIONS: LRFD
 - 1.2D
 - 1.2D + 1.6W + L
 - 1.2D + 1.6E + L
 - 0.9D + 1.6W
 - 0.9D + 1.2E
- LOAD COMBINATIONS: ASD
 - D
 - D + W
 - D + 0.7E
 - 0.8D + W
 - 0.8D + 0.7E

- ALL ANCHORS SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED BASED UPON THE FOLLOWING:
 - ADHESIVE: HMT M.T. - RE 300-80 (EPOXY ADHESIVE ANCHORING SYSTEM)
 - ANCHORS: HMT HAS - R 318 STAINLESS STEEL THREADED ROD CONFORMING TO ASTM F 593
 - HMT HAS - R 318 STAINLESS STEEL NUT CONFORMING TO ASTM F 594
 - ASSUMPTION OF EXISTING CONCRETE BASE: 4 INCH THICK 3500 PSI CRACKED CONCRETE CONDITION
 - STAINLESS STEEL BASE PLATE WITH MIN 43000 PSI YIELD STRENGTH
- CONTRACTOR MAY SUBMIT AN ALTERNATIVE ADHESIVE ANCHORING SYSTEM TO THE ENGINEER FOR APPROVAL, PROVIDED THAT THE REQUIREMENTS OF ACI-ES AC308 CRACKED CONCRETE CONDITION ARE MET.
- APPLY LOCITE TO THE TOP OF ANCHOR BOLT PRIOR TO TIGHTENING THE BOLT NUT
- THE CORROSION PROTECTION, INCLUDING PAINTING AND COATING, OF THE PLATE SHALL BE APPLIED PRIOR TO INSTALLATION OF ANCHORS

ABBREVIATIONS:

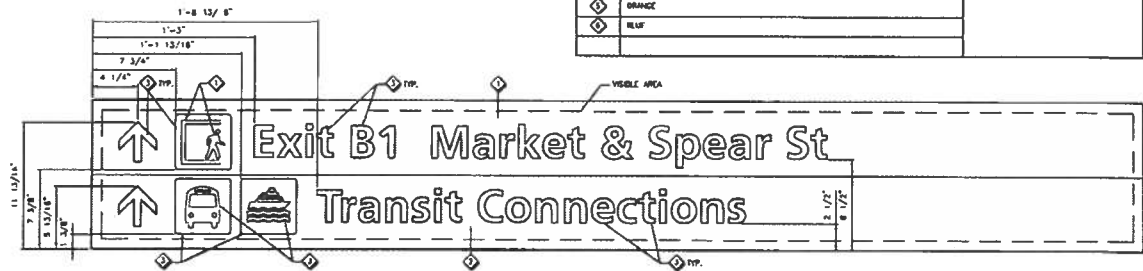
- (1) EXISTING
AB ANCHOR BOLT
318 STAINLESS STEEL
THK THICK
TYP TYPICAL



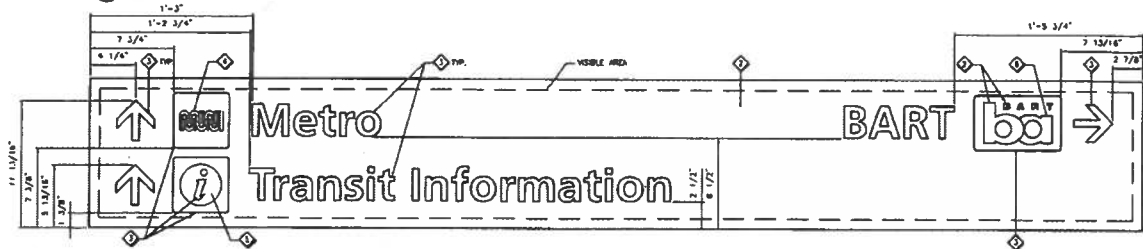
TYPICAL POST BASE PLATE DETAIL (B)
SCALE: 3" = 1'-0"

REGIONAL TRANSIT WAYFINDING GUIDELINES & STANDARDS				STANDARD DRAWINGS		JOB NUMBER	
METROPOLITAN TRANSPORTATION COMMISSION				TYPICAL KIOSK AND POST BASE PLATE DETAILS		PROJECT NUMBER	
						CONTRACT NO.	
						DRAWING DATE	
						005	

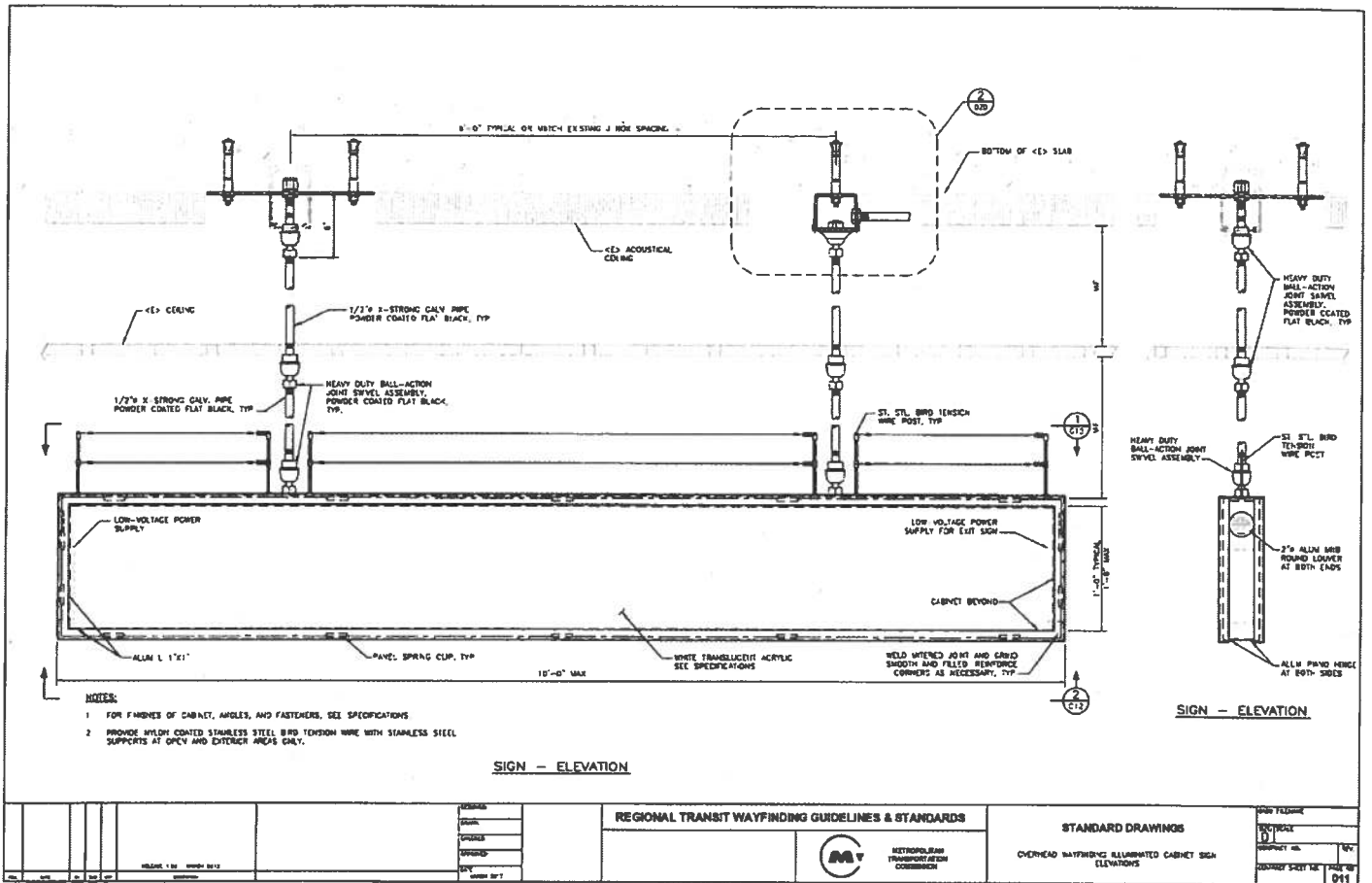
COLOR SCHEDULE		
NOTE NUMBER	COLOR DESCRIPTION	REMARKS
1	SAFETY GREEN	SEE SPECIFICATIONS FOR PANTONE COLOR INFORMATION
2	BLACK	
3	WHITE	
4	RED	
5	ORANGE	
6	BLUE	

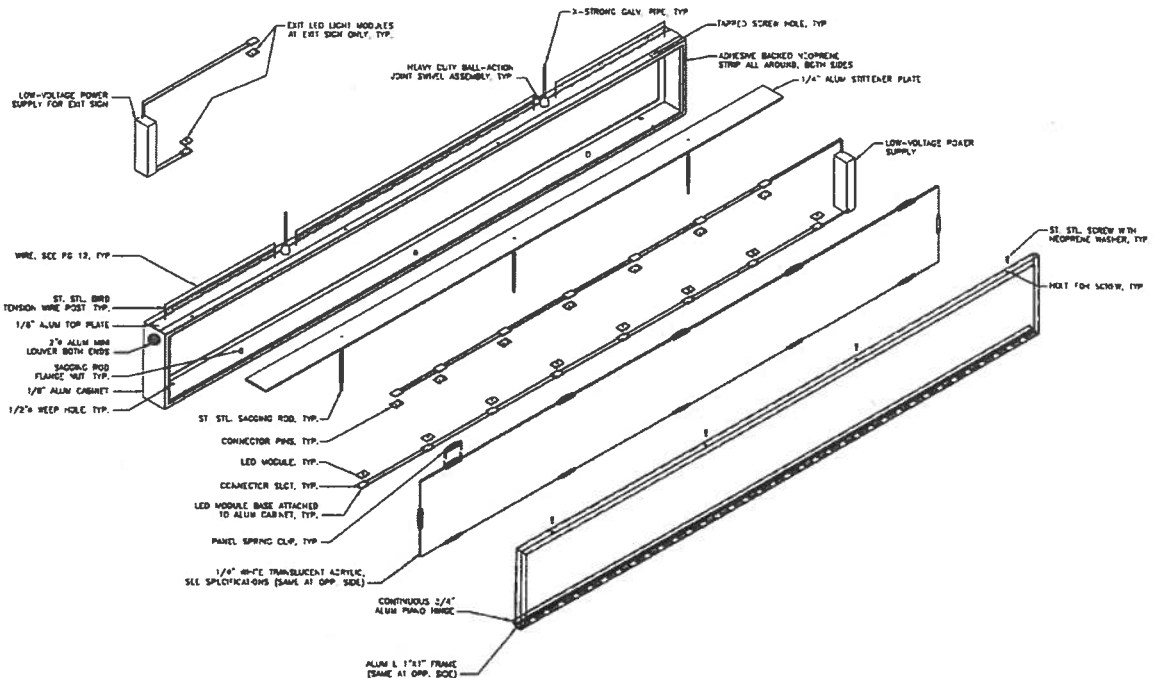


1 DETAIL: SAMPLE SIGN FACE
SCALE: 1 1/2"=1'-0"

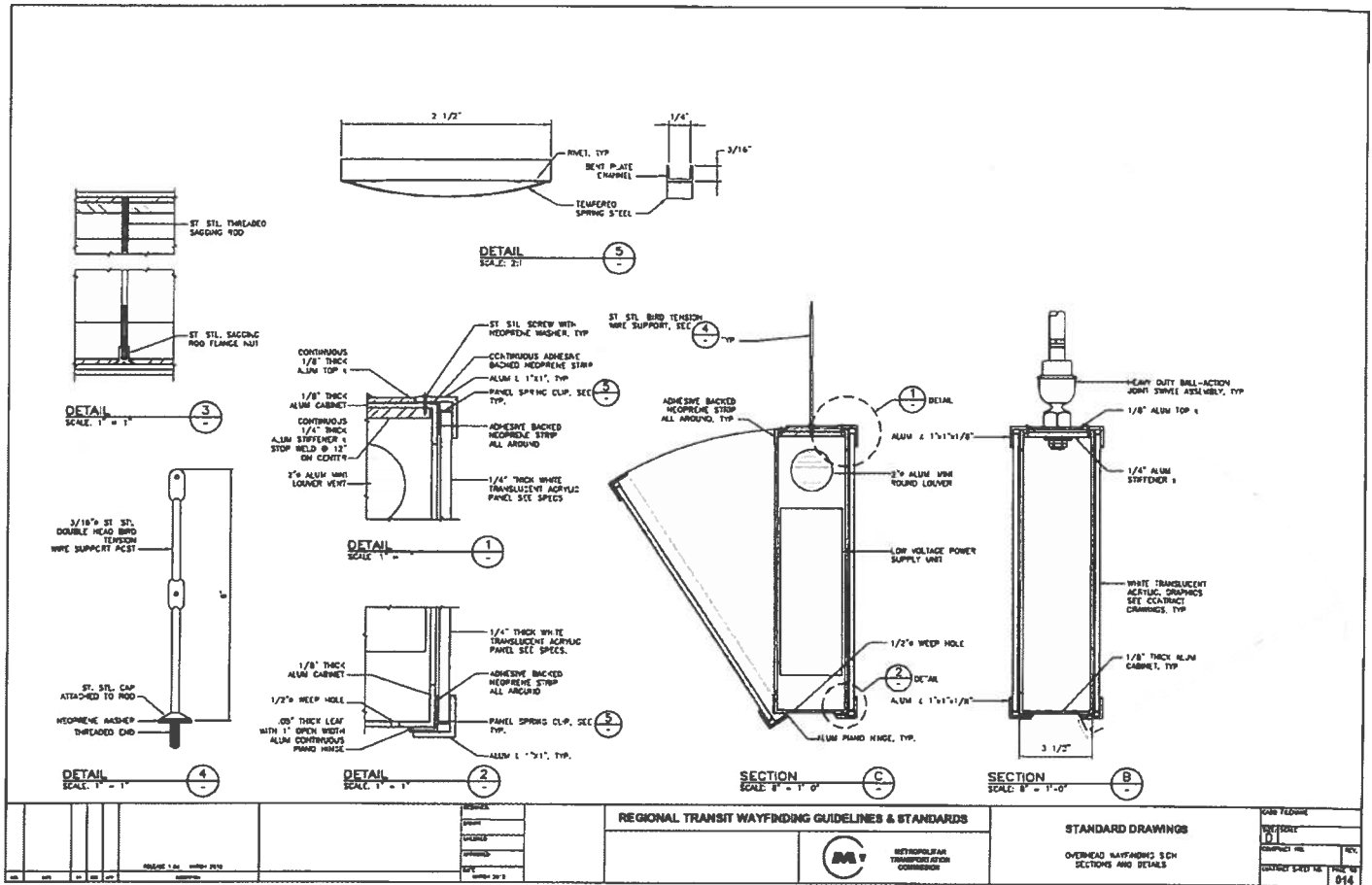


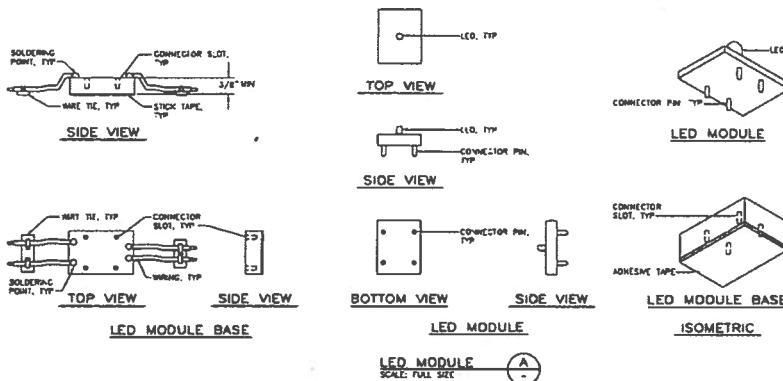
2 DETAIL: SAMPLE SIGN FACE
SCALE: 1 1/2"=1'-0"





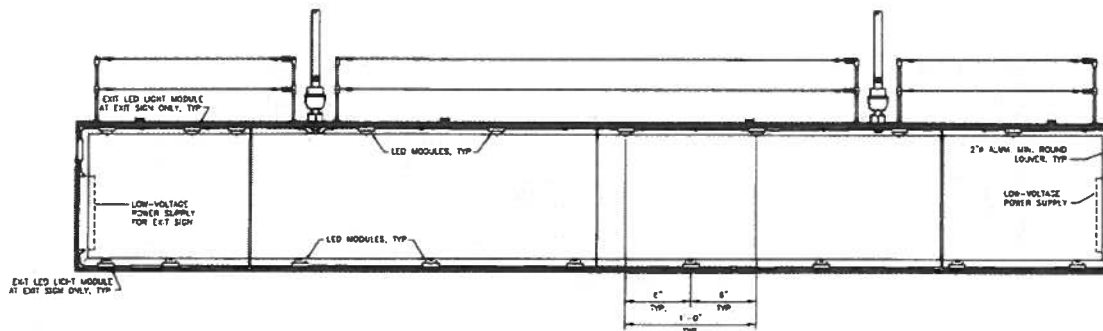
				REGIONAL TRANSIT WAYFINDING GUIDELINES & STANDARDS				STANDARD DRAWINGS				OVERHEAD WAYFINDING ILLUMINATED CABINET SIGN ASSEMBLY DIAGRAM				013			





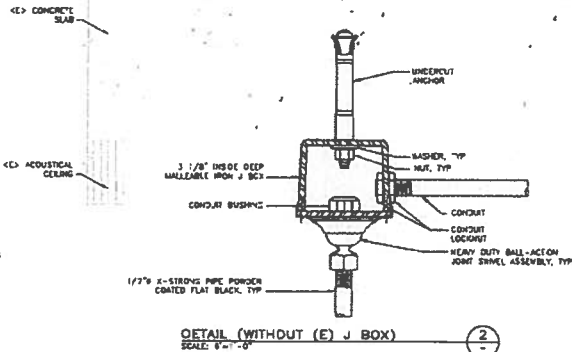
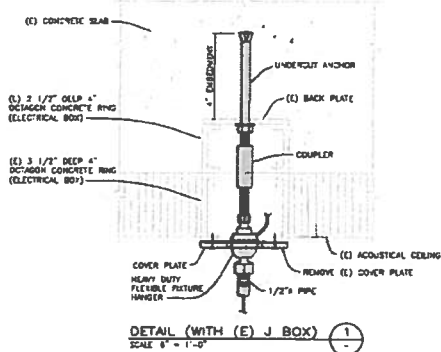
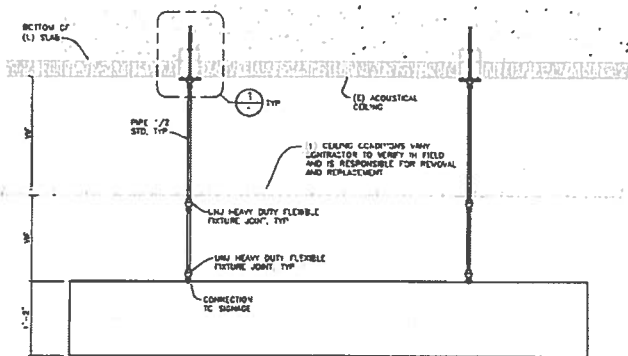
GENERAL NOTES:

1. THE LED SHALL BE RATED 100 LUMENS PER WATT, MOUNTED ON AND DRIVEN BY A LIGHT ENGINE MODULE CAPABLE OF DELIVERING 100 LUMENS AT 1.0A IN A CONSTANT-CURRENT CONFIGURATION. THE LED SHALL BE PROVIDED WITH GOLD-PLATED PINS TO BE INSERTED INTO SOCKETS EMBEDDED IN LIGHT ENGINE MODULE. ALTERNATELY, THE LED AND THE LIGHT ENGINE MODULE MAY BE INTEGRATED ON A PRINTED CIRCUIT BOARD AS SHOWN ON THE DRAWING. THE INTEGRATED MODULE SHALL BE PROVIDED WITH GOLD-PLATED PINS TO BE INSERTED INTO SOCKETS EMBEDDED IN AN INTERFACE BASE MODULE. THE BASE MODULE SHALL BE PROVIDED WITH SOLDERING POINTS FOR EXTERNAL COPPER WIRES.
2. IN LIT-UP CONFIGURATION (SEE ABOVE), THE PINS OF THE LED OR THE INTEGRATED MODULE SHALL BE WIDEN FOR THE LED ON THE MODULE TO BE EASILY EXTRACTED WITHOUT INCURRING DAMAGE TO THE PINS OR DEGRADING THE ELECTRICAL CONTACT. THE INTEGRATED MODULE SHALL PLUG INTO SOCKETS ON THE BUS ASSEMBLY FOR PHYSICAL SUPPORT.
3. EACH CABINET PRIMARY ELECTRICAL LOAD IS 277VAC/2.0A. EMERGENCY EXIT LIGHTING CIRCUIT VOLTAGE MAY BE 120VDC/2.0A OR 120VAC/2.0A, AS SPECIFIED BY THE DISTRICT VERIFY IN FIELD.
4. LEADS ARE STAGGERED. SEE **B**.



SECTION
 SCALE: 3" = 1'-0" **B**

				REGIONAL TRANSIT WAYFINDING GUIDELINES & STANDARDS				STANDARD DRAWINGS				JOB NUMBER	
												PROJECT NO.	
												CONTRACT NO.	
												DRAWING SHEET NO.	
												015	



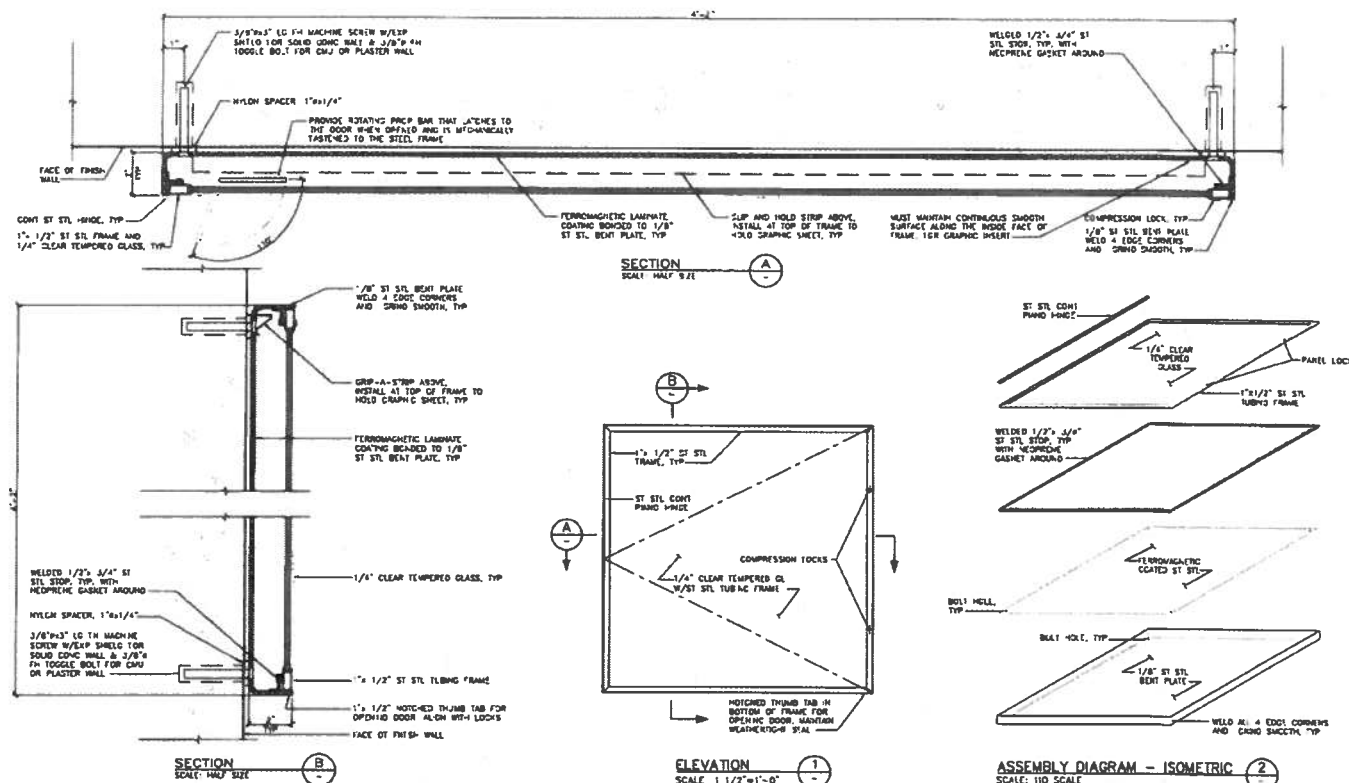
NOTES:

THE FOLLOWING NOTES AND DETAILS ARE EXAMPLES OF ANCHORAGE FOR SIGNAGE AT AN EXISTING STATION:

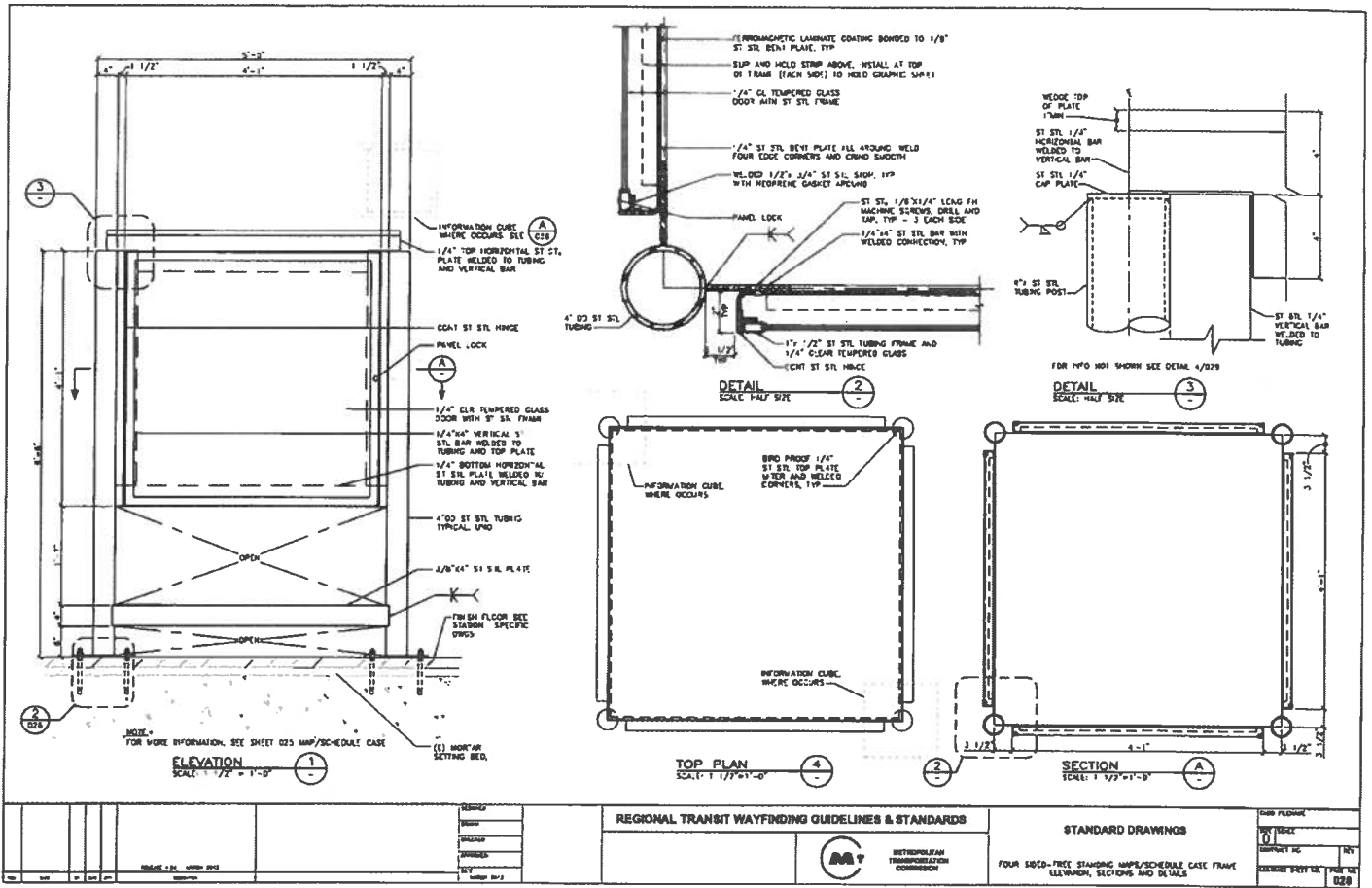
- ALL THE ITEMS SHOWN IN THIS DRAWING SHALL BE NEW UNLESS NOTED OTHERWISE.
- EXISTING DATA SHOWN ON THIS DRAWING WAS OBTAINED FROM INFORMATION FURNISHED BY FIELD INVESTIGATION. FIELD CONDITIONS DIFFERENT FROM THOSE NOTED ON THE DRAWINGS SHALL BE PROMPTLY BROUGHT TO THE ATTENTION OF THE ENGINEER.
- EXISTING REINFORCING AND CAST-IN-PLACE CONCRETE SHALL BE LOCATED (BY RADAR OR OTHER MEANS) PRIOR TO INSTALLING ANCHORS. THE FOLLOWING WORK:
 - DRILLING OF HOLES FOR THE POST-INSTALLED ANCHORS.
 - REMOVING OF EXISTING SIGNS AND THEIR ACCESSORIES.
- BASES OF SIGNS SHALL BE ESTABLISHED FOR SPECIFIC SIGNS:
 - LINE LOADS: 0 LBS (NO DESIGN FOR WINDLOADS)
 - WIND LOADS: REFER TO CBC SECTION 1608.
 - BASIC WIND SPEED: 85 MPH
 - SURFACE ROUGHNESS CATEGORY: B
 - EXPOSURE CATEGORY: B
 - IMPORTANCE FACTOR FOR WIND LOAD: 1.15
 - SEISMIC LOADS: REFER TO CBC SECTION 1613.
 - SITE CLASS: 0
 - SEISMIC DESIGN CATEGORY: 0
 - WATEROUS MECHANICAL RESPONSE ACCELERATION:
 - $S_d = 1.5g$
 - $S_1 = 0.5g$
 - $S_2 = 0.3g$
 - SEISMIC COEFFICIENT:
 - $R = 1.5$
 - $R = 1.5$
 - $R = 1.5$
 - IMPORTANCE FACTOR: 1.15
 - FOR STRUCTURAL COMPONENT SEISMIC COEFFICIENTS:
 - $R = 2.3$
 - $R = 2.5$
- LOAD COMBINATIONS: LND
 - 1.4C
 - 1.2D + 1.6W + L
 - 1.2D + 1.6E + L
 - 0.9D + 1.6W
 - 0.9D + 1.6E
- LOAD COMBINATIONS: ASD
 - D
 - 1.2D + W
 - 1.2D + E
 - 0.9D + W
 - 0.9D + E
- THE SIGN WEIGHT INCLUDING THE SUPPORT STRUCTURE SHALL BE LIMITED TO 88 LBS (PER SPECIFIC SIGN).
- ALL STEEL MEMBERS SHALL BE GALVANIZED AND "TH" COAT PAINTED. (SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR COATING OF STEEL EXPOSED TO WEAR).
- ALL SUPPORT PIPES SHALL CONFORM TO ASTM A307 C1, B.
- ALL CONCRETE ANCHORS SHALL CONFORM TO ASTM F1554 G-36 AND A307-100 AND A307-365/2.
- ALL NUTS SHALL CONFORM TO ASTM A563 C1, A HAS NOT FORCED.
- ALL WASHERS SHALL CONFORM TO ASTM F434.
- THE INSTALLATION OF ALL ANCHORS SHALL FOLLOW MANUFACTURER'S INSTALLATION PROCEDURES.
- ALL FLEXIBLE JOINTS, AS WELL AS JOINTS BETWEEN SIGNS, SHALL BE HEAVY DUTY AND RATED AT 180 LBS CAPACITY MINIMUM.
- PROVIDE LOCATE TO ALL BOLT & NUT CONNECTIONS, INCLUDING FLEXIBLE JOINTS, AND EYE BOLTS TO ANCHORS.

ABBREVIATIONS:

- AB ANCHOR BOLT
- CB EXISTING
- OH OVERHEAD
- PL PLATE
- STD STANDARD
- TYP TYPICAL
- VF VENT IN FIELD
- W/ WITH



REGIONAL TRANSIT WAYFINDING GUIDELINES & STANDARDS				STANDARD DRAWINGS		DRAWING	
				SURFACE MOUNT - MAPS/SCHEDULE CASE ELEVATION, SECTIONS AND ISOMETRIC		CONTRACT NO.	
						DATE	
						025	



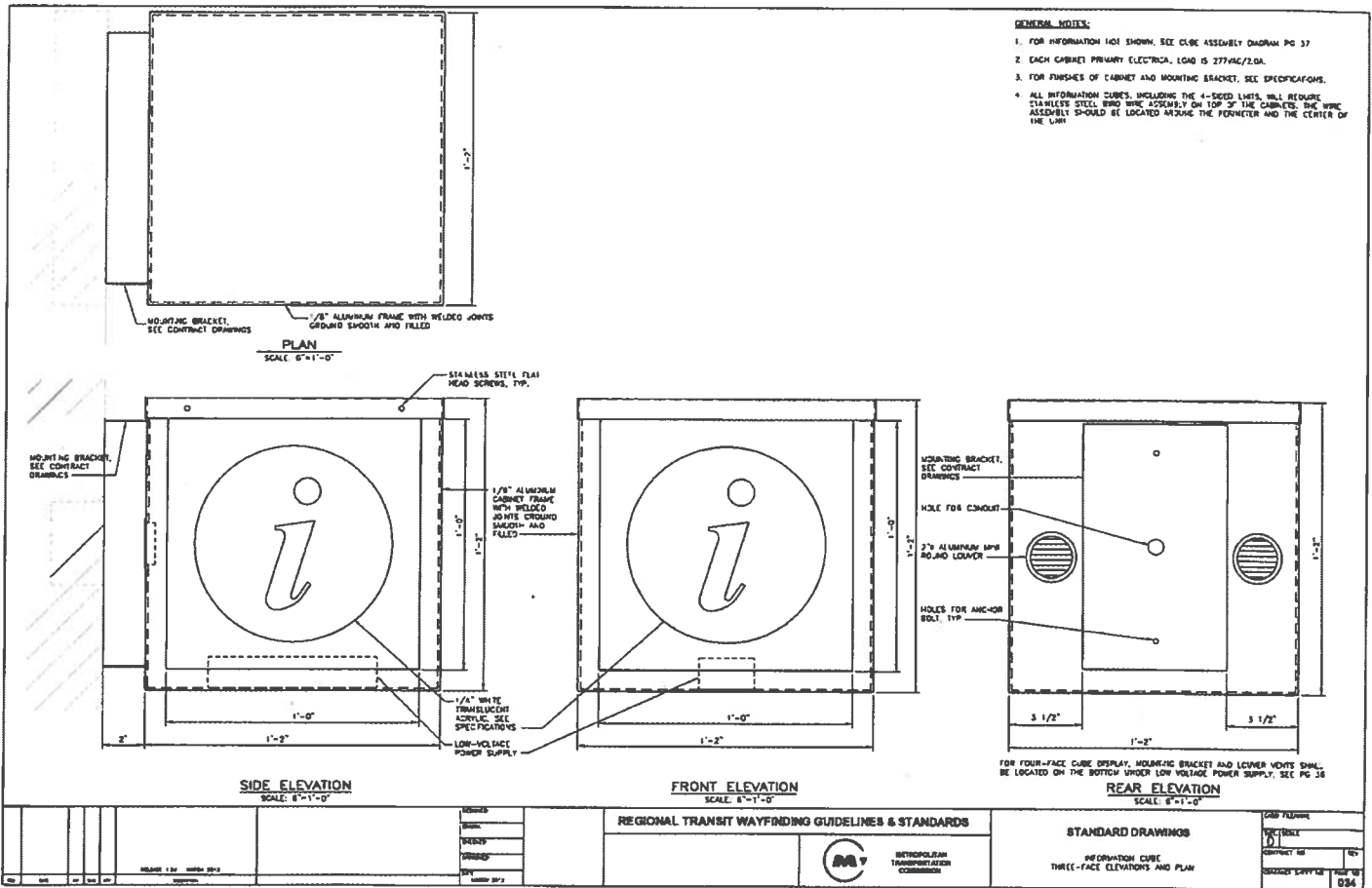
REGIONAL TRANSIT WAYFINDING GUIDELINES & STANDARDS

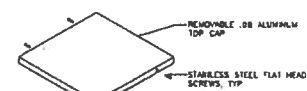
STANDARD DRAWINGS

FOUR SIDED-FREE STANDING MAP/SCHEDULE CASE FRAME ELEVATION, SECTION, AND TOP PLAN

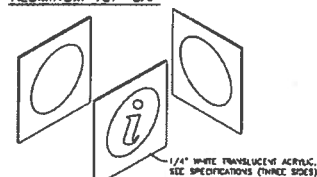
DATE	BY	CHKD	APP'D
01/11/2011	01/11/2011	01/11/2011	01/11/2011
01/11/2011	01/11/2011	01/11/2011	01/11/2011
01/11/2011	01/11/2011	01/11/2011	01/11/2011

025

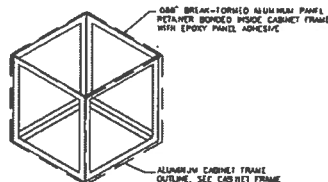




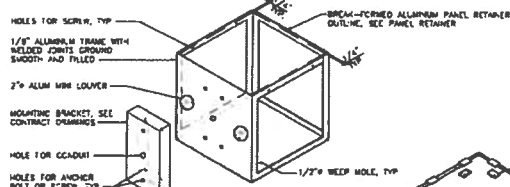
ALUMINUM TOP CAP



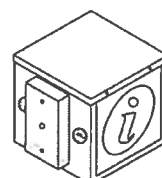
ALUMINUM CABINET



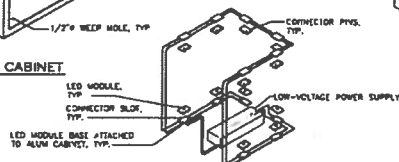
ALUMINUM PANEL RETAINER



ALUMINUM CABINET



CUBE ASSEMBLY

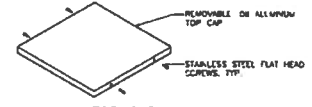


LED MODULE ASSEMBLY

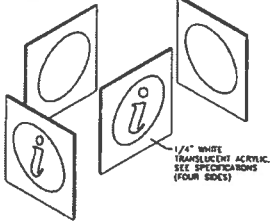
GENERAL NOTES:

1. THE LED SHALL BE RATED "60 LUMENS PER WAT" MOUNTED ON AND SERVED BY A LIGHT ENGINE MODULE CAPABLE OF DELIVERING 195 LUMENS AT 1.0 A IN A CONSTANT-CURRENT CONFIGURATION. THE LED SHALL BE PROVIDED WITH GOLD-PLATED PADS TO BE INSERTED INTO SOCKETS EMBEDDED IN LIGHT ENGINE MODULE. ALTERNATELY, THE LED AND THE LIGHT ENGINE MODULE MAY BE INTEGRATED ON A PRINTED CIRCUIT BOARD AS SHOWN ON THE DRAWING. THE INTEGRATED MODULE SHALL BE PROVIDED WITH GOLD-PLATED PADS TO BE INSERTED INTO SOCKETS EMBEDDED IN AN INTERFACE BASE MODULE. THE BASE MODULE SHALL BE PROVIDED WITH SOLDERING POINTS FOR EXTERNAL COPPER WIRES.
2. IN EITHER CONFIGURATION (SEE ABOVE), THE PINS OF THE LED OR THE INTEGRATED MODULE SHALL BE USED FOR THE LED OR THE MODULE TO BE EASILY EXTRACTED WITHOUT INCURRING DAMAGE TO THE PINS OR SOLDERING THE ELECTRICAL CONTACT. THE INTEGRATED MODULE SHALL PLUG INTO SPACERS ON THE BASE MODULE FOR PHYSICAL SUPPORT.
3. EACH CABINET PRIMARY ELECTRICAL LOAD IS 277VAC/2 BA.
4. FOR FINISHES OF CABINET AND MOUNTING BRACKET, SEE SPECIFICATIONS.

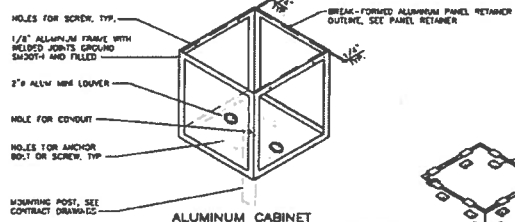
REGIONAL TRANSIT WAYFINDING GUIDELINES & STANDARDS				STANDARD DRAWINGS		SHEET NUMBER	
INFORMATION CUBE				THREE FACE CUBE ASSEMBLY DIAGRAM		01	
METROPOLITAN TRANSPORTATION COMMISSION						025	



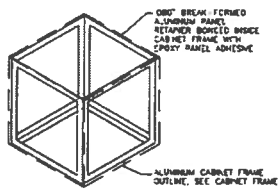
ALUMINUM TOP CAP



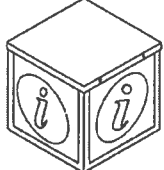
ALUMINUM CABINET



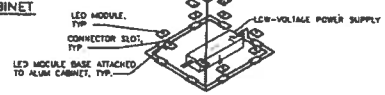
ALUMINUM CABINET



ALUMINUM PANEL RETAINER



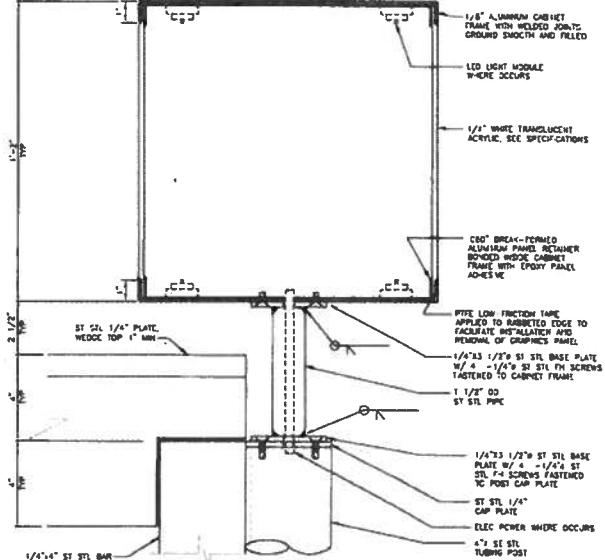
CUBE ASSEMBLY



LED MODULE ASSEMBLY

GENERAL NOTES:

1. THE LED SHALL BE RATED 100 LUMEN PER SQ. FT. MOUNTED ON AND DRIVEN BY 8 LIGHT ENGINE MODULE CAPABLE OF DELIVERING 180 LUMENS AT 1.0A IN A CONSTANT-CURRENT CONFIGURATION. THE LED SHALL BE PROVIDED WITH GOLD-PLATED PINS TO BE INSERTED INTO SOCKETS EMBEDDED IN LIGHT ENGINE MODULE. ALTERNATELY, THE LED AND THE LIGHT ENGINE MODULE MAY BE INTEGRATED ON A PRINTED CIRCUIT BOARD AS SHOWN ON THE DRAWING. THE INTEGRATED MODULE SHALL BE PROVIDED WITH GOLD-PLATED PINS TO BE INSERTED INTO SOCKETS EMBEDDED IN AN INTERFACE BASE MODULE. THE BASE MODULE SHALL BE PROVIDED WITH SOLDERING POINTS FOR EXTERNAL COPPER WIRES.
2. IN OTHER CONFIGURATION (SEE ABOVE), THE PINS OF THE LED OR THE INTEGRATED MODULE SHALL BE READ FOR THE LED OR THE MODULE TO BE EASILY EXTRACTED WITHOUT INCURRING DAMAGE TO THE PINS OR DESTROYING THE ELECTRICAL CONTACT. THE INTEGRATED MODULE SHALL PLUG INTO SPACERS ON THE BASE MODULE FOR PHYSICAL SUPPORT.
3. EACH CABINET PRIMARY ELECTRICAL LOAD IS 277VAC/2.0A.
4. FOR FINISHES OF CABINET AND MOUNTING BRACKET SEE SPECIFICATIONS.
5. ILLUMINATED ASSEMBLY IS OPTIONAL. SEE SPECIFICATIONS.



SECTION-MOUNTING DETAIL A
SCALE 3/4"=1'-0"

REGIONAL TRANSIT WAYFINDING GUIDELINES & STANDARDS				STANDARD DRAWINGS			
INFORMATION CUE				FOUR-FACE CUBE ASSEMBLY DIAGRAM AND MOUNTING DETAIL			
DATE: 10/1/2011				DRAWN BY: 01			
CHECKED BY: 01				DATE: 10/1/2011			
APPROVED BY: 01				SCALE: 3/4"=1'-0"			



DEPARTMENT OF CONSUMER AFFAIRS

Contractors State License Board**Contractor's License Detail - License # 942839**

DISCLAIMER: A license status check provides information taken from the CSLB license database. Before relying on this information, you should be aware of the following limitations.

CSLB complaint disclosure is restricted by law ([B&P 7124.6](#)) If this entity is subject to public complaint disclosure, a link for complaint disclosure will appear below. Click on the link or button to obtain complaint and/or legal action information.

Per [B&P 7071.17](#), only construction related civil judgments reported to the CSLB are disclosed.

Arbitrations are not listed unless the contractor fails to comply with the terms of the arbitration.

Due to workload, there may be relevant information that has not yet been entered onto the Board's licensedatabase.

License Number	942839	Extract Date 9/4/2013
	E R B C O CONSTRUCTION SERVICES INC	
Business Information	Business Phone Number: (510) 385-6744	
	433 35TH AVE SAN FRANCISCO, CA 94121	
Entity	Corporation	
Issue Date	01/29/2010	
Expire Date	01/31/2014	
License Status	ACTIVE	
	This license is current and active. All information below should be reviewed.	
Classifications	CLASS	DESCRIPTION
	B	GENERAL BUILDING CONTRACTOR
	A	GENERAL ENGINEERING CONTRACTOR
Bonding	CONTRACTOR'S BOND	
	This license filed a Contractor's Bond with	
	AMERICAN CONTRACTORS INDEMNITY COMPANY.	
	Bond Number: 10148653	
	Bond Amount: \$12,500	
	Effective Date: 01/28/2010	
	BOND OF QUALIFYING INDIVIDUAL	
	1. The Responsible Managing Officer (RMO) HOW HARRY NASH III certified that he/she owns 10 percent or more of the voting stock/equity of the corporation. A bond of qualifying individual is not required.	
	Effective Date: 01/29/2010	
Workers' Compensation	WORKERS' COMPENSATION	

This license has workers compensation insurance with
[STATE COMPENSATION INSURANCE FUND](#)

Policy Number: 9056081

Effective Date: 05/01/2013

Expire Date: 05/01/2014

[Workers' Compensation History](#)

Personnel listed on this license (current or disassociated) are listed on other licenses.

Personnel List	Other Licenses
--------------------------------	--------------------------------

[Conditions of Use](#) | [Privacy Policy](#)
Copyright © 2010 State of California



DEPARTMENT OF CONSUMER AFFAIRS

Contractors State License Board

Workers' Compensation History

Contractor License#: 942839

Contractor Name: E R B C O CONSTRUCTION SERVICES INC

INSURANCE COMPANY	POLICY#	EFFECTIVE DATE	EXPIRATION DATE	CANCELLATION DATE
<u>STATE COMPENSATION INSURANCE FUND</u>	9056081	05/01/2013	05/01/2014	
<u>STATE COMPENSATION INSURANCE FUND</u>	0035395	05/01/2012	05/01/2013	
<u>STATE COMPENSATION INSURANCE FUND</u>	713-0035395	05/12/2011	05/01/2012	
<u>EXEMPT</u>		01/27/2010		

[Conditions of Use](#) | [Privacy Policy](#)
Copyright © 2010 State of California

WORKERS COMPENSATION INSURANCE COMPANY INFORMATION

Insurance Company Code: 025

Company Information:

STATE COMPENSATION INSURANCE FUND
1275 MARKET STREET
SAN FRANCISCO, CA 94103
(877) 405-4545

[print](#)

[>> close window <<](#)

Search Results

Current Search Terms: ERBCO* construction* services* Inc.*

No records found for current search.

SAM | System for Award Management 1.0

IBM v1.1149.20130801-1829

Note to all Users: This is a Federal Government computer system. Use of this system constitutes consent to monitoring at all times.

