



City of
Los Banos
At the Crossroads of California

Contract Documents
for
Construction of

7th STREET BALL PARK RESTROOM

September 2019

Bid Proposals must be received no later than 2:00 p.m., October 17, 2019
City of Los Banos City Clerk
520 J Street
Los Banos, CA 93635

City of Los Banos
Public Works Department

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- | | |
|--------|------------------------|
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Reference

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Advertisement for Bids

CITY OF LOS BANOS
520 J Street
Los Banos, California 93635

Notice is hereby given that separate sealed bids for the award of contract for the **Construction of 7th Street Ball Park Restroom** will be received by the City of Los Banos at the office of the City Clerk until 2:00 p.m. Pacific Daylight Savings Time, October 17, 2019 and then at said office publicly opened and read aloud.

The major work consists of the sub-grade pad preparation of a 24' x 26'6" area (by contractor) for the placement of a pre-fabricated modular restroom building (set in place by Public Restroom Company); the installation of approximately 2,803 square feet of sidewalk; and two (2) each concrete ADA ramps with truncated domes. The sub-grade pad will be prepared per the requirements provided in the Reference section of the Contract Documents.

- Contractor shall furnish all of the materials, supplies, tools, equipment, labor and other services necessary for the construction of the pad preparation, ADA ramps, and sidewalks.
- Compaction testing will be performed by Owner.
- All utilities will be installed by Owner.
- Modular restroom building will be installed by Public Restroom Company/Owner.
- Demolition of existing concrete ramps will be performed by Owner.

Prospective Bidders are required to attend a mandatory pre-bid meeting on October 1, 2019 at 10:00 a.m., sharp. The meeting will be held on-site at 401 Seventh Street (corner of Seventh and E Streets). **Bids will not be considered from Bidders who were not physically in attendance at the mandatory pre-bid meeting.**

The time of completion is 30 working days. Within the 30 working day period, a 5 day working allowance will be required between the preparation of the pad and the placement of the concrete sidewalk/walkway immediately adjacent the pad for Public Restrooms Company to set the modular building.

The Contract Documents, in their entirety, can be viewed and/or obtained from the City of Los Banos website at www.losbanos.org or at the following locations:

Central California Builders Exchange (www.cencalbx.com)

Builders Exchange of Stockton (www.besonline.com)

Valley Builders Exchange, Inc. (www.valleybx.com)

Dodge Data & Analytics (www.construction.com/plans/)

A payment bond prepared and executed in accordance with California Civil Code Section 3247 and a bond for faithful performance of the contract will be required of the successful bidder who is awarded the contract.

The successful bidder must comply with the latest general prevailing rate of per diem wages as determined by the Director of Industrial Relations, State of California, Department of Industrial Relations and is to be paid to the various craftsmen and laborers required to construct said improvements and is made a part of the specifications and contract for said work to which reference is hereby made for further particulars.

No contractor or subcontractor may be listed on a bid proposal or awarded a contract for public work on a

public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. Contractor registration information can be found at:

<http://www.dir.ca.gov/Public-Works/PublicWorks.html>

Each bid shall be accompanied by cashier's or certified check or by a bidder's bond, made payable to the City of Los Banos and executed by a corporate surety licensed to issue surety bonds in the State of California, for an amount equal to at least ten percent (10%) of the amount of said bid and no bid shall be considered unless such cashier's or certified check or bidder's bond is enclosed therewith.

The successful bidder of this project shall have the following current and active California State Contractor's License at the time of the submission of the bid and throughout the duration of the contract: **Class A or C-8.**

Bidders shall refer to the Contract Document's Information for Bidders for complete instructions.

Bidders are solely responsible for the cost of preparing their bids.

The City specifically reserves the right, in its sole discretion, to reject any or all bids, to re-bid, or to waive inconsequential defects, in bidding not involving time, or quality of the work. The City may reject any and all bids and waive any minor irregularities in the bids.

Information for Bidders

Sealed bids will be received by the City of Los Banos (herein called the "Owner"), at the office of the City Clerk until 2:00 p.m. Pacific Daylight Time (PDT), on October 17, 2019, then at said office, publicly opened and read aloud. Owner shall reject all bids received after the specified time and will return such bids to bidder, unopened. Bidders must submit bids in accordance with these instructions. No emailed or faxed bids will be accepted.

The major work consists of the sub-grade pad preparation of a 24' x 26'6" area (by contractor) for the placement of a pre-fabricated modular restroom building (set in place by Public Restroom Company); the installation of approximately 2,803 square feet of sidewalk; and two (2) each concrete ADA ramps with truncated domes. The sub-grade pad will be prepared per the requirements provided in the Reference section of the Contract Documents.

- Contractor shall furnish all of the materials, supplies, tools, equipment, labor and other services necessary for the construction of the pad preparation, ADA ramps, and sidewalks.
- Compaction testing will be performed by Owner.
- All utilities will be installed by Owner.
- Modular restroom building will be installed by Public Restroom Company/Owner.
- Demolition of existing concrete ramps will be performed by Owner.

The time of completion is 30 working days. Within the 30 working day period, a 5 day working allowance will be required between the preparation of the pad and the placement of the concrete sidewalk/walkway immediately adjacent the pad for Public Restrooms Company to set the modular building.

Each bid must be submitted in a sealed envelope and addressed to the City of Los Banos at 520 J Street, Los Banos, CA 93635. Each sealed envelope containing a bid must be plainly marked on the outside as "**7th STREET BALL PARK RESTROOMS: Attention City Clerk**", and the envelope shall also bear on the outside, the name of the bidder, and their address. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed to the City of Los Banos at 520 J Street, Los Banos, CA, 93635, and also clearly state, "**7th STREET BALL PARK RESTROOMS: Attention City Clerk**".

A complete bid includes the Bid Form, List of Subcontractors, Equal Employment Opportunity, Non-Collusion Affidavit, Debarment and Suspension Certification, Bid Schedule, Experience, Bid Bond with surety, and a copy of a current California State Contractor's License. A signed Addendum, if issued, must also be submitted with the sealed bid. The Total Bid Amount must be filled in, in ink or typewritten, and the bid must be fully completed and executed when submitted. Only one set of original bid forms are required to be submitted. Mistakes must be corrected and the correction inserted; correction must be initialed in ink by person or persons signing the bid. No conditional bids will be accepted.

The bid shall be signed by a person or persons legally authorized to bind bidder to the contract. The individual or individuals signing each document shall warrant that they are authorized to bind the bidder.

The Owner may waive any informalities or minor defects or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within 30 days after the actual date of the opening thereof. Should there be reasons why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the Owner and the bidder.

Each bid must be accompanied by a bid bond payable to the Owner for ten percent (10%) of the total amount of the bid. As soon as the bid amounts have been compared, the Owner will return the bid

security of all except the three lowest responsive and responsible bidders. Once a bid has been awarded, and the payment bond and performance bond of the successful bidder has been received by the Owner, the bid security of the three remaining lowest responsive and responsible bidders will be returned.

All bonds must be acknowledged before a Notary Public by both the bidder and the surety. Attorneys-in-fact who sign bid bonds or payment bonds and performance bonds must file with each bond a certified and effective dated copy of their power of attorney.

Award and Execution of Contract

The party to whom the contract is awarded will be required to execute the Agreement, and obtain the performance bond and payment bond along with satisfactory evidence of insurance within ten (10) calendar days from the date when the Notice of Award is delivered to the successful bidder. The Notice of Award shall be accompanied by the necessary agreement and bond forms. In case of failure of the bidder to execute the Agreement, the Owner may, at his option, consider the bidder in default, in which case the bid bond accompanying the bid shall become the property of the Owner.

A performance bond and a payment bond, each in the amount of 100 percent of the Contract Price, with a corporate surety named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570, will be required for the faithful performance of the contract. The payment bond must be issued by an admitted surety insurer holding a certificate of authority to transact surety insurance in California issued by the Insurance Commissioner.

All bonds must be acknowledged before a Notary Public by both the bidder and the surety. Attorneys-in-fact who sign bid bonds or payment bonds and performance bonds must file with each bond a certified and effective dated copy of their power of attorney.

The Owner, within 15 days of receipt of the performance bond, payment bond and agreement signed by the party to whom the contract was awarded, shall sign the Agreement and return to such party an executed duplicate of the agreement. Should the Owner not execute the Agreement within such period, the bidder may, by written notice, withdraw his signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the Owner.

The Notice to Proceed shall be issued within 10 days of the execution of the Agreement by the Owner. Should there be reasons why the Notice to Proceed has not been issued within such period, the time may be extended by mutually agreed upon, and the bidder may terminate the Agreement without further liability on the part of either party.

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout.

Subcontractors

The subcontractors listed by bidder in the bid shall list therein the name and address of each subcontractor to whom the bidder proposes to subcontract portions of the work in an amount in excess of one-half of one percent of the total bid or \$10,000, whichever is greater, in accordance with the Subletting and Subcontracting Fair Practices Act, commencing with Section 4100 of the Public Contract Code. The bidder's attention is invited to other provisions of the Act related to the imposition of penalties for a failure to observe its provisions by using unauthorized subcontractors or by making unauthorized substitutions.

Registration with California Department of Industrial Relations (DIR)

A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded. Labor Code Section 1771.1(a)

requires contractors and their subcontractors to possess and maintain such registration with DIR in order to be awarded and to perform on public works projects (regardless of funding source).

Pursuant to Section 1771.4, each contractor and subcontractor shall furnish certified payroll records to the Labor Commissioner at least monthly and in a format prescribed by the Labor Commissioner of the DIR. Until such time that the DIR gives awarding agencies direct access to all certified payrolls submitted by contractors and subcontractors, contractor and his subcontractors are also required to submit copies of payroll records to Owner on a monthly basis. Information on the above can be found at:

<http://www.dir.ca.gov/Public-Works/PublicWorks.html>

Prevailing Wage

This work is subject to prevailing wage requirements. If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the prevailing wage rates determined by the Director of the Department of Industrial Relations of the State of California for similar classification of labor, the contractor and his subcontractor shall not pay less than the higher wage rate. In accordance with the provisions of Section 1773 of the Labor Code of the State of California, the Owner has obtained from the Director of the Department of Industrial Relations, the general prevailing rate for each craft, classification, or type of workman required for execution of the Agreement. A copy of said prevailing rate of per diem wages is on file in the office of the Owner, and available from the California Department of Industrial Relations' Internet web site at <http://www.dir.ca.gov/DLSR/PWD>.

The Federal minimum wage rates for this work as predetermined by the United States Secretary of Labor may be examined at the offices described above where the Contract Documents may be seen. Addenda to modify the Federal minimum wage rates, if necessary, will be posted on the internet at www.losbanos.org. Future effective general prevailing wage rates, which have been predetermined are on file with the California Department of Industrial Relations and are referenced but not printed in the general prevailing wage rates.

Pre-Bid Meeting

Prior to submitting a sealed Bid, Bidder will attend a **mandatory** pre-bid meeting. The date of the mandatory pre-bid meeting is October 1, 2019. The address for the mandatory meeting is 401 Seventh Street (Corner of Seventh and E Streets). The start time for the meeting is 10 a.m., sharp.

Bids will not be considered from bidders who were not physically in attendance at the mandatory pre-bid meeting.

Bidders must satisfy themselves as to the accuracy of the estimated quantities in the Bid Schedule by examination of the site and a review of the drawings and specifications including addenda. After bids have been submitted, the bidder shall not assert that there was misunderstanding concerning the quantities of work or the nature of the work to be done. The failure or omission of any bidder to do any of the foregoing shall not relieve any bidder from any obligation with respect to his bid.

The Contract Documents contain the provisions required for the construction of the project. The Owner will not be responsible for, nor be bound by, any oral instructions, interpretations, or explanations issued by the Owner or its representatives. Any request for clarifications or questions of the Contract Documents shall be made in writing or email and deliverable to:

City of Los Banos Public Works Department
Attn: Greg Pimentel
greg.pimentel@losbanos.org
411 Madison Avenue
Los Banos, CA 93635

Requests for clarification or questions shall be delivered to the Owner before 5:00 p.m. PDT on October 9, 2019. Any Owner response to a request for clarification, questions and answers will be posted to the City's website at www.losbanos.org no later than 5:00 p.m. PDT on October 11, 2019 and if

necessary, shall become a part of the bid as an addendum.

Proposed timeline of events associated with the awarding of bid:

Release of Advertisement for Bid		September 17, 2019
Mandatory Pre-Bid Meeting	10:00 a.m.	October 1, 2019
Deadline to Submit Questions/Clarifications	5:00 p.m.	October 9, 2019
Addendum/Questions/Clarifications posted	5:00 p.m.	October 11, 2019
Bid Opening	2:00 p.m.	October 17, 2019
City Council Considers Bid		November 6, 2019 (tentative)
Issuance of a Notice to Proceed	On or before:	November 6, 2019(tentative)
Construction to Begin	On or before:	November 6, 2019(tentative)

Qualification of Bidder

The Owner may make such investigation as it deems necessary to determine the ability of the bidder to provide the services requested, and the bidder shall furnish to the Owner all information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid should the evidence submitted by, or investigation of, the bidder fail to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the bid and to complete the requirements contemplated therein.

Governing Law and Venue

This bid, or any contract that may result from the award of this bid, shall be deemed to be made under, and shall be governed by and construed in accordance with, the laws of the State of California. Any action brought to enforce the terms, or provision of this bid or any contract that may result from the award of this bid, shall have venue in the County of Merced, State of California.

Mandatory Bid Protest Procedure

The lack of prompt procedure to resolve disputes regarding the bidding process would impair the Owner's ability to carry out its purpose of contracting this project in a timely manner. Therefore, to the maximum extent authorized by law and notwithstanding any other procedures specified in these Contract Documents, all disputes and/or protests regarding the bidding process shall be subject to the following procedure. In submitting a bid to the Owner for this work, the bidder agrees to comply with and to be bound by this procedure.

Any bid protest must be submitted in writing to the Owner before 5:00 p.m. on the fifth (5th) business day following bid opening.

1. The initial protest document must contain a complete statement of the basis for the protest, and all supporting documentation. A non-refundable fee of One Thousand Dollars (\$1,000.00) made payable to the "City of Los Banos" shall accompany the protest documents and will be used by the Owner to recover costs in evaluating the bid protest. A bid protest submitted without the requisite fee shall not be considered by the Owner.
2. The party filing the protest must have actually submitted a bid for the work. A subcontractor of a party submitting a bid for the work may not submit a bid protest. Only bidders who the Owner otherwise determines are responsive and responsible are eligible to protest a bid.
3. A party may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest.
4. The protest must refer to the specific portion of the Contract Documents which forms the basis for the protest.
5. The protest must include the name, address and telephone number of the person representing the protesting party.

6. The party filing the protest must concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest which may be adversely affected by the outcome of the protest. Such parties shall include all other bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
7. The Owner will give the protested bidder five (5) business days after the receipt of the protest to submit a written response. The responding bidder shall transmit the response to the protesting bidder concurrent with the delivery to the Owner.
8. The procedure and time limits set forth in this paragraph are mandatory and are the bidder's sole and exclusive remedy in the event of bid protest. The bidder's failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a Government Code Claim or legal proceedings.

If the Owner determines that a protest is frivolous, the protesting bidder may be determined to be non-responsive and/or non-responsible and that bidder may be determined to be ineligible for future contract awards.

Cancellation of Contract

The Owner may terminate any contract derived from this bid as follows:

- WITHOUT CAUSE at any time by giving thirty (30) calendar days written notice to the successful bidder;
- WITH CAUSE (Default) at any time by giving ten (10) calendar days written notice to the successful bidder. Cancellation for cause shall be at the discretion of the Owner and shall be, but is not limited to, failure to supply the items, materials, equipment or services specified within the time allowed or within the terms, conditions or provisions of this bid. The successful bidder may not cancel any contract derived from this bid, without prior written consent of the Owner.

Bid Form

TO: City of Los Banos
520 J Street
Los Banos, CA 93635

In compliance with the Advertisement for Bids the undersigned, as bidder, hereby offers to provide to the Owner, in accordance with the terms and conditions in the provisions set forth in the Contract Documents the stated total bid amount quoted on this Bid Form for the work of

7th STREET BALL PARK RESTROOM

Total Bid Amount: \$ _____

(Total Bid Amount in Written Form)

The undersigned certifies under penalty of perjury under the laws of the State of California and the United States of America, that the above quotation constitutes a bona-fide offer for the work, that undersigned is a duly authorized representative of the company listed, that the quotation is in no way sham or collusive, and that the executed Agreement between the bidder and Owner constitutes acceptance of bidder's total bid for the work stated in the Contract Documents. The undersigned has read the General Provisions, Special Provisions, and Technical Specifications in these Contract Documents. The undersigned further certifies, under penalty of perjury that the Non-Collusion 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.

The undersigned acknowledges receipt of the following addenda: _____

Signature: _____ Date: _____

Title: _____

Name of Business: _____

Doing business as: (*Circle One*): An Individual A Partnership A Corporation

Business Address: _____

Telephone No.: _____ Fax No.: _____

E-Mail Address: _____

License Number: _____ Class & Expiration Date: _____

List of Subcontractors

The bidder shall herein set forth the name and location of the place of business of each subcontractor who will perform work or labor or render services to the bidder in or about the construction of the work in an amount in excess of one-half of one percent of the bidder's total bid, and the portion of the work which will be done by each subcontractor (see Item 34 of the General Provisions). Attach additional sheets, if necessary.

Project: **7th STREET BALL PARK RESTROOM**

The following work will be performed (or provided) by the following subcontractors, and coordinated by bidder:

<u>Company Name</u>	<u>Address</u>	<u>License No.</u>	<u>Section of Work</u>

Equal Employment Opportunity

Contractor hereby certifies that bidder and subcontractors

- Have
- Have 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, have 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 part of the bid. Signing this bid on the signature portion thereof shall also constitute signature of these certifications.

Non-Collusion Affidavit
PUBLIC CONTRACT CODE 7106

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.

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, and 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 judgment 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 to an additional sheet of paper and include with the bid.

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

NPDES/MS4 Compliance Certification

All construction projects within the City limits must comply with the National Pollutant Discharge Elimination System (NPDES) storm water regulation adopted by the EPA and the Phase II Small Municipal Separate Storm Sewer System (MS4) General Permit requirements, regardless of size.

The City is required under these permits to provide information to Contractors performing work within City limits about training opportunities to assist in managing potential pollutants from construction –related activities, selection, installation, implementation, and maintenance of Best Management Practices (BMPs), as well as overall program compliance. The City has provided such information and helpful links on their website at <http://www.losbanos.org/city-government/departments/public-works/>, under the Storm Water Management Plan tab.

The Bidder acknowledges that they are aware of the necessity to be in compliance with the NPDES and MS4 permits while working within City limits, and that information regarding such is available on the City's website.

Note: The above certifications are part of the bid. Signing this bid on the signature portion thereof shall also constitute signature of these certifications.

**Bid Schedule
For
7th STREET BALL PARK RESTROOM**

Bidder agrees to perform all the work described in the Contract Documents for the following unit and lump sum prices and understands that the quantity of work shown is approximate only. The schedule shall be completed by the bidder with the unit and lump sum prices entered in numerals. The extensions shall be made by the bidder. In case of discrepancy between the unit prices and the extension thereof, the unit price shall be considered as correct when evaluating bids.

ITEM NO.	ITEM	QUANTITY AND UNIT	UNIT PRICE	AMOUNT
1	General Conditions (Max 2.5%)	1 LS	\$	\$
2	Mobilization/Demobilization (Max 4%)	1 LS	\$	\$
3	Concrete pavement with Base Rock	2,803 SF	\$	\$
4	Concrete Accessible Ramp	2 EA	\$	\$
5	Sub-grade Preparation	1 LS	\$	\$
TOTAL:			\$	

Note: The representations made herein are made under penalty of perjury. Any information contained in the bid which is proven false shall be considered nonresponsive and this bid shall be rejected.

Bid Bond

We, _____

as Contractor, and _____

as Surety, jointly and severally, bind ourselves, our heirs, representatives, successors and assigns, as set forth herein, to the **City of Los Banos** (herein called "Owner") for payment of the penal sum of _____

_____ Dollars (\$_____),

lawful money of the United States. Contractor has submitted the accompanying bid proposal

for the construction of: **7th STREET BALL PARK RESTROOM**

If the Contractor is awarded the contract and enters into a written agreement, in the form prescribed by the Owner, at the price designated by Bid Schedule, and files a payment bond and performance bond with the Owner, or substitute security in lieu thereof, in the time and manner specified by the Owner, and carries all insurance in type and amount which conforms to the General Provisions, Special Provisions, and Technical Specifications in these Contract Documents and furnishes required certificates and endorsements thereof, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Forfeiture of this bond, or any deposit made in lieu thereof, shall not preclude the Owner from seeking all other remedies provided by law to cover losses sustained as a result of the Contractor's failure to do any of the foregoing.

Contractor and Surety agree that if the Owner is required to engage the services of an attorney in connection with the enforcement of this bond, each shall pay Owner's reasonable attorney's fees incurred with or without suit.

Executed on _____, 20____

Contractor

(Seal if Corporation)

By: _____

Title _____

[SIGNATURE SHEET CONTINUES ONTO NEXT PAGE]

Any claims under this bond may be addressed to:

_____ (name and address of Surety)

_____ (name and address of Surety's agent for service of process in California, if different from above)

_____ (phone number of Surety's agent in California)

(Attach Acknowledgment)

Surety

By _____
(Attorney-in-Fact)

Notice: No substitution or revision to this bond form will be accepted. Sureties must be authorized to do business in and have an agent for service of process in California.

All bond forms must be acknowledged before a Notary Public by both the Contractor and the Surety. Attorneys-in-fact who sign bond forms must file with each bond a certified and effective dated copy of their power of attorney.

Agreement

SAMPLE

Note: Particulars left blank in this sample will be filled with project specific information as outlined in these bid documents.

THIS Agreement is dated as of the _____ day of _____ in the year 20__ by and between the **City of Los Banos, a California municipal corporation** ("Owner") and [ENTER NAME AND TYPE OF ENTITY] ("Contractor").

Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

1. WORK. Contractor shall complete the work indicated in Owner's Contract Documents entitled "7th STREET BALLPARK RESTROOM."

The work is generally described as follows:

The major work consists of the sub-grade pad preparation of a 24' x 26'6" area (by contractor) for the placement of a pre-fabricated modular restroom building (set in place by Public Restroom Company); the installation of approximately 2,803 square feet of sidewalk; and two (2) each concrete ADA ramps with truncated domes. The sub-grade pad will be prepared per the requirements provided in the Reference section of the Contract Documents.

- Contractor shall furnish all of the materials, supplies, tools, equipment, labor and other services necessary for the construction of the pad preparation, ADA ramps, and sidewalks.
- Compaction testing will be performed by Owner.
- All utilities will be installed by Owner.
- Modular restroom building will be installed by Public Restroom Company/Owner.
- Demolition of existing concrete ramps will be performed by Owner.

2. CONTRACT TIME. Contractor shall commence the work required by the Contract Documents within 10 calendar days after the date of the Notice to Proceed and will complete the same within the time period set forth in the bid, unless the period for completion is extended otherwise by the Contract Documents.

3. LIQUIDATED DAMAGES. Owner and Contractor recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the work is not completed within the time specified in Paragraph 2 herein, plus any extensions thereof allowed in accordance with Paragraph 21, Time for Completion and Liquidated Damages, of the General Provisions. The parties also recognize the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by Owner if the work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay Owner Eight Hundred Dollars (\$ 800.00) for each day that passes after the time specified in Paragraph 2 herein.

4. CONTRACT PRICE. Owner shall pay Contractor for completion of the work in accordance with the Contract Documents in current funds the amount set forth in the Bid Schedule(s). The Contractor agrees to perform all of the work described in the Contract Documents for the unit and lump sum prices set forth in the Bid Schedule(s).

5. PAYMENT PROCEDURES. Contractor shall submit applications for payment in accordance with Paragraph 24, Progress Estimates, of the General Provisions. Applications for payment will be processed by Owner as provided in the General Provisions.

6. CONTRACT DOCUMENTS. The Contract Documents which comprise the entire agreement between Owner and Contractor concerning the work consists of this Agreement and the following attachments to this Agreement:

- (A) Advertisement for Bids
- (B) Information for Bidders
- (C) Bid
- (D) Bid Bond
- (E) Agreement
- (F) Payment Bond
- (G) Performance Bond
- (H) Notice of Award
- (I) Notice to Proceed
- (J) Change Order
- (K) General Provisions
- (L) Special Provisions
- (M) Technical Specifications prepared by O'Dell Engineering entitled "7th STREET BALL PARK RESTROOM", dated December 14, 2018.
- (N) Drawings prepared by O'Dell Engineering, five (5) sheets, numbered CS, L1.0, L1.1, L2.0, L2.1.
- (O) Addenda
No. _____, dated _____ 20__
No. _____, dated _____ 20__

There are no Contract Documents other than those listed in this Paragraph 6. The Contract Documents may only be amended by change order as provided in Paragraph 19, Changes in the Work, of the General Provisions.

7. MISCELLANEOUS.

A. Terms used in this Agreement which are defined in Paragraph 1 of the General Provisions will have the meanings indicated in the General Provisions.

B. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

C. Owner and Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

D. The Laws of the State of California shall govern this Agreement. Venue is Merced County. The provisions of this paragraph shall survive expiration or other termination of this Agreement regardless of the cause of such termination.

E. All bids become property of the Owner. All bids, including the accepted bid and any subsequent contract become public records per the requirements of the California Government Code, Sections 6250-6270, "California Public Records Act". Proprietary material must be clearly marked as such. Pricing and service elements of the successful bid are not consider proprietary information. The Owner will treat all information submitted in a bid as available for public inspection once the Owner has selected a contractor. If you believe that you have a legally justifiable basis under the California Public Records Act (Government Section 6250 et. seq.) for protecting the confidentiality of any information contained within your bid, you must identify any such information, together with the legal basis of your claim in your bid. In order for the Owner to assess confidentiality of any such information on your behalf, you must request, execute and submit an Owner-prepared written agreement to defend and indemnify the Owner for any liability, costs, and expenses incurred in asserting such confidentiality as part of your bid. The final determination as to whether the Owner will assert your claim of confidentiality on your behalf shall be sole discretion of the Owner.

F. This Agreement shall not be interpreted in favor of any Party by virtue of said Party not having prepared this Agreement.

G. If any time period provided for in this Agreement ends on the day other than a Business Day, the time period shall be extended to the next Business Day.

IN WITNESS WHEREOF, Owner and Contractor have caused this Agreement to be executed the day and year first above written.

Date

By: _____
Authorized Representative of Owner

Title: _____

ATTEST:

Lucille L. Mallonee
City Clerk

APPROVED AS TO FORM:

William A. Vaughn
City Attorney

Date

By: _____
Authorized Representative of Contractor

Title: _____

(Seal if Corporation)

(Attach Notarized Acknowledgement for Authorized Representative of Contractor)

Certificate of Contractor

I, _____
(Name)

certify that I am a/the _____
(Title)

designate sole proprietor, partner in partnership, or corporate officer with Contractor License
Number _____ in the entity named as Contractor in the foregoing Agreement. I
hereby expressly certify that the name of the entity to which I am associated is

(Company Name)

that this entity is in good standing and has complied with all applicable laws and regulations, and
that I have been expressly authorized by the proper parties in this entity to execute the Agreement
on behalf of the above-named entity.

ATTEST:

Signature: _____

This form must be acknowledged before a Notary Public. The acknowledgement must be attached.

Payment Bond

We, _____

as Contractor, and _____

as Surety, jointly and severally, bind ourselves, our heirs, representatives, successors and

assigns, as set forth herein, to the **City of Los Banos** (herein called "Owner") for payment

of the penal sum of _____

_____ Dollars (\$ _____),

lawful money of the United States. Owner has awarded the contract and entered into an

Agreement with the Contractor for the construction of:

7th STREET BALLPARK RESTROOM

If Contractor or any of his subcontractors fails to pay any of the persons named in Section 3181 of the California Civil Code, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract or during the one-year guarantee period, or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the Contractor and his subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to such work and labor, then Surety will pay the same in an amount not exceeding the sum specified above, and also will pay, in case suit is brought upon this bond, such reasonable attorney's fees as shall be fixed by the court.

This bond shall insure to the benefit of any of the persons named in Section 3181 of the California Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Surety agrees that no change, extension of time, alteration, or addition to the terms of the Contract, or the work to be performed, or the Provisions shall in any way affect its obligation on this bond, and it does hereby waive notice thereof.

Contractor and Surety agree that should Owner become a party to any action on this bond that each will also pay Owner's reasonable attorney's fees incurred therein in addition to the above sum.

[SIGNATURE SHEET BEGINS ON NEXT PAGE]

Executed in four original counterparts on: _____, 20____

Contractor

(Seal if Corporation)

By: _____

Title: _____

(Attach Acknowledgment of Authorized Representative of Contractor)

Any claims under this bond may be addressed to:

_____ (name and address of Surety)

_____ (name and address of Surety's agent for service of process in California, if different from above)

_____ (phone number of Surety's agent in California)

(Attach Acknowledgment)

Surety

By _____
(Attorney-in-Fact)

Notice: No substitution or revision to this bond form will be accepted. Sureties must be authorized to do business in and have an agent for service of process in California.

All bond forms must be acknowledged before a Notary Public by both the Contractor and the Surety. Attorneys-in-fact who sign bond forms must file with each bond a certified and effective dated copy of their power of attorney.

Performance Bond

We, _____

as Contractor, and _____

as Surety, jointly and severally, bind ourselves, our heirs, representatives, successors and

assigns, as set forth herein, to the **City of Los Banos** (herein called "Owner") for payment

of the penal sum of _____

_____ Dollars (\$ _____),

lawful money of the United States. Owner has awarded the contract and entered into an

Agreement with the Contractor for the construction of:

7th STREET BALLPARK RESTROOM

The condition of this obligation is such that if the Contractor shall in all things abide by and well and truly keep and perform the covenants, and agreements in the said Contract Agreement, and any alteration thereof made as therein provided, on his part to be kept and performed at the time and in the manner therein specified, and shall faithfully fulfill the one-year guarantee of all materials and workmanship, and shall indemnify and save harmless the Owner and the Owner's Representative, and their consultants, and each of their directors, officers, employees and agents, as therein stipulated, this obligation shall become null and void, otherwise, it shall be and remain in full force and effect.

This Performance Bond shall remain in full effect during the one-year guaranty period following the completion of the work.

Surety agrees that no change, extension of time, alteration, or addition to the terms of the General Provisions, Special Provisions, and Technical Specifications in these Contract Documents shall in anyway affect its obligation in the bond, and it does hereby waive notice thereof.

Contractor and Surety agree that if the Owner is required to engage the services of an attorney in connection with the enforcement of this bond, each shall pay Owner's reasonable attorney's fees incurred with or without suit, in addition to the above sum.

[SIGNATURE SHEET BEGINS ON NEXT PAGE]

Executed in four original counterparts on : _____, 20____

Contractor

(Seal if Corporation)

By: _____

Title: _____

(Attach Acknowledgment of Authorized Representative of Contractor)

Any claims under this bond may be addressed to:

_____ (name and address of Surety)

_____ (name and address of Surety's agent for service of process in California, if different from above)

_____ (phone number of Surety's agent in California)

(Attach Acknowledgment)

Surety

By _____
(Attorney-in-Fact)

Notice: No substitution or revision to this bond form will be accepted. Sureties must be authorized to do business in and have an agent for service of process in California.

All bond forms must be acknowledged before a Notary Public by both the Contractor and the Surety. Attorneys-in-fact who sign bond forms must file with each bond a certified and effective dated copy of their power of attorney.

Notice of Award

To: _____

Date: _____
Project: _____

The Owner has considered the bid submitted by you for the above described work dated _____, 20____.

You are hereby notified that your bid has been accepted for the unit and lump sum prices set forth in the Bid Schedule totaling \$_____.

You are required by the Information for Bidders to execute the Agreement and furnish the required Contractor's performance bond and payment bond within ten (10) calendar days for the date of this Notice to you.

Before the Notice to Proceed can be issued, all required certificates of insurance, as stated in Section 29 of the General Provisions, and a copy of your Los Banos Business License must be submitted.

If you fail to execute said Agreement and to furnish said bonds within ten days from the date of this Notice, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your bid as abandoned and as a forfeiture of your Bid Bond. The Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award to the Owner.

Owner

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above Notice of Award is hereby acknowledged by

(Name of Contractor)

this _____ day of _____, 20____

By _____

Title _____

Notice to Proceed

To: _____

Date: _____
Project: _____

You are hereby notified to commence work in accordance with the Agreement dated _____, 20_____, on or before _____20_____, and you are to complete the work by _____, 20_____.

You are required to return an acknowledged copy of this Notice to Proceed to the Owner.

Owner

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above Notice to Proceed is hereby acknowledged by

(Name of Contractor)

this _____ day of _____, 20_____

By _____

Title _____

Change Order

Order No. _____

Date: _____

Agreement Date: _____

Project: _____

Owner: _____

Contractor: _____

The following changes are hereby made to the Contract Documents:

Justification:

Change to Contract Price:

Original Contract Price: \$ _____

Current Contract Price adjusted by previous
Change Order: \$ _____

The Contract Price due to this Change Order
will be (increased) (decreased) by: \$ _____

The new Contract Price including this
Change Order will be: \$ _____

Change to Contract Time:

The Contract Time will be (increased) (decreased) by
calendar days. _____

The date for completion of all work will be: _____

The undersigned hereby agrees to the above-described amendment of the Agreement.

Contractor

Owner

This Change Order shall become a part of the Contract Documents only upon signature of both parties.

General Provisions

1. Terms and Definitions

Wherever used in the Contract Documents, the following terms shall have the meanings indicated, which shall be applicable to both the singular and plural thereof:

Addenda - Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the Contract Documents, by additions, deletions, clarifications or corrections.

ANSI – American National Standards Institute, current designation as of the Bid date unless otherwise indicated.

ASME – American Society of Mechanical Engineers, current designation as of the Bid date unless otherwise indicated.

ASTM – American Society for Testing Materials, current designation as of the Bid date unless otherwise indicated.

AWWA – American Water Works Association, current designation as of the Bid date unless otherwise indicated.

Bid - The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the work to be performed.

Bidder - Any person, firm or corporation submitting a bid for the work.

Bonds - Bid, Performance and Payment Bonds and other instruments of security, furnished by the Contractor and his surety in accordance with the Contract Documents.

Change Order - A written order to the Contractor authorizing an addition, deletion or revision in the work within the general scope of the Contract Documents, or authorizing an adjustment in the contract price or contract time.

Completion - That date as certified by the Engineer when the construction of the project or a specified part thereof is sufficiently completed, in accordance with the Contract Documents, so that the project or specified part can be utilized for the purposes for which it is intended.

Contract Documents - the contract, including Advertisement for Bids, Information for Bidders, Bid, including Bid Representations and Certifications, Bid Bond, Agreement, Payment Bond, Performance Bond, Notice of Award, Notice to Proceed, Change Order, General Provisions, Special Provisions, Technical Specifications, Drawings, and Addenda.

Contract Price – The total monies payable to the Contractor under the terms and conditions of the Contract Documents.

Contract Time – The number of calendar or working days as stated in the Contract Documents for the completion of the work.

Contractor – The person, firm or corporation with whom the Owner has executed the Agreement.

Drawings – The part of the Contract Documents which shows the characteristics and scope of the work to be performed and which have been prepared or approved by the Engineer.

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

Field Order – A written order effecting a change in the work not involving an adjustment in the contract price or an extension of the contract time, issued by the Engineer to the Contractor during construction.

IEEE – Institute of Electrical and Electronics Engineers, current designation as of the bid date unless otherwise indicated.

NEMA – National Electrical Manufacturers Association, current designation as of the bid date unless otherwise indicated.

Notice of Award – The written notice of the acceptance of the Bid from the Owner to the successful bidder.

Notice to Proceed – Written communication issued by the Owner to the Contractor authorizing him to proceed with the work and establishing the date of commencement of the work.

Owner – City of Los Banos.

Production Data – All illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate a material, product or system for some portion of the work.

Project – The undertaking to be performed as provided in the Contract Documents.

REA – Rural Electrification Association, current designation as of the bid date unless otherwise indicated.

Samples – Physical examples which illustrate materials, equipment or workmanship, and establish standards by which the work will be judged.

Shop Drawings – All drawings, diagrams, schedules and other data which are specifically prepared for the work by the Contractor, a subcontractor, manufacturer, supplier or distributor, to illustrate some portion of the work.

Specifications – A part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.

Standards - City of Los Banos Standard Specifications, The Standard Specifications of the Department of Transportation of the State of California (Caltrans) dated 2010 and subsequent updates to that 2010 edition, and The Standard Plans of the Department of Transportation of the State of California (Caltrans) dated 2010 and subsequent updates to this 2010 edition.

Subcontractor – An individual, firm or corporation having a direct contract with the Contractor or with any other subcontractor for the performance of a part of the work at the site.

Supplier – Any person or organization who supplies materials or equipment for the work, including that fabricated to a special design, but who does not perform labor at the site.

Work – All labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in the project.

Written Notice – Any notice to any party of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at his last given address, or delivered in person to said party or his authorized representative on the work.

2. Order of Precedence of Contract Documents

In resolving conflicts resulting from errors or discrepancies in any of the Contract Documents, the order of precedence shall be as follows:

1. Permits from other agencies as may be required by law
2. Change orders
3. Agreement
4. Addenda
5. Contractor's Bid (Bid Form)
6. Advertisement for Bids
7. Information for Bidders
8. Supplementary General Conditions
9. General Provisions
10. Special Provisions
11. Technical Specifications
12. Drawings
13. Referenced Standard Specifications

If the conflicts cannot be resolved by the precedence prescribed above, the most stringent requirements shall prevail.

3. Venue

Contractor, and any subcontractor, supplier and any other person or organization performing any part of work, agree that each of them will waive jurisdiction and venue and shall submit to the jurisdiction of the courts of the State of California in the County of Merced, regardless of residence or domicile, with respect to any actions or suits at law or in equity arising under or related to the bidding, award or performance of the work or with regard to any matter whatsoever arising out of or relating to the validity, construction, interpretation or reinforcement of the Agreement as against Owner or any of their consultants, and/or any of their respective directors, officers, employees, representatives or agents.

4. Giving Notice

Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

5. Cumulative Remedies

The duties and obligations imposed by these General Provisions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon Contractor by the General Provisions and all of the rights and remedies available to Owner thereunder are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by laws or regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

6. Non-discrimination

During the performance of the project, Contractor and subcontractors shall not unlawfully discriminate

against any employee or applicant for employment because of race, color, ancestry, religion, sex, national origin, marital status, age, medical condition (cancer related), physical handicap (including AIDS), or sexual orientation. Equal employment extends, but is not limited to recruitment, compensation, benefits, layoff, termination, and all other conditions of employment. Contractor and subcontractors shall ensure that the evaluation/treatment of their employees and applicants for employment are free of such discrimination. Contractor and subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Government Code, Section 12900 et seq.) and the applicable regulations promulgated there under (California Administrative Code, Title 2, Section 7285.0 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code, Section 12900, set forth in Chapter 5 of Division 4 of Title 2 of the California Administrative Code and incorporated into this agreement by reference and made a part hereof as if set forth in full.

Contractor and any subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.

Contractor shall include the nondiscrimination and compliance provisions of the clause in all subcontracts to perform work under the contract.

Contractor shall grant access by representative of the Department of Fair Employment and Housing and the Owner upon reasonable notice at any time during normal business hours, but in no case less than twenty-four (24) hours notice, to such of its books, records, accounts, other sources of information and its facilities as said Owner shall require to ascertain compliance with this clause.

7. Non-discrimination of the Disabled

The Owner will not aid or perpetuate discrimination against a qualified disabled individual by funding as an agency, organization, or person that discriminates on the basis of handicap in providing aid, benefit, or service to beneficiaries of the program or activity. The Owner is committed to provide access to all Owner services, programs, and meetings open to the public for people with disabilities. In this regard the Owner and all of its vendors and Contractor will take all reasonable steps to ensure that disabled individuals have the maximum opportunity for the same level of aid, benefit, or service as any other individual.

8. Additional Instructions and Detail Drawings

The Contractor may be furnished additional instructions and detail drawings by the Engineer, as necessary to carry out the work required by the Contract Documents. The additional drawings and instructions thus supplied will become a part of the Contract Documents. The Contractor shall carry out the work in accordance with the additional detail drawings and instructions.

9. Schedules, Reports and Records

The Contractor shall submit to the Owner such schedules, reports, records and other data as the Owner may request concerning work performed or to be performed.

Prior to the first partial payment estimate, the Contractor shall submit schedules showing the order in which he proposed to carry on the work, including dates at which he will start the various parts of the work, estimated date of completion of each part and, as applicable:

- A. A detailed cost breakdown of the work under each bid item awarded. The breakdown, after receiving favorable review by the Engineer, will become the basis for partial payment determination. Elements of work shall be grouped by building, structure, pipeline, system, etc. Within each grouping, work shall be itemized by readily measurable quantities of work completed in place. For example, concrete should be in units of cubic yard including form work and reinforcing steel. Mobilization costs, bond and insurance costs, and overhead costs shall not be prorated over items of work. In the event the cost breakdown is not favorably reviewed by the Engineer, another cost breakdown shall be submitted that is mutually acceptable to the Contractor and the Engineer.
- B. The dates at which special detail drawings will be required; and respective dates for

submission of shop drawings, the beginning of manufacture, the testing and the installation of materials, supplies and equipment. The Contractor shall also submit a schedule of payments that he anticipates he will earn during the course of the work.

10. Drawings and Specifications

The intent of the drawings and specifications is that the Contractor shall furnish all labor, materials, tools, equipment, and transportation necessary to complete the project in an acceptable manner, ready for use, occupancy or operation by the Owner.

In case of conflict between the drawings and specifications, the specifications shall govern. Figure dimensions on drawings shall govern over scale dimensions and detailed drawings shall govern over general drawings.

Any discrepancies found between the drawings and specifications and site condition or any inconsistencies or ambiguities in the drawings or specifications shall be immediately reported to the Engineer, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. Work done by the Contractor after his discovery of such discrepancies, inconsistencies or ambiguities shall be done at the Contractor's risk.

The Owner will furnish to the Contractor, free of charge, six copies of drawings and specifications for the work. The Contractor shall keep one copy of all current drawings and specifications on the job site, in good order, available to the Engineer and his representatives.

All drawings, specifications, and copies thereof furnished by the Owner are the property of the Owner. They are not to be used on other work, and, with the exception of the signed contract set, are to be returned to the Owner on request, at the completion of the work.

11. Shop Drawings, Production Data and Samples

The Contractor shall review, approve and submit to the Engineer all Shop Drawings, Production Data and Samples as may be necessary for prosecution of the Work and as required by the Contract Documents. The Contractor shall review and approve all Shop Drawings, Production Data and Samples prior to submitting them to the Engineer. By approving and submitting Shop Drawings, Production Data and Samples, the Contractor represents that he has determined and verified all materials, measurements and criteria related thereto, and that he has checked and coordinated the information contained within such submittals with the requirements of the Contract Documents. Any Shop Drawing, Production Data or Sample submitted to the Engineer without having been approved by the Contractor will be returned unreviewed to the Contractor.

For each item where shop drawings, production data or samples are required, the Contractor shall submit a minimum of six approved sets, hard copies, or one set, electronically. The Engineer shall review all shop drawings, production data and samples and retain three sets after his review. The remaining sets shall be returned to the Contractor with actions defined as follows:

- A. NO EXCEPTIONS TAKEN – Accepted subject to its compatibility with future submissions and additional partial submissions for portions of the work not covered in this submission.
- B. MAKE CORRECTIONS NOTED – Same as NO EXCEPTIONS TAKEN except that minor corrections as noted shall be made by the Contractor.
- C. REVISE AND RESUBMIT – Rejected because of major inconsistencies or errors which shall be resolved by the Contractor prior to subsequent review by the Engineer.
- D. REJECTED – Submitted material does not conform to Contract Documents in major respect.

The Engineer's review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. It shall not include review of quantities, dimensions, weights or gauges, fabrications processes, construction methods, coordination with other trades, or construction safety precautions, all of which are the responsibility of the Contractor.

The Engineer shall not be responsible for any deviations from the Contract Documents not brought to the attention of the Engineer in writing by the Contractor and acknowledged in writing by the Engineer.

Portions of the work requiring shop drawings, production data and samples shall not begin until the submission has been favorably reviewed by the Engineer. A copy of each favorably reviewed shop drawing, product data and sample shall be kept in good order by the Contractor at the site and shall be available to the Engineer.

12. Materials, Services and Facilities

It is understood that, except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the work within the specified time.

Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the work. Stored materials and equipment to be incorporated in the work shall be located so as to facilitate prompt inspection.

Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.

Materials, supplies and equipment shall be in accordance with samples submitted by the Contractor and reviewed by the Engineer.

Materials, supplies or equipment to be incorporated into the work shall not be purchased by the Contractor or any subcontractor subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

13. Inspection and Testing

All materials and equipment used in the construction of the project shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the Contract Documents.

The Contractor shall provide, at his expense, the necessary testing and inspection services required by the Contract Documents, unless otherwise provided. (See Section 6 of the Special Provisions)

The Owner shall provide all other inspections and testing services not required by the Contract Documents. If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction specifically require any work to be inspected, tested, approved by someone other than the Contractor, the Contractor will give the Engineer timely notice of readiness. The Contractor will then furnish the Engineer the required certificates of inspection, testing or approval.

Neither observations by the Engineer nor inspections, tests or approvals by persons other than the Contractor shall relieve the Contractor from his obligations to perform the Work in accordance with the requirements of the Contract Documents.

The Engineer and his representatives will at all times have access to the Work. In addition, authorized representatives and agents of the Owner and appropriate Federal or State agencies shall be permitted to inspect all work, material, payrolls, records of personnel, invoices of materials, and other relevant data and records. The Contractor will provide proper facilities for such access and observation of the Work and also for any inspection or testing thereof.

If any work is covered contrary to the written request of the Engineer, it must, if requested by the Engineer be uncovered of his observation and replaced at the Contractor's expense.

If any work has been covered which the Engineer has not specifically requested to observe prior to it being covered, or if the Engineer considers it necessary or advisable that covered work be inspected or tested by others, the Contractor, at the Engineer's request, will uncover expose or otherwise make available for observation, inspection or testing as the Engineer may require, that portion of the work in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such work is

not found to be defective, the Contractor will be allowed an increase in the contract price of an extension of the contract time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate change order shall be issued.

14. Substitutions

Whenever a material, article or piece of equipment is identified on the Drawings or Specifications by reference to brand name or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance of other salient requirements and that other products of equal capacities, quality and function shall be considered. The Contractor may recommend the substitution of a material, article or piece of equipment of equal substance and function for those referred to in the Contract Documents by reference to brand name or catalogue number, and if, in the opinion of the Engineer, such material, article, or piece of equipment is of equal substance and function to that specified, the Engineer may approve its substitution and use by the Contractor. The Contractor warrants that if substitutes are approved, no major changes in the function or general design of the project will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the Contractor without a change in the contract price or contract time.

15. Patents

The Contractor shall pay all applicable royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for any such loss when a particular process, design, or the product of a particular manufacturer or manufacturers is specified, but if the Contractor has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Engineer.

16. Surveys, Permits and Regulations

The Engineer will furnish lines and grades as required for the construction of the work. The Contractor shall make a general check of all lines, dimensions and elevations and shall make all necessary rechecks during the progress of the work to avoid errors in construction. The Contractor shall be responsible for proper dimensions and fittings of all items of work being performed by him. Should any discrepancy be found in lines, dimensions or elevations, they shall be reported to the Engineer immediately.

The Contractor shall protect all existing property and survey monuments, including survey control monuments for this work. The Contractor is responsible for protecting and preserving survey monuments and other survey markers. Any survey monuments damaged as a direct or indirect result of construction activities shall be re-established by a duly licensed land surveyor at the Contractor's sole expense. A corner record shall be filed in accordance with State law for any reset monuments at the Contractor's sole expense.

The Contractor shall carefully preserve benchmarks, reference points and stakes and, in case of willful or careless destruction, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

Permits and licenses of a temporary nature necessary for the prosecution of the work shall be secured and paid for by the Contractor. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Owner, unless otherwise specified. The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the Work as drawn and specified. If the Contractor observes that the Contract Documents are at variance therewith, he shall promptly notify the Engineer in writing, and any necessary changes shall be adjusted as provided in Paragraph 19 of these General Provisions, Changes in the Work.

17. Protection of Work, Property and Persons

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work. He will take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to all employees on the work and

other persons who may be affected thereby, all the work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. He shall erect and maintain, as required by the conditions and progress of the work, all necessary safeguards for safety and protection. He shall notify owners of adjacent utilities when prosecution of the work may affect them. The Contractor shall remedy all damages, injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, except damage or loss attributable to the fault of the Contract Documents or to the acts or omissions of the Owner or the Engineer or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the Contractor.

In emergencies affecting the safety of persons or the work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Engineer or Owner, shall act to prevent threatened damage, injury or loss. He will give the Engineer prompt written notice of any significant changes in the work or deviations from the Contract Documents caused thereby, and a change order shall thereupon be issued covering the changes and deviations involved.

18. Supervision by Contractor

The Contractor shall supervise and direct the work. He shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor shall employ and maintain on the work, a qualified supervisor or superintendent who shall have been designated in writing by the Contractor as the Contractor's representative at the site. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the work.

19. Changes in the Work

The Owner may at any time, as the need arises, order changes within the scope of the work without invalidating the Agreement. If such changes increase or decrease the amount due under the Contract Documents, or in the time required for performance of the work, an equitable adjustment shall be authorized by written change order.

The Engineer may also, at any time, by issuing a field order, make changes in the details of the work. The Contractor shall proceed with the performance of any changes in the work so ordered by the Engineer unless the Contractor believes that such field order entitles him to a change in contract price or contract time, or both, in which event he shall give the Engineer written notice thereof within seven (7) days after the receipt of the ordered change, and the Contractor shall not execute such changes pending the receipt of an executed change order or further instruction from the Owner.

20. Changes in Contract Price

The contract price may be changed only by a written change order. The value of any work covered by a change order or of any claim for increase or decrease in the contract price shall be determined by one or more of the following methods in the order of precedence listed below:

- A. Unit prices previously approved.
- B. An agreed lump sum.
- C. If a lump sum or unit price cannot be mutually agreed upon, the Contractor shall be entitled to the sum of the following costs of doing the extra work:
 1. Direct Labor Costs. Charges for cost of all the labor furnished and used by the Contractor shall be made for manual classifications up to and including general foreman. It will not include charges for assistant superintendents, superintendents, office personnel,

timekeepers, and maintenance and mechanics. The time charged to extra work shall be subject to the daily approval of the Engineer and evidence of such daily approval shall be submitted with the billing. Labor rates used to calculate the costs shall be those so designated in the Advertisement for Bids. No time or charges will be allowed, except when the men are actually engaged in the proper, efficient, and diligent performance or completion of the extra work as authorized. Overtime shall not be worked without prior approval by the Engineer.

2. Equipment Costs. Charges for the rental and operation of the equipment furnished and used by the Contractor shall be made for all prime construction and automotive equipment. It will not include charges for equipment or tools with a new cost of \$1,000.00 or less. Equipment time charges must be subject to the daily approval submitted with the billing. The equipment rental and operation rates used shall be those agreed upon by the Engineer and the Contractor prior to commencement of the extra work. No time or charges will be allowed except when equipment is actually being used for the proper and efficient performance or completion of the extra work as authorized.

3. Material Costs. Charges for the cost of materials furnished by the Contractor shall be made providing such furnishing was specifically authorized in the extra work order and the actual use verified by the Engineer. Charges must be net cost to the Contractor delivered at the job, and vendor's invoice must accompany the billing along with verification of use of such materials by the Engineer.

4. Tools, Supplies, Overhead, Supervision and Profit. A charge for tools, supplies, overhead, supervision and profit will be allowed in the amount of 15% of the Total Direct Labor Costs, and Material Costs, as defined above.

Any extra work performed hereunder shall be subject to all of the provisions of the contract and the Contractor's sureties shall be bound with reference thereto as under the Contract.

21. Time for Completion and Liquidated Damages

The date of beginning and the time for completion of the work are essential conditions of the Contract Documents and the work embraced shall be commenced on a date specified in the Notice to Proceed.

Time is of the essence in this Agreement. The Contractor shall proceed with the work at such a rate of progress to ensure full completion within the contract time. It is expressly understood and agreed, by and between the Contractor and the Owner, that the contract time for the completion of the work described herein is a reasonable time.

The parties hereto agree that it is extremely difficult and impractical in this case to determine the actual damages the Owner will suffer if the Contractor fails to complete the work within the contract time and for said reason, if the Contractor shall fail to complete the work within the contract time, or extension of time granted by the Owner, then the Contractor will pay to the Owner the amount for liquidated damages as specified in the Agreement for each calendar day that the Contractor shall be in default after the time stipulated in the Contract Documents. The time for completion of the work shall be extended, and the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due to the following, and the Contractor has promptly given written notice of such delay to the Engineer:

- A. To any preference, priority or allocation order duly issued by the Owner.
- B. To unforeseeable caused beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God or of the public enemy, acts of the Owner, acts of another contractor in the performance of a contract with the Owner, fires, floods, epidemics quarantine restrictions, strikes, freight embargoes, and climatic conditions which, in the opinion of the Engineer, make prosecution of the work unreasonably difficult.
- C. To any delays of subcontractors occasioned by any of the causes specified in the above

paragraphs.

22. Correction of Work

The Contractor shall promptly remove from the premises all work rejected by the Engineer for failure to comply with the Contract Documents, whether incorporated in the construction or not, and the Contractor shall promptly replace and re-execute the work in accordance with the Contract Documents and without expense to the Owner and shall bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement.

23. Suspension of Work, Termination and Delay

The Owner may, at any time and without cause, suspend the work or any portion thereof for a period of not more than ninety days, or such further time as agreed upon by the Contractor, by written notice to the Contractor and the Engineer, which notice shall fix the date on which work shall be resumed. The Contractor will resume that work on the date so fixed. The Contractor will be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to any such suspension.

If the Contractor is adjudged as bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the Contractor or for any of his property, or if he files a petition to take advantage of any debtor's act or to reorganize under the bankruptcy or applicable laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he fails to make prompt payments to subcontractors or for labor, materials or equipment or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction over the work or if he disregards the authority of the Engineer, or if he otherwise violates any provision of the Contract Documents, then the Owner may, without prejudice to any other right or remedy and after giving the Contractor and his surety a minimum of ten (10) days from delivery of a written notice, terminate the services of the Contractor, and finish the work by whatever method he may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance, the Contractor shall pay the difference to the Owner. Such costs incurred by the Owner will be determined by the Engineer and incorporated in a change order.

Where the Contractor's services have been so terminated by the Owner, said termination shall not affect any right of the Owner against the Contractors then existing or which may thereafter accrue. Any retention or payment of monies by the Owner due the Contractor will not release the Contractor from compliance with the Contract Documents.

After ten (10) days from delivery of a written notice to the Contractor and the Engineer, the Owner may without cause and without prejudice to any other right or remedy, elect to abandon the project and terminate the contract. In such case, the Contractor shall be paid for all work executed and any expense sustained plus reasonable profit.

If, through an act or fault of the Contractor, the work is suspended for a period of more than ninety (90) days by the Owner or under an order of court or other public authority, or the Engineer fails to act on any request for payment within thirty (30) days after it is submitted, or the Owner fails to pay the Contractor substantially the sum approved by the Engineer or awarded by arbitrators within thirty (30) days of its approval and presentation, then the Contractor may, after the (10) days from delivery of a written notice to the Owner and the Engineer stop the work until he has been paid all amounts then due, in which event and upon resumption of the work, change orders shall be issued for adjusting the contract price or extending the contract time or both to compensate for the costs and delays attributable to the stoppage of the work.

24. Progress Estimates

On or about the last day of the calendar month, the Contractor will, except as hereinafter provided, make in writing and certify to the Owner an estimate which, in his opinion, is just and fair of the amount and value of the work completed by the Contractor up to that time in the performance of the contract. In case of work for which unit prices are named in the contract, the estimate shall be computed on the basis of said unit prices. In the case of work for which a lump sum is named in the contract, the Engineer may

use a breakdown of the lump sum price submitted by the Contractor, provided that such breakdown is submitted within 15 calendar days after the execution of the Agreement in a form acceptable to the Engineer. No payment will be made to the Contractor until such schedule has been submitted to and reviewed by the Engineer. To the figure thus arrived at shall be added any amounts due the Contractor for extra work and the amount of any approved claims for extra costs to the date of the progress estimate the retained percentage hereinafter provided for shall be deducted from the total thus computed; and from the remainder, there shall be further deducted any amounts due the Owner from the Contractor for supplies or materials furnished or services rendered and any other amounts that may be due the Owner under the terms of the contract. In preparing estimates for partial payment, consideration shall be given to delivery on the site of pipe, and fittings which will become a part of the finished construction work and for which payment in full has been made by the Contractor, but no consideration will be given to preparatory work done or other materials on hand. From the balance thus determined shall be deducted the amount of all previous payments and the remainder shall constitute the partial estimate for that month. Such partial estimates shall not be required to be made by strict measurement, but may be made by measurement or by estimation or partly by one method and partly by the other and it shall be sufficient if they are approximate only. Partial estimates may be withheld or reduced if, in the opinion of the Engineer, the Contractor is not diligently and efficiently endeavoring to comply with the intent of the Agreement.

25. Progress Payments

The Owner will make payments on account of the contract as follows: Not later than the 30th day of the month following the month in which the contract is awarded, and the 30th day of each calendar month thereafter, the Owner will pay to the Contractor 95% of the amount earned by the Contractor during the preceding month at the rate of prices set forth in the contract, based on the estimate of the Engineer.

The retention will be held by the Owner until 35 days following filing of the Notice of Completion.

26. Prompt Payment

The Contractor shall promptly pay all subcontractors and suppliers within ten (10) days of receipt of any progress payment, final payment or retention paid by the Owner to the Contractor. Contractor shall advise all subcontractors and suppliers that all second-tier subcontractors and suppliers must be paid within then (10) days of their receipt of payment from the Contractor.

27. Acceptance and Final Payment

Upon receipt of written notice from the Contractor that the work is ready for final inspection and acceptance, the Engineer will promptly make such inspection, and when he finds the work acceptable under the contract, and the contract fully performed, he will promptly issue a final certificate, over his own signature, stating that the work required by this contract has been completed. The Owner then shall issue a formal Notice of Completion, and the entire balance found to be due shall be paid to the Contractor by the Owner 35 days from the date of recording by the Owner of the Notice of Completion of all work covered by this contract.

Before issuance of the Notice of Completion, the Contractor shall submit evidence satisfactory to the Owner that all payrolls, material bills, and other indebtedness connected with the work have been paid, or if not paid, then the Contractor shall submit evidence of the status of any unpaid indebtedness.

The making and acceptance of the final payment shall constitute a waiver of all claims by the Owner except the following:

- A. those arising from unsettled liens;
- B. those arising from faulty work appearing within 12 months after the date of filing of the Notice of Completion;
- C. those arising from failure to meet the requirements of the Contract Documents or the specifications; or,

- D. those arising from manufacturers' guarantees.

The acceptance by Contractor of the final payment referred to in this paragraph 27 herein, shall be a release of Owner from all claims of liability to Contractor for anything done or furnished for, or relating to, the work or for any act or neglect of Owner or of any person relating to or affecting the work, except demands against Owner for the remainder, if any, of the amounts kept or retained under the provisions of Paragraph 25, Progress Payments, herein; and excepting pending, unresolved claims.

28. Quantities and Unit Prices

The quantities noted in the schedule are approximation for comparing bids, and no claim shall be made against the Owner for excess or deficiency therein. Payment at the unit prices set forth in the schedule will constitute payment in full for the completed work and will include materials, supplies, labor, tools, machinery, and all other expenditures incident to satisfactory compliance with the contract, unless otherwise specifically provided.

The quantities of work performed will be computed for payment by the Engineer on the basis of measurements taken by the Engineer, and these measurements shall be final and binding.

29. Insurance

The Contractor shall not commence work under this Agreement until he has obtained all the insurance required under this section and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on his subcontract until the insurance required of the subcontractor has been so obtained and approved. All insurance required under this section shall be maintained at the expense of the Contractor continuously during the life of the contract up to the date of acceptance of the work by the Owner.

Commercial General Liability and Automobile Liability Insurance – The Contractor shall provide and maintain the following commercial general liability and automobile liability insurance:

- A. Coverage – Coverage for commercial general liability and automobile liability insurance shall be at least as broad as the following:
1. Insurance Services Office Commercial General Liability coverage (Occurrence Form CG 0001)
 2. Insurance Service Office Form Number CA 0001 (ed. 1/87) covering Automobile Liability, Code 1 (any auto)
- B. Limits – The Contractor shall maintain limits no less than the following:
1. General Liability – Two million dollars (\$2,000,000) per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the project/location (with the ISO CG 2501 or insurer's equivalent endorsement provided to the Owner) or the general aggregate limit shall be twice the required occurrence limit.
 2. Automobile Liability – One million dollars (\$1,000,000) per accident for bodily injury and property damage combine single limit.
- C. Required provisions – The general liability and automobile liability policies are to contain, to be endorsed to contain the following provisions:
1. The Owner and its directors, officers, employees, agents and volunteers are to be covered as insured as respects: liability arising out of activities performed by or on behalf of the Contractor, products and completed operations of the Contractor, premises owned, occupied or used by the Contractor, or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special

limitations on the scope of protection afforded to the Owner and its directors, officers, employees, agents, and volunteers.

2. For any claims related to this work, the Contractor's insurance shall be the primary insurance as respects the Owner and its directors, officers, employees, agents and volunteers. Any insurance, pooled coverage or self-insurance maintained by the Owner and its directors, officers, employees, agents and volunteers shall not contribute to it.
 3. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the Owner and their directors, officers, employees, agents and volunteers.
 4. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
 5. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the Owner.
- D. Deductibles and Self-Insured Retentions – Any deductible or self-insured retention must be declared to and approved by the Owner. At the option of the Owner, either the insurer shall reduce or eliminate such deductibles or self-insured retentions.
- E. Acceptability of Insurers – Insurance is to be placed with insurers having a current A.M. Best's rating of no less than A-: VII or equivalent.

Workers' Compensation and Employer's Liability Insurance – The Contractor and all subcontractors shall cover or insure under the applicable laws relating to workers' compensation insurance, all of their employees working on or about the construction site, regardless of whether such coverage or insurance is mandatory or merely elective under law, and the Contractor shall defend, protect and save harmless the Owner and its directors, officers, employees, agents and volunteers from and against all claims, suits, and actions arising from any failure of the Contractor or any subcontractor to maintain such insurance. Before beginning work, Contractor shall furnish to the Owner satisfactory proof that Contractor has taken out for the period covered by the work under this Contract, full compensation insurance for all persons employed directly by Contractor or through subcontractors in carrying out the work contemplated under this Contract, all in accordance with the "Workers' Compensation and Insurance Act," Division IV of the Labor Code of the State of California and any Acts amendatory thereof.

The Contractor shall provide employer's liability insurance in the amount of, at least, \$1,000,000 per accident for bodily injury and disease.

The Contractor shall provide the Owner with a certificate of Workers' Compensation and Employers liability insurance coverage.

In signing the Agreement, Contractor makes the following certification required by Section 1861 of the Labor Code:

"I am aware of the provisions of Section 3700 of the Labor Code which requires each employer to be insured against liability for workmen's compensation or to undertake self insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract."

Evidences and Cancellation of Insurance – Prior to execution of the Agreement, the Contractor shall file with the Owner evidence of insurance from an insurer or insurers certifying to the coverage of all insurance required herein. Such evidence shall include original copies of the ISO CG 2010 (or insurer's

equivalent) signed by the insurer's representative and certificate of insurance (Accord Form 25-S or equivalent). All evidence of shall be certified by a properly authorized officer, agent or qualified representative of the insurer and shall certify the names of the insured, any additional primary insurers, where appropriate, the type and amount of the insurance, the location and operations to which the insurance applies, the expiration date, and that the insurer will give by certified mail, written notice to the Owner at least thirty (30) days prior to the effective date of any cancellation, lapse or material change in the policy.

The Contractor shall, upon demand of the Owner, deliver to the Owner all such policy or policies of insurance and the receipts for payment of premiums thereon; and should the Contractor neglect to obtain and maintain in force any such insurance or deliver such policy or policies and receipts to the Owner, then it shall be lawful for the Owner to obtain and maintain such insurance, and the Contractor hereby appoints the Owner the true and lawful attorney-in-fact to do all things necessary for this purpose. All money paid by the Owner for insurance premiums under the provisions of this article shall be charged to the Contractor.

30. Contract Security

The Contractor shall, within ten (10) days after the receipt of the Notice of Award, furnish the Owner with a performance bond and a payment bond in penal sums equal to 100% of the contract price, conditioned upon the performance by the Contractor of all undertakings, covenants, terms, conditions and agreements of the Contract Documents, and upon the prompt payment by the Contractor to all persons supplying labor and materials in the prosecution of the work provided by the Contract Documents. Such bonds shall be executed by the Contractor and corporate bonding company licensed to transact such business in the state in which the Work is to be performed and named on the current list of "Surety Companies Acceptable Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these bonds shall be borne by the Contractor. If at any time a surety on any such bond is declared a bankrupt or loses its right to do business in the state in which the work is to be performed or is removed from the list of surety companies accepted on Federal bonds, Contractor shall within ten (10) days after notice from the Owner to do so, substitute an acceptable bond (or bonds) in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner. The premiums on such bond (s) shall be paid by Contractor. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable bond to the Owner.

Attached to the bonds shall be the original, or a certified copy, of the unrevoked appointment, power of attorney, bylaws or other instrument which entitles and authorizes the person to execute the bond to do so, a certified copy of the certificate of authority or the insurer issued by the Insurance Commissioner of the county in which the Owner is located which would state that the certificate of authority of the insurer (the bonding company) has not been surrendered, revoked, cancelled, annulled, or suspended.

The performance bond shall remain in full force and effect during the warranty period of 12 months from the date of acceptance of the work by the Owner.

If requested by the Owner or Engineer, copies of the insurer's most recent annual statement and quarterly statement filed with the Department of Insurance pursuant to Article 10 (commencing with Section 900) of Chapter 1 of Part 2 of Division 1 of the Insurance Code, shall be provided to the Owner or Engineer within 10 calendar days of the insurer's receipt of the request to submit the statements.

31. Assignments

Neither the Contractor nor the Owner shall sell, transfer, assign or otherwise dispose of the contract or any portion thereof, or of his right, title or interest therein, or his obligation thereunder, without written consent of the other party.

32. Indemnification

Contractor shall indemnify and hold harmless and defend the Owner and the Engineer and their directors, officers, employees, agents or volunteers, and each of them from and against:

- A. Any and all claims, demands, causes of action, damages, costs, expenses, losses or liabilities, in law or in equity, of every kind and nature whatsoever for, but not limited to, injury to or death of any person including Owner and/or Engineer and/or Contractor, or any directors, officers, employees, agents volunteers of the Owner, Engineer or Contractor, and damages to or destruction of property of any person, including but not limited to, Owner, Engineer and/or Contractor and their directors, officers, employees, agents or volunteers arising out of or in any manner directly or indirectly connected with the work to be performed under this Agreement, however caused regardless of any negligence of the Owner or the Engineer or their directors, officers, employees, agents, or volunteers, except the sole negligence of willful misconduct or active negligence of the Owner or the Engineer or their directors, officers, employees, agents or volunteers:
- B. Any and all actions, proceedings, damages, costs, expenses, penalties or liabilities in law or equity, of every kind or nature whatsoever, arising out of , resulting from or on account of the violation of any governmental law or regulation, compliance with which is the responsibility of Contractor.

Contractor shall defend, at Contractor's own cost, expense and risk, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against the Owner and the Engineer or their directors, officers, employees, agents or volunteers.

Contractor shall pay and satisfy any judgment, award or decree that may be rendered against the Owner and their directors, officers, employees, agents, or volunteers in any such suit, action or other legal proceedings.

Contractor shall reimburse the Owner and their directors, officers, employees, agents and/or volunteers, for any and all legal expenses and costs incurred by them in connection therewith or in enforcing the indemnity herein provided.

Contractor agrees to carry insurance for this purpose as set out in the specifications. See Paragraph 29 of these General Provisions for insurance specifications and coverage. Contractor's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by the Owner and the Engineer or their directors, officers, employees, agents and/or volunteers.

33. Separate Contracts

The Owner reserves the right to let other contracts in connection with this project. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate his work with theirs. If the proper execution or results of any part of the Contractor's work depend upon the work of any other contractor, the Contractor shall inspect and promptly report to the Engineer any defects in such work that render it unsuitable for such proper execution and results.

The Owner may perform additional work related to the project by himself, or he may let other contracts containing provisions similar to these. The Contractor will afford the Contractors who are parties to such contracts (or the Owner, if he is performing the additional work himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate his work with theirs.

In the performance of additional work by other contractors or the Owner is not noted in the Contract Documents prior to the execution of the Agreement, written notice thereof shall be given to the Contractor prior to starting any such additional work. If the Contractor believes that the performance of such requires additional expense or entitles him to an extension of the contract time, he may make a claim therefore as provided in Items 19 and 20 of these General Provisions.

34. Subcontracting

The Contractor may utilize the services of specialty subcontractors on those parts of the work which, under normal contracting practices, are performed by specialty subcontractors.

The Contractor shall be fully responsible to the Owner for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, as he is of the acts and omissions of persons directly employed by him.

The Contractor shall cause appropriate provisions to be inserted in all contracts relative to the work to bind subcontractors to the Contractor by the terms of the Contract Documents in so far as applicable to the work of subcontractors and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provision of the Contract Documents.

Nothing contained in this contract shall create any contractual relation between any subcontractor and the Owner.

Contractor shall include all subcontractors as insured under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all of the requirements stated herein.

35. Employment of Apprentices

The Contractor and any subcontractor under him shall comply with the requirements of Sections 1777.5 and 1777.6 of the Labor Code in the employment of apprentices. The responsibility for compliance with the provisions of said Section 1777.5 for all apprenticeship occupations shall rest with the Contractor. Information relative to apprenticeship standards, wage schedules and other requirements may be obtained from the Division of Apprenticeship Standards, 455 Golden Gate Avenue, San Francisco, California, or from its branch offices.

36. Payment of Prevailing Wages

The Contractor and all subcontractors under him shall pay all laborers, workmen and mechanics on all work included in this contract no less than the general prevailing rate of per diem wages for work performed, (to-wit, within the limits of the City), and no less than the general prevailing rate of per diem wages for legal holiday and overtime work in said locality, which per diem wages shall not be less than the stipulated rate contained in a schedule thereof which has been ascertained and determined by the Council to be the general prevailing rate of per diem wages for each craft or type of workman or mechanic needed to execute this contract, and which is now on file with the City Clerk, as set forth in the Information for Bidders, and by reference it is incorporated herein and made a part hereof.

The Contractor shall forfeit, as a penalty to the Owner, two hundred dollars (\$200.00) for each laborer, workman or mechanic employed for each calendar day or portion thereof such laborer, workman or mechanic is paid less than the said stipulated rates for any work done under this contract by him or by any subcontractor under him in violation of Articles 1 and 2 of Chapter 1 Part 7 of Division 11 of the Labor Code of the State of California, and said sums and amounts which shall have been so forfeited pursuant to the herein paragraph and the said terms of said Labor Code shall be withheld and retained from payments due to the Contractor under said contract, pursuant to this contract and the said terms of said Labor Code; but no sum shall be so withheld, retained or forfeited except from the final payment without a full investigation by either the Division of Labor law Enforcement of the State Department of Industrial Relations or by said Council.

The difference between such stipulated prevailing wage rates and the amount paid to each workman for each calendar day, or a portion thereof, for which each workman was paid less than the stipulated prevailing wage rate shall be paid to each workman by the Contractor. The Contractor shall comply with the provisions of Section 1775 of the Labor Code of the State of California.

The Contractor and his subcontractors shall submit certified payroll information electronically to the Department of Industrial Relations as well as a hard copy of said certified payrolls to the Owner on a monthly basis.

37. Registration to Train Apprentices

Pursuant to Labor Code Section 1777.5, all contractors shall file with the appropriate Joint Apprenticeship Training Committee, a DAS-140 form registering to train apprentices. This requirement to register to train apprentices is mandated by Section 1777.5 whether or not you are signatory to or a party of any approved training program. Only those programs approved by the California Apprenticeship Council are applicable to accept DAS-140 registration forms.

If the contractor is approved to train apprentices, then apprentices must be called in a ratio not less than one apprentice hour for each five journeyman hours.

However, if the entire contract may be completed within 20 working days or the entire contract (nor subcontracts) is less than thirty thousand (\$30,000), then the Contractor is exempt from requesting apprentices under Labor Code Section 1777.5.

In addition, all contractors are required to make appropriate training contributions as set forth in the prevailing wage determination to each appropriate JATC, or in the alternative, to the California Apprenticeship Council. Payments shall be made not less than monthly, calculated and paid by the fifteenth of each month, for work performed that prior month.

The address for the applicable Joint Apprenticeship Training Committee and for the California Apprenticeship Council can be obtained by calling the Division of Apprenticeship Standards.

38. Penalties

Failure to pay the appropriate prevailing wage can result in penalties being assessed as follows:

- A. Up to \$50.00 per day per worker for each and every violation; and,
- B. debarment from future public works for a period not to exceed three years.
- C. \$50.00 per day per worker for each failure to comply with the payment of overtime for all hours worked in excess of 8 in one day or 40 in one week.

Failure to register to train apprentices or failure to pay the appropriate training contribution can result in penalties being assessed as follows:

- A. \$100.00 per day for each day of violation; and,
- B. debarment from future public works for a period not to exceed three years.

39. Engineer's Authority

The Engineer shall act as the Owner's representative. He shall decide questions which may arise as to quality and acceptability of materials furnished and work performed. He shall interpret the intent of the Contract Documents in a fair and unbiased manner. The Engineer will make visits to the site and determine if the work is proceeding in accordance with the Contract Documents.

The Contractor will be held strictly to the intent of the Contract Documents in regard to the quality of materials, workmanship and execution of the work. Inspections may be made at the factory or fabrication plant of the source of material supply.

The Engineer will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.

40. Land and Rights-of-Way

Prior to issuance of the Notice to Proceed, the Owner shall obtain all land and rights-of-way necessary for carrying out and for the completion of the work to be performed pursuant to the Contract Documents, unless otherwise mutually agreed.

The Owner shall provide to the Contractor information which delineates and describes the lands owned and rights-of-way acquired.

The Contractor shall provide, at his own expense and without liability to the Owner, any additional land and access thereto that the Contractor may desire for temporary construction facilities, or for storage of materials.

41. Warranty and Guarantee

Contractor warrants and guarantees to Owner that all work will be in accordance with the Contract Documents and will not be defective. Prompt notice of defects known to Owner shall be given to Contractor. All defective work, whether or not in place, may be rejected, corrected or accepted as provided in Paragraph 19, Changes in the Work, of these General Provisions. Defective work may be rejected even if approved by prior inspection.

42. One (1) Year Warranty Period

The warranty period shall commence when the Notice of Completion is issued, at notice of beneficial occupancy or at notice of partial utilization of the work to be warranted has been issued, or a later date if so specified in the Agreement, or mutually agreed to, and extend until one (1) year after that date or whatever longer period may be prescribed by laws or regulations or by the terms of any applicable special guarantee or specific provision of the Contract Documents.

43. Correction of Defective Work

If within the designated warranty period, or such longer period as may be required by Laws or Regulations, the work, or any part of the work, is discovered to be defective, Contractor shall promptly, without an adjustment in contract price and in accordance with Owner's written instructions, either correct that defective work, or if it has been rejected by Owner, remove it from the site and replace it with non-defective work. If circumstances warrant it, including but not limited to, in an emergency, Owner may have the defective work corrected or the rejected work removed and replaced. In that event, Contractor shall not be allowed to recover any associated costs, and he shall reimburse Owner for all direct, indirect and consequential costs of Owner, and Owner shall be entitled to an appropriate decrease in contract price, to withhold a set-off against amount recommended for payment, or make a claim on Contractor's bond if Contractor has been paid in full. Where defective work (and damage to other work resulting therefrom) has been corrected, removed or replaced during the warranty period, the one (1) year warranty period with respect to such work will be extended for an additional period of one (1) year after such correction or removal and replacement has been satisfactorily completed.

44. Early Completion

The one (1) year warranty period will not begin until the Notice of Completion is filed. If Contractor completes the work or portions thereof prior to this time, he shall preserve the equipment and/or facilities by developing and implementing a preventive maintenance program in compliance with manufacturer's recommendations to maintain the equipment and/or facilities unless Owner has issued a notice of beneficial occupancy or notice of partial utilization for the warranted work. At start up, Contractor will be required to get his equipment and/or facilities ready to put into service.

45. Extended Warranties and Guarantees

Owner may at its sole discretion extend the one (1) year warranty period up to twenty-four (24) months, in which case Contractor shall maintain the warranties and guarantees. If such extension of the one (1) year warranty period causes an increase in the cost of the warranties and guarantees provided by Contractor, an adjustment in contract price shall be made as provided by the Contract Documents.

46. Arbitration

With the prior approval of the Owner and the Contractor, all claims, disputes and other matters in question arising out of, or relation to, the Contract Documents or the breach thereof, except for claims which have been waived by the making and acceptance of final payment as provided by Item 27 of these General Provisions, may be decided by arbitration in accordance with the Arbitration Rules of the

American Arbitration Association. If entered into, the agreement to arbitrate shall be specifically enforceable under the prevailing arbitration law. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in any court having jurisdiction thereof.

Notice of the request for arbitration shall be filed in writing with the other party to the Contract Documents and with the American Arbitration Association, and a copy shall be filed with the Engineer. The request for arbitration shall set forth specifically the dispute to be arbitrated. Acceptance by the other party of the request to arbitrate shall constitute the agreement to arbitrate and arbitration shall proceed forthwith. No legal proceedings other than to enforce arbitration shall be commenced on any issue covered by the arbitration agreement.

The Contractor shall carry on the work and maintain the progress schedule during any arbitration proceedings, unless otherwise mutually agreed in writing.

47. Taxes

The Contractor shall pay all sales, consumer, use and other similar taxes required by the law of the place where the work is performed.

48. Contractor's Understanding

It is understood and agreed that the Contractor has, by careful examination, satisfied himself as to the nature and extent of the work, the character, quality, and quantity of the materials to be encountered, the character of the equipment and facilities needed preliminary to and during the prosecution of the work, the general and local conditions, and all other matters which can in any way affect the work under this contract. No verbal agreement or conversation with any officer, agent or employee of the Engineer or the Owner, either before or after the execution of this Agreement, shall affect or modify any of the terms or obligations herein contained.

49. Accidents

The Contractor shall provide, at the site, such equipment and medical facilities as are necessary to supply first-aid service to anyone who may be injured in connection with the work. The Contractor must promptly report in writing to the Engineer all accidents whatsoever arising out of, or in connection with the performance of the work, whether on or adjacent to the site which causes death, personal injury, or property damages, giving full details and statements of witnesses. In addition, if death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the Engineer and the Owner. If any claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Engineer, giving full details of the claim.

50. Safety and Sanitation

The Contractor shall provide adequate safety and sanitation facilities according to State laws and local ordinances.

The Contractor will assume sole and complete responsibility for job site conditions during the course of construction of the project, including safety of all persons and equipment. This responsibility shall apply continuously and not be limited to normal working hours.

51. Climatic Conditions

The Engineer may order the Contractor to suspend any work that may be subject to damage by climatic conditions. The Contractor may suspend work if climatic conditions are such that the Contractor is unable to work. In such case, the Contractor, within seven days, shall request in writing a change order to extend the contract time.

52. Officials Not To Benefit

No official of the Owner shall receive any benefit that may arise by reason of this contract.

53. Clean-Up

During the progress of the work, the Contractor shall maintain the site and related structures and equipment in a clean, orderly condition and free from unsightly accumulations of rubbish. Upon completion of the work, the Contractor shall remove from the vicinity of the work all plants, buildings, rubbish, unused materials, concrete forms, temporary bridging, and other like material, belonging to him or used under his direction during construction, and in the event of his failure to do so, the same may be removed by the Owner after 10 calendar days notice to the Contractor at the expense of the Contractor, and his surety or sureties shall be liable therefore.

As part of the final clean-up, the Contractor shall dress up and grade the right-of-way to match existing ground surfaces, and shall remove therefrom all weeds and other growth. Where the construction has crossed yards or driveways, they shall be restored to a condition equivalent to the condition existing prior to the construction as determined by the Engineer.

No direct payment will be made to the Contractor for any clean-up work, but all compensation therefore shall be included in the prices bid in the schedule for the various items of work.

54. Notice to Owner

In the event this contract involves digging trenches or excavations that extend deeper than four feet below the surface, the Contractor shall promptly, and before the following conditions are disturbed, notify Owner, in writing, of any:

- A. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law;
- B. Subsurface or latent physical conditions at the site differing from those indicated;
- C. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.

Owner shall promptly investigate the conditions. If Owner finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work, Owner shall issue a change order under the procedures described in the contract.

In the event a dispute arises between Owner and Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor, shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. The Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between Contractor and Owner.

55. Payment of Withheld Funds

The Owner shall retain 5% of each payment from Contractor and shall make prompt and regular incremental acceptances of portions, as determined by the Owner, of the agreed upon work, and pay retention to the Contractor based on these acceptances. The Contractor, or subcontractor, shall return all monies withheld in retention from a subcontractor within 30 days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract agreement work by the Owner. Federal law (49CFR26.29) requires that any delay or postponement of payment over 30 days may take place only for good cause and with the Owner's prior written approval. Any violation of this provision shall subject the violating Contractor or subcontractor to the penalties, sanctions and other remedies specified in Section 7108.5 of the Business and Professions Code. These requirements 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 Contractor, deficient subcontract performance, or noncompliance. When the work is

complete, the Owner will issue a Notice of Completion to the County. The Owner will pay all retention funds to the Contractor thirty-five (35) Days after Notice of Completion has been recorded.

56. Storm Water Pollution Prevention Measures

Storm Water Pollution Prevention Measures shall be performed in accordance with the provisions in Section 13-3, "Storm Water Pollution Prevention Plan," of the Standard Specifications.

A. GENERAL

In compliance with the State and Federal regulations regarding storm water management during construction, the Contractor shall not allow any debris, waste materials or pollutants, originating from the Contractor's operations, to enter the storm drainage system, which leads to contamination of local creeks and ponding basins.

The Contractor shall properly dispose of all wastes and excess materials in a legal manner to the satisfaction of the Owner.

B. SELECTIVE BMPS FOR STORM WATER POLLUTION PREVENTION

As applicable to the project or directed by the Engineer, the Contractor shall implement any or all of the following Best Management Practices (BMPs):

1. Material Handling and Storage

a. Nonhazardous Materials

i. Designated Delivery and Storage Area

The Contractor shall propose areas in the vicinity of or within the project site or within the Contractor's staging site, which are suitable for material delivery and storage. To the maximum extent practicable, these areas shall be away from gutters, catch basins, drainage courses or creeks. The Contractor shall submit the proposed areas to and shall obtain the approval from the Engineer in writing prior to bringing in materials.

ii. Storage of Granular Materials

The Contractor shall store granular materials at least ten feet (10') away from any inlet or curb return and shall prevent the granular materials from entering the storm drain system, drainage courses or creeks. During wet weather or when rain is forecast within 24 hours, the Contractor shall cover granular materials with a tarpaulin and surround the material with sandbags or other approved heavy objects.

b. Hazardous Materials

i. Hazardous materials include, but are not limited to, petroleum products, antifreeze, paints, thinners, solvents, pesticides, herbicides and various other toxic chemicals.

ii. The Contractor shall propose, within the project site or the Contractor's staging site, an area that is suitable for hazardous material delivery and storage. To the maximum extent practicable, the area shall be away from inlets, gutters, drainage courses or creeks. The Contractor shall submit the proposed area to and shall obtain approval from the Engineer in writing prior to bringing in hazardous materials.

iii. The Contractor shall label and store all hazardous materials and hazardous wastes in accordance with secondary containment regulations, the City of Los Banos Hazardous Materials Storage Ordinance and all applicable Merced County, State and Federal laws and

regulations.

iv. The Contractor shall keep all hazardous materials or waste in containers and fully covered to avoid contamination of storm runoff.

v. The Contractor shall keep an accurate, up-to-date inventory, including Materials Safety Data Sheets (MSDSs), of hazardous materials and hazardous wastes stored on-site to assist emergency response personnel in the event of a hazardous material incident.

2. Hazardous Material Usage

a. The Contractor shall follow all local, State and Federal policies, laws and regulations governing the use of hazardous materials.

b. The Contractor shall use only Category III pesticides for pest control. If Category III pesticides are unavailable, have been tried but proven ineffective, or when it is necessary to prevent a pest outbreak that poses an immediate threat to public health or significant economic loss, the City may consider allowing the use of Category II pesticides with a dose of up to LD50 (a dose that kills 50 percent of the targeted pest population in the laboratory) provided that the risk to the applicator and impact to the environment can be justified. Use of Category I pesticides is prohibited.

c. Apply pesticides at the appropriate time to maximize their effectiveness and minimize the likelihood of discharging non-degraded pesticides into storm water system, drainage courses and creeks.

d. Mix only as much material as is necessary for treatment. Calibrate application equipment prior to and during use to ensure desired application rate. Do not mix or load pesticides adjacent to storm drain system, drainage courses or creeks.

e. The Contractor shall not overapply herbicides, pesticides or fertilizers and shall follow the manufacturer's instructions regarding uses, protective equipment, ventilation, flammability and mixing of chemicals. Over-application of a pesticide is a "label violation" subject to an enforcement action by the Merced County Agriculture Department.

f. When rain is forecast within 24 hours or during wet weather, the Contractor shall not apply chemicals in outside areas unless otherwise allowed by the Engineer in writing.

3. Integrated Pest Management Methods

The Contractor shall employ, in place of pesticides, integrated pest management methods including:

- a. No control
- b. Physical or mechanical methods
- c. Least toxic chemicals (insecticidal soaps and oil, etc.)

4. Vehicle and Equipment Cleaning, Maintenance and Fueling

a. Cleaning

The Contractor shall not clean or wash vehicles or equipment on-site or in the streets. If allowed by the Engineer in writing, cleaning and washing shall be performed in a designated and bermed area approved by the Engineer using water only. No soaps, solvents, degreasers, steam cleaning equipment or similar methods are permitted. The Contractor shall not allow wash water to flow into streets, gutters, storm drain system, drainage courses or creeks.

b. Maintenance and Fueling

i. The Contractor shall perform maintenance and fueling of vehicles or equipment in a designated, bermed area or over a drip pan that will prevent waste, leaks or spills from entering streets, gutters, storm drain system, drainage courses or creeks.

ii. The Contractor shall inspect all vehicles and equipment arriving on-site for leaking fluids and shall promptly repair leaking vehicles and equipment. Drip pans shall be used to catch leaks until repairs can be made. Shut-off valves on equipment must be working properly.

5. Spill Prevention and Control

a. If hazardous materials are used on the project, the Contractor shall keep a stockpile of spill clean-up materials, such as rags or absorbents, readily accessible on-site.

b. Above-ground storage tanks and their installations shall comply with City, State and Federal requirements.

c. The Contractor shall immediately contain and prevent spills or leaks from entering storm drain system, drainage courses or creeks and shall properly clean up and dispose of the spills or leaks. The Contractor shall not wash the spills or leaks into streets, gutters, storm drain system, drainage courses or creeks and shall not bury the spills or leaks.

d. In case of a hazardous material spillage, the Contractor shall immediately call 911 and shall handle the spilled material in accordance with the requirements of 6, "Disposal of Hazardous Waste," below.

6. Disposal of Hazardous Waste

a. Unless the Contractor is a licensed hazardous waste handler, the Contractor shall contract with a licensed hazardous waste handler to remove and dispose of hazardous waste materials unless the waste quantities to be transported are below threshold limits for transportation as specified in the State and Federal regulations.

b. The Contractor shall arrange for regular hazardous waste collection to comply with limits for storage of hazardous waste.

c. The Contractor may dispose of dry, empty paint cans, buckets, paintbrushes, rollers, rags and drop cloths in the trash.

d. The Contractor shall dispose of hazardous waste at facilities authorized for treatment, storage and disposal of hazardous waste only.

7. Street Sweeping

At the end of each day or as directed by the Engineer, the Contractor shall sweep roadways of all debris and excess materials attributed to the Contractor's operations.

8. Water Usage

a. The Contractor shall use the least amount of water necessary for dust control and street sweeping operations.

b. The Contractor shall not use water to flush dust and debris down the street in place of street sweeping.

9. Dumpsters and Portable Sanitary Facilities

a. If dumpsters or portable sanitary facilities are used, they shall be

stationed at least ten feet (10') away from storm drain facilities.

b. The Contractor shall arrange for regular waste collection to keep dumpsters and portable sanitary facilities from overflowing and shall regularly inspect these facilities for leaks. If a leak is discovered, the Contractor shall arrange for the repair or replacement of facilities that leak. The Contractor shall not wash the dumpsters or portable sanitary facilities on-site.

10. Earthwork

The Contractor shall maximize the control of erosion and sediment by using the Best Management Practices for erosion and sedimentation control described in the California Storm Water Best Management Practice Handbook—Construction Activity or ABAG Manual of Standards for Erosion and Sediment Control Measures.

11. Dewatering

a. The Contractor shall route water through a control device, such as a sediment trap, sediment basin or Baker tank, to remove settleable solids prior to discharging the water into the storm drain system. Refer to the California Storm Water Management Practice Handbook for these sediment control measures.

b. Approval of the control device shall be obtained in advance from the Engineer.

c. Filtration of the water following the control device may be required on a case-by-case basis.

d. If the Engineer determines that the dewatering operation would not generate an appreciable amount of settleable solids, the control device may be waived.

12. Saw Cutting

a. During saw cutting or grinding operation, use as little water as possible.

b. During saw cutting, the Contractor shall cover or barricade catch basins using filter fabric, straw bales, sandbags or fine gravel dams to keep slurry out of the storm drain system. When protecting a catch basin, the Contractor shall ensure that the entire opening of the catch basin is covered. Refer to California Storm Water Best Management Practice Handbook for these control measures.

c. The Contractor shall shovel, absorb or vacuum saw cut slurry and pick up the waste as the work progresses prior to moving to the next location, as specified elsewhere in these specifications or as directed by the Engineer.

d. If saw cut slurry enters catch basins, the Contractor shall, at the Contractor's cost, clean up the storm drain system immediately.

13. Concrete, Grout and Mortar Related Work

a. Material Handling

i. The Contractor shall avoid mixing excess amounts of fresh concrete or cement mortar on-site.

ii. The Contractor shall store concrete, grout and mortar away from storm drain facilities or drainage courses and shall ensure that these materials do not enter the storm drain system.

b. Washing of Concrete Truck and Tools

- i. The Contractor shall not wash out concrete trucks or equipment into streets, gutters, storm drain system, drainage courses or creeks.
- ii. The Contractor shall perform washing of concrete trucks and tools off-site or in a designated area on-site where the water will flow onto dirt or into a temporary pit in a dirt area. The Contractor shall let the water percolate into the soil and dispose of the hardened concrete in a trash container. If a suitable dirt area is not available, the Contractor shall collect the wash water and dispose of it off-site.

14. Asphalt Concrete Paving

a. Project Site Management

- i. When rain is forecast within 24 hours or during wet weather, the Engineer may prevent the Contractor from paving.
- ii. The Engineer may direct the Contractor to protect drainage courses by using earth dike, straw wattle or sandbag to trap and filter sediment. Refer to California Storm Water Best Management Practice Handbook for these control measures.
- iii. The Contractor shall place drip pans or absorbent material under paving equipment when not in use.
- iv. The Contractor shall cover catch basins and manholes when paving or applying prime coat, tack coat, seal coat, fog seal or slurry seal.
- v. If the paving operation includes an on-site mixing plant, the Contractor shall comply with Merced County NPDES General Industrial Activities Storm Water Permit requirements.
- vi. The Contractor shall preheat, transfer or load hot bituminous material away from storm drain system, drainage courses or creeks.

b. Paving Waste Management

The Contractor shall not sweep or wash down excess sand (placed as part of a sand seal or to absorb excess oil) into streets, gutters, storm drain system or creeks but shall collect the sand and dispose of it off-site. The Contractor shall not wash fresh asphalt concrete pavement.

15. Painting

a. General

- i. The Contractor shall remove as much excess paint as possible from brushes, rollers and other tools before starting cleanup.
- ii. The Contractor shall conduct cleaning of painting equipment and tools in a designated area approved by the Engineer.
- iii. The Contractor shall not allow wash water from cleaning of painting equipment and tools into streets, gutters, storm drain system, drainage courses or creeks.

b. Water-Based Paint

To the maximum extent practicable, the Contractor shall dispose of wash water from water cleaning of brushes, rollers and other tools used in water-based painting work to the sanitary sewer or direct wash water onto dirt area and spade in.

c. Oil-Based Paint

The Contractor shall dispose of waste thinner and solvent and sludge from cleaning of brushes, rollers and other tools used in oil-based painting work as hazardous waste and the Contractor shall handle the waste as described in Section 6, "Disposal of Hazardous Waste," above. To the maximum extent practicable, the Contractor shall filter paint thinner and solvents for reuse.

16. Thermoplastic

a. The Contractor shall transfer and load hot thermoplastic away from drainage systems or drainage courses or creeks.

b. The Contractor shall sweep thermoplastic grindings into plastic bags. Yellow thermoplastic grindings may require special handling as they may contain paint.

C. CONTRACTOR TRAINING AND AWARENESS

1. The Contractor shall train all employees and subcontractors on the storm water pollution prevention requirements contained in these specifications.

2. The Contractor shall inform subcontractors of the storm water pollution prevention contract requirements and include appropriate subcontract provisions to ensure that these requirements are met.

3. The Contractor shall post warning signs in areas treated with chemicals.

D. BMP IMPLEMENTATION

The Contractor shall be responsible throughout the duration of the construction period for installing and maintaining the applicable BMPs and for removing and legally disposing of temporary control measures. Unless otherwise directed by the Engineer or specified elsewhere in these specifications, the Contractor's responsibility for BMP implementation shall continue throughout any temporary suspension of work ordered in conformance with the provisions in Section 8-1.06, "Suspensions," of the Standard Specifications.

Throughout the rainy season, all soil-disturbed areas of the site shall be fully protected with soil stabilization and sediment control device approved by the Engineer at the end of the same day the soil is disturbed unless fair weather is predicted the next day and the protective measures are exempt by the Engineer. The Contractor shall monitor the weather forecast on a daily basis and inform the Engineer of the forecast. The National Weather Service forecast shall be used for this purpose. If precipitation is predicted for the following day, construction schedule shall be altered as required to install appropriate BMPs or to ensure that the already installed BMPs are in good operating condition prior to the onset of rain.

E. BMP MAINTENANCE

To ensure proper implementation and effectiveness of the BMPs, the Contractor shall regularly inspect and maintain the deployed BMPs throughout the construction site. The Contractor shall identify corrective actions and the time needed to address any deficient BMPs or reinstate any BMPs that have been discontinued. The Contractor shall keep written records of all BMP inspections, maintenance and corrective actions.

The frequency of the BMP inspection shall be as follows:

1. Prior to a forecast storm;
2. After any precipitation that causes runoff;
3. At 24-hour intervals during extended rain events; and
4. Routinely, at a minimum of once every week.

If the Contractor or the Engineer identifies a deficiency in the deployment or functioning of a BMP, the deficiency shall be corrected immediately. If requested by the Contractor and

approved by the Engineer in writing, the deficiency may be corrected at a later time or date but the corrective action shall not be later than the onset of the subsequent rain event. The correction of deficient BMPs shall be at no additional cost to the City.

F. RESPONSIBILITIES, CONSEQUENCES, AND REMEDIES

1. Conformance with the provisions of this section or other requirements in various other sections of these specifications shall not relieve the Contractor from the Contractor's responsibilities as provided in various relevant articles of Section 7, "Legal Relations and Responsibilities to the Public," of the Standard Specifications, and as specified herein.
2. For purposes of this section, costs and liabilities include, but are not limited to, fines, penalties and damages, whether assessed against the City or the Contractor, including those levied under the Federal Clean Water Act and the State Porter-Cologne Water Act.
3. If solid or liquid materials or waste, hazardous or otherwise, or pollutants originating from the Contractor's operation enter the storm drain system or water courses, the Contractor will be required to thoroughly clean up the affected storm drain facilities and water courses to the satisfaction of the Engineer. If the Contractor fails to clean up the affected facilities as required, the City will issue a stop-work order and take necessary actions to effect the cleanup of the affected facilities.
4. The Contractor shall be responsible for all costs, including fines, the City's cost of defense, the cost of cleanup by others ordered by the City, and liabilities imposed by law as a result of the Contractor's failure or negligence in complying with the requirements specified herein.
5. In accordance with the provisions of Section 7-1.05, "Indemnification," of the standard Specifications if the Contractor fails to accept or reject a tender of defense and indemnity within fifteen (15) calendar days, the City may, in addition to the remedies authorized by law, retain any sum due the Contractor until disposition has been made of all claims or suits for damages or until the Contractor accepts or rejects the tender of defense, whichever occurs first.

G. PAYMENT

Full compensation for storm water pollution control shall be considered as included in the payment for various other items of work and no additional compensation will be made therefore.

Special Provisions

1. Requirements

It is required that there be constructed and completed in accordance with the Contract Documents for "Construction of 7th STREET BALL PARK RESTROOM" for the City of Los Banos, all work as described in these Contract Documents.

2. Description of Work

The principal components of the work to be performed under these Contract Documents include the following:

Sub-grade pad preparation of a 24' x 26'6" area (by contractor) for the placement of a pre-fabricated modular restroom building (set in place by Public Restroom Company); the installation of approximately 2,803 square feet of sidewalk; and two (2) each concrete ADA ramps with truncated domes. The sub-grade pad will be prepared per the requirements provided in the Reference section of the Contract Documents.

- Contractor shall furnish all of the materials, supplies, tools, equipment, labor and other services necessary for the construction of the pad preparation, ADA ramps, and sidewalks.
- Compaction testing will be performed by Owner.
- All utilities will be installed by Owner.
- Modular restroom building will be installed by Public Restroom Company/Owner.
- Demolition of existing concrete ramps will be performed by Owner.

Any incidental work not described in the Contract Documents which is necessary to complete the Work shall be furnished and installed as part of this contract at no additional cost to the Owner. The work shall be complete and ready for service to the satisfaction of the Owner. The Contractor is responsible to inspect the site and observe actual working conditions prior to bidding the project.

3. Commencement, Prosecution and Completion of Work

The Contractor shall commence work and shall complete all of the work in accordance with the schedule and within the time stated in the bid. The capacity of the Contractor's construction plant, sequence of operations, method of operations, and the forces employed shall at all times during the continuance of the contract, be subject to the approval of the Engineer and shall be such as to ensure the completion of the work within the time specified.

4. Hours of Work

Construction work shall be completed between the hours of 7:00 a.m. and 9:00 p.m. Monday through Friday using normal construction practices. No work shall be performed on Saturday or Sunday. The Contractor may request to the Owner to perform construction outside of these specified hours.

5. Permits and Business Licenses

The Contractor will need an Encroachment Permit from the Public Works Department prior to start of construction. The Contractor and all subcontractors working within the city limits of Los Banos shall apply for and have issued a business license from the City of Los Banos (209-827-7000) prior to commencement of work.

6. Testing

Field density tests shall be made of each compacted layer (subbase and aggregate base) as directed by the Engineer. When these tests indicate that the density of any layer of fill or portion thereof is less than the specified density, that layer shall be reworked until the required density has been obtained.

Field density tests (compaction testing) shall be performed by a geotechnical laboratory retained by the Owner and under the supervision of a registered geotechnical engineer.

Initial compaction testing will be paid by the Owner. Retesting of areas that failed the initial testing will be paid for by the Contractor.

7. Responsibility Regarding Existing Utilities and Private Property

The existence and location of public and private utilities indicated on the drawings are not guaranteed and any additional utilities and facilities not shown on the drawings shall be investigated and protected by the Contractor. The Contractor shall be held responsible for damage to and for maintenance and protection of existing pipelines, public utilities, drives, curbs and gutters, sidewalks, and fences. Excavation in the vicinity of existing public utility structures, underground electrical or telephone cable, oil or gas pipelines, and waterlines shall be carefully done by hand. The Contractor shall adequately protect all adjoining property and structures from damage, whether within or without of the Owner furnished rights-of-way, and shall be fully responsible for any damage to adjoining property and structures which may result from work done under this contract. The Contractor shall use extreme care during construction to prevent damage from dust to crops and adjacent property. The Contractor shall sprinkle the areas where the passage of operation of vehicles and equipment creates a dust problem, or take other preventive measures as directed by the Engineer. The Contractor shall furnish all labor, equipment, materials and means required to control dust which is in any way a result of the Contractor's operations.

The Contractor shall be responsible for all damage or injury which may result to any property, outside of the construction right-of-way or within the right-of-way where so noted, from the Contractor's operations hereunder, or otherwise, from the performance of the Agreement by said Contractor or any of his subcontractors or employees.

The Contractor shall attempt to maintain access to the residential and commercial driveways within the construction area at all times during working hours and shall provide access during non-working hours, weekends and holidays.

Payment for all work specified above shall be included in the unit or lump sum prices bid in the schedule for the various items of work.

8. Obstructions

The Contractor shall notify the Engineer and the appropriate regional notification center for operators of subsurface installation at least 3 working days, but not more than 14 calendar days, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire or other structure. Failure to contact the notification center prohibits excavation. Regional notification centers include but are not limited to the following:

NOTIFICATION CENTER	TELEPHONE
Underground Service Alert Northern California (USA) www.usanorth811.org	811 or 1-800-227-2600

9. Materials Furnished By Owner

No labor, material, or other facilities shall be provided by the Owner unless otherwise indicated on the drawings or in the Contract Documents.

10. Materials Furnished By Contractor

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation, and other facilities necessary for the execution and completion of the work.

11. Schedule of Values, Material List and Substitutions

Prior to the commencement of work, and within 10 days following the signing of the contract by the Owner and the Contractor, the Contractor shall submit 2 copies of a Schedule of Values for all lump sum bid items in the Bid Schedule and a *complete* list of equipment and materials to be furnished, including all substitutions proposed to the Engineer for approval. Partial or incomplete material lists will not be considered. No substitutions will be considered thereafter. Only one request for substitution will be considered on each item of material or equipment.

12. Request for Extension of Time

All extension of time requests shall be made in writing to the Engineer within seven (7) calendar days from the delay occurrence date. In the case of continuing cause of delay, only one claim is necessary.

13. Rights-of-Way

The Contractor shall not be entitled to extra compensation for hardships and increased cost caused by the work being adjacent to telephone-telegraph lines and guy wires, power lines and guy wires, buildings, fences, pipelines, ditches, roadways, and other obstacles which may physically restrict or limit the use of construction equipment. In some cases, such physical confinement may necessitate special methods of construction of the work. If the Contractor desires to utilize additional area, he shall obtain the necessary approvals from the landowner. No additional compensation shall be paid to the Contractor for the cost of obtaining additional right-of-way or for the inability to obtain such.

14. Coordination with Other Work

Other work including but not necessarily restricted to relocation of power and telephone poles, installation of a gas line and relocation of water meters may be in progress near or at the construction site at the time the Contractor is in performance of the work specified herein. The Contractor shall coordinate his work with that of others so that prosecution of all work will proceed smoothly.

15. This item intentionally blank

16. This item intentionally blank

17. This item intentionally blank

18. Disposal of Waste Materials

Waste material shall be disposed of in accordance with local regulatory requirements. Provide watertight conveyance for liquid, semi-liquid or saturated solids which tend to bleed during transport. Liquid loss from transported materials is not permitted, whether being delivered to construction site or hauled away for disposal. Fluid materials hauled for disposal must be specifically acceptable at selected disposal site.

19. Noise Control

Conduct operations to cause least annoyance to residents in vicinity of work, and comply with applicable local ordinances. Equip compressors, hoists, and other apparatus with mechanical devices necessary to minimize noise and dust. Equip compressors with silencers on intake lines. Equip gasoline or oil-operated equipment with silencers or mufflers on intake and exhaust lines.

20. Water Supply

Water will be available to the Contractor in performance of the work without charge from all Owner fire hydrants. Prior to the use of any hydrant the Contractor shall notify the Owner and obtain and install a meter furnished by the Public Works Department on the fire hydrant. It will be the Contractor's responsibility to convey the water to the work site. Regardless of the method of conveyance chosen, it shall not be cause for closure of any streets nor shall it create a nuisance to nearby residents. An air gap shall be maintained between the hose or pipe discharge to prevent possible backflow in the event of distribution system pressure loss. The Contractor shall pay a One Thousand Dollar (\$1,000) deposit per

meter for the use of the fire hydrant meter. The deposit may be refunded in full if the fire hydrant meter is returned undamaged.

21. Notifications

The Owner will notify the Contractor in writing of any non-compliance with the foregoing provisions or of any environmentally objectionable acts and corrective action to be taken. State or local agencies responsible for verification of certain aspects of the environmental protection requirements shall notify the Contractor in writing, through the Owner, of any non-compliance with State or local requirements. The Contractor shall, after receipt of such notice from the Owner or from the regulatory agency through the Owner, immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Owner may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it is later determined that the Contractor was in compliance.

22. Work Not Listed in Proposal

It is the intent of the plans, specifications and contract documents to provide for the construction of completed and finished facilities and works of improvement unless otherwise specifically provided. Except for authorized changes in the work, payment for said complete and finished facilities and works of improvement will be made only on the basis of the contract items of work listed in the proposal. All other work, including the furnishing of plants, labor, materials, tools, equipment, and incidentals, provided for in the plans, specifications and contract documents, or required for the proper completion of the work as a whole, for which no separate payment has been provided shall be a supplementary obligation of the Contractor and payment therefore shall be considered included in the prices paid for the various contract items of work listed in the proposal.

23. Submittals

The Contractor shall submit to the Engineer, a minimum of six sets, hard copies, or one electronic copy of the following submittals for review and approval:

1. Concrete
2. Base Rock
3. Truncated Domes

Within 10 days after the effective date of the Agreement and before starting to perform any work, the Contractor shall submit to the Engineer for review and approval:

1. A work schedule indicating the times for starting and completing the various stages of the work. No progress payment shall be made to Contractor until an acceptable schedule has been submitted to the Engineer.
2. City of Los Banos Business License for Contractor and all subcontractors

If more than TWO submittals for a single item are required because of incorrect or insufficient data, or the submittal is unacceptable, or because the Contractor wishes to change previously approved material, then all costs incurred by the Owner for the additional review shall be deducted from monies due the Contractor.

A revised work schedule shall be submitted within 5 days of request by the Engineer. No future progress payments shall be made to Contractor until an acceptable schedule has been submitted to Engineer.

24. Bid Item Descriptions

Bid Item 1 – General Conditions (Max 2.5%): General conditions will be paid for on a lump sum basis and is limited to 2.5% maximum of the total bid cost. The contract lump sum price paid for General Conditions shall include full compensation for conforming to these requirements, furnishing all the fees, permitting, bonding, labor, and materials for doing all the work involved in administration and oversight of the project necessary for completion of the work as specified in the General Provisions, these Project specifications and as directed by the City.

Bid Item 2 – Mobilization/Demobilization (Max 4%): Mobilization/Demobilization will be paid for on a lump sum basis and is limited to 4% maximum of the total bid cost. The lump sum bid for this item shall include full compensation for conforming to these requirements, temporary fencing, tree protection, labor, materials, tools, equipment, incidentals, and for doing all the work involved in moving on and off the project site necessary for completion of the work.

Payment for 50 percent of Mobilization and Demobilization or 2% of Total Base Bid, whichever is less, shall be made at the time of the first progress payment after the Contractor has purchased bonds and insurance. The remaining amount shall be made at the time of the final progress payment.

Bid Item 3 – Concrete Pavement with Base Rock: The square foot price bid for this item shall include all costs for installation, soil preparation forming, sub-grade compaction, aggregate base, concrete additives and sealers, pouring concrete pavement, finishing, joints, and joint sealants in the areas indicated on the Drawings. The item also includes labor, materials and all other work required by the Drawings and Specifications which is not specifically set forth in the Bid Form as a pay item.

Bid Item 4 – Concrete Accessible Ramps: The unit price bid for this item shall include all costs for installation, soil preparation forming, sub-grade compaction, aggregate base, concrete additives and sealers, pouring concrete pavement, finishing, joints, and joint sealants and truncated domes in the areas indicated on the Drawing. The item also includes labor, materials and all other work required by the Drawings and Specifications which is not specifically set forth in the Bid Form as a pay item.

Bid Item 5 – Sub-grade Prep: The lump sum bid for this item shall include all costs associated with excavation of soil, compaction of sub-grade, installation of base materials, and compaction of the restroom sub-grade. The item also includes labor, materials and all other work required by the Drawings and Specifications which is not specifically set forth in the Bid Form as a pay item.

Technical Provisions

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.
- B. Related Requirements:
 - 1. Section 321313 "Concrete Paving" for concrete pavement and walks.

1.2 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; materials subject to compliance with requirements.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.
- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
 - 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- C. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- D. Welding Qualifications: Qualify procedures and personnel according to AWS D1.4/D 1.4M, "Structural Welding Code- Reinforcing Steel."
- E. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
 - 1. Indicate amounts of mixing water to be withheld for later addition at Project site.
- C. Steel Reinforcement Shop Drawings: Placing Drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

- D. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
 - 1. Location of construction joints is subject to approval of the City and Landscape Architect.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

- A. Form-Release Agent: Commercially formulated form-release agent that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces.
 - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- B. Form Ties: Factory-fabricated, removable or snap-off glass-fiber-reinforced plastic or metal form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 - 1. Furnish units that leave no corrodible metal closer than 1 inch to the plane of exposed concrete surface.
 - 2. Furnish ties that, when removed, will leave holes no larger than 1 inch in diameter in concrete surface.

2.2 CURING MATERIALS

- A. Water: Potable.

2.3 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
 - 1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

PART 3 - EXECUTION

3.1 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Construct forms tight enough to prevent loss of concrete mortar.
- D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast-concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
 - 1. Install keyways, reglets, recesses, and the like, for easy removal.

2. Do not use rust-stained steel form-facing material.
- E. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- F. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- G. Chamfer exterior corners and edges of permanently exposed concrete.
- H. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- I. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- J. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- K. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 REMOVING AND REUSING FORMS

- A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations, and curing and protection operations need to be maintained.
 1. Leave formwork for beam soffits, joists, slabs, and other structural elements that support weight of concrete in place until concrete has achieved at least 70 percent of its 28-day design compressive strength.
- B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing materials are not acceptable for exposed surfaces. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by City and Landscape Architect.

3.3 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Joints shall be installed and as indicated on Drawings.

3.4 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are completed.

- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by City.
- C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
- D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
 - 1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
 - 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
- E. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate. Hot-Weather Placement: Comply with ACI 301 and as follows:
 - 1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 - 2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.5 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
 - 1. Apply to concrete surfaces not exposed to public view.
- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

3.6 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

3.7 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

- B. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.

3.8 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
 - 1. Defer joint filling until concrete has aged at least one month(s). Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- C. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

3.9 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Landscape Architect. Remove and replace concrete that cannot be repaired and patched to Landscape Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part portland cement to 2-1/2 parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
 - 1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete. Limit cut depth to 3/4 inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
 - 2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar matches surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
 - 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by City.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
 - 1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 - 2. After concrete has cured at least 14 days, correct high areas by grinding.
 - 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.

4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent elevations.
 5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 6. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 7. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to City's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject City's approval.
- 3.10 FIELD QUALITY CONTROL
- A. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172/C 172M shall be performed according to the following requirements:
1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd.
 2. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mixture placed each day.
 - a. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 3. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
 4. Unit Weight: ASTM C 567/C 567M, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 5. Compression Test Specimens: ASTM C 31/C 31M.
 - a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
 6. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
 - a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.

- b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
- 7. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
- 8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
- 9. Test results shall be reported in writing to City, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
- 10. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by City but will not be used as sole basis for approval or rejection of concrete.
- 11. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by City. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by City.
- 12. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- 13. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

END OF SECTION

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Excavating and filling for rough grading the Site.
 - 2. Preparing subgrades for walks, pavements, turf and grasses, and plants.
 - 3. Subbase course for concrete walks, and pavements.
 - 4. Subbase course for asphalt paving.
 - 5. Subsurface drainage backfill for walls and trenches.
 - 6. Excavating and backfilling trenches for utilities and pits for buried utility structures.

1.3 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
 - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
 - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Base Course: Aggregate layer placed between the subbase course and foundation.
- C. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
 - 1. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.
- D. Fill: Soil materials used to raise existing grades.
- E. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- F. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.
- G. Utilities: On-site underground pipes, conduits, ducts, and cables as well as underground services within buildings.

1.4 ACTION SUBMITTALS

- A. Action submittals shall comply with the requirements of Section 19 "Earthwork" of the Standard Specifications and City Standard Specifications.

1.5 INFORMATIONAL SUBMITTALS

- A. Informational submittals shall comply with the requirements of Section 19 “Earthwork” of the Standard Specifications and City Standard Specifications.

1.6 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth-moving operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Improvements on Adjoining Property: Authority for performing earth moving indicated on property adjoining the City’s property will be obtained by the City before award of Contract.
 - 1. Do not proceed with work on adjoining property until directed by the City.
- C. Utility Locator Service: Notify "Call Before You Dig" for area where Project is located before beginning earth-moving operations.
- D. Do not commence earth-moving operations until temporary site fencing and erosion- and sedimentation-control measures specified in Section 015000 "Temporary Facilities and Controls" and Section 311000 "Site Clearing" are in place.
- E. Do not commence earth-moving operations until Tree protection measures specified in on Drawings are in place.
- F. The following practices are prohibited within protection zones:
 - 1. Storage of construction materials, debris, or excavated material.
 - 2. Parking vehicles or equipment.
 - 3. Foot traffic.
 - 4. Erection of sheds or structures.
 - 5. Impoundment of water.
 - 6. Excavation or other digging unless otherwise indicated.
 - 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- G. Do not direct vehicle or equipment exhaust towards protection zones.
- H. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. Soil materials shall comply with the requirements of Section 19 “Earthwork” of the Standard Specifications and City Standard Specifications.

2.2 ACCESSORIES

- A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored as follows:
 - 1. Red: Electric.
 - 2. Yellow: Gas, oil, steam, and dangerous materials.
 - 3. Orange: Telephone and other communications.
 - 4. Blue: Water systems.
 - 5. Green: Sewer systems.

- B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:
 - 1. Red: Electric.
 - 2. Yellow: Gas, oil, steam, and dangerous materials.
 - 3. Orange: Telephone and other communications.
 - 4. Blue: Water systems.
 - 5. Green: Sewer systems.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Preparation shall comply with the requirements of Section 19 “Earthwork” of the Standard Specifications and City Standard Specifications.

3.2 DEWATERING

- A. Dewatering shall comply with the requirements of Section 19 “Earthwork” of the Standard Specifications and City Standard Specifications.

3.3 EXCAVATION, GENERAL

- A. Excavation general shall comply with the requirements of Section 19 “Earthwork” of the Standard Specifications and City Standard Specifications.

3.4 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.5 EXCAVATION FOR UTILITY TRENCHES

- A. Excavation for utility trenches shall comply with the requirements of Section 19 “Earthwork” of the Standard Specifications and City Standard Specifications.

3.6 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Landscape Architect.
 - 1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by City.

3.7 STORAGE OF SOIL MATERIALS

- A. Stockpile and borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.8 BACKFILL

- A. Backfill shall comply with the requirements of Section 19 “Earthwork” of the Standard Specifications and City Standard Specifications.

3.9 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
 - 2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.10 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Compaction of soil backfills and fills shall comply with the requirements of Section 19 “Earthwork” of the Standard Specifications and City Standard Specifications.

3.11 GRADING

- A. Grading shall comply with the requirements of Section 19 “Earthwork” of the Standard Specifications and City Standard Specifications.

3.12 FIELD QUALITY CONTROL

- A. Field quality control shall comply with the requirements of Section 19 “Earthwork” of the Standard Specifications and City Standard Specifications.

3.13 PROTECTION

- A. Protection shall comply with the requirements of Section 19 “Earthwork” of the Standard Specifications and City Standard Specifications.

3.14 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal of surplus and waste materials shall comply with the requirements of Section 19 “Earthwork” of the Standard Specifications and City Standard Specifications.

END OF SECTION

SECTION 321313 - CONCRETE PAVING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Walks/paving

1.2 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, and ground granulated blast-furnace slag.

1.3 QUALITY ASSURANCE

- A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
 - 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities" (Quality Control Manual - Section 3, "Plant Certification Checklist").
- B. ACI Publications: Comply with ACI 301 unless otherwise indicated.

1.4 PROJECT CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples for Initial Selection: For each type of product, ingredient, or admixture requiring color selection.
- C. In-Field Samples for Verification: For each type of finish and color shall be prepared as Samples of size indicated below:
 - 1. As indicated on Drawings.
- D. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

PART 2 - PRODUCTS

2.1 FORMS

- A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, and smooth exposed surfaces.
 - 1. Use flexible or uniformly curved forms for curves with a radius of 100 feet or less. Do not use notched and bent forms.

2.2 CONCRETE MATERIALS

- A. Water: Potable and complying with ASTM C 94/C 94M.

2.3 CURING MATERIALS

- A. Water: Potable.
- B. Evaporation Retarder: Waterborne, monomolecular, film forming, manufactured for application to fresh concrete.

2.4 RELATED MATERIALS

- A. Joint Fillers: in preformed strips.

2.5 CONCRETE MIXTURES

- A. Prepare design mixtures, proportioned according to ACI 301, for each type and strength of normal-weight concrete, and as determined by either laboratory trial mixtures or field experience.
 - 1. Use a qualified independent testing agency for preparing and reporting proposed concrete design mixtures for the trial batch method.
 - 2. When automatic machine placement is used, determine design mixtures and obtain laboratory test results that meet or exceed requirements.
- B. Proportion mixtures to provide normal-weight concrete with the following properties:
 - 1. Compressive Strength @ 28 Days: Strength requirements shown on plans.
 - 2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.45.
 - 3. Slump Limit: 4 inches, plus or minus 1 inch.

2.6 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Furnish batch certificates for each batch discharged and used in the Work.
 - 1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.
- B. Proof-roll prepared subbase surface below concrete paving to identify soft pockets and areas of excess yielding.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.3 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.4 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.

3.5 JOINTS

- A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.
 - 1. When joining existing paving, place transverse joints to align with previously placed joints unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.
 - 1. Butt Joints: Use at joint locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.

1. Locate expansion joints per standard details
 2. Extend joint fillers full width and depth of joint.
 3. Terminate joint filler not less than 1/2 inch or more than 1 inch below finished surface if joint sealant is indicated.
 4. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.
 5. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
 6. During concrete placement, protect top edge of joint filler with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.
- D. Contraction/Expansion Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction/expansion joints for a depth equal to at least one-fourth of the concrete thickness, as follows, to match jointing of existing adjacent concrete paving:
1. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before developing random contraction cracks.
 - a. Tolerance: Ensure that sawed joints are within 3 inches either way from centers of dowels.
 2. Doweled Contraction Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or coat with asphalt one-half of dowel length to prevent concrete bonding to one side of joint.
- E. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool per standard details. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

3.6 CONCRETE PLACEMENT

- A. Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast-in.
- B. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.
- C. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.
- D. Do not add water to concrete during delivery or at Project site. Do not add water to fresh concrete after testing.
- E. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- F. Consolidate concrete according to ACI 301 by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.

1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement dowels and joint devices.
- G. Screed paving surface with a straightedge and strike off.
- H. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.
- I. Hot-Weather Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:
1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated in total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
 3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.7 FLOAT FINISHING

- A. General: Do not add water to concrete surfaces during finishing operations.
- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.

3.8 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- B. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.
- C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

3.9 PAVING TOLERANCES

- A. Comply with tolerances in ACI 117 and as follows:
1. Elevation: 3/8 inch.
 2. Thickness: Plus 3/8 inch, minus 1/4 inch.
 3. Surface: Gap below 10-foot- long, unleveled straightedge not to exceed 1/2 inch.
 4. Joint Spacing: Per plans.
 5. Contraction Joint Depth: Plus 1/4 inch, no minus.

6. Joint Width: Plus 1/8 inch, no minus.

3.10 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor will engage a qualified testing agency to perform tests and inspections.
- B. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
 - 1. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mixture placed each day.
 - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 - 2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
 - 3. Air Content: ASTM C 231, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 - 4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when it is 80 deg F and above, and one test for each composite sample.
 - 5. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.
 - 6. Compressive-Strength Tests: ASTM C 39/C 39M; test one specimen at seven days and two specimens at 28 days.
 - a. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at 28 days.
- C. Strength of each concrete mixture will be satisfactory if average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
- D. Test results shall be reported in writing to the City, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
- E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by the City but will not be used as sole basis for approval or rejection of concrete.
- F. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by the City.
- G. Concrete paving will be considered defective if it does not pass tests and inspections.

- H. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- I. The contractor will provide a sample of light, medium and heavy broom finish. The City will examine and approve a finish as a standard by which all other concrete on the project will be compared against.
- J. Prepare test and inspection reports.

3.11 REPAIRS AND PROTECTION

- A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by the City.
- B. Drill test cores, where directed by the City, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory paving areas with portland cement concrete bonded to paving with epoxy adhesive.
- C. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.
- D. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION

Reference

Restroom Building Calculations and Construction Plans



**ENGINEERS
PLANNERS
CONSULTANTS**

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CLIENT: Public Restroom Company
DATE: July 29, 2019
JOB NO: PUB072919-79
PROJECT: PRC #9249 Seventh Street Park –
Los Banos, CA

BUILDING CODE: ASCE 7-10
MODULE DIMENSIONS: 20'-0" x 22'-8"
ROOF SLOPE/TRUSS TYPE: 3/12
GROUND SNOW LOAD: 0 psf
WIND LOAD: Vult - 110 mph
Vasd - 86 mph
Exp. C
SEISMIC DESIGN CATEGORY: D

APPROVED
By RADCO a CA
Department of Housing
and Community
Development approved
third party design
approval agency
DM920272

CALCULATION INDEX

Page	Description
1.1-1.8	Design criteria and load combinations
2.1-2.3	Roof framing
3.1-3.3	Walls
4.1-4.4	Cap beams
5.1-5.3	Connections
6.1-6.3	Slab check

APPROVAL DATE 8/12/2019 **EXPIRATION DATE** 11/30/2020

APPROVAL NO.
501-1127



NOTE: These calculations are applicable only to the structural elements and loading criteria specifically noted herein. These calculations shall not be construed in any way to specify, certify, or design any aspects of the structure not contained herein. Structural elements not contained herein are to be constructed in accordance with the prescriptive requirements of the adopted building code or designed by other registered design professionals, as applicable. Specified design criteria are based solely on information provided by the client and must be verified and approved by the local authority having jurisdiction. NTA, Inc. is not responsible for fabrication or erection. If it is suspected that the calculations listed in this index have been modified, substituted, or altered in any way, contact NTA, Inc. directly to obtain a file copy.

NTA, Inc. holds the following Certificates of Authorization to offer engineering services under the name of a corporation: AL CA-3760-E; AK ABCC1245; AZ 15478-0; AR 1953; CT 1385; DE 3112; FL 8463; GA 2527; ID C-589; IL 184.00567; KS 1454; KY 2925; LA 2393; MD 48065; MS 2056; MO 2009010402; MT 969; NE CA1981; NV 6285; NH 1822; NJ 24GA28140400; NC C-3412; ND 330PE; OH 3274; OK CA3705PE; RI PE.0005644-COA; SC 3977; SD C-2655; TX F-10672; VA 407005528; WA 2638; WI 3330-11; WV C00381-00; WY E-1097; Alberta, Canada, 13314; Ontario, Canada 100503403.

Design Criteria Summary

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA
Location(s): LOS BANOS, CA
Substructure:



Plan Dimensions:

Ridge Length, B = 20.00 ft
 Gable Width, L = 22.67 ft
 Module Width, L_m = 11.33 ft

Vertical Dimensions:

Stories Above Grade, n = 1
 Max. Blocking Height, h_b = 8 in.
 Sidewall/Eave Height, h_e = 100 in.
 Min. Mean Roof Height, h = 15 ft

Roof Configuration:

Framing Type: Rafter
 Roof Slope, α = 3.00 /12 pitch
 Sidewall Overhang, L_{OH} = 7 in.
 Endwall Overhang, B_{OH} = 8 in.
 Roof Cavity Insulation, R = 0

Uniformly Distributed Design Loads:

Ground Floor

Floor Live, L = 50 psf
 Floor Dead, D = 80 psf
 Wall Dead Load, D_w = 50 psf
 Wall Height, h_w = 88 in.

Roof

Roof Load = 20.0 psf
 Roof Dead Load = 10 psf

Misc. Design Parameters:

Risk Category: II

Roof/Snow Load:

Ground Snow Load, P_g = 0.0 psf
 Ground Snow Load NY¹, P_{gNY} = 0.0 psf
 Min. Design Load, L_r = 20.0 psf
 Flat-Roof Snow Load, P_f = 0.0 psf
 Sloped Roof Snow Load = 0.0 psf
 Max. Unbalanced Load, P_{ub} = 0.0 psf
 Snow Exposure Factor, C_e = 1.0
 Snow Load Importance Factor, I_s = 1.00
 Thermal Factor, C_t = 1.2

Seismic Loads:

Seismic Importance Factor, I_e = 1.00
 Mapped Coefficients: S_s = 2.00 g
 S₁ = 0.72 g
 Response Coefficients: S_{DS} = 1.33 g
 S_{D1} = 0.72 g

Site Class = D
 IBC Design Category = D
 IRC Design Category = D2

Basic Seismic-Force-Resisting System:

A7. Special reinforced masonry shear walls
 Response Modification Factor R = 5.0
 Design Base Shear C_s = 0.27 W
 Analysis Procedure:
 A7. Special reinforced masonry shear walls

Wind Loads:

Wind Speed Vult = 110 mph
 Wind Speed Vasd = 86 mph
 Wind Exposure = C

Internal Pressure Coefficient = +/- 0.18
 Mean Roof Height = 15.0 ft

Flood Loads:

Site Specific flood loads have not been assessed in this analysis. For Buildings located in flood hazard areas, as established in Section 1612.3 of the IBC, floods loads must be considered as required by Section 1612 of the IBC. Furthermore, when required, the design information required by IBC section 1603.1.6 must be provided on the construction documents.

Components and Cladding Loads:

Component	End Zone (psf)	Interior Zone (psf)
Window	+16.1 / -21.6	+16.1 / -17.5
Door	+15.5 / -20.4	+15.5 / -16.9
Roof Cladding	+10 / -38	+10 / -14.8
Overhang	-50.6	-30.1

NOTES:

1. Equivalent ground snow load at a thermal factor of 1.0 for use with the NYBC/NYRC ground snow load map.

Wind Load Calculation

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA

Building Geometry:

Ridge Length, B = 20.0 ft
Total Width, L = 22.7 ft
Blocking Height, h_b = 8 in.
Sidewall/Eave Height, h_e = 100 in.
Roof Slope, a = 3.0 /12 pitch
Roof slope, a = 14.0 deg.
Sidewall Overhang, L_{OH} = 7 in.
Endwall Overhang, B_{OH} = 8 in.

Loading Conditions:

Wind Speed V_{asd} = 86 mph
Exposure Category: C
Topographic Factor, K_{zt} = 1.0
Height & Exposure, K_h = 0.85
Directionality, K_d = 0.85
Wind Pressure, q_h = 13.7 psf
Internal Pressure, G_{cpi} = 0.18
-0.18

Height Above Grade:

Sidewall Eave, z = 9.0 ft
Roof Peak, z = 12.0 ft
Mean Roof Height, h = 15.0 ft

Component Dimensions:

Stud Height, h_s = 88 in
Truss Span, s_t = 136 in

Main Windforce-Resisting System Loads (MWFRS):

Normal to Surface

		1	2	3	4	5	6	1E	2E	3E	4E
Trans	+GC _{pi}	4.1	-11.9	-8.4	-7.6	-8.6	-8.6	7.4	-17.1	-11.0	-10.1
	-GC _{pi}	9.0	-7.0	-3.5	-2.7	-3.7	-3.7	12.4	-12.2	-6.1	-5.2
	Max	9.0	-11.9	-8.4	-7.6	-8.6	-8.6	12.4	-17.1	-11.0	-10.1
Long	+GC _{pi}	3.0	-11.9	-7.5	-6.4	-8.6	-8.6	5.9	-17.1	-9.7	-8.3
	-GC _{pi}	7.9	-7.0	-2.6	-1.5	-3.7	-3.7	10.8	-12.2	-4.8	-3.4
	Max	7.9	-11.9	-7.5	-6.4	-8.6	-8.6	10.8	-17.1	-9.7	-8.3

Summed and Projected

	HORIZONTAL LOADS				VERTICAL LOADS						MAXIMUM HORIZONTAL WALL LOADS			
	End Zone		Interior Zone		End Zone		Interior Zone		Windward Overhang		Zone			
	Wall	Roof	Wall	Roof	WW Roof	LW Roof	WW Roof	LW Roof	End	Interior	1E	4E	1	4
Trans	17.5	-6.1	11.7	-3.5	-17.1	-11.0	-11.9	-8.4	-23.9	-18.7	12.4	-10.1	9.0	-7.6
Long	14.2	-6.1	9.4	-3.5	-17.1	-9.7	-11.9	-7.5	-23.9	-18.7	12.4	-10.1	7.9	-6.4

Components and Cladding Loads (C&C):

C&C End Zone Distance, a = 3.0 ft

Roof Components:	Area (ft ²)	Pressure (psf)		
		Pos	Neg	
Zone 1:	Maximum	10	10.0	-14.8
	Minimum	100	10.0	-13.4
	Truss / Rafter	42.8	10.0	-13.9
	Overhang	0.3	n/a	-30.1
Zone 2:	Maximum	10	10.0	-25.7
	Minimum	100	10.0	-18.9
	Truss / Rafter	42.8	10.0	-21.4
	Overhang	0.3	n/a	-30.1
Zone 3:	Maximum	10	10.0	-38.0
	Minimum	100	10.0	-29.8
	Truss / Rafter	42.8	10.0	-32.8
	Overhang	0.3	n/a	-50.6

Wall Components:	Area (ft ²)	Pressure (psf)		
		Pos	Neg	
Zone 4:	Maximum	10	16.1	-17.5
	Minimum	100	13.7	-15.1
	Door	17.8	15.5	-16.9
	Stud	17.9	15.5	-16.9
Zone 5:	Maximum	10	16.1	-21.6
	Minimum	100.0	13.7	-16.8
	Door	17.8	15.5	-20.4
	Stud	17.9	15.5	-20.4

Snow Load Assessment

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA

Design Parameters:

Eave to ridge Distance, $W = 12$ ft
Ground Snow Load, $p_g = 0$ psf
Exposure Factor, $C_e = 1.0$
Thermal Factor, $C_t = 1.2$
Importance Factor, $I_s = 1.0$

Framing Type: *Simple Prismatic/Rafters*

Sloped Roof Snow Loads:

α (deg)	$C_1 = 1.0$	C_2 $C_1 = 1.1$	$C_1 = 1.2$	P_s (psf)
14.0	1.00	1.00	1.00	0.0

Snow Density (γ):

$\gamma = 0.13 p_g + 14 = 14$ pcf
but not more than 30 pcf

Ice Dams Along Eaves²:

$P_s = 2 P_f = 0.0$ psf

Flat-Roof Snow Load (p_f):

$p_f = 0.7 C_e C_t I_s p_g = 0.0$ psf

Minimum Roof Live Load (Lr): (IBC 1607.11.2.1);

$R_1 = 1.0$
 $R_2 = 1$
 $F = 3.0$
 $L_r = 20 R_1 R_2 = 20.0$ psf
 $12 \leq L_r \leq 20$

Rain on Snow Surcharge:

$\alpha_{max} = 0.23833$ deg
 $p_g \leq 20$ psf $p_{rs} = 0.0$ psf
 $p_f = 0.0$ psf

Minimum Values for Low-Slope Roofs:

Applicable to roof slopes less than

Monoslope roofs = 15.0 deg
or $\alpha_{min} = 70/W + 0.5 = 6.4$ deg
2.38 deg
 $\alpha_{min} = 15.0$ deg

$p_g \leq 20$ psf $p_f = I_s p_g = 0.0$ psf
 $p_g > 20$ psf $p_f = 20 I_s = 20.0$ psf
 $p_{fmin} = 0.0$ psf
 $p_f = 0.0$ psf

Unbalanced Snow Loads:

Applicable to roof slopes between:

$\alpha_{max} = 70.00$ deg
 $\alpha_{min} = 70/W + 0.5 = 6.37$ deg
 $\alpha_{min} = 2.38$ deg
governing $\alpha_{min} = 2.38$ deg

Unbalanced Loads:

$S = 4.00$ ft
 $W = l_u = 20.0$ ft
 $h_d = 0.58$ ft

P_{ww} (psf)	Ridge (psf)	P_{lw} Length (ft)	Eave (psf)
0.0	0.0	0.0	0.0

- Notes: 1. Higher loads may apply were sliding snow or drifting occurs due to aerodynamic shade from higher portions of the building.
2. Applies only to unventilated roofs with less than R-30, and ventilated roofs with less than R-20. No other loads, except dead loads shall be present on the roof when this uniformly distributed load is applied.

Seismic Load Calculation

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA
Location: LOS BANOS, CA

Design Classification:

Risk Category: II
 Importance Category, I_E : 1.00
 Site Class: D
 ASCE 7 Design Category: D
 IRC Design Category: D2
 Seismic Resisting System: A7. *Special reinforced masonry shear walls*
 Response Factor, R: 5.0
 System Overstrength Factor, Ω_o : 2.5
 Deflection Amplification Factor, C_d : 3.5

Response Acceleration: (ASCE 7, Figs. 22-1, 22-2)

Short Period (S_s) = 199.626 %g
 1-Second Period (S_1) = 72.326 %g

Spectral Response Acceleration:

Mapped		Site Coeff.		Maximum		Design	
S_s	S_1	F_R	F_V	S_{MS}	S_{M1}	S_{DS}	S_{D1}
2.00	0.72	1.00	1.50	2.00	1.08	1.33	0.72

Fundamental Period: (ASCE 7, Sec. 12.8.1.1)

Period Coefficient, C_T = 0.020
 Height to Highest Level, h_n = 8.3 ft
 $T_n = C_T h_n^{0.9} = 0.098$ sec

Seismic Response Coefficient: (Lateral Force Procedure, ASCE 7, Sec. 9.5.5.2)

$C_{s,min} = 0.044 S_{DS} I_E = 0.059$

$C_s = \frac{S_{DS}}{R/I_E} = 0.266$

$C_{s,max} = \frac{S_{D1}}{(R/I_E) T} = 1.47$

Min. For SDC E of F:
 $C_{s,min} = \frac{0.5 S_1}{R/I_E} = 0.072$

Sec 12.8.1.1 Design $C_s = 0.266$

Seismic Response Coefficient: (Simplified Analysis, Sec. 1617.5)

$F =$

$C_s = \frac{1.2 S_{DS}}{R} = 0.319$

Sec 12.14.8 Design $C_s = 0.319$

Seismic Base Shear:

Base Shear Coefficient, $C_b = 0.266 W$

Minimum Interconnection Force: (ASCE 7, Sec. 12.1.3)

$0.133 \times S_{DS} = 0.177 W$
 Min. = 0.050 W
 $C_{S_{MIN}} = 0.177 W$

Redundancy Factor, ρ :

1 per Table 12.3-3

Seismic Base Shear:

Base Shear Coefficient, $C_b = 0.266 W$

Out of Plane Wall Forces: (ASCE 7 12.11.1)

Maximum out of plane for ASD = 16.6 psf

Anchorage of Structural Walls: (ASCE 7 12.11.2)

Maximum force for ASD = 819.8 pif

Anchorage of Structural Walls to Flexible Diaphragms: (ASCE 7 12.11.2.1)

Maximum force for ASD = 273.3 pif

1.4

Allowable Stress Design (ASD) Load Combinations
Supporting Roof Purlins Perpendicular to Ridge – End Zone Wind Loads

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA
Location: LOS BANOS, CA



Unit Geometry:

Unit Width (B) =	11.3333 ft	Unit Width (L) =	20 ft
Sidewall Overhang (B _{OH}) =	7.0 in.		
Endwall Overhang (B _{OE}) =	8.0 in.		
Roof Pitch =	3 /12		
Max.Truss Spacing, s =	24 in. oc		

Roof Loads:

Snow Load (S) =	0.0 psf
Unbalanced Snow (S _u) =	0.0 psf
Roof Live Load (L _r) =	20.0 psf
TC Dead Load (TCDL) =	10.0 psf
BC Live Load (L) =	0.0 psf
BC Dead Load (BCDL) =	0.0 psf

Wind Loads:

		W _{W_{OH}}	W _W	L _W
Transverse	End Zone	-23.9	-17.1	-11.0
	Interior Zone	-18.7	-11.9	-8.4
Longitudinal	End Zone	-23.9	-17.1	-9.7
	Interior Zone	-18.7	-11.9	-7.5
End Zone Width		6.0 ft		

Vertical Load Cases:

Load Combination	Sidewall	Matewall	Endwall ¹
1 D	62	57	17 plf
2 S	0	0	0 plf
3 S _u	0	0	0 plf
4 L _r	125	113	33 plf
5 L	0	0	0 plf
6 W _p	0	0	0 plf
7 W _n	-112	-97	-33 plf
8 0.75(L+L _r)	94	85	25 plf
9 0.75(L+S)	0	0	0 plf
10 0.75(L+S _u)	0	0	0 plf
11 0.75(L+S+W _p)	0	0	0 plf
12 D+L	62	57	17 plf
13 D+L _r	187	170	50 plf
14 D+S	62	57	17 plf
15 D+S _u	62	57	17 plf
16 D+0.75(L+L _r)	156	142	42 plf
17 D+0.75(L+S)	62	57	17 plf
18 D+0.75(L+S _u)	62	57	17 plf
19 D+0.75(L+S+W _p)	62	57	17 plf
20 0.6D+W _n	-75	-63	-23 plf

Combined Lateral & Vertical:

Maximum Bending Case & Tension:

Load Combination	Sidewall	Endwall
1 D	62	17 plf
2 W _n	-112	-33 plf
Maximum Up	-75	-23 plf
Lateral Pressure	12.4	12.4 psf

Maximum Axial Load Case:

Load Combination	Sidewall	Endwall
1 D+0.75(L+L _r)	156	42 plf
2 D+0.75(L+S)	62	17 plf
3 D+0.75(L+S _u)	62	17 plf
4 D+0.75(L+S+W _p)	62	17 plf
Maximum Down	156	42 plf
Lateral Pressure	9.3	9.3 psf

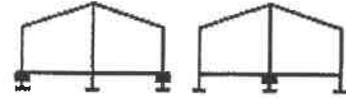
Governing Uniform Loads at Walls: (Vertical only)

Sidewall:	Matewall: (total load)	Endwall:
Uplift Load = -75 plf (0.6D+W _n)	Uplift Load = -63 plf (0.6D+W _n)	Uplift Load = -23 plf (0.6D+W _n)
Dead Load = 62 plf (D)	Dead Load = 57 plf (D)	Dead Load = 17 plf (D)
Live Load = 125 plf (L _r)	Live Load = 113 plf (L _r)	Live Load = 33 plf (L _r)
Total Load = 187 plf (D+L _r)	Total Load = 170 plf (D+L _r)	Total Load = 50 plf (D+L _r)

1.5

Allowable Stress Design (ASD) Load Combinations
Supporting 1 Floor, Roof and Ceiling Only-End Zone Wind Loads

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA
Location: LOS BANOS, CA



One Floor, Roof & Ceiling Only
0-in. Unit Width
86 mph (Exp C/End Zone)
0 psf Ground Snow, 3/12 Pitch

Unit Geometry:

Unit Width (B) = 0 in.
Max Joist Spacing, s = 0 in. oc

Ground Floor Loads:

Floor Live Load (L) = 50 psf
Floor Dead Load (D) = 80 psf
Wall Dead Load (Dw) = 367 plf

Vertical Load Cases:

	Load Combination	Sidewall	Endwall ¹
1	D	429	383 plf
2	S	0	0 plf
3	S _a	0	0 plf
4	L _r	125	33 plf
5	L	0	0 plf
6	W _p	0	0 plf
7	W _n	-112	-33 plf
8	0.75(L+L _r)	94	25 plf
9	0.75(L+S)	0	0 plf
10	0.75(L+S _u)	0	0 plf
11	0.75(L+S+W _p)	0	0 plf
12	D+L	429	383 plf
13	D+L _r	554	417 plf
14	D+S	429	383 plf
15	D+S _u	429	383 plf
16	D+0.75(L+L _r)	523	408 plf
17	D+0.75(L+S)	429	383 plf
18	D+0.75(L+S _u)	429	383 plf
19	D+0.75(L+S+W _p)	429	383 plf
20	0.6D+W _n	0	0 plf

Combined Lateral & Vertical:

Maximum Bending Case:

Load Combination	Sidewall	Endwall
1 D	429	383 plf
2 D+W _p	429	0 plf
Maximum Down	429	383 plf
Lateral Pressure	12.4	12.4 psf
NDS LDF =	1.6	

Maximum Axial Load Case:

Load Combination	Sidewall	Endwall
1 D+0.75(L+L _r)	523	408 plf
2 D+0.75(L+S)	429	383 plf
3 D+0.75(L+S _u)	429	383 plf
4 D+0.75(L+S+W _p)	429	383 plf
Maximum Down	523	408 plf
Lateral Pressure	9.3	9.3 psf

Ground Floor Load Only (at mateline):

Dead Load = 0 plf (D)
Live Load = 0 plf (L)
Total Load = 0 plf (D+L)

Governing Uniform Loads at Walls: (Vertical only)

Sidewall:	Endwall:
Uplift Load = 0 plf (0.6D+W _n)	Uplift Load = 0 plf (0.6D+W _n)
Dead Load = 429 plf (D)	Dead Load = 383 plf (D)
Live Load = 125 plf (L _r)	Live Load = 33 plf (L _r)
Total Load = 554 plf (D+L _r)	Total Load = 417 plf (D+L _r)

1.6

Lateral Load Analysis
 One-Story Building, Flexible Diaphragm

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA

Building Geometry:

Ridge Length, B = 20.0 ft
 Gable Width, L = 22.7 ft
 Module Width = 11.3 ft
 Blocking Height, h_b = 8.0 in.
 Sidewall/Eave Height, h_e = 100.0 in.
 Roof Slope, a = 3.0 /12 pitch
 Roof slope, a = 14.0 deg.
 Sidewall Overhang, L_{OH} = 7.0 in.
 Endwall Overhang, B_{OH} = 8.0 in.

Loading Conditions:

Wind Speed = 86 mph
 Exposure Category: C

Height Above Grade:

Stories Above Grade = 1.0
 Sidewall Eave (z) = 9.0 ft
 Roof Peak (z) = 12.0 ft
 Mean Roof Height (h) = 15.0 ft
 Foundation Type: Slab on grade

Seismic Design Parameters:

Seismic Use Group: II
 Importance Category, I_E: 1.00
 Site Class: D
 Response Factor, R: 5.0

ASD Adjustment Factor = 0.7
 IBC Seismic Design Cat.: D
 IRC Seismic Design Cat.: D2
 S_D = 1.33
 C_s = 0.32

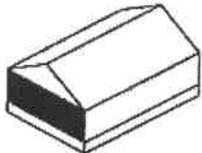
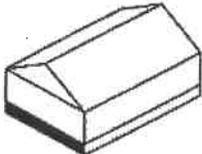
	Ground	Other	Roof
Wall Height, h _w (in.)	88	0	n/a
Wall Dead Weight (psf)	50	0	n/a
Floor/Level Dead Weight (psf)	80	0	10
Bottom Chord Dead Weight (psf)	--	--	0
Seismic Live Load (psf)	0	0	0

Transverse Diaphragm Parameters:

Wall Height = 7.3 ft
 Vertical Roof Projection = 3.0 ft
 Misc. Framing Height = 1.0 ft/level
 Blocking Height = 0.7 ft
 Endwall Weight = 9999 lbm

Horizontal Wind Pressure (MWFRS)			
Transverse	Net Wall	End Zone	17.5
		Interior	11.7
	Net Roof	End Zone	0.0
		Interior	0.0
	Max. Wall	End Zone	10.1
		Interior	7.6
	Max. Roof	End Zone	11.0
		Interior	8.4

MWFRS End Zone, 2a = 6.0 ft

Transverse Lateral Forces		Wind	Seismic		
		Net	Weight	Net	
1st of 1 Story		End (plf)	73	--	--
		Interior (plf)	71	--	--
		Diaphragm (plf)	--	777	174
		Endwalls (lbf/wall)	--	5000	1118
		Force to Endwall Shearwall (lbf)	724	25533	2854
		Level OTM (ft-kip)	5.3	--	20.9
		Base of 1 Story		End (plf)	73
Interior (plf)	49	--		--	
Diaphragm (plf)	--	2363		528	
Endwalls (lbf/wall)	--	5000		1118	
Force to Endwall Foundation (lbf)	1356	82799		9256	
Base OTM (ft-kip)	6.7	--		30.2	

Lateral Load Analysis
 One-Story Building, Flexible Diaphragm

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA

Longitudinal Diaphragm Parameters:
 Wall Height = 7.3 ft
 Vertical Roof Projection = 3.0 ft
 Misc. Framing Height = 1.0 ft/level
 Blocking Height = 0.66667 ft
 Sidewall Weight = 7333 lbm

Horizontal Wind Pressure (MWFRS)			
Longitudinal	Net Wall	End	14.2
		Interior	9.4
	Net Roof	End	--
		Interior	--
	Max. Wall	End	10.1
		Interior	7.6
	Max. Roof	End	--
		Interior	--

MWFRS End Zone, 2a = 6.0 ft

Longitudinal Lateral Forces		Wind	Seismic		
		Net	Weight	Net	
1st of 1 Story		End Max (plf)	81	--	--
		Min (plf)	59	--	--
		Interior Max (plf)	67	--	--
		Min (plf)	53	--	--
		Diaphragm (plf)	--	263	59
		Sidewalls (lbf/wall)	--	3667	820
		Force to Sidewall Shearwall (lbf)	758	6643	1485
		Level OTM (ft-lbf)	5.6	--	10.9
Roof Diaphragm Only		End Max (plf)	11	--	--
		Min (plf)	0	--	--
		Interior Max (plf)	14	--	--
		Min (plf)	7	--	--
		Diaphragm (plf)	--	-61	-14
		Force to Sidewall Shearwall (lbf)	87	-690	-154
Ceiling Diaphragm Only		End Max (plf)	70	--	--
		Min (plf)	59	--	--
		Interior Max (plf)	53	--	--
		Min (plf)	46	--	--
		Diaphragm (plf)	--	324	72
		Force to Sidewall Shearwall (lbf)	672	3667	820
Base of 1 Story		End Zone (plf)	59	--	--
		Interior (plf)	39	--	--
		Diaphragm (plf)	--	1924	430
		Sidewalls (lbf/wall)	--	3667	820
		Force to Sidewall Foundation (lbf)	1324	25466.7	7179
		Base OTM (ft-lbf)	6.9	--	18.1

1.8

Roof Rafter Spans

Client: Public Restroom Company
Job Number: PUB072919-79
Description: 136-in. Unit Width

86 mph (Exp C/End Zone)
0 psf Ground Snow, 3/12 Pitch

Loading Conditions:

Roof Loads:

Snow Load (S) =	0.0 psf
Unbalanced Snow (S _u) =	0.0 psf
Min. Roof Live Load (L _r) =	20.0 psf
TC Dead Load (DL) =	10 psf

Wind Loads (Vertical-End Zone):

Slope Factor =	1.03 (applied to all wind pressures)
Positive (W _p) =	0.0 psf (MWFRS)
Negative (W _n) =	-17.6 psf (MWFRS)

C&C

	Pressure (psf)	
	Pos	Neg
Zone 2	10.3	-22.1
Zone 3	10.3	-33.9

Load Combination Assessment:

Load Combination		NDS LDF
D	10 psf	0.90
S	0 psf	1.15
S _u	0 psf	1.15
L _r	20 psf	1.25
W _p (MWFRS)	0 psf	1.60
W _n (MWFRS)	-18 psf	1.60
W _p (C&C)	10 psf	1.60
W _n (C&C)	-22 psf	1.60

Load Combination		NDS LDF
0.75(S+W _p)	0 psf	1.60
D+L _r	30 psf	1.25
D+S	10 psf	1.15
D+S _u	10 psf	1.15
D+0.75(S+W _p)	10 psf	1.60
0.6D+W _n	-16 psf	1.60
D+W _p	20 psf	1.60

Governing Live Load: 20 psf (L_r)
Governing Total Load: 30 psf (D+L_r)
NDS Design Load: 30 psf (D+L_r)
Load Duration Factor (C_D): 1.25

Deflection Limits:

L Deflection Limit: L / 240
L+ 0.5D Deflection Limit: L / 180
Repetitive Member Factor (C_r) = 1.15

Roof Rafter Configurations:

	b	d	Grade	Species	Spacing	C _{Fb}	F _b	Tabulated			Allowable	
								F _v	F _{o1}	E	F _b '	F _v '
1	1.5	5.5	#1	DF	24	1.30	1000	180	625	1700000	1869	225
2												
3												
4												
5												

Roof Rafter Configurations:

	A	S _{xx}	I _{xx}	Design Limit States				R _{TL} ¹	R _{UP} ¹	Horizontal Maximum Span
				Bending	Shear	Δ _L	Δ _{L+0.5D}			
2x6 #1 DF 24-in. oc	8.25	7.56	20.80	150	506	150	144	361	-188	144-in. (12-ft 0-in.)

Maximum rafter span = 11'-4"

Reactions:

TL = 30psf(2ft)(11.33ft)0.5 = 340lbs
UP = 21psf(2ft)(11.33ft)0.5 = 238lbs

Connections:

#12 screw = 340lbs
Simpson H1 = 370lbs
Simpson GA2 = 370lbs

At sidewall attach rafter to wood filler with (1) Simpson GA2 tie and wood filler to cap beam with #12 screws at 12"oc staggered
At ridge attach rafter to ridgebeam with Simpson H1

Simple Span Glulam Purlin Design - set plumb - top beveled

Client: Public Restroom Company
 Job Number: PUB072919-79
 Description: PRC #9249 Seventh Street Park - Los Banos, CA
 Location: LOS BANOS, CA

Glulam = 24F V4

Roof Loads:

Snow Load (S) =	0 psf	Purlin Space =	68.0 in
Unbalanced Snow (Su) =	0 psf	Uniform Dead =	58.67 pif
Roof Live Load (Lr) =	20 psf	Uniform Live =	113.33 pif
Governing =	20 psf	Uniform Uplift =	-96.90 pif
TC Dead Load (TCDL) =	10 psf	Purlin Span =	18.5 ft
Wind Uplift =	-17.10 psf	Cantilever Span =	1.5 ft

Reactions:

	Live	Dead	Wind	Wind net Dead
R1	1041	521	-890	-578
R2	1225	613	-1048	-680

Duration Factors:

Snow/Roof =	1.15
Wind =	1.6
LL Deflection Limit =	240
0.5DL + LL Deflection =	180

Gravity Loads:

Shear Required =	1582.84 lbf	Beam Width, b =	3.125 in
Moment Required =	7177.50 ft-lbf	min depth, V =	6 in
EI required =	470.86 10 ⁶ lbf-in ²	min depth, M =	10.5 in
		min depth, EI =	12 in

Wind Uplift:

Shear Required =	902.19 lbf	Beam Width, b =	3.125 in
Moment Required =	4091.07 ft-lbf	min depth, V =	6 in
EI required =	278.74 10 ⁶ lbf-in ²	min depth, M =	7.5 in
		min depth, EI =	10.5 in

Governing Minimum Depth = 12 in

See previous calculations for reduced section properties

**Allowable Stress Design of Reinforced Masonry Side Walls
Supporting Roof Purlins Perpendicular to Ridge**

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA
Location: LOS BANOS, CA

Unit Geometry:

Unit Width (B) =	11.3333333 ft	Unit Width (L) =	20 ft
Sidewall Overhang (B _{OH1}) =	7.0 in.	Roof Pitch =	3 /12
Endwall Overhang (B _{OH2}) =	8.0 in.	Wall Height =	8 ft

Design Loads:

Axial Wind:	-75 plf	
Lateral Wind:	12.4 plf	
Lateral Seismic:	18.6319467 plf	Governs

Vertical Wall Check:

Nominal Block Thickness =	4 in	net thickness =	3.625 in
CMU Density =	100 pcf	Depth to bars, d _e =	1.8125 in
Mortar Density =	125 pcf		
Grout Density =	140 pcf		
Masonry Strength, f _m =	1500 psi	Allowable Comp Stress =	500 psi
Allowable Shear Stress, F _v =	38.7 psi	ASCE 5 - 2.3.5.2.2 a	
Modulus of Masonry, E _m =	1125000 psi	ASCE 5 - 1.8.2.2.1	
Yield Stress of rebars =	60000 psi		
Modulus of Steel, E =	29000000 psi	Modular Ratio η =	25.78
Allowable rebar Stress, F _s =	24000 psi	ASCE 5 - 2.3.2.1	
Vertical rebar Size =	3	Area of bar, A _s =	0.11 in ²
Vertical bar Spacing =	8		
As per Foot =	0.1650		
Reinforcing Ratio, ρ =	0.0076 Meets ASCE 5 - 1.14.6		
k =	0.4310	j =	0.8563
K _s =	155.91 psi	K _m =	92.27 psi
K governing, K _g =	92.27 psi		
Allowable Moment =	303.13 ft-lbf/ft	Allowable Shear =	842.37 lbf/ft
Allowable pressure, bending =	37.89 psf	Allow pressure, shear =	210.59 psf
Allowable Lateral Pressure =	37.89 psf	Applied/Allowable =	0.33 <1 OK
Allowable Uplift =	3960	Applied/Allowable =	0.02 <1 OK
Interaction Equation =	0.35 <1 OK		

**Allowable Stress Design of Reinforced Masonry End Walls
Supporting Roof Purlins Perpendicular to Ridge**

Client: Public Restroom Company
 Job Number: PUB072919-79
 Description: PRC #9249 Seventh Street Park - Los Banos, CA
 Location: LOS BANOS, CA

Unit Geometry:

Unit Width (B) =	11.3333333 ft	Unit Width (L) =	20 ft
Sidewall Overhang (B _{OH}) =	7.0 in.	Roof Pitch =	3 /12
Endwall Overhang (B _{OHE}) =	8.0 in.	Wall Height =	8 ft

Design Loads:

Axial Wind:	-23 plf	Governs
Lateral Wind:	12.4 plf	
Lateral Seismic:	18.6319467 plf	

Vertical Wall Check:

Nominal Block Thickness =	4 in	net thickness =	3.625 in
CMU Density =	100 pcf	Depth to bars, d _e =	1.8125 in
Mortar Density =	125 pcf		
Grout Density =	140 pcf		
Masonry Strength, f _m =	1500 psi	Allowable Comp Stress =	500 psi
Allowable Shear Stress, F _v =	38.7 psi	ASCE 5 - 2.3.5.2.2 a	
Modulus of Masonry, E _m =	1125000 psi	ASCE 5 - 1.8.2.2.1	
Yield Stress of rebars =	60000 psi		
Modulus of Steel, E =	29000000 psi	Modular Ratio n =	25.78
Allowable rebar Stress, F _s =	24000 psi	ASCE 5 - 2.3.2.1	
Vertical rebar Size =	3	Area of bar, A _s =	0.11 in ²
Vertical bar Spacing =	8		
A _s per Foot =	0.1650		
Reinforcing Ratio, ρ =	0.0076 Meets ASCE 5 - 1.14.6		
k =	0.4310	j =	0.8563
K _s =	155.91 psi	K _m =	92.27 psi
K governing, K _g =	92.27 psi		
Allowable Moment =	303.13 ft-lb/ft	Allowable Shear =	842.37 lb/ft
Allowable pressure, bending =	37.89 psf	Allow pressure, shear =	210.59 psf
Allowable Lateral Pressure =	37.89 psf	Applied/Allowable =	0.33 <1 OK
Allowable Uplift =	3960	Applied/Allowable =	0.01 <1 OK
Interaction Equation =	0.33 <1 OK		

Allowable Stress Design of Reinforced Masonry Shear Walls

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA
Location: LOS BANOS, CA

	<i>End Walls</i>					<i>Side Walls</i>
Wall Height =	8 ft					8 ft
Nominal Block Thickness =	4 in					4 in
Masonry Strength, f_m =	1500 psi					1500 psi
Joint Reinforcement =	Dur-O-Wall Ladur					
Type =	2 - #9 side rods					2 - #9 side rods
Vertical Spacing =	8 in o.c.					8 in o.c.
As per foot =	0.052 OK > min H					0.052 OK > min H
J =	0.856					0.856
Shear Forces						
Wind =	724 lbf					758 lbf
Seismic =	2854 lbf					1485 lbf
Governing =	1998 lbf					1040 lbf
End Wall A Segments:		Shear	fv, psi	M/Vd	Fv, psi	
Lengths, ft =	22.67	1998	3.2	0.35	64.1 OK	
Total =	22.67	1998 lbf				
End Wall B Segments:		Shear	fv, psi	M/Vd	Fv, psi	
Lengths, ft =	3.33	999	10.9	2.40	38.7 OK	
	3.33	999	10.9	2.40	38.7 OK	
Total =	6.67	1998 lbf				
Side Wall 1 Segments:		Shear	fv, psi	M/Vd	Fv, psi	
Lengths, ft =	3.33	208	2.3	2.40	38.7 OK	
	13.33	832	2.3	0.60	53.0 OK	
Total =	16.67	1040 lbf				
Side Wall 3 Segments:		Shear	fv, psi	M/Vd	Fv, psi	
Lengths, ft =	20.00	1040	1.9	0.40	62.0 OK	
Total =	20.00	1040 lbf				
Vertical Bar Check:						
Maximum Tension =	2398 lbf					
Corner Bar =	4					
Number of Bars =	1					
As =	0.2 in ²	Allowable Tension, lbf =	4800 OK			

AISC ASD Beam Analysis

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA Horiz Cap Beam
 Col Line A

Member Properties:

US Designation: *HSS6x4x1/8*
 Metric Designation: *HSS152.4X101.6X3.2*
 Beam Depth (d) = 6 in.
 Web Thickness (t_w) = 0.12 in.
 Web Height (T) = 6.00 in.
 Moment of Inertia (I_x) = 11.4 in.⁴
 Section Modulus (S_x) = 3.81 in.³
 Beam Weight (W_b) = 8.14904 plf

Steel Properties:

Grade: A500
 F_y = 46 ksi
 E = 29500 ksi

Deflection Limits:

Live Load: L/ 240
 Dead + Live Load: L/ 240

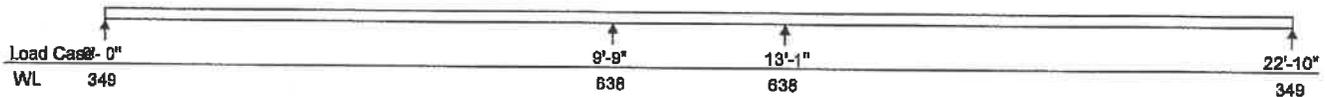
Uniform Loads:

Case	Magnitude	Position
WL	-88.4 plf	Full Length

Concentrated Loads:

Case	Magnitude	Position
------	-----------	----------

Loading Diagram:



Bending Capacity:

Maximum Unbraced Length, Lb =	bf =	Limit	Fb
32 in.	4	0.0	30.4
Lc = 34 in.	tf = 0.116	32.4	27.6
Cb = 1.00	Af = 0.46	47.1	27.6
l/rT = 30.9	rT = 1.04	105.3	27.6

F_b = 30.4 ksi F_u = 2.2 ksi Ratio: 0.07 **OK**

Deflection:

Δ_{LL} = 0.031 in. L/ 3774 Ratio: 0.06 **OK**
 $\Delta_{DL} + \Delta_{LL}$ = 0.031 in. L/ 3774 Ratio: 0.06 **OK**

AISC ASD Beam Analysis

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA Horiz Cap Beam
 Col Line B

Member Properties:

US Designation: *HSS6x4x1/8*
 Metric Designation: *HSS152.4X101.6X3.2*
 Beam Depth (d) = 6 in.
 Web Thickness (t_w) = 0.12 in.
 Web Height (T) = 6.00 in.
 Moment of Inertia (I_x) = 11.4 in.⁴
 Section Modulus (S_x) = 3.81 in.³
 Beam Weight (W_b) = 8.14904 plf

Steel Properties:

Grade: A500
 F_y = 46 ksi
 E = 29500 ksi

Deflection Limits:

Live Load: L/ 240
 Dead + Live Load: L/ 240

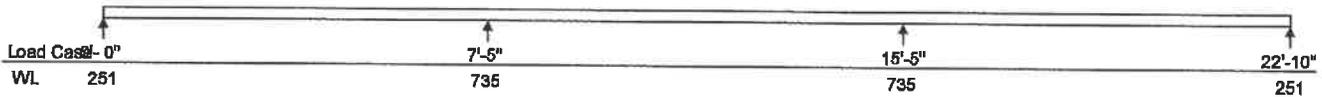
Uniform Loads:

Case	Magnitude	Position
WL	-88.4 plf	Full Length

Concentrated Loads:

Case	Magnitude	Position
------	-----------	----------

Loading Diagram:



Bending Capacity:

Maximum Unbraced Length, Lb =	bf =	Limit	Fb
32 in.	4	0.0	30.4
Lc = 34 in.	tf = 0.116	32.4	27.6
Cb = 1.00	Af = 0.46	47.1	27.6
l/rT = 30.9	rT = 1.04	105.3	27.6

F_b = 30.4 ksi F_u = 1.6 ksi Ratio: 0.05 **OK**

Deflection:

Δ_{LL} = 0.009 in. L/ 10306 Ratio: 0.02 **OK**
 $\Delta_{DL} + \Delta_{LL}$ = 0.009 in. L/ 10306 Ratio: 0.02 **OK**

AISC ASD Beam Analysis

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA Horiz Cap Beam
 Col Line 1

Member Properties:

US Designation: *HSS6x4x1/8*
 Metric Designation: *HSS152.4X101.6X3.2*
 Beam Depth (d) = 6 in.
 Web Thickness (t_w) = 0.12 in.
 Web Height (T) = 6.00 in.
 Moment of Inertia (I_x) = 11.4 in.⁴
 Section Modulus (S_x) = 3.81 in.³
 Beam Weight (W_b) = 8.14904 plf

Steel Properties:

Grade: A500
 F_y = 46 ksi
 E = 29500 ksi

Deflection Limits:

Live Load: L/ 240
 Dead + Live Load: L/ 240

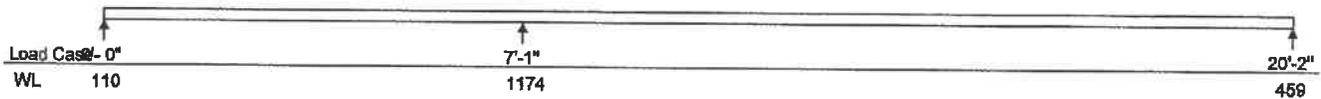
Uniform Loads:

Case	Magnitude	Position
WL	-86.4 plf	Full Length

Concentrated Loads:

Case	Magnitude	Position
------	-----------	----------

Loading Diagram:



Bending Capacity:

Maximum Unbraced Length, L _b =	bf =	Limit	F _b
32 in.	4	0.0	30.4
L _c = 34 in.	tf = 0.116	32.4	27.6
C _b = 1.00	A _f = 0.46	47.1	27.6
l/r _T = 30.9	r _T = 1.04	105.3	27.6

F_b = 30.4 ksi F_u = 4.4 ksi Ratio: 0.14 **OK**

Deflection:

Δ_{LL} = 0.094 in. L/ 1666 Ratio: 0.14 **OK**
 Δ_{DL}+Δ_{LL} = 0.094 in. L/ 1666 Ratio: 0.14 **OK**

AISC ASD Beam Analysis

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA Horiz Cap Beam
 Col Line 3

Member Properties:

US Designation: *HSS6x4x1/8*
 Metric Designation: *HSS152.4X101.6X3.2*
 Beam Depth (d) = 6 in.
 Web Thickness (t_w) = 0.12 in.
 Web Height (T) = 6.00 in.
 Moment of Inertia (I_x) = 11.4 in.⁴
 Section Modulus (S_x) = 3.81 in.³
 Beam Weight (W_b) = 8.14904 plf

Steel Properties:

Grade: A500
 F_y = 46 ksi
 E = 29500 ksi

Deflection Limits:

Live Load: L/ 240
 Dead + Live Load: L/ 240

Uniform Loads:

Case	Magnitude	Position
WL	-86.4 plf	Full Length

Concentrated Loads:

Case	Magnitude	Position
------	-----------	----------

Loading Diagram:



Bending Capacity:

Parameter	Value	Limit	Fb
Maximum Unbraced Length, L_b	32 in.		
L_c	34 in.	0.0	30.4
C_b	1.00	32.4	27.6
l/rT	30.9	47.1	27.6
		105.3	27.6

F_b = 30.4 ksi F_u = 13.8 ksi Ratio: 0.46 **OK**

Deflection:

Δ_{LL} = 0.956 in. L/ 253 Ratio: 0.95 **OK**
 $\Delta_{DL} + \Delta_{LL}$ = 0.956 in. L/ 253 Ratio: 0.95 **OK**

Exterior Sheathing
APA N375B

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA

86 mph (Exp C/End Zone)
0 psf Ground Snow, 3/12 Pitch

Loading Conditions:

Roof Loads:

Snow Load (S) =	0.0 psf
Unbalanced Snow (S _u) =	0.0 psf
Min. Roof Live Load (L _r) =	20.0 psf
TC Dead Load (DL) =	10 psf
Sidewall Overhang =	7.0 in.
Endwall Overhang =	8.0 in.
End Zone, e =	38.0 in.

Wind Loads (Vertical-End Zone):

Positive (W _p) =	0.0 psf (MWFRS)
Negative (W _n) =	-17.1 psf (MWFRS)
Overhang (W _{OH}) =	-23.9 psf (MWFRS)

C&C

	Pressure (psf)		
	Pos	Neg	OH
Zone 1	10.0	-14.8	-30.1
Zone 2	10.0	-25.7	-30.1
Zone 3	10.0	-38.0	-50.6
Zone 4	16.1	-17.5	n/a
Zone 5	16.1	-21.6	n/a

Load Combination Assessment:

Load Combination		NDS LDF
D	10 psf	0.90
S	0 psf	1.15
S _u	0 psf	1.15
L _r	20 psf	1.25
W _p (MWFRS)	0 psf	1.60
W _n (MWFRS)	-24 psf	1.60

Load Combination		NDS LDF
0.75(S+W _p)	0 psf	1.60
D+L _r	30 psf	1.25
D+S	10 psf	1.15
D+S _u	10 psf	1.15
D+0.75(S+W _p)	10 psf	1.60
W _p (C&C)	10 psf	1.60
W _n (C&C)	-40 psf ¹	1.60

Governing Live Load: 40 psf (W_n (C&C))
Governing Total Load: 40 psf (W_n (C&C))
NDS Design Load: 40 psf (W_n (C&C))
Load Duration Factor (C_D): 1.60
C&C Deflection Load Reduction: 0.7

Deflection Limits:

LL Deflection Limit: L / 240
TL Deflection Limit: L / 180

Less than 16% Moisture in Service: Yes
Minimum Panel Width: 24.0 in.

C_{Strength} = 1.00
C_{Moisture} = 1.00

C_C = 1.00
C_S = 1.00

Roof Panel:

Panel Thickness: 5/8 in.
Span Rating: 40/20
Panel Grade: Sheathing
Panel Type: OSB
Truss/Rafter Spacing, s = 24.0 in. oc
Support Width, w_s = 1.5 in.
SW = 0.25

	Parallel	Perp
Bending Stiffness, EI (lb-ft ² /ft)	225000	55800
Bending Strength, F _b S (lb-ft/ft)	750	270
Shear in the Plane, F _s (lb/ft)	265	185

Roof Panel Strength:

Strength Axis	Span Condition	Allowable Uniform Load (psf)				Stress Ratio				Overall Result
		Bending	Shear	Δ _{LL}	Δ _{TL}	Bending	Shear	Δ _{LL}	Δ _{TL}	
Perpendicular to Supports	Single Span	200.0	452.3	103.7	138.2	0.20	0.09	0.38	0.29	OK
	Two-Span	200.0	361.8	249.7	333.0	0.20	0.11	0.16	0.12	OK
	Three-Span	250.0	378.9	196.1	261.4	0.16	0.11	0.20	0.15	OK
Parallel to Supports	Single Span	72.0	281.8	25.7	34.3	0.55	0.14	1.55	1.16	NG
	Two-Span	72.0	225.3	81.9	82.6	0.55	0.18	0.64	0.48	OK
	Three-Span	90.0	234.7	48.6	64.8	0.44	0.17	0.82	0.61	OK

Exterior Sheathing (cont.)

Securement to Framing

Roof Panel Attachment:

Thickness = 0.625 in.

Dia. (in.)	Length (in.)	SG	W	Zone 1		Zone 2			Zone 3			Roof Overall		
				Edge	Field	Edge	Field	OH	Edge	Field	OH	Edge	Field	OH
0.092	1.5	0.55	40	6	12	6	9	7	6	6	4	6	6	4
0.113	2.25	0.55	91	6	12	6	12	12	6	12	10	6	12	10
0.131	2.50	0.55	122	6	12	6	12	12	6	12	12	6	12	12
0.148	3.00	0.55	174	6	12	6	12	12	6	12	12	6	12	12
18 Ga.	1.75	0.55	70	3	6	3	6	6	3	6	6	3	6	6
15 Ga.	1.75	0.55	80	3	6	3	6	6	3	6	6	3	6	6

Notes

1 Weighted average of end/overhang pressures, based on typical spacing and overhang projection.

Client: Public Restroom Company
 Job Number: PUB072919-79
 Description: PRC #8249 Seventh Street Park - Los Banos, CA

Connection Top Plates to Walls

DL =	62 plf	Hw =	21.6 psf	dead, lateral pressure & uplift
Up =	112 plf			
Ht =	8 ft	Bw =	3.625	wall height & thickness
Upnet =	$Up - .6 \cdot DL =$	74.8 plf		net uplift
Vperp =	$\frac{Hw \cdot Ht}{2} =$	86.4 plf		shear from out of plane lateral loads

Check 1/2" anchor bolt in masonry wall

lb =	8 in		embedment depth
f'm =	1500 psi		masonry strength
db =	0.5 in	Fyb =	36 ksi diameter & yield of bolt
Ab =	$\frac{\pi \cdot db^2}{4} =$	0.196 in ²	area of bolt
Bas =	$.2 \cdot Ab \cdot Fyb =$	1413.675 lbf	ASCE 5, 2-2 allowable tension based on steel
Ap =	$Bw \cdot lb \cdot 2 =$	58 in ²	approximate area in narrow wall
Bao =	$.5 \cdot Ap \cdot \sqrt{f'm} =$	1123.165 lbf	ASCE 5, 2-1 allowable based on masonry
Ba =	$\min(Bao, Bas) =$	1123.165 lbf	allowable bolt tension
Bv =	$\min[.12 \cdot Ab \cdot Fyb, 350 \cdot (f'm \cdot Ab)^{.25} =$	848.205 lbf	ASCE 5, 2-5 & 6, allowable bolt shear embed > 12 db
CtoC =	32 in		bolt center to center

$$\frac{UPnet \cdot CtoC}{Ba} + \frac{Vperp \cdot CtoC}{Bv} = 0.449 < 1 \text{ OK}$$

Shear in plane OK by inspection

Bolt thru Top Plate

Bag =	848 lbf		allowable shear from previous calcs
$\frac{Vperp \cdot CtoC}{Bag} =$	0.272		< 1 OK

Check minimum number of 1/2" anchor bars in masonry wall

L = 20.00 n = 4 Module Length and number of anchors

W = 22.67 n = 4 Module Width and number of anchors

$$\frac{U_{\text{pext}} (L \text{ or } W)}{n * B_a} + \frac{V_{\text{perp}} (L \text{ or } W)}{n * B_v}$$

Skidewall = 0.84229837 <1 OK

Endwall = 0.95460482 <1 OK

Glulam to post = 727 lbf

1/2" lag screws = 1266 lbf

(2) lag screws OKay

Slab Check & Minimum Footing Width

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA
Location: LOS BANOS, CA

f_c:	2500 psi	F_y:	60000 psi
Clear Span:	4.00 ft	d:	8 in
DL:	80 psf	1.2DL:	96 psf
Floor Live Load:	50 psf	1.6LL:	80 psf
Mu:	352 ft-lbf/ft	Vu:	352 lb/ft
Floor Point Load:	2000 lbs	1.6LL:	3200 lbs
Mu:	3200 ft-lbf/ft	Vu:	1600 lb/ft
Rebars:	4 no	Spacing:	8 in o.c.
Cover:	1.250 in		
AS/ft:	0.300 in ² /ft	d_e:	6.50 in
T = AsF_y:	18000 lbf		
a = AsF_y/0.85f_cb =		0.71 in	
ΦM_n = Φ[Asfy(d-a/2)] =		8298.53 ft-lbf/ft	
Mu/ΦM_n =	0.386 OK		
ΦV_c/2:	2925.00 lb/ft		
2Vu/ΦV_c =	0.547 OK		
f_s = 2/3f_y =	40000 psi		
s_{max} = 15(40000/f_s)-2.5C_c =	12 in	OK	
min thickness based on deflection =	2.40 in. min	OK	

**Slab-on-Grade Foundation Deadweight Calculation
Foundation Support 1st Floor of 1 Story Building**

Client: Public Restroom Company
Job Number: PUB072919-79
Description: PRC #9249 Seventh Street Park - Los Banos, CA
Location: 86 mph (Exposure C)

Building Geometry:

Building Length (B)	20.00 ft
Width (L)	22.7 ft
Sidewall/Eave Height =	100 in.
Sidewall Overhang, B _{OH} =	7 in.
End Overhang, L _{OH} =	8 in.
Roof Slope, a =	3 /12
Level Considered =	1 /1

Building Dead Loads:

Roof DL = 10.0 psf

Assembly	Ground	Other
	Floor	Floors
Floor DL (psf)	80	n/a
Wall DL (psf)	50	n/a
Wall Height (in.)	88	n/a

Perpendicular to Ridge:

Design Pressures:

Horizontal:	Interior	End	Vertical:	Interior	End
Walls	11.7	17.5	WW Roof	-11.9	-17.1
Roof	0.0	0.0	WW Overhang	-18.7	-23.9
			LW Roof	-8.4	-11.0

Horizontal Forces (+ In Direction of the Wind)

Surface	Projected		Force (lbs)	Moment	
	Area (ft ²)	Pressure (psf)		Arm (in.)	Moment (ft-lbs)
Interior Walls	8	11.7	97	50	405
Interior Roof	3	0.0	0	118	0
		ΣV =	97	ΣM =	405
End Walls	8	17.5	146	50	608
End Roof	3	0.0	0	118	0
		ΣV =	146	ΣM =	608

Vertical Forces (+ Upward)

Surface	Area (ft ²)	Pressure (psf)	Force (lbs)	Arm (in.)	Moment (ft-lbs)
Interior WW Roof	11	-11.9	135	204	2293
Interior WW Overhang	1	-18.7	11	276	251
Interior LW Roof	12	-8.4	100	65	540
		ΣU =	246	ΣM =	3084
End WW Roof	11	-17.1	194	204	3295
End WW Overhang	1	-23.9	14	276	321
End LW Roof	12	-11.0	131	65	707
		ΣU =	339	ΣM =	4322

Dead Load/Resisting Forces

Force	Area (ft ²)	Pressure (psf)	Force (lbs)	Arm (in.)	Moment (ft-lbs)
0.6 Dead Load	23	54.0	-1224	136	-13872
0.6 Wall Dead Load	15	30.0	-440	136	-4987
		ΣU =	-1664	ΣM =	-18859

Sidewall Forces:

	Interior	End	Difference
NET OTM Along Sidewall, U _{OTM} (ft-lb/ft)	-16775	-14537	0
Vertical Tension Force, U (plf)	-696	-641	0

Endwall Forces:

	Interior	End	Total
Horizontal Force, V (lbf)	97	146	1265
NET OTM Along Sidewall, V _{OTM} (ft-lb/ft)	405	608	5271

Moment Equilibrium at Endwall:

Force	Area (ft ²)	Pressure (psf)	Force (lbs)	Arm (in.)	Moment (ft-lbs)
Max. OTM at Endwall Shearwall					5271
End Zone Difference U _{OTM}					0
End WW Overhang	8	-17.1	136	215	2428
End LW Overhang	8	-11.0	88	65	471
0.6 End Wall Dead	166	30.0	-4986.67	136	-56516
		ΣU =	-4763	ΣM =	-48346

Parallel to Ridge:

Design Pressures:

Horizontal:	Interior	End	Vertical:	Interior	End
Walls	9.4	14.2	WW Roof	-11.9	-17.1
			WW Overhang	-18.7	-23.9
			LW Roof	-7.5	-9.7

Horizontal Forces (+ In Direction of the Wind)

Surface	Projected		Force (lbs)	Moment	
	Area (ft ²)	Pressure (psf)		Arm (in.)	Moment (ft-lbs)
End Zone Walls	55	14.2	782	56	3588
Interior Zone Walls	168	9.4	1583	61	8021
		ΣV =	2365	ΣM =	11609

Vertical Forces (+ Upward)

Surface	Area (ft ²)	Pressure (psf)	Force (lbs)	Arm (in.)	Moment (ft-lbs)
End WW Roof	6	-17.1	103	29	248
Interior WW Roof	18	-11.9	212	172	3042
		ΣV =	315	ΣM =	3290
End LW Roof	6	-9.7	58	29	141
Interior LW Roof	18	-7.5	134	172	1923
		ΣV =	192	ΣM =	2064

Sidewall Forces:

	WW	LW
NET OTM Along Sidewall, U _{OTM} (ft-lb/ft)	-15569	-16795
Vertical Tension Force, U (plf)	-687	-741

Endwall Forces:

Moment Equilibrium at Endwall:

Force	Area (ft ²)	Pressure (psf)	Force (lbs)	Arm (in.)	Moment (ft-lbs)
WW Overhang	16	-23.9	380	244	7734
0.6 End Wall Dead	166	30.0	-4986.67	240	-99733.333
		ΣV =	-4606	ΣM =	-91999

Net Foundation Connection Forces:

	Shear (lbf/ft)	Uplift (lbf/ft)
Wind Perpendicular to Ridge		
Sidewalls (long dimension)	63	0
Endwalls (short dimension)	n/a	n/a
Tie-Down Each Corner	n/a	n/a
Wind Parallel to Ridge		
Sidewalls (long dimension)	n/a	0
Endwalls (short dimension)	104	0
Tie-Down Each Corner	n/a	n/a

6.2

Slab-on-Grade Foundation Deadweight Calculation
Foundation Support 1st Floor of 1 Story Building

0

Foundation Geometry:

	Qty	Length (ft)	Width (ft)	Depth (in)	Area (ft ²)	Volume (ft ³)
1	1	20.0	22.7	8.0	453	302
2						
3						
4						
				Total	453	302

Depth Below Grade = 8 in.
 Concrete/Grout Density = 145 pcf

Uplift at Sidewalls:

Foundation Wt, D_{FND} = 1096 plf
 Net Uplift, $U - D_{FND}$ = 0.0 plf **OK**

Transverse Sliding:

Contact Area = 453 ft²
 Sliding Resistance = 1964 plf
 Lateral Bearing Resistance = 22 plf
 Total Sliding Resistance = 1987 plf
 Applied Shear = 83 lbf **OK**

Soil Properties:

Presumptive Bearing = 1500 psf
 Weight = 120 pcf
 Lateral Bearing = 100 psf/ft
 Lateral Sliding Resistance = 130 psf/ft

Overturning Moment:

Foundation Wt, D_{FND} = 1096 plf
 Resisting Force = 667 plf
 Applied Moment, OTM = -2417 ft-lbf
 Resultant Eccentricity = -3.7 ft
 Kern Eccentricity = 3.8 ft **OK**

Longitudinal Sliding:

Endwall Contact Area = 453 ft²
 Sliding Resistance = 1733 plf
 Lateral Bearing Resistance = 22 plf
 Total Sliding Resistance = 1756 plf
 Applied Shear = 104 lbf **OK**

Restroom Building

SEVENTH STREET PARK

Los Banos, CA

APPROVED
By RADCO a CA
Department of Housing
and Community
Development approved
third party design
approval agency
DM820272

APPROVAL DATE: 07/28/19 OPERATION DATE: 12/31/2019

APPROVAL NO.
591-1127

CODE COMPLIANCE

APPLICABLE CODES: 2016 CALIFORNIA BUILDING CODE
2016 CALIFORNIA PLUMBING CODE
2016 CALIFORNIA ELECTRICAL CODE
2016 CALIFORNIA GREEN CODE
2016 CALIFORNIA ENERGY CODE

TYPE OF CONSTRUCTION: V-B

DESCRIPTION: RESTROOM BUILDING

OCCUPANCY: B (NON-HABITABLE)

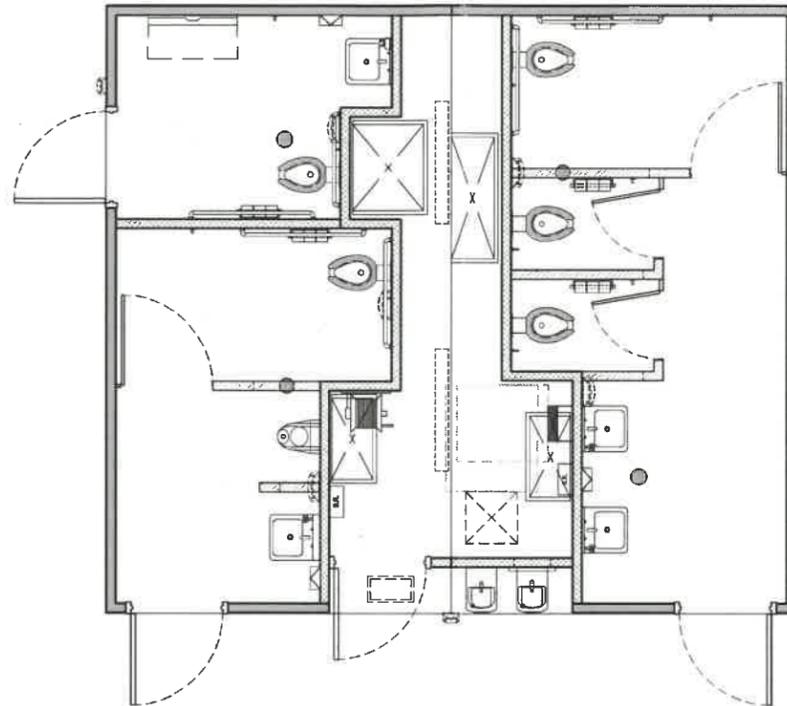
FLOOR AREA: RESTROOMS & UTILITY CHASE 453 s.f.

PRC JOB NUMBER: 9249

PRC MODEL NUMBER: SS-154-FAM-OF

GENERAL NOTES

- THE STRUCTURAL DESIGN DETAILS HEREIN ARE SPECIFIC TO THE BUILDING SIZE AND MODULE CONFIGURATION SHOWN ON THE FLOOR PLAN OF THESE DRAWINGS.
- LOCATION OF THIS BUILDING SHALL MEET REQUIRED PROPERTY CODE SETBACKS PER LOCAL JURISDICTION.
- ACCESSIBILITY TO THIS STRUCTURE SHALL BE IN CONFORMANCE WITH LOCAL CODE INCLUDING ALL PATHWAYS, RAMPS AND PATHS OF TRAVEL FOR PARKING TO THE BUILDING.
- SOIL BEARING REQUIREMENT IS 1500 PSF, SUB GRADE COMPACTION AT 90%.
- BUILDING PLUMBING SYSTEM IS BASED UPON FULL FLOW EXISTING WATER SERVICE. LOSS OF REQUIRED FLOW RATE OF 10 GPM OR PRESSURE BELOW 35 PSI MAX NECESSITATE AN INTERMEDIATE WELL TANK AND CHECK VALVE IN LINE.
- ALL DIMENSIONS HEREIN ARE NOMINAL AND SUBJECT TO CHANGE AS LONG AS THEY DO NOT VIOLATE CODE.
- THIS BUILDING IS DESIGNATED AS A NON-HABITABLE SPACE AND IS NOT DESIGNED TO BE HEATED OR COOLED.
- THIS BUILDING DOES NOT CONFORM WITH TITLE 24 MINIMUM INSULATION REQUIREMENTS AS THIS IS A NON-HABITABLE STRUCTURE.
- THIS BUILDING IS NOT DESIGNED OR APPROVED FOR WUI LOCATION.
- ALL WORK REQUIRED TO BE COMPLETED ON SITE SUBJECT TO LOCAL REVIEW, APPROVAL AND INSPECTION (BY OWNER)
 - SITE CONCRETE FOUNDATION (IF APPLICABLE)
 - COMPACTED BUILDING PAD ENGINEERED
 - UNDER SLAB UTILITY PIPING (SEE NOTE)
 - ELECTRICAL SERVICE AS REQUIRED
 - WATER SERVICE AS REQUIRED
 - SEWER (DWV) SERVICE AS REQUIRED
 - CONCRETE WALKWAY COMPLIANT WITH PATH OF TRAVEL FROM ACCESSIBLE PARKING
- NOTE: PUBLIC RESTROOM COMPANY WILL ONLY FURNISH AND INSTALL UNDERGROUND UTILITIES (UNDER SLAB) EXTENDING 6 FEET (MAX.) BEYOND THE BUILDING LINE. MIN. OF 24" MAX. OF 36" BELOW GRADE - U.N.O.
- SITE INSTALLATION DETAILS ARE NOTED ON SHEETS S-1 FOR STRUCTURAL CONNECTIONS, A-2 FOR WEATHERIZATION FINISH, P-1 FOR PLUMBING CONNECTIONS & E-1 FOR ELECTRICAL CONNECTIONS IN ACCORDANCE w/ SECTION 4369.
 - SERVICE HOOKUPS (PLUMBING AND ELECTRICAL CONNECTIONS).
 - PATCH AND FINISH AT CRANE PICK LOCATIONS AS NEEDED.
 - INSTALL AND CONNECT PLUMBING DRAIN TRAPS ASSEMBLIES PER P-1 HEREIN.
 - INSTALL ROOFING AT MODLINE.
 - INSTALL BACKER ROD AND CAULK AT MODLINE.
 - CAULK FLOOR AT MODLINE AND FILL PICK POINT LOCATIONS.
 - INSTALL TRIM AT MODLINE.
 - INSTALL LIGHT FIXTURE AT MODLINE.



Utility Location

NOTE: FINAL LOCATIONS OF P.O.C. TO BE COORDINATED WITH P.R.C. AND TO BE CONFIRMED ON SITE. UTILITY BOXES TO BE PROVIDED BY OTHERS.

PROJECT INFORMATION

SITE ADDRESS: SEVENTH STREET PARK - 401 7th Street, Los Banos, CA 93635

PROJECT OWNER:
CITY OF LOS BANOS
411 Madison Avenue
Los Banos, CA 93635
CONTACT: Mark Fachin
POSITION: Public Works Director
PHONE: (209) 827-7056
E-MAIL: mark.fachin@losbanos.org

STRUCTURAL ENGINEER:
NTA ENGINEERING, INC.
305 Oakland Ave
Nappanee, IN 46550
CONTACT: Eric J. Tompos
POSITION: Structural Engineer
PHONE: (574) 773-7975
EMAIL: etompos@ntainc.com

DESIGNER / CERTIFIED MANUFACTURER:
PUBLIC RESTROOM COMPANY
2587 Business Parkway
Minden, NV 89423
CONTACT: Ken Hackney
PHONE: (888) 888-2060
FAX: (888) 888-1448
E-MAIL: ken@publicrestroomcompany.com

DRAWING INDEX

SHEETS	PM PLAN REVIEW - 07/28/2019	PRC PLAN REVIEW - 07/28/2019	STRUCTURAL REVIEW - 07/28/2019	CONSTRUCTION DOCUMENTS - 07/31/2019
T-1 TITLE SHEET	●	●	●	●
AC ACCESSIBILITY COMPLIANCE	●	●	●	●
A-1 FLOOR PLAN, STRUCTURAL DESIGN & SCHEDULES	●	●	●	●
A-1.1 ROOF FRAMING PLAN, BUILDING SECTIONS & FASTENING SCHEDULE	●	●	●	●
A-2 EXTERIOR ELEVATIONS & FINISH SCHEDULE	●	●	●	●
A-2.1 EXTERIOR ELEVATIONS & FINISH SCHEDULE	●	●	●	●
A-3 EQUIPMENT PLAN, INTERIOR ELEVATIONS & SCHEDULES	●	●	●	●
P-1 PLUMBING PLAN & SCHEDULES	●	●	●	●
E-1 ELECTRICAL PLAN & SCHEDULES	●	●	●	●
S-1 CONCRETE SLAB & STEEL PERIMETER PLAN & DETAILS	●	●	●	●

DESIGN LOADS

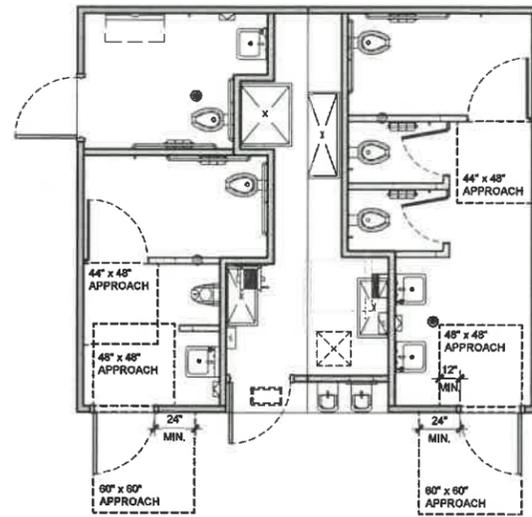
STRUCTURAL DESIGN CRITERIA			
GRAVITY LOADS	FLOOR LIVE	50 pcf	SEISMIC
	FLOOR DEAD	80 pcf	SEISMIC DESIGN CATEGORY
	ROOF LIVE	20 pcf	SITE CLASS
	ROOF DEAD	10 pcf	IMPORTANCE CATEGORY
	EXTERIOR WALL DEAD	50 pcf	OCCUPANCY CATEGORY
SNOW	GROUND SNOW, P _g	0 pcf	MAPPED ACCELERATIONS
	FLAT-ROOF SNOW, P _f	0 pcf	S _g
	IMPORTANCE FACTOR, I	1.00	S ₁
	EXPOSURE FACTOR, C _e	1.00	S ₂
	THERMAL FACTOR, C _t	1.20	S ₃
WIND	WIND SPEED, V _{ult}	110 mph	SPECTRAL RESPONSE
	WIND SPEED, V _{asec}	86 mph	S ₁
	EXPOSURE CATEGORY	C	S ₂
	RISK CATEGORY	II	S ₃
	INTERNAL PRESSURE, GC _{pi}	+/- 0.18	SEISMIC FORCE RESISTING SYSTEM
MEAN ROOF HEIGHT	15 FT	DESIGN BASE SHEAR	
		RESPONSE MODIFICATION FACTOR	
		ANALYSIS PROCEDURE	
			ASCET-10
			FLOOD
			BUILDING SHALL NOT BE LOCATED, IN WHOLE OR IN PART, IN A FLOOD HAZARD AREA AS ESTABLISHED BY THE AUTHORITY HAVING JURISDICTION UNLESS SET ON A FOUNDATION DESIGNED IN ACCORDANCE WITH ACCESS 25. THE FLOOD RESISTANT FOUNDATION SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL AND CONSTRUCTED TO RESIST ALL FLOOD LOADS WITHOUT TRANSFERRING LOADS TO THE MODULAR STRUCTURE.

COMPONENTS & CLADDING WIND LOADS (ASD)		
COMPONENT	END ZONE (psf)	INTERIOR ZONE (psf)
WINDOWS & SIDING	+18.1 / -21.6	+18.1 / -17.5
DOORS	+15.5 / -20.4	+15.5 / -16.9
ROOF CLADDING	+10 / -38	+10 / -14.8
ROOF OVERHANGS	-50.6	-30.1

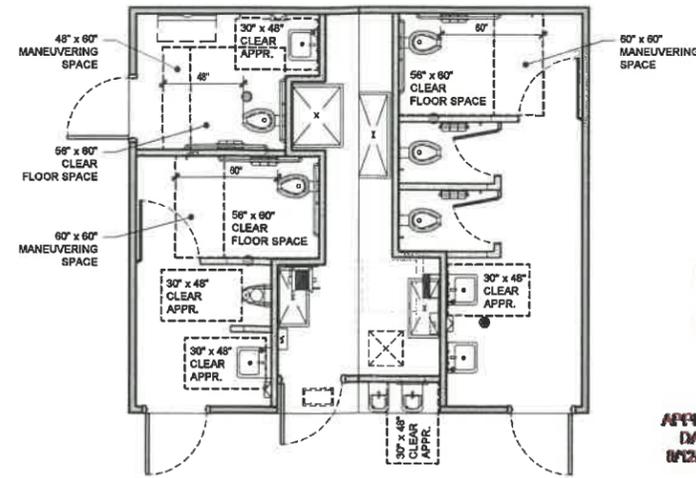


No.	Description	Date	CONSTRUCTION DOCUMENTS	COPYRIGHT 2019. PUBLIC RESTROOM COMPANY THIS MATERIAL IS THE EXCLUSIVE PROPERTY OF PUBLIC RESTROOM COMPANY AND SHALL NOT BE REPRODUCED, USED, OR DISCLOSED TO OTHERS EXCEPT AS AUTHORIZED BY THE WRITTEN PERMISSION OF PUBLIC RESTROOM COMPANY	PROJECT OWNER:	PROJECT NAME AND LOCATION:	SHEET TITLE:	Drawn by:	Checked by:	Current Date:	Start Date:	Job No.
			07/31/2019		CITY OF LOS BANOS Los Banos, CA	SEVENTH STREET PARK Los Banos, CA	TITLE SHEET	PD / EVE	KEH	07/31/2019	12/04/2018	9249

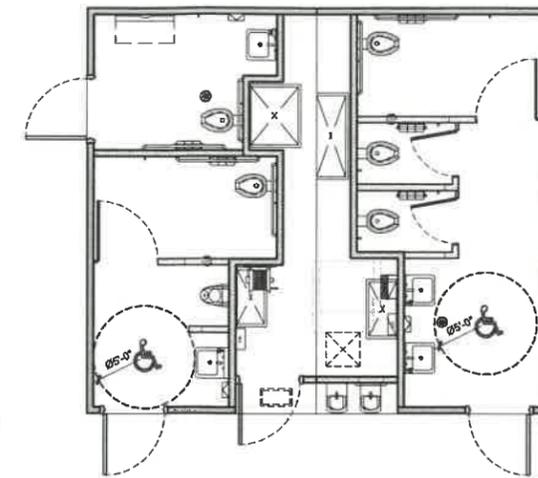
SEVENTH STREET PARK - Los Banos, CA CONSTRUCTION DOCUMENTS - 07/31/2019



DOOR APPROACH
SCALE: 1/4"=1'-0"



FIXTURE APPROACH
SCALE: 1/4"=1'-0"



TURNING RADIUS
SCALE: 1/4"=1'-0"

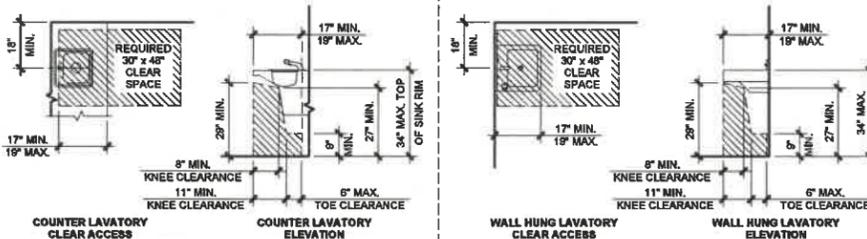
APPROVED
By RADCO a CA
Department of Housing
and Community
Development approved
third party design
approval agency
DM920272
APPROVAL NO.
591-1127

APPROVAL DATE: 07/27/19
EXPIRATION DATE: 11/30/2020

CALIFORNIA ACCESSIBILITY STANDARDS

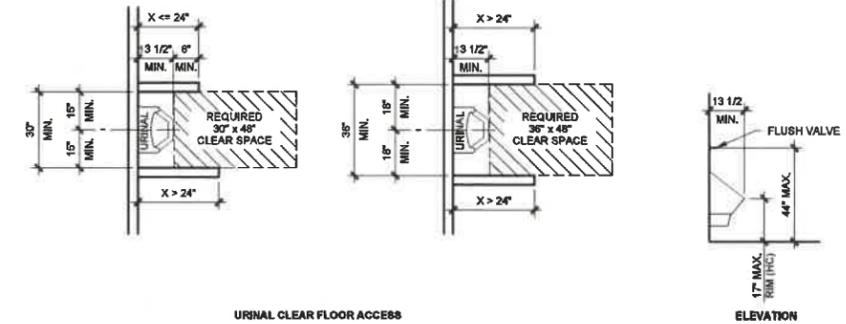
(SHOWING MINIMUMS AND MAXIMUMS)
* PUBLIC RESTROOM COMPANY STANDARDS ARE FOR PRODUCTION PERSONNEL TO BE USED AS A GUIDELINE TO ENSURE FIXTURES ARE INSTALLED WITHIN THE REQUIRED RANGES PER CODE, AND MAY NOT BE EXACT ONCE INSTALLED DUE TO FLOOR SLOPES, TOLERANCES, ETC.

NOTE: NOT ALL ACCESSORIES PERTAIN TO THIS PROJECT. ITEMS SHOWN ARE FOR REPRESENTATION ONLY

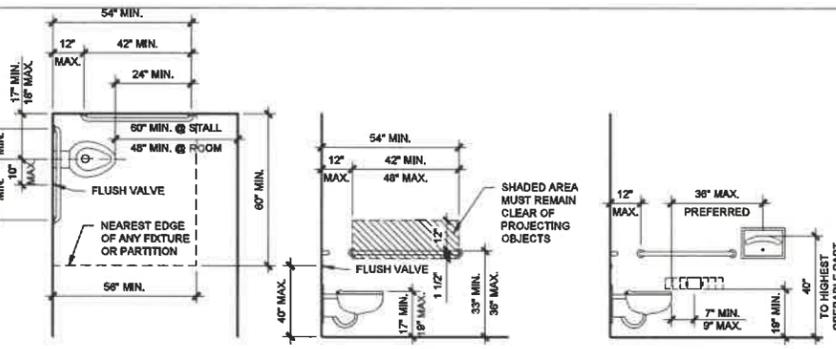


NOTE: IF WATER IS HEATED, TRAP AND HOT WATER LINES MUST BE TRAPPED OR OTHERWISE COVERED.

	CODE SUMMARY HEIGHT A.F.F. / LOC	PUBLIC RESTROOM COMPANY STANDARDS*
RIM HEIGHT (TOP OF LAV.)	34" MAX.	33" PREFERRED BUT MUST HAVE 29" KNEE SPACE MIN.
HEIGHT OF KNEE SPACE	29" MIN. AT FRONT APRON	PER CODE
FRONT LAV TO TRAP	8" MIN.	PER CODE
TOE SPACE UNDER TRAP	9" MIN.	PER CODE
CONTROLS	DECK MOUNT AT 34" MAX.	33" PREFERRED
CLEAR SPACE	30" x 48"	PER CODE



	CODE SUMMARY HEIGHT A.F.F. / LOC	PUBLIC RESTROOM COMPANY STANDARDS*
URINAL RIM	17" MAX A.F.F.	16" A.F.F.
CONTROLS	44" MAX A.F.F.	10" NOM. ABOVE TOP OF URINAL
CLEAR FLOOR ACCESS	30"x48" WHERE ONE WALL / PARTITION IS LESS THAN OR EQUAL TO 24" IN DEPTH, AND 36"x48" WHERE BOTH WALLS / PARTITIONS ARE GREATER THAN 24" IN DEPTH	PER CODE, SEE PLAN



NOTE: SPACE BETWEEN GRAB BAR AND WALL TO BE 1 1/2" CLEAR
GRAB BAR DIAMETER TO BE 1 1/4" TO 1 1/2"
GRAB BAR MUST BE ABLE TO SUPPORT 250lb POINT LOAD AND NOT ROTATE WITHIN THE FITTINGS

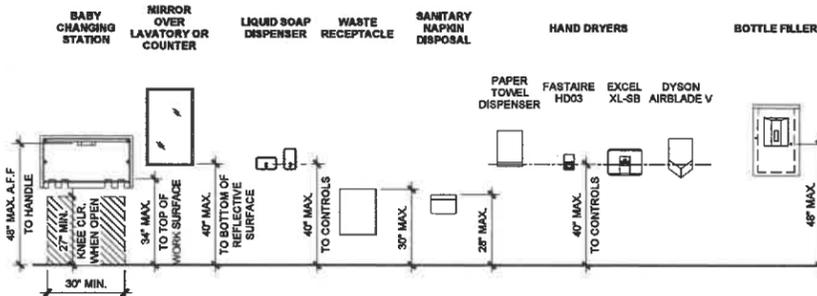
NOTE: NOT ALL ACCESSORIES MAY PERTAIN TO THIS PROJECT. ITEMS SHOWN ARE FOR REFERENCE ONLY.

	CODE SUMMARY HEIGHT A.F.F. / LOC	PUBLIC RESTROOM COMPANY STANDARDS*
GRAB BARS	33" MIN. / 36" MAX. TO TOP	34" TO TOP
TOILET LOCATION	17" MIN. / 18" MAX. TO CENTERLINE	17 1/2" TO CENTERLINE
TOILET/SEAT HEIGHT	17" MIN. / 19" MAX.	16" TO TOP OF SEATING SURFACE
TOILET FLUSH VALVE	40" MAX., 10" TO WIDE SIDE	CENTERLINES TO BE 28" AFF AND 16" FROM CENTER OF WC
TP DISPENSER	DISPENSER OUTLET TO BE 19" MIN. AFF & CENTER LINE OF FIXTURE TO BE 7"-9" FROM FACE OF WATER CLOSET	8" FROM FRONT OF WATER CLOSET TO CENTER OF DISPENSER & 30" TO TOP OF FIXTURE

1 - TOILET DESIGN CRITERIA: CBC 2016

2 - LAVATORY DESIGN CRITERIA: CBC 2016

3 - URINAL DESIGN CRITERIA: CBC 2016



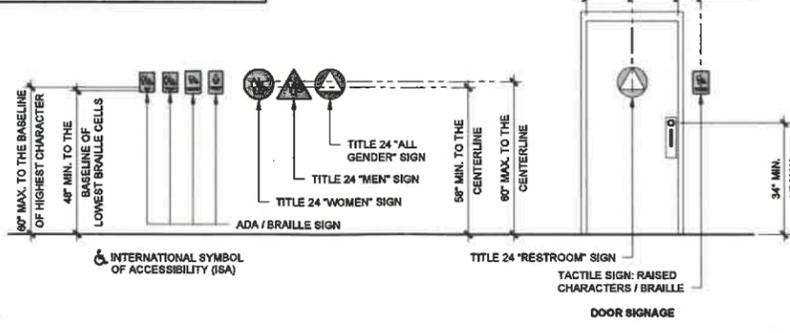
NOTE: NOT ALL ACCESSORIES PERTAIN TO THIS PROJECT. ITEMS SHOWN ARE FOR REPRESENTATION ONLY

NOTE: NO FIXTURES IN THIS VIEW PROTRUDE MORE THAN 4"

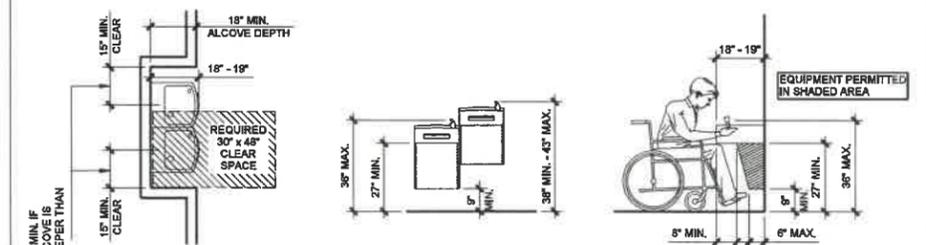
IF USED: BOTTLE FILLER IS CENTERED OVER ACCESSIBLE DRINKING FOUNTAIN THAT IS < 20" DEEP

4 - ACCESSORIES MOUNTING HEIGHT: CBC 2016

NOTE: RESTROOM IDENTIFICATION & DOOR SIGNS SHOWN BELOW ILLUSTRATE CODE REQUIREMENTS ONLY. REFER TO EXTERIOR ELEVATIONS & ACCESSORIES SCHEDULE FOR SIGNS PROVIDED WITH THE BUILDING.



5 - RESTROOM SIGNS AT DOORS AND GATES: CBC 2016



	CODE SUMMARY HEIGHT A.F.F. / LOC
TOP OF BUBBLER OUTLET	39" MAX.
KNEE CLEARANCE	27" MIN.
TOE CLEARANCE	9" MIN.
APPROACH	30" x 48"

NOTE: D.F. ACTIVATOR TO BE WITHIN 6" OF FRONT EDGE OF D.F.

6 - DRINKING FOUNTAIN: CBC 2016

No.	Description	Date

CONSTRUCTION DOCUMENTS
07/31/2019

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PROJECT OWNER:
CITY OF LOS BANOS
Los Banos, CA

PROJECT NAME AND LOCATION:
SEVENTH STREET PARK
Los Banos, CA

SHEET TITLE:
ACCESSIBILITY COMPLIANCE

Drawn by: **PD / EVE** Job No. **9249**
Checked by: **KM**
Current Date: **07/31/2019**
Start Date: **12/04/2018**

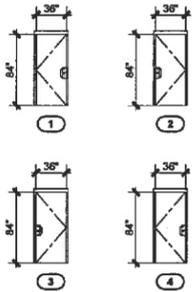
AC

DOOR, FRAME & HARDWARE SCHEDULE

DOOR NO.	ROOM NAME	SIZE	1 DOOR TYPE	2 FRAME TYPE	3a HINGE	4 LOCK	5a CLOSER	5b PULL PLATE OUTSIDE	5b PULL PLATE INSIDE	5c THRESH	5d SWEEP	6 OTHER
1	ACCESSIBLE MEN'S RR	3' x 7'	1a	2a	CONT.	4.a.1	YES	YES	YES	NO	NO	-
2	ACCESSIBLE WOMEN'S RR	3' x 7'	1a	2a	CONT.	4.a.1	YES	YES	YES	NO	NO	-
3	ACCESSIBLE ALL GENDER RR	3' x 7'	1a	2a	CONT.	4.a.2	YES	YES	YES	NO	NO	-
4	UTILITY CHASE	3' x 7'	1a	2a	CONT.	4.a.2	NO	YES	YES	YES	YES	9a

SPECS:

- DOOR TYPES:**
 - 14 GA. GALVANIZED HOLLOW METAL
- DOOR FRAMES:**
 - 14 GA. GALVANIZED HOLLOW METAL WELDED JAMBS
- HINGE:**
 - CONT = PEMKO KCFM-43" HD CONTINUOUS GEAR HINGE w/ STAINLESS STEEL VANDAL RESISTANT SCREWS.
- LOCK:**
 - DEADBOLT: SCHLAGE B SERIES 626 WITH LARGE FORMAT TEMPORARY CONSTRUCTION CORE
 - B863J - KEY ONE SIDE, ADA TURN LEVER UNLOCKS ONLY
 - B860J - KEY ONE SIDE, ADA TURN LEVER LOCKS AND UNLOCKS
- HARDWARE:**
 - CLOSER: LCN 4211 (CUSH ARM)
 - PUSH / PULL PLATES: ROCKWOOD VRT24C x 81CFC US32DMS WITH BLACK COOL COATING HANDLE
 - THRESH: PEMKO 270A
 - SWEEP: PEMKO 321 88N
- OTHER:**
 - DOOR STOP: IVEB WS449

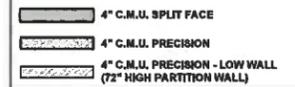


NOTE: DIMENSIONS ARE FOR DOORS ONLY. FRAMES ARE NOT INCLUDED.

SHEAR WALL SCHEDULE

MARK & TYPE	LOCATION & BLOCK	REINFORCEMENT	CAP BEAM
A	4' x 8' x 16' FULLY GROUTED	HORIZONTAL - (2) 9 GA WIRES FOR JOINT REINFORCEMENT @ 8" O.C. VERTICAL - #3 REBAR @ 8" O.C. AND #4 REBAR @ END WALLS AND AT 10'-0" O.C. MAX.	HSS 6 x 4 x 1/8

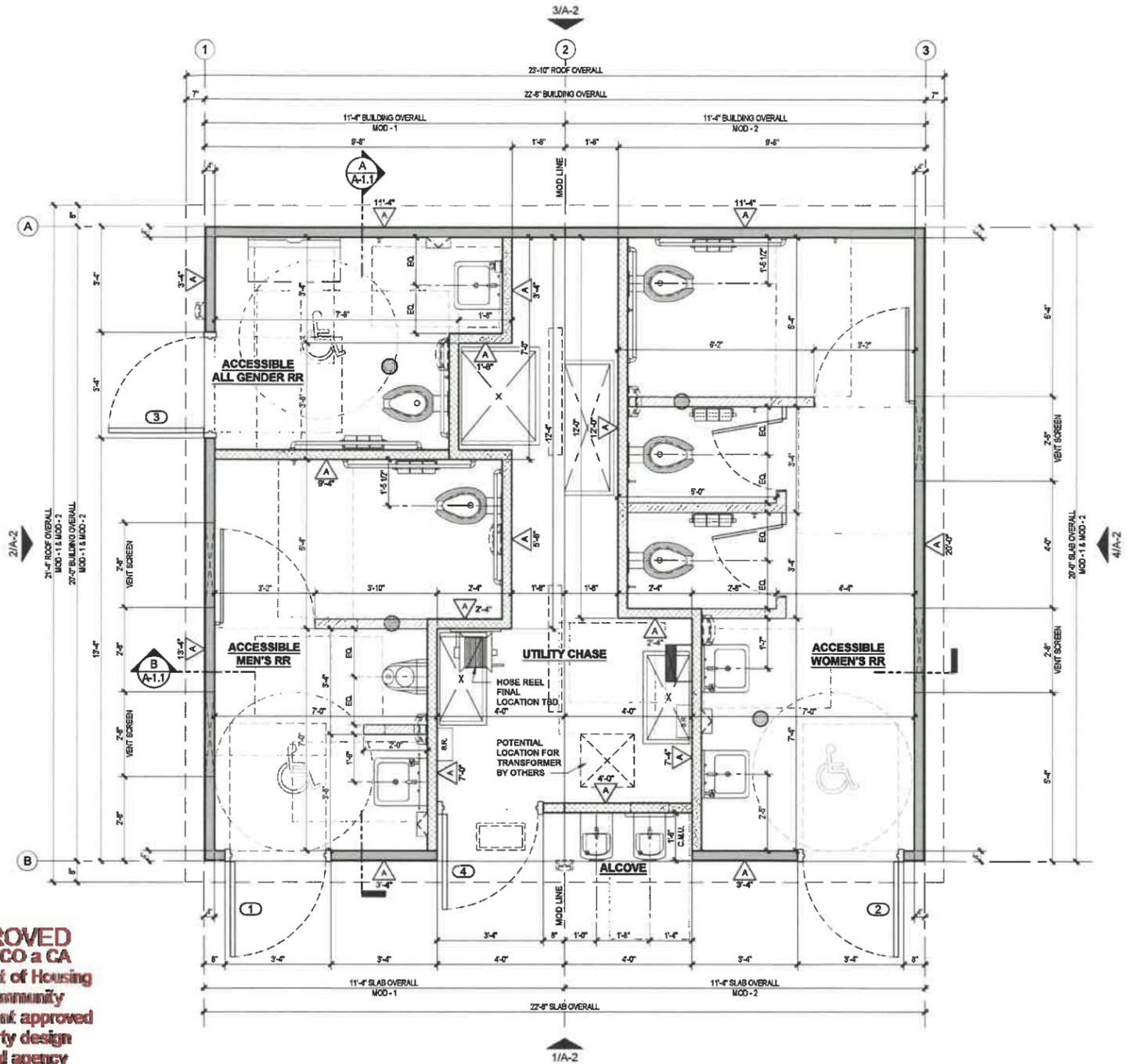
WALL LEGEND:



STRUCTURAL DESIGN

- SEE SHEETS A-2 & A-3 FOR INTERIOR AND EXTERIOR FINISH SCHEDULES -

COMPONENT	DESCRIPTION	SPECIFIC MATERIAL LIST	NOTES
FOUNDATION / FLOOR DECK			
PERIMETER FRAMEWORK	STRUCTURAL STEEL	L 9"x9"x1/4"	
REINFORCEMENT	REBAR MAT DESIGN	#4 MIN. GRADE 60 TOP 8" O.C. EACH WAY BOT: 16" O.C. EACH WAY	
CONCRETE	8" MAT DESIGN	DESIGN BASIS IS MIN. 2500 PSI WITH INTEGRAL ADDITIVES FOR MOISTURE, STAINING & CORROSION RESISTANCE	NOTE #1
REBAR CONNECTION TO CONCRETE SLAB	STARTER BARS CONNECTION TO CONCRETE SLAB SHALL BE WITH 2 PART EPOXY w/ 5" MIN. EMBED DEPTH	RED HEAD A7+ EPOXY (OR EQUAL)	USE OF ADHESIVE ANCHORAGE SYSTEM BY PROVISIONS OF CODE REPORT ESR-3803 AND MANUFACTURER RECOMMENDATIONS
WALLS			
FRAMING (EXT.)			
TO 7'-4"	C.M.U. BLOCK	4x8x16 CONCRETE BLOCK. GROUT EVERY CELL w/ (2) 9 GA. WIRES FOR HORIZONTAL JOINT REINFORCEMENT @ 8" O.C. & #3 REBAR @ 8" O.C. VERTICAL. USE TYPE 'S' FINE GROUT.	USE TYPE 'S' FINE GROUT w/ A SLUMP OF 10"-11" FOR A "HIGH LIFT" GROUT POUR. GROUT POUR HEIGHT NOT TO EXCEED 12'-0"
CAP BEAM	STEEL	HSS 6 x 4 x 1/8 (A1085 / A 500 Grade B)	
ABOVE CAP BEAM	WOOD	2x4 DF#1 STUDS @ 16" O.C.	
FRAMING (INT.)			
TO 7'-4"	C.M.U. BLOCK	4x8x16 CONCRETE BLOCK. GROUT EVERY CELL w/ (2) 9 GA. WIRES FOR HORIZONTAL JOINT REINFORCEMENT @ 8" O.C. & #3 REBAR @ 8" O.C. VERTICAL. USE TYPE 'S' FINE GROUT.	USE TYPE 'S' FINE GROUT w/ A SLUMP OF 10"-11" FOR A "HIGH LIFT" GROUT POUR. GROUT POUR HEIGHT NOT TO EXCEED 12'-0"
CAP BEAM	STEEL	HSS 6 x 4 x 1/8 (A1085 / A 500 Grade B)	
ABOVE CAP BEAM	WOOD	2x4 DF#1 STUDS @ 16" O.C.	
SHEATHING (ABOVE CAP BEAM)			
ALL FRAMED WALLS (EXT.)	WOOD	7/16" SHEATHING BOTH SIDES	
ALL FRAMED WALLS (INT.)	WOOD	7/16" SHEATHING BOTH SIDES	NOTE #2
ROOF			
RIDGE BEAMS	WOOD	3 1/2" x 12" GLULAM 24F-V8 DF/DF	
RAFTERS	WOOD	2x6 DF#1 @ 24" O.C.	
LOOKOUTS	WOOD	2x6 DF#1 @ 24" O.C.	
SHEATHING	WOOD	5/8" SHEATHING TOP & BOTTOM	
FASCIA	WOOD	2x6 DF#1 WRAPPED w/ 16 GA. FORMED STEEL	
NOTES:			
1. INTEGRAL ADDITIVE FOR URINE AND MOISTURE RESISTANCE.			
2. PAINT WALL SHEATHING FOR MOISTURE PROTECTION (UTILITY CHASE SIDE)			



APPROVED
By **RADCO a CA**
Department of Housing
and Community
Development approved
third party design
approval agency
DM920272

APPROVAL DATE: 07/29/2019
EXPIRATION DATE: 11/30/2020

APPROVAL NO. 501-1127

1 FLOOR PLAN
SCALE: 1/2"=1'-0"

STRUCTURAL ONLY
This schedule is for structural design only. The user shall verify the accuracy of the information provided and is responsible for the design of the structure.



ETA, Inc., 205 N Oakland Ave
Hayward, California 48888

DO NOT SCALE - DIMENSIONS PREPARED BY THE ARCHITECT - SCALE AS NOTED
11/17/2019 - WTB

No.	Description	Date	CONSTRUCTION DOCUMENTS 07/31/2019	COPYRIGHT 2019. PUBLIC RESTROOM COMPANY THIS MATERIAL IS THE EXCLUSIVE PROPERTY OF PUBLIC RESTROOM COMPANY AND SHALL NOT BE REPRODUCED, USED, OR DISCLOSED TO OTHERS EXCEPT AS AUTHORIZED BY THE WRITTEN PERMISSION OF PUBLIC RESTROOM COMPANY	 PUBLIC RESTROOM COMPANY Building Better Restrooms For You 2547 Business Pkwy, Mission, NY 13623 Ph: 888-888-2000 Fax: 888-888-1448	PROJECT OWNER: CITY of LOS BANOS Los Banos, CA	PROJECT NAME AND LOCATION: SEVENTH STREET PARK Los Banos, CA	SHEET TITLE: FLOOR PLAN, STRUCTURAL DESIGN & SCHEDULES	Drawn by: PD / EVE Checked by: KM Current Date: 07/31/2019 Start Date: 12/04/2018	Job No. 9249 A-1
SEVENTH STREET PARK - Los Banos, CA										

CONSTRUCTION DOCUMENTS - 07/31/2019

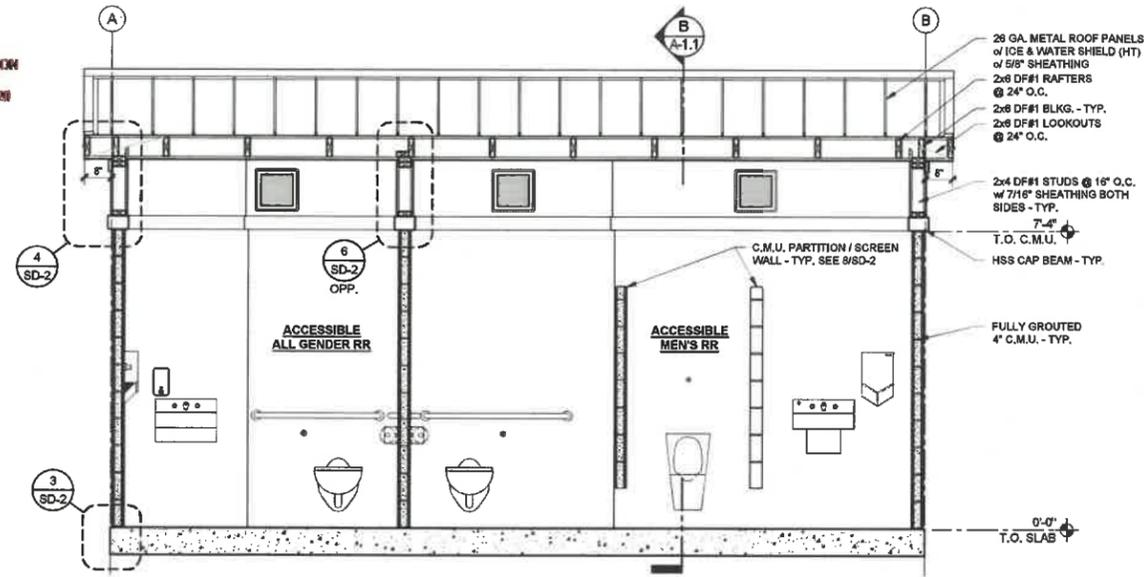
SEVENTH STREET PARK - Los Banos, CA

APPROVED
By RADCO a CA
Department of Housing
and Community
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third party design
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DM1920272

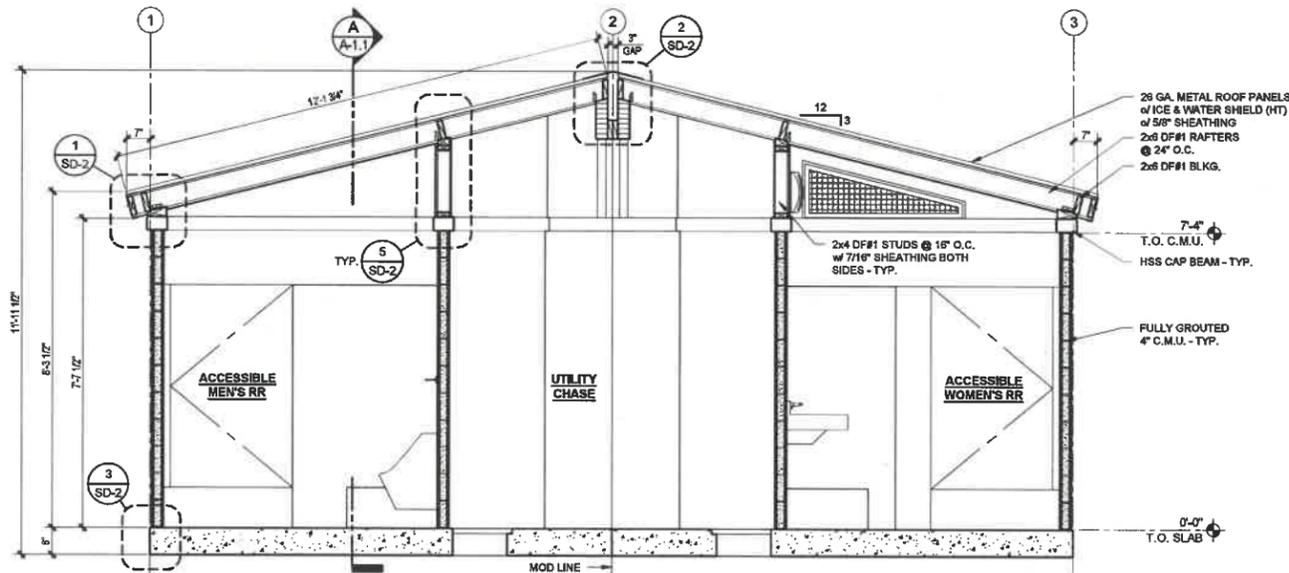
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EXPIRATION
DATE: 11/26/2019

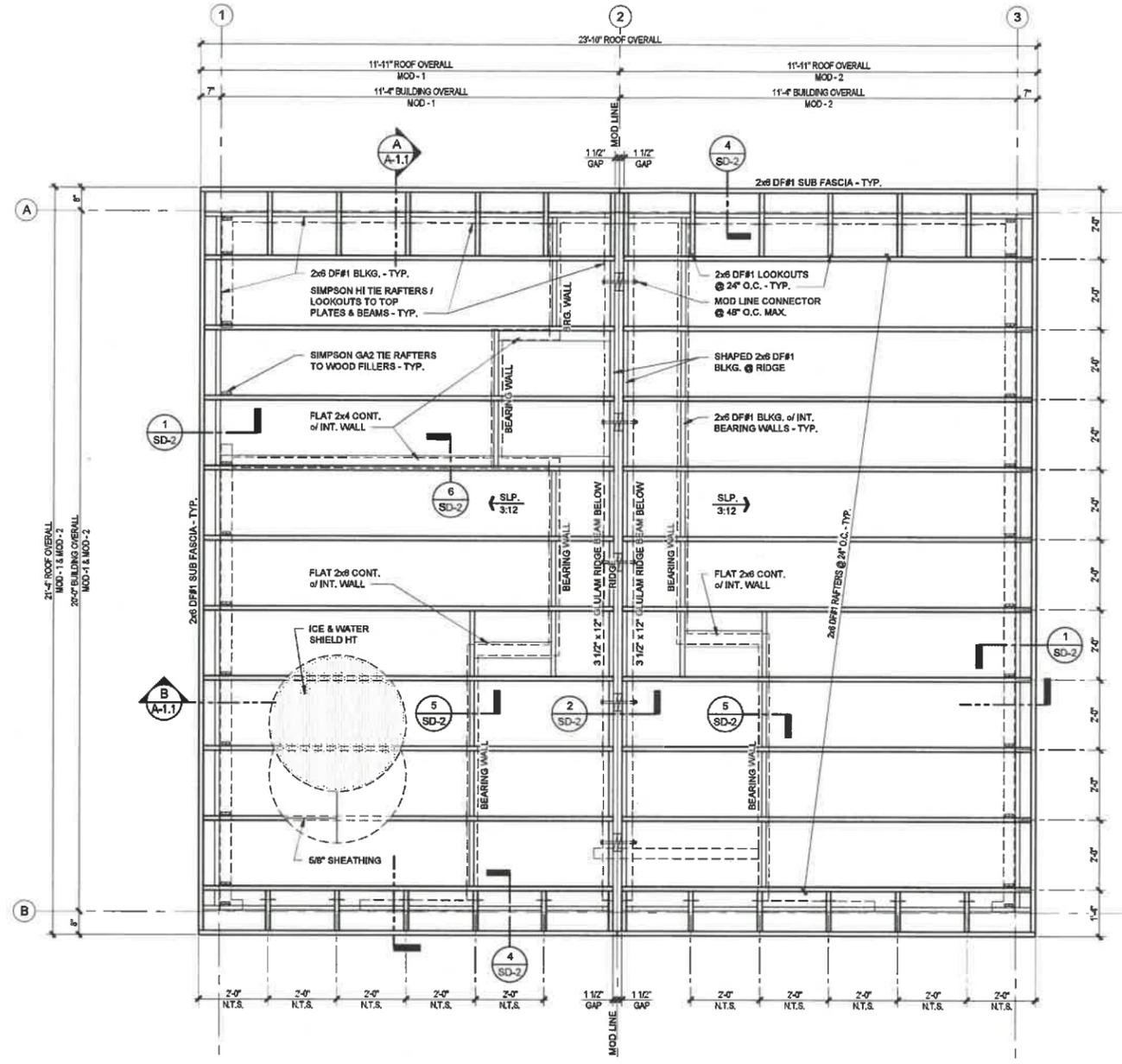
APPROVAL NO.
591-1127



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



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



1 ROOF FRAMING PLAN
SCALE: 1/2" = 1'-0"

FASTENING SCHEDULE

WOOD FRAMED WALLS	
WOOD STUDS TO TOP & BOTTOM PLATES	(2) 0.131" x 3" NAILS
DOUBLE TOP PLATES	(2) 0.131" x 3" NAILS @ 16" O.C.
INTERIOR WALLS SHEATHING (BOTH SIDES)	0.131" x 2" @ 6" O.C EDGES 12" O.C. FIELD
GABLE END WALLS SHEATHING (BOTH SIDES)	0.131" x 2" @ 6" O.C EDGES 12" O.C. FIELD
BOTTOM PLATES & WOOD FILLERS TO CAP BEAM	#12 SELF TAPPING SCREWS CONFORMING TO ASTM C1513 OR EQUAL @ 12" O.C. STAGGERED & WITHIN 4" OF ENDS (ENSURE FULL THREAD ENGAGEMENT)
ROOF	
RAFTERS / LOOKOUTS TO TOP PLATES & BEAMS	(1) SIMPSON HI TIE / (1) SIMPSON H5 @ END CONDITIONS
RAFTERS / LOOKOUTS TO WOOD FILLERS	(1) SIMPSON GA2 TIE
LOOKOUTS TO RAFTERS	(3) 0.131" x 3" NAILS, END GRAIN OR TOE NAILED
SHEATHING TO RAFTERS	0.131" x 2.5" NAILS @ 6" O.C. EDGE, 8" O.C. FIELD
EAVE SUB-FASCIA TO RAFTERS	(3) 0.131" x 3" END GRAIN NAILS

GENERAL SHEET NOTES:

#1. SD SHEETS REFERENCED HEREIN CONTAIN PROPRIETARY INFORMATION AND THEREFORE ARE NOT AN INTEGRAL PART OF THE PLANS. SD SHEETS SHALL BE UTILIZED FOR ENGINEERING PURPOSES AND INTERNAL USE ONLY

STRUCTURAL ONLY

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SEAL

Professional Engineer
Civil
No. C70218
Exp. 09-30-2020

06/02/2019

ITA, Inc., 305 W. Oakland Ave
Milwaukee, WI 53212-4650

DO NOT SCALE - DIMENSIONS PRESIDE
24x36 SHEET - SCALE AS NOTED
11x17 SHEET - NTS

No.	Description	Date

CONSTRUCTION DOCUMENTS
07/31/2019

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PUBLIC RESTROOM COMPANY
Building Solutions, Inc. Co.
2587 Business Pkwy, Minden, NV 89423
Ph: 888-888-2060 | Fax: 888-888-1448

PROJECT OWNER:
CITY OF LOS BANOS
Los Banos, CA

PROJECT NAME AND LOCATION:
SEVENTH STREET PARK
Los Banos, CA

SHEET TITLE:
ROOF FRAMING PLAN, BUILDING SECTIONS & FASTENING SCHEDULE

Drawn by: **PD / EVE** Job No. **9249**

Checked by: **KM**

Current Date: **07/31/2019**

Start Date: **12/04/2018**

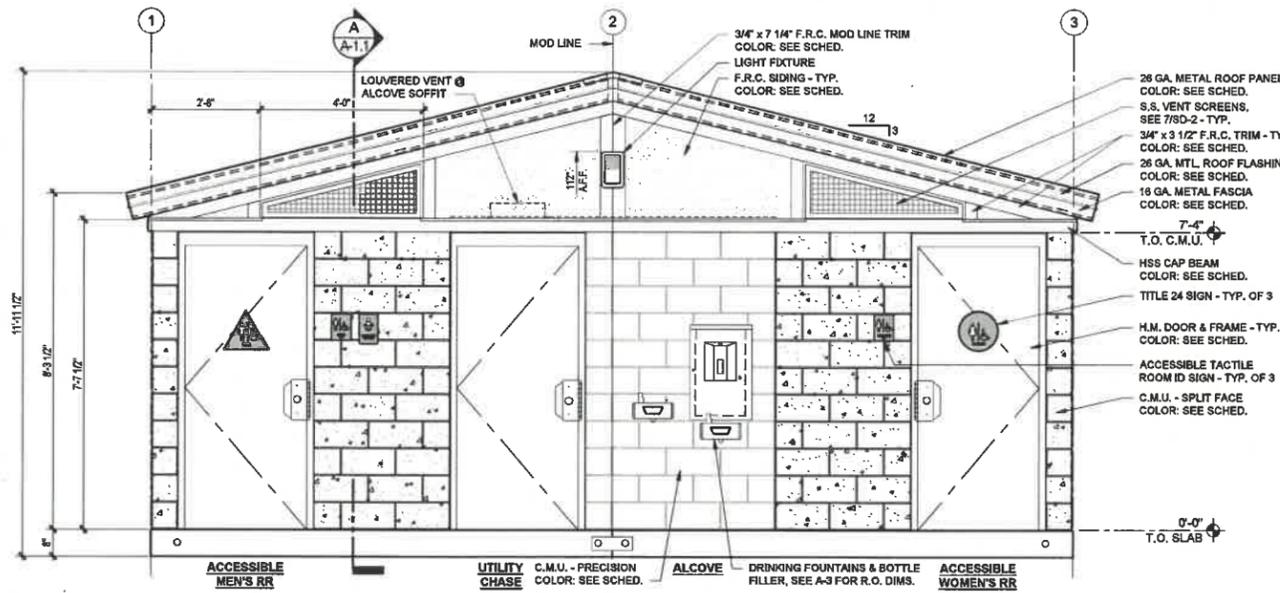
A-1.1

CONSTRUCTION DOCUMENTS - 07/31/2019

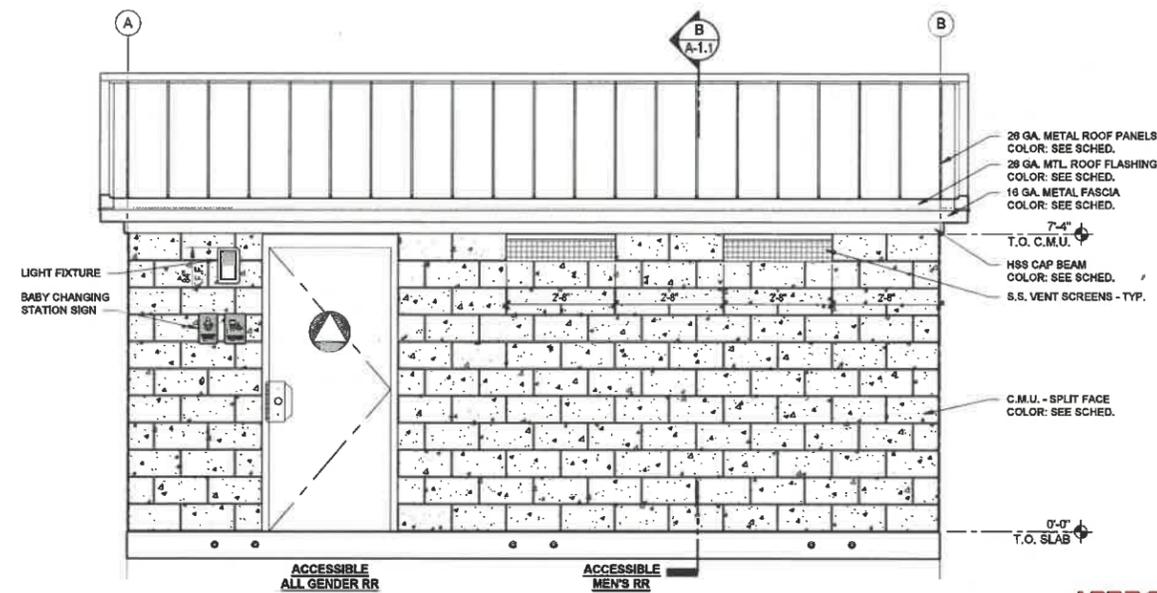
SEVENTH STREET PARK - Los Banos, CA

EXTERIOR FINISH SCHEDULE

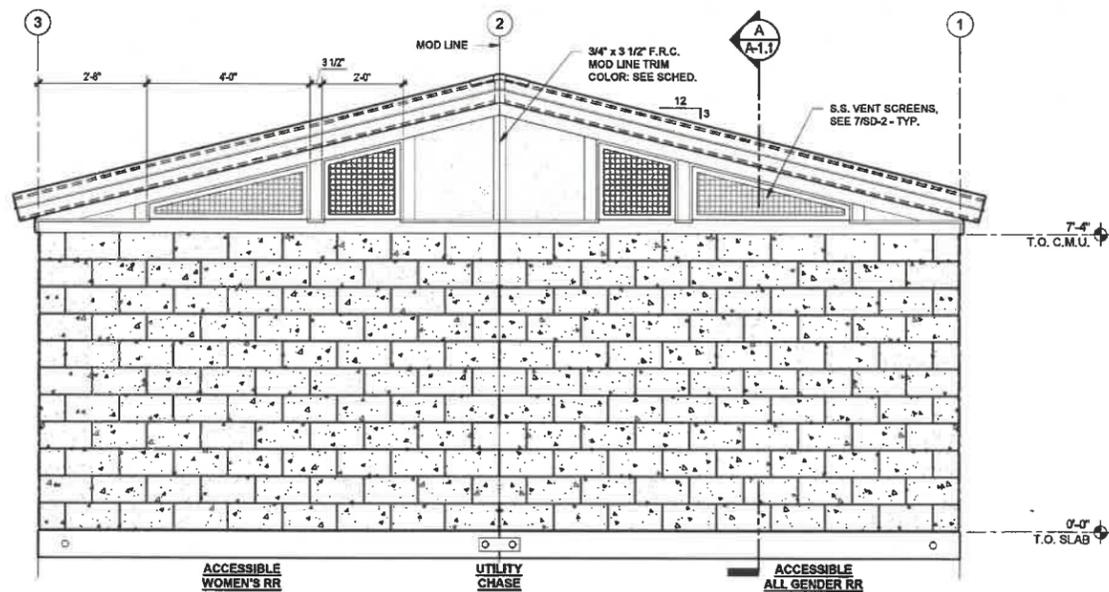
TYPE	DESCRIPTION	FINISH	BRAND / COLOR	NOTES	TYPE	DESCRIPTION	FINISH	BRAND / COLOR	NOTES
WALLS					ROOF				
C.M.U. TO 7'-4"	C.M.U. - SPLIT FACE	PAINTED	PITTSBURGH PITT-TECH / MATCH METAL SALES LIGHT STONE (63)	2 COATS BLOCK FILLER, 2 COATS FINISH - GLOSS	ROOFING	26 GA. STANDING SEAM METAL ROOF PANELS	PREFINISHED	METAL SALES "IMAGE 1" / FOREST GREEN (26)	OVER ICE & WATER SHIELD HT
ALCOVE BACK & SIDE WALLS	C.M.U. - PRECISION	PAINTED	PITTSBURGH PITT-TECH / MATCH METAL SALES FOREST GREEN (26)	2 COATS BLOCK FILLER, 2 COATS FINISH - GLOSS	FLASHINGS	26 GA. METAL	PREFINISHED	METAL SALES "IMAGE 1" / FOREST GREEN (26)	-
CAP BEAM	STEEL	PAINTED	PITTSBURGH PITT-TECH / MATCH METAL SALES FOREST GREEN (26)	1 COAT PRIMER, 2 COATS FINISH - GLOSS	FASCIA	16 GA. METAL	PAINTED	PITTSBURGH PITT-TECH / MATCH METAL SALES FOREST GREEN (26)	1 COAT PRIMER, 2 COATS FINISH - GLOSS
VENT FRAME, TOP ONLY	STAINLESS STEEL 1" x 1/2" C-CHANNEL	NATURAL	-	-	SOFFITS	F.R.C. - STUCCO PATTERN	PAINTED	PITTSBURGH PITT-TECH / MATCH METAL SALES FOREST GREEN (26)	1 COAT PRIMER, 2 COATS FINISH - GLOSS
VENT SCREENS	STAINLESS STEEL WIRE MESH (1" x 1" x 3/16")	NATURAL	-	-	DOORS & FRAMES				
ABOVE CAP BEAM					ALL DOORS & FRAMES				
SIDING	F.R.C. - STUCCO PATTERN	PAINTED	PITTSBURGH PITT-TECH / MATCH METAL SALES LIGHT STONE (63)	2 COATS BLOCK FILLER, 2 COATS FINISH - GLOSS	HOLLOW METAL		PAINTED	PITTSBURGH PITT-TECH / MATCH METAL SALES FOREST GREEN (26)	1 COAT PRIMER, 2 COATS FINISH - GLOSS
TRIM	3/4" x 3 1/2" F.R.C. TRIM BOARDS	PAINTED	PITTSBURGH PITT-TECH / MATCH METAL SALES FOREST GREEN (26)	2 COATS BLOCK FILLER, 2 COATS FINISH - GLOSS	OTHER				
MOD LINE TRIM	3/4" x WIDTH PER PLAN F.R.C. TRIM BOARDS	PAINTED	PITTSBURGH PITT-TECH / MATCH METAL SALES FOREST GREEN (26)	2 COATS BLOCK FILLER, 2 COATS FINISH - GLOSS	LOUVERED VENT	16" x 8"	ALUMINUM	SUNVENT #157FL - 16" x 8" / NATURAL	AT ALCOVE SOFFIT
VENT FRAMES	1 1/2" x 1 1/2" 1/8" ANGLE BAR	PAINTED	PITTSBURGH PITT-TECH / MATCH METAL SALES FOREST GREEN (26)	2 COATS BLOCK FILLER, 2 COATS FINISH - GLOSS	MISC. FLASHINGS	GALV. METAL OVER CAP BEAM	PAINTED	MATCH ADJACENT COLOR	1 COAT PRIMER, 2 COATS FINISH - GLOSS
VENT SCREENS	STAINLESS STEEL WIRE MESH (1" x 1" x 3/16")	NATURAL	-	-					



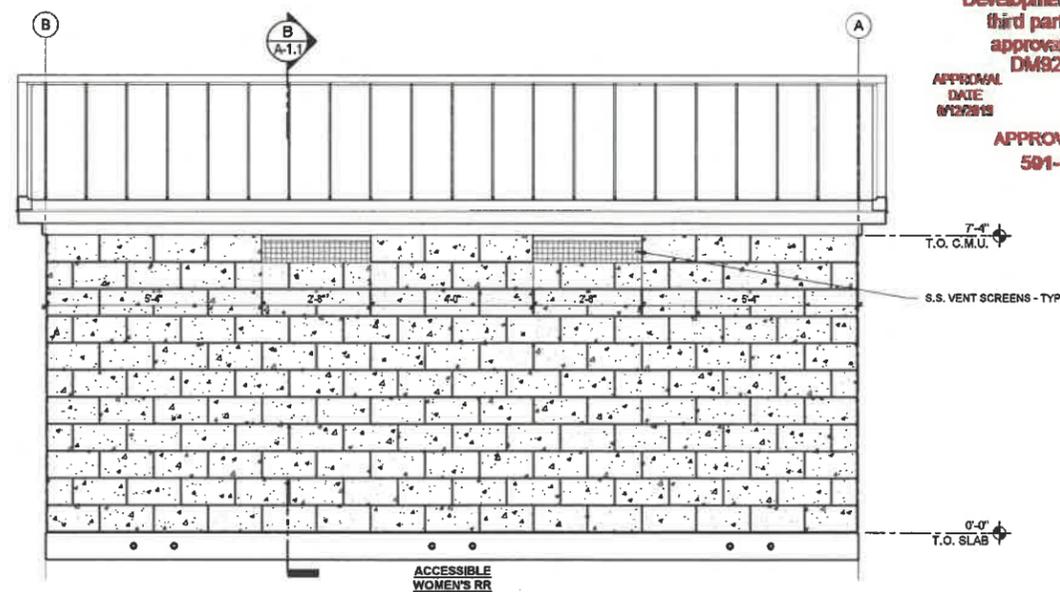
1 EXTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



2 EXTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



3 EXTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



4 EXTERIOR ELEVATION
SCALE: 1/2" = 1'-0"

APPROVED
By **RADCO a CA**
Department of Housing
and Community
Development approved
third party design
approval agency
DM920272
APPROVAL
DATE: 07/29/19
EXPIRATION
DATE: 11/30/2020
APPROVAL NO.
501-1127

STRUCTURAL ONLY
Professional Engineer
ERIC J. TOMPOS
No. C70218
Exp. 09-30-2020
CIVIL
08/02/2019
174, Inc., 385 N. Oakland Ave.
Hayward, California 94505
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1x1/2" SHEET = HTS

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						CITY OF LOS BANOS Los Banos, CA	SEVENTH STREET PARK Los Banos, CA	EXTERIOR ELEVATIONS & FINISH SCHEDULE	KIM	9249		
									Current Date: 07/31/2019 Start Date: 12/04/2018			A-2

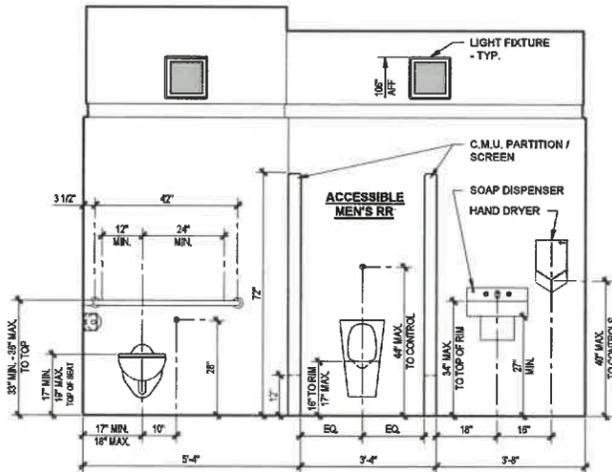
CONSTRUCTION DOCUMENTS - 07/31/2019
SEVENTH STREET PARK - Los Banos, CA

RESTROOM ACCESSORIES & SPECIALTIES
MOUNT WITH VANDAL RESISTANT SS SCREWS

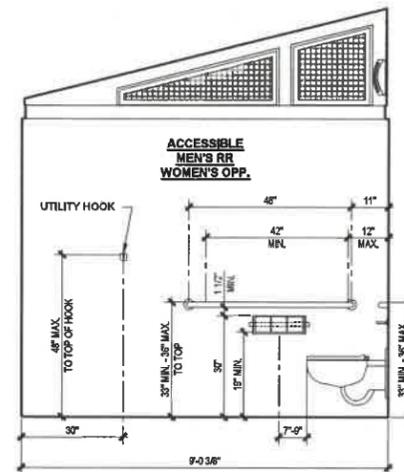
ACCESSORIES	QTY	SIZE/STYLE	MANUF./ITEM #	PRC#	FINISH / COLOR / STYLE	NOTES
GRAB BAR	1	36"	BOBRICK B-6806-36 (OR EQ.)	H1117	STAINLESS STEEL	MOUNT 33" MIN. - 36" MAX. A.F.F. TO TOP
GRAB BAR	2	42"	BOBRICK B-6806-42 (OR EQ.)	H1118	STAINLESS STEEL	MOUNT 33" MIN. - 36" MAX. A.F.F. TO TOP
GRAB BAR	3	48"	BOBRICK B-6806-48 (OR EQ.)	H1119	STAINLESS STEEL	MOUNT 33" MIN. - 36" MAX. A.F.F. TO TOP
TOILET PAPER HOLDER	5	VANDAL RESISTANT 3-ROLL	ROYCE ROLLS TP-3	H1152	STAINLESS STEEL	MOUNT 30" A.F.F. TO TOP
HAND DRYER	3	SURFACE MOUNTED	DYSON AIRBLADE V	L1417	SPRAYED NICKEL	MOUNT 40" MAX. A.F.F. TO CONTROL
SOAP DISPENSER	3	THRU WALL VALVE & (2) BEHIND THE WALL TANK	ASI #353	H1421(0)	STAINLESS STEEL	MOUNT 40" MAX. A.F.F. TO CONTROL
SOAP DISPENSER	1	SURFACE MOUNTED	BOBRICK B-2111	H1122	STAINLESS STEEL	MOUNT 40" MAX. A.F.F. TO CONTROL
UTILITY HOOK	6	SURFACE MOUNTED	BOBRICK B-670 (OR EQ.)	H1143	STAINLESS STEEL	MOUNT 48" A.F.F. TO TOP
BABY CHANGING STATION	1	SURFACE MOUNTED	FOUNDATIONS 5410339	H1110	STAINLESS STEEL / POLY	MOUNT 34" MAX. A.F.F. TO TOP OF WORK SURFACE
TOILET PARTITION DOORS	4	WALL HUNG - SELF CLOSING HINGE	PAPERSTONE COMPOSITE	H0007	SLATE	-
TOILET PARTITIONS	4	C.M.U. PRECISION BLOCK	-	-	PPG PURE WHITE #90-374	2 COATS BLOCK FILLER, 2 COATS FINISH GLOSS
URNAL / LAVATORY SCREENS	1	C.M.U. PRECISION BLOCK	-	-	PPG PURE WHITE #90-374	2 COATS BLOCK FILLER, 2 COATS FINISH GLOSS
SIGNS - TACTILE ROOM ID ACCESSIBLE "MEN"	1	5 3/4" x 8 3/8" RECTANGULAR	SIGN ELEMENTS	H1200	ALUMINUM BLUE	MOUNT 80" A.F.F. TO CENTER - SEE SHT. A-2
SIGNS - TACTILE ROOM ID ACCESSIBLE "WOMEN"	1	5 3/4" x 8 3/8" RECTANGULAR	SIGN ELEMENTS	H1209	ALUMINUM BLUE	MOUNT 60" A.F.F. TO CENTER - SEE SHT. A-2
SIGNS - TACTILE ROOM ID ACCESSIBLE "ALL GENDER"	1	6 3/8" x 9 1/8" RECTANGULAR	SIGN ELEMENTS	H1315	ALUMINUM BLUE	MOUNT 60" A.F.F. TO CENTER - SEE SHT. A-2
SIGNS - ACCESSIBLE PICTOGRAM "MEN"	1	12" TRIANGLE	SIGN ELEMENTS	H1300	ALUMINUM BLUE	MOUNT 59" A.F.F. TO CENTER - SEE SHT. A-2
SIGNS - ACCESSIBLE PICTOGRAM "WOMEN"	1	12" CIRCLE	SIGN ELEMENTS	H1259	ALUMINUM BLUE	MOUNT 59" A.F.F. TO CENTER - SEE SHT. A-2
SIGNS - ACCESSIBLE PICTOGRAM "BLANK"	1	12" CIRCLE / TRIANGLE	SIGN ELEMENTS	H1308	ALUMINUM BLUE	MOUNT 59" A.F.F. TO CENTER - SEE SHT. A-2
SIGNS - "BABY CHANGING STATION"	1	5 3/4" x 9 1/8" RECTANGULAR	SIGN ELEMENTS	H1320	ALUMINUM BLUE	MOUNT 60" A.F.F. TO CENTER - SEE SHT. A-2
LOUVERED VENT	1	16" x 8"	SUNVENT #157FL	C1000	ALUMINUM / NATURAL	AT ALCOVE SOFFIT

INTERIOR FINISH SCHEDULE

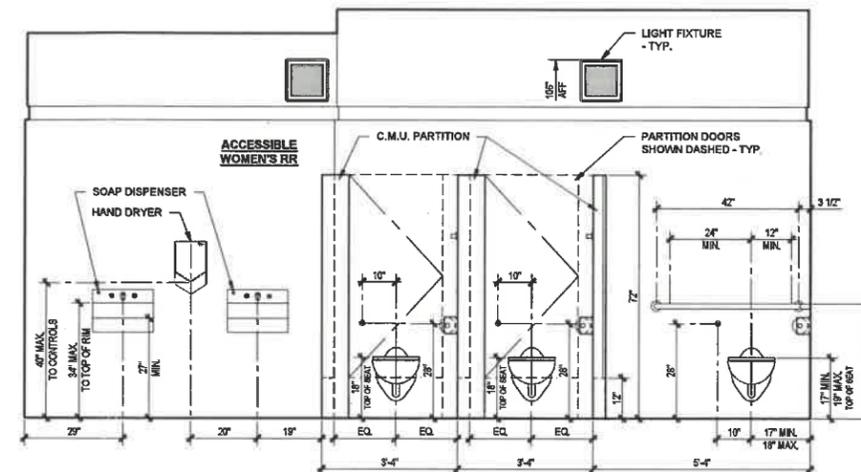
COMPONENT	DESCRIPTION	FINISH	BRAND / COLOR	NOTES
FLOOR				
ALL ROOMS	CONCRETE	LIGHT BROOM	NATURAL / SEALED	INTEGRAL ADDITIVE FOR URINE / MOISTURE RESISTANCE
WALLS				
RESTROOMS	C.M.U. - PRECISION	BLOCK FILLER / PAINTED	PITTSBURGH / PURE WHITE #90-374 PITT-TECH	2 COATS BLOCK FILLER, 1 COAT EPOXY 1st COURSE, 2 COATS FINISH GLOSS
CAP BEAM	STEEL	PAINTED	PITTSBURGH / PURE WHITE #90-374 PITT-TECH	1 COAT PRIMER, 2 COATS FINISH GLOSS
ABOVE CAP BEAM	F.R.C. - STUCCO PATTERN	PAINTED	PITTSBURGH / PURE WHITE #90-374 PITT-TECH	1 COAT PRIMER, 2 COATS FINISH GLOSS
UTILITY CHASE	C.M.U. - PRECISION	BLOCK FILLER / PAINTED	PITTSBURGH / PURE WHITE #90-374 PITT-TECH	1 COAT BLOCK FILLER, 1 COAT FINISH GLOSS
CAP BEAM	STEEL	PAINTED	PITTSBURGH / PURE WHITE #90-374 PITT-TECH	1 COAT PRIMER, 2 COATS FINISH GLOSS
ABOVE CAP BEAM	WOOD SHEATHING	PAINTED	PITTSBURGH / PURE WHITE #90-374 PITT-TECH	1 COAT PRIMER, 2 COATS FINISH GLOSS
CEILING				
RESTROOMS	F.R.C. - STUCCO PATTERN	PAINTED	PITTSBURGH / PURE WHITE #90-374 PITT-TECH	1 COAT PRIMER, 2 COATS FINISH GLOSS
UTILITY CHASE	WOOD SHEATHING	PAINTED	PITTSBURGH / PURE WHITE #90-374 PITT-TECH	1 COAT PRIMER, 2 COATS FINISH GLOSS



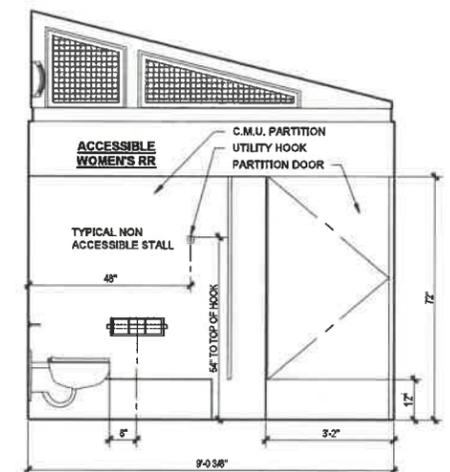
2 INTERIOR ELEVATION
A-3 SCALE: 1/2" = 1'-0"



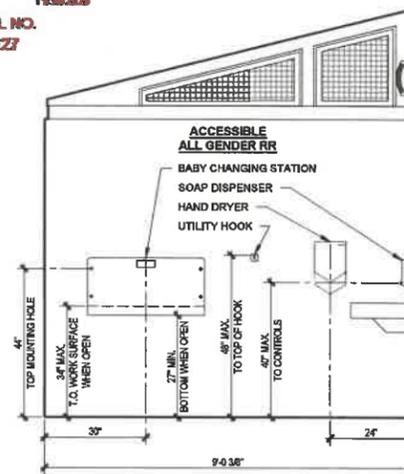
3 INTERIOR ELEVATION
A-3 SCALE: 1/2" = 1'-0"



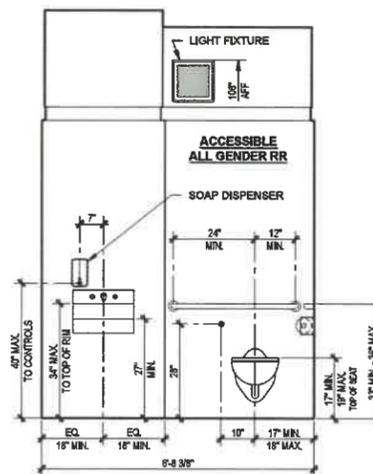
4 INTERIOR ELEVATION
A-3 SCALE: 1/2" = 1'-0"



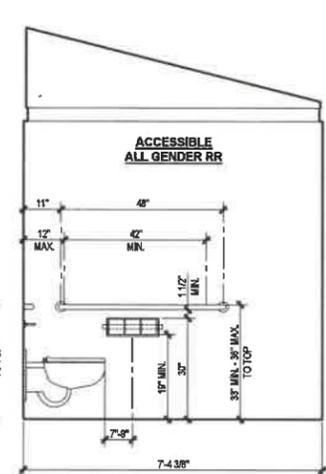
5 INTERIOR ELEVATION
A-3 SCALE: 1/2" = 1'-0"



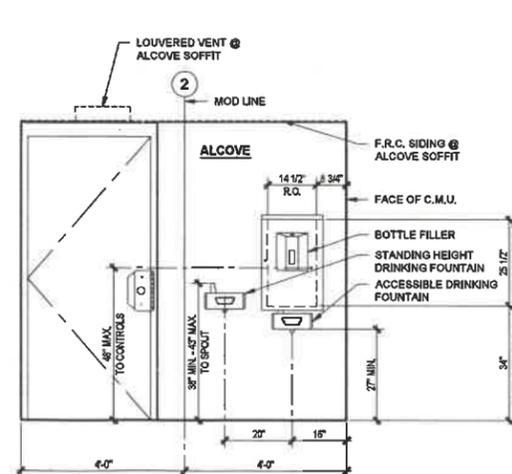
6 INTERIOR ELEVATION
A-3 SCALE: 1/2" = 1'-0"



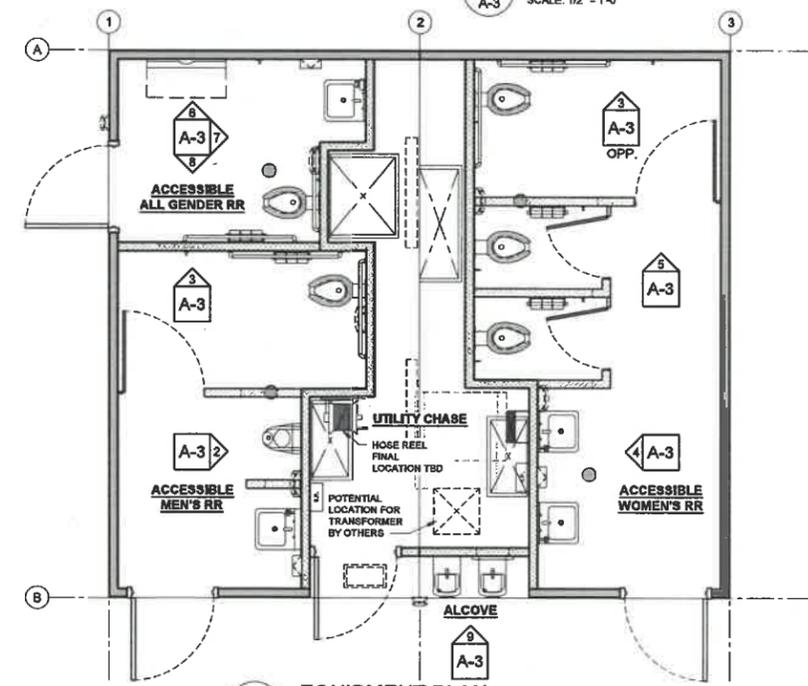
7 INTERIOR ELEVATION
A-3 SCALE: 1/2" = 1'-0"



8 INTERIOR ELEVATION
A-3 SCALE: 1/2" = 1'-0"



9 ALCOVE ELEVATION
A-3 SCALE: 1/2" = 1'-0"



1 EQUIPMENT PLAN
A-3 SCALE: NTS

APPROVED
By RADCO a CA
Department of Housing
and Community
Development approved
third party design
approval agency
DMS20272
APPROVAL NO.
504-1127

No.	Description	Date

CONSTRUCTION DOCUMENTS
07/31/2019

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PROJECT OWNER:
CITY OF LOS BANOS
Los Banos, CA

PROJECT NAME AND LOCATION:
SEVENTH STREET PARK
Los Banos, CA

SHEET TITLE:
EQUIPMENT PLAN, INTERIOR
ELEVATIONS & SCHEDULES

Drawn by: PD / EVE
Checked by: KM
Current Date: 07/31/2019
Start Date: 12/04/2018
Job No. 9249
A-3

CONSTRUCTION DOCUMENTS - 07/31/2019
SEVENTH STREET PARK - Los Banos, CA

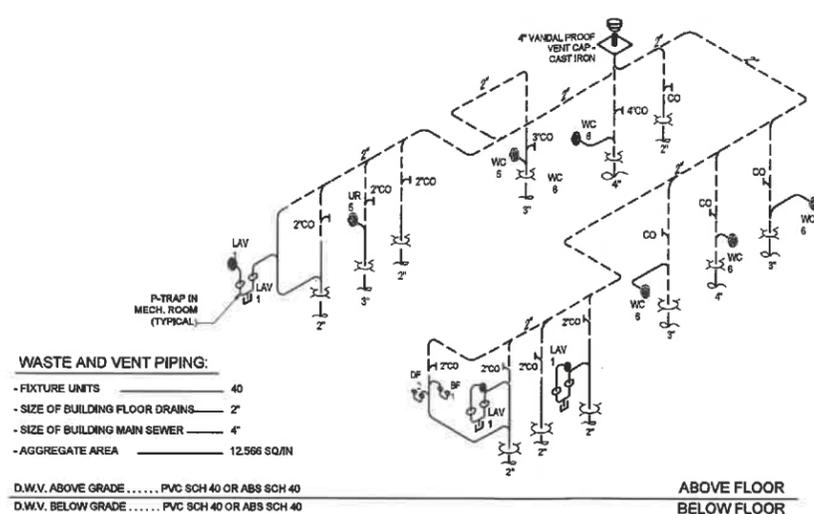
PLUMBING FIXTURE SCHEDULE			
QTY	FIXTURE	DESCRIPTION	PRC #
5	WATER CLOSET - Stainless steel	ACORN 1675-W-1-HET-FVBO-ADA 1.28-PFS-316SS	K1299
5	FLUSH VALVE - Water Closet ; Lever	ZURN Z6143AV-HET-BG-7L	K1521
5	TOILET SEAT - Black	BEMIS 1995C	K1323
4	LAVATORY - Stainless Steel, Wall Hung	ACORN 1862-FALRS-1-DMS-03-M-316SS	K1109
4	LAVATORY - FAUCET	CHICAGO MODEL #333-E2805-666PSHABCP	K1604
1	URINAL - Stainless steel	ACORN 1709-HEU-W-1-0.125-FVBO-316SS	K1199
1	FLUSH VALVE - Urinal ; Lever	ZURN Z6195AV-UJF-7L-BG	K1506
4	FLOOR DRAIN	ZURN ZN460-SB-2NH	K1700
2	PRESSURE GAUGE	PROFLO PFXPG100K	K1688
1	CHECK VALVE - 1 1/2" - Spring Type; Sweet	NIBCO #S-480-Y-LF	K1568.7
1	PRESSURE REDUCING VALVE - 1 1/2"	WATTS LF25 AUB-GG (Lead Free)	K1559
1	WATER FILTER - 1 1/2"	KEYSTONE CG10	K1591/92/94
1	BALL VALVE - 1 1/2"	NIBCO S-FP-600N	K1566
1	BALL VALVE - 1 1/4" (Prep for future tank)	NIBCO S-FP-600N	K1563
TBD	BALL VALVE - 1/2" (Isolation, drain & bleed valve)	NIBCO S-FP-600N	K1560
1	HAMMER ARRESTOR	PPA SVA	K1590
2	HOSE BIBB - Interior	ACORN #8121CP-LF	K1575
2	THERMOSTATIC VALVE - Mixing Valve	ACORN THERMOSTATIC MIX. VALVE MODEL # ST70-12	K1815
TBD	RELIEF VALVE - For WH-1/2" Relief / For Relief Line	PEX COMPRESSION STRAIGHT STOP VALVE #ULF4420500	K7905
TBD	RELIEF VALVE - For COMBO-1/2" Relief / DF Relief	PEX COMPRESSION ANGLE STOP VALVE #ULF4410500	K7910
1	VENT CAP - 4"	SMITH 1748	K1582
1	CORPORATION STOP - 1 1/2"	MEULLER H-15015	K1585
1	EXPANSION TANK - 2 GALLON	PROFLO #PFXT5	K1690
2	DRINKING FOUNTAIN - H-LD	MURDOCK MODEL #35E64-FG-316SS	K1398
1	BOTTLE FILLER	MURDOCK MODEL #BF3-316SS	K1419
2	WATER HEATER - IN LINE	REFER TO ELECTRICAL DRAWING - SHT. E-1	

PIPE SCHEDULE		PIPE MATERIAL			
TYPE OF SERVICE	PEX PIPE	TYPE "L" COPPER	TYPE "K" COPPER	SCHED. 40 PVC WATER	SCHED. 40 PVC DWV
		WATER	ABOVE GROUND	✓	
	BELOW GROUND		✓		
SANITARY DRAINAGE	ABOVE GROUND			✓	
	BELOW GROUND			✓	
SANITARY VENT	ABOVE GROUND				✓
	BELOW GROUND				✓
	ABOVE ROOF				✓

NOTES:

AS PER 2016 CA GREEN BUILDING STANDARDS CHAPTER 5 SECTION 5.303 - INDOOR WATER USE :

- WATER CLOSET FLUSH VALVE SHALL NOT EXCEED 1.28gpf.
- URINAL FLUSH VALVE SHALL NOT EXCEED 0.125gpf.
- LAVATORY METERING FAUCETS SHALL NOT EXCEED 0.20gal. PER CYCLE.



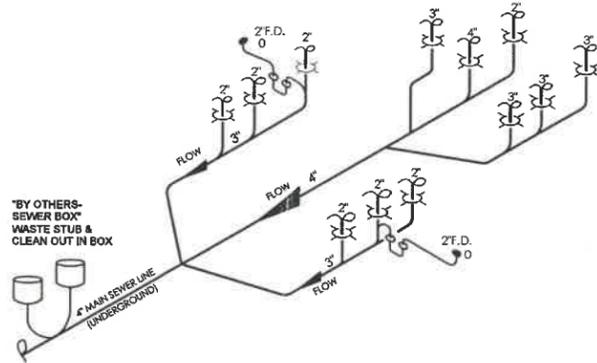
WASTE AND VENT PIPING:

- FIXTURE UNITS 40
- SIZE OF BUILDING FLOOR DRAINS 2"
- SIZE OF BUILDING MAIN SEWER 4"
- AGGREGATE AREA 12,566 SQ/IN

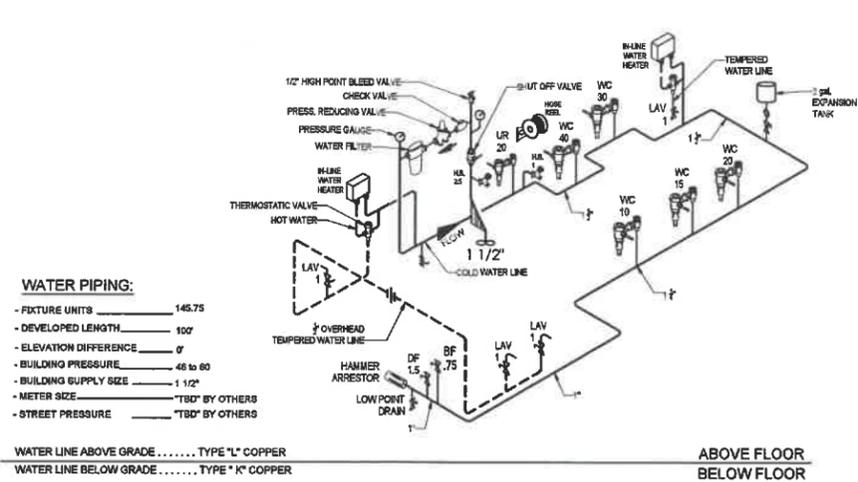
D.W.V. ABOVE GRADE PVC SCH 40 OR ABS SCH 40
 D.W.V. BELOW GRADE PVC SCH 40 OR ABS SCH 40

GENERAL NOTES:

- SIZED TO 2016 CALIFORNIA PLUMBING CODE
- D.W.V. MATERIAL - P.V.C. or A.B.S.
- D.W.V. UNDERGROUND MATERIAL - P.V.C. or A.B.S.
- CONTINUATION OF WASTE TO MAIN SEWER TO BE DONE ON SITE BY OTHERS.
- ALL FLOOR DRAINS SHALL TRAP IN MECH. ROOM AND HAVE REMOVABLE TRAPS FOR WINTERIZATION.
- FLOOR DRAIN TRAPS TO CONNECT TO D.W.V. IN MECHANICAL ROOM WITH STAINLESS STEEL BAND & NO HUB COUPLING.
- P-TRAPS ON ACCESSIBLE FIXTURES INSULATED
- V.T.R. SHALL BE CAST IRON WITH VANDAL CAP TO 2" BELOW ROOF.
- SLOPE ALL D.W.V. PIPING 1/4" NOM.
- LAVATORY TRAPS IN MECH. ROOM SHALL HAVE DRAIN PLUGS FOR WINTERIZATION.
- DRAIN LINE TO BE SLOPED TO MAIN SEWER LINE.
- INSTALL GRATES AT FLOOR OPENING IF APPLICABLE.



WASTE & VENT - PIPING ISOMETRIC



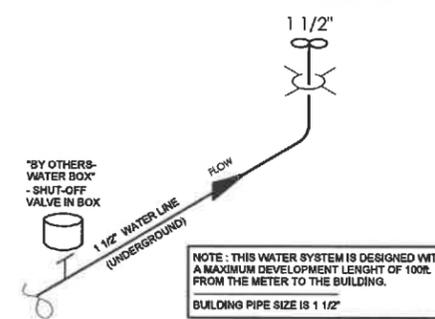
WATER PIPING:

- FIXTURE UNITS 145.75
- DEVELOPED LENGTH 100'
- ELEVATION DIFFERENCE 0'
- BUILDING PRESSURE 48 to 60
- BUILDING SUPPLY SIZE 1 1/2"
- METER SIZE "TBD" BY OTHERS
- STREET PRESSURE "TBD" BY OTHERS

WATER LINE ABOVE GRADE TYPE "L" COPPER
 WATER LINE BELOW GRADE TYPE "K" COPPER

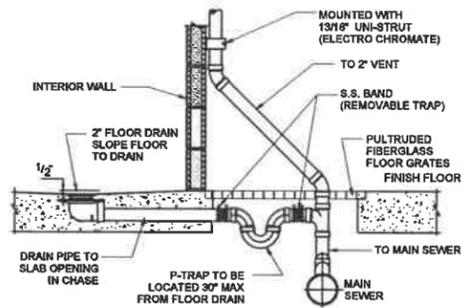
GENERAL NOTES:

- SIZED TO 2016 CALIFORNIA PLUMBING CODE
- POTABLE WATER MATERIAL - COPPER
- ANGLE STOP & SUPPLY ON ACCESSIBLE LAVATORIES & SINK FIXTURES SHALL BE INSULATED ONLY WHEN SERVICES ARE HEATED.
- HOT & TEMPERED WATER LINES (IF ANY) TO BE INSULATED
- CONTINUATION OF WATER MAIN TO BE DONE ON SITE BY OTHERS
- AS PER CPC 608.3 A TEE W/ PLUG WILL BE PROVIDED FOR A WELL TANK DEVICE TO BE INSTALLED ON SITE WHEN WATER SERVICE PRESSURE / VOLUME IS VARIABLE.
- SLOPE ALL WATER PIPING 1/4" NOM. TOTAL FOR ALL DRAINAGE TO LOW POINT DRAIN.
- FURNISH & INSTALL SERVICE CURB BOX NORMALLY 6" OUTSIDE BUILDING.
- NON-POTABLE WATER SERVICE SHOULD BE CLEARLY LABELED.
- WATER LINE TO BE SLOPED TO LOW POINT DRAIN.



NOTE: THIS WATER SYSTEM IS DESIGNED WITH A MAXIMUM DEVELOPMENT LENGTH OF 100' FROM THE METER TO THE BUILDING.
 BUILDING PIPE SIZE IS 1 1/2"

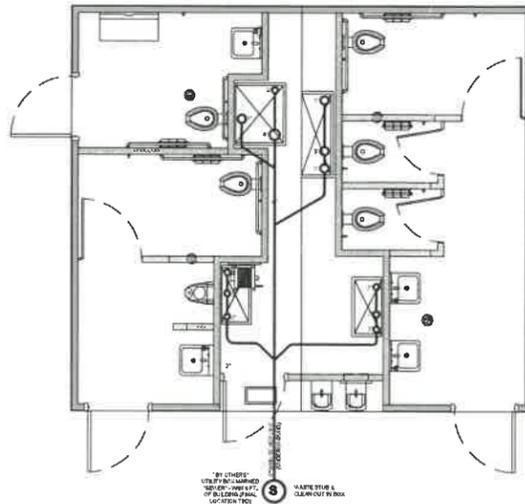
WATER PIPING ISOMETRIC



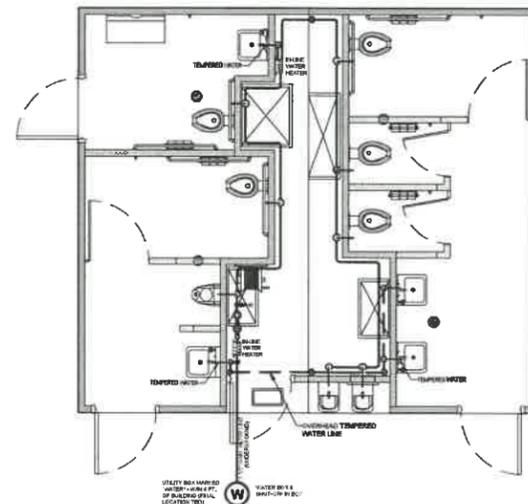
FLOOR DRAIN DETAIL

- AS PER 2016 CALIFORNIA PLUMBING CODE CHAPTER 10 - 1007.0 TRAP PRIMER ARE REQUIRED IF THE BUILDING DRAINAGE SYSTEM ARE SUBJECT TO INFREQUENT USE. THIS BUILDING EXCLUDES TRAP PRIMER BECAUSE THE BUILDING IS CLEANED BY HOSE DOWN DAILY.

- ALL FLOOR DRAINS SHALL TRAP IN MECH. ROOM AND HAVE REMOVABLE TRAPS.



1 PLUMBING PLAN - WASTE & VENT
 SCALE: NOT TO SCALE



2 PLUMBING PLAN - WATER SUPPLY
 SCALE: NOT TO SCALE

APPROVED
 By RADCO a CA
 Department of Housing
 and Community
 Development approved
 third party design
 approval agency
 DM820272

APPROVAL DATE: 07/31/2019
 EXPIRATION DATE: 11/30/2020

APPROVAL NO.
 591-1127

No.	Description	Date

CONSTRUCTION DOCUMENTS
 07/31/2019

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PROJECT OWNER:
CITY OF LOS BANOS
 Los Banos, CA

PROJECT NAME AND LOCATION:
SEVENTH STREET PARK
 Los Banos, CA

SHEET TITLE:
PLUMBING PLAN & SCHEDULES

Drawn by: PD / EVE Job No. 9249
 Checked by: KM
 Current Date: 07/31/2019
 Start Date: 12/04/2018

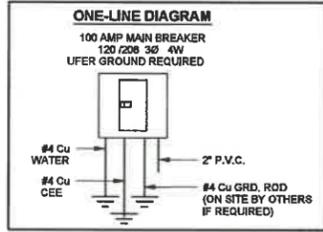
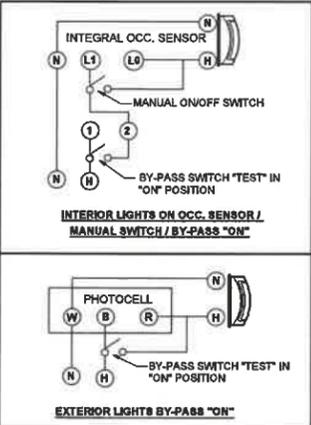
P-1

CONSTRUCTION DOCUMENTS - 07/31/2019

SEVENTH STREET PARK - Los Banos, CA

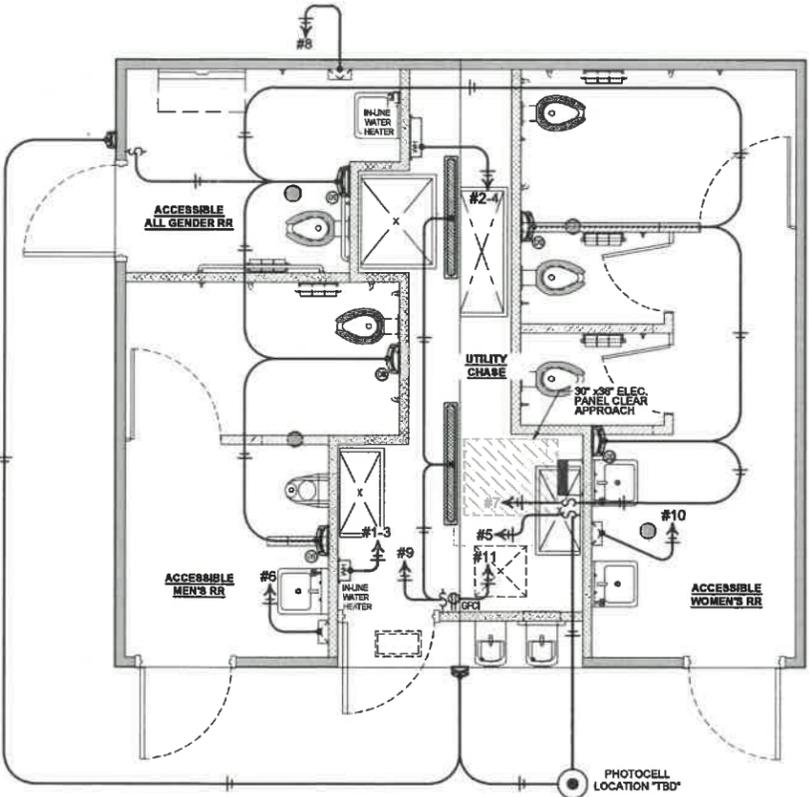
ELECTRICAL FIXTURE / EQUIPMENT SCHEDULE & SYMBOLS									
SYMBOL	QTY	RATING	CALC. LOAD	DESCRIPTION	MODEL	PRC #	HEIGHT TO TOP	COMMENTS	
PANEL	1	100 AMP MAIN BREAKER	100 AMP MAIN BREAKER	120/240 SINGLE PHASE - 3W w/ PLUG-ON BREAKERS; NEMA 1 ENCLOSURE	SQUARE D QO120M100	L1902	72"	FURR-OUT 6"	
LIGHT - RESTROOM	15	15 WATTS	15 VA	15 WATT LED	LUMINAIRE SWP1212-15W-4000K-120V-OP-BRZ-OCC	L1168.5	106"	ON BUILT-IN SENSOR / TIME CLOCK / MANUAL / BY-PASS SWITCH	
LIGHT - EXTERIOR	15	15 WATTS	15 VA	15 WATT LED	LUMINAIRE YWP610-15W-4000K-120V-OP-BRZ	L1162.5	SEE SHEET A-2	ON PHOTOCELL / BY-PASS SWITCH	
LIGHT- UTILITY CHASE	18	18 WATTS	18 VA	18 WATT LED	GREENLIGHTING AL41L	L1107		ON SWITCH	
DUPLEX RECEPTACLE	1	1500 WATTS	1500 VA	DEDICATED 20 AMP GFCI RECEPTACLE	LEVITON GFNT2-W	L1876	48"		
PHOTOCELL	1	1800 WATTS RATED		PHOTOCELL	INTERMATIC K4321C	L1896	ON ROOF	CONTROL EXTERIOR LIGHTS	
SWITCH (2 BY-PASS)	4			SINGLE POLE SWITCH	LEVITON 1221-W	L1868	48"	(2) BY-PASS SWITCH; (2) MANUAL ON-OFF	
HAND DRYER	3	1000 WATTS	1000 VA	SURFACE MOUNTED ELECTRIC	DYSON AIRBLADE V	L1417	40" MAX. TO CONTROLS"		
WATER HEATER	1	7.2 KW	7200 VA	IN-LINE WATER HEATER	STEIBEL DHC-E 8/10	L1319.5			
WATER HEATER	1	3.2 KW	3200 VA	IN-LINE WATER HEATER	STEIBEL DHC-S-2	L1318.5			
MOD-LINE ELECTRICAL CONNECTOR	1			MOD-LINE ELECTRICAL CROSS-OVER CONNECTOR	PRC STANDARD				

- NOTES:**
- ALL CONDUCTORS ARE COPPER WIRES.
 - RATING OF STANDARD PANEL IS 22,000 A.I.C.
 - WIRING METHOD IN METALLIC CONDUIT.
 - INSTALL CEE GROUND IN SLAB, TERMINATING IN MECH. ROOM
 - GREEN GROUNDING CONDUCTOR IN ALL RACEWAYS.
 - SITE CONNECTION POINT FOR ELECTRICAL SERVICE AND MODULE LINE CROSS OVERS ARE CLEARLY LABELED. (FOR MULTI-MOD. BUILDING ONLY)
 - ALLOWABLE WATTAGE FOR BUILDING LIGHTING IS **220,431**
 32.55 SQFT. ACC ALL GENDER RR-1 x 0.60 WATTS PER SQFT FOR 19.53 WATTS.
 84.347 SQFT. ACC MEN'S RR x 0.60 WATTS PER SQFT FOR 50.608 WATTS.
 156.788 SQFT. ACC WOMEN'S RR x 0.60 WATTS PER SQFT FOR 94.072 WATTS.
 91.31 SQFT. MECHANICAL ROOM x 0.55 WATTS PER SQFT FOR 50.219 WATTS.
 INSTALLED WATTAGE FOR THIS BUILDING IS **111**



PANEL SCHEDULE									
NOTE: ALL CONDUCTORS COPPER									
		MAIN BREAKER		100 AMP PANEL SINGLE PHASE					
CKT NO	DESCRIPTION	TRIP	WIRE SIZE	VOLT	TRIP	WIRE SIZE	DESCRIPTION	CKT NO	
1	WATER HEATER	50	8	3800	1000	12	20	WATER HEATER	2
3	"	"	"	3000	1000	"	"	"	4
5	EXTERIOR LIGHT	20	12	30	1000	12	20	HAND DRYER	6
7	RESTROOM LIGHT	20	12	75	1000	12	20	HAND DRYER	8
9	UTILITY CHASE LIGHT	20	12	36	1000	12	20	HAND DRYER	10
11	DED. REC. - GFCI	20	12	1500					12
13									14
15									16
17									18
19									20

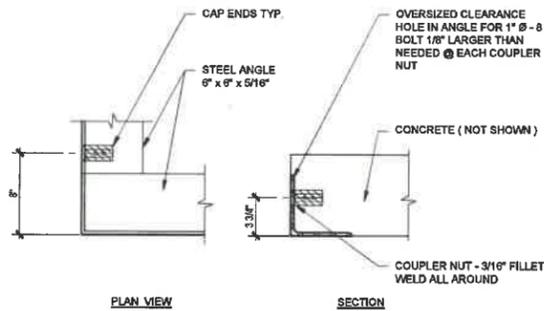
ELECTRICAL PLAN REVIEW LOAD CALCULATIONS			
VOLTAGE: 120/208		PHASE: 1Ø	
	CONNECTED LOAD		CALC. LOAD
LIGHTING			
EXTERIOR	30 V.A.	x 125 % =	37.5 V.A.
INTERIOR	111 V.A.	x 125 % =	138.75 V.A.
EXIT	V.A.	x 125 % =	V.A.
EMERGENCY	V.A.	x 125 % =	V.A.
VENT FAN	V.A.	x 125 % =	V.A.
X	V.A.	x 125 % =	V.A.
LIGHTING			
THRU 10,000	V.A.	x 100 % =	V.A.
OVER 10,000	V.A.	x 60 % =	V.A.
DED. GFCI (1)	1500 V.A.	x 100 % =	1500 V.A.
HAND DRYER (3)	3000 V.A.	x 100 % =	3000 V.A.
WATER HEATER (2)	10800 V.A.	x 100 % =	10800 V.A.
	V.A.	x 100 % =	V.A.
TOTAL CONNECTED LOAD	KVA 15.44	TOTAL CALCULATED LOAD	KVA 15.48
	AMPs 64.33		AMPs 64.48



APPROVED
 By RADCO a CA
 Department of Housing
 and Community
 Development approved
 third party design
 approval agency
 DM920272
 APPROVAL DATE 07/27/2019 EXPIRATION DATE 11/30/2019
 APPROVAL NO. 591-1127

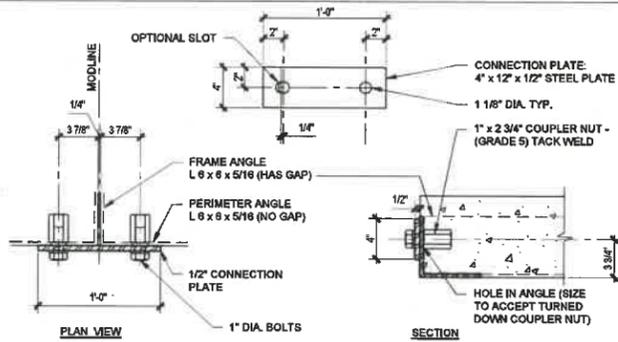
1
 E-1 **ELECTRICAL PLAN**
 SCALE: NOT TO SCALE

SEVENTH STREET PARK - Los Banos, CA CONSTRUCTION DOCUMENTS - 07/31/2019



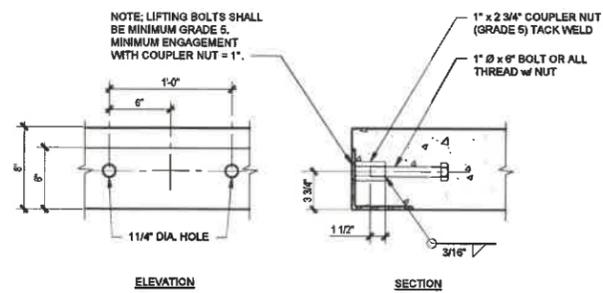
CONCRETE SLAB EXTERIOR STEEL FRAME @ CORNER DETAIL

2 S-1 SCALE: 1 1/2"=1'-0"



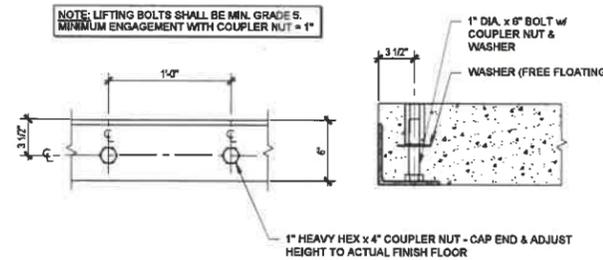
CONCRETE SLAB MOD LINE CONN. DET.

3 S-1 SCALE: 1 1/2"=1'-0"



SIDE RIGGING EMBEDDED ANCHOR DET.

4 S-1 SCALE: 1 1/2"=1'-0"



TOP / SIDE RIGGING EMBEDDED ANCHOR DETAIL

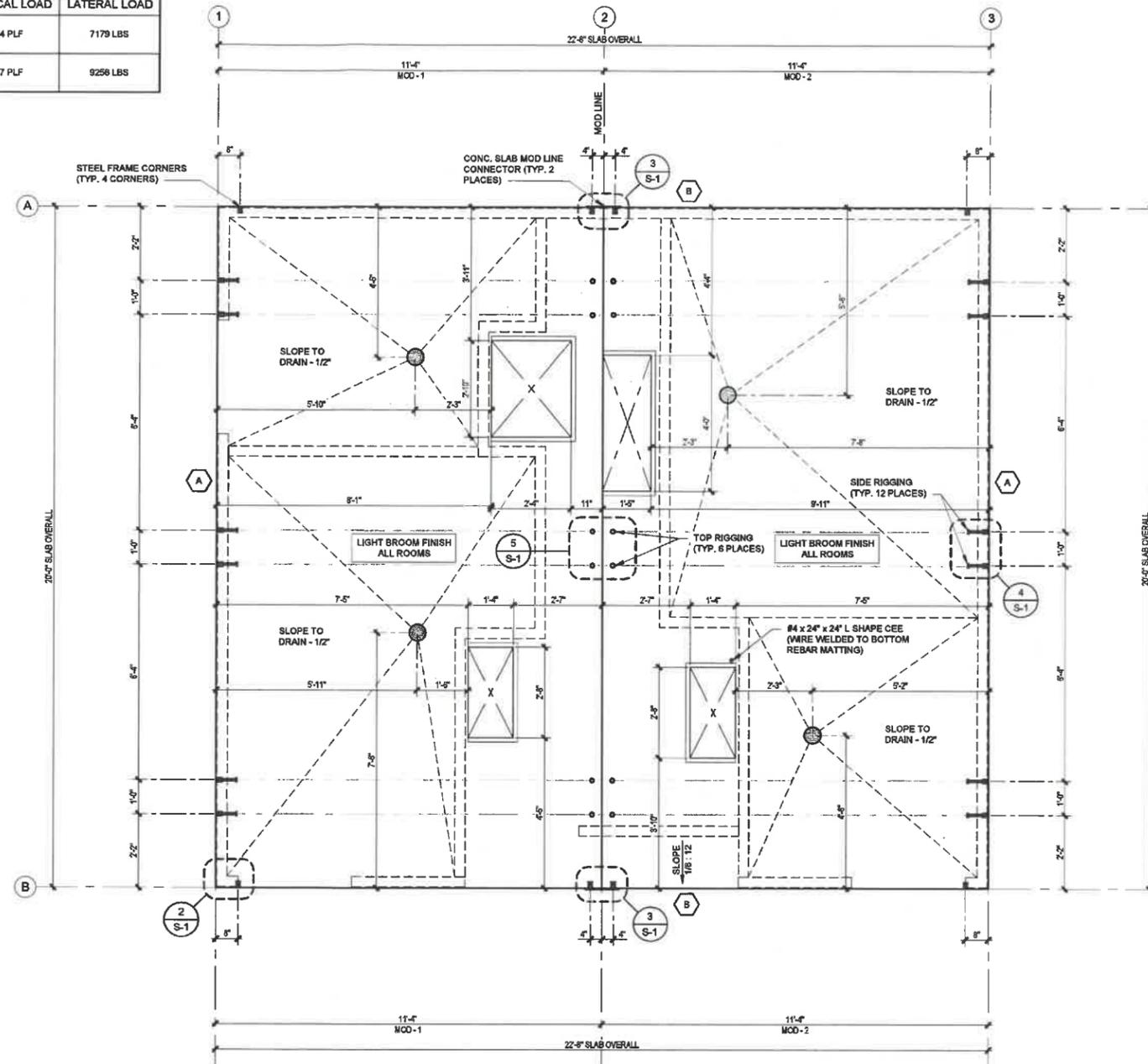
5 S-1 SCALE: 1 1/2"=1'-0"

NOTES: (LIGHT WEIGHT CONCRETE)

- ALL REBAR TO BE GRADE 60.
- ALL WELDABLE REINFORCEMENTS TO BE ASTM A706.
- CONCRETE STRENGTH BASIS DESIGN IS MIN. 2500 PSI WITH SPECIAL ADDITIVE.
- MINIMUM CONCRETE COVER = 1 1/4" FOR #4 AND #5 BARS. TOP BARS MAY BE LOWER ONLY WHERE REQUIRED BY SPECIFIED SLOPES.
- PROVIDE (2) #5 BARS @ 8" O.C. TOP & BOTTOM AT PERIMETER OF EACH SLAB & PROVIDE (3) #5 BARS @ 8" O.C. TOP & BOTTOM AT EACH LIFTING LOCATION.
- TOP MAT: ADD TRIMMER BARS NEXT TO BLOCK OUTS IF CLEARANCE TO REGULAR LAYOUT IS GREATER THAN 2". TRIMMER BARS EXTEND 18" PAST OPENING, OR TERMINATE WITH 90° HOOK AND 8" EXTENSION. CENTER OF TRIMMER BARS TO BLOCK OUTS TO BE 2". TYP.
- PROVIDE (2) DIAGONAL 24" LONG #4 REBARS (1 @ TOP MAT & 1 @ BOTTOM MAT) @ EACH SLAB OPENING.
- SMALL BLOCK OUTS (8" x 8" MAX.) MAY BE ADDED AS REQUIRED FOR SERVICES. ADD DIAGONAL TRIMMER BARS IF CLEARANCE TO REGULAR LAYOUT IS GREATER THAN 2".
- SPLICES: #4 BARS - 20" LAP / #5 BARS - 24" LAP
- PROTECT PIPE & FLOOR DRAINS THAT WILL BE ENCASED IN THE CONCRETE BY PROVIDING AN APPROVED WRAP.
- ONLY WHERE NOTED, IT IS ACCEPTABLE TO NOTCH HORIZONTAL LEG OF PERIMETER ANGLE.
- ALL EXPOSED FACES OF SLAB PERIMETER STEEL ANGLES SHALL RECEIVE GALVANIZING PAINT COATING.

SLAB LOADS SCHEDULE

MARK	LOCATION	VERTICAL LOAD	LATERAL LOAD
A	WALL LINE (GRID) 1 & 3	654 PLF	7179 LBS
B	WALL LINE (GRID) A & B	417 PLF	9256 LBS



1 CONCRETE SLAB & STEEL PERIMETER PLAN

S-1 SCALE: 1/2"=1'-0"

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Department of Housing
and Community
Development approved
third party design
approval agency
DMR202772
APPROVAL NO.
591-1127

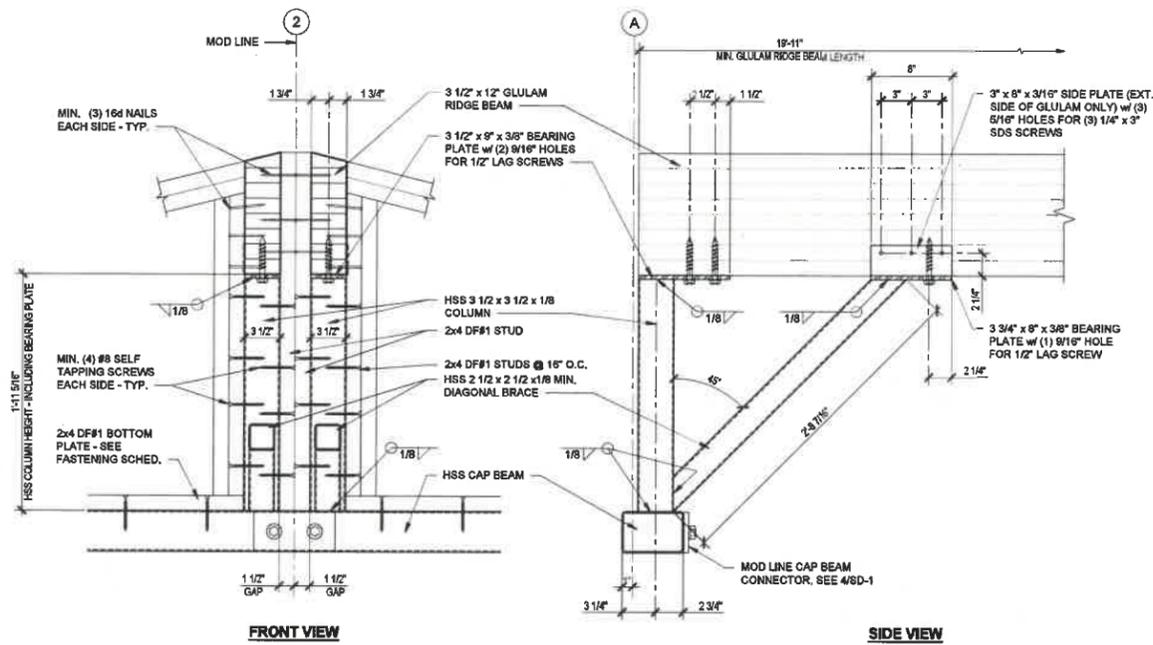


STA, Inc., 388 W Oakland Ave
Brea, CA 92620
DO NOT SCALE - DIMENSIONS PREPARE
24x36 SHEET - SCALE AS NOTED
1/4"=1'-0" SHEET - NTS

No.	Description	Date

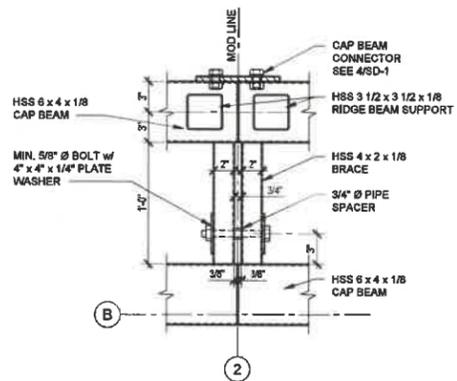
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CONSTRUCTION DOCUMENTS - 07/31/2019
SEVENTH STREET PARK - Los Banos, CA

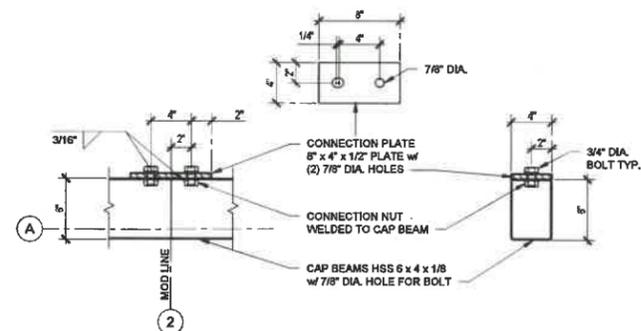


2 RIDGE BEAM SUPPORT DETAIL
 SD-1 SCALE: 1 1/2"=1'-0"

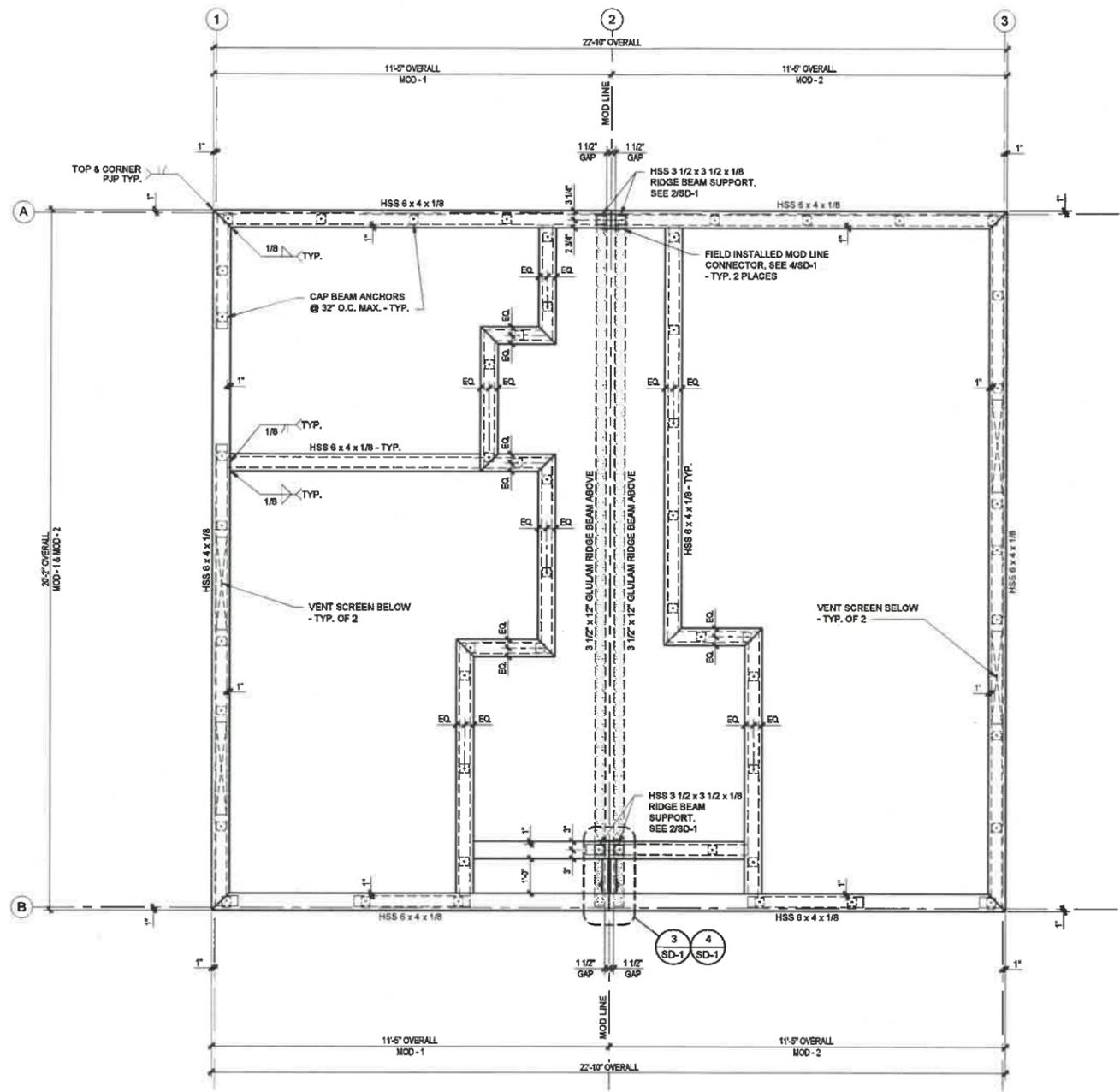
APPROVED
 By **RADCO a CA**
 Department of Housing
 and Community
 Development approved
 third party design
 approval agency
DM929272
 APPROVAL DATE
 11/22/19 EXP. DATE
 10/30/2020
 APPROVAL NO.
594-1127



3 MOD LINE CONNECTOR DETAIL
 SD-1 SCALE: 1 1/2"=1'-0"



4 MOD LINE CONNECTOR DETAIL
 SD-1 SCALE: 1 1/2"=1'-0"



1 TOP OF THE WALL CAP BEAM PLAN
 SD-1 SCALE: 1/2"=1'-0"

CAP BEAM NOTES:

- ALL HSS CAP BEAMS OVER BUILDING EXTERIOR PERIMETER WALLS SHALL BE INSTALLED 1" FROM INSIDE FACE OF CAP BEAM TO INSIDE FACE OF C.M.U. BLOCK WALLS.
- ALL HSS CAP BEAMS OVER BUILDING INTERIOR WALLS SHALL BE INSTALLED CENTERED OVER C.M.U. BLOCK WALLS BELOW.
- ALL STEEL INTERSECTIONS ARE TO BE WELDED W/ 1/8" CONTINUOUS WELD.
- ADJUST CAP BEAM ANCHORS ACCORDINGLY IF LANDED ON DOOR OPENINGS. ANCHORS NOT TO EXCEED 32" O.C. SPACING.

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STRUCTURAL ONLY

Professional Engineer Seal for Eric J. Tompos, No. 170716, Exp. 09-30-2020.



DO NOT SCALE - DIMENSIONS PREPARE 24x36 SHEET - SCALE AS NOTED 1/16\"/>

No.	Description	Date

CONSTRUCTION DOCUMENTS
 07/31/2019

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PROJECT OWNER:
CITY of LOS BANOS
 Los Banos, CA

PROJECT NAME AND LOCATION:
SEVENTH STREET PARK
 Los Banos, CA

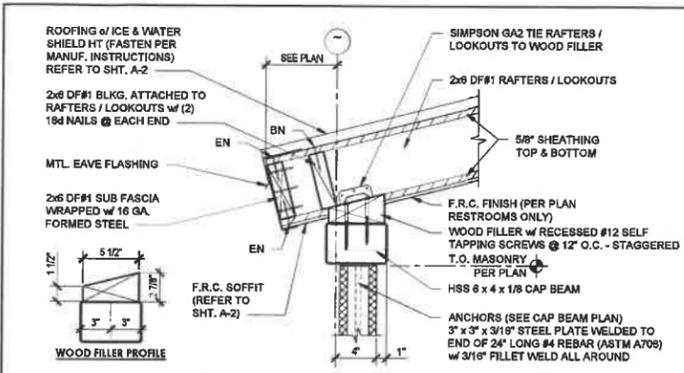
SHEET TITLE:
TOP OF THE WALL CAP BEAM PLAN & P.R.C. STANDARD DETAILS

Drawn by: **PB / EVE** Job No. **9249**
 Checked by: **KM**
 Current Date: **07/31/2019**
 Start Date: **12/04/2016**

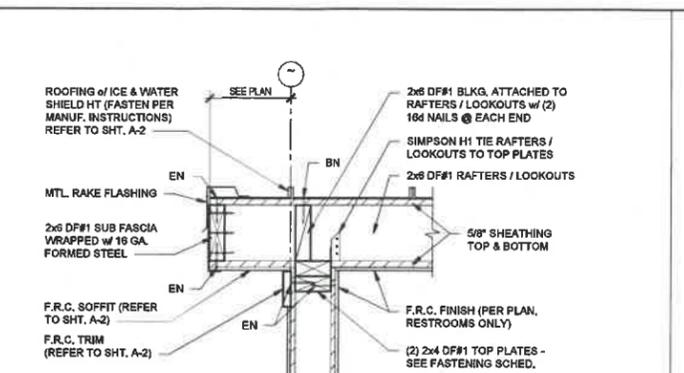
SD-1

CONSTRUCTION DOCUMENTS - 07/31/2019

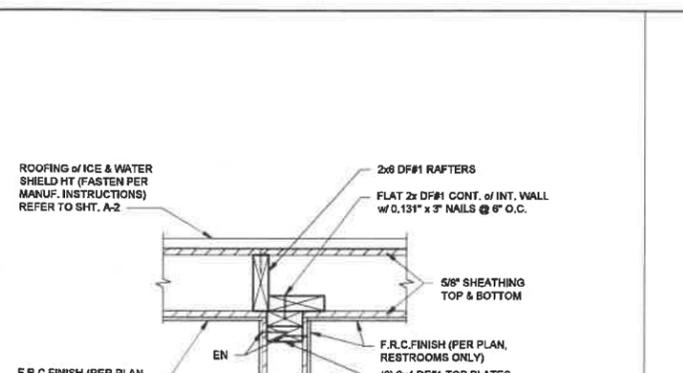
SEVENTH STREET PARK - Los Banos, CA



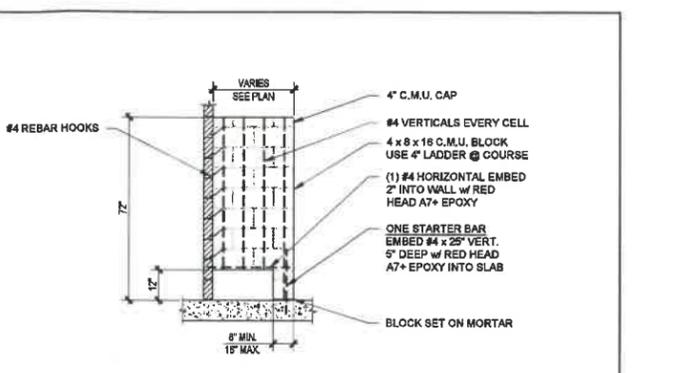
1 EXTERIOR WALL TO ROOF & SOFFIT DET.
SD-2 SCALE: 1 1/2"=1'-0"



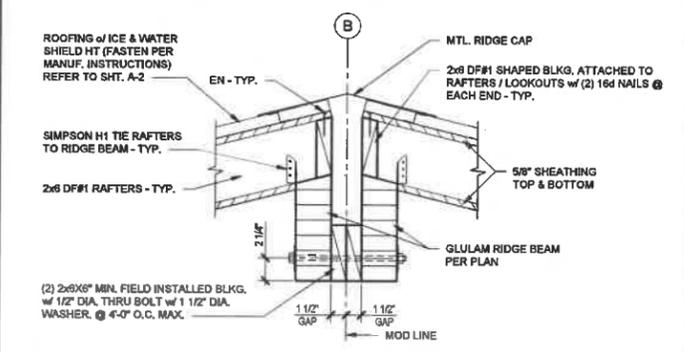
4 EXTERIOR WALL TO ROOF & SOFFIT DET.
SD-2 SCALE: 1 1/2"=1'-0"



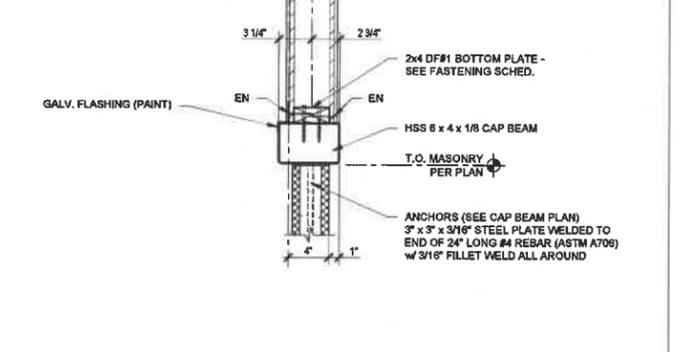
6 DEMISING WALL FRAMING DETAIL
SD-2 SCALE: 1 1/2"=1'-0"



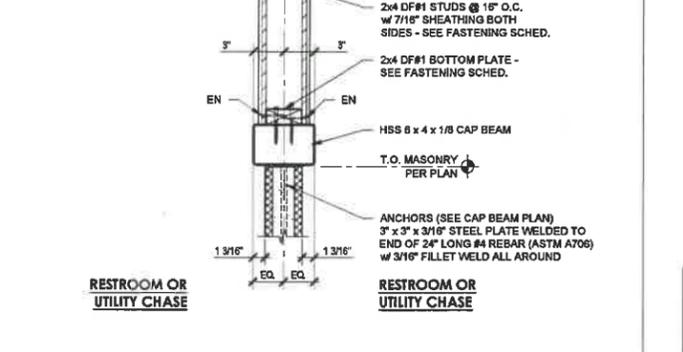
8 SCREEN / PARTITION WALL FRAMING DET.
SD-2 SCALE: 3/8"=1'-0"



2 RIDGE & MOD LINE CONNECTION DETAIL
SD-2 SCALE: 1 1/2"=1'-0"



4 EXTERIOR WALL TO ROOF & SOFFIT DET.
SD-2 SCALE: 1 1/2"=1'-0"



6 DEMISING WALL FRAMING DETAIL
SD-2 SCALE: 1 1/2"=1'-0"

APPROVED
By RADCO a CA
Department of Housing
and Community
Development approved
third party design
approval agency
DM920272

APPROVAL DATE: 07/23/18
EXPIRATION DATE: 12/31/2020

APPROVAL NO.
501-1127

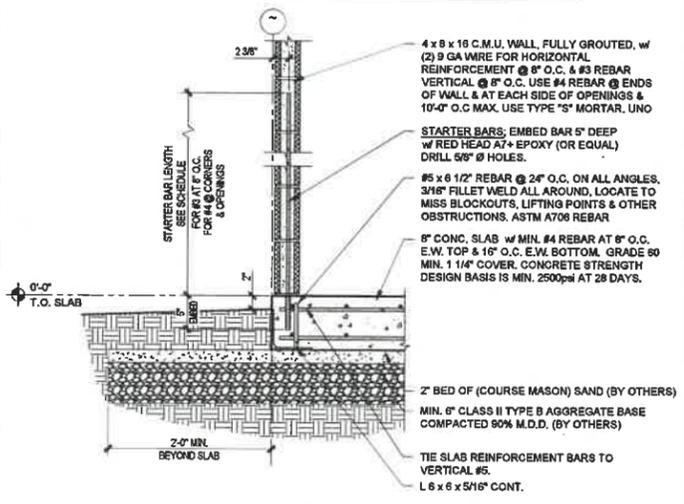
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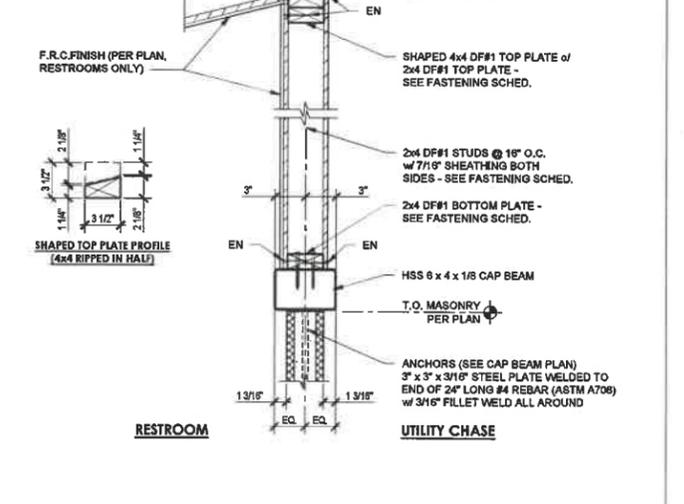
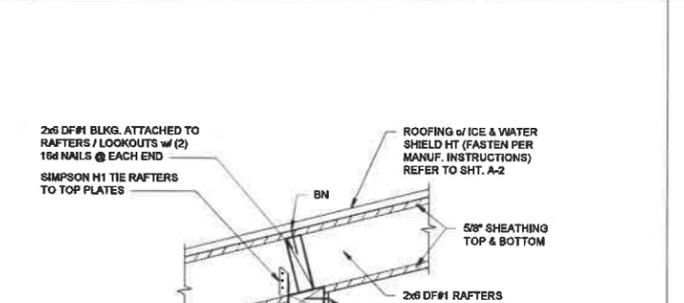
MASONRY DESIGN STRESS IS fm = 1500 PSI

MASONRY UNITS	ASTM C 90 GRADE N-1	LIGHTWEIGHT MAS. DRY LOOSE BULK DENSITY 85 pcf
MORTAR	ASTM C 270 TYPE S	CLEAN SHARP SAND
GROUT	ASTM A76 OR EQUAL	6"-4" BLOCK-FINE

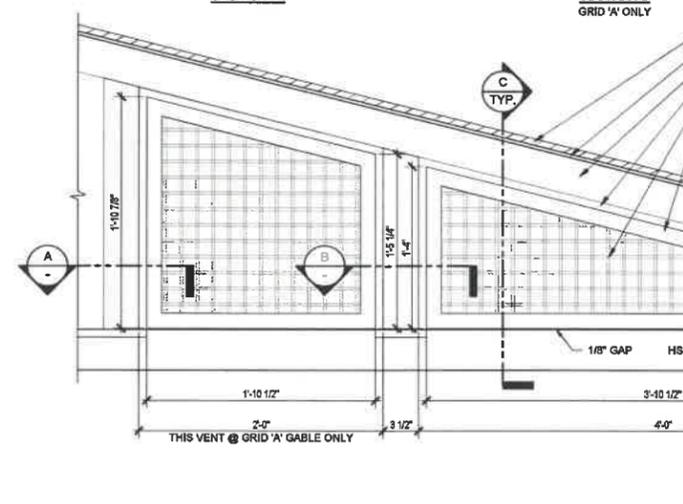
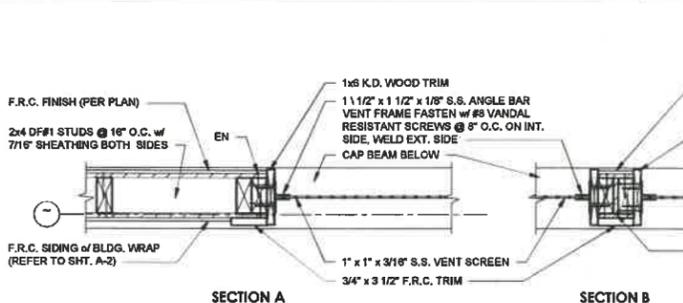
BAR #	MIN. EMBEDMENT (in)	MIN. OVERLAP / SPLICE (in)	MIN. REBAR LENGTH (in)
#3	5	18	23
#4	5	24	29
#5	5	30	35



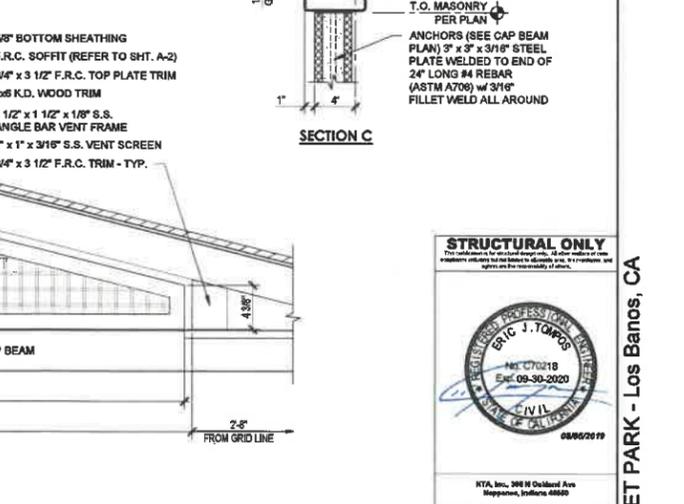
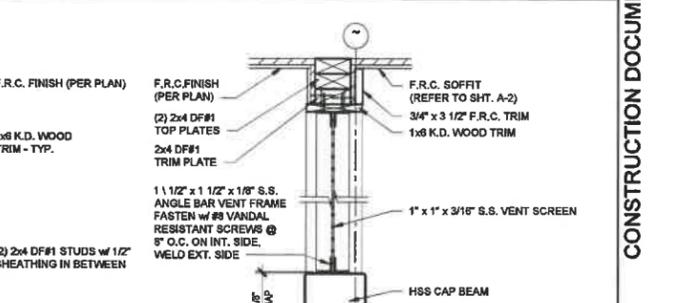
3 SLAB & WALL DETAIL
SD-2 SCALE: 1"=1'-0"



5 DEMISING (BEARING) WALL FRAMING DET.
SD-2 SCALE: 1 1/2"=1'-0"



7 EXTERIOR VENT SCREEN DETAILS
SD-2 SCALE: 1 1/2"=1'-0"



7 EXTERIOR VENT SCREEN DETAILS
SD-2 SCALE: 1 1/2"=1'-0"

No.	Description	Date

CONSTRUCTION DOCUMENTS
07/31/2019

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2543 Business Drive, Menlo Park, CA 94023
Ph: 888-888-2080 | Fax: 888-888-1448

PROJECT OWNER:
CITY of LOS BANOS
Los Banos, CA

PROJECT NAME AND LOCATION:
SEVENTH STREET PARK
Los Banos, CA

SHEET TITLE:
P.R.C. STANDARD DETAILS

Drawn by: **PD / EVE** Job No. **9249**

Checked by: **KM**

Current Date: **07/31/2019**

Start Date: **12/04/2018**

SD-2

CONSTRUCTION DOCUMENTS - 07/31/2019

SEVENTH STREET PARK - Los Banos, CA

