



AGENDA
CITY OF SEASIDE
CITY COUNCIL

REGULAR MEETING
Council Chamber
440 Harcourt Avenue
Thursday, October 3, 2019
7:00 PM

1. CALL TO ORDER

2. ROLL CALL – ESTABLISHMENT OF QUORUM

Ian N. Oglesby	Mayor
David R. Pacheco	Mayor Pro Tem
Jason Campbell	Council Member
Jon Wizard	Council Member
Alissa Kispersky	Council Member

3. INVOCATION AND PLEDGE OF ALLEGIANCE

4. REVIEW OF AGENDA

If there are any items that arose after the 72-hour posting deadline, this is the point in the meeting where a vote may be taken to add the item to the agenda. (A 2/3-majority vote is required).

5. PUBLIC COMMENT

Members of the public wishing to address the City Council on matters within the jurisdiction of the City of Seaside, but not on this agenda, may do so during the Public Comment period for up to three minutes. Public Comments on specific agenda items are heard under that item. For the public record, please state your name.

6. PUBLIC AGENCY COMMUNICATIONS

This is a time specifically set aside for representatives of public agencies to make brief comments of general interest to the City Council and the community.

7. PRESENTATIONS

A. PRESENTATION OF THE AUGUST AND SEPTEMBER 2019 HOUSE OF THE MONTH AWARDS

RECOMMENDATION: To recognize Cindy Goggia, property owner of 1733 Saint Helena Street and Amy and Richard Mayhew, owners of 1664 Hilton Street for beautifying and maintaining their properties.

B. UPDATE ON CURRENT ROAD CONSTRUCTION PROJECTS

8. CONSENT AGENDA

A. APPROVE MINUTES FROM SEPTEMBER 19, 2019

RECOMMENDATION: That the minutes be reviewed and approved.

B. APPROVE AND FILE CITY CHECKS

RECOMMENDATION: Approve and file the accounts payable and wired payments made during the period of September 7, 2019 through September 20, 2019 including the payroll and benefits checks, direct deposits and wired payments related to the pay period of September 13, 2019. Total Accounts Payable and Payroll for the above referenced period is \$1,571,810.92.

C. ISSUE A PROCLAMATION RECOGNIZING OCTOBER AS DOMESTIC VIOLENCE AWARENESS MONTH

RECOMMENDATION: That the City Council issue the proclamation.

D. ISSUE A PROCLAMATION RECOGNIZING THE 2019 FIRE PREVENTION WEEK IN THE CITY OF SEASIDE

RECOMMENDATION: That the City Council issue the proclamation.

E. ADOPT A RESOLUTION ACCEPTING AN ASSISTANCE TO FIREFIGHTERS GRANT PROGRAM STAFFING FOR ADEQUATE FIRE AND EMERGENCY RESPONSE (SAFER) GRANT IN THE AMOUNT OF \$139,248 FOR RECRUITMENT AND RETENTION OF VOLUNTEER FIREFIGHTERS WITH NO MATCHING FUNDS REQUIRED BY THE CITY.

RECOMMENDATION: Adopt a Resolution granting acceptance of an Assistance to Firefighters Grant (AFG) Staffing for Adequate Fire and Emergency Response (SAFER) in the amount of \$139,248 for recruitment and retention of volunteer firefighters with no matching funds requirement and direct the Finance Director to make the necessary budget changes to accept and distribute the Federal grant funds.

F. ADOPT A RESOLUTION TO ESTABLISH THE CLASSIFICATION OF INFORMATION SERVICES NETWORK SPECIALIST AND MODIFY THE POSITION ALLOCATION LIST TO DELETE ONE INFORMATION SERVICES TECHNICIAN AND ADD ONE INFORMATION SERVICES NETWORK SPECIALIST AND ONE ADMINISTRATIVE ANALYST II.

RECOMMENDATION: Adopt a resolution establishing the position of Information Services Network Specialist and modifying the position allocation list to delete one Information Services Technician, and add one Information Services Network Specialist and add one Administrative Analyst II.

G. ADOPT A RESOLUTION AUTHORIZING A CONTRACT AMENDMENT TO BARTLE WELLS ASSOCIATES FOR AMENDMENTS TO THE WATER RATES STUDY REPORT

RECOMMENDATION: Adopt a resolution authorizing amendment to the existing Bartle Wells Associates (Bartle Wells) for an amount not to exceed two thousand dollars (\$2,000.00) to prepare an amendment to the Water Rate Study Report.

**H. ADOPT A RESOLUTION ADOPTING THE UPDATED
MEMORANDUM OF UNDERSTANDING WITH THE SEASIDE CITY
EMPLOYEES' ASSOCIATION**

RECOMMENDATION: Adopt a resolution adopting the Memorandum of Understanding with the Seaside City Employees' Association as negotiated.

**I. APPROVE LETTER OF SUPPORT FOR A PROP 68 TRAILS AND
GREENWAYS GRANT APPLICATION FOR THE FORT ORD RECREATION
TRAIL AND GREENWAY PROJECT**

RECOMMENDATION: Adopt the letter of support as drafted.

**J. ADOPT CHANGES TO THE BOARD, COMMISSION, AND COMMITTEE
HANDBOOK**

RECOMMENDATION: Approve changes to the Board, Commission and Committee Handbook as presented.

**K. APPROVE A RESOLUTION AUTHORIZING A CONSTRUCTION
AGREEMENT WITH SANTA CRUZ WESTSIDE ELECTRIC INC. FOR CITY
HALL SOLAR CANOPY PROJECT FOR AN AMOUNT NOT TO EXCEED
\$467,416**

RECOMMENDATION: Approve a resolution awarding a construction contract agreement with Santa Cruz Westside Electric, Inc., dba Sandbar for the City Hall Solar Canopy Project for an amount not to exceed \$467,416. Public Resources Code (PRC) Section 21080.35 statutorily exempts from CEQA.

L. ADOPT A RESOLUTION TO AMEND THE PROFESSIONAL SERVICES AGREEMENT WITH SAGE RENEWABLES FOR CITY HALL SOLAR CANOPY PROJECT TO INCLUDE DESIGN AND INSPECTIONS SERVICES DURING CONSTRUCTION FOR AN AMOUNT NOT TO EXCEED \$75,700.

RECOMMENDATION: Approve a resolution awarding a contract amendment to the City Hall Photovoltaic Design professional service agreement with Sage Renewables (Sage) to provide design and inspection support services during construction of the City Hall Solar Canopy project for an amount not to exceed \$75,700.

9. PUBLIC HEARING

A. ADOPT AN ORDINANCE AMENDING SEASIDE MUNICIPAL CODE CHAPTER 13.24 WATER ALLOCATION PROGRAM TO INCORPORATE CHANGES REQUESTED AT THE AUGUST 1, 2019 MEETING INCLUDING ADDING ALLOCATIONS FOR ACCESSORY DWELLING UNITS (SECOND READING, ROLL CALL VOTE)

RECOMMENDATION: It is recommended that the City Council adopt the ordinance as presented.

B. ADOPTION OF AN ORDINANCE AMENDING SEASIDE MUNICIPAL CODE CHAPTER 9.08 ESTABLISHING REGULATIONS FOR THE USE OF DESIGNATED SKATEBOARDING AREAS (SECOND READING - ROLL CALL VOTE)

RECOMMENDATION: Adopt the second reading of the draft ordinance amending Municipal Code Chapter 9.08 to establish regulations for the use of designated skateboarding areas.

10. BUSINESS ITEMS

A. APPEALS OF USE PERMIT NO. UP-16-07 and UP-15-04: THE CITY COUNCIL WILL CONSIDER THE ADOPTION OF RESOLUTIONS FOR THE DENIAL OF AN APPEAL RELATED TO DENYING A USE PERMIT APPLICATION SUBMITTED BY TRICIA KNIGHT ON BEHALF OF VERIZON WIRELESS FOR A WIRELESS FACILITY AT 1460 HILBY AVENUE AND FOR THE APPROVAL OF AN APPEAL THAT WOULD DENY THE INSTALLATION OF FOUR SMALL CELL WIRELESS FACILITIES ON UTILITY POLES NEAR THE FOLLOWING LOCATIONS:

- **1101 BUENA STREET**
- **1108 SAN LUCAS STREET**
- **1431 WARING STREET**
- **1268 YOSEMITE STREET**

RECOMMENDATION:

City staff recommends that the City Council approve the draft Resolutions provided as Attachment 1 and Attachment 2 to staff report for the following actions per the direction provided to City Staff by the City Council:

1. Resolution for the denial of an appeal which uphold the Planning Commission denial of Use Permit Application No. UP-15-04 (Attachment 1); and
2. Resolution for the approval of an appeal which would serve to overturn the Planning Commission approval of Use Permit Application No. UP-16-07 and deny the proposed small cell wireless network facility (Attachment 2).

B. CONSIDER APPROVAL OF THE TRAFFIC ADVISORY (TAC) COMMITTEE RECOMMENDATIONS FOR PLUMAS AVENUE

RECOMMENDATION: The purpose of this item is to have the City Council review and consider approval of the Traffic Advisory Committee recommendation to maintain existing approved traffic calming measures on Plumas Avenue and removed additional unauthorized traffic control measures.

11. COUNCIL MEMBER REQUESTS

- A. CONSIDER REQUEST TO INVESTIGATE WHICH UTILITY POLES AS IDENTIFIED BY VERIZON ARE ADA NON COMPLIANT PURSUANT TO ACCESS OF THE PUBLIC RIGHT OF WAY (WIZARD)
 - B. CONSIDER REQUEST FOR CONTRACTING FOR ADDITIONAL MEDIAN BEAUTIFICATION SERVICES (OGLESBY)
 - C. CONSIDER REQUEST TO DRAFT FOR CONSIDERATION AN ORDINANCE PROHIBITING THE USE OF NATURAL GAS INFRASTRUCTURE IN NEW CONSTRUCTION WITH EXCEPTIONS (WIZARD)
 - D. CONSIDER REQUEST TO ESTABLISH A COMMERCIAL LINKAGE FEE FOR NEW DEVELOPMENTS IN SEASIDE AS A MECHANISM TO MITIGATE THE FINANCIAL IMPACT OF THE HIGH COST OF HOUSING AND JOBS THAT DO NOT PAY A LIVING WAGE (WIZARD)
 - E. CONSIDER REQUEST FOR AN UPDATE ON THE SCHOOL RESOURCE OFFICER PROGRAM (WIZARD)
 - F. CONSIDER REQUEST TO MODIFY THE SHORT TERM RENTAL ORDINANCE TO EXPRESSLY PROHIBIT ALL ACCESSORY DWELLING UNITS ABILITY TO OPERATE AS SHORT TERM RENTALS (WIZARD)
12. MAYOR, CITY COUNCIL, CITY MANAGER AND CITY ATTORNEY COMMENTS AND REPORTS ON COMMITTEE ASSIGNMENTS
This is a time specifically set aside for members of the City Council, the City Manager and City Attorney to make brief comments of general interest to the community, make requests that items be added to future City Council meeting agendas as necessary and report on committee assignments.
13. ADJOURNMENT

Next Regularly Scheduled Meeting:
Thursday, October 17, 2019
7:00 PM

The City of Seaside is committed to providing accessible facilities and accommodating people with disabilities in all of its services programs and activities. If special considerations are needed by any person to fully participate in this meeting, contact the City Clerk at 899-6707 no fewer than two business days prior to the meeting to allow reasonable arrangements. The City Council chamber is equipped with a portable microphone and assisted listening devices are available at all meetings. City Council Meetings that are held in the City Council Chambers are broadcast live to all Seaside residents on Comcast Channel 25 and U-verse Channel 99. Live streamed meeting videos as well as videos of past meetings are available on the City's website at: <http://www.ci.seaside.ca.us/129/City-Council-Committee-Agendas>

Agenda-related writings or documents provided during public meetings are available for public inspection during the meeting or from the office of the City Clerk. This agenda is posted in compliance with California Government Code Section 54954.2(a) or Section 54956.



DRAFT MINUTES
CITY OF SEASIDE
CITY COUNCIL

REGULAR MEETING
Council Chamber
Thursday, September 19, 2019
7:00 PM

1. CALL TO ORDER

Mayor Oglesby called the meeting to order at 7:00 PM.

2. ROLL CALL – ESTABLISHMENT OF QUORUM

PRESENT: Campbell, Oglesby, Pacheco, Wizard

ABSENT: Kispersky

3. INVOCATION AND PLEDGE OF ALLEGIANCE

Invocation: Pastor Kenneth Murray / Pledge led by: Council Member Campbell

4. REVIEW OF AGENDA

No changes requested.

5. PUBLIC COMMENT

SPEAKERS: Steven Cright, Wanda Parrot, Jeff Langan, Ruthie Watts, Ray Berden, Kathy

6. PUBLIC AGENCY COMMUNICATIONS

Alvin Edwards - Monterey Peninsula Water Management District: announced the MPWMD new regular meeting time would be at 6pm; and provided updates on a upcoming Closed Session on October 3 and a Special Meeting on November 12 at Embassy Suites in Seaside to provide information regarding the 'Supply and Demand for Water on the Monterey Peninsula' report. More information available at www.mpwmd.net

Rosalyn Green - Monterey Peninsula College Board of Trustees Area 1 announced the Boards regular meeting on September 25 at 4pm in which the Education Master Plan will be discussed. more information available at www.mpc.edu

Rick Meyer - City of Seaside Fire Department; announced Fire Department Annual Open House on October 5, 2019 and provided information on the Community Emergency Response Program (CERT) - a program that educates volunteers about disaster preparedness.

7. PRESENTATIONS

A. PRESENTATION OF KEY TO THE CITY FOR MAYOR RALPH RUBIO!

Mayor Oglesby presented form Mayor Ralph Rubio with a key to the city and a resolution commemorating his work and contribution to the City as a resident and elected official.

8. CONSENT AGENDA

On motion by Council Member Wizard and second by Mayor Pro Tem Pacheco and passed by the following vote, the Consent Agenda was approved with the exception of Item 8L.

RESULT: MOTION PASSES 4-0

AYES: Campbell, Oglesby, Pacheco, Wizard

NOES: None

ABSENT: Kispersky

A. APPROVE MINUTES FROM SEPTEMBER 5, 2019

Action: Approved

B. APPROVE AND FILE CITY CHECKS

Action: Approved

C. APPROVE A FEE WAIVER REQUEST FROM SEASIDE HIGH SCHOOL FOR COSTS ASSOCIATED WITH THE ANNUAL HOMECOMING PARADE

Action: Approved

D. APPROVE A FEE WAIVER FROM MONTEREY BAY BAPTIST DISTRICT ASSOCIATION FOR THE USE OF THE LAGUNA GRANDE HALL AND KITCHEN FOR THEIR SCHOLARSHIP LUNCHEON

Action: Approved

E. APPROVE A RESOLUTION AUTHORIZING THE CLOSURE OF YOSEMITE STREET, BETWEEN BROADWAY AND MENDOCINO FOR THE SEASIDE FIRE DEPARTMENT OPEN HOUSE ON OCTOBER 5, 2019

Action: Approved

F. APPROVE A RESOLUTION TO PURCHASE A WATER MAIN VALVE EXERCISER IN THE AMOUNT OF SIXTY THOUSAND FOUR HUNDRED SEVEN-EIGHT DOLLARS AND THIRTY NINE CENTS (\$60,478.39)

Action: Approved

G. APPROVE A RESOLUTION APPROVING A PARKS AND RECREATION COMMISSION RECOMMENDATION TO APPROPRIATE \$50,000 FOR THE DESIGN, PURCHASE AND INSTALLATION OF A WHEELCHAIR-ACCESSIBLE SWING AND RELATED SITE IMPROVEMENTS AT LAGUNA GRANDE PARK

Action: Approved

H. APPROVE A RESOLUTION AMENDING THE PROFESSIONAL SERVICES AGREEMENT WITH BARTLE WELLS ASSOCIATES FOR AN AMOUNT NOT TO EXCEED \$8,950.

Action: Approved

I. APPROVE A RESOLUTION APPROVING THE APPLICATION FOR STATEWIDE PARK DEVELOPMENT AND COMMUNITY REVITALIZATION PROGRAM GRANT FUNDS

Action: Approved

J. RESOLUTION APPROVING THE CITY ATTORNEY EMPLOYMENT AGREEMENT WITH SHERI DAMON AND AUTHORIZING AN INCREASE TO THE ASSISTANT CITY ATTORNEY ANNUAL SALARY

Action: Approved

K. APPROVE A RESOLUTION ACCEPTING THE CITY OF SEASIDE HOMELESS COMMITTEE RECOMMENDATIONS DIRECTING (\$2,500) OF CITY BUDGETED FUNDS EACH TO COMMUNITY HUMAN SERVICES, INTERIM INC. AND SUN STREET CENTERS FOR A TOTAL OF (\$7,500).

Action: Approved

L. RESOLUTION AUTHORIZING NEW HIRE BONUSES OF \$30,000 TO ATTRACT LATERAL POLICE OFFICER CANDIDATES.

On motion by Council Member Campbell and second by Mayor Pro Tem Pacheco and passed by the following vote the item was approved unanimously.

RESULT: Motion Passes 4-0

AYES: Campbell, Oglesby, Pacheco, Wizard

NOES: None

ABSENT: Kispersky

9. PUBLIC HEARING

A. SUBMISSION OF THE 2018-2019 COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG) CONSOLIDATED PERFORMANCE AND EVALUATION REPORT (CAPER) TO THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Sharon Mikesell, Administrative Analyst provided a presentation the Consolidated Annual Performance Report (CAPER). The CAPER is a performance reported mandated by the US Department of Housing and Urban Development (HUD) for all entitlement agencies that receive Community Development Block Grant (CDBG) funds. In the last fiscal year, the City provided funding assistance to eight (8) public service agencies and reflects the positive benefit associated

with CDBG program funding.

Mayor Oglesby opened the public hearing. There were no comments from the public.

On motion by Council Member Campbell and second by Council Member Wizard and passed by the following vote, the City Council passed to accept the submission of the 2018-2019 CDBG CAPER to HUD.

RESULT: MOTION PASSES 4-0

AYES: Campbell, Oglesby, Pacheco, Wizard

NOES: None

ABSENT: Kispersky

B. INTRODUCTION OF AN ORDINANCE AMENDING SEASIDE MUNICIPAL CODE CHAPTER 13.24 WATER ALLOCATION PROGRAM TO INCORPORATE CHANGES REQUESTED AT THE AUGUST 1, 2019 MEETING INCLUDING ADDING ALLOCATIONS FOR ACCESSORY DWELLING UNITS

Lesley Milton-Rerig, Assistant City Manager, provided a presentation on the City's water allocation policies governed by Ordinance 892 that was adopted in 2001. This item provided an introduction to amend the Seaside Municipal Code chapter 13.24 water allocation program to include adding allocation for accessory dwelling units.

Mayor Oglesby opened the public hearing.

SPEAKERS: Nina Beatty

On motion by Council Member Wizard and second by Mayor Pro Tem Pacheco and passed by the following vote the City Council passed to print the first reading of the draft ordinance.

RESULT: Motion Passes 4-0

AYES: Campbell, Oglesby, Pacheco, Wizard

NOES: None

ABSENT: Kispersky

C. APPEALS OF USE PERMIT APPLICATION UP-16-07 AND UP-15-04 : THE CITY COUNCIL WILL CONSIDER THREE APPEALS RELATED TO USE PERMIT APPLICATIONS SUBMITTED BY SAC WIRELESS ON BEHALF OF VERIZON WIRELESS FOR A WIRELESS FACILITY AT 1460 HILBY AVENUE AND FOR THE INSTALLATION OF FOUR SMALL CELL WIRELESS FACILITIES ON UTILITY POLES NEAR THE FOLLOWING LOCATIONS:

- **1101 BUENA STREET**
- **1268 YOSEMITE STREET**

- **1108 SAN LUCAS STREET**
- **1431 WARING STREET**

Sheri Damon, Assistant City Attorney provided instruction for how the item would be heard.

Rick Medina, Senior Planner, provided a presentation on the three appeals for Use Permit application UP-16-07 and UP-15-04. The appellants were provided ten (10) minutes to make a presentation including time for rebuttal if so desired. Walt Ferguson (appellant of UP-16-07), SAC Wireless on behalf of Verizon Wireless (applicant and appellant of UP-16-07 and, Tricia Knight of SAC Wireless (applicant and appellant of UP-15-04) provided their presentations and responded to questions from the Council. Tripp May, Special Counsel to the City provided legal framework overview.

Mayor Oglesby opened the public hearing.

SPEAKERS: Two (2) speakers did not provide their name for the record. Michael Campos, Yvonne Revert, John Earhearn, Veronica Miller, Faye Crosby, Wendy Ferguson, Justin Sumpter, Daniel Robles, Mary Sidemstecker, Shelia Clark, Rachel Christopherson, Andrew Tonic, Luijah Jui, Angelia Ganzjuk, Kathleen Randazzo, Paul Bender, Julie Callahan, Raquel Sumpter, Kay Cline, Renee Stewart, Nina Beatty, Susan Nine.

A roll call vote was exercised for each appeal as follows:

Appeal 1 (UP-16-07): On motion by Council Member Wizard and second by Council Member Campbell and passed by the following roll call vote, the Council moved to deny the Master Use Permits subject to the conditions identified by this Council and reject the Verizon (SAC Wireless) appeal.

RESULT: Motion Passes 4-0

AYES: Campbell, Oglesby, Pacheco, Wizard

NOES: None

ABSENT: Kispersky

Appeal 2 (UP-16-07): On motion by Council Member Wizard and second by Council Member Campbell and passed by the following roll call vote, the Council moved approve and uphold the resident (Walt Ferguson) appeal.

RESULT: Motion Passes 4-0

AYES: Campbell, Oglesby, Pacheco, Wizard

NOES: None

ABSENT: Kisperksy

Appeal 3 (UP-15-04): On motion by Council Member Wizard and second by Mayor Pro Tem Pacheco and passed by the following roll call vote, the Council moved to deny the appeal of SAC Wireless.

RESULT: Motion Passes 4-0

AYES: Campbell, Oglesby, Pacheco, Wizard

NOES: None

ABSENT: Kisperksy

D. ADOPTION OF AN ORDINANCE AMENDING SEASIDE MUNICIPAL CODE CHAPTER 9.08 ESTABLISHING REGULATIONS FOR THE USE OF DESIGNATED SKATEBOARDING AREAS (SECOND READING - ROLL CALL VOTE)

On motion by Council Member Wizard and second by Council Member Campbell and passed by the following vote, the Council moved to continue the item until October 3, 2019 City Council Regular Meeting agenda.

RESULT: MOTION PASES 4-0

Action: AYES: Campbell, Oglesby, Pacheco, Wizard

NOES: None

ABSENT: Kispersky

10. BUSINESS ITEMS

A. ADOPT A RESOLUTION AUTHORIZING THE APPROVAL OF AN INDEMNIFICATION AGREEMENT AND EXTENSION OF THE EXCLUSIVE NEGOTIATING AGREEMENT FOR THE MAIN GATE PROJECT

On motion by Council Member Campbell and second by Mayor Pro Tem Pacheco and passed by the following vote, the Council adopted a resolution authorizing the approval of an indemnification agreement and extension of the exclusive negotiating agreement for the Main Gate project.

RESULT: MOTION PASES 4-0

Action: AYES: Campbell, Oglesby, Pacheco, Wizard

NOES: None

ABSENT: Kispersky

11. COUNCIL MEMBER REQUESTS

Council Member Wizard requested to have staff look into prohibiting short term rentals from accessory dwelling units and; to receive a presentation from Verizon Wireless regarding the other 42 sites that were identified as non-conforming for cell tower construction.

12. MAYOR, CITY COUNCIL, CITY MANAGER AND CITY ATTORNEY COMMENTS AND REPORTS ON COMMITTEE ASSIGNMENTS

None

13. ADJOURNMENT

On motion, the meeting was adjourned at 12:12 PM

Respectfully submitted,

Lesley Milton-Rerig, City Clerk

Ian N. Oglesby, Mayor



CITY OF SEASIDE STAFF REPORT

Item No.: 8.B.

TO: City Council

FROM: Lesley Milton-Rerig, Assistant City Manager

BY: Jessica Riley, Accounting Assistant
Kimberly Drabner, Finance Director

DATE: October 3, 2019

SUBJECT: APPROVE AND FILE CITY CHECKS

PURPOSE & RECOMMENDATION

Approve and file the accounts payable and wired payments made during the period of September 7, 2019 through September 20, 2019 including the payroll and benefits checks, direct deposits and wired payments related to the pay period of September 13, 2019. Total Accounts Payable and Payroll for the above referenced period is \$1,571,810.92.

BACKGROUND

In accordance with Government Code Section 37208, at each City Council meeting the Council is provided a listing of the payroll and general checks issued since the last report so that it can inspect and confirm these checks. Each purchase has been reviewed and approved by the department making the purchase at the time of procurement. The invoice has been reviewed by the Finance Department prior to payment to ensure that it conforms to the approved budget.

Therefore, in accordance with Government Code Section 37208, the above referenced, and linked list of checks conforms to the approved budget and has been paid. These checks are submitted to the City Council for inspection and confirmation.

A description of the checks and wires exceeding \$10,000 are as follows:

- \$636,217.37 for Payroll and benefits.
- \$47,176.48 to Granite Rock Company for David Cutino Park - Phase I work through 6/30/2019. Services include mobilization, SWPPP, demo/clear & grub, hardscape paving, electrical and skate park. Application 6.
- \$24,886.00 to Monterey Peninsula Water Management District for Jan - June, 2019 services for tasks contained within the Watermaster's monitoring and management plan, and water level and water quality data collection.
- \$45,658.21 to PG&E for Collective accts for street lights, highway lighting, park lights and city office buildings. Service period: 6/25/19-7/24/19.
- \$11,974.45 to U.S. Bank - Cal Card for City of Seaside purchase card transactions for the billing period of 6/22/19 - 7/22/19.
- \$13,000.00 to Stephen Brown Associates, Inc. for appraisals for: 1.) Former Fort Ord building #4481 and 2.) Former Fort Ord Nurses Barracks.
- \$53,911.71 to Harris & Associates for Professional svcs. For the following projects: 1.) Sewer line replacement project at Del Monte and Canyon Del Rey from 7/28/19-8/24/19 & 5/26/19-6/29/19 2.) Seaside Lift Station Upgrades from 6/30/19-8/24/19 and 3.) Pavement Rehabilitation Project from 7/28/19-8/24/19.
- \$11,055.57 to United Site Services for Fence barricade rental during the 4th of July event at Bayonet & Blackhorse.
- \$15,235.33 to Marina Coast Water District for Multiple City of Seaside service addresses' water consumption. Billing period: 7/1/19-8/30/19.
- \$12,334.00 to Bear Electrical Solutions, Inc. for Traffic signal maintenance for July 2019 and Aug 2019 (Response and Routine).
- \$18,993.19 to HERC Rentals for 1 Ton ride-on asphalt roller and vehicle accessories that include: foldable rops, back alarm, LED work light kit, and strobe light.
- \$195,771.91 to U.S. Bank - St. Paul for Debt service payment on 9/11/2019. City of Seaside joint powers financing authority lease revenue bonds (Measure X road improvements).
- \$24,514.00 to The Sohagi Law Group for 1) General Plan legal services from 8/2/2019 - 8/30/2019, \$11,025.00; 2) Campus Town Center legal services from 8/2/2019 - 8/30/2019 \$13,489.00.

The remaining checks, totaling \$394,216.70 include payments to vendors for operating expenditures.

The Checks report is available on the City's website here:

<http://www.ci.seaside.ca.us/194/Check-Draft-Register>

FISCAL IMPACT

There are no additional fiscal impacts.

ATTACHMENTS

None



**CITY OF SEASIDE
STAFF REPORT**

Item No.: 8.C.

TO: City Council

FROM: Lesley Milton-Rerig, Assistant City Manager

BY: Gloria Stearns, Community Development Manager

DATE: October 3, 2019

**SUBJECT: ISSUE A PROCLAMATION RECOGNIZING OCTOBER AS
DOMESTIC VIOLENCE AWARENESS MONTH**

PURPOSE & RECOMMENDATION

That the City Council issue the proclamation.

BACKGROUND

There is no report for this item.

FISCAL IMPACT

None.

ATTACHMENTS

1. 2019 Domestic Violence Awareness Month Proclamation
-

City of Seaside
PROCLAMATION



Domestic

Violence

Awareness Month

October 2019

WHEREAS, *although progress has been made toward breaking the cycle of violence and providing support to victims and their families, much work remains to be done; and*

WHEREAS, *domestic violence programs in California provide essential, lifesaving services for victims and their children fleeing violence; and*

WHEREAS, *there is a need to increase the public awareness and understanding of domestic violence and the needs of victims; domestic violence affects women, men, and children of all racial, ethnic, cultural, social, religious, and economic groups in California and here in Seaside; and*

WHEREAS, *all victims deserve access to culturally appropriate programs and services to increase their safety and improve their life situations; approximately 1 in 4 of California women experience physical intimate partner violence in their lifetimes; and*

WHEREAS, *The City of Seaside recognizes the vital role that all citizens can play in preventing and, one day, ending domestic violence.*

NOW THEREFORE, BE IT PROCLAIMED, *that I, The Honorable Ian N. Oglesby, Mayor of the City of Seaside, on behalf of the City Council, do hereby recognize October 2019, as National Domestic Violence Awareness Month.*

Ian N. Oglesby, Mayor

October 3, 2019



**CITY OF SEASIDE
STAFF REPORT**

Item No.: 8.D.

TO: City Council

FROM: Lesley Milton-Rerig, Assistant City Manager

BY: Melissa Failauga, Administrative Assistant

DATE: October 3, 2019

**SUBJECT: ISSUE A PROCLAMATION RECOGNIZING THE 2019 FIRE
PREVENTION WEEK IN THE CITY OF SEASIDE**

PURPOSE & RECOMMENDATION

That the City Council issue the proclamation.

BACKGROUND

There is no staff report for this item.

FISCAL IMPACT

None.

ATTACHMENTS

1. Fire Prevention Week 2019
-

City of Seaside PROCLAMATION



Fire Prevention Week October 6 – 12, 2019

WHEREAS, the City of Seaside, California is committed to ensuring the safety and security of all those living in and visiting Seaside; and

WHEREAS, fire is a serious public safety concern both locally and nationally, and homes are the locations where people are at greatest risk from fire; and

WHEREAS, home fires killed 2,630 people in the United States in 2017, according to the National Fire Protection Association (NFPA), and fire departments in the United States responded to 357,000 home fires; and

WHEREAS, when the smoke alarm sounds Seaside's residents may have less than two minutes to escape to safety; and

WHEREAS, Seaside's residents who have planned and practiced a home fire escape plan are more prepared and will therefore be more likely to survive a fire; and

WHEREAS, Seaside's residents should make a home escape plan, drawing a map of each level of the home, showing all doors and windows and should practice the home fire escape plan with everyone in the household, including visitors; and

WHEREAS, Seaside's residents should practice the home fire escape drill at least twice a year, during the day and at night; practicing two ways out; and

WHEREAS, Seaside's residents should teach children to escape on their own in case adults can't help them; and

WHEREAS, Seaside's residents should make sure everyone in the home knows how to call 9-1-1 or the local emergency number from a cell phone or a neighbor's phone; and

WHEREAS, Seaside's residents in a real emergency should get low and go under the smoke to get out quickly and stay out, never going back inside the home for people, pets, or things; and

WHEREAS, Seaside's residents are responsive to public education measures and are able to take action to increase their safety from fire, especially in their homes; and

WHEREAS, the 2019 Fire Prevention Week theme, "Not Every Hero Wears a Cape. Plan and Practice Your Escape!" effectively serves to remind us that we need to take personal steps to increase our safety from fire.

NOW THEREFORE, BE IT PROCLAIMED, that I, The Honorable Ian N. Oglesby, Mayor of the City of Seaside, California, on behalf of the City Council do hereby proclaim October 6 - 12, 2019, as **"Fire Prevention Week"** throughout this city, and I urge all the people of Seaside to be aware of their surroundings, look for available ways out in the event of a fire or other emergency, respond when the smoke alarm sounds by exiting the building immediately, and to support the many public safety activities and efforts of Seaside's fire and emergency services during Fire Prevention Week 2019.

Ian N. Oglesby, Mayor
October 3, 2019



**CITY OF SEASIDE
STAFF REPORT**

Item No.: 8.E.

TO: City Council

FROM: Lesley Milton-Rerig, Assistant City Manager

BY: Brian Dempsey, Fire Chief

DATE: October 3, 2019

**SUBJECT: ADOPT A RESOLUTION ACCEPTING AN ASSISTANCE TO
FIREFIGHTERS GRANT PROGRAM STAFFING FOR ADEQUATE
FIRE AND EMERGENCY RESPONSE (SAFER) GRANT IN THE
AMOUNT OF \$139,248 FOR RECRUITMENT AND RETENTION
OF VOLUNTEER FIREFIGHTERS WITH NO MATCHING FUNDS
REQUIRED BY THE CITY.**

PURPOSE & RECOMMENDATION

Adopt a Resolution granting acceptance of an Assistance to Firefighters Grant (AFG) Staffing for Adequate Fire and Emergency Response (SAFER) in the amount of \$139,248 for recruitment and retention of volunteer firefighters with no matching funds requirement and direct the Finance Director to make the necessary budget changes to accept and distribute the Federal grant funds.

BACKGROUND

The purpose of the SAFER Grant Program, which is administered by the Department of Homeland Security, is to assist local fire departments with staffing and deployment capabilities in order to respond to emergencies, and assure that communities have adequate protection from fire and fire-related hazards. Local fire departments accomplish this by improving staffing and deployment capabilities so they may more effectively and safely respond to emergencies. With enhanced staffing levels, recipients should experience a reduction in response times and an increase in the number of trained personnel assembled at the incident scene.

This award is under the Recruitment and Retention category which would allow the department to increase the number of Reserve Firefighters. The grant funds would cover training, personal protective equipment, a nominal stipend for the firefighters and promotional materials for recruitment. The grant performance period would cover three years.

FISCAL IMPACT

There is no fiscal impact at this time as there are no matching funds required.

ATTACHMENTS

1. Resolution
 2. Award Package
-

RESOLUTION NO. 19-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SEASIDE ACCEPTING AN ASSISTANCE TO FIREFIGHTERS GRANT PROGRAM STAFFING FOR ADEQUATE FIRE AND EMERGENCY RESPONSE (SAFER) GRANT IN THE AMOUNT OF \$139,248 FOR RECRUITMENT AND RETENTION OF VOLUNTEER FIREFIGHTERS.

WHEREAS, the Department of Homeland Security assists local fire departments with staffing and deployment capabilities; and,

WHEREAS, local fire departments accomplish this by improving staffing and deployment capabilities so they may more effectively and safely respond to emergencies; and,

WHEREAS, with enhanced staffing levels, recipients should experience a reduction in response times and an increase in the number of trained personnel assembled at the incident scene; and,

WHEREAS, the Recruitment and Retention category which would allow the department to increase the number of Reserve Firefighters; and,

WHEREAS, the grant funds would cover training, personal protective equipment, a nominal stipend for the firefighters and promotional materials for recruitment, the grant performance period would cover three years.

NOW, THEREFORE BE IT RESOLVED, that the City Council of the City of Seaside hereby approves the acceptance of an Assistance to Fire Fighters SAFER grant for recruitment and retention of Volunteer Firefighters in the amount of \$139,248.

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Seaside duly held on the 3rd day of October, 2019, by the following vote:

AYES:	COUNCILMEMBERS:
NOES:	COUNCILMEMBERS:
ABSENT:	COUNCILMEMBERS:
ABSTAIN:	COUNCILMEMBERS:

Ian N. Oglesby, Mayor

ATTEST:

Lesley Milton
City Clerk

Award Letter

U.S. Department of Homeland Security
Washington, D.C. 20472

Brian Dempsey
CITY OF SEASIDE
440 HARCOURT AVE
SEASIDE, CA 93955



EMW-2018-FF-00318

Dear Brian Dempsey,

Congratulations on behalf of the Department of Homeland Security. Your application submitted for the Fiscal Year (FY) 2018 Staffing for Adequate Fire and Emergency Response (SAFER) Grant funding opportunity has been approved in the amount of \$139,248.00 in Federal funding.

Before you request and receive any of the Federal funds awarded to you, you must establish acceptance of the award through the FEMA Grants Outcomes (FEMA GO) system. By accepting this award, you acknowledge that the terms of the following documents are incorporated into the terms of your award:

- Summary Award Memo - included in this document
- Agreement Articles - included in this document
- Obligating Document - included in this document
- 2018 SAFER Notice of Funding Opportunity (NOFO) - incorporated by reference

Please make sure you read, understand, and maintain a copy of these documents in your official file for this award.

Sincerely,

A handwritten signature in blue ink, which appears to read "Bridget Bean".

Bridget Bean
Acting Assistant Administrator
Grant Programs Directorate

Summary Award Memo

Program: Fiscal Year 2018 Staffing for Adequate Fire and Emergency Response

Recipient: CITY OF SEASIDE

DUNS number: 092618891

Award number: EMW-2018-FF-00318

Summary description of award

The purpose of the SAFER Grant Program is to provide funding directly to fire departments and volunteer firefighter interest organizations to assist in increasing the number of firefighters to help communities meet industry minimum standards and attain 24-hour staffing to provide adequate protection from fire and fire-related hazards, and to fulfill traditional missions of fire departments. After careful consideration, FEMA has determined that the recipient's project or projects submitted as part of the recipient's application and detailed in the project narrative as well as the request details section of the application — including budget information — was consistent with the SAFER Grant Program's purpose and was worthy of award.

Except as otherwise approved as noted in this award, the information you provided in your application for FY2018 Staffing for Adequate Fire and Emergency Response (SAFER) funding is incorporated into the terms and conditions of this award. This includes any documents submitted as part of the application.

Amount awarded

The amount of the award is detailed in the attached Obligating Document for Award.

The following is the approved budget for this award (including Federal share plus your cost share, if applicable) and summarizes the financial aspects of the grant:

Object Class	First Year	Second Year	Third Year	Total
Personnel	\$7,680.00	\$15,360.00	\$23,040.00	\$46,080.00
Fringe benefits	\$0.00	\$0.00	\$0.00	\$0.00
Travel	\$0.00	\$0.00	\$0.00	\$0.00
Equipment	\$13,760.00	\$13,760.00	\$13,760.00	\$41,280.00
Supplies	\$0.00	\$0.00	\$0.00	\$0.00
Contractual	\$14,000.00	\$17,296.00	\$20,592.00	\$51,888.00
Construction	\$0.00	\$0.00	\$0.00	\$0.00
Other	\$0.00	\$0.00	\$0.00	\$0.00
Indirect charges	\$0.00	\$0.00	\$0.00	\$0.00
Federal	\$35,440.00	\$46,416.00	\$57,392.00	\$139,248.00
Non-federal	\$0.00	\$0.00	\$0.00	\$0.00
Total	\$35,440.00	\$46,416.00	\$57,392.00	\$139,248.00

2 C.F.R. § 200.308 identifies the limits to the changes that can be made and when prior approval is required from FEMA, but this provision does not apply to the breakdown by year. If you have questions about which changes require FEMA's prior approval, please contact your Grants Management Specialist.

Approved scope of work

After review of your application, FEMA has approved the below scope of work. Justifications are provided for any differences between the scope of work in the original application and the approved scope of work under this award. You must submit scope or budget revision requests for FEMA's prior approval, via an amendment request, as appropriate per 2 C.F.R. § 200.308 and the FY2018 SAFER NOFO.

Approved request details:

Recruitment and Retention

Marketing Program

Media Marketing (TV/Radio/Internet, etc.)

DESCRIPTION

Radio and Social Media Campaign.

YEAR	QUANTITY	UNIT PRICE	TOTAL
1	1	\$500.00	\$500.00
2	1	\$500.00	\$500.00
3	1	\$500.00	\$500.00
4	0	\$0.00	\$0.00
TOTAL	3		\$1,500.00

BUDGET CLASS

Contractual

Other (Explain)

PSA Video

DESCRIPTION

Produce Recruitment Video for PSA Annually.

YEAR	QUANTITY	UNIT PRICE	TOTAL
1	1	\$300.00	\$300.00
2	1	\$300.00	\$300.00
3	1	\$300.00	\$300.00
4	0	\$0.00	\$0.00
TOTAL	3		\$900.00

BUDGET CLASS

Contractual

Nominal Stipend

Points Based System

DESCRIPTION

Nominal Stipend for Responding to Incidents.

YEAR	QUANTITY	UNIT PRICE	TOTAL
1	96	\$16.00	\$1,536.00
2	192	\$16.00	\$3,072.00
3	288	\$16.00	\$4,608.00
4	0	\$0.00	\$0.00
TOTAL	576		\$9,216.00

BUDGET CLASS

Personnel

Points Based System

DESCRIPTION

Nominal Stipends to Participate in Operational Training.

YEAR	QUANTITY	UNIT PRICE	TOTAL
1	96	\$16.00	\$1,536.00
2	192	\$16.00	\$3,072.00
3	288	\$16.00	\$4,608.00
4	0	\$0.00	\$0.00
TOTAL	576		\$9,216.00

BUDGET CLASS

Personnel

Points Based System

DESCRIPTION

Nominal Stipends for Participation in Duty Shifts.

YEAR	QUANTITY	UNIT PRICE	TOTAL
1	96	\$48.00	\$4,608.00
2	192	\$48.00	\$9,216.00
3	288	\$48.00	\$13,824.00
4	0	\$0.00	\$0.00
TOTAL	576		\$27,648.00

BUDGET CLASS

Personnel

Personal Protective Equipment (PPE)

Full Set - Structural Personal Protective Equipment (PPE)

DESCRIPTION

One Full Set of Structural Personal Protective Equipment for Each Recruit.

YEAR	QUANTITY	UNIT PRICE	TOTAL
1	4	\$3,200.00	\$12,800.00
2	4	\$3,200.00	\$12,800.00
3	4	\$3,200.00	\$12,800.00
4	0	\$0.00	\$0.00
TOTAL	12		\$38,400.00

BUDGET CLASS

Equipment

New Member Costs

Other (Explain)

Back Ground Check

DESCRIPTION

Complete Background Check for Each Recruit.

YEAR	QUANTITY	UNIT PRICE	TOTAL
1	4	\$500.00	\$2,000.00
2	4	\$500.00	\$2,000.00
3	4	\$500.00	\$2,000.00
4	0	\$0.00	\$0.00
TOTAL	12		\$6,000.00

BUDGET CLASS

Contractual

Annual NFPA 1582 Physical

DESCRIPTION

Annual physicals are only eligible for members recruited under this grant and only if also requesting grant funds for NFPA 1582 entry-level physicals for new recruits.

YEAR	QUANTITY	UNIT PRICE	TOTAL
1	0	\$0.00	\$0.00
2	4	\$824.00	\$3,296.00
3	8	\$824.00	\$6,592.00
4	0	\$0.00	\$0.00
TOTAL	12		\$9,888.00

BUDGET CLASS

Contractual

CHANGE FROM APPLICATION

Sub-category created

JUSTIFICATION

The award reflects a change from the application. This change is because the costs for Annual Physicals were moved to a proper category: New Member Costs for the budget line item.

NFPA 1582 Entry-Level Physical

DESCRIPTION

NFPA 1582 Entry Level Physical for Each New Recruit

YEAR	QUANTITY	UNIT PRICE	TOTAL
1	4	\$925.00	\$3,700.00
2	4	\$925.00	\$3,700.00
3	4	\$925.00	\$3,700.00
4	0	\$0.00	\$0.00
TOTAL	12		\$11,100.00

BUDGET CLASS

Contractual

Station Duty Uniforms

DESCRIPTION

Nomex IIIA Flame Resistant Duty Uniform. Limited to one pair of pants, one shirt, one hat, and one pair of boots only per new recruit.

YEAR	QUANTITY	UNIT PRICE	TOTAL
1	4	\$240.00	\$960.00
2	4	\$240.00	\$960.00
3	4	\$240.00	\$960.00
4	0	\$0.00	\$0.00
TOTAL	12		\$2,880.00

BUDGET CLASS

Equipment

CHANGE FROM APPLICATION

Description changed

JUSTIFICATION

The award reflects a change from the description in the application. This change aligns with guidance outlined in the Notice of Funding Opportunity (NOFO).

Other (Explain)

Other (Explain)**Ineligible**

Annual Physical Exams

DESCRIPTION

NFPA 1582 Annual Physical Exams for Each Member Under the Grant.

YEAR	QUANTITY	UNIT PRICE	TOTAL
1	0	\$0.00	\$0.00
2	4	\$824.00	\$3,296.00
3	8	\$824.00	\$6,592.00
4	0	\$0.00	\$0.00
TOTAL	12		\$9,888.00

BUDGET CLASS

Contractual

CHANGE FROM APPLICATION

Sub-category marked **ineligible**

JUSTIFICATION

The award reflects a change from the application. This change is because the costs for annual physicals were moved to a proper category New Member Costs for the budget line item.

Training

Basic (Minimum) Firefighter Training

DESCRIPTION

EMT Certification Class. The department is unable to provide this in house.

YEAR	QUANTITY	UNIT PRICE	TOTAL
1	4	\$1,875.00	\$7,500.00
2	4	\$1,875.00	\$7,500.00
3	4	\$1,875.00	\$7,500.00
4	0	\$0.00	\$0.00
TOTAL	12		\$22,500.00

BUDGET CLASS

Contractual

Agreement Articles

Program: Fiscal Year 2018 Staffing for Adequate Fire and Emergency Response

Recipient: CITY OF SEASIDE

DUNS number: 092618891

Award number: EMW-2018-FF-00318

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Article 1	Assurances, Administrative Requirements, Cost Principles, Representations and Certifications DHS financial assistance recipients must complete either the Office of Management and Budget(OMB) Standard Form 424B Assurances - Non-Construction Programs, or OMB Standard Form 424D Assurances -Construction Programs as applicable. Certain assurances in these documents may not be applicable to your program, and the DHS financial assistance office (DHS FAO) may require applicants to certify additional assurances. Applicants are required to fill out the assurances applicable to their program as instructed by the awarding agency. Please contact the DHS FAO if you have any questions. DHS financial assistance recipients are required to follow the applicable provisions of the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards located at Title 2, Code of Federal Regulations(C.F.R) Part 200, and adopted by DHS at 2 C.F.R. Part 3002.
Article 2	DHS Specific Acknowledgements and Assurances All recipients, subrecipients, successors, transferees, and assignees must acknowledge and agree to comply with applicable provisions governing DHS access to records, accounts, documents, information, facilities, and staff. 1. Recipients must cooperate with any compliance reviews or compliance investigations conducted by DHS. 2. Recipients must give DHS access to, and the right to examine and copy, records, accounts, and other documents and sources of information related to the federal financial assistance award and permit access to facilities, personnel, and other individuals and information as may be necessary, as required by DHS regulations and other applicable laws or program guidance. 3. Recipients must submit timely, complete, and accurate reports to the appropriate DHS officials and maintain appropriate backup documentation to support the reports. 4. Recipients must comply with all other special reporting, data collection, and evaluation requirements, as prescribed by law or detailed in program guidance. 5. Recipients of federal financial assistance from DHS must complete the DHS Civil Rights Evaluation Tool within thirty (30) days of receipt of the Notice of Award or, for State Administering Agencies, thirty (30) days from receipt of the DHS Civil Rights Evaluation Tool from DHS or its awarding component agency. Recipients are required to provide this information once every two (2) years, not every time an award is made. After the initial submission for the first award under which this term applies, recipients are only required to submit updates every two years, not every time a grant is awarded. Recipients should submit the completed tool, including supporting materials to CivilRightsEvaluation@hq.dhs.gov. This tool clarifies the civil rights obligations and related reporting requirements contained in the DHS Standard Terms and Conditions. Subrecipients are not required to complete and submit this tool to DHS. The evaluation tool can be found at https://www.dhs.gov/publication/dhs-civil-rights-evaluation-tool.
Article 3	Acknowledgement of Federal Funding from DHS Recipients must acknowledge their use of federal funding when issuing statements, press releases, requests for proposals, bid invitations, and other documents describing projects or programs funded in whole or in part with federal funds.

Article 4	Activities Conducted Abroad Recipients must ensure that project activities carried on outside the United States are coordinated as necessary with appropriate government authorities and that appropriate licenses, permits, or approvals are obtained.
Article 5	Age Discrimination Act of 1975 Recipients must comply with the requirements of the Age Discrimination Act of 1975, Pub. L. No. 94-135 (1975) (codified as amended at Title 42, U.S. Code, § 6101 et seq.), which prohibits discrimination on the basis of age in any program or activity receiving federal financial assistance.
Article 6	Americans with Disabilities Act of 1990 Recipients must comply with the requirements of Titles I, II, and III of the Americans with Disabilities Act, Pub. L. No. 101-336 (1990) (codified as amended at 42 U.S.C. §§ 12101–12213), which prohibits recipients from discriminating on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities.
Article 7	Best Practices for Collection and Use of Personally Identifiable Information (PII) Recipients who collect PII are required to have a publically-available privacy policy that describes standards on the usage and maintenance of PII they collect. DHS defines personally identifiable information (PII) as any information that permits the identity of an individual to be directly or indirectly inferred, including any information that is linked or linkable to that individual. Recipients may also find the DHS Privacy Impact Assessments: Privacy Guidance and Privacy template as useful resources respectively.
Article 8	Civil Rights Act of 1964 – Title VI Recipients must comply with the requirements of Title VI of the Civil Rights Act of 1964 (codified as amended at 42 U.S.C. § 2000d et seq.), which provides that no person in the United States will, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. DHS implementing regulations for the Act are found at 6 C.F.R. Part 21 and 44 C.F.R. Part 7.

Article 9 Civil Rights Act of 1968

Recipients must comply with Title VIII of the Civil Rights Act of 1968, Pub. L. No. 90-284, as amended through Pub. L. 113-4, which prohibits recipients from discriminating in the sale, rental, financing, and advertising of dwellings, or in the provision of services in connection therewith, on the basis of race, color, national origin, religion, disability, familial status, and sex (See 42 U.S.C. § 3601 et seq.), as implemented by the Department of Housing and Urban Development at 24 C.F.R. Part 100. The prohibition on disability discrimination includes the requirement that new multifamily housing with four or more dwelling units—i.e., the public and common use areas and individual apartment units (all units in buildings with elevators and ground-floor units in buildings without elevators)—be designed and constructed with certain accessible features. (See 24 C.F.R. Part 100, Subpart D)

Article 10 Copyright

Recipients must affix the applicable copyright notices of 17 U.S.C. §§ 401 or 402 and an acknowledgement of U.S. Government sponsorship (including the award number) to any work first produced under federal financial assistance awards.

Article 11 Debarment and Suspension

Recipients are subject to the non-procurement debarment and suspension regulations implementing Executive Orders (E.O.) 12549 and 12689, and 2 C.F.R. Part 180 as adopted by DHS at 2 C.F.R. Part 3000. These regulations restrict federal financial assistance awards, subawards, and contracts with certain parties that are debarred, suspended, or otherwise excluded from or ineligible for participation in federal assistance programs or activities.

Article 12 Drug-Free Workplace Regulations

Recipients must comply with drug-free workplace requirements in Subpart B (or Subpart C, if the recipient is an individual) of 2 C.F.R. Part 3001, which adopts the Government-wide implementation (2 C.F.R. Part 182) of sec. 5152-5158 of the Drug-Free Workplace Act of 1988 (41 U.S.C. 8101).

Article 13 Duplication of Benefits

Any cost allocable to a particular federal financial assistance award provided for in 2 C.F.R. Part 200, Subpart E may not be charged to other federal financial assistance awards to overcome fund deficiencies, to avoid restrictions imposed by federal statutes, regulations, or federal financial assistance award terms and conditions, or for other reasons. However, these prohibitions would not preclude recipients from shifting costs that are allowable under two or more awards in accordance with existing federal statutes, regulations, or the federal financial assistance award terms and conditions.

Article 14	Education Amendments of 1972 (Equal Opportunity in Education Act) – Title IX Recipients must comply with the requirements of Title IX of the Education Amendments of 1972 Pub. L. No. 92-318 (1972) (codified as amended at 20 U.S.C. § 1681 et seq.), which provide that no person in the United States will, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any educational program or activity receiving federal financial assistance. DHS implementing regulations are codified at 6 C.F.R. Part 17 and 44 C.F.R. Part 19.
Article 15	Energy Policy and Conservation Act Recipients must comply with the requirements of The Energy Policy and Conservation Act Pub. L. No. 94- 163 (1975) (codified as amended at 42 U.S.C. § 6201 et seq.), which contain policies relating to energy efficiency that are defined in the state energy conservation plan issued in compliance with this Act.
Article 16	False Claims Act and Program Fraud Civil Remedies Recipients must comply with the requirements of The False Claims Act, 31 U.S.C. § 3729-3733, which prohibits the submission of false or fraudulent claims for payment to the federal government. (See 31 U.S.C. § 3801-3812 which details the administrative remedies for false claims and statements made.
Article 17	Federal Debt Status All recipients are required to be non-delinquent in their repayment of any federal debt. Examples of relevant debt include delinquent payroll and other taxes, audit disallowances, and benefit overpayments. (See OMB Circular A-129.)
Article 18	Federal Leadership on Reducing Text Messaging while Driving Recipients are encouraged to adopt and enforce policies that ban text messaging while driving as described in E.O. 13513, including conducting initiatives described in Section 3(a) of the Order when on official government business or when performing any work for or on behalf of the federal government.
Article 19	Fly America Act of 1974 Recipients must comply with Preference for U.S. Flag Air Carriers (air carriers holding certificates under 49 U.S.C. § 41102) for international air transportation of people and property to the extent that such service is available, in accordance with the International Air Transportation Fair Competitive Practices Act of 1974, 49 U.S.C. § 40118, and the interpretative guidelines issued by the Comptroller General of the United States in the March 31, 1981, amendment to Comptroller General Decision B-138942.
Article 20	Hotel and Motel Fire Safety Act of 1990 In accordance with Section 6 of the Hotel and Motel Fire Safety Act of 1990, 15 U.S.C. § 2225a, recipients must ensure that all conference, meeting, convention, or training space funded in whole or in part with federal funds complies with the fire prevention and control guidelines of the Federal Fire Prevention and Control Act of 1974, codified as amended at 15 U.S.C. § 2225.

Article 21 Limited English Proficiency (Civil Rights Act of 1964, Title VI)

Recipients must comply with the Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq.) prohibition against discrimination on the basis of national origin, which requires that recipients of federal financial assistance take reasonable steps to provide meaningful access to persons with limited English proficiency (LEP) to their programs and services. For additional assistance and information regarding language access obligations, please refer to the DHS Recipient Guidance <https://www.dhs.gov/guidancepublished-help-department-supported-organizations-provide-meaningfulaccess-people-limited> and additional resources on <http://www.lep.gov>.

Article 22 Lobbying Prohibitions

Recipients must comply with 31 U.S.C. § 1352, which provides that none of the funds provided under a federal financial assistance award may be expended by the recipient to pay any person to influence, or attempt to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any federal action related to a federal award or contract, including any extension, continuation, renewal, amendment, or modification.

Article 23 National Environmental Policy Act

Recipients must comply with the requirements of the National Environmental Policy Act of 1969, Pub. L. No. 91-190 (1970) (codified as amended at 42 U.S.C. § 4321 et seq.) (NEPA) and the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA, which requires recipients to use all practicable means within their authority, and consistent with other essential considerations of national policy, to create and maintain conditions under which people and nature can exist in productive harmony and fulfill the social, economic, and other needs of present and future generations of Americans.

Article 24 Nondiscrimination in Matters Pertaining to Faith-Based Organizations

It is DHS policy to ensure the equal treatment of faith-based organizations in social service programs administered or supported by DHS or its component agencies, enabling those organizations to participate in providing important social services to beneficiaries. Recipients must comply with the equal treatment policies and requirements contained in 6 C.F.R. Part 19 and other applicable statutes, regulations, and guidance governing the participations of faith-based organizations in individual DHS programs.

Article 25 Non-supplanting Requirement

Recipients receiving federal financial assistance awards made under programs that prohibit supplanting by law must ensure that federal funds do not replace (supplant) funds that have been budgeted for the same purpose through non-federal sources.

Article 26 Notice of Funding Opportunity Requirements

All of the instructions, guidance, limitations, and other conditions set forth in the Notice of Funding Opportunity (NOFO) for this program are incorporated hereby reference in the award terms and conditions. All recipients must comply with any such requirements set forth in the program NOFO.

Article 27	Patents and Intellectual Property Rights Unless otherwise provided by law, recipients are subject to the Bayh-Dole Act, 35 U.S.C. § 200 et seq. Recipients are subject to the specific requirements governing the development, reporting, and disposition of rights to inventions and patents resulting from federal financial assistance awards located at 37 C.F.R. Part 401 and the standard patent rights clause located at 37 C.F.R. § 401.14.
Article 28	Procurement of Recovered Materials States, political subdivisions of states, and their contractors must comply with Section 6002 of the Solid Waste Disposal Act, Pub. L. No. 89-272 (1965) (codified as amended by the Resource Conservation and Recovery Act, 42 U.S.C. § 6962. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 C.F.R. Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition.
Article 29	Rehabilitation Act of 1973 Recipients must comply with the requirements of Section 504 of the Rehabilitation Act of 1973, Pub. L. No. 93-112 (1973) (codified as amended at 29 U.S.C. § 794), which provides that no otherwise qualified handicapped individuals in the United States will, solely by reason of the handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.
Article 30	Reporting of Matters Related to Recipient Integrity and Performance If the total value of the recipient's currently active grants, cooperative agreements, and procurement contracts from all federal assistance offices exceeds \$10,000,000 for any period of time during the period of performance of this federal financial assistance award, the recipient must comply with the requirements set forth in the government-wide Award Term and Condition for Recipient Integrity and Performance Matters located at 2 C.F.R. Part 200, Appendix XII, the full text of which is incorporated here by reference in the award terms and conditions.
Article 31	Reporting Subawards and Executive Compensation Recipients are required to comply with the requirements set forth in the government-wide Award Term on Reporting Subawards and Executive Compensation located at 2 C.F.R. Part 170, Appendix A, the full text of which is incorporated here by reference in the award terms and conditions.
Article 32	SAFECOM Recipients receiving federal financial assistance awards made under programs that provide emergency communication equipment and its related activities must comply with the SAFECOM Guidance for Emergency Communication Grants, including provisions on technical standards that ensure and enhance interoperable communications.

Article 33	Terrorist Financing Recipients must comply with E.O. 13224 and U.S. laws that prohibit transactions with, and the provisions of resources and support to, individuals and organizations associated with terrorism. Recipients are legally responsible to ensure compliance with the Order and laws.
Article 34	Trafficking Victims Protection Act of 2000 Recipients must comply with the requirements of the government-wide financial assistance award term which implements Section 106(g) of the Trafficking Victims Protection Act of 2000, (TVPA) codified as amended by 22 U.S.C. § 7104. The award term is located at 2 C.F.R. § 175.15, the full text of which is incorporated here by reference.
Article 35	Universal Identifier and System of Award Management (SAM) Recipients are required to comply with the requirements set forth in the government-wide financial assistance award term regarding the System for Award Management and Universal Identifier Requirements located at 2 C.F.R. Part 25, Appendix A, the full text of which is incorporated here by reference.
Article 36	USA Patriot Act of 2001 Recipients must comply with requirements of Section 817 of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act), which amends 18 U.S.C. §§ 175–175c.
Article 37	Use of DHS Seal, Logo and Flags Recipients must obtain permission from their DHS FAO prior to using the DHS seal(s), logos, crests or reproductions of flags or likenesses of DHS agency officials, including use of the United States Coast Guard seal, logo, crests or reproductions of flags or likenesses of Coast Guard officials.
Article 38	Whistleblower Protection Act Recipients must comply with the statutory requirements for whistleblower protections (if applicable) at 10 U.S.C § 2409, 41 U.S.C. 4712, and 10 U.S.C. § 2324, 41 U.S.C. §§ 4304 and 4310.
Article 39	Acceptance of Post Award Changes In the event FEMA determines that changes are necessary to the award document after an award has been made, including changes to period of performance or terms and conditions, recipients will be notified of the changes in writing. Once notification has been made, any subsequent request for funds will indicate recipient acceptance of the changes to the award. Please call the FEMA/GMD Call Center at (866) 927-5646 or via e-mail to ASK-GMD@dhs.gov if you have any questions.

Article 40 Prior Approval for Modification of Approved Budget

Before making any change to the DHS/FEMA approved budget for this award, you must request prior written approval from DHS/FEMA where required by 2 C.F.R. § 200.308. DHS/FEMA is also utilizing its discretion to impose an additional restriction under 2 C.F.R. § 200.308(e) regarding the transfer of funds among direct cost categories, programs, functions, or activities. Therefore, for awards with an approved budget where the Federal share is greater than the simplified acquisition threshold (currently \$250,000), you may not transfer funds among direct cost categories, programs, functions, or activities without prior written approval from DHS/FEMA where the cumulative amount of such transfers exceeds or is expected to exceed ten percent (10%) of the total budget DHS/FEMA last approved. You must report any deviations from your DHS/FEMA approved budget in the first Federal Financial Report (SF-425) you submit following any budget deviation, regardless of whether the budget deviation requires prior written approval.

Article 41 Disposition of Equipment Acquired Under the Federal Award

When original or replacement equipment acquired under this award by the recipient or its subrecipients is no longer needed for the original project or program or for other activities currently or previously supported by DHS/FEMA, you must request instructions from DHS/FEMA to make proper disposition of the equipment pursuant to 2 C.F.R. § 200.313.

Article 42 Environmental Planning and Historic Preservation

DHS/FEMA funded activities that may require an EHP review are subject to FEMA's Environmental Planning and Historic Preservation (EHP) review process. This review does not address all Federal, state, and local requirements. Acceptance of Federal funding requires recipient to comply with all Federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize Federal funding. DHS/FEMA is required to consider the potential impacts to natural and cultural resources of all projects funded by DHS/FEMA grant funds, through its EHP Review process, as mandated by the National Environmental Policy Act; National Historic Preservation Act of 1966, as amended; National Flood Insurance Program regulations; and, any other applicable laws and Executive Orders. To access the FEMA's Environmental and Historic Preservation (EHP) screening form and instructions go to the DHS/FEMA website at: <https://www.fema.gov/media-library/assets/documents/90195>. In order to initiate EHP review of your project(s), you must complete all relevant sections of this form and submit it to the Grant Programs Directorate (GPD) along with all other pertinent project information. Failure to provide requisite information could result in delays in the release of grant funds. If ground disturbing activities occur during construction, applicant will monitor ground disturbance, and if any potential archeological resources are discovered, applicant will immediately cease work in that area and notify the pass-through entity, if applicable, and DHS/FEMA.

Obligating document

1. Agreement No. EMW-2018-FF-00318	2. Amendment No. N/A	3. Recipient No. 94-6022439	4. Type of Action AWARD	5. Control No. WX02684N2019T		
6. Recipient Name and Address CITY OF SEASIDE 440 HARCOURT AVE SEASIDE, CA 93955		7. Issuing FEMA Office and Address Grant Programs Directorate 500 C Street, S.W. Washington DC, 20528-7000 1-866-927-5646		8. Payment Office and Address FEMA, Financial Services Branch 500 C Street, S.W., Room 723 Washington DC, 20742		
9. Name of Recipient Project Officer Paul Blaha	9a. Phone No. 831-899-6782	10. Name of FEMA Project Coordinator Staffing for Adequate Fire and Emergency Response (SAFER) Grant Program			10a. Phone No. 1-866-274-0960	
11. Effective Date of This Action 09/11/2019	12. Method of Payment OTHER - FEMA GO	13. Assistance Arrangement COST SHARING		14. Performance Period 12/10/2019 to 12/09/2022 Budget Period 12/10/2019 to 12/09/2022		
15. Description of Action a. (Indicate funding data for awards or financial changes)						
Program Name Abbreviation	Assistance Listings No.	Accounting Data(ACCS Code)	Prior Total Award	Amount Awarded This Action + or (-)	Current Total Award	Cumulative Non-Federal Commitment
SAFER	97.083	2019-F8-GF01 - P431-xxxx-4101-D	\$0.00	\$139,248.00	\$139,248.00	\$0.00
Totals			\$0.00	\$139,248.00	\$139,248.00	\$0.00
b. To describe changes other than funding data or financial changes, attach schedule and check here: N/A						
~~16. FOR NON-DISASTER PROGRAMS: RECIPIENT IS REQUIRED TO SIGN AND RETURN THREE (3) COPIES OF THIS DOCUMENT TO FEMA (See Block 7 for address)~~ This field is not applicable for digitally signed grant agreements						

17. RECIPIENT SIGNATORY OFFICIAL (Name and Title)	DATE
18. FEMA SIGNATORY OFFICIAL (Name and Title)	DATE
Bridget Bean, Acting Assistant Administrator Grant Programs Directorate	09/11/2019



**CITY OF SEASIDE
STAFF REPORT**

Item No.: 8.F.

TO: City Council

FROM: Lesley Milton-Rerig, Assistant City Manager

BY: Samantha Alcaraz Sakhrani, Human Resources Specialist
Kimberly Drabner, Finance Director
Rick Riedl, City Engineer

DATE: October 3, 2019

SUBJECT: ADOPT A RESOLUTION TO ESTABLISH THE CLASSIFICATION OF INFORMATION SERVICES NETWORK SPECIALIST AND MODIFY THE POSITION ALLOCATION LIST TO DELETE ONE INFORMATION SERVICES TECHNICIAN AND ADD ONE INFORMATION SERVICES NETWORK SPECIALIST AND ONE ADMINISTRATIVE ANALYST II.

PURPOSE & RECOMMENDATION

Adopt a resolution establishing the position of Information Services Network Specialist and modifying the position allocation list to delete one Information Services Technician, and add one Information Services Network Specialist and add one Administrative Analyst II.

BACKGROUND

An Administrative Analyst II position is being recommended to be added to the allocation list in the Public Works Department. This position would perform complex analytical duties for the Maintenance & Utilities Division in a variety of areas including budget and contract administration, management analysis, and program evaluation related to the City's contract with the Army. The cost of the Administrative Analyst II will be fully funded by the Intergovernmental Services Agreement (IGSA) contract between the City and the Army.

The Information Services Network Specialist position is being recommended to replace the Information Services Technician. The top step annual salary will be \$80,912 and it will be designated as Confidential, Non-Exempt. This change is being requested to better align the classification with the existing duties being performed by the incumbent that are needed to meet City Information Technology demands.

FISCAL IMPACT

There is no cost associated with adding the Administrative Analyst II to the allocation list in the Public Works Department as it will be fully funded by the IGSA contract.

The FY2019/2020 budget includes one (1) Full-time equivalent Information Services Network Technician. The reclassification of the position to an Information Services Network Specialist will result in an additional cost of approximately \$4,700 for FY2019/2020. The position is budgeted in the Management Information Systems Internal Service Fund (Fund 503) which has existing salary savings to offset the additional cost. There is no General Fund impact in the current year.

ATTACHMENTS

1. Draft Resolution
 2. Seaside Information Services Network Specialist 2019
-

Reviewed for Submission to the
City Council by:

A handwritten signature in blue ink, appearing to be 'Craig Malin', written over a horizontal line.

Craig Malin, City Manager

RESOLUTION NO. 19-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SEASIDE

APPROVING THE MODIFICATION OF THE CITY'S POSITION ALLOCATION LIST TO ADD ONE ADMINISTRATIVE ANALYST II AND ONE INFORMATION SERVICES NETWORK SPECIALIST AND DELETE ONE INFORMATION SERVICES TECHNICIAN

WHEREAS, the City's Classification Plan of positions may be amended on recommendation of the City Manager and approval by the City Council; and

WHEREAS, there is a need to add the position of Information Services Network Specialist to the Classification Plan, create an appropriate position description, and establish the salary for the new classification; and

WHEREAS, the Information Services Network Specialist will be designated as Confidential Non-Exempt and the salary for the position will be:

<u>Position</u>	<u>Step 5 Pay Rate</u>
Information Services Network Specialist	\$38.90

WHEREAS, there is a need to modify the Position Allocation List to add one Administrative Analyst II in the Maintenance & Utilities Division, add one Information Services Network Specialist, and delete one Information Services Technician in the Information Services Division; and

WHEREAS, the Finance Department is authorized to make any budget adjustments that are necessary as a result of this change.

NOW, THEREFORE BE IT RESOLVED, that the City Council of the City of Seaside hereby approves the modifications and addition to the Position Allocation List and the Salary Schedule.

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Seaside duly held on the 3rd day of October by the following vote:

AYES:	COUNCIL MEMBERS:
NOES:	COUNCIL MEMBERS:
ABSENT:	COUNCIL MEMBERS:
ABSTAIN:	COUNCIL MEMBERS:

Ian N. Oglesby, Mayor

ATTEST:

Lesley Milton-Rerig, City Clerk



MARCH 2019
FLSA: NON-EXEMPT

INFORMATION SERVICES NETWORK SPECIALIST

DEFINITION

Under general supervision, performs a variety of technical duties in support of the City's information systems; provides technical support to users; troubleshoots hardware and software problems associated with the City's computers, telecommunication and security systems, and related equipment; administers local area networks (LANs) and wide area networks (WANs); assists Information Services Manager in identifying needs and applications of computer and networked users; installs hardware equipment and software applications; performs network back-ups; provides support for the City's website and intranet; assesses user training needs and trains users in effective use of applications; makes recommendations regarding hardware and software acquisitions; performs database administration; operates specialized and/or complex software; and performs related work as required.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision from the Information Services Manager. Exercises no supervision of staff.

CLASS CHARACTERISTICS

This job class works under the supervision of the Information Services Manager to support and maintain the City's network, computer systems, and individual computer workstations. This position performs a wide variety of technical support duties related to the City's computer, Geographic Information System (GIS), telecommunications and security systems, and related equipment. Work is typically reviewed both while in progress and upon completion for technical soundness, appropriateness, and conformity to policy and requirements. Responsibilities include troubleshooting hardware and software applications, assuring the security of City personal computers and networks, assisting in the implementation of new software and/or hardware, and the overall maintenance of user accounts.

EXAMPLES OF TYPICAL JOB FUNCTIONS (Illustrative Only)

Management reserves the right to add, modify, change, or rescind the work assignments of different positions and to make reasonable accommodations so that qualified employees can perform the essential functions of the job.

- Moves and sets up workstations, including supplying computer terminal, data connection, and telephone; installs desktop equipment, software, and network operating systems; installs emulation software and wiring connections to the City's network; installs, maintains, and troubleshoots voice connections, cabling, instruments, and switches; tests and certifies each installed connection, including cellular phones and mobile devices; works with various vendors to support these systems.
- Services existing electronic equipment requiring repair or complex preventive maintenance; performs scheduled upgrades to existing personal computer systems and servers.
- Evaluates wiring needs of new offices and office remodeling; advises contractors of desired wiring configuration.
- Evaluates and diagnoses computer hardware and software problems associated with the City's computers and related equipment including police vehicle systems; performs diagnostic testing; repairs equipment; establishes a maintenance schedule.
- Installs and supports new hardware and new and/or upgraded versions of software applications.
- Communicates and interfaces with end users; instructs end users concerning computer systems and software applications; confers with users to identify needs for computer and network support and training.
- Builds, configures, and implements application servers; performs systems backups and restores for servers and user files. Assists in the acquisition, installation, administration, and support of network servers and peripherals. May assemble new servers from component parts.
- Assists in the acquisition, installation, documentation, training, support, and administration of network communication systems (LANs, WANs, etc)
- Assists users with operational questions or problems with computer and networking hardware and software and maintains logs of reported problems. Performs routine troubleshooting, and identifies possible solutions and/or alternate courses of action. Assists users in securing resources and services necessary to resolve problems
- Researches, analyzes, designs, and implements changes to departmental databases and other programs.
- Serves as a technical resource for maintaining, enhancing, and upgrading the department's current and long-term computer system operations.
- Researches and tests available computer products, analyzing the relevance of different types of software to department functions and requirements.
- Coordinates with Information Technology staff to resolve problems with system applications; works with software providers to accomplish specific maintenance and modifications.
- Represents the department at conferences on specialized topics and at meetings with appropriate vendors.
- Provides security authorization for application access and coordinates security maintenance on department computer systems with the Information Technology Manager and WAN administrators or technical support staff.
- Assists with the creation and maintenance of network login, remote access, and e-mail accounts; manage users, groups and computers in Microsoft Active Directory and Group Policies.
- Researches, evaluates, and purchases computer equipment and supplies; maintains inventory; tracks and receives a variety of computer systems and telecommunications

equipment, software applications supplies, training materials, and related needs adhering to established purchasing policies.

- Assists with the development and maintenance of computer and network documentation including diagrams, configurations, and user manuals.
- Enforces information technology operational policies and procedures.
- Assists with maintenance and development of the City's intranet and internet site.
- Stays abreast of current trends and developments in the field of computer software programs, including GIS, and networking systems on a variety of hardware operating systems.
- Performs other duties as assigned.

QUALIFICATIONS

Knowledge of:

- Applications and functions of computer hardware, software, and peripheral devices.
- Theory and design of information technology.
- Modern principles and practices of installing, configuring, maintaining, troubleshooting, and monitoring application, network, server, and telecommunications systems and infrastructure.
- Physical and virtual network and server infrastructure including hardware, software, real-time monitoring tools, peripherals, and devices.
- Capabilities and limitations of network hardware (circuit boards, wiring standards), software (router OS), and related concepts.
- Integration of local area network and wide area network systems in a multi-vendor environment.
- Installation, support, and administration of current Novell® and Microsoft® network operating systems.
- VMware, Windows, and Linux operating systems; local area network (LAN) and wide area network (WAN) design, operations, and support, such as printers, modems, scanners, routers, switches, and other network devices and various applications.
- Managing Microsoft Active Directory and Group Policies
- Various information technology platforms, operating systems, and software packages including police vehicle systems.
- Principles, procedures, practices, techniques, and nomenclature associated with intranet and internet development and maintenance.
- Computer and peripheral equipment maintenance methods and procedures.
- Modern office practices, methods, and equipment.
- Record keeping principles and procedures.

- English usage, grammar, spelling, vocabulary, and punctuation.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and City staff.

Ability to:

- Configure, integrate, and maintain assigned application(s) to meet business needs with or without vendor support.
- Install, configure, maintain, troubleshoot, and monitor physical and virtual network, server, and telecommunications infrastructure and systems.
- Install, configure, and administer LAN and WAN equipment, including modems, routers, switches, firewalls, and gateways.
- Install, configure, and administer current Novell® and Microsoft® network operating systems.
- Administer current Novell GroupWise® e-mail and calendaring system.
- Participate in system and infrastructure development, enhancement, and maintenance projects.
- Identify, research, and recommend cost-effective technical system and infrastructure improvements.
- Perform a variety of technical support functions in the installation, evaluation, configuration, operation, troubleshooting, and maintenance of computer hardware, software, servers, network and data communication, mobile, audiovisual, web based applications, and other related technologies and equipment.
- Prepare clear and concise technical documentation, user procedures, reports of work performed, and other written materials.
- Analyze and evaluate data, formulate proposals, and implement computer system plans.
- Establish and maintain a computer maintenance schedule.
- Write system procedures.
- Learn to use new and existing software and hardware.
- Deal tactfully with the customers and staff in providing information, answering questions, and providing customer service.
- Establish and maintain a variety of filing, record keeping, and tracking systems.
- Organize and prioritize a variety of multiple tasks in an effective and timely manner; organize own work, set priorities, and meet critical time deadlines.
- Use tact, initiative, prudence, and independent judgment within general policy and legal guidelines.
- Use English effectively to communicate in person, over the telephone, and in writing.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Education and Experience:

Any combination of training and experience that would provide the required knowledge, skills, and abilities is qualifying. A typical way to obtain the required qualifications would be

Equivalent to the completion of two years of college-level coursework in computer science, information technology or a related field and two (2) years of progressively responsible

experience in personal computer system installation and support, data communications hardware and software, design and installation of local area networks, and related technology.

Licenses and Certifications:

California drivers' license.

PHYSICAL DEMANDS

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer; vision to read printed materials and a computer screen; and hearing and speech to communicate in person and over the telephone. Standing in and walking between work areas is frequently required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment. Positions in this classification frequently bend, stoop, kneel, and reach to perform assigned duties, as well as push and pull drawers open and closed to retrieve and file information. Employees must possess the ability to lift, carry, push, and pull materials and objects up to 50 pounds with the use of proper equipment.

ENVIRONMENTAL ELEMENTS

Employees work in an office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances with occasional work outdoors.



**CITY OF SEASIDE
STAFF REPORT**

Item No.: 8.G.

TO: City Council

FROM: Lesley Milton-Rerig, Assistant City Manager

BY: Rick Riedl, City Engineer
Misty Bradshaw, Associate Engineer

DATE: October 3, 2019

**SUBJECT: ADOPT A RESOLUTION AUTHORIZING A CONTRACT
AMENDMENT TO BARTLE WELLS ASSOCIATES FOR
AMENDMENTS TO THE WATER RATES STUDY REPORT**

PURPOSE & RECOMMENDATION

Adopt a resolution authorizing amendment to the existing Bartle Wells Associates (Bartle Wells) for an amount not to exceed two thousand dollars (\$2,000.00) to prepare an amendment to the Water Rate Study Report.

BACKGROUND

On January 18, 2019 the City issued a formal Request for Proposal (RFP) to provide Professional Services to the Seaside Municipal Water System (SMWS) to perform a study to update the water rate and fee schedule. Even though the RFP outlined that qualified bidders must have experience in preparing capacity fee studies, it was not included in the original scope of work for the water rate study.

In February of 2019, the City entered into an agreement with Bartle Wells Associates (Bartle Wells) to prepare a water rate study for the Seaside Municipal Water System, and to propose recommendations in order to fund operational expenses and capital projects for the water system. The results of the study were summarized in a report titled "City of Seaside 2019 Water Rate Study" and dated September 13, 2019.

The report included a single proposed rate schedule outlining the proposed rate

increase needed as well as an application for a 20 year loan to support the operations and maintenance activities and funding the five year Capital Improvement Program.

On September 19, 2019, the City Council requested that Bartle Wells prepare an alternate rate schedule to reduce the first year increases to the customer's rates. Bartle Wells has agreed to facilitate the Council request to prepare an alternate rate study on a time and materials basis for a cost not to exceed two thousand dollars (\$2,000.00). The proposed scope of work does not include a presentation to City Council.

ENVIRONMENTAL COMPLIANCE

Per title 14 of the California Code of Regulations, Chapter 3, "Guidelines for Implementation of California Environmental Quality Act (CEQA)," section 15378.b, a project does not include government funding mechanisms or fiscal activities. The proposed project is categorically exempt.

FISCAL IMPACT

The proposed amendment is for an amount not to exceed two thousand dollars (\$2,000). The project shall be funded from the Fiscal Year 2019/2020 Budget with \$2,000 from "Subcontracted work" (401-8620-2073) where adequate funds are available.

The total contract value, including this amendment, for the Bartle Wells Professional Services Agreement for Updating the Water Rate Study, is for an amount not to exceed \$30,375.

ATTACHMENTS

1. Draft Resolution
 2. Amendment#2 Contract
-

RESOLUTION NO. 19-____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SEASIDE

AWARDING CONTRACT AMENDMENT #2 TO THE PROFESSIONAL SERVICES AGREEMENT WITH BARTLE WELLS ASSOCIATES TO UPDATE THE WATER RATE STUDY FOR AN AMOUNT NOT TO EXCEED \$2,000.

WHEREAS, water capacity fee studies are performed in order to support and assess fees imposed by the Seaside Municipal Water System (SMWS) on projects for new service connections; and

WHEREAS, on January 18, 2019, City staff issued a request for proposals (RFP) for consultants to perform a water rate study and Bartle Wells Associates (Bartle Wells) was determined to be the qualified consultant to perform the work; and

WHEREAS, on September 19, 2019, requested additional analysis of the water rate study that was not included in the original scope of work; and

WHEREAS, Bartle Wells stated that they are able to provide the requested professional services on a time and materials basis not to exceed two thousand dollars; and

WHEREAS, staff determined that Bartle Wells is qualified to perform the scope of work; and

WHEREAS, Per title 14 of the California Code of Regulations, Chapter 3, "Guidelines for Implementation of California Environmental Quality Act (CEQA)," section 15378.b, a project does not include government funding mechanisms or fiscal activities. The proposed project is categorically exempt; and

NOW, THEREFORE BE IT RESOLVED, that the City Council of the City of Seaside authorizes the City Manager to execute Contract Amendment No. 2 to the professional services agreement for the water capacity fee study with Bartle Wells Associates for an amount not to exceed two thousand dollars (\$2,000) to be funded from the Fiscal Year 2019/2020 Budget from "Subcontracted work" (Account #401-8620-2073).

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Seaside duly held on the 3rd day of October 2019 by the following vote:

AYES:	COUNCILMEMBERS:
NOES:	COUNCILMEMBERS:
ABSENT:	COUNCILMEMBERS:
ABSTAIN:	COUNCILMEMBERS:

Ian N. Oglesby, Mayor

ATTEST:

Lesley Milton-Rerig, City Clerk

**CONTRACT AMENDMENT #2
PROFESSIONAL SERVICES AGREEMENT
UPDATING THE WATER RATE STUDY
City of Seaside**

Date: September 23, 2019

Change Requested by: X City ___ Consultant

Contract Date

February 20, 2019

Project Name

AG 19-10: Updating the Water Rate Study

To (Consultant): Bartle Wells Associates

You are directed to make the following changes to the Contract Documents or amend the following described work not included in the contract documents for this project.

The purpose of this addendum is to provide additional professional services related to the project named above. The contract terms and conditions shall not be modified except for as stated herein.

MODIFY the following text in **Section 2, "Services."**

Consultant shall perform the tasks described and set forth in Exhibit A, and A1 attached hereto and incorporated herein as though set forth in full. Consultant shall complete the tasks according to the schedule of performance which is also set forth in Exhibit A and A1. In addition, Consultant shall complete the tasks associated with preparation of a revised water rate study to include an alternative water rate schedule.

MODIFY the following text in **Section 22, "Contents of Request for Proposal and Proposal."**

Consultant is bound by the contents of City's Request for Proposal, Exhibit "D" hereto and incorporated herein by this reference, and the contents of the proposal submitted by the Consultant, Exhibit E and A1 attached hereto.

Original Contract Amount	Previous CCO Total (Not including this CCO)	This CCO Total	Revised Contract Amount
\$19,425.00	\$8,950.00	\$2,000	\$30,375.00
Original Contract Time	Original Completion Date	CCO Time To Date (Including This CCO)	Revised Completion Date
10 Months, 11 days	December 31, 2019	12 months	December 31, 2020

**CONTRACT AMENDMENT #2
PROFESSIONAL SERVICES AGREEMENT
UPDATING THE WATER RATE STUDY
City of Seaside**

SUBMITTED BY:		
	Rick Riedl City Engineer / Public Works Director	9/26/19
Signature	Name and Title	Date
CITY APPROVAL BY:		
	Craig Malin City Manager	
Signature	Name and Title	Date
CONSULTANT ACCEPTANCE BY:		
	Douglas R. Dove President	
Signature	Name and Title	Date



**CITY OF SEASIDE
STAFF REPORT**

Item No.: 8.H.

TO: City Council

FROM: Lesley Milton-Rerig, Assistant City Manager

BY: Samantha Alcaraz Sakhrani, Human Resources Specialist
Roberta Greathouse, Human Resources Director/Risk Manager

DATE: October 3, 2019

**SUBJECT: ADOPT A RESOLUTION ADOPTING THE UPDATED
MEMORANDUM OF UNDERSTANDING WITH THE SEASIDE CITY
EMPLOYEES' ASSOCIATION**

PURPOSE & RECOMMENDATION

Adopt a resolution adopting the Memorandum of Understanding with the Seaside City Employees' Association as negotiated.

BACKGROUND

Representatives from the Seaside City Employees' Association and representatives of the City met on several occasions to discuss a successor Memorandum of Understanding. The meetings were very productive as the two sides worked collaboratively to find creative ways to meet the needs of both parties. The Association and the City collaborated on a variety of issues including providing incentives for those required to work special events and respond to emergency calls for service on holidays, managing the use of paid leave, and providing reasonable salary adjustments to encourage retention of existing staff and to attract new staff.

The terms of this agreement include:

1. Two Year Term: Contract expires June 30, 2020

2. General Salary Adjustments:

- a. 3% salary increase for all bargaining unit members on July 13, 2019.
- b. 2% salary increase for all bargaining unit members on July 11, 2020.

3. Deferred Compensation Match: Increase deferred compensation match from \$50 per month to \$100 per month.

4. Longevity Pay: Modify the longevity pay program to provide 2.5% longevity pay incentive on the 8th year of service and an additional 2.5% longevity incentive at 15 years of service. The 2.5% formerly provided at 10 years is eliminated.

5. Minimum Hours - members will be paid two hours minimum for working special events outside of their normal work hours. Members called back to work on a holiday will receive a minimum of four hours of overtime pay.

6. Dental and Vision Contributions: Bargaining unit members will follow the contribution schedule II (attached).

7. Tuition Reimbursement: Reimbursement for classes toward an AA increased from \$400 to \$500 and for a classes toward a BA/MA increased from \$600 to \$3,000 annually.

8. Other items: The MOU includes an updated policy regarding use of sick leave and pro-ration of holiday pay for new employees.

9. Aside from agreed upon clean up language, all other terms and conditions contained in the current MOU shall remain unchanged.

FISCAL IMPACT

It is estimated that the contract cost for Fiscal Year 2019/2020 will be approximately \$130,000. The terms of this MOU were not included in the Adopted 2019/2020 budget and any additional cost that is not able to be absorbed in the budget will be addressed at mid-year budget review.

ATTACHMENTS

- 1. Draft Resolution
-

- 2. Dental and Vision Contributions
 - 3. SCEA MOU 2021
-

Reviewed for Submission to the
City Council by:



Craig Malin, City Manager

RESOLUTION NO.

A RESOLUTION OF THE CITY OF SEASIDE

**ADOPTING THE MEMORANDUM OF UNDERSTANDING BETWEEN THE
CITY OF SEASIDE AND THE SEASIDE CITY EMPLOYEES' ASSOCIATION**

WHEREAS, pursuant to the provisions of the Meyers-Milias-Brown Act (Section 3500 et. seq., Government Code), representatives of the City Manager of the City of Seaside and the Seaside City Employees' Association, have met and conferred in good faith regarding wages, and other terms and conditions of employment; in an attempt to reach a Memorandum of Understanding; and

WHEREAS, the Seaside City Employees' Association, and the representatives of the City Manager of the City of Seaside have reached agreement with respect to matters herewith jointly set forth, and have developed a written understanding of such matters for the purpose of presenting it to the City Council of the City of Seaside for its determination; and

NOW, THEREFORE, BE IT RESOLVED, that the attached Memorandum of Understanding with the Seaside City Employees' Association shall be effective as stated therein; and

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Seaside duly held on the 3rd day of October 2019.

AYES: COUNCIL MEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:
ABSTAIN: COUNCILMEMBERS:

Ian N. Oglesby, Mayor

ATTEST:

Lesley Milton-Rerig, City Clerk

2019 Dental Plan Premiums

Contribution Schedule for 2018 Plan I (Confidential)

	Employee's Monthly Contribution	City's Monthly Contribution	Total Cost
Single	\$ 5.88	\$ 41.16	\$ 47.04
Emp +1	\$ 9.68	\$ 82.80	\$ 92.48
Emp + Children	\$ 10.76	\$ 91.64	\$ 102.40
Emp + Family	\$ 16.09	\$ 134.83	\$ 150.92

Effective October 5, 2019 - New SCEA Schedule Plan II (SPOA, SFFA, SCEA, and SMSEA)

	Employee's Monthly Contribution	City's Monthly Contribution	Total Cost
Single	\$ 4.61	\$ 42.43	\$ 47.04
Emp +1	\$ 7.04	\$ 85.44	\$ 92.48
Emp + Children	\$ 7.84	\$ 94.56	\$ 102.40
Emp + Family	\$ 11.81	\$ 139.11	\$ 150.92

2019 Vision Plan Premiums

Contribution Schedule for 2018 Plan I (Confidential)

	Employee's Monthly Contribution	City's Monthly Contribution	Total Cost
Single	\$ 2.90	\$ 5.05	\$ 47.04
Emp +1	\$ 5.74	\$ 5.78	\$ 92.48
Emp + Family	\$ 7.54	\$ 13.12	\$ 102.40

Effective October 5, 2019 - New SCEA Schedule Plan II (SPOA, SFFA, SCEA, and SMSEA)

	Employee's Monthly Contribution	City's Monthly Contribution	Total Cost
Single	\$ 2.44	\$ 5.52	\$ 47.04
Emp +1	\$ 5.52	\$ 6.00	\$ 92.48
Emp + Family	\$ 7.14	\$ 13.52	\$ 102.40

**Memorandum of Understanding
Between the City of Seaside
And
The Seaside City Employees' Association**

July 1, 2019 – June 30, 2021

**MEMORANDUM OF UNDERSTANDING BETWEEN THE
CITY OF SEASIDE AND THE
SEASIDE CITY EMPLOYEES' ASSOCIATION**
July 1, 2019 – June 30, 2021

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MEMORANDUM OF UNDERSTANDING BETWEEN THE
CITY MANAGER OF THE CITY OF SEASIDE AND THE SEASIDE CITY EMPLOYEES
ASSOCIATION

July 1, 2019 – June 30, 2021

We, the undersigned, duly appointed representatives of the City of Seaside and of the Seaside City Employees Association, a recognized employee organization, hereinafter referred to as "City" and "Union" represented by Laborers International Union of North America, Local 270, AFL-CIO, having met and conferred in good faith in accordance with the Meyers-Milias-Brown Act, (government Code Section 3500 et. seq.) do hereby jointly prepare and execute the following written Memorandum of Understanding. It is understood that the provisions herein set forth supersede previous Memoranda of Understanding between the City and Union, and apply to the City of Seaside non-management miscellaneous employees designated to be represented by the Union.

SECTION 1: TERM

The provisions of the Memorandum of Understanding shall become effective July 1, 2019, and shall remain in effect for a period, terminating on June 30, 2021.

SECTION 2: SALARY AND ADMINISTRATION OF PAY PLAN

A. Direct Pay for Services:

1. Salary Adjustments:

- a. Effective July 13, 2019, all bargaining unit members will receive a 3% base salary increase.
- b. Effective July 11, 2020, all bargaining unit members will receive a 2% base salary increase.

2. Longevity Pay:

- a. Effective October 5, 2019, bargaining unit members with eight or more years of service shall receive longevity pay in the amount of 2.5% of the member's Base Salary Rate.
- b. Effective October 5, 2019, bargaining unit members with fifteen or more years of service shall receive longevity pay in the amount of an additional 2.5% of the member's Base Salary Rate (total of 5%).

B. Overtime

1. Pre-Approval:

Requests for overtime that can be scheduled should be pre-approved by the Department Head or designee. Overtime not possible to schedule in advance and necessary for public safety and welfare shall be worked at Department Head discretion, subject to City Manager review.

2. Minimum Overtime Guarantee:

When an employee is called back to work on an emergency basis, the actual time worked, with a minimum of two (2) hours, paid at time-and-a-half the City's calculated straight-time overtime rate, shall be earned.

When an employee is called back to work on an emergency basis on any City holiday, the employee shall be paid a minimum of four (4) hours paid at time-and-a-half the City's calculated straight-time overtime rate, shall be earned.

Special Events: When an employee is scheduled to work a special event outside their regular working hours, they shall be compensated with a minimum of two (2) hours paid at time-and-a-half the City's calculated straight-time overtime rate, shall be earned.

3. Overtime Calculation:

Hours actually worked in excess of 40 per week shall be paid at time-and-a-half the City's calculated overtime rate, which will be no less than the regular rate of pay as that term is defined in the Fair Labor Standards Act (FLSA). Hours worked in excess of an employee's shift that are not FLSA overtime hours shall be paid at time-and-a-half the City's calculated straight-time overtime rate. All employee overtime shall be earned in increments of one-quarter (1/4) hour.

4. FLSA Work Period / Work Week

For employees on 5/8 or 4/10 work schedules, the work period for FLSA overtime purposes begins on Saturday at 12:00 am and ends on Friday at 11:59 pm and regularly recurs. For employees on 9/80 work schedules, the work period for FLSA overtime purposes begins four hours into each employee's alternating eight hour shift.

5. Maximum Compensatory Leave Balance:

Compensatory time off may be granted instead of overtime pay only where requested by the employee and approved by the Department Head. Personnel represented by SCEA may accrue up to a maximum of 100 hours of compensatory time in lieu of overtime. An employee may utilize compensatory time off if the employee's request is made reasonably in advance of the date(s) requested and approved by the Department Head or designee unless the requested time off would unduly disrupt the operations of the Department.

6. Holiday Calculation:

For the purpose of overtime calculations during the workweek in which holidays **other than** Martin Luther King and Fourth of July fall, holiday time shall count as time worked.

7. *Martin Luther King & July 4th Calculation:*

For the purpose of overtime calculations during the workweek in which the Martin Luther King and Fourth of July Holidays fall, all time in paid status shall count towards time worked.

8. *Festival of Patriots Parade:*

Bargaining unit employees required to work the day of the Festival of Patriots Parade shall receive time and one half the City's calculated overtime rate for all hours worked. This premium is limited to time worked on this particular event and does not apply to any other regularly scheduled workdays.

C. Special Pay

1. *Certification/License Incentive Pay:*

- a. Employees who obtain and maintain one of the following licenses or certificates, or others approved in writing by the City Manager, which enhances the employee's ability to do his or her job, shall receive premium pay in the amount of 5% of the employee's base salary. The premium pay is not stackable and shall not exceed 5% of the employee's base salary regardless of the number of certifications or licenses held.
 - i. Class B Drivers' License
 - ii. Collections System Certification
 - iii. Backflow Testers Certification
 - iv. Water Treatment Certification
 - v. Water Distribution Certificate
 - vi. Qualified Pesticide Applicator's Certification
 - vii. State Certified Electrician
 - viii. International Society of Arboriculture – ISA Certified Arborist
 - ix. National Recreation and Park Association – Certified Playground Safety Inspector (CPSI)
 - x. California State Fire Marshal - Fire Mechanic I
- b. An employee is eligible for the certification/license pay only where the license or certification is issued by a State agency or approved accrediting organization following a program of instruction or training undertaken by the employee as determined and approved by the Department Head.
- c. Employees are ineligible for certification/license pay for any certificate or license which the employee is required to maintain as a minimum job requirement as outlined in the job description for the classification.

2. *Spanish Bilingual Pay Program*

- a. A 2 ½% premium above base pay will be granted to an employee who speaks the Spanish language in the course and scope of his or her job duties after successful completion of City provided testing and approval of the City Manager.
- b. Upon recommendation of the department director, and approval of the City Manager, an employee required to read and write in Spanish in the course and scope of his or her job duties will be provided a 2 ½% premium above base pay after successful completion of City provided testing.
- c. This program is subject to administrative direction and to City established procedures and formal testing. The City will use Language Testing International (LTI) or another suitable and appropriately certified testing organization.
- d. Granting and removal of this premium is within the sole discretion of the City. Removal of this premium shall not be considered disciplinary action.
- e. Unless recommended by the employee's department director, and approved by the City Manager, bilingual pay will be for Spanish only.
- f. No employee shall be eligible for bilingual pay in excess of 5% above base pay.

3. *Temporary Upgrade Pay:*

- a. Employees who are assigned to perform a majority of the duties of a position within a higher classification from that in which they are regularly employed shall receive the compensation specified for that position to which assigned, if performing the duties thereof for a period of fourteen (14) calendar days.
- b. Said increased compensation should be at the lowest step of the higher classification which will accord such employee an increase of at least five (5) percent over his/her current regular compensation.
- c. The assignment shall be confirmed in writing by the Manager.
- d. Acceptance of an interim assignment to a higher position of thirty (30) or more days shall require mutual written assent of the City and employee.

4. On-Call/Standby Pay:

All employees assigned to be on call shall be paid 14 hours of base salary rate per week. If an employee is unable to complete their full week of on-call, the time shall be prorated on a daily basis.

D. Administration of Pay Plan:

1. Anniversary Date

- a. The anniversary date for each employee is the date he/she is hired, reclassified, or promoted.
- b. The anniversary date of any employee shall be adjusted, or changed, in the case of a leave of absence, by moving said anniversary date forward a time equal to the length of such leave of absence, except family care or medical leave, according to the Family Medical Leave Act or California Family Rights Act and military leaves of absence in accordance with the California Military and Veterans Code and Title 38, chapter 43, U.S. Code. Whenever any employee is absent from work without pay for any period exceeding thirty (30) continuous days, the anniversary date of said employee shall be adjusted by moving said anniversary date forward a time equal to the length of absence from work.
- c. The anniversary date of any employee shall be adjusted by moving said date forward a time equal to any delay in movement through the steps of the salary range put forth below.

2. Salary Ranges

The five (5) steps of each salary range shall be interpreted and applied as follows:

- a. The first step is the minimum rate and shall normally be the hiring rate for the class. In cases where it is difficult to secure qualified personnel, or if a person of unusual qualifications is engaged, the City Manager may hire at a higher step.
- b. The second step is the rate at which a fully qualified, experienced, and conscientious employee may expect to advance to following the completion of six (6) months satisfactory service in the first step and upon written recommendation of the Department Head and approval by the City Manager.
- c. The third step is the rate at which a fully qualified, experienced, and conscientious employee may expect to advance to following the completion of twelve (12) months satisfactory service in the second step and upon written recommendation of the Department Head and approval by the City Manager.

- d. The fourth step is the rate at which a fully qualified, experienced, and conscientious employee may expect to advance to following the completion of twelve (12) months satisfactory service in the third step and upon written recommendation of the Department Head and approval by the City Manager.
- e. The fifth step is the rate at which a fully qualified, experienced, and conscientious employee may expect to advance to following the completion of twelve (12) months satisfactory service in the fourth step and upon the written recommendation of the Department Head and approval of the City Manager.
- f. Notwithstanding the foregoing provisions of this Section, an employee who is promoted or reclassified from one classification to a higher classification, or from a flat salary to classification having a higher overlapping salary range, shall be adjusted:
 - i. To the step in their new range, which shall provide an increase in his/her salary, except that they shall not retain credit for the time served in his/her former step. If the step in the new range is the first step, the employee shall remain in that step for six (6) months before becoming eligible for advancement to the second step.
 - ii. If from a flat salary to a range, to the lowest step in his/her new range or classification that exceeds his flat salary.
- g. General adjustments in salary ranges made by general increases or decreases shall be made by adjusting all classes upward or downward to the appropriate salary range herein provided. Where the salary range for a given class or for several classes is revised upward or downward the employees shall have their existing salary adjusted to the same step in the new range.
- h. In any case where, by reason of unusual circumstances, rigid adherence to the forgoing principles related to salary adjustments would cause a manifest injustice, the City Manager may make such order relating thereto as in his/her discretion is proper.
- i. Rates of compensation provided for by resolution are fixed on the basis of full-time service in full-time positions for the schedule of hours indicated. If any position provided for in the budget is by appropriate language specified or indicated as being for less than full-time services, the rate of compensation provided for such positions shall be adjusted accordingly, except those employees indicated in this resolution as working part-time or on a retainer, in which case they shall draw the full salary indicated. If the present adjustments shall be made in the rates, the step plan shall apply to part-time salaried as well as full-time salaried employees.

- j. Changes in pay rates shall be made on the first day on the pay period next following the date of eligibility and authorization.

SECTION 3: BENEFITS

A. Retirement:

1. CalPERS Classic Plan

- a. Employees hired prior to January 1, 2013 will receive the CalPERS 2% @ 55 Miscellaneous Members retirement plan. The 2% @ 55 plan will also be provided to City employees hired on or after January 1, 2013 who are considered to be "classic" members under the California Public Employees' Pension Reform Act (PEPRA) as determined by CalPERS.
- b. Employee Contribution: Employees enrolled in the 2% @ 55 plan shall pay the full employee member contribution required by CalPERS.

2. CalPERS PEPRA Plan

- a. New employees hired on or after January 1, 2013 who are "new members" under the PEPRA as determined by CalPERS will be enrolled in the 2% @ 62 Miscellaneous Members retirement plan.
- b. As required by PEPRA, employees enrolled in the PEPRA plan shall pay 50% of the "normal cost" of the retirement plan as determined annually by CalPERS.

3. CalPERS Survivor Benefits

- a. The City provides for 1959 Survivors Benefit Level Four. The employee cost is \$2 per month.

2. Laborer's International Union of North America National (Industrial) Pension Fund for Unit Employees hired on or before December 31, 2012

- a. All Bargaining Unit Employees hired on or before December 31, 2012:
 - i. The City will continue to contribute to the Pension Fund on behalf of bargaining unit employees who were hired on or before December 31, 2012 as outlined herein. The City will not offer or contribute to the Pension Fund for any bargaining unit employee hired on or after January 1, 2013.

- ii. The Pension Fund's Preferred Rehabilitation Schedule for contributions has been adopted by the City and SCEA. Such adoption was concurrently memorialized in writing between the City, SCEA and the Pension Fund.
- iii. If the amount of employer contribution required by the Pension Fund increases after April 1, 2011, such increase shall be paid by the City *in lieu of* salary or wages of the bargaining unit employee and shall be encompassed within the authorized gross wage/salary reductions set forth in subparagraphs a.iii. and b.ii. below.

b. **Employees hired prior to July 1, 2010:**

- i. For all bargaining unit employees hired by the City prior to July 1, 2010, the City will pay, in addition to the employees' wages, the sum of \$1.00 per credited hour per employee with a cap of \$40.00 per work week. The contribution per credited hour means every hour an employee is credited with service under the Pension Fund up to 40 hours per work week.
- ii. The City will also pay, on behalf of bargaining unit employees hired prior to July 1, 2010, the sum of \$.65 per credited hour per employee with a cap of \$26.00 per work week *in lieu of* salary or wages of the employee effective April 1, 2011.
- iii. Bargaining unit employees hired prior to July 1, 2010 will be subject to a gross wage/salary reduction of \$.65 per credited hour, up to \$26.00 per work week, in order that the additional contribution of \$.65 per credited hour in lieu of salary or wages will be recognized. Such reduction is expressly authorized herein pursuant to Labor Code section 224.

c. **Employees hired between July 1, 2010 and December 31, 2012:**

- i. For all bargaining unit employees hired by the City on or after July 1, 2010 and before January 1, 2013, the City will contribute the minimum employer contribution amount required by the Pension Fund per credited hour per employee up to 40 hours per work week *in lieu of* salary or wages of equal amount. As of April 1, 2011, such amount is \$1.65 per credited hour, per employee up to \$66.00 per work week *in*

lieu of salary or wages. The contribution per credited hour means every hour an employee is credited with service under the Pension Fund up to 40 hours per work week.

- ii. Bargaining unit employees hired on or after July 1, 2010 and before January 1, 2013, will be subject to a gross wage/salary reduction of the minimum employer contribution required under the Pension Fund (\$1.65 per credited hour, per employee up to \$66.00 per work week as of April 1, 2011), in order that the contributions in lieu of salary or wages will be recognized. Such reduction is expressly authorized herein pursuant to Labor Code section 224.

4. Deferred Compensation:

The City will pay up to fifty dollars (\$50) per month to the ICMA deferred compensation program for each employee who makes a matching contribution. Beginning October 5, 2019, the City will pay up to \$50 per month to the ICMA program for each employee who makes a matching contribution.

For calendar year 2020, in order to off-set increases to the City's medical plan premiums, members may use \$50 toward health insurance premium increases in-lieu of deferred compensation matching. No cash will be returned and the employee must elect to use the \$50 toward medical or deferred compensation – not both.

B. Medical, Dental, and Vision Insurance:

Eligible bargaining unit employees will be provided with medical, dental, and vision insurance as specified in this section. Benefits to eligible family members will be made available under the health insurance plan. The City's contribution will be made only when an employee is in a paid leave status or on an approved protected leave (such as FMLA/CFRA).

1. Contributions

The City's contributions for medical, dental, and vision coverage shall be as follows:

- a. MCSIG PPO \$40 (70/30 Plan).
The City will pay 100% of the employee only premium and 90% of the dependent premium. This will be the base contribution amount for all plans except the Grandfathered PACE Plan.
- b. MCISG PPO \$25 (80/20 Plan).

SCEA Members electing to participate in the MCSIG PPO \$25 (80/20 Plan) will pay the difference between the City's contribution for the PPO \$40 Plan and the PPO \$25 Plan premium.

- c. PACE Plan (90/10 Plan) – Employees hired after October 15, 2015.

New employees enrolling in the PACE 90/10 Plan will pay the difference between the City's contribution for the PPO \$40 plan and the PACE Plan premium.

- d. PACE Plan (90/10 Plan) – Grandfathered Tier – open to employees hired before October 15, 2015.

The City will pay 81% of the employee only premium; 70% of the employee + 1 premium; and 73% of the family premium.

- e. Kaiser High and Mid Plan.

SCEA Members electing to participate in a Kaiser Plan will pay the difference between the City's contribution for the PPO \$40 Plan and the Kaiser plan premiums. In the event the Kaiser plan premium is lower than the MCSIG PPO \$40 plan, no cash-in-lieu will be provided.

- f. The City will split the cost of any increase or decrease in dental and vision premiums with the employee on a 50/50 basis.

2. *Retiree Medical:*

- a. Eligibility: Only bargaining unit members hired on or before June 30, 2010 are eligible for City-paid retiree medical insurance.
- b. Notwithstanding the requirements of the City's Health and Welfare Plan to be eligible for retiree medical coverage, and subject to available coverage under the City's plan, the City shall pay the employee's (not dependents) cost of medical insurance in an amount not to exceed the monthly premium for the City's insurance plan for retirees who retire on regular service or disability retirement for employees represented by SCEA until age 65.
- c. Employee may cover spouse by paying the monthly premium.
- d. In the event that coverage is not available under the City's plan, and where an eligible employee elects to continue health coverage under COBRA, the City shall contribute to that COBRA payment an amount not to exceed the monthly premium for the City's health insurance plan for the period of time of COBRA eligibility or up to age 65, whichever is less.
- e. Employees must have ten years of continuous service with the City, have been hired on or before June 30, 2010, and be at least 50 years of age to receive this benefit.

- f. The City complies with all Federal and State guidelines regarding medical and dental insurance. This compliance includes continuation of benefits under COBRA.

C. Life Insurance:

The City will provide term life insurance for all bargaining unit employees in the amount of \$50,000.

D. Short-Term Disability:

The City agrees to help facilitate the Association's enrollment in California State Disability Insurance (CASDI), or an alternate STD Plan, should the Association express an interest in doing so. Member's electing to participate in an STD plan will be responsible for 100% of the premium.

E. Long-Term Disability:

The City and the employee shall share equally the cost of a long-term disability program.

F. IRS Section 125 Plan:

The City shall provide an Internal Revenue Code Section 125 Plan for medical care and dependent care expense reimbursement. The annual maximum is set by the IRS.

G. Uniform Allowance:

- a. Code Enforcement Officers required to wear uniforms will receive a uniform allowance of \$63 per month. The City will not provide uniform replacement and/or maintenance.
- b. The City will provide uniforms for all bargaining unit employees assigned to the Maintenance and Utilities Division who are required to wear a uniform. Effective July 1, 2015, the parties agree that the value of the uniforms provided shall be considered to be \$50.00 per month.

H. Safety Equipment:

1. Safety Boot Allowance:

The City will pay up to a maximum of \$250 per employee per fiscal year for safety shoes or resoling of existing safety shoes for all members required to wear safety toe shoes. This allowance shall only be used to purchase new safety shoes or resole existing shoes. Bargaining unit members can purchase boots using the City's account at Redwing Shoes in Monterey, or they can purchase boots at any vendor they choose and submit a receipt to their supervisor for reimbursement.

2. Safety Glasses:

On an annual basis and upon submission of a written request and recent prescription, Maintenance & Utilities Division employees required to wear safety

glasses may request prescription safety glasses. The Maintenance & Utilities Superintendent will order the safety glasses. The cost will not exceed \$250.

I. Mileage Reimbursement:

With the approval of the Department Head, the City shall reimburse employees required to use their personal vehicles for the purpose of conducting City business at a rate based upon IRS mileage rates.

J. Wellness Program:

1. Health Club Membership:

The City will pay up to \$45 per month towards an employee membership at a health club upon submission of receipt of contract to the Finance Department. Dues will be processed by payroll deduction if administratively feasible. To be eligible for reimbursement, requests for reimbursement must be received by Finance no later than 90 days from the date of service.

2. City Swimming Pool:

Association employees and their families will have use of City swimming pool at no cost to the employee. Employees may have resident's fee and early-bird sign up for swim classes.

3. No Smoking Agreement:

In the spirit of employee health and wellness, the parties agree to a no smoking policy. The City of Seaside will strive to hire non-smokers and vigorously encourage current employees who smoke to quit.

SECTION 4: LEAVE PROVISIONS

In order to be eligible to earn leave or paid time off under this section, an employee must be in a paid leave status for the majority of the pay period.

A. Vacations

1. Accrual:

All regular employees shall earn vacation as follows:

- a. During the first, second, third, and fourth years of employment, vacation will be earned at the rate of six and two thirds ($6 \frac{2}{3}$) hours per month or ten (10) days per year.
- b. During the fifth, sixth, seventh, eighth, and ninth years of employment, vacation will be earned at the rate of ten (10) hours per month or fifteen (15) days per year.
- c. During the tenth, eleventh, twelfth, thirteenth, and fourteenth years of employment, vacation will be earned at the rate of eleven and one third ($11 \frac{1}{3}$) hours per month or seventeen (17) days per year.
- d. During the fifteenth, sixteenth, seventeenth, eighteenth, and nineteenth years of employment, vacation will be earned at the rate

of thirteen and one third (13 1/3) hours per month or twenty (20) days per year.

- e. During the twentieth, twenty-first, twenty-second, twenty-third, and twenty-fourth years of employment, vacation will be earned at the rate of fourteen (14) hours per month or twenty-one (21) days per year. During the twenty-fifth year and thereafter vacation will be earned at the rate of 14.667 hours per month or twenty-two (22) days per year.

2. *Vacation During Initial Probation:*

Use of vacation time by an employee shall be conditional upon the completion of six (6) months continuous service with the City, but if for any reason prior to the completion of six months service with the City, such employee's employment is terminated, he/she shall be credited with and paid for vacation time.

3. *Minimum Leave Event:*

Vacation shall not be used in increments of less than one-quarter (1/4) hour.

4. *Vacation and Holidays:*

For regular employees, if a holiday falls within a scheduled vacation period, on a day that the employee would normally work, that day shall not be counted a vacation day.

5. *Vacation Upon Termination:*

Any employee, upon termination of City employment for any reason, who is entitled to vacation time and who has not had the same, shall be paid at his/her current base salary rate for such vacation time on the effective date of such termination. If such person works over one-half (1/2) of the month, they shall be entitled to accumulate vacation for that month.

- a. Calculation of Base Salary Rate for Payout: For employees working a five (5) day or modified schedule, the method for computing the base salary rate for accumulated vacation time shall be as follows:
 - i. Base salary rate equals monthly salary multiplied by twelve (12) months divided by 52 weeks multiplied by 40 hours.

6. *Maximum Accumulation:*

Employees represented by SCEA, will be allowed to have no more than two years earned vacation accumulated as of the end of the 2nd pay period of January of any year. Payout for leave in excess of maximum will occur on the 1st pay period of March. It shall be management's right and responsibility to see that the employee does not exceed the maximum.

7. *Vacation Cash-Out:*

The City will allow association members to cash out 40 hours of accumulated vacation time as set forth in this section. On or before the pay period which

includes December 15 of each calendar year, an employee may make an irrevocable election to cash out up to forty (40) hours of accrued vacation (in whole hour increments) which will be earned in the following calendar year at the employee's base salary rate. On the pay day of the first pay period in November of the calendar year following election of the cash out, the employee will receive cash for the amount of vacation the employee irrevocably elected to cash out in the prior year. However, if the employee's vacation leave balance is less than the amount the employee elected to cash out (in the prior calendar year) the employee will receive cash for the amount of leave the employee has accrued at the time of the cash out. This cash out provision is voluntary on the part of each bargaining employee, and does not change the practice of maintaining a maximum of two years of vacation accumulation at the end of any calendar year.

8. Compensation in Lieu of Time Off:

The City Manager may, in instances where the needs of the City require, authorize compensation in lieu of time off for accrued vacation.

9. Accumulation during OJI Leave:

An employee being paid because of an injury on-the-job will accumulate vacation time and sick leave.

10. No Interruption of Accumulation:

No interruption in the accumulation of vacation time shall result when an employee takes sick leave, vacation, temporary military leave, or paid leave because of an on-the-job incurred illness or injury.

B. Sick Leave with Pay for Non-Job Related Illness, Injury or Disability

1. Accrual:

Each full-time employee in SCEA, shall earn eight (8) hours sick leave with pay for each calendar month or major fraction thereof served.

2. Employee Illness or Injury:

Sick leave with pay will be granted only upon the approval of the Department Head in case of bonafide illness of an employee, including the diagnosis, care, or treatment of an existing health condition of, or preventive care. If the need for paid sick leave is foreseeable, the employee shall provide reasonable advance notification. If the need for paid sick leave is unforeseeable, the employee shall provide notice of the need for the leave as soon as practicable.

After the first three days of sick leave per fiscal year, evidence may be required in the form of a physician's certificate or otherwise to verify an employee's absence during the time for which sick leave is requested. All employees requesting sick leave for more than three consecutive days and for the sixth day of sick leave in a fiscal year will be required to submit a physician's certification upon their return to work.

Sick leave may also be used by an employee who is a victim of domestic violence, sexual assault, or stalking, to obtain any relief or services related to being a victim of domestic violence, sexual assault, or stalking with appropriate certification of the need for such services.

Any employee taking leave that qualifies under the City's Family Care and Medical Leave/California Family Rights Act Policy will complete and submit all required forms.

3. Sick Leave Upon Rehire

If an employee separates from City employment and is re-hired by the City within one year of the date of separation, previously accrued and unused paid sick leave hours shall be reinstated to the extent required by law.

4. Minimum Leave Event:

Sick leave shall not be used in increments of less than one-quarter (1/4) hour.

5. Illness/Injury During Vacation:

When an illness or injury requiring doctors treatment, and/or hospitalization occurs during an employee's vacation or approved leave of absence with pay, and the injury or illness is a nature that would prohibit the employee from performing his/her duties, the employee shall submit a memorandum giving full and complete information as well as a doctor's verification to their respective department head for a determination that such time off will be charged to sick time rather than to vacation time.

6. Family Sick Leave:

Employees may use sick leave for any leave covered by the Family Care and Medical Leave Act or the California Family Rights Act, including covered absences to care for a family member. For absences not covered by the Family and Medical Leave Act or the California Family Rights Act, employees shall be allowed up to six months' accrual of sick leave (six days or 50% of the annual accrual) to attend to an illness of a child, parent, spouse, or domestic partner of the employee in accordance with the California Labor Code section 233 regarding kin care.

Sick leave may be used for the illness or injury of an employee's family member. A family member shall be defined as parent (including biological, adoptive, or foster parent, stepparent, or legal guardian of an employee or the employee's spouse or registered domestic partner, or a person who stood in loco parentis when the employee was a minor child), child (including a biological, adopted, or foster child, stepchild, legal ward, or a child to whom the employee stands in loco parentis), spouse or domestic partner, grandparent, grandchild, and sibling.

7. Bereavement Leave:

Bereavement leave, to a maximum of three (3) working days, will be permitted, without charging such leave against sick leave, upon the death of a member of the employee's immediate family. Immediate family is defined as a parent, child, spouse or domestic partner, brother, sister, grandparents, father-in-law, and mother-in-law of the employee. Employees may use an additional 16 hours of sick leave to extend said leave.

8. Personal Leave:

During the month of November each year, bargaining unit members hired before March 3, 2017, shall have the option to transfer a maximum of forty-eight (48) hours of accumulated sick time to personal leave. A minimum sick leave balance of 120 hours must be maintained in order to be eligible to convert sick leave to personal leave. For example, an employee who has 150 hours of sick leave on the books at the time of the election will be eligible to convert up to 30 hours of sick leave to personal leave. Accumulated personal leave shall not be greater than forty-eight (48) hours at the end of any calendar year. Sick leave converted to personal leave under this section has no cash value. Any leave accumulated beyond 48 hours must be used within the calendar year that the conversion occurred or it will be forfeited. Bargaining unit members hired on or after March 3, 2017, are not eligible for Personal Leave.

C. On-The-Job Injury Leave:

1. Leave of Absence:

Whenever an employee who is represented by Seaside City Employees Association is disabled by injury or illness arising out of and in the course of his/her duties, he/she shall become entitled to a leave of absence without loss of salary for a period not to exceed three (3) months in any five (5) year period.

2. Leave Accrual:

An employee on leave of absence under this Section will continue to accumulate sick leave and vacation leave.

3. Temporary Disability Benefits:

The employee shall draw full salary under OJI leave, and the City will take credit for any temporary disability payments. Once OJI leave is exhausted, an employee on leave without pay would be entitled to temporary disability in accordance with State Worker's Compensation law.

4. Use of Accumulated Leaves:

Once OJI leave has been exhausted, accumulated leaves may be used to supplement temporary disability payments.

D. Holidays

1. Regular Holidays:

Employees shall be entitled to the following holidays:

- First day of January (New Year's Day)
- Third Monday in January (Martin Luther King Observance)
- Third Monday in February (President's Day)
- Thirty-first day of March (Cesar Chavez Day)
- Last Monday in May (Memorial Day)
- Fourth day of July (Independence Day)
- First Monday in September (Labor Day)
- Eleventh day of November (Veteran's Day)
- Fourth Thursday of November (Thanksgiving Day)
- Day following Thanksgiving Day
- Working day immediately preceding Christmas Day (Christmas Eve)
- Twenty-fifth day of December (Christmas Day)

2. Holiday Calculation:

Holidays shall be calculated on an eight (8) hour workday.

3. Memorials:

Upon Council approval, every day appointed by the Governor of the State, the President of the United States, or the City Council as a memorial, public fast, thanksgiving, or holiday.

4. Holidays on Sunday

When a holiday falls on a Sunday, the following Monday shall be recognized as that holiday.

5. Holidays on Saturday:

When a holiday falls on a Saturday, the preceding Friday shall be recognized as that holiday.

6. Floating Holidays:

Each calendar year, bargaining unit members shall receive two floating holidays (16 hours). Floating holiday time has no cash value and must be used before December 31st each year or it is forfeited.

- a. Initial Accrual: For newly hired employees, the initial floating holiday accrual shall be prorated in accordance with the following schedule:
 - i. Hired January 1 – March 31: 16 hours
 - ii. Hired April 1 – June 30: 12 hours
 - iii. Hired July 1 – September 30: 8 hours
 - iv. Hired October 1 – December 31: 0 hours

E. Jury and Election Duty:

1. Jury Duty:

The City will grant an employee leave with pay for jury duty. Any checks received from the courts must be submitted to Finance. Travel pay which is included in the check, will be returned to the employee. This rule is also applicable to those employees serving on the Grand Jury.

2. Election Duty:

The City will provide election duty leave for sworn election workers providing the supervisor authorizes the leave request and the employee remits any election duty pay

SECTION 5: WORKING CONDITIONS

A. Continuing Education and Professional Growth:

All association members shall be eligible for the City's Educational Incentive Programs.

1. Tuition Reimbursement:

- a. Employees wishing to receive reimbursement for tuition and book expenses must request prior approval from their Department Head. Classes will be approved for reimbursement so long as they are determined to be job related, or required as a part of a degree program. Disputes regarding course approval will be submitted to the Human Resources Director.
- b. The City will encourage enrollment through a tuition and book reimbursement with a maximum of \$500 per fiscal year for Certificate Program and AA plan and \$3,000 per fiscal year for BA and MA plan. Qualifying certificate programs include professional certifications and licenses so long as attendance is pre-approved by the Department Director or her/his designee.
- c. After completing the course with a grade of "C" or better ("Pass" or attainment of a license or certificate of achievement for classes that are not graded), proof of completion of course work requirements shall be submitted to the employee's department head indicating the specific courses and credits completed, together with transcripts or other documentation as may be required by the Human Resources Director. This information shall be submitted on forms provided by the Human Resources Office.

2. Educational Incentive Pay:

- a. Completion of an accredited educational certificate program, other than those certificate or license programs set forth in Section 2.C. above (Special Pay), or 30 units toward an approved degree program – 1.5% above base pay.

- b. Completion of AA/AS degree – 3% above base pay.
- c. Completion of BA/BS degree – 4.5% above base pay.
- d. Completion of MA/MS degree – 6% above base pay.
- e. Educational incentive pays are not cumulative (stackable). The maximum salary increment attainable under this program is 6%.
- f. All employees enrolled in an Educational Incentive Program Plan as of the date of this agreement shall be able to continue under the terms of the approved program.
- g. Education acquired prior to appointment as an employee of the City of Seaside does not qualify under this program unless the employee submits verification that the college or university has accepted prior education as part of the Educational Incentive Pay Plan for a Certificate Program or degree requirements.
- h. An employee who wishes to enroll in a school, college, or university for the purpose of fulfilling the educational requirement shall do so on his/her own time.

3. Requalification

Requalification of two units over a four-year period will be established to maintain the policy of "Continuing Education and Professional Growth."

B. Service Awards:

A committee, made up of members of the various bargaining units, shall be formed to select a new service award program. At a minimum, the program shall include service awards presented to employees after every 5 years of full-time service with the City. Recipients of service awards will be recognized by the City Council.

C. Employee Incentive Pay:

- a. All employees shall be eligible for Employee Incentive Pay for cost saving suggestions. Employees wishing to apply for incentive pay will submit their suggestion to the Employee Task Force for review. The Task Force will coordinate with the appropriate City departments/divisions to determine the acceptability of the cost-saving suggestion and establish remuneration.
- b. A cost saving suggestion resulting in a one-time saving would be evaluated for a one-time bonus. This bonus may range from \$5.00, up to and not to exceed \$25.00. A cost saving suggestion resulting in an annual saving of a substantial amount of money would be evaluated for an annual bonus of \$100.00.

D. Work Schedule:

Bargaining unit members shall work a 40 hour work week. The work schedule shall be defined by the Department Head. Consistent with City past practice Department Heads shall consider alternative work schedule requests and approve where such alternative schedules meet the best interests of the City. Alternative work schedules can include 4/10 work schedules or 9/80 work schedules. The Department Head has the sole discretion to decide whether to approve or deny such alternative schedules.

E. Notice of Layoff:

The City and the SCEA agree to provide 60 days' notice of "Intent to Layoff" to the employee and SCEA.

F. SCEA Meetings:

Members of the SCEA who attend the association meetings will be given a one-hour unpaid lunch break.

G. Union Membership Communication:

1. New Employee Orientation

This shall apply to employees hired after the date of this Agreement who are appointed to a classification within the bargaining unit for which the Union is recognized as the exclusively recognized employee organization.

Within the first thirty (30) days of a new employee's date of hire, the Union's designated employee representative and the new employee will be granted thirty (30) minutes of release time for the Union to present the employee with Union membership information. To the extent practical, the Union will be provided not less than 10 calendar days' advanced notice of the time, date and location of the orientation and the Union will be afforded time to meet with the employee immediately following the City's new employee orientation. Should the employee's or Union's designated employee's schedules preclude conducting the orientation at the same date and time as the City orientation, the Human Resources Department will facilitate a date and time for the Union orientation. Attendance of the new employee at the Union's portion of the orientation is mandatory. Management representatives will excuse themselves during the Union portion of the orientation. Employee representatives conducting orientation shall be granted paid release to do so including reasonable travel time if needed.

2. Membership Information Provided to Union

- a. Within 30 days of the employee's hire date, the City will provide the Union with a copy of the Membership Enrollment Form that contains the information required by AB 119.

- b. On an annual basis, in January, May, and September, the City will provide the Union with a report containing represented employees name, job title, department, work location, work, home, and personal cellular numbers, home address, and personal email addresses on file with the City.
- c. The City shall not be required to supply information it does not have.
- d. Notwithstanding the foregoing, limited to the express purpose of AB 119 requirements only, an employee may opt out via written request to the City (copy to the Union) to direct the City to withhold disclosure of the employee's:
 - Home address.
 - Home telephone number.
 - Personal cellular telephone number.
 - Personal email address.
 - Birth date.

H. Probationary Period:

Probation shall be 1 year for all new employees. Employees who are promoted to a classification within the LIUNA bargaining unit shall serve a 6-month probationary period. If an employee on probation because of a promotion fails probation, the Department Head will offer the employee the opportunity to return to their former position if 1) the position is vacant; and 2) the reason for probationary failure is related to inability to perform the duties of position promoted into. Nothing in this section changes the Department Head's right to overfill positions or create a vacancy by terminating a probationary employee.

I. Notice to Union of Personal Action:

The City will notify the Union directly on all issues impacting the Association. The Association President will be copied. If an employee consents to the Union being notified about a disciplinary action, the Union will be sent copies of all notices. All disciplinary notices will state that the employee is entitled to be represented by a representative of his/her choice.

SECTION 6: GRIEVANCE PROCEDURE

A grievance shall be any matter for which appeal is not otherwise provided or prohibited, concerning:

1. A dispute about the interpretation or application of this Memorandum of Understanding and Personnel Rules;

A. Informal Grievance Procedure:

An employee who has a problem or complaint should first try to get it settled through discussion with his immediate supervisor without undue delay – within one or two workdays of the event grieved. If, after this discussion, he/she does

not believe the problem has been satisfactorily resolved, he/she shall have the right to promptly discuss it with the supervisor's immediate superior, if any, in the administrative service. Every effort should be made without delay to find an acceptable solution by informal means at the lowest possible level of supervision. If the employee, or the Union, is not in agreement with the decision reached by discussion, he/she shall then have the right to file a formal grievance in writing within ten (10) calendar days after receiving the informal decision of his/her supervisor or supervisor's immediate superior on matters within the statutory scope of representations.

B. Formal Grievance Procedure:

1. First Level of Review: A grievance shall be presented in writing to the employee's immediate supervisor within ten (10) calendar days of the informal process decision or of the event giving rise to the grievance, whichever is later. The supervisor shall render his/her decision and comments in writing and return them to the employee within ten (10) calendar days after receiving the grievance. In the event that the supervisor does not render a decision within the 10 days or within a mutually agreed upon extension of the timeline, the employee has the right to move the grievance up to the next level of review.
2. Further Level or Levels of Review as Appropriate: The supervisor's immediate superior receiving the grievance shall review it, render his/her decision and comments in writing, and return them to the employee within ten (10) calendar days after receiving the appeal. In the event that the supervisor does not render a decision within the 10 days or within a mutually agreed upon extension of the timeline, the employee has the right to move the grievance up to the next level of review.
3. Department Review: The Department Head receiving the grievance, or his/her designated representative, should discuss the grievance with the employee, his representative, if any, and with other appropriate persons. The Department Head shall render his/her decision and comments in writing, and return them to the employee within ten (10) calendar days after receiving the appeal. If the employee, or the union, does not agree with the decision reached, or if no answer has been received within ten (10) calendar days, he may present the appeal in writing to the City Manager. Failure of the employee to take further action within twenty (20) days after receipt of the decision, or within a total of twenty (20) days if no decision is rendered, will constitute withdrawal of the grievance.
4. City Manager: The City Manager or his/her designated representative should discuss the grievance with the employee, his/her representative, if any, and with other appropriate persons.

The City Manager may designate a "fact-finding committee," or an officer not in the normal line of supervision, to advise him/her concerning the grievance. The appointing power shall render a decision in writing to the employee within twenty (20) days after receiving the grievance.

C. Grievance Arbitration:

1. Within ten (10) working days of the receipt of the City Manager's final decision, the Union may request arbitration by filing a written request. The request for arbitration shall be in writing to the Department Head with a copy sent to the Personnel Services Manager.
2. If either the City or the Union so requests, the arbitrator shall hear the merits of any issue raised regarding the arbitrability of a grievance first. No hearing on the merits of the grievance shall be conducted until the issue of arbitrability has been decided.
3. The parties shall request a list of five (5) arbitrators, within ten (10) working days after receipt of the employee's request for arbitration, from the California State Mediation and Conciliation Service.
4. Within five (5) working days of receipt of the list, the parties shall mutually agree upon the person on the list who shall be the Arbitrator. If one person is not mutually agreed upon, the parties shall within five (5) days after receipt of the list of names alternately strike names from such list with the last remaining name to be the person serving as Arbitrator. The party having first choice to strike a name from the list shall be determined by lot.
5. The City and the Union shall share the fees and expenses of the arbitrator and the certified court reporter equally. The services of the certified court reporter are optional. Both parties must agree if a certified court reporter is to be employed and that the cost shall be equally shared. Financial responsibility shall be established before the selection of an arbitrator. All other expenses shall be borne by the party incurring them, and neither party shall be responsible for the expense of witnesses called by the other. However, if either party declines the use of a court reporter, the party requesting the court reporter shall pay the entire cost of employing the court reporter.
6. The arbitrator's review is limited to the interpretation of this Memorandum of Understanding and/or the City's Personnel Rules and Regulations.

7. Decision: The decision of the arbitrator shall be made in writing within thirty (30) working days of the close of the hearing or the submission of written briefs. The decision of the arbitrator shall be advisory only.
8. City Manager reserves the right to accept, reject, or modify the recommendation of the arbitrator. The decision of the City Manager regarding resolution of the grievance shall be final and binding upon both parties.

D. Conduct of Grievance Procedure:

1. The time limits specified above may be extended to a definite date by mutual agreement of the employee and the reviewer concerned. If an employee receives no response at a particular level, he/she may proceed to the next appropriate level of review.
2. The employee may request the assistance of another person of his/her own choosing in preparing and presenting his grievance at any level of review.
3. The employee and his representative may be privileged to use a reasonable amount of work time as determined by the appropriate Department Head in conferring about and presenting the grievance.
4. Employees shall be assured freedom from reprisal for using the grievance procedure.

SECTION 7: MISCELLANEOUS

A. City's Right To Discovery:

All discoveries, inventions, improvements, formulas, ideas, devices, writings or other intellectual property, whether or not subject to patent or copyright laws, which employees shall conceive solely or jointly with others, in the course or scope of his/her employment, or with the City's materials or facilities, shall be the sole and exclusive property of the City without further compensation.

B. Savings Clause:

It is mutually agreed by the parties to this agreement that the above represents the full and complete understanding, which has been reached after numerous discussions held in conformance with the Meyers-Milias-Brown Act. All other proposals, counteroffers, or other matters discussed during the meet and confer process are deemed to be rejected by both parties. Should circumstances call for a change the City shall give notice of such proposed change to the Association and the items shall be subject to meet and confer process if so required by law.

If any section or subsection of the Memorandum of Understanding should be found invalid, unlawful or unenforceable by reason of any existing or subsequent enacted legislation or by judicial authority, all other sections and subsections of this memorandum shall remain in full force and effect for the duration of this memorandum.

Attachments: Salary Schedules for each year of the contract

Craig Malin, City Manager

Date

Leslie Llantero, Seaside City Employees'
SCEA/LIUNA

Date

Ryan Heron, Lead Negotiator – LIUNA/UPEC
Local 792

Date

Mark Ogden, Seaside City Employees'
SCEA/LIUNA

Date

Adam Vick, Seaside City Employees'
SCEA/LIUNA

Date

Stephanie Penamante, Seaside City
Employees' SCEA/LIUNA

Date

Travis Edwards, Seaside City Employees'
SCEA/LIUNA

Date



**CITY OF SEASIDE
STAFF REPORT**

Item No.: 8.I.

TO: City Council

FROM: Lesley Milton-Rerig, Assistant City Manager

BY: Debbie Hale Transportation Agency Monterey County

DATE: October 3, 2019

SUBJECT: APPROVE LETTER OF SUPPORT FOR A PROP 68 TRAILS AND GREENWAYS GRANT APPLICATION FOR THE FORT ORD RECREATION TRAIL AND GREENWAY PROJECT

PURPOSE & RECOMMENDATION

Adopt the letter of support as drafted.

BACKGROUND

The Proposition 68 Trails and Greenways program awards competitive grants for projects that provide non-motorized infrastructure and that promote new or alternate access to parks and other natural habitat to promote active transportation and opportunities to connect with nature. The Laguna Grande to Roberts Lake segment of the Fort Ord Regional Trail and Greenway proposes a wheelchair accessible trail entering Laguna Grande Regional Park at Fremont Blvd and Highway 218, rehabilitation of existing trails within the Park, and a signalized crossing at Del Monte Blvd to connect to the Coastal Trail at Roberts Lake. The proposed segment also includes a multi-use sidewalk connection to the new North Fremont median bike lanes from Casanova Ave into Laguna Grande Regional Park.

The Fort Ord Regional Trail and Greenway is currently undergoing environmental review. The Laguna Grande to Roberts Lake segment of the Trail is a strong candidate for the Proposition 68 Trails and Greenways Grant Program. The project fulfills the grant program's mission to provide nonmotorized infrastructure that promotes new or alternate access to parks, waterways, outdoor recreation, and other natural

environments to encourage health-related active transportation and opportunities for Californians to reconnect with nature.

The main features of the proposed project, all of which are included in the environmental analysis currently being undertaken for the entire FORTAG project, include:

- Links to the North Fremont Street median pathway and the funded FORTAG segment from Laguna Grande to the Frog Pond.
- Rehabilitation of the existing trails within Laguna Grande Regional Park, including wayfinding and interpretive signage.
- A signalized crossing at Del Monte Blvd near Holiday Inn Express for enhanced access to the existing Coastal Trail at Roberts Lake.
- A multi-use sidewalk connection to the North Fremont median bike lanes from Casanova Ave into Laguna Grande Regional Park.

The main benefits of the proposed segment include:

- Leveraging local funds to potentially bring in \$3 million to \$4 million in state funds to Monterey County.
- Connections to two adjacent bicycle and pedestrian projects funded by state Active Transportation Program grants (City of Monterey's North Fremont median bike lanes and pedestrian improvements and the Transportation Agency's Highway 218 segment of the Fort Ord Regional Trail and Greenway.
- Wheelchair access to Laguna Grande Regional Park at the intersection of Fremont Blvd and Highway 218.
- Safer pedestrian and bicycle access, including facilities for mobility-impaired users, to Laguna Grande Regional Park and to the existing Coastal Trail at Roberts Lake.
- Rehabilitation of popular outdoor and recreational space for the communities of Seaside and Monterey. The Laguna Grande Regional Park currently serves as the staging area for the City of Seaside's Sunday Blues in the Park - a free concert series going into its 32nd year of celebration.

Transportation Agency staff recommends the City Council support the Proposition 68 Trails and Greenway grant application for submittal by the deadline of Friday, October 11th.

If the Transportation Agency's proposal is among the most competitive projects, the Agency will be invited to participate in the next level of the competitive grant award process that includes an on-site field visit with staff from the California Natural Resources Agency anticipated for mid-late December 2019. Projects must be completed by March 2024. The Environmental Impact Report for the entire FORTAG project is currently scheduled to be considered for approval by February 2020.

FISCAL IMPACT

The California Natural Resources Agency will be awarding \$27.7 million for projects statewide. The maximum grant award per project is \$4 million. Funding priority is given to projects that leverage private, federal, or local funds. The City of Monterey will contribute an estimated \$250,000 local match for the multi-use sidewalk connection to the North Fremont median bike lanes. Measure X funds designated for the Fort Ord Regional Trail and Greenway project (as described in the Transportation Safety and Investment Plan) or a possible Local Partnership Program grant will fill any remaining funding gap.

ATTACHMENTS

1. Laguna Grande to Roberts Lake Prop 68 Support Letter
-



CITY COUNCIL

440 Harcourt Avenue
Seaside, CA 93955
www.ci.seaside.ca.us

Telephone 831-899-6703
Fax 831-718-8594

October 3, 2019

California Natural Resources Agency
c/o Transportation Agency for Monterey County
55B Plaza Circle
Salinas, CA 93901

RE: Support for a Proposition 68 Grant for the Laguna Grande to Roberts Lake segment of the Fort Ord Regional Trail and Greenway

Dear Secretary Crawfoot,

The City of Seaside is pleased to support the Transportation Agency for Monterey County's application for Proposition 68 Recreational Trails and Greenways funding for the Laguna Grande to Roberts Lake segment of the Fort Ord Regional Trail and Greenway.

The Fort Ord Regional Trail and Greenway (FORTAG) is a transformational project that will create a 30-mile regional network of paved recreational trails and greenways connecting several disadvantaged communities to open space. Developed by two Cal State Monterey Bay professors after numerous community meetings, the trail will facilitate active transportation by expanding opportunities for traveling between home, work, and commercial areas by foot, bike, or wheelchair. The Fort Ord Regional Trail and Greenway is funded in part by the voter-approved local Measure X transportation sales tax but is seeking state and federal grants to fully construct the project.

The Laguna Grande to Roberts Lake trail is an excellent candidate for Proposition 68 trails and greenways funding: it will fulfill the program's mission by providing a safer, non-motorized connection that promotes new access to Laguna Grande and Roberts Lake parks and waterways, and will encourage health-related active transportation and opportunities for local residents and visitors to reconnect with nature. Laguna Grande Regional park is a City of Seaside facility that is operated and maintained by the Monterey Peninsula Regional Open Space District. It is a community gathering place that, for instance, serves as the staging area for the City of Seaside's Sunday Blues in the Park free concert series. The park is adjacent to the Seaside City Hall and the City Library and is within walking distance of many residences as well as two schools. Unfortunately, Laguna Grande Park does not have a safe, convenient pedestrian/bicycle



CITY COUNCIL

440 Harcourt Avenue
Seaside, CA 93955
www.ci.seaside.ca.us

Telephone 831-899-6703
Fax 831-718-8594

connection between Roberts Lake, gateway to the Monterey Bay Coastal Trail, or the now-funded Canyon Del Rey segment of the FORTAG trail.

Once built, the Laguna Grande to Roberts Lake trail will create a contiguous pedestrian and bicycle path connecting the existing Monterey Bay Coastal Trail in Roberts Lake Park, with Laguna Grande Park, and the newly-funded trail extending through Work Park and the Frog Pond park in Del Rey Oaks.

This trail project will enhance community access to parks and improve waterways by:

- Providing a new, wheelchair accessible connection to the intersection of Fremont Blvd at Canyon Del Rey Blvd (Highway 218);
- Adding a signalized crossing at Del Monte Blvd to provide a safer pedestrian crossing to the existing Coastal Trail at Roberts Lake;
- Rehabilitating the existing trails within Laguna Grande Regional Park and adding wayfinding and interpretive signage;
- Improving drainage and stormwater capture at the lake; and,
- Providing a multi-use sidewalk connection to the existing North Fremont median pedestrian path and bike lanes from Casanova Ave into Laguna Grande Regional Park.

The Environmental Impact Report for the entire FORTAG project is currently underway and has involved an extensive public outreach process. The EIR scheduled to for approval by February 2020, making this project an excellent candidate for timely use of the grant funding.

The City of Seaside believes that the Laguna Grande to Roberts Lake trail would be an excellent use of the Proposition 68 Recreational Trails and Greenway funding and asks the California Department of Natural Resources for your support.

Sincerely,

Ian Oglesby
Mayor, City of Seaside



CITY OF SEASIDE STAFF REPORT

Item No.: 8.J.

TO: City Council

FROM: Lesley Milton-Rerig, Assistant City Manager

BY: Lesley Milton, Assistant City Manager

DATE: October 3, 2019

**SUBJECT: ADOPT CHANGES TO THE BOARD, COMMISSION, AND
COMMITTEE HANDBOOK**

PURPOSE & RECOMMENDATION

Approve changes to the Board, Commission and Committee Handbook as presented.

BACKGROUND

Commissions are created by the City Council to act as advisory bodies and provide necessary information to the Council to help achieve the overall goals of the community and they also serve as a forum to encourage broad citizen participation. Active Boards, Commissions and Committees in the City of Seaside include the following:

- Planning Commission
- Board of Architectural Review
- Neighborhood Improvement Program Committee
- Community Development Advisory Committee
- Art and History Commission
- Parks and Recreation Commission
- Environmental Committee
- Homeless Committee

PURPOSE OF THE HANDBOOK

In July on 2017 the City Council adopted a Boards, Commissions and Committees

Handbook to help explain the purpose, process and expectations of serving on a Commission and help those newly appointed become familiar with standard procedures and protocol. Although commissions are unique to themselves, there are procedures, protocols and policies that are common to all of them. The handbook has been prepared to:

1. Outline the role and function of each City Board, Commission, and Committee.
2. Review important guidelines for all Boards, Commissions, and Committees, as well as the responsibilities of appointed members.
3. Provide information about the history and composition of the City organization.
4. Provide members with the information necessary to understand areas of responsibility for their respective Board, Commission, or Committee, and their role in serving the City.

This handbook also serves the purpose to impress upon members that the credibility of a commission is very important and is directly linked to the actions of its members. Public employees, elected officials and volunteers for public organizations have a responsibility to uphold the public trust. The handbook lists suggestions for ways to maintain a high level of credibility throughout the community and to strengthen public trust.

CHANGES TO THE HANDBOOK

Changes to the Handbook and Boards, Commissions and Committee practices since last adopted in 2017 include the following:

- Further clarification of Member's scope of authority
Requirements for staff & commissioner interactions including an expected code of conduct
- Expansion of the explanation of requirements for attendance and responsiveness
- Inclusion of a recognition process when resignations or vacancies occur to show appreciation for service
- Modification to Application and Appointment process to revert back to prior process.

APPLICATION AND APPOINTMENT PROCESS

In July of 2017, the City Council voted to amend the Council Subcommittee make-up from the Mayor and Mayor Pro Tem to the Mayor and a rotating Council Member to interview applicants for volunteer commission positions prior to recommendation for appointment. The intent was to make it a more inclusive process, however when executed, staff witnessed that after several interview cycles, this process proved to be disrespectful and discouraging to the volunteer applicants.

RECOMMENDATION

It is recommended that the City Council adopt the attached handbook to provide guidelines to the City's appointed board, commission and committee members so that they can have a successful term in office and assist the Council in achieving the overall goals of the community.

FISCAL IMPACT

There is no fiscal impact associated with this action.

ATTACHMENTS

1. Draft Boards, Commissions and Committees Handbook
-

City of Seaside Boards, Commissions & Committees Handbook





THE CITY OF SEASIDE MISSION:

Include

Innovate

Inspire

Our Vision

Seaside is a vibrant, proudly diverse, energetic and safe community, with extraordinary natural beauty, quality of life and economic opportunities.

Strategic Goals

Provide an increasingly safe community

Create vibrant, sustainable economic development

Provide leadership to obtain water supply for desired development
& quality of life

Development and implement a quality infrastructure program

Achieve and sustain fiscal health and wellness



WELCOME TO THE CITY OF SEASIDE!

The expertise and guidance that Boards, Commissions & Committees provide the City Council as the final decision-making body is very important and relied upon heavily by the Council when issues are discussed. These Commissions were created for the purpose of overseeing distinct issues and subjects affecting a city. Although commissions are unique to themselves, there are procedures, protocols and policies that are common to all of them. This handbook has been developed to assist members in becoming familiar with standard procedures and protocol. Use this guide as a road map for your term in office.

For more information about your responsibilities as a Commissioner, please contact the City staff person supporting your board, or contact our City Clerk at cityclerk@ci.seaside.ca.us.

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ROLES & RESPONSIBILITIES

The credibility of a commission is very important. Public employees, elected officials and volunteers for public organizations have a responsibility to uphold the public trust. This responsibility demands the highest standards of conduct and education to our individual work assignments.

Preserving The Public Trust

We have an obligation to remain objective and to render impartial services. The acceptance of any gift ~~or~~, gratuity, favor or special treatment from any business or individual ~~that or member of the City~~ could reflect poorly on the integrity of the City and should be avoided at all times.

In order to maintain a high level of credibility throughout the community and to strengthen public trust, the following suggestions are offered:

- Understand that you are in a visible position and represent the City and its citizens.
- Information received in the performance of commission duties should not be used as a means for making private profit or advancing the financial interests of others.
- Official actions should be disassociated from personal affiliations.
- ~~Avoid No~~ special favors or privileges can be given to individuals or accepted by a commissioner whether for remuneration or not.
- Do not accept gifts or benefits which could be construed as having influence over the performance of your official duties.
- Do not attempt in any way to gain special treatment, favors or gifts from anyone inside or outside of the city because of your position.





CODE OF ETHICS

Adopted July 5, 1979

Ethical behavior is the cornerstone for all aspects of city government. The Seaside City Council reinforces the City's commitment to ethical government by adopting the letter and spirit of this Code of Ethics. The Code's aim is to affirm an identity of excellence and integrity for our City's government through our citizens, our employees and our dealings with other communities and build public trust.

The Code applies to all who represent our City's government. It includes all elected and appointed officials, citizens campaigning for elective office, City employees and others who participate in City government. As representatives of the City, all are required to subscribe to and understand how the Code applies to them. All must agree to practice the values expressed in the Code in day to day service to the City.

"The ethical person should do more than he is required to do and less than he is allowed to do."

**- Michael Josephson;
Founder of the
Josephson Institute
of Ethics**

ANY PERSON IN GOVERNMENT SERVICE SHOULD:

- A. **LOYALTY:** Put loyalty to the highest moral principles and to country above loyalty to persons, party, or Government department.
- B. **RULE OF LAW:** Uphold the Constitution, laws, and legal regulations of the United States and all governments therein and never be party to their evasion.
- C. **EFFORT:** Give a full day's labor for a full day's pay; giving to the performance of his/her duties his/her earnest effort and best thought.
- D. **EFFICIENCY:** Seek to find and employ more efficient and economical ways of getting tasks accomplished.
- E. **INCLUSION:** Never discriminate unfairly by dispensing special favors or privileges to anyone, whether for remuneration or not; and never accept, for himself or his family, favors or benefits under circumstances which might be construed by reasonable persons as influencing the performance of his governmental duties.
- F. **PROMISES:** Make no private promises of any kind binding upon the duties of office, since a Government employee has no private work which can be binding upon public duty.
- G. **CONSISTENCY:** Engage in no business with the Government, either directly or indirectly, which is inconsistent with the ideals and ethics which the public perceives as a faith and trust in public officials.
- H. **CONFIDENTIAL:** Never use any information confidentially in the performance of governmental duties as a means for making private profit.
- I. **INTEGRITY:** Expose corruption wherever discovered.
- J. **PUBLIC TRUST:** Uphold these principles, ever conscious that public office is a public trust.



Ethics Training

Assembly Bill No. 1234 requires that all members of a legislative body must undergo public service ethics training every 2 years. The requirement applies to the governing body of local agency as well as boards, commissions, and committees, or other local agency bodies, whether permanent or temporary, decision-making or advisory. Therefore, you are required to complete this training.

The Institute for Local Government and the [Fair Political Practices Commission](http://www.fppc.ca.gov) (<http://www.fppc.ca.gov>) developed an [online ethics course](http://www.fppc.ca.gov/learn/public-officials-and-employees-rules-/ethics-training.html) (<http://www.fppc.ca.gov/learn/public-officials-and-employees-rules-/ethics-training.html>) to help local officials meet their ethics training requirements. Upon completion of the ethics training, members are required to print their certificate, sign it, and return the original hard copy document to the Clerk's Office.

Conflict of Interest

The State of California, by statute, follows the common law rule prohibiting a representative of a municipality to vote in its legislative body on any issue that affects them individually, or for any public officer to participate in a matter in which there is a personal or private interest. The Seaside Municipal Code also provides against conflict of interest.

To best serve the community, the City Council appoints persons with knowledge of the issues that face the City to serve on boards, commissions, and committees. Consequently, it is inevitable that matters will occasionally come before boards, commissions, or committees in which individual members have a direct or indirect financial interest. When this happens, the member must disqualify him/herself from participating in the discussion and abstain from voting. The law also requires appointed members and certain other City officials to report various financial interests including income, interest in real property, and business interests.

The City of Seaside has adopted a local conflict of interest code as required by the Political Reform Act. This Act requires the financial disclosure of interests by certain individuals who are in decision-making positions within state and local government

As an appointed member, You are required to complete and file the appropriate conflict of interest forms within 10 days of your first meeting and annually thereafter. Forms and assistance will be provided by the City Clerk's Office, including an annual notification regarding Form 700 thirty days in advance of the due date. Financial disclosure forms are filed with the City Clerk, as a matter of public record. The [Fair Political Practices Commission](http://www.fppc.ca.gov) (<http://www.fppc.ca.gov>) is available for questions concerning conflicts of interest and disqualifications.

Potential conflicts of interest should not be taken lightly. The City Council has placed a special trust in you that should not be abused. It is also important to note that it is a violation of the City Code to vote on a matter knowing that you have a conflict, and that this can result in forfeiture of your position.



If a Commissioner has any doubt as to the propriety or the legality of any proposed action on their part, they are urged to seek the advice of the City Attorney.

When a matter comes before a Commission in which a Commissioner has a direct or indirect financial interest, the Commissioner must disqualify him/herself from participating in the deliberation and must abstain from voting. An explanation for the abstention should be given to the Commission and that reason will be recorded in the minutes. Once the Commissioner has made a statement of disqualification, the Commissioner should leave the room and return only upon conclusion of the matter. The City Attorney may be consulted should it be unclear as to whether or not to abstain.

Public Records Act

The California Public Records Act (the PRA) was enacted in 1968 to: (1) safeguard the accountability of government to the public; (2) promote maximum disclosure of the conduct of governmental operations; and (3) explicitly acknowledge the principle that secrecy is antithetical to a democratic system of “government of the people, by the people and for the people.”

What does this mean for you as a Commissioner? It means that the public’s business is always supposed to be public. Any records that are created as part of your participation on a Commission, is accountable to the Public Records Act. Emails, voice mails or hard copy records included. If any member of the public requests to see any record, they have the right to request and we have the obligation to provide it, unless it is exempt from disclosure. Here’s a guide to the public records act if you want to know more, or you can contact the City Clerk.

<https://www.cacities.org/Resources/Open-Government/THE-PEOPLE%E2%80%99S-BUSINESS-A-Guide-to-the-California-Pu.aspx>





BOARDS, COMMISSIONS & COMMITTEES

Boards and Commissions are created by the City Council to act as advisory bodies and provide necessary information to the Council to help achieve the overall goals of the community.

Boards and Commissions are responsible for the following:

- Provide in-depth analysis of specific issues in their area of responsibility
- Creating a forum to encourage broad citizen participation
- Acting as a review body for Department operations
- Providing an analysis of issues that will be brought forward to the City Council for action

Active Boards and Commissions in the City of Seaside

Planning Commission	Term: 4 Yrs	Meeting Date & Time: 2nd and 4th Wednesday of each month at 7:00 p.m.

The duties of the Planning Commission are to prepare and periodically review and revise, as necessary, the City's General Plan and implement the General Plan through actions such as administration of specific plans and zoning and subdivision ordinances. They also vet development proposals prior to submission to the Council.

Board of Architectural Review	Term: 4 Yrs	Meeting Date & Time: 1st and 3rd Wednesday of every month at 5:30 p.m.

BAR is the decision-making body of the architectural review process and is responsible for the review of various residential and commercial design proposals, including second-story residential additions, commercial facade changes, new commercial signs, and other design related projects.

Art and History Commission	Term: 4 Yrs	Meeting Date & Time: 2nd Wednesday of each month at 5:30 p.m.

A&H advises and facilitates the protection of the City's cultural resources including the collection, promotion, display and preservation of Seaside historical artifacts, and encourages and promotes programs of artistic merit.



Neighborhood Improvement Program Commission

Term:
3 Yrs

Meeting Date & Time: 1st Tuesday of the month at 6:00 p.m.

The NIP advises in matters pertaining to general improvement of the neighborhoods within the City. The objectives are to encourage citizens to voluntarily comply with the various city codes relating to the general appearance of the City, make recommendations to the City Council on ways to improve the appearance of the City and to elicit voluntary cooperation to beautify and minimize vandalism in the City.

Parks and Recreation Commission

Term:
3 Yrs

Meeting Date & Time: Third Monday of the month at 5:30 p.m.

PRC advises on matters pertaining to parks and public recreation for the advancement of sound park and recreation planning through recommending policies on recreational services, facilities; administration and development of recreation areas, aiding in coordinating recreation facilities, programs and improved recreation services.

Community Development Advisory Committee

Term:
2 Yrs

Meeting Date & Time: 3rd Wednesday of the Month at 6:30 p.m.

CDAC advises for the Community Development Block Grant Program (CDBG) and assists with evaluation and assessment of proposed and implemented programs to meet community needs at both citywide and neighborhood levels and to develop realistic goals and objectives to meet identified needs and to assist in the implementation of the CDBG program and any modifications as determined by community assessment and HUD program requirements.

Environmental Committee

Term:
3 Yrs

Meeting Date & Time: Second Tuesday of the month at 5:30 p.m.

The Environmental Committee investigates and advocates sound environmental policy and action in the areas of air quality, water quality, energy and waste management, flora and fauna protection and community planning.

Homeless Committee

Term:
3 Yrs

Meeting Date & Time: Fourth Thursday of the Month at 6:30 p.m.

The Homeless Committee is responsible to plan, advocate, support and collaborate with those effected by homelessness.



COMMISSIONS POLICIES AND PROCEDURES

The City Council encourages active citizen participation in the business of city government. Boards, Commissions, and Committees provide an opportunity for interested residents to participate in the governing of their community under guidelines and procedures established by the Council. Commissions can improve the quality of city government by providing to make better-informed decisions. These bodies improve lines of communication between the public and Council, create greater opportunities for discussion of public issues and more citizen involvement in City government.

Your role as an appointed representative of the City Council carries with it a significant responsibility. The City Council encourages you to conduct yourself with politeness and courtesy with staff and whenever in the public eye. Yours is a position of service that is charged with maintaining the public trust. It is important that you not abuse that trust.

General Guidelines for Appointed Members

Appointment to a Commission is an honor. It provides an opportunity for genuine public service. Each appointed member should be aware of the responsibilities that accompany official service with the City. The specific duties of each body vary with the purpose for which it was formed.

Responsibilities common to all appointed members:

1. Understand the role and responsibility of the Board, Commission, or Committee. Be informed of its functions, work programs and relationship with other bodies.
2. Represent the overall public good, not the exclusive point of view of a sole group or interest.
3. Keep all lines of communication open. Each appointed member serves as a communication link between the community, the City Council, and staff.
4. Do your homework and be prepared. Appointed members should become familiar with items under consideration prior to meetings in order to be fully prepared to discuss, evaluate, and act on matters scheduled for consideration. Feel free to seek staff's advice and assistance in advance of a meeting.
5. Establish a good working relationship with fellow appointed members, the City Council, and your staff liaison.
6. Understand the scope and authority or your appointed body's responsibility and strive to work within that scope.
7. Be a participant, an active representative, and enthusiastic about your role.



APPOINTMENT REQUIREMENTS & PROCESS

All Commissioners are appointed by the City Council. Each Commissioner's term of office is for a specified term and until successors are appointed and acting, except in the event of resignation or removal from office. Members are volunteer positions, appointed by and serve at the pleasure of the City Council. All members must be residents of the City of Seaside, with the exception of the Board of Architectural Review. (SMC 2.14.140)

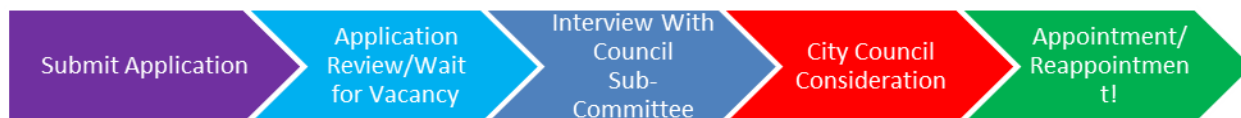
Seaside Municipal Code: 2.14.040 Appointment of members.

The Mayor, with the advice and consent of the City Council, shall make appointments to boards, commissions and committees. The City council shall establish procedures for recommending applicants for appointment. (Ord. [773](#) § 1 (Exh. A), 1990)

PROCESS FOR FILLING VACANCIES

This handbook was adopted by the City Council as the procedures established for recommending applicants for appointment.

Application Process Qualified candidates come from many sources. Individuals who are interested in any commission purpose should submit applications for appointment to the City Clerk. Applications are accepted at any time and are valid for two years. Active recruitment efforts are always occurring, as well.



Recruitment In the event of a vacancy, the City Clerk advertises to the community for interested and qualified participants through a variety of methods which can include, but is not limited to the following: newsletters, emails, the agenda, newspaper publication, publication at public posting locations, the City website and social media.

Applicant Screening If a vacancy occurs, all current applications are reviewed to ensure all qualifications are met then forwarded to the Council Subcommittee, which consists of the Mayor and ~~one Council Member representative~~ the Mayor Pro Tem. The Council Subcommittee will then schedule a time to make contact with applicants to discuss their background, community



history, aspirations or interest in serving. Every reasonable effort will be made to interview all applicants. After contacting each applicant, the Council Subcommittee will make recommendations to the City Council for appointment to fill a vacancy. Appointments and reappointments are made by the full City Council at a publicly noticed City Council meeting (SMC 2.14.040). The Council Member representative will rotate after every appointment recommendation.

Appointment Limitations

By policy, Commissioners are not permitted to sit on more than one City Board, Commission, or Committee. This does not preclude a member from participating in an "outside" agency such as the Water Management District or Regional Park District. (SMC 2.14.130)

Holding Incompatible Offices

Under existing California law, no Commissioner may hold another public office where the two offices are incompatible. When two such offices are incompatible, the member of the board or commission shall be deemed to have forfeited the first office upon acceding to the second. (California Gov. Code Section 1099).





GETTING STARTED: You've Been Appointed! Now What?

Responsibilities

One of the first duties of a new commissioner is to become familiar with the laws governing the faithful performance of duties. This information may be obtained by referring to City Municipal Code sections governing Boards & Commissions (Seaside Municipal Code Chapter 2.14). Copies of City's Code are available online <http://www.codepublishing.com/CA/Seaside> or can be obtained from the office of the City Clerk. In addition, Members may consult with their Commission's Staff Liaison.

Be Prepared

The role of the Commissioner is to represent the public and the public's best interest. Commissioners are responsible for reviewing meeting materials in advance, attending meetings regularly and on time, notifying the Staff Liaison and their Chairperson in advance if they cannot attend a meeting, and volunteering for committees (if the Commission has any). Commissioners are expected to have knowledge about City goals and the goals and priorities of the City Council. In order to be an effective Commissioner, you are expected to read this handbook to understand how to comply with all State and local laws and rules regarding meetings.

Staff Liaison & Committee Administration

Each Board or Commission is appointed a staff liaison, ~~which~~ who works to facilitate the agenda, work-plan and resources needed for your board or committee. -Your staff liaison is a vital resource as they are aware of the City Council priorities as well as the City resources and rules. Commissioners and staff are expected to work courteously and professionally with each other at all times. Any questions, issues or concerns about the commission, the work plan or other city business can either be directed to your staff liaison or the Chair of your Board or Commission. Commissioners may make direct contact with the department representative-sCommissioners are encouraged to use their staff liaison as a resource and contact them hould they- directly if they require additional material or clarification of data. On rare occasion, the Commission and staff may present to Council opposing recommendations. Should this occur, staff will objectively present both recommendations for Council's consideration.Commissioners are not allowed to direct staff for individual projects. Working through the Chair or staff liaison, any ideas or projects can be agendize for action by the entire commission.

Adherence To Policy

Appointed Commissioners should not approve projects that violate adopted City Council policies. Members can make recommendations to the City Council about exceptions to a City policy, and can also recommend policy changes when appropriate.



Resignations

A member of an advisory commission who intends to resign shall first file written notice thereof with the City Clerk, addressed to the City Council, with a copy provided to the chairperson of the advisory commission. (SMC 2.14.100). When a resignation occurs, staff will immediately initiate the appreciation process to thank the volunteer for their service to the City of Seaside. This is in addition to invitation to the annual appreciation event.

Removal From Office

The City of Seaside appreciates all commission volunteers and acknowledges the effort it takes to participate on a board, commission or committee. However, there may be circumstances that necessitate removing a commissioner from their position. A member of a commission may be removed from office by a vote of the majority of all members of the City Council. (SMC 2.14.090) Attendance is critical for effective operations of commissions, as quorums are required to conduct business. Failure to adhere to the attendance policy can result in removal from a position. In the event an individual is unable to perform as a commissioner due to health, business or personal reasons, a formal letter of resignation should be submitted to the City Council for action. ~~The City Clerk maintains an active file of qualified commissioner applicants. Individuals may not serve concurrently on more than one commission. (SMC 2.14.090)~~

Business Cards

Commissioners may request obtain business cards from the Office of the City Clerk. This is on a request only basis. Business cards must contain only information concerning the Commission, not personal business information. Business cards will include the name of the Commissioner, the name of the Commission, the regular meeting dates and times and the City's website information. Commissioners are allowed one set of business cards (250) produced by the city within a twelve month period. If more cards are requested, they are to be produced by the City, at the expense of the Commissioner.

Annual Work Plan

Each Commission is required to provide an update to the City Council about its past and future activities through an Annual Work Plan. The Annual Work Plan includes a list of prior year accomplishments. Work Plans are updated each Fiscal Year in accordance with a template and instructions provided by the City Clerk. The Work Plans are to be completed by each Commission and provided to the City Council at a Regular meeting no later than April 15th of each year (SMC 2.14).

Commissioner Appreciation

You have chosen to take on a big role as a volunteer Commissioner, and you deserve a large "Thanks You" for your service. The City would like to thank each of you for your service. During the Fiscal Year 2017-18 (date is to be determined) the City intends to



hold a Commissioner Appreciation event to say thank you for volunteering your time, effort. Keep an eye out for the date but in the mean time, please know you are appreciated.





MEETINGS

The Seaside Municipal Code requires that commissions meet at least once a month. If a regular meeting falls on a holiday, the meeting is canceled.

Meeting Types

There are three types of meetings: regular meetings, special meetings, and emergency meetings. All meetings must be open session meetings, with limited exceptions for specified items that may be discussed in a closed session. A Commission may want to use a meeting as a retreat or a planning session, but such a meeting would still have to be noticed and open to the public. These meetings are subject to Brown Act requirements, and the public may attend all meetings other than Closed Sessions. All meetings require a quorum to proceed with the meeting.

A quorum is a majority (half+1) of the entire Commission membership seats, not just those members present or those seats that are filled. When a quorum is not present for a scheduled meeting, the Commission cannot hold the meeting. If there is a chance that additional members needed to comprise a quorum will arrive within a reasonable time, the Chairperson or Deputy Clerk may orally announce that they will wait for a specified time (e.g., 15 minutes) to make a determination on whether the meeting will proceed or need to be declared cancelled due to lack of a quorum.

Brown Act - What is it and how does it affect the agenda?

The law which guarantees the public's right to attend and participate in Commission meetings is the Ralph M. Brown Act. The purpose of the Brown Act is to facilitate public participation in local government decisions and to curb misuse of the democratic process by secret legislation by public bodies. Commissions exist to aid in the conduct of the people's business, and the meetings must be open to the public. The agenda must be posted in an area that is accessible to the public at least 72 hours before the meeting and on the County's webpage for meeting agendas. The agenda must include all items which will be discussed or acted upon by the Commission. The Commission cannot discuss, deliberate, or take action on any item not included on the agenda. Every agenda must allow any member of the public to directly address the Commission on any agenda item before or during consideration of that item.

Every regular meeting agenda must also include time for any member of the public to address the Commission on any item not on the agenda which is within the subject matter jurisdiction of the Commission. The agendas will include a statement that such items cannot be acted upon or discussed in depth until they are included on a subsequent agenda for consideration and possible action.

Process For Developing The Meeting Agenda

The Chairperson works with the Staff Liaison to coordinate the meeting agenda; however, the method by which the agenda is developed varies according to the procedures of the individual Commissions. The Liaison advises the Chairperson of items to be carried forward from prior meetings, as necessary. Any Commissioner can request



that an item be placed on a future agenda during a public meeting, or directly to the Chair.

Conducting Meetings

All meetings are conducted in accordance with Robert's Rules of Order to enable the Commission to determine the will of the Commissioners in a fair and equitable manner. However, failure to follow Robert's Rules of Order in any instance does not invalidate any action taken.

Meeting Process

The meetings are called to order by the Chairperson, or Vice Chairperson in the absence of the Chairperson. If neither is in attendance, the Commission selects a Chairperson Pro Tempore to conduct the meeting. The Clerk calls the roll to determine the presence of a quorum, and the Chairperson announces the agenda items for discussion or action. The Chairperson may call for an agenda item out of the order listed on the agenda. Several things may happen with regard to each item on the agenda:

- The item can be deleted from the agenda.
- The Commission may discuss the matter without taking any action.
- The Commission can hold the matter to a future meeting.
- The Commission can refer the matter to staff or a committee for consideration and a subsequent report to the Commission.
- The Commission can vote in support **of a motion or in opposition to the motion on the matter.**

Public Comment

Pursuant to the Brown Act, members of the public have a right to comment on any agenda item. The Chairperson establishes the amount of time public speakers are authorized to speak on each item, typically limiting comments to three minutes.

Election of Officers

The commission chair and vice chair are elected by the commission members and serve a one-year term. The election process is conducted at the beginning of the new calendar year and during the first commission meeting of that year.

Role of the Chair

At the first meeting of every calendar year, the members of a commission are to elect a chairperson and vice chairperson from their members. The chair shall hold office for one year until a successor is appointed.

The principal role of the Chair is to manage the board, commission, or committee meeting. This includes helping to set meeting agendas, maintaining the order of business during the meeting, focusing discussion on the issues at hand, and ensuring that the public appearing before the body are treated courteously.



The Chairperson should take a back seat during discussions while all members of the governing body should know and understand the rules of procedure; it is the Chair who is charged with applying the rules of conduct. The Chair should be well versed in those rules, because the chair for all intents and purposes makes the final ruling on the rules. In fact, all decisions by the chair are final unless overruled by the governing body itself. Because the Chair conducts the meeting, it is common courtesy for the chair to take a less active role than other members of the body in debates and discussions. The chair should strive to be the last to speak at the discussion and debate state, and should not make or second a motion unless he or she is convinced that no other member of the body will do so

Attendance & Responsiveness

Regular attendance at meetings is critical to the effective operation of City boards, commissions, and committees as a quorum is required to be able to conduct business. Therefore, all Commissioners are expected to attend all of their appointed board, commission, or committee meetings, including study sessions. ~~Attendance is critical due to the fact a quorum is required to be able to conduct business.~~ A majority of Commissioners currently appointed to a commission, half plus one, shall constitute a quorum for the purpose of transacting business. ~~The affirmative vote of a majority of those present is required to take any action.~~ If a quorum of commission members are not present, staff must adjourn the meeting.

If a Commissioner misses more than twenty-five percent of all regular or special meetings in any four consecutive calendar quarters, unless excused in advance by the Chair or the Staff Liaison, the member shall be automatically terminated as a commissioner.

Commissioners will be deemed absent from a meeting if they are not present for two-thirds (2/3) of the entire meeting.

Many items that come before commissions and committees have time requirements to be completed; otherwise it causes a liability for the city and frustration for residents and businesses that are trying to complete projects. If you are unable to attend a meeting, please communicate call with your Chair or staff liaison prior to the meeting. If you know in advance that you will be unavailable for a meeting in the future, please communicate that too. If a problem with absenteeism arises, it should be handled between the appointed member and the respective Chair. If the issue cannot be resolved, the Chair should approach the staff liaison to help work toward a solution. This will protect the City, your commission and provide better, more responsive services to our community.

If a Commissioner misses more than twenty-five percent of all regular or special meetings in any four consecutive calendar quarters, unless excused in advance by the Chair or the Staff Liaison, the member shall be automatically terminated as a commissioner. Commissioners will be deemed absent from a meeting if they are not present for two-thirds (2/3) of the entire meeting. If a problem with absenteeism arises, it should be handled between the appointed member and the respective Chair. If the issue cannot be resolved, the Chair should approach the staff liaison or the City Clerk to help work toward a solution.



BASIC CITY ORGANIZATION

Commissioners need to be familiar with the City organization and develop an understanding of the City departments and their operations.

Seaside is a General Law city operating under the Council/City Manager form of government. This sets forth certain guidelines for the City's government and operations.

CITY COUNCIL - The five-member City Council is the legislative and policy-making body that is elected on a nonpartisan basis to represent the residents of Seaside. The Mayor is elected every two years in a general election held in November of even-numbered years. Serving with the Mayor, are four members of the City Council who have overlapping terms; every two years, two members of the City Council are also elected by the voters through a general election. Each member of the City Council, including the Mayor, is not subject to term limits.

Policy decisions are made at City Council meetings, which are held on the first and third Thursdays of each month at 7:00 p.m. in the City Council Chambers at City Hall, with special meetings as needed. At these public meetings, the City Council makes policy determinations; approves agreements and contracts; adopts ordinances (local laws) and regulations; and authorizes the expenditure of City funds.

The City Council meetings are held on the first and third Thursday of each month, with special meetings as needed.

CITY BUDGET

The City budget document is an important document because the preparation of the budget by the City staff, and its review and adoption by the City Council, determines how resources available to the City are to be utilized by the City in the forthcoming fiscal year.

The City has two fundamental functions, the provision of local governance, with decision making to address the issues before the City, and the provision of services to our residents and businesses. Both of these functions, in order to be effective, must have adequate resources devoted to them; conversely, often City officials desire to do more in certain areas, but are limited by what the City can afford.

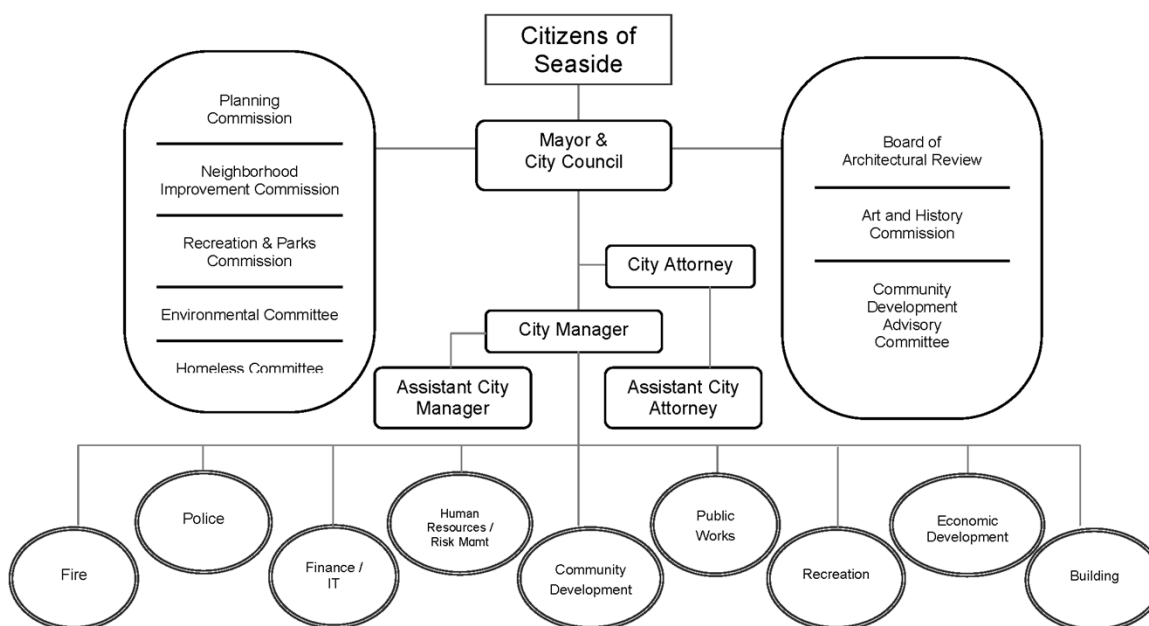
If you, as a Board or Commission member, have questions about the City's goals/objectives, or about the City's budget, please ask your staff liaison for further explanation.

The City Budgets are all available on our City website:
<http://www.ci.seaside.ca.us/609/Strategic-Plan>



CITY DEPARTMENTS

City of Seaside Organizational Chart



City Manager

The City Manager acts as the liaison between the City Council and staff. The City Council sets priorities and provides direction and the City Manager works to implement their direction. City operations are broken down into city departments, which are responsible for providing a variety of services to the community and each of which serves an invaluable and significantly different function.

City Attorney

The City Attorney is also appointed by the Council to represent and guide the City as it relates to the city, state and federal laws as well as keep the Council informed of the legal implications of policy decisions.

City Clerk

The City Clerk is the local official who administers the democratic processes such as access to City meetings, records, elections and all legislative actions and ensures transparency to the



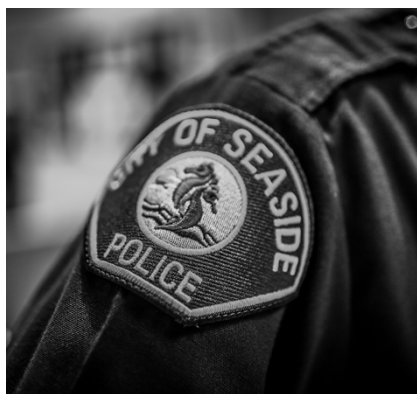
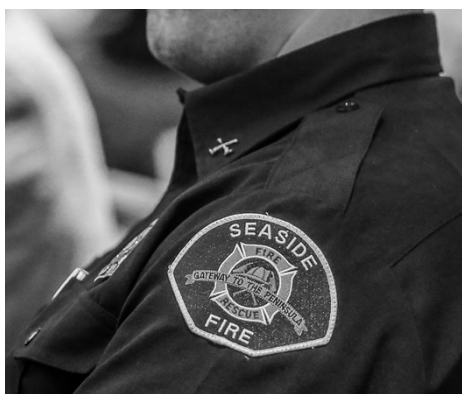
public by enforcing Federal, State and local statutes including the Political Reform Act, The Brown Act, and the Public Records Act. This department is responsible for the City Clerk is responsible for Coordinating City Council meetings including the preparation and publishing of Agendas and Minutes for public meetings, Maintaining the records management plan for the entire city, maintenance of the Seaside Municipal Code, responding to requests for public information and conducting City Elections.

Human Resources Division

The Human Resources Division administers a centralized, merit based personnel system, including recruitment, testing, selection, and placement of employees. They manage the classification of positions and employee relations which includes, negotiations, grievances, discipline and complaints; employee development and training; and employee benefits administration.

Fire Department

The Fire Department provides the community with professional services to protect the lives, environment and property in the City of Seaside as well as in the City of Del Rey Oaks from fire, disaster and health emergencies. Fire Department personnel are involved in numerous committees, commissions, organizations and outreaches in the community. They are also responsible for disaster preparedness and the Emergency Operations Center (EOC). The EOC is the coordination and communication hub in the event of large-scale disasters. The Fire Department remains focused on their mission to serve as an “all hazards” response force to various types of emergencies; at the same time fulfilling the ever expanding role in providing emergency medical response to our community.



Police Department

The Police Department provides quality law enforcement and proactive services and works in partnership with the community to enhance and maintain a safe environment. The Police department encourages community involvement in keeping our community safe. The Police Department participates in a variety of programs throughout the county to prevent crime, protect



citizens and ensure the safety of our community. Police Officers can respond if a crime is committed, but it takes a community working together to make everyone accountable. If you witness a crime, call 911. If it is not an emergency, call the non-emergency line at 394-6811.

Recreation

The Recreation Division provides a wide range of recreation and leisure programs for City Residents. The Division is also responsible for the management of four major recreation facilities and the provision of the recreation programs for families, youth and senior citizens.

Engineering & Public Works

The Public Works Department is responsible for the design, construction and physical repairs to the City's infrastructure including streets, water systems, sewer system, storm drain system, park facilities, City buildings and transportation/traffic systems. They are also responsible for the design, implementation and administration of the annual Capital Improvement Program.

Finance Division & Information Systems

The Finance Division has several areas of responsibility including General Accounting, Cash Management, Accounts Receivable, Accounts Payable, Payroll, Budget, Grants and Debt Services. This Division provides accurate accounting of all revenues and expenditures, including preparation of financial reports, annual budgets, other financial reports, and supports the preparation of the annual audited financial statements. The Management Information Systems Division is responsible for the administration of the City's computer and telephone network, infrastructure and all related information technology projects.

Community and Economic Development

The Community and Economic Development Division is responsible for the administration of the City's planning, economic development and the Community Development Block Grant activities. Planning includes advanced and current planning and environmental review. Economic Development coordinates and implements priority projects. CDBG administers the Commercial Façade, housing rehabilitation and public service grant.

Building & Code Enforcement

The Building Department mission is to enforce and maintain public safety, health, and welfare. Through the use of building permits, the Building Department can ensure that structures are built to safe building code standards. The Building Department also enforces the City's Municipal Code. Before starting any type of building project or major repairs, it is recommended that the owner contact the Building Department to verify whether or not a permit is required for the scope of work that is being proposed.



ANNUAL WORK PLAN TEMPLATE AND INSTRUCTIONS

This is a standard template for use by Boards and Commissions in completing their annual Work Plans. Work Plans are based on a fiscal year rather than a calendar year. Work Plans are to be completed by each Board and Commission and approved at a regular Board or Commission meeting no later than April 1 of each year. The Office of the Clerk will then transmit the Work Plans to the City Council for approval in May.

Please use the following instructions when completing the Work Plan:

Cover Sheet (Page 1): This area should include the name of the Board or Commission, the timeframe covered by the Work Plan (i.e. Fiscal Year 2016, July 1, 2015 – June 30, 2016), members' names, Chairperson's name, and vacancies as of April 1. Do not list Commissioner addresses or phone numbers on the Work Plan. This page will need to be updated each year.

Mission Statement (Page 2): This area of the Work Plan should clearly state the mission of the Board or Commission. The mission may be extracted from the enabling legislation (i.e. Ordinance, Board action, Resolution) that formed the Board or Commission or may be a purpose statement approved by the Board or Commission and derived from the enabling legislation. This section may also contain the roles and responsibilities of the Board or Commission. This page may not need to be updated each year.

Historical Background (Page 2): This area should provide the reader with some historical information about the Board or Commission (i.e. when it was formed, issues of focus in years' past, significant outcomes of work by the Board or Commission). NOTE: Accomplishments from the previous year should not be discussed here – there is another area on the Work Plan where this is done. This page may not need to be updated each year.

Fiscal Year Work Plan (Page 3): This area should provide the goals/objectives (no more than five) of the Work Plan, the activities planned to accomplish the goals, the priority ranking of each goal and the timeline anticipated to accomplish the goal. This page will need to be updated each year.

Prior Year Accomplishments (Page 4): This area should address the prior year Work Plan accomplishments including each goal/objective, activities that supported the successful completion of the goal and the status of the goal. The status column should inform the reader whether the goal was a) completed, b) not started and why, c) in process and expected completion date, or d) eliminated and why. This page will need to be updated each year.

Ongoing Projects: (Page 5) This area provides the Board or Commission with an opportunity to inform the reader of ongoing projects that the Board or Commission is continuing to work on. This page may not need to be updated each year.



**CITY OF SEASIDE
STAFF REPORT**

Item No.: 8.K.

TO: City Council

FROM: Lesley Milton-Rerig, Assistant City Manager

BY: Rick Riedl, City Engineer
Scott Ottmar, Senior Engineer

DATE: October 3, 2019

SUBJECT: APPROVE A RESOLUTION AUTHORIZING A CONSTRUCTION AGREEMENT WITH SANTA CRUZ WESTSIDE ELECTRIC INC. FOR CITY HALL SOLAR CANOPY PROJECT FOR AN AMOUNT NOT TO EXCEED \$467,416

PURPOSE & RECOMMENDATION

Approve a resolution awarding a construction contract agreement with Santa Cruz Westside Electric, Inc., dba Sandbar for the City Hall Solar Canopy Project for an amount not to exceed \$467,416. Public Resources Code (PRC) Section 21080.35 statutorily exempts from CEQA.

BACKGROUND

On July 5th, 2018, the City's energy and design consultant Sage Renewables (Sage) gave a presentation to the City Council discussing the results of a feasibility study that evaluated various options for constructing a Solar Project. The study included background on the methodology for evaluating Solar Projects; presented data collected and described economic model inputs and assumptions. The study considered the pros and cons of various sizes and locations of a Solar Project at City Hall. After careful consideration of the options assessed by the study and taking comment from engaged residents, the Council directed staff to proceed with design of a Solar Project with a budget of up to \$690,000.

On February 15, 2019, Sage submitted design plans to the city for construction of a

Solar Project. The Project includes construction of two parking canopies situated at the east end of the City Hall parking lot. The system has a nominal size of 400 watts and includes 240 individual solar panels that can provide a peak power generation of 72 kW.

The Board of Architectural Review received and approved the project construction drawings on March 6, 2019. At its March 21, 2019 regular meeting, the City Council approved the design and authorized the project for bid.

On August 8, 2019, a Request for Bids (RFB) was issued for the construction of the Solar Project. The RFB was advertised in the local paper, regionally through several bid boards, and through direct solicitation of contractors recommended by Sage. A mandatory pre-bid meeting was held on August 21, 2019 which was attended by five contractors. Two addenda were issued for the project to clarify questions raised during the pre-bid meeting and to extend the bid due date to September 19, 2019.

On September 19, 2019 at 3 PM, the City received one bid from Sandbar in the amount \$467,416.

Staff reviewed Sandbar's bid and determined that the bid is responsive and that the bidder's qualifications and experience levels, and that of their subcontractors, are satisfactory to perform all work within the project scope. Staff recommends accepting the bid submitted by Sandbar and authorizing the City Manager to execute a construction contract in the amount of \$467,416.

ENVIRONMENTAL COMPLIANCE

Public Resources Code (PRC) Section 21080.35 statutorily exempts from CEQA analysis the installation of solar energy systems on the roof of an existing building or at an existing parking lot.

Evidence from PRC Section 21080.35;

(c) Associated Equipment

(c) (1). Equipment will be mounted to the carport structures. Other than the proposed structures, associated electrical equipment will be contained within the boundaries of the City Hall/Library parking lots and/or will be adjacent to existing buildings. Wiring from the photovoltaic structures will be routed underground to the main electrical service panel at the site.

FISCAL IMPACT

The fiscal year 2019/2020 adopted budget includes \$658,000 (347-9539) for design and construction of a solar project at City Hall. A budget of \$83,270 is recommended

for Sage Renewables to provide professional design and inspection services during construction, resulting in an available balance of \$574,730 for construction of the Project. A 15% contingency is appropriate for a construction project of this complexity. It is recommended the City Council authorize the City Manager, or designee, to execute up to an additional 15% contingency for written amendments to the construction contract with Sandbar such that the full value of the contract may not exceed \$537,050.

ATTACHMENTS

1. Resolution
 2. Contract
-

RESOLUTION NO. 19-____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SEASIDE

AWARDING A CONSTRUCTION CONTRACT TO SANTA CRUZ WESTSIDE ELECTRIC INC. DBA SANDBAR FOR THE CITY HALL SOLAR CANOPY PROJECT FOR AN AMOUNT NOT TO EXCEED \$467,416.

WHEREAS, solar energy is an environmentally sustainable, renewable resource capable of providing an alternative source of power for City Hall; and

WHEREAS, the fiscal year 2019/2020 adopted budget allocates \$658,000 for the construction of a solar project at City Hall (347-9539); and

WHEREAS, on March 6, 2019, the City of Seaside Board of Architectural Review approved plans for the construction of a Solar Canopy Project at City Hall (Project); and

WHEREAS, on March 21, 2019, the City Council approved the design and authorized the Project for bid; and

WHEREAS, Project was put out to bid and advertised on August 8, 2019 and a mandatory pre-bid meeting was held on Wednesday, August 21, 2019 in which several contractors were in attendance; and

WHEREAS on September 19, 2019, one bid was received at a public bid opening; and

WHEREAS, Santa Cruz Westside Electric Inc., dba Sandbar, was the lowest responsive bidder; and

WHEREAS Sandbar has successfully completed similar projects; and

WHEREAS, Public Resources Code (PRC) Section 21080.35 statutorily exempts from CEQA analysis the installation of solar energy systems on the roof of an existing building or at an existing parking lot.

"Equipment will be mounted to the carport structures. Other than the proposed structures, associated electrical equipment will be contained within the boundaries of the City Hall/Library parking lots and/or will be adjacent to existing buildings. Wiring from the photovoltaic structures will be routed underground to the main electrical service panel at the site".and

NOW, THEREFORE BE IT RESOLVED, City Council of the City of Seaside authorizes the City Manager to execute a construction contract with Santa Cruz Westside

Electric Inc., dba Sandbar, for the construction of *City Hall Solar Canopy Project* for an amount not to exceed Four Hundred Sixty Seven Thousand Four Hundred Sixteen Dollars (\$467,416); and

NOW, THEREFORE BE IT FURTHER RESOLVED, that the City of Seaside City Council authorize the City Manager, or his designee, to execute up to an additional 15% contingency for written amendments to the construction contract outlined above such that the full value of the contract may not exceed Five Hundred Thirty Seven Thousand Five Hundred Twenty Eight Dollars (\$537,528).

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Seaside duly held on the 3rd day of October, 2019 by the following vote:

AYES:	COUNCILMEMBERS:
NOES:	COUNCILMEMBERS:
ABSENT:	COUNCILMEMBERS:
ABSTAIN:	COUNCILMEMBERS:

Ian N. Oglesby, Mayor

ATTEST:

Lesley Milton-Rerig, City Clerk

**AGREEMENT
CITY HALL SOLAR CANOPY PROJECT**

THIS AGREEMENT, dated this ____ day of **October, 2019**, by and between **Santa Cruz Westside Electric Inc., dba Sandbar**, whose place of business is located at **2656 Mission Street, Santa Cruz, CA 95060** ("Contractor"), and the City of Seaside ("Owner"), acting under and by virtue of the authority vested in Owner by the laws of the State of California.

WHEREAS, Owner, by its Resolution No. _____ adopted on the **3rd day of October, 2019** awarded to Contractor the following Contract:

CONTRACT NUMBER 347-9539

**City Hall Solar Canopy
located at
440 Harcourt Avenue, Seaside, California, 93955**

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

ARTICLE 1 - SCOPE OF WORK OF THE CONTRACT

1.01 Work of the Contract

- A. Contractor shall complete all Work specified in the Contract Documents, in accordance with the Specifications, Drawings, and all other terms and conditions of the Contract Documents (Work).

1.02 Price for Completion of the Work

- A. Owner shall pay Contractor the following Contract Sum **Four Hundred Sixty Seven Thousand Four Hundred Sixteen Dollars (\$467,416)** for completion of Work in accordance with Contract Documents as set forth in Contractor's Bid, attached hereto.

ARTICLE 2 - COMMENCEMENT AND COMPLETION OF WORK

2.01 Commencement of Work

- A. Contractor shall commence Work on the date established in the Notice to Proceed (**Commencement Date**).
- B. Owner reserves the right to modify or alter the Commencement Date.

2.02 Completion of Work

- A. Contractor shall achieve Final Completion of the entire Work within **180 Working** Days from the Commencement.

ARTICLE 3 - PROJECT REPRESENTATIVES

3.01 Owner's Project Manager

- A. Owner has designated **City Engineer** as its Project Manager to act as Owner's Representative in all matters relating to the Project.
- B. City Manager shall have final authority over all matters pertaining to the Contract Documents and shall have sole authority to modify the Contract Documents on behalf of Owner, to accept work, and to make decisions or actions binding on Owner, and shall have sole signature authority on behalf of Owner.
- C. Owner may assign all or part of the Project Manager's rights, responsibilities and duties to a Construction Manager, or other Owner Representative.

ARTICLE 4 - LIQUIDATED DAMAGES FOR DELAY IN COMPLETION OF WORK

4.01 Liquidated Damage Amounts

- A. As liquidated damages for delay Contractor shall pay Owner **One Thousand Dollars (\$1,000)** for each Day that expires after the time specified herein for Contractor to achieve Final Completion of the entire Work, until achieved.

4.02 Scope of Liquidated Damages

- A. Measures of liquidated damages shall apply cumulatively.
- B. Limitations and stipulations regarding liquidated damages are set forth in Document 00 7200 (General Conditions).

ARTICLE 5 - CONTRACT DOCUMENTS

- 5.01** Contract Documents consist of the following documents, including all changes, Addenda, and Modifications thereto:

Document 00 4113	Bid Form
Document 00 5100	Notice of Award
Document 00 5200	Agreement
Document 00 5500	Notice to Proceed
Document 00 6113.13	Construction Performance Bond
Document 00 6113.14	Surety Bond
Document 00 6113.16	Construction Labor and Material Payment Bond
Document 00 6290	Escrow Agreement for Security Deposits
Document 00 6325	Substitution Request Form
Document 00 6530	Release of Claims
Document 00 6536	Guaranty
Document 00 7200	General Conditions
Document 00 7316	Supplementary Conditions – Insurance & Indemnification
Document 00 9113	Addenda
Requirements & Specifications	Divisions 01 through 34
Appendices	
Drawings listed in Document 00 0115	

- 5.02** There are no Contract Documents other than those listed above. The Contract Documents may only be amended, modified or supplemented as provided in Document 00 7200 (General Conditions).

ARTICLE 6 - MISCELLANEOUS

- 6.01** Terms and abbreviations used in this Agreement are defined in Document 00 7200 (General Conditions) and Section 01 4200 (References and Definitions) and will have the meaning indicated therein.
- 6.02** It is understood and agreed that in no instance are the persons signing this Agreement for or on behalf of Owner or acting as an employee, agent, or representative of Owner, liable on this Agreement or any of the Contract Documents, or upon any warranty of authority, or otherwise, and it is further understood and agreed that liability of Owner is limited and confined to such liability as authorized or imposed by the Contract Documents or applicable law.
- 6.03** In entering into a public works contract or a subcontract to supply goods, services or materials pursuant to a public works contract, Contractor or Subcontractor offers and agrees to assign to the awarding body all rights, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. §15) or under the Cartwright Act (Chapter 2 (commencing with §16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time Owner tenders final payment to Contractor, without further acknowledgment by the parties.

- 6.04** Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are deemed included in the Contract Documents and on file at Owner's Office, and shall be made available to any interested party on request. Pursuant to California Labor Code §§ 1860 and 1861, in accordance with the provisions of Section 3700 of the Labor Code, every contractor will be required to secure the payment of compensation to his/her employees. Contractor represents that it is aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and Contractor shall comply with such provisions before commencing the performance of the Work of the Contract Documents.
- 6.05** During the term of this Agreement, Contractor warrants that it is currently registered with the Department of Industrial Relations and qualified to perform public work consistent with Labor Code section 1725.5. Contractor further warrants that any subcontractors who are subject to Public Contract code section 4104, are registered and qualified to perform public work consistent with Labor Code section 1725.5.
- 6.06** This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.
- 6.07** This Agreement and the Contract Documents shall be deemed to have been entered into in the County of Monterey, State of California, and governed in all respects by California law (excluding choice of law rules). The exclusive venue for all disputes or litigation hereunder shall be in the Superior Court for the County of Monterey.

IN WITNESS WHEREOF the parties have executed this Agreement in quadruplicate the day and year first above written.

**CONTRACTOR: Santa Cruz Westside Electric, Inc
dba Sandbar**

By: _____
(Signature)

Its: Scott Laskey
Title: Chief Executive Officer

By: _____
(Signature)

Its: Michelle Laskey
Title: Secretary,

OWNER: The City of Seaside

By: _____
(Signature)

Craig Malin
(Print Name)

City Manager
(Title)

END OF DOCUMENT

DOCUMENT 00 0115

LIST OF DRAWINGS, TABLES AND SCHEDULES

DRAWINGS

Sheet Number

Description

CS-1 thru S-4 (22sheets)

Conform Plan Set-City of Seaside – 66.6kWAC Solar Canopies

END OF DOCUMENT

DOCUMENT 00 5100

NOTICE OF AWARD

Dated October 4, 2019

TO: Santa Cruz Westside Electric Inc., dba Sandbar

ADDRESS: 2656 Mission Street, Santa Cruz, CA 95060

CONTRACT NO.: 347-9539

CONTRACT FOR: The City of Seaside

City Hall Solar Canopy

located at 440 Harcourt Avenue, Seaside, California, 93955.

The Contract Sum of your contract is **Four Hundred Sixty Seven Thousand Four Hundred Sixteen Dollars (\$476,416)**

1. Two (2) copies of the proposed Contract Documents listed below accompany this Notice of Award.
2. You must comply with the following conditions precedent by **5:00 p.m.** of the **20th Day** following the date of this Notice of Award, that is, by **October 24, 2019**.
 - a. Deliver to Owner two fully executed counterparts of Document 00 5200 (Agreement). Each copy of Document 00 5200 (Agreement) must bear your original signature on the signature page and your initials on each page.
 - b. Deliver to Owner one originals of Document 00 6113.13 (Construction Performance Bond), executed by you and your surety.
 - c. Deliver to Owner one originals of Document 00 6113.16 (Construction Labor and Material Payment Bond), executed by you and your surety.
 - d. Deliver to Owner original set of the insurance certificates with endorsements required under Document 00 7316 (Supplementary Conditions – Insurance).
 - e. Deliver to Owner one original of Document 00 6536 (Guaranty), executed by you.
3. Failure to comply with these conditions within the time specified will entitle Owner to consider your Bid abandoned, to annul this Notice of Award, and to declare your Bid security forfeited.
4. Within 21 Days after you comply with the conditions in Paragraph 2 of this Document 00 5100, Owner will return to you one fully signed counterpart of Document 00 5200 (Agreement) with 2 copies of the Project Manual (including Specifications and Drawings) and 2 sets of full-size Drawings.
5. Before you may start any Work at the Site, you must attend a preconstruction conference and receive a Notice to Proceed from Owner. The preconstruction conference may be arranged through **Scott Ottmar, Project Manager (831) 899-6885**. Questions regarding bonds and insurance and all other inquiries regarding the Project should be directed to **Scott Ottmar, Project Manager**.

6. Upon commencement of the Work, you and each of your Subcontractors shall certify and provide Owner copies of payroll records on forms provided by the Division of Labor Standards Enforcement, in accordance with California Labor Code §1776.

OWNER

BY: _____
(Title)

(Print Name)

AUTHORIZED BY CITY OF SEASIDE, MONTEREY COUNTY, CALIFORNIA RESOLUTION:

NO: _____

ADOPTED: October 3, 2019

[Copy of Resolution Attached]

END OF DOCUMENT

DOCUMENT 00 5500

NOTICE TO PROCEED

Dated: _____, 2019

To: Santa Cruz Westside Electric Inc., dba Sandbar
(Contractor)

Address: 2656 Mission Street, Santa Cruz, CA 95060

CONTRACT FOR: The City of Seaside, **City Hall Solar Canopy Project** located at 440 Harcourt Avenue, Seaside, California, 93955

CONTRACT NO: **347-9539**

You are notified that the Contract Time under the above Contract will commence to run on **October 28, 2019**. On that date, you are to start performing your obligations with respect to Work at the Site under the Contract Documents. In accordance with Article 2 of Document 00 5200 (Agreement), the date of Final Completion for the entire Work is _____, **2020**.

Before you may start any Work at the Site, you must:

1. Submit Safety Plan and related information
2. Submit copies of applicable permits
3. Project Schedule
4. Schedule of Values

OWNER

By: _____

Its: _____

END OF DOCUMENT

DOCUMENT 00 6113.13

CONSTRUCTION PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS:

1.01 THAT WHEREAS, City of Seaside (Owner"), a municipality incorporated under the laws of the State of California, has awarded to **Santa Cruz Westside Electric Inc., dba Sandbar** as Principal, Contract Number 347-9539, dated the . day of _____, 2020 (the "Contract"), titled City Hall Solar Canopy Project in the amount of \$ Four Hundred Sixty Seven Thousand Four Hundred Sixteen Dollars (\$476,416), which Contract is by this reference made a part hereof, for the work of the following Contract:

Project Description: This project includes the construction of a complete 66.6 kWAC Photovoltaic System including the construction of a parking canopy shade structure to be located on an existing parking lot as shown in the plans and specifications.

1.02 AND WHEREAS, Principal is required to furnish a bond in connection with the Contract, guaranteeing the faithful performance thereof;

1.03 NOW, THEREFORE, we, the undersigned Principal and <<Name of Surety>> as Surety are held and firmly bound unto Owner in the sum of 100% OF THE CONTRACT PRICE to be paid to Owner or its successors and assigns; for which payment, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

1.04 THE CONDITION OF THIS OBLIGATION IS SUCH, that if Principal, or its heirs, executors, administrators, successors, or assigns approved by Owner, shall promptly and faithfully perform the covenants, conditions, and agreements of the Contract during the original term and any extensions thereof as may be granted by Owner, with or without notice to Surety, and during the period of any guarantees or warranties required under the Contract, and shall also promptly and faithfully perform all the covenants, conditions, and agreements of any alteration of the Contract made as therein provided, notice of which alterations to Surety being hereby waived, on Principal's part to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify, defend, protect, and hold harmless Owner as stipulated in the Contract, then this obligation shall become and be null and void; otherwise it shall be and remain in full force and effect.

1.05 No extension of time, change, alteration, modification, or addition to the Contract, or of the work required thereunder, or work or actions by Owner to mitigate the damages resulting from any breach in performance by Contractor, shall release or exonerate Surety on this bond or in any way affect the obligation of this bond; and Surety does hereby waive notice of any such extension of time, change, alteration, modification, or addition.

1.06 Whenever Principal shall be and declared by Owner in default under the Contract, Surety shall promptly remedy the default, or shall promptly, and in no event later than thirty (30) days from notice:

- A. Undertake through its agents or independent contractors (but having qualifications and experience reasonably acceptable to Owner), to complete the Contract in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract, including without limitation, all obligations with respect to warranties, guarantees, indemnities, and the payment of liquidated damages; or

- B. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and, upon determination by Owner of the lowest responsible bidder, arrange for a contract between such bidder and Owner and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract Sum, and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees, and the payment of liquidated damages; but, in any event, Surety's total obligations hereunder shall not exceed the amount set forth in the third paragraph hereof. The term "balance of the Contract Sum," as used in this paragraph, shall mean the total amount payable by Owner to the Principal under the Contract and any amendments thereto, less the amount paid by Owner to Principal.
- 1.07** Surety's obligations hereunder are independent of the obligations of any other surety for the performance of the Contract, and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing Owner's rights against the others.
- 1.08** Surety may not use Contractor to complete the Contract absent Owner's Consent. Owner shall have the right in its sole discretion to continue the work of the Contract, as necessary following a default and/or termination, as necessary to prevent risks of personal injury, property damage or delay to the Project.
- 1.09** No right of action shall accrue on this bond to or for the use of any person or corporation other than Owner or its successors or assigns.
- 1.10** Surety shall join in any proceedings brought under the Contract upon Owner's demand and shall be bound by any judgment.
- 1.11** Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.

IN WITNESS WHEREOF, we have hereunto set our hands this _____ day of _____, 20____.

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title: _____

Address: _____

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title: _____

Address: _____

END OF DOCUMENT

**DOCUMENT 00 6113.14
SURETY BOND**

KNOW ALL PERSONS BY THESE PRESENTS, that

WHEREAS, the CITY OF SEASISDE, (hereinafter referred to as "City") and

Santa Cruz Westside Electric Inc., dba Sandbar, (hereinafter referred to as "Principal")

have entered into a Construction Agreement ("Contract") for the construction of a complete 66.6 kWAC Photovoltaic System including the construction of a parking canopy shade structure to be located on an existing parking lot as shown in the plans and specifications; and

WHEREAS, Principal is required under the terms of the Agreement to furnish warranty security for the work performed pursuant to the Agreement in the amount of [\$xxx,xxx,] to guarantee replacement and repair of the improvements as described in the Agreement for a period of one year following the date of recordation of the notice of acceptance of the Improvements against any defective work or labor done, or defective materials furnished.

NOW, THEREFORE, we, the Principal, and _____ as Surety, are held and firmly bound unto the City in the penal sum of Four Hundred Sixty Seven Thousand Four Hundred Sixteen Dollars (\$476,416) lawful money of the United States, being not less than 100 percent (100%) of the amount payable by the terms of the Contract, for the payment of which sum well and truly to be made we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

The condition of this obligation is such that if Principal shall indemnify City for all loss that City may sustain by reason of any defective materials or workmanship which become apparent during the period of two (2) years from and after acceptance of the improvements by the City Council of City, then this obligation shall be null and void; otherwise, this obligation shall remain in full force and effect.

As a part of the obligation secured hereby and in addition to the face amount specified, costs and reasonable expenses and fees shall be included, including reasonable attorneys' fees incurred by City in successfully enforcing the obligation, all to be taxed as costs and included in any judgment rendered.

Surety's obligations hereunder are independent of the obligations of any other surety for the performance of the Contract, and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing the City's rights against the others.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the City or its successors or assigns.

Surety shall provide City with thirty (30) days' written notice of Principal's default prior to Surety terminating, suspending or revoking the bond.

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

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their seals this _____ day of _____, 20____, the name and corporate seal of

Surety Bond

00 6113.14 - 1

City of Seaside
City Hall Solar Canopy

DOCUMENT 00 6113.14
SURETY BOND

each corporate body being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

(Principal)

By _____
Signature

Print Name

Title

Note:

To be signed by Principal
and Surety and acknowledgment
and notarial seal attached.

(Surety)

(Address)

By _____
Signature

Print Name

Title

DOCUMENT 00 6113.16

CONSTRUCTION LABOR AND MATERIAL PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS:

1.01 THAT WHEREAS, City of Seaside ("Owner") has awarded to **Santa Cruz Westside Electric Inc., dba Sandbar** as Principal, Contract Number 347-9539 dated the _____ day of _____, 2020 (the "Contract"), titled City Hall Solar Canopy Project in the amount of Four Hundred Sixty Seven Thousand Four Hundred Sixteen Dollars (\$476,416), which Contract is by this reference made a part hereof, for the work of the following Contract:

Project Description: This project includes the construction of a complete 66.6 kWAC Photovoltaic System including the construction of a parking canopy shade structure to be located on an existing parking lot as shown in the plans and specifications.

1.02 AND WHEREAS, Principal is required to furnish a bond in connection with the Contract to secure the payment of claims of laborers, mechanics, material suppliers, and other persons as provided by law;

1.03 NOW, THEREFORE, we, the undersigned Principal and (Name of Surety), as Surety, are held and firmly bound unto Owner in the sum of 100% OF THE CONTRACT PRICE (\$), for which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

1.04 THE CONDITION OF THIS OBLIGATION IS SUCH, that if Principal, or its executors, administrators, successors, or assigns approved by Owner, or its subcontractors shall fail to pay any of the persons named in California Civil Code §9100, or amounts due under the State of California Unemployment Insurance Code with respect to work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the State of California Employment Development Department from the wages of employees of Principal and subcontractors pursuant to Section 13020 of the State of California Unemployment Insurance Code with respect to such work and labor, that Surety will pay for the same in an amount not exceeding the sum specified in this bond, plus reasonable attorneys' fees, otherwise the above obligation shall become and be null and void.

1.05 This bond shall inure to the benefit of any of the persons named in California Civil Code §9100, as to give a right of action to such persons or their assigns in any suit brought upon this bond. The intent of this bond is to comply with the California Mechanic's Lien Law.

1.06 Surety, for value received, hereby expressly agrees that no extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder, shall in any way affect the obligation of this bond; and it does hereby waive notice of any such extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder.

1.07 Surety's obligations hereunder are independent of the obligations of any other surety for the payment of claims of laborers, mechanics, material suppliers, and other persons in connection with Contract; and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing Owner's rights against the other.

1.08 Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.

IN WITNESS WHEREOF, we have hereunto set our hands this ____ day of _____, 20____.

CONTRACTOR AS PRINCIPAL

Company: (Corp. Seal)

Signature

Name

Title

Street Address

City, State, Zip Code

SURETY

Company: (Corp. Seal)

Signature

Name

Title

Street Address

City, State, Zip Code

END OF DOCUMENT

DOCUMENT 00 6290

ESCROW AGREEMENT FOR SECURITY DEPOSIT IN LIEU OF RETENTION

California Public Contract Code §22300

THIS ESCROW AGREEMENT ("Escrow Agreement") is made and entered into this ____ day of _____, 201____, by and between the City of Seaside, ("Owner"), whose address is 440 Harcourt Avenue, Seaside CA 93955, Santa Cruz Westside Electric Inc., dba Sandbar ("Contractor"), whose place of business is located 2656 Mission Street, Santa Cruz, CA 95060, and [] Owner, as escrow agent **OR** [] (Name of Bank), a state or federally chartered bank in the State of California, whose place of business is located at _____ ("Escrow Agent").

For the consideration hereinafter set forth, Owner, Contractor and Escrow Agent agree as follows:

1. Pursuant to California Public Contract Code §22300, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by Owner pursuant to Contract Number 347-9539 entered into between Owner and Contractor for the **City Hall Solar Canopy Project** located at **440 Harcourt Avenue**, SEASIDE, CA, 93955, in the amount of Four Hundred Sixty Seven Thousand Four Hundred Sixteen Dollars (\$476,416) dated _____, 2019 (the "Contract"). Alternatively, on written request of Contractor, Owner shall make payments of the retention earnings directly to Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, Escrow Agent shall notify Owner within ten Days of the deposit. The market value of the securities at the time of substitution shall be at least equal to the cash amount then required to be withheld as retention under terms of Contract between Owner and Contractor. Securities shall be held in name of _____, and shall designate Contractor as the beneficial owner.
2. Owner shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments pursuant to Contract provisions, provided that Escrow Agent holds securities in form and amount specified in Paragraph 1 of this Document 00 6290.
3. When Owner makes payment(s) of retention earned directly to Escrow Agent, Escrow Agent shall hold said payment(s) for the benefit of Contractor until the time that the escrow created under this Escrow Agreement is terminated. Contractor may direct the investment of the payments into securities. All terms and conditions of this Escrow Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when Owner pays Escrow Agent directly.
4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account, and all expenses of Owner. Such expenses and payment terms shall be determined by Owner, Contractor, and Escrow Agent.
5. Interest earned on securities or money market accounts held in escrow and all interest earned on that interest shall be for sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to Owner.
6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from Owner to Escrow Agent that Owner consents to withdrawal of amount sought to be withdrawn by Contractor.
7. Owner shall have the right to draw upon the securities in event of default by Contractor. Upon seven Days written notice to Escrow Agent from Owner of the default, Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by Owner.
8. Upon receipt of written notification from Owner certifying that the Contract is final and complete, and that Contractor has complied with all requirements and procedures applicable to the

Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.

9. Escrow Agent shall rely on written notifications from Owner and Contractor pursuant to Paragraphs 5 through 8, inclusive, of this Document 00 6290 and Owner and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of securities and interest as set forth.
10. Names of persons who are authorized to give written notice or to receive written notice on behalf of Owner and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are set forth below. Either Owner or Contractor may change the names of the person they each authorize to give notice under this Escrow Agreement by providing written notice to the other of such change, along with an exemplar of the person's signature.

ON BEHALF OF OWNER:

Title

Name

Signature

Address

City/State/Zip Code

ON BEHALF OF CONTRACTOR:

Title

Name

Signature

Address

City/State/Zip Code

ON BEHALF OF ESCROW AGENT:

Title

Name

Signature

Address

City/State/Zip Code

IN WITNESS WHEREOF, the parties have executed this Escrow Agreement by their proper officers on the date first set forth above.

OWNER

Title

Name

Signature

CONTRACTOR

Title

Name

Signature

ATTEST

Signature

Print Name

City Clerk

ESCROW AGENT

Title

Print Name

Signature

REVIEWED AS TO FORM:

Counsel for Owner

Print Name

Date

At the time the Escrow Account is opened, Owner and Contractor shall deliver to Escrow Agent a fully executed counterpart of this Document 00 6290.

END OF DOCUMENT

DOCUMENT 00 6325

SUBSTITUTION REQUEST FORM

To: The City of Seaside, Owner

[() -]

PROJECT:	Contractor:
Owner Project No:	

Substitution Request By:	Firm:

Transmittal Record	Attn:	Firm:	Date Sent:	Date Rec'd:	Date Due:
Contractor to Owner					
Contractor to Architect					
Owner / Architect to Consultant					
Architect to Owner Representative					
Owner Representative to Contractor					

We hereby submit for your consideration the following product instead of the specified item for the Project:

Section / Drawing	Article	Specified Item
Proposed Substitution:		

We have (a) attached manufacturer's literature, including complete technical data and laboratory test results, if applicable, (b) attached an explanation of why proposed substitution is a true equivalent to specified item, (c) included complete information on changes to Contract Documents that the proposed substitution will require for its proper installation, and (d) filled in the blanks below:

Contractor to complete questions that follow and certifies to the accuracy of all answers:

A.	Does the substitution affect dimensions shown on Drawings? Yes ___ / No ___. If No, please explain proposed mitigation and why substitution is equivalent to originally specified item:
B.	Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution? Yes ___ / No ___. If No, please state reasons explain why substitution is equivalent to originally specified item:
C.	What effect does the substitution have on other trades? No effect: ___ / Some effect ___. If substitution will affect other trades, please explain the effect and why substitution is equivalent to originally specified item:
D.	Will substitution cause change to Project Schedule, or to critical delivery dates? Add? Shorten? If the substitution will add to schedule dates or affect critical activities, please explain why substitution is equivalent to originally specified item:
E.	Please describe differences between proposed substitution and specified item? Please explain and identify any and all differences, and please explain why substitution is equivalent to originally specified item:
F.	What is the Cost Differential to Contractor in original specified item and proposed substitution including all mark-ups? [If substitution requested during bid period, skip this question.]
G.	Are Manufacturer's guarantees for the proposed item the same as for item specified? Yes ____; No _____. If No, please explain why substitution is equivalent to originally specified item:

H.	Contractor accepts full responsibility for delays caused by redesign of other items of the Work necessitated by substitution? Yes ___ / No ___. If No, please state reasons and explain why substitution is equivalent to originally specified item:
I.	Contractor states that the function, appearance and quality are equivalent or superior to the specified item? Yes ___ / No ___. If No, please explain why substitution is equivalent to originally specified item:

We certify that the function, appearance, and quality of the proposed substitution are equivalent or superior to those of the specified item, except as we may specifically state otherwise in this request.

Submitted by: _____ Signature: _____

Firm: _____ Date: _____

Address: _____ Phone/ Fax: _____

Remarks: _____

Consultant Response: ☐ Accepted ☐ Not Accepted ☐ Accepted As Noted ☐ Received Too Late	Owner Representative Response: ☐ Accepted ☐ Not Accepted ☐ Accepted As Noted ☐ Received Too Late
Remarks: _____ _____	Remarks: _____ _____
By: _____	By: _____

END OF DOCUMENT

DOCUMENT 00 6530

**CONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT
[Civil Code section 8136]**

NOTICE: THIS DOCUMENT WAIVES THE CLAIMANT'S LIEN, STOP PAYMENT NOTICE, AND
PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD
NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS
RECEIVED PAYMENT.

Identifying Information

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Conditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant's receipt of payment from the financial institution on which the following check is drawn:

Maker of Check: _____

Amount of Check: \$ _____

Check Payable to: _____

Exceptions

This document does not affect any of the following: _____

Disputed claims for extras in the amount of: \$ _____

Signature

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

DOCUMENT 00 6536

GUARANTY

TO: The City of Seaside ("Owner"), for construction of **City Hall Solar Canopy** located at 440 Harcourt Avenue, Seaside, California, 93955.

The undersigned guarantees all construction performed on this Project and also guarantees all material and equipment incorporated therein in addition to submitting to Owner a Surety Bond in a sum equal to one hundred percent of the Contract price, prior to the date of recording the notice of completion.

Contractor hereby grants to Owner for a minimum period of one (1) year following the date of Final Acceptance of the Work completed, or such longer period specified in the Contract Documents, its unconditional warranty of the quality and adequacy of all of the Work including, without limitation, all labor, materials and equipment provided by Contractor and its Subcontractors of all tiers in connection with the Work.

Neither final payment nor use nor occupancy of the Work performed by the Contractor shall constitute an acceptance of Work not done in accordance with this Guaranty or relieve Contractor of liability in respect to any express warranties or responsibilities for faulty materials or workmanship. Contractor shall remedy any defects in the Work and pay for any damage resulting therefrom, which shall appear within two years, or longer if specified, from the date of Final Acceptance of the Work completed.

If within the minimum one (1) year period after the date of Final Acceptance of the Work completed, or such longer period of time as may be prescribed by laws or regulations, or by the terms of Contract Documents, any Work is found to be Defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions, correct such Defective Work. Contractor shall remove any Defective Work rejected by Owner and replace it with Work that is not Defective, and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the Defective Work corrected or the rejected Work removed and replaced. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement. Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, Owner shall have all rights and remedies granted by law.

Inspection of the Work shall not relieve Contractor of any of its obligations under the Contract Documents. Even though equipment, materials, or Work required to be provided under the Contract Documents have been inspected, accepted, and estimated for payment, Contractor shall, at its own expense, replace or repair any such equipment, material, or Work found to be Defective or otherwise not to comply with the requirements of the Contract Documents up to the end of the guaranty period.

All abbreviations and definitions of terms used in this Agreement shall have the meanings set forth in the Contract Documents.

The foregoing Guaranty is in addition to any other warranties of Contractor contained in the Contract Documents, and not in lieu of, any and all other liability imposed on Contractor under the Contract Documents and at law with respect to Contractor's duties, obligations, and performance under the Contract Documents. In the event of any conflict or inconsistency between the terms of this Guaranty and any warranty or obligation of the Contractor under the Contract Documents or at law, such inconsistency or conflict shall be resolved in favor of the higher level of obligation of the Contractor.

Date: _____, 20____

Contractor's name

By: _____
Signature

Print Name

Title

Street Address

City, State, Zip code

END OF DOCUMENT

DOCUMENT 00 7200

GENERAL CONDITIONS

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GENERAL CONDITIONS

ARTICLE 1 - INTERPRETATION OF CONTRACT DOCUMENTS

1.01 Interpretation Of Documents

- A. Contract Documents are complementary; what is called for by one is as binding as if called for by all.
- B. Individual Contract Documents subdivide at first level into Articles, and then into paragraphs.

1.02 Order Of Precedence Of Documents

- A. In the case of discrepancy or ambiguity in the Contract Documents, the following order of precedence shall prevail:
 - 1. Modifications in inverse chronological order (i.e., most recent first), and in the same order as specific portions they are modifying;
 - 2. Agreement Forms (Document 00 5200), and terms and conditions referenced therein;
 - 3. Supplementary General Conditions (Document 00 7201 et seq), if included;
 - 4. General Conditions (Document 00 7200);
 - 5. Division 1 Specifications, if included;
 - 6. Drawings and Technical Specifications (Division 2 and above);
 - 7. Written numbers over figures, unless obviously incorrect;
 - 8. Figured dimensions over scaled dimensions;
 - 9. Large-scale Drawings over small-scale Drawings.
- B. Any conflict between Drawings and Technical Specifications (Division 2 and above) will be resolved in favor of the document of the latest date (i.e., the most recent document), and if the dates are the same or not determinable, then in favor of Specifications.
- C. Any conflict between a bill or list of materials shown in the Contract Documents and the actual quantities required to complete Work required by Contract Documents, will be resolved in favor of the actual quantities.
- D. All Technical Specifications included in the Project manual shall be included within the Contract Documents unless identified otherwise.

ARTICLE 2 - PRE-BID INVESTIGATIONS

2.01 Pre-Bid Investigations Required

- A. Prior to and as a condition of submitting a Bid and executing Document 00 5200 (Agreement), Contractor shall make reasonable efforts to investigate fully the Work of the Contract. Contractor shall visit the Site, examine thoroughly and understand fully the nature and extent of the Contract Documents, Work, Site, locality, actual conditions and as-built conditions.
- B. Contractor's investigation shall include, without limitation, requesting and thoroughly examining of all reports of exploration and tests of subsurface conditions, as-built drawings, drawings, product specification(s) or reports, made available by Owner for contracting purposes or during Contractor's pre-bid investigations, of existing above ground and (to the extent applicable) below ground conditions (together, "Existing Conditions Data"), including, as applicable, Underground Facilities, geotechnical data, as-built data, utility surveys, record documents of all types, hazardous materials surveys, or similar materials which may appear or be referenced in the Project Manual or the in the Contract Documents, and all local conditions, and federal, state and local laws and regulations that in any manner may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto.
- C. Contractor's investigations shall consider fully the fact that Existing Conditions Data is in many cases based on information furnished to Owner by others (e.g., the prior owner or builders), and that due to their age or their chain of custody since preparation, may not meet current industry standards for accuracy. Contractor shall also: (i.) provide Owner with prompt written notice of all conflicts, errors, ambiguities, or discrepancies of any type, that it discovered in or among the

Contract Documents and the Existing Conditions Data, and (ii.) subject to Owner's approval, conduct any such additional or supplementary examinations, investigations, explorations, tests, studies and data compilations, concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise, which Contractor may deem necessary in order to perform and furnish the Work in accordance with the terms and conditions of Contract Documents.

- D. During performance of the Contract, Contractor will be charged with knowledge of all information that it should have learned in performing these pre-bid investigations and other obligations, and shall not be entitled to Change Orders (time or compensation) due to any information, error, inconsistency, omission, or conditions that Contractor should have known as a part of this Work. Contractor shall be responsible for the resultant losses, including, without limitation, the cost of correcting Defective Work.

2.02 Limited Reliance Permitted On Owner's Existing Conditions Data

- A. Regarding aboveground and as-built conditions shown on the Contract Documents or supplied by Owner, such information has been compiled in good faith, however, Owner does not expressly or impliedly warrant or represent that such information is correctly shown or indicated, or otherwise complete for construction purposes. Contractor must independently verify such information as part of its pre-bid investigations, and where conditions are not reasonably verifiable or discrepancies are identified, bring such matters to Owner's attention through written question issued during the bid period. In executing Document 00 5200 (Agreement), Contractor shall rely on the results of its own independent investigation and shall not rely on Owner-supplied information regarding aboveground conditions and as-built conditions, and Contractor shall accept full responsibility for its verification work sufficient to complete the Work as intended.
- B. Regarding subsurface conditions other than Underground Facilities shown on the Contract Documents or otherwise supplied by Owner, Contractor may rely only upon the general accuracy of actual reported depths, actual reported character of materials, actual reported soil types, actual reported water conditions, or actual obstructions shown or indicated in the Contract Documents. Owner is not responsible for the completeness of any subsurface condition information, Contractor's conclusions or opinions drawn from any subsurface condition information, or subsurface conditions that are not specifically shown. (For example, Owner is not responsible for soil conditions in areas contiguous to areas where a subsurface condition is shown.)

2.03 Pre-Bid Investigation Requirements For Excavation And Utilities Relocation Projects

- A. As part of its pre-bid investigations for Projects involving excavation and/or relocation of existing utilities, Contractor shall make reasonable efforts to verify information regarding Underground Facilities, including but not limited to, requesting additional information or verification of information as necessary.
- B. Because of the nature and location of Owner and the Project, the existence of Underground Facilities is deemed inherent in the Work of the Contract, as is the fact that Underground Facilities are not always accurately shown or completely shown on as-built records, both as to their depth and location. Contractor shall, therefore, take care to note the existence and potential existence of Underground Facilities, in particular, above and below grade structures, drainage lines, storm drains, sewers, water, gas, electrical, chemical, hot water, and other similar items and utilities. Contractor shall carefully consider all supplied information, request additional information Contractor may deem necessary, and visually inspect the Site for above ground indications of Underground Facilities (such as, for example not by way of limitation, the existence of existing service laterals, appurtenances or other types of utilities, indicated by the presence of an underground transmission main or other visible facilities, such as buildings, new asphalt, meters and junction boxes, on or adjacent to the Site). Contractor shall also consider local underground conditions and typical practices for Underground Facilities, either through its own direct knowledge or through its subcontractors, and fully consider this knowledge in assessing the existing information and the reasonableness of its reliance.

ARTICLE 3 - SUBCONTRACTORS

3.01 Subcontractor Listing Law

- A. Contractor shall comply with the Subcontractor Listing law, California Public Contract Code §§4101 et seq. Contractor shall not substitute any other person or firm in place of any Subcontractor listed in the Bid except as may be allowed by law.
- B. Subcontractors shall not assign or transfer their subcontracts or permit them to be performed by any other contractor without Owner's written approval. At Owner's request, Contractor shall provide Owner with a complete copy of all executed subcontracts or final commercial agreements with Subcontractors and/or suppliers.

3.02 Subcontracts

- A. Subcontract agreements shall preserve and protect the rights of Owner under the Contract Documents so that subcontracting will not prejudice such rights. To the extent of the Work to be performed by a Subcontractor, Contractor shall require the Subcontractor's written agreement (1) to be bound to the terms of Contract Documents and (2) to assume vis-à-vis Contractor all the obligations and responsibilities that Contractor assumes toward Owner under the Contract Documents. (These agreements include for example, and not by way of limitation, all warranties, claims procedures and rules governing submittals of all types to which Contractor is subject under the Contract Documents.)
- B. Contractor shall provide for the assignment to Owner of all rights any Subcontractor (of any tier) may have against any manufacturer, supplier, or distributor for breach of warranties and guarantees relating to the Work performed by the Subcontractor under the Contract Documents. Subcontracts shall provide and acknowledge Owner as an intended third-party beneficiary of each subcontract and supply contract (of any tier).

ARTICLE 4 - DRAWINGS AND SPECIFICATIONS

4.01 Intent Of Drawings And Specifications

- A. Contractor shall interpret words or phrases used to describe Work (including services), materials, or equipment that have well-known technical or construction industry or trade meaning in accordance with that meaning. Drawings' intent specifically includes the intent to depict construction that complies with all applicable laws, codes and standards.
- B. As part of the "Work," Contractor shall provide all labor, materials, equipment, machinery, tools, facilities, services, employee training and testing, hoisting facilities, Shop Drawings, storage, testing, security, transportation, disposal, the securing of all necessary or required field dimensions, the cutting or patching of existing materials, notices, permits, documents, reports, agreements and any other items required or necessary to timely and fully complete Work described and the results intended by Contract Documents and, in particular, Drawings and Specifications. Divisions and Specification Sections and the identification on any Drawings shall not control Contractor in dividing Work among Subcontractors or suppliers or delineating the Work to be performed by any specific trade.
- C. Contractor shall perform reasonably implied parts of Work as "incidental work" although absent from Drawings and Specifications. Incidental work includes any work not shown on Drawings or described in Specifications that is necessary or normally or customarily required as a part of the Work shown on Drawings or described in Specifications. Incidental work includes any work necessary or required to make each installation satisfactory, legally operable, functional, and consistent with the intent of Drawings and Specifications or the requirements of Contract Documents. Contractor shall perform incidental work without extra cost to Owner. Incidental work shall be treated as if fully described in Specifications and shown on Drawings, and the expense of incidental work shall be included in price Bid and Contract Sum.

4.02 Checking Of Drawings And Specifications

- A. Before undertaking each part of Work, Contractor shall carefully study and compare Contract Documents and check and verify pertinent figures shown in the Contract Documents and all applicable field measurements. Contractor shall be responsible for any errors that might have

been avoided by such comparison. Figures shown on Drawings shall be followed; Contractor shall not scale measurements. Contractor shall promptly report to Owner, in writing, any conflict, error, ambiguity or discrepancy that Contractor may discover. Contractor shall obtain a written interpretation or clarification from Owner before proceeding with any Work affected thereby. Contractor shall provide Owner with a follow-up correspondence every ten Days until it receives a satisfactory interpretation or clarification.

4.03 Interpretation Of Drawings And Specifications

- A. A typical or representative detail on Drawings shall constitute the standard for workmanship and material throughout corresponding parts of Work. Where necessary, and where reasonably inferable from Drawings, Contractor shall adapt such representative detail for application to such corresponding parts of Work. The details of such adaptation shall be subject to prior approval by Owner. Repetitive features shown in outline on Drawings shall be in exact accordance with corresponding features completely shown.
- B. Should any discrepancy appear or any misunderstanding arise as to the import of anything contained in Drawings and Specifications, or should Contractor have any questions or requests relating to Drawings or Specifications, Contractor shall refer the matter to Owner, in writing, with a copy to the Architect/Engineer. Owner will issue with reasonable promptness written responses, clarifications or interpretations as Owner may determine necessary, which shall be consistent with the intent of and be reasonably inferable from Contract Documents. Such written clarifications or interpretations shall be binding upon Contractor. If Contractor believes that a written response, clarification or interpretation justifies an adjustment in the Contract Sum or Contract Time, Contractor shall give Owner prompt written notice. If the parties are unable to agree to the amount or extent of the adjustment, if any, then Contractor shall perform the Work in conformance with Owner's response, clarification, or interpretation and may make a written claim for the adjustment as provided in Article 12.
- C. The following general specifications shall apply wherever in the Specifications, or in any directions given by Owner in accordance with or supplementing Specifications, it is provided that Contractor shall furnish materials or manufactured articles or shall do Work for which no detailed specifications are shown. Materials or manufactured articles shall be of the best grade, in quality and workmanship, obtainable in the market from firms of established good reputation. If not ordinarily carried in stock, the materials or manufactured articles shall conform to industry standards for first class materials or articles of the kind required, with due consideration of the use to which they are to be put. Work shall conform to the usual standards or codes, such as those cited herein, for first class work of the kind required. Contractor shall specify in writing to Owner the materials to be used or Work to be performed under this Paragraph ten Business Days prior to furnishing such materials or performing such Work.

4.04 Use Of Drawings And Specifications.

- A. Drawings, Specifications and other Contract Documents were prepared for use for Work of Contract Documents only. No part of Contract Documents shall be used for any other construction or for any other purpose except with the written consent of Owner. Any unauthorized use of Contract Documents is prohibited and at the sole liability of the user.

ARTICLE 5 - COMMENCEMENT OF THE WORK

5.01 Submission Of Required Schedules

- A. Contractor shall submit to Owner in draft for review and discussion at the Preconstruction Conference, and in final prior to the first payment application, the following schedules:
 - 1. Schedule of Values
 - 2. Progress Schedule, and
 - 3. Schedule of Submittals.
- B. No progress payment shall be due or owing to Contractor until such schedules are submitted to and acceptable to Owner and/or Architect/Engineer as meeting the requirements of the Contract

Documents. In Owner's sole discretion, Owner may elect to instead withhold a portion of any progress payment for unacceptable compliance with contract requirements for such schedules.

- C. Owner's acceptance of Contractor's schedules will not create any duty of care or impose on Owner any responsibility for the sequencing, scheduling or progress of Work nor will it interfere with or relieve Contractor from Contractor's full responsibility therefore.

5.02 Commencement Date Of Contract Time

- A. The Contract Time will commence to run on the 60th Day after the issuance of the Notice of Award or, if a Notice to Proceed is given, on the date indicated in the Notice to Proceed.
- B. Owner may give a Notice to Proceed at any time within 60 Days after the Notice of Award. Contractor shall not do any Work at the Site prior to the date on which the Contract Time commences to run.

ARTICLE 6 - CONTRACTOR'S ORGANIZATION AND EQUIPMENT

6.01 Contractor's Legal Address

- A. Address and facsimile number given in Contractor's Bid are hereby designated as Contractor's legal address and facsimile number. Contractor may change its legal address and facsimile number by notice in writing, delivered to Owner, which in conspicuous language advises Owner of a change in legal address or facsimile number, and which Owner accepts in writing. Delivery to Contractor's legal address or depositing in any post office or post office box regularly maintained by the United States Postal Service, in a wrapper with postage affixed, directed to Contractor at legal address, or of any drawings, notice, letter or other communication, shall be deemed legal and sufficient service thereof upon Contractor. Facsimile to Contractor's designated facsimile number of any letter, memorandum, or other communication on standard or legal sized paper, with proof of facsimile transmission, shall be deemed legal and sufficient service thereof upon Contractor.

6.02 Contractor's Superintendents Or Forepersons

- A. Contractor shall at all times be represented on Site by one or more superintendents or forepersons authorized and competent to receive and carry out any instructions that Owner may give, and shall be liable for faithful observance of instructions delivered to Contractor or to authorized representative or representatives on Site.

6.03 Proficiency In English

- A. Supervisors, security guards, safety personnel and employees who have unescorted access to the Site shall possess proficiency in the English language in order to understand, receive and carry out oral and written communications or instructions relating to their job functions, including safety and security requirements.

6.04 Contractor's And Subcontractors' Employees

- A. Contractor shall employ, and shall permit its Subcontractors to employ, only competent and skillful personnel to do Work. If Owner notifies Contractor that any of its employees, or any of its Subcontractors' employees on Work is incompetent, unfaithful, disorderly or profane, or fails to observe customary standards of conduct or refuses to carry out any provision of the Contract Documents, or uses threatening or abusive language to any person on Work representing Owner, or violates sanitary rules, or is otherwise unsatisfactory, and if Owner requests that such person be discharged from Work, then Contractor or its Subcontractor shall immediately discharge such person from Work and the discharged person shall not be re-employed on the Work except with consent of Owner.

6.05 Contractor's Use Of The Site

- A. Contractor shall not make any arrangements with any person to permit occupancy or use of any land, structure or building within the limits of the Work, for any purpose whatsoever, either with or without compensation, in conflict with any agreement between Owner and any Owner, former

Owner or tenant of such land, structure or buildings. Contractor may not occupy Owner-owned property outside the limit of the Work as indicated on the Drawings unless it obtains prior approval from Owner.

6.06 Contractor's Site Office

- A. Unless expressly provided otherwise in the Contract Documents, Contractor shall provide a site office staffed by a resident project manager or job superintendent.

ARTICLE 7 - OWNER'S ADMINISTRATION OF WORK

7.01 Owner's Representative(s)

- A. Owner's Representative(s) will have limited authority to act on behalf of Owner as set forth in the Contract Documents.
- B. Except as otherwise provided in these Contract Documents or subsequently identified in writing by Owner, Owner will issue all communications to Contractor through Owner's Representative, and Contractor shall issue all communications to Owner through Owner's Representative in a written document delivered to Owner.
- C. Should any direct communications between Contractor and Owner's consultants, architects or engineers not identified in Article 2 of Document 00 5200 (Agreement) occur during field visits or by telephone, Contractor shall immediately confirm them in a written document copied to Owner.

7.02 Owner's Observation Of The Work

- A. Work shall be performed under Owner's general observation and administration. Contractor shall comply with Owner's directions and instructions in accordance with the terms of Contract Documents, but nothing contained in these General Conditions shall be taken to relieve Contractor of any obligations or liabilities under the Contract Documents. Owner's failure to review or, upon review, failure to object to any aspect of Work reviewed, shall not be deemed a waiver or approval of any non-conforming aspect of Work.
- B. Subject to those rights specifically reserved in the Contract Documents, Owner will not supervise, or direct, or have control over, or be responsible for, Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or Contractor's failure to comply with laws and regulations applicable to the furnishing or performance of Work. Owner will not be responsible for Contractor's failure to perform or furnish the Work in accordance with Contract Documents.

7.03 Architect/Engineer's Observation Of Work

- A. Owner may engage an Architect/Engineer, an independent consultant or Project Manager (collectively for purposes of this Paragraph, "Project Manager/Architect") to assist in administering the Work. If so engaged, Project Manager/Architect will advise and consult with Owner, but will have authority to act on behalf of Owner only to extent provided in the Contract Documents or as set forth in writing by Owner. Project Manager/Architect will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with Work. Project Manager/Architect will not be responsible for or have control over the acts or omissions of Contractor, Subcontractors or their agents or employees, or any other persons performing Work.
- B. Project Manager/Architect may review Contractor's Submittals, such as Shop Drawings, Product Data, and Samples, but only for conformance with design concept of Work and with information given in the Contract Documents.
- C. Project Manager/Architect may visit the Site at intervals appropriate to stage of construction to become familiar generally with the progress and quality of Work and to determine in general if Work is proceeding in accordance with Contract Documents. Based on its observations, Project Manager/Architect may recommend to Owner that it disapproves or rejects Work that Project Manager/Architect believes to be Defective or will not produce a complete Project that conforms to Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by Contract Documents. Owner will also have

authority to require special inspection or testing of Work, whether or not the Work is fabricated, installed or completed.

- D. Project Manager/Architect may conduct inspections to recommend to Owner the dates that Contractor has achieved Substantial Completion and Final Acceptance, and will receive and forward to Owner for review written warranties and related documents required by Contract Documents.

7.04 Owner's And Architect/Engineer's Exercise Of Contract Responsibilities

- A. Owner, Project Manager, Architect/Engineer and all Owner's representatives, in performing their duties and responsibilities under the Contract Documents, accept no duties, responsibilities or duty of care, nor may the same be implied or inferred, towards Contractor, any Subcontractor, sub-Subcontractor or supplier, except those set forth expressly in the Contract Documents.

7.05 Owner's Right Of Access To The Work

- A. During performance of Work, Owner and its agents, consultants, and employees may at any time enter upon Work, shops or studios where any part of the Work may be in preparation, or factories where any materials for use in Work are being or are to be manufactured, and Contractor shall provide proper and safe facilities for this purpose, and shall make arrangements with manufacturers to facilitate inspection of their processes and products to such extent as Owner's interests may require. Other contractors performing work for Owner may also enter upon Work for all purposes required by their respective contracts. Subject to the rights reserved in the Contract Documents, Contractor shall have sole care, custody, and control of the Site and its Work areas.

7.06 Owner's Right Of Separate Construction

- A. Owner may perform with its own forces, construction or operations related to the Project, or the Site during Contractor's operations. Owner may also award separate contracts in connection with other portions of the Project or other construction or operations, on the Site or areas contiguous to the Site, under conditions similar to these Contract Documents, or may have utility Owners perform other work.
- B. Contractor shall adjust its schedule and fully coordinate with and shall afford all other contractors, utility districts and Owner (if Owner is performing work with its own forces), proper and safe access to the Site, and reasonable opportunity for the installation and storage of their materials. Contractor shall ensure that the execution of its Work properly connects and coordinates with others' work, do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work, and shall cooperate with them to facilitate the progress of the Work.
- C. To the extent that any part of Contractor's Work is to interface with work performed or installed by other contractors or utility owners, Contractor shall inspect and measure the in-place work. Contractor shall promptly report to Owner in writing any defect in in-place work that will impede or increase the cost of Contractor's interface unless corrected.

ARTICLE 8 - CONTRACTOR'S PROSECUTION AND PROGRESS OF THE WORK

8.01 Contractor To Supervise The Work

- A. Subject to those rights specifically reserved in the Contract Documents, Contractor shall supervise, direct, have control over, and be responsible for, Contractor's means, methods, techniques, sequences or procedures of construction, safety precautions and programs incident thereto, and compliance with laws and regulations applicable to the furnishing or performance of Work.
- B. Contractor shall keep on the Site at all times during Work progress a competent resident Superintendent, who shall not be replaced without Owner's express written consent. The Superintendent shall be Contractor's representative at the Site and shall have complete authority to act on behalf of Contractor. All communications to and from the Superintendent shall be as binding as if given to or by Contractor.

- C. Contractor shall supervise, inspect, and direct Work competently and efficiently, devoting the attention and applying such personal skills and expertise as may be required and necessary to perform Work in accordance with Contract Documents. Contractor shall be solely responsible for and have control and charge of construction means, methods, techniques, sequences and procedures, safety precautions and programs in connection with the Work. Contractor shall be responsible to see that the completed Work complies accurately with Contract Documents.
- D. Contractor is fully responsible for Contractor's own acts and omissions. Contractor is responsible for all acts and omissions of its Subcontractors, suppliers, and other persons and organizations performing or furnishing any of the Work, labor, materials, or equipment under a direct or indirect contract with Contractor.
- E. Contractor shall conduct monthly Contractor Safety Committee meetings, and weekly toolbox safety talks.

8.02 Contractor To Maintain Cost Data

- A. Contractor shall maintain full and correct information as to the number of workers employed in connection with each subdivision of Work, the classification and rate of pay of each worker in form of certified payrolls, the cost to Contractor of each class of materials, tools and appliances used by Contractor in Work, and the amount of each class of materials used in each subdivision of Work. Contractor shall provide Owner with monthly summaries of this information. If Contractor maintains or is capable of generating summaries or reports comparing actual Project costs with Bid estimates or budgets, Contractor shall provide Owner with a copy of such report upon Owner's request.
- B. Contractor shall maintain daily job reports recording all significant activity on the job, including the number of workers on Site, Work activities, problems encountered and delays. Contractor shall provide Owner with copies for each Day Contractor works on the Project, to be delivered to Owner either the same Day or the following morning before starting work at the Site. Contractor shall take pre-construction and monthly progress photographs of all areas of the Work. Contractor shall maintain copies of all correspondence with Subcontractors and records of meetings with Subcontractors.
- C. Owner shall have the right to audit and copy Contractor's books and records of any type, nature or description relating to the Project (including but not limited to financial records reflecting in any way costs claimed on the Project), and to inspect the Site, including Contractor's trailer, or other job Site office, and this requirement shall be contained in the subcontracts of Subcontractors working on Site. By way of example, Owner shall have the right to inspect and obtain copies of all Contract Documents, planning and design documents, Bid proposal and negotiation documents, cost records and job cost variance reports, design modification proposals, value engineering or other cost reduction proposals, revisions made to the original design, job progress reports, photographs, and as-built drawings maintained by Contractor. Owner and any other applicable governmental entity shall have the right to inspect all information and documents maintained hereunder at any time during the Project and for a period of five years following Final Completion, in accordance with the provisions of Section 8546.7 of the California Government Code. This right of inspection shall not relieve Contractor of its duties and obligations under the Contract Documents. This right of inspection shall be specifically enforceable in a court of law, either independently or in conjunction with enforcement of any other rights in the Contract Documents.

8.03 Contractor To Supply Sufficient Workers And Materials

- A. Unless otherwise required by Owner under the terms of Contract Documents, Contractor shall at all times keep on the Site materials and employ qualified workers sufficient to prosecute Work at a rate and in a sequence and manner necessary to complete Work within the Contract Time. This obligation shall remain in full force and effect notwithstanding disputes or claims of any type.
- B. At any time during progress of Work should Contractor directly or indirectly (through Subcontractors) refuse, neglect, or be unable to supply sufficient materials or employ qualified workers to prosecute the Work as required, then Owner may require Contractor to accelerate the Work and/or furnish additional qualified workers or materials as Owner may consider necessary, at no cost to Owner. If Contractor does not comply with the notice within three Business Days of

date of service thereof, Owner shall have the right (but not a duty) to provide materials and qualified workers to finish the Work or any affected portion of Work, as Owner may elect. Owner may, at its discretion, exclude Contractor from the Site, or portions of the Site or separate work elements during the time period that Owner exercises this right. Owner will deduct from moneys due or which may thereafter become due under the Contract Documents, the sums necessary to meet expenses thereby incurred and paid to persons supplying materials and doing Work. Owner will deduct from funds or appropriations set aside for purposes of Contract Documents the amount of such payments and charge them to Contractor as if paid to Contractor. Contractor shall remain liable for resulting delay, including liquidated damages and indemnification of Owner from claims of others.

- C. Exercise by Owner of the rights conferred upon Owner in this subparagraph is entirely discretionary on the part of Owner. Owner shall have no duty or obligation to exercise the rights referred to in this subparagraph and its failure to exercise such rights shall not be deemed an approval of existing Work progress or a waiver or limitation of Owner's right to exercise such rights in other concurrent or future similar circumstances. (The rights conferred upon Owner under this subparagraph are, like all other such rights, cumulative to Owner's other rights under any provision of the Contract Documents.)

8.04 Contractor To Maintain Project Record Documents

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Contract Modifications, Change Orders, Work Directives, Force Account orders, and written interpretations and clarifications in good order and annotated to show all as-built changes made during construction. These Project Record Documents, together with all approved Samples and a counterpart of all approved Shop Drawings, shall be maintained and available to Owner for reference. Upon completion of the Work, Contractor shall deliver to Owner, the Project Record Documents, Samples and Shop Drawings and as-built drawings.
- B. Throughout Contractor's performance of the Work of the Project, Contractor shall maintain construction records to include: shop drawings; product data/material data sheets; samples; submittal; purchases; materials; equipment; inspections; applicable handbooks; applicable codes and standards; maintenance and operating manuals and instructions; RFI Log; Submittal Log; other related documents and revisions which arise out of the Construction Contracts. Contractor shall maintain records of principal building layout lines, elevations for the bottom of footings, floor levels, and key site elevations (certified by a qualified surveyor or professional engineer). Contractor shall make all records available to Owner. At the completion of the Project, Contractor shall deliver all such records to the Owner to have a complete set of record as-built drawings.

8.05 Contractor To Not Disrupt Owner Operation

- A. Contractor shall schedule and execute all Work in a manner that does not interfere with or disrupt Owner operations, including but not limited to, parking, utilities (electricity, gas, water), noise, access by employees and administration, access by vendors, physicians, patients and any other person or entity using Owner facilities or doing business with Owner. Contractor shall produce and supply coordination plans and requests to Owner, following Owner procedures, for all necessary interference of construction with Owner, which Owner will reasonably cooperate with.

8.06 Contractor To Provide Temporary Facilities And Controls

- A. Unless expressly provided otherwise in the Contract Documents, Contractor shall provide all temporary utilities (including without limitation electricity, water, natural gas), lighting, heating, cooling and ventilating devices, telephone, sanitary facilities, barriers, fences and enclosures, tree and plant protection, fire protection, pollution, erosion, Storm Water Pollution Prevention controls, noise and traffic control, and any other necessary services required for construction, testing or completion of the Work.

ARTICLE 9 - WARRANTY, GUARANTY, AND INSPECTION OF WORK

9.01 Warranty And Guaranty

- A. General Representations and Warranties: Contractor represents and warrants that it is and will be at all times fully qualified and capable of performing every Phase of the Work and to complete Work in accordance with the terms of Contract Documents. Contractor warrants that all construction services shall be performed in accordance with generally accepted professional standards of good and sound construction practices and all requirements of Contract Documents. Contractor warrants that Work, including but not limited to each item of materials and equipment incorporated therein, shall be new, of suitable grade of its respective kind for its intended use, and free from defects in design, engineering, materials, construction and workmanship. Contractor warrants that Work shall conform in all respects with all applicable requirements of federal, state and local laws, applicable construction codes and standards, licenses, and permits, Drawings and Specifications and all descriptions set forth therein, and all other requirements of Contract Documents. Contractor shall not be responsible, however, for the negligence of others in the specification of specific equipment, materials, design parameters and means or methods of construction where that is specifically shown and expressly required by Contract Documents.
- B. Extended Guarantees: Any guarantee exceeding two years provided by the supplier or manufacturer of any equipment or materials used in the Project shall be extended for such term. Contractor expressly agrees to act as co-guarantor of such equipment and materials and shall supply Owner with all warranty and guarantee documents relative to equipment and materials incorporated in the Project and guaranteed by their suppliers or manufacturers.
- C. Environmental and Toxics Warranty: The covenants, warranties and representations contained in this Paragraph are effective continuously during Contractor's Work on the Project and following cessation of labor for any reason including, but not limited to, Project completion. Contractor covenants, warrants and represents to Owner that:
 - 1. To Contractor's knowledge after due inquiry, no lead or Asbestos-containing materials were installed or discovered in the Project at any time during Contractor's construction thereof. If any lead or Asbestos-containing materials were discovered, Contractor made immediate written disclosure to Owner.
 - 2. To Contractor's knowledge after due inquiry, no electrical transformers, light fixtures with ballasts or other equipment containing PCBs are or were located on the Project at any time during Contractor's construction thereof.
 - 3. To Contractor's knowledge after due inquiry, no storage tanks for gasoline or any other toxic substance are or were located on the Project at any time during Contractor's construction thereof. If any such materials were discovered, Contractor made immediate written disclosure to Owner.
 - 4. Contractor's operations concerning the Project are and were not in violation of any applicable environmental federal, state, or local statute, law or regulation dealing with hazardous materials substances or toxic substances and no notice from any governmental body has been served upon Contractor claiming any violation of any such law, ordinance, code or regulation, or requiring or calling attention to the need for any Work, repairs, construction, alteration, or installation on or in connection with the Project in order to comply with any such laws, ordinances, codes, or regulations, with which Contractor has not complied. If there are any such notices with which Contractor has complied, Contractor shall provide Owner with copies thereof.

9.02 Inspection Of Work

- A. Work and materials, and manufacture and preparation of materials, from beginning of construction until Final Completion and acceptance of Work, shall be subject to inspection and rejection by Owner, its agents, representatives or independent contractors retained by Owner to perform inspection services, or governmental agencies with jurisdictional interests. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and program so that they may comply therewith as applicable. Upon request or where specified, Owner shall be afforded access for inspection at the source of supply,

manufacture or assembly of any item of material or equipment, with reasonable accommodations supplied for making such inspections.

- B. Contractor shall furnish, in such quantities and sizes as may be required for proper examination and tests, Samples or test specimens of all materials to be used or offered for use in connection with Work. Contractor shall prepare Samples or test specimens at its expense and furnish them to Owner. Contractor shall submit all Samples in ample time to enable Owner to make any necessary tests, examinations, or analyses before the time it is desired to incorporate the material into the Work.
- C. Contractor shall give Owner timely notice of readiness of Work for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- D. If applicable laws or regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, and furnish Owner with the required certificates of inspection, or approval. Owner will pay the cost of initial testing and Contractor shall pay all costs in connection with any follow-up or additional testing. Contractor shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for the acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.
- E. If Contractor covers any Work, or the work of others, prior to any required inspection, test or approval without written approval of Owner, Contractor shall uncover the Work at Owner's request. Contractor shall bear the expense of uncovering Work and replacing Work. In any case where Contractor covers Work contrary to Owner's request, Contractor shall uncover Work for Owner's observation or inspection at Owner's request. Contractor shall bear the cost of uncovering Work.
- F. Whenever required by Owner, Contractor shall furnish tools, labor and materials necessary to make examination of Work that may be completed or in progress, even to extent of uncovering or taking down portions of finished Work. Should Work be found unsatisfactory, cost of making examination and of reconstruction shall be borne by Contractor. If Work is found to be satisfactory, Owner, in manner herein prescribed for paying for alterations, Modifications, and extra Work, except as otherwise herein specified, will pay for examination.
- G. Inspection of the Work by or on behalf of Owner, or Owner's failure to do so, shall not under any circumstances be deemed a waiver or approval of any non-conforming aspect of the Work. Contractor shall have an absolute duty, in the absence of a written Change Order signed by Owner, to perform Work in conformance with the Contract Documents and to immediately correct Defective Work immediately upon Contractor's knowledge.
- H. Any inspection, evaluation, or test performed by or on behalf of Owner relating to the Work is solely for the benefit of Owner, and shall not be relied upon by Contractor. Contractor shall not be relieved of the obligation to perform Work in accordance with the Contract Documents, nor relieved of any guaranty, warranty, or other obligation, as a result of any inspections, evaluations, or tests performed by Owner, whether or not such inspections, evaluations, or tests are permitted or required under the Contract Documents. Contractor shall be solely responsible for testing and inspecting Work already performed to determine whether such Work is in proper condition to receive later Work.

9.03 Correction Of Defective Work

- A. Owner may direct Contractor to correct any Defective Work or remove it from the Site and replace it with Work that is not Defective and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting from the correction or removal. Contractor shall be responsible for any and all claims, costs, losses and damages caused by or resulting from such correction or removal. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, Owner may decide the proper amount or, in its discretion may elect to leave the Contract Sum unchanged and deduct

from monies due Contractor, all such claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with Owner's calculations, it may make a claim as provided in Article 12 of this Document 00 7200. Owner's rights under this Paragraph shall be in addition to any other rights it may have under the Contract Documents or by law.

- B. If Contractor fails to supply sufficient skilled workers, suitable materials or equipment, or to furnish or perform the Work in such a way that the completed Work will conform to Contract Documents, Owner may order Contractor to replace any such Defective Work, or stop any portion of Work to permit Owner (at Contractor's expense) to replace such Defective Work. These Owner rights are entirely discretionary on the part of Owner, and shall not give rise to any duty on the part of Owner to exercise the rights for the benefit of Contractor or any other party.

9.04 Acceptance And Correction Of Defective Work By Owner

- A. Owner may in its sole discretion elect to accept Defective Work. Contractor shall pay all claims, costs, losses and damages attributable to Owner's evaluation of and determination to accept such Defective Work. If Owner accepts any Defective Work prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, Owner may deduct from monies due Contractor, all claims, costs, losses, damages, expenses and liabilities attributable to the Defective Work. If Contractor disagrees with Owner's calculations, Contractor may make a claim as provided in Article 12 of this Document 00 7200. If Owner accepts any Defective Work after final payment, Contractor shall pay to Owner, an appropriate amount as determined by Owner.
- B. Owner may correct and remedy deficiency if, after five Days' written notice to Contractor, Contractor fails to correct Defective Work or to remove and replace rejected Work; or provide a plan for correction of Defective Work acceptable to Owner; or perform Work in accordance with Contract Documents. In connection with such corrective and remedial action, Owner may exclude Contractor from all or part of the Site; take possession of all or part of Work and suspend Contractor's Work related thereto; take possession of all or part of Contractor's tools, appliances, construction equipment and machinery at the Site; and incorporate in Work any materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, its representatives, agents, employees, and other contractors and Project Manager/Architect's consultants' access to the Site to enable Owner to exercise the rights and remedies under this Paragraph. Contractor shall be responsible for all claims, costs, losses, damages, expenses and liabilities incurred or sustained by Owner in exercising such rights and remedies. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, Owner may deduct from moneys due Contractor, all claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with Owner's calculations, Contractor may make a claim as provided in Article 12.

9.05 Rights Upon Inspection, Correction Or Acceptance

- A. Contractor shall not be allowed an extension of Contract Time because of any delay in the performance of Work attributable to the exercise by Owner of its rights and remedies under this Article. Where Owner exercises its rights under this Article, it retains and may still exercise all other rights it has by law or under the Contract Documents including, but not limited to, the right to terminate Contractor's right to proceed with the Work under the Contract Documents for cause and/or make a claim or back charge where a Change Order cannot be agreed upon.
- B. Inspection by Owner or its authorized agents or representatives shall not relieve Contractor of its obligation to have furnished material and workmanship in accordance with Contract Documents. Payment for Work completed through periodic progress payments, final payment or otherwise shall not operate to waive Owner's right to require full compliance with Contract Documents and shall in no way be deemed as acceptance of any defective Work paid therefor. Contractor's obligation to complete the Work in accordance with Contract Documents shall be absolute, unless Owner agrees otherwise in writing.

9.06 Proof Of Compliance Of Contract Provisions

- A. In order that Owner may determine whether Contractor has complied or is complying with requirements of Contract Documents not readily enforceable through inspection and tests of Work and materials, Contractor shall at any time, when requested, submit to Owner properly authenticated documents or other satisfactory proofs of compliance with all applicable requirements.
- B. Before commencing any portion of Work, Contractor shall inform Owner in writing as to time and place at which Contractor wishes to commence Work, and nature of Work to be done, in order that proper provision for inspection of Work may occur, and to assure measurements necessary for record and payment. Information shall be given to Owner a reasonable time in advance of time at which Contractor proposes to begin Work, so that Owner may complete necessary preliminary work without inconvenience or delay to Contractor.

9.07 Correction Period And Project Warranty Period:

- A. If within two years after the date of Final Acceptance, or such longer period of time as may be prescribed by laws, regulations or by the terms of Contract Documents or any extended warranty or guaranty, any Work (completed or incomplete) is found to be Defective, Contractor shall promptly without cost to Owner and in accordance with Owner's written instructions, correct such Defective Work. Contractor shall remove any Defective Work rejected by Owner and replace it with Work that is not Defective, and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the Defective Work corrected or the rejected Work removed and replaced. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement. Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, Owner shall have all rights and remedies granted by law.
- B. In special circumstances where a part of the Work is occupied or a particular item of equipment is placed in continuous service before Final Acceptance of all the Work, the correction period for that part of Work or that item may start to run from an earlier date if so provided by Change Order.
- C. Where Defective Work or rejected Work (and damage to other Work resulting therefrom) has been corrected, removed, or replaced under this provision after the commencement of the correction period, the correction period hereunder with respect to such Work shall be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

9.08 No Waiver

- A. Neither recordation of Final Acceptance nor final certificate for payment nor provision of the Contract nor partial or entire use or occupancy of premises by Owner shall constitute acceptance of Work not done in accordance with Contract Documents nor relieve Contractor of liability in respect to express warranties or responsibility for faulty materials or workmanship.
- B. If, after installation, operation, or use of materials or equipment to be provided under Contract proves to be unsatisfactory to Owner, Owner shall have right to operate and use materials or equipment until said materials and equipment can, without damage to Owner, be taken out of service for correction or replacement. Period of use of Defective materials or equipment pending correction or replacement shall in no way decrease guarantee period required for acceptable corrected or replaced items of materials or equipment.
- C. Nothing in the Contract Documents shall be construed to limit, relieve, or release Contractor's, Subcontractors', and equipment suppliers' liability to Owner for damages sustained as result of latent defects in materials or equipment caused by negligence of Contractor, its agents, suppliers, employees, or Subcontractors.

ARTICLE 10 - MODIFICATIONS OF CONTRACT DOCUMENTS

10.01 Owner's Right To Direct Changed Work.

- A. Owner may, without notice to the sureties and without invalidating the Contract, make changes in the Work ("Changed Work"), including without limitation: alterations, deviations, additions to, or deletions from Contract Documents; increase or decrease the quantity of any item or portion of the Work; expand, reduce or otherwise change the Contract Time; delete any item or portion of the Work; and require extra Work. Contractor shall perform such Work under applicable provisions of the Contract Documents, unless specifically provided otherwise at the time the change is ordered. In the case of any ordered extra Work, Owner reserves the right to furnish all or portions of associated labor, material, and equipment, which Contractor shall accept and use without payment for costs, markup, profit, or otherwise for such Owner-furnished labor, materials, and equipment.
- B. If Changed Work is of such a nature as to increase or decrease the time or cost of any part of Work, price fixed in Contract shall be increased or decreased by amount as the Contractor and Owner may agree upon as reasonable and proper allowance for increase or decrease in cost of Work using the cost guidelines set forth in this Article, and absent such agreement, then as Owner may direct (with Contractor retaining its rights under Article 12 herein).

10.02 Required Documentation For Changed Work

- A. Changes affecting the Contract Time or Contract Sum of the Work shall be set forth in a written Change Order or Change Directive that shall specify:
 - 1. The Work performed in connection with the change to be made;
 - 2. The amount of the adjustment of the Contract Sum, if any, and the basis for compensation for the Work ordered; and
 - 3. The extent of the adjustment in the Contract Time, if any.
- B. A Change Order or Change Directive will become effective when signed by Owner, notwithstanding that Contractor has not signed it. A Change Order will become effective without Contractor's signature, provided Owner indicates same thereon (by indicating it as a "unilateral change order").
- C. All changes in any plans and specifications approved by any authority with jurisdiction may also require addenda or change orders approved by that authority.
- D. Where Owner requests, a performance bond rider covering the changed Work must be executed and delivered to Owner before proceeding with the changed Work or shortly in time thereafter.

10.03 Procedures And Pricing Of Changed Work

- A. Procedures for changed work and pricing of changed work, claims and all forms of extra compensation, are set forth in Section 01 2600 (Modification Procedures).

ARTICLE 11 - TIME ALLOWANCES

11.01 Time Allowances

- A. Time is of the essence. Contract Time may only be changed by Change Order, and all time limits stated in the Contract Documents are to mean that time is of the essence.

11.02 Excusable Delay And Inexcusable Delay Defined.

- A. Excusable Delay. Subject to the provisions on Notice of Delay below, Contract Time may be adjusted in an amount equal to the time lost due to:
 - 1. Changes in the Work ordered by Owner ("**Changes**");
 - 2. Acts or neglect by Owner, Architect, any Owner Representative, utility owners or other contractors performing other work, not permitted or provided for in the Contract Documents, provided that Contractor has performed its responsibilities under the Contract Documents (including but not limited to pre-bid investigations) ("**Acts or Neglect**"); or

3. Fires, floods, epidemics, abnormal weather conditions beyond the parameters otherwise set forth in this Article, earthquakes, civil or labor disturbances, or acts of God (together, "force majeure events"), provided damages resulting therefrom are not the result of Contractor's failure to protect the Work as required by Contract Documents ("**Force Majeure**").
- B. Inexcusable Delay. Contract Time shall not be extended for any period of time where Contractor (and/or any Subcontractor) is delayed or prevented from completing any part of the Work due to a cause that is within Contractor's risk or responsibility under the Contract Documents. Delays attributable to or within the control of a Subcontractor, or its subcontractors, or supplier, are deemed delays within the control of Contractor.
- C. Float. Float shall be treated as a Project resource. Contractor shall not be entitled to a time extension for impacts that consume float, but do not impact the critical path.

11.03 Notice Of Delay

- A. Within seven Days of the beginning of any delay (excepting adverse weather delays), Contractor shall notify Owner in writing, by submitting a notice of delay that shall describe the anticipated delays resulting from the delay event in question. If Contractor requests an extension of time, Contractor shall submit a TIE within ten days of the notice of delay. Owner will determine all claims and adjustments in the Contract Time. No claim for an adjustment in the Contract Time will be valid and such claim will be waived if not submitted in accordance with the requirements of this subparagraph. In cases of substantial compliance with the seven-day notice requirement here (but not to exceed twenty-one days from the beginning of the delay event), Owner may in its sole discretion recognize a claim for delay accompanied with the proper TIE, provided Contractor also shows good faith and a manifest lack of prejudice to Owner from the late notice.

11.04 Compensable Time Extensions

- A. Subject to other applicable provisions of the Contract Documents, Contractor may be entitled to adjustment in Contract Sum in addition to Contract Time for:
 1. Excusable delay caused solely by Changes in the Work ordered by Owner, as provided above, and/or
 2. Excusable delay caused solely by Acts or Neglect by Owner or other person, as provided above.

11.05 Non-Compensable Time Extensions

- A. Subject to other applicable provisions of the Contract Documents, Contractor may be entitled to adjustment in Contract Time only, without adjustment in Contract Sum, for
 1. Periods of excusable delay caused solely by weather or Force Majeure events as provided above in this Article, or
 2. Periods of concurrent delay, where delay results from two or more causes, one of which is compensable (resulting from Changes or Acts or Neglect as set forth above in this Article), and the other of which is non-compensable or unexcusable, such as: acts or neglect of Contractor, Subcontractors or others for whom Contractor is responsible; other acts, omissions and conditions which would not entitle Contractor to adjustment in Contract Time; adverse weather; and/or actions of Force Majeure as provided above in this Article.

11.06 Adverse Weather

- A. Adverse weather delays may be allowed only if the number of workdays of adverse weather exceeds the parameters listed or referenced immediately below in this subparagraph and Contractor proves that adverse weather actually caused delays to work on the critical path. Contractor shall give written notice of intent to claim an adverse weather day within one Day of the adverse weather day occurring.
- B. Claims for extension of time for rain delay will not be granted unless the number of days work is prevented by rain exceeds 110% of the average number of rain days expected for the period of the Contract Time, based on the records of the National Oceanic & Atmospheric Administration

(NOAA) weather station closest to the Project Site, as measured and reported by NOAA. (For example, for California, Oregon and Washington, these figures are contained in the ">=0.10 inch" column at the applicable weather station's "General Climate Summary Table" for "Precipitation" at <http://www.wrcc.dri.edu/Climsum.html>), pro-rated in the individual month Contractor starts and finishes Work. Delays due to adverse weather conditions will not be allowed for weather conditions that fall within these parameters.

- C. In order to qualify as an adverse weather delay with respect to the foregoing parameters, (i.) daily rainfall must exceed .1 inch, and/or (ii.) daily snowfall must exceed 1.0 inch or more, at the NOAA station located closest to the Project site, as measured and reported by NOAA. Notwithstanding these allowances, Contractor shall at all times employ all available mitigation measures to enable Work to continue, Contractor shall take reasonable steps to mitigate potential weather delays, such as dewatering the Site, lime treatment, and covering Work and material that could be affected adversely by weather. Failure to do so shall be cause for Owner to not grant a time extension due to adverse weather, where Contractor could have avoided or mitigated the potential delay by exercising reasonable care.
- D. Contractor shall include the foregoing precipitation parameters as a monthly activity in its progress schedule. As Work on the critical path is affected by precipitation, Contractor shall notify Owner and request that the days be moved to the affected activities. Any adverse weather days remaining shall be considered Project float available to either Owner or Contractor.
- E. Adverse weather delay for precipitation shall be recognized for the actual period of time Contractor proves it was delayed by precipitation exceeding the specified parameters. For example, and not by way of limitation, if precipitation exceeding the specified parameters does not in fact delay Contractor's progress on the critical path, then no time extension shall be recognized; and conversely, if Contractor proves to Owner's satisfaction that precipitation exceeding the specified parameters causes delay to Contractor for a period longer than the number of precipitation days incurred (e.g., if it rains or snows during grading work), then Contractor shall be entitled to a time extension equal to the actual period of such delay.
- F. During unfavorable weather, wet ground, or other unsuitable construction conditions, Contractor shall employ best practices to protect the Work, manage the construction site and rainwater during inclement weather. Persons performing the Work shall examine surfaces to receive their Work and shall report in writing to Contractor, with copy to Owner representative and the Architect conditions detrimental to the Work. Failure to examine and report discrepancies makes the Contractor responsible, at no increase in Contract Sum, for corrections Owner may require. Commencement of Work constitutes acceptance of surface.

11.07 Liquidated Damages

- A. Time is of the essence. Execution of Contract Documents by Contractor shall constitute its acknowledgement that Owner will actually sustain damages in the form of Contract administration expenses (such as Project management and consultant expenses) in the amount fixed in the Contract Documents for each and every Day during which completion of Work required is delayed beyond expiration of time fixed for completion plus extensions of time allowed pursuant to provisions hereof.
- B. Contractor and Owner agree that because of the nature of the Project, it would be impractical or extremely difficult to fix the amount of such actual damages incurred by Owner because of a delay in completion of all or any part of the Work. Contractor and Owner agree that specified measures of liquidated damages shall be presumed to be the amount of such damages actually sustained by Owner, and that because of the nature of the Project, it would be impracticable or extremely difficult to fix the actual damages.
- C. Liquidated damages for delay shall cover administrative, overhead, interest on bonds, and general loss of public use damages suffered by Owner as a result of delay. Liquidated damages shall not cover the cost of completion of the Work, damages resulting from Defective Work, lost revenues or costs of substitute facilities, or damages suffered by others who then seek to recover their damages from Owner (for example, delay claims of other contractors, subcontractors, tenants, or other third-parties), and defense costs thereof. Owner may deduct from any money due or to become due to Contractor subsequent to time for completion of entire Work and

extensions of time allowed pursuant to provisions hereof, a sum representing then-accrued liquidated damages.

ARTICLE 12 - CLAIMS BY CONTRACTOR

12.01 Obligation to File Claims for Disputed Work

- A. Should it appear to Contractor that the Work to be performed or any of the matters relative to the Contract Documents are not satisfactorily detailed or explained therein, or should any questions arise as to the meaning or intent of the Contract Documents, or should any dispute arise regarding the true value of any work performed, work omitted, extra work that the Contractor may be required to perform, time extensions, payment to the Contractor during performance of this Contract, performance of the Contract, and/or compliance with Contract procedures, or should Contractor otherwise seek extra time or compensation FOR ANY REASON WHATSOEVER, then Contractor shall first follow procedures set forth in the Contract (including but not limited to other Articles of this Document 00 7200 and Section 01 2600.) If a dispute remains, then Contractor shall give written notice to Owner that expressly invokes this Article 12. Owner shall decide the issue in writing within 15 days; and Owner's written decision shall be final and conclusive. If Contractor disagrees with Owner's decision, or if Contractor contends that Owner failed to provide a decision timely, then Contractor's SOLE AND EXCLUSIVE REMEDY is to promptly file a written claim setting forth Contractor's position as required herein.

12.02 Form And Contents Of Claim

- A. Contractor's written claim must identify itself as a "Claim" under this Article 12 and must include the following: (1) a narrative of pertinent events; (2) citation to contract provisions; (3) theory of entitlement; (4) complete pricing of all cost impacts; (5) a time impact analysis of all time delays that shows actual time impact on the critical path; (6) documentation supporting items 1 through 5; a verification under penalty of perjury of the claim's accuracy. The Claim shall be submitted to Owner within thirty (30) calendar days of receiving Owner's written decision, or the date Contractor contends such decision was due, and shall be priced like a change order according to Section 01 2600, and must be updated monthly as to cost and entitlement if a continuing claim. Routine contract materials, for example, correspondence, RFI, Change Order requests, or payment requests shall not constitute a claim. Contractor shall bear all costs incurred in the preparation and submission of a claim.

12.03 Administration During/After Claim Submission

- A. Owner may render a final determination based on the Claim or may in its discretion conduct an administrative hearing on Contractor's claim, in which case Contractor shall appear, participate, answer questions and inquiries, and present any further evidence or analysis requested by Owner prior to rendering a final determination. Should Owner take no action on the Claim within 45 days of submission, it shall be deemed denied.
- B. Notwithstanding and pending the resolution of any claim or dispute, Contractor shall diligently prosecute the disputed work to final completion in accordance with Owner's determination.
- C. After their submission, claims less than \$375,000 shall also be subject to the Local Agency Disputes Act.

12.04 Compliance

- A. The provisions of this Article 12 constitute a non-judicial claim settlement procedure that, pursuant to Section 930.2 of the California Government Code, shall constitute a condition precedent to submission of a valid Government Code Claim under the California Government Code. Contractor shall bear all costs incurred in the preparation, submission and administration of a claim. Any claims presented in accordance with the Government Code must affirmatively indicate Contractor's prior compliance with the claims procedure herein and the previous dispositions under Paragraph 12.3 above of the claims asserted. Pursuant to Government Code Section 930.2, the one-year period in Government Code section 911.2 shall be reduced to 150 days from either accrual of the cause of action, substantial completion or termination of the

contract, whichever occurs first; in all other respects, the Government Code shall apply unchanged.

- B. Failure to submit and administer claims as required in Article 12 shall waive Contractor's right to claim on any specific issues not included in a timely submitted claim. Claim(s) or issue(s) not raised in a timely protest and timely claim submitted under this Article 12 may not be asserted in any subsequent litigation, Government Code Claim, or legal action.
- C. Owner shall not be deemed to waive any provision under this Article 12, if at Owner's sole discretion, a claim is administered in a manner not in accord with this Article 12. Waivers or modifications of this Article 12 may only be made a signed change order approved as to form by legal counsel for both Owner and Contractor; oral or implied modifications shall be ineffective.

ARTICLE 13 - UNDERGROUND CONDITIONS

13.01 Contractor To Locate Underground Facilities.

- A. During construction, Contractor shall comply with Government Code Sections 4216 to 4216.9, and in particular Section 4216.2 which provides, in part: "Except in an emergency, every person planning to conduct any excavation shall contact the appropriate regional notification center at least two working days, but no more than 14 calendar days, prior to commencing that excavation, if the excavation will be conducted in an area which is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the excavator, and, if practical, the excavator shall delineate with white paint or other suitable markings the area to be excavated. The regional notification center shall provide an inquiry identification number to the person who contacts the center and shall notify any member, if known, who has a subsurface installation in the area of the proposed excavation."
- B. Contractor shall contact USA, and schedule the Work to allow ample time for the center to notify its members and, if necessary, for any member to field locate and mark its facilities. Contractor is charged with knowledge of all subsurface conditions reflected in USA records. Prior to commencing excavation or trenching work, Contractor shall provide Owner with copies of all USA records secured by Contractor. Contractor shall advise Owner of any conflict between information provided in Document 00 3132 (Geotechnical Data and Existing Conditions), the Drawings and that provided by USA records. Contractor's excavation shall be subject to and comply with the Contract Documents.
- C. Contractor shall also investigate the existence of existing service laterals, appurtenances or other types of utilities, indicated by the presence of an underground transmission main or other visible facilities, such as buildings, new asphalt, meters and junction boxes, on or adjacent to the Site, even if not shown or indicated in Document 00 3132 (Geotechnical Data and Existing Conditions), the Drawings or that provided by USA records. Contractor shall immediately secure all such available information and notify Owner and the utility owner, in writing, of its discovery.

13.02 Contractor To Protect Underground Facilities.

- A. At all times during construction, all operating Underground Facilities shall remain in operation, unless the Contract Documents expressly indicate otherwise. Contractor shall maintain such Underground Facilities in service where appropriate; shall repair any damage to them caused by the Work; and shall incorporate them into the Work, including reasonable adjustments to the design location (including minor relocations) of the existing or new installations. Contractor shall take immediate action to restore any in service installations damaged by Contractor's operations.
- B. Prior to performing Work at the Site, Contractor shall lay out the locations of Underground Facilities that are to remain in service and other significant known underground installations indicated by the Underground Facilities Data. Contractor shall further locate, by carefully excavating with small equipment, potholing and principally by hand, all such utilities or installations that are to remain and that are subject to damage. If additional utilities whose locations are unknown are discovered, Contractor shall immediately report to Owner for disposition of the same. Additional compensation or extension of time on account of utilities not shown or otherwise brought to Contractor's attention, including reasonable action taken to protect or repair damage, shall be determined as provided in this Document 00 7200.

- C. If during construction, an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated in the materials supplied by Owner for bidding or in information on file at USA or otherwise reasonably available to Contractor, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby (and in no event later than seven Days), and prior to performing any Work in connection therewith (except in an emergency), identify the owner of such Underground Facility and give written notice to that owner and to Owner. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. The cost of all of the following will be included in the Contract Sum and Contractor shall have full responsibility for (a) reviewing and checking all available information and data including, but not limited to, information made available for bidding and information on file at USA; (b) locating all Underground Facilities shown or indicated in the Contract Documents, available information, or indicated by visual observation including, but not limited to, and by way of example only, engaging qualified locating services and all necessary backhoeing and potholing; (c) coordination of the Work with the owners of such Underground Facilities during construction; and (d) the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.
- E. Consistent with California Government Code §4215, as between Owner and Contractor, Owner will be responsible for the timely removal, relocation, or protection of existing main or trunk line utility facilities located on the Site only if such utilities are not identified in the Contract Documents or information made available for bidding. Owner will compensate for the cost of locating and repairing damage not due to Contractor's failure to exercise reasonable care, removing and relocating such main or trunk line utility facilities not indicated in the Contract Documents or information made available for bidding with reasonable accuracy, and equipment on the Project necessarily idled during such Work. Contractor shall not be assessed liquidated damages for delay in completion of the Project, when such delay was caused by the failure of Owner or the utility to provide for removal or relocation of such utility facilities.

13.03 Concealed Or Unknown Conditions

- A. If either of the following conditions is encountered at Site when digging trenches or other excavations that extend deeper than four feet below the surface, Contractor shall give a written Notice of Differing Site Conditions to Owner promptly before conditions are disturbed, except in an emergency as set forth in this Document 00 7200, and in no event later than seven Days after first observance of:
 - 1. Subsurface or Latent physical conditions which differ materially from those indicated in the Contract Documents; or
 - 2. Unknown physical conditions of an unusual nature or which differ materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.
- B. In response to Contractor's Notice of Differing Site Conditions under this Paragraph, Owner will investigate the identified conditions, and if they differ materially and cause increase or decrease in Contractor's cost of, or time required for, performance of any part of the Work, Owner will negotiate the appropriate change order following the procedures set forth in the Contract Documents. If Owner determines that physical conditions at the Site are not Latent or are not materially different from those indicated in Contract Documents or that no change in terms of the Contract Documents is justified, Owner will so notify Contractor in writing, stating reasons (with Contractor retaining its rights under Article 12 of this Document 00 7200.)
- C. Contractor shall not be entitled to any adjustment in the Contract Sum or Contract Time regarding claimed Latent or materially different Site conditions (whether above or below grade) if Contractor knew or should have known of the existence of such conditions at the time Contractor submitted its Bid, failed to give proper notice, or relied upon information, conclusions, opinions or deductions of the kind that the Contract Documents preclude reliance upon.
- D. Regarding Underground Facilities, Contractor shall be allowed an increase in the Contract Sum or an extension of the Contract Time, or both, to the extent that they are attributable to the

existence of any Underground Facility that is owned and was built by Owner only where the Underground Facility:

1. Was not shown or indicated in the Contract Documents or in the information supplied for bidding purposes or in information on file at USA; and
 2. Contractor did not know of it; and
 3. Contractor could not reasonably have been expected to be aware of it or to have anticipated it from the information available. (For example, if surface conditions such as pavement repairs, valve covers, or other markings, indicate the presence of an Underground Facility, then an increase in the Contract Sum or an extension of the Contract Time will not be due, even if the Underground Facility was not indicated in the Contract Documents, in the information supplied to Contractor for bidding purposes, in information on file at USA, or otherwise reasonably available to Contractor.)
- E. Contractor shall bear the risk that Underground Facilities not owned or built by Owner may differ in nature or locations shown in information made available by Owner for bidding purposes, in information on file at USA, or otherwise reasonably available to Contractor. Underground Facilities are inherent in construction involving digging of trenches or other excavations on Owner's Project, and Contractor is to apply its skill and industry to verify the information available.
- F. Contractor's compensation for claimed Latent or materially different Site conditions shall be limited to the actual, reasonable, incremental increase in cost of that portion of the Work, resulting from the claimed Latent or materially different Site conditions. Such calculation shall take into account the estimated value of that portion of the Work and the actual value of that portion of the Work, using for guidance Contractor's or its subcontractor's bid amount and actual amounts incurred for that portion of the Work and the reasonable expectation (if any) of differing or difficult site conditions in the Work area based on the available records and locale of the Work. For example, if Contractor excavates in an area unexpected, then such costs would be recoverable entirely; while if Contractor extends an existing excavation, then such costs would be recoverable if the resulting excavation costs in that work area exceeded the reasonable expectations therefore.

13.04 Notice Of Hazardous Waste Or Materials Conditions

- A. Contractor shall give a written Notice of Hazardous Materials Condition to Owner promptly, before any of the following conditions are disturbed (except in an emergency as set forth in this Document 00 7200), and in no event later than 24 hours after first observance of any:
1. Material that Contractor believes may be hazardous waste or hazardous material, as defined in Section 25117 of the Health and Safety Code (including, without limitation, Asbestos, lead, PCBs, petroleum and related hydrocarbons, and radioactive material) that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law ("hazardous material"); or
 2. Other material that may present an imminent substantial danger to persons or property exposed thereto in connection with Work at the Site ("other materials").
- B. Except as otherwise provided in the Contract Documents or as provided by applicable law, Contractor shall not be required to give any notice for the disturbance or observation of any such hazardous materials or other materials where such matter is disturbed or observed as part of the scope of Work under the Contract Documents (such as hazardous waste or hazardous material investigation, remediation or disposal activities which are identified as the subject of Work under the Contract Documents), where Contractor complies with all requirements in the Contract Documents and applicable law respecting such materials.
- C. Contractor's Notice of Hazardous Materials Condition shall indicate whether the hazardous materials or other materials were shown or indicated in the Contract Documents to be within the scope of Work, and whether the hazardous materials or other materials were brought to the Site by Contractor, its Subcontractors, suppliers, or anyone else for whom Contractor is responsible.
- D. Contractor shall not be entitled to any adjustment in the Contract Sum or Contract Time regarding claimed hazardous waste or materials if:

1. Contractor knew of the existence of such hazardous materials or other materials at the time Contractor submitted its Bid; or
 2. Contractor should have known of the existence of such hazardous material or other materials as a result of its having the responsibility to obtain additional or supplementary examinations, investigation, explorations, tests, studies, and data concerning the conditions at or contiguous to the Site prior to submitting its Bid; or
 3. Contractor failed to give the written notice within the required timeframe set forth below.
- E. If Owner determines that conditions involve hazardous materials or other materials and that a change in Contract Document terms is justified, Owner will issue either a Request for Proposal or Construction Change Directive under the procedures described in the Contract Documents. If Owner determines that conditions do not involve hazardous materials or other materials or that no change in Contract Document terms is justified, Owner will notify Contractor in writing, stating the reasons for its determination.
- F. In addition to the parties' other rights under this Document 00 7200, if Contractor does not agree to resume Work based on a reasonable belief that it is unsafe, or does not agree to resume Work under special conditions, Owner may order the disputed portion of Work deleted from the Work, or performed by others, or Owner may invoke its right to terminate Contractor's right to proceed under the Contract Documents in whole or in part, for convenience or for cause as the facts may warrant.
- G. If Contractor does not agree with any Owner determination of any adjustment in the Contract Sum or Contract Time under this Article, Contractor may make a claim as provided in Article 12 of this Document 00 7200.

ARTICLE 14 - LEGAL AND MISCELLANEOUS

14.01 Laws And Regulations

- A. Contractor shall keep fully informed of and shall comply with all laws, ordinances, regulations and orders of any properly constituted authority affecting the Contract Documents, Work and persons connected with Work, and shall protect and indemnify Owner and its officers, employees, consultants and agents against any claim or liability, including attorney's fees, arising from or based on violation of law, ordinance, regulation or order, whether by Contractor or by Subcontractors, employees or agents. Authorized persons may at any time enter upon any part of Work to ascertain compliance of all applicable laws, ordinances, regulations and orders.

14.02 Permits And Taxes

- A. Contractor shall procure all permits and licenses applicable to the Work (including environmental matters to the extent applicable); pay all charges and fees, including fees for street opening permits; comply with, implement and acknowledge effectiveness of all permits; initiate and cooperate in securing all required notifications or approvals therefore; and give all notices necessary and incident to due and lawful prosecution of Work, unless otherwise provided herein. Owner will pay applicable building permits, sanitation and water fees for the completed construction, except as otherwise provided in the Contract Documents. Contractor shall pay all sales and/or use taxes levied on materials, supplies, or equipment purchased and used on or incorporated into Work, and all other taxes properly assessed against equipment or other property used in connection with Work, without any increase in the Contract Sum. Contractor shall make necessary arrangements with proper authorities having jurisdiction over roads, streets, pipelines, navigable waterways, railroads, and other works in advance of operations, even where Owner may have already obtained permits for the Work.

14.03 Communications And Information Distribution

- A. All communications recognized under the Contract Documents shall be in writing, in the form of a serialized document, by type of communication. For example, RFI's shall be serialized beginning with RFI No. 1; payment applications shall be serialized beginning with Payment Application No. 1, submittals shall be serialized per specification section and transmitted with transmittal sheets beginning with Transmittal No. 1; and correspondence shall be serialized beginning with letter No.

1. Contractor may propose other record management and identification systems or protocols, intended to facilitate orderly transmittal of project information, storage and retrieval of such information, which Owner will review consistent with these stated objectives, and accept or reject in its sole discretion.
- B. Documents Requiring Signatures. All documents requiring signatures for approval prior to implementing action, as stipulated in other portions of Contract Documents, shall require a manually signed, serialized letter delivered to the other party at its address for notice otherwise specified in the Contract Documents, either personally or by mail.
- C. Electronic data transfer of such correspondence will serve to expedite preliminary concurrence of information, only. Receipt of "hard copy" signature on forms is required prior to implementing action or work as the conditions may require. For example, change orders and authorizations for extra cost, require signatures. A party may acknowledge receipt of PDF copies of required correspondence by e-mail, but in the absence of such acknowledgment, mail or personal delivery is required.
- D. All emails shall be copied to Owner's and Contractor's Project Representative. Owner reserves the right to preclude e-mail communication, in whole or in part, as Project needs may require. Communication between Owner and Contractor shall not be via Twitter, Facebook, or other types of instant text message systems. Any such communications shall be inadmissible for any purpose related to this Contract.

14.04 Suspension Of Work

- A. Owner may, without cause, order Contractor in writing to suspend, delay or interrupt Work in whole or in part for such period of time as Owner may determine. An adjustment shall be made for increases in cost of performance of Work of the Contract Documents caused by any such suspension, delay or interruption, calculated using the measures set forth in Section 01 2600 (Modification Procedures). No adjustment shall be made to extent that performance is, was or would have been so suspended, delayed or interrupted by another cause for which Contractor is responsible.

14.05 Termination Of Contract For Cause

- A. The Contractor shall be in default of the Contract Documents and Owner may terminate the Contractor's right to proceed under the Contract Documents, for cause, in whole or in part, should the Contractor commit a material breach of the Contract Documents and not cure such breach within ten (10) calendar days of the date of notice from Owner to the Contractor demanding such cure; or, if such breach is curable but not curable within such ten (10) day period, within such period of time as is reasonably necessary to accomplish such cure. (In order for the Contractor to avail itself of a time period in excess of 10 calendar days, the Contractor must provide Owner within the ten (10) day period with a written plan acceptable to Owner that demonstrates actual resources, personnel and a schedule to promptly to cure said breach, and then diligently commence and continue such cure according to the written plan).
- B. In the event of termination by Owner for cause as provided herein, the Contractor shall deliver to Owner possession of the Work in its then condition, including but not limited to, all designs, engineering, Project records, cost data of all types, plans and specifications and contracts with vendors and subcontractors, all other documentation associated with the Project, and all construction supplies and aids dedicated solely to performing the Work which, in the normal course of construction, would be consumed or only have salvage value at the end of the construction period. The Contractor shall remain fully liable for the failure of any Work completed and materials and equipment provided through the date of such termination to comply with the provisions of the Contract Documents. The provisions of this Section shall not be interpreted to diminish any right which Owner may have to claim and recover damages for any breach of the Contract Documents or otherwise, but rather, the Contractor shall compensate Owner for all loss, cost, damage, expense, and/or liability suffered by Owner as a result of such termination and/or failure to comply with the Contract Documents.
- C. In the event a termination for cause is later determined to have been made wrongfully or without cause, then the termination shall be treated as a termination for convenience, and the Contractor shall have no greater rights than it would have had following a termination for convenience. Any

Contractor claim arising out of a termination for cause shall be made in accord with Article 12 herein. No other loss, cost, damage, expense or liability may be claimed, requested or recovered by the Contractor.

14.06 Termination Of Contract For Convenience

- A. Owner may terminate performance of the Work under the Contract Documents in accordance with this clause in whole, or from time to time in part, whenever Owner shall determine that termination is in Owner's best interest. Termination shall be effected by Owner delivering to the Contractor notice of termination specifying the extent to which performance of the Work under the Contract Documents is terminated, and the effective date of the termination.
- B. Contractor shall comply strictly with Owner's direction regarding the effective date of the termination, the extent of the termination, and shall stop work on the date and to the extent specified.
- C. Contractor shall be entitled to a total payment on account of the Contract work so terminated measured by (i.) the actual cost to Contractor of Work actually performed, up to the date of the termination, with profit and overhead limited to twelve percent (12%) of actual cost of work performed, up to but not exceeding the actual contract value of the work completed as measured by the Schedule of Values and Progress Schedule, (ii.) offset by payments made and other contract credits. In connection with any such calculation, however, Owner shall retain all rights under the Contract Documents, including but not limited to claims, indemnities, or setoffs.
- D. Under no circumstances may Contractor recover legal costs of any nature, nor may Contractor recover costs incurred after the date of the termination.

14.07 Contingent Assignment Of Subcontracts

- A. Contractor hereby assigns to Owner each Subcontract for a portion of the Work, provided that:
 - 1. The assignment is effective only after Owner's termination of Contractor's right to proceed under the Contract Documents (or portion thereof relating to that Subcontract) as set forth herein.
 - 2. The assignment is effective only for the Subcontracts which Owner expressly accepts by notifying the Subcontractor in writing;
 - 3. The assignment is subject to the prior rights, if any, of the Surety, obligated by Document 00 6113.13 (Construction Performance Bond) provided under the Contract Documents, where the Surety exercises its rights to complete the Contract;
 - 4. After the effectiveness of an assignment, Contractor shall, at its sole cost and expense (except as otherwise provided in this Document 00 7200), sign all instruments and take all actions reasonably requested by Owner to evidence and confirm the effectiveness of the assignment in Owner; and
 - 5. Nothing in this Paragraph shall modify or limit any of Contractor's obligations to Owner arising from acts or omissions occurring before the effectiveness of any Subcontract assignment, including but not limited to all defense, indemnity and hold-harmless obligations arising from or related to the assigned Subcontract.

14.08 Remedies And Contract Integration

- A. Subject to Contract Documents provisions regarding Contractor claims, claim review, and claim resolution, and subject to the limitations therein, the exclusive jurisdiction and venue for resolving all claims, counter claims, disputes and other matters in question between Owner and Contractor arising out of or relating to Contract Documents, any breach thereof or the Project shall be the applicable court of competent jurisdiction located in the State and County where the Project is located. All Owner remedies provided in the Contract Documents shall be taken and construed as cumulative and not exclusive; that is, in addition to each and every other remedy herein provided; and in all instances Owner shall have any and all other equitable and legal rights and remedies which it would have according to law.
- B. The Contract Documents, any Contract Modifications and Change Orders, shall represent the entire and integrated agreement between Owner and Contractor regarding the subject matters hereof and thereof and shall constitute the exclusive statement of the terms of the parties'

agreement. The Contract Documents, and any Contract Modifications and Change Orders, shall supersede any and all prior negotiations, representations or agreements, written or oral, express or implied, that relate in any way to the subject matter of the Contract Documents or written Modifications. Owner and Contractor represent and agree that, except as otherwise expressly provided in the Contract Documents, they are entering into the Contract Documents and any subsequent written Modification in sole reliance upon the information set forth or referenced in the Contract Documents or Contract Modifications; the parties are not and will not rely on any other information, which shall be inadmissible in any proceeding to enforce these documents.

- C. Either party's waiver of any breach or failure to enforce any of the terms, covenants, conditions or other provisions of the Contract Documents at any time shall not in any way affect, limit, modify or waive that party's right thereafter to enforce or compel strict compliance with every term, covenant, condition or other provision hereof, any course of dealing or custom of the trade or oral representations notwithstanding.
- D. Neither acceptance of the whole or any part of Work by Owner nor any verbal statements on behalf of Owner or its authorized agents or representatives shall operate as a waiver or modification of any provision of the Contract Documents, or of any power reserved to Owner herein nor any right to damages provided in the Contract Documents.

14.09 Interpretation.

- A. Should any part, term or provision of this Agreement or any of the Contract Documents, or any document required herein or therein to be executed or delivered, be declared invalid, void or unenforceable, all remaining parts, terms and provisions shall remain in full force and effect and shall in no way be invalidated, impaired or affected thereby. If the provisions of any law causing such invalidity, illegality or unenforceability may be waived, they are hereby waived to the end that this Agreement and the Contract Documents may be deemed valid and binding agreements, enforceable in accordance with their terms to the greatest extent permitted by applicable law. In the event any provision not otherwise included in the Contract Documents is required to be included by any applicable law, that provision is deemed included herein by this reference (or, if such provision is required to be included in any particular portion of the Contract Documents, that provision is deemed included in that portion).
- B. Contract Documents shall not be construed to create a contractual relationship of any kind between (1) Project Manager or any Owner's representative and Contractor; (2) Owner and/or its Representatives and a Subcontractor, sub-Subcontractor, or supplier of any Project labor, materials, or equipment; or (3) between any persons or entities other than Owner and Contractor.

14.10 Patents

- A. Fees or claims for any patented invention, article or arrangement that may be used upon or in any manner connected with performance of the Work or any part thereof shall be included in the Bid price for doing the Work. Contractor shall defend, indemnify and hold harmless Owner and each of its officers, employees, consultants and agents, including, but not limited to, the Board and each Owner's Representative, from all damages, claims for damages, costs or expenses in law or equity, including attorney's fees, arising from or relating to any claim that any article supplied or to be supplied under the Contract Documents infringes on the patent rights, copyright, trade name, trademark, service mark, trade secret or other intellectual property right of any person or persons or that the person or entity supplying the article does not have a lawful right to sell the same. Such costs or expenses for which Contractor agrees to indemnify and hold harmless the above indemnities include but are not limited to any and all license fees, whether such fees are agreed by any indemnitee or ordered by a court or administrative body of any competent jurisdiction.

14.11 Substitution For Patented And Specified Articles

- A. Except as noted specifically in the instructions to Bidders or in Contract Documents, whenever in Specifications, material or process is designated by patent or proprietary name or by name of manufacturer, such designation shall be deemed to be used for purpose of facilitating description of material and process desired, and shall be deemed to be followed by the words "or Approved Equal" and Contractor may offer any substitute material or process that Contractor considers "equal" in every respect to that so designated and if material or process offered by Contractor is,

in opinion of Owner, Equal in every respect to that so designated, its use will be approved. However, Contractor may utilize this right only by timely submitting Document 00 6325 (Substitution Request Form) as provided in Document 00 2113 (Instructions to Bidders). A substitution will be approved only if it is a true "or equal" item in every aspect of its design and quality, including but not limited to its dimensions, weights, service requirements, durability, functioning, impact on contiguous construction elements, overall schedule and design.

14.12 Interest Of Public Officers

- A. No representative, officer, or employee of Owner no member of the governing body of the locality in which the Project is situated, no member of the locality in which Owner was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the Project, during the tenure of the official or for one year thereafter, shall, as principal, agent, attorney or otherwise, be directly or indirectly interested, in the Contract Documents or the proceeds thereof.

14.13 Limit Of Liability

- A. OWNER, AND EACH OF ITS OFFICERS, BOARD MEMBERS, EMPLOYEES, CONSULTANTS AND AGENTS INCLUDING, BUT NOT LIMITED TO, PROJECT MANAGER AND EACH OTHER OWNER REPRESENTATIVE, SHALL HAVE NO LIABILITY TO CONTRACTOR FOR SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, EXCEPT TO THE LIMITED EXTENT THAT THESE CONTRACT DOCUMENTS OR APPLICABLE PUBLIC CONTRACTING STATUTES MAY SPECIFY THEIR RECOVERY.

ARTICLE 15 - WORKING CONDITIONS AND PREVAILING WAGES

15.01 Use Of Site/Sanitary Rules

- A. All portions of the Work shall be maintained at all times in neat, clean and sanitary condition. Contractor shall furnish toilets for use of Contractor's and Subcontractors' employees on the Site where needed, and their use shall be strictly enforced. All toilets shall be properly secluded from public observation, and shall be located, constructed and maintained subject to Owner's approval.
- B. Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Site and land areas identified in and permitted by Contract Documents and other land and areas permitted by applicable laws and regulations, rights of way, permits and easements or as designated by Owner, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, any improvement located thereon, or to Owner or occupant thereof resulting from the performance of Work.
- C. During the progress of the Work, Contractor shall keep the Site and the Project free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, Contractor shall clean the site, remove all waste materials, rubbish and debris from and about the Site as well as all tools, appliances, construction equipment and machinery and surplus materials. Contractor shall leave the premises clean and ready for occupancy by Owner at Substantial Completion of Work. Contractor shall restore to original condition all property not designated for alteration by Contract Documents.
- D. Contractor shall not load nor permit any part of any structure or pavement to be loaded in any manner that will endanger the structure or pavement, nor shall Contractor subject any part of Work or adjacent property to stresses or pressures that will endanger it. Contractor shall conduct all necessary existing conditions investigation regarding structural, mechanical, electrical or any other system existing, shall perform Work consistent with such existing conditions, and shall have full responsibility for insufficiencies or damage resulting from insufficiencies of existing systems, equipment or structures to accommodate performing the Work.

15.02 Protection Of Work, Persons, And Property

- A. Contractor shall be responsible for initiating, maintaining and supervising all safety and site security precautions and programs in connection with Work, and shall develop and implement a

site security and safety plan throughout construction. Contractor shall comply with all safety requirements specified in any safety program established by Owner, or required by state, federal or local laws and ordinances. Contractor shall be responsible for all theft or damage to Work, property or structures, and all injuries to persons, either on the Site or constituting the Work (e.g., materials in transit), arising from the performance of Work of the Contract Documents from a cause.

- B. Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owners of adjacent property and of Underground Facilities and utility Owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property.
- C. Contractor shall remedy all damage, injury or loss to any property referred to above in this Article, caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, supplier, or any other person or organization directly or indirectly employed by any of them to perform or furnish any Work or anyone for whose acts any of them may be liable. Contractor's duties and responsibility for safety and for protection of Work shall continue until such time as all the Work is completed and Final Acceptance of the Work. Owner and its agents do not assume any responsibility for collecting any indemnity from any person or persons causing damage to Contractor's Work.
- D. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.
- E. Owner may, at its option, retain such moneys due under the Contract Documents as Owner deems necessary until any and all suits or claims against Contractor for injury to persons or property shall be settled and Owner receives satisfactory evidence to that effect.
- F. Work within the right-of-way lines of the city and/or Owner and/or State shall be done in accordance with the standards and specifications of the controlling agency. Permit for such work shall be obtained and paid for by the Contractor before executing the work within such right-of-ways.

15.03 Responsibility For Safety And Health

- A. Contractor shall ensure that its and each tier of Subcontractors' employees, agents and invitees comply with applicable health and safety laws while at the Site. These laws include the Occupational Safety and Health Act of 1970 and rules and regulations issued pursuant thereto, and Owner's safety regulations as amended from time to time. Contractor shall comply with all Owner directions regarding protective clothing and gear.
- B. Contractor shall be fully responsible for the safety of its and its Subcontractors' employees, agents and invitees on the Site. Contractor shall notify Owner, in writing, of the existence of hazardous conditions, property or equipment at the Site that are not under Contractor's control. Contractor shall be responsible for taking all the necessary precautions against injury to persons or damage to the property of Contractor, Subcontractors or persons from recognized hazards until the responsible party corrects the hazard.
- C. Contractor shall confine all persons acting on its or its Subcontractors' behalf to that portion of the Site where Work under the Contract Documents is to be performed, Owner-designated routes for ingress and egress thereto, and any other Owner-designated area. Except those routes for ingress and egress over which Contractor has no right of control, within such areas, Contractor shall provide safe means of access to all places at which persons may at any time have occasion to be present.

15.04 Emergencies

- A. In emergencies affecting the safety or protection of persons or Work or property at the Site or adjacent thereto, Contractor, without special instruction or authorization from Owner, is obligated to act to prevent threat and damage, injury or loss, until directed otherwise by Owner. Contractor shall give Owner prompt written notice if Contractor believes that any significant changes in Work or variations from Contract Documents have been caused thereby. If Owner determines that a

change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Change Order or Construction Change Directive will be issued to document the consequences of such action.

15.05 Use Of Roadways And Walkways

- A. Contractor shall not unnecessarily interfere with use of any roadway, walkway or other facility for vehicular or pedestrian traffic. Before beginning any interference and only with Owner's prior concurrence, Contractor may provide detour or temporary bridge for traffic to pass around or over the interference, which Contractor shall maintain in satisfactory condition as long as interference continues. Unless otherwise provided in the Contract Documents, Contractor shall bear the cost of these temporary facilities.

15.06 Nondiscrimination

- A. No person or entity shall discriminate in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sexual preference, or gender of such persons, except as provided in Section 12940 of the California Government Code. Every contractor for public works violating the provisions of Section 1735 of the California Labor Code is subject to all the penalties imposed for a violation of Chapter 1, Part 7, Division 2 of the California Labor Code.

15.07 Registration

- A. Each bidder and any subcontractor listed in a bid proposal pursuant to California Public Contract Code Section 4104, must be currently registered with the Department of Industrial Relations and qualified to perform public work consistent with California Labor Code section 1725.5, except in limited circumstances as referenced in California Labor Code section 1771.1(a). No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

15.08 Prevailing Wages And Working Hours

- A. Contractor shall pay to persons performing labor in and about Work provided for in the Contract Documents an amount equal to or more than the general prevailing rate of per diem wages for (1) work of a similar character in the locality in which the Work is performed and (2) legal holiday and overtime work in said locality. The per diem wages shall be an amount equal to or more than the stipulated rates contained in a schedule that has been ascertained and determined by the Director of the State Department of Industrial Relations and Owner to be the general prevailing rate of per diem wages for each craft or type of workman or mechanic needed to execute this Contract. Contractor shall also cause a copy of this determination of the prevailing rate of per diem wages to be posted at each Site.
- B. Contractor shall forfeit, as a penalty to Owner, Fifty Dollars (\$50.00) for each laborer, workman, or mechanic employed in performing labor in and about the Work provided for in the Contract Documents for each Day, or portion thereof, that such laborer, workman or mechanic is paid less than the said stipulated rates for any Work done under the Contract Documents by him or her or by any Subcontractor under him or her, in violation of Articles 1 and 2 of Chapter 1 of Part 7 of Division II of the California Labor Code. The sums and amounts which shall be forfeited pursuant to this Paragraph and the terms of the California Labor Code shall be withheld and retained from payments due to Contractor under the Contract Documents, pursuant to this Document 00 7200 and the California Labor Code, but no sum shall be so withheld, retained or forfeited except from the final payment without a full investigation by either the State Department of Industrial Relations or by Owner. The Labor Commissioner pursuant to California Labor Code §1775 shall determine the final amount of forfeiture.
- C. Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, provision that Subcontractor shall pay persons performing labor or rendering service under subcontract or other arrangement not less than the general prevailing rate of per diem wages for work of a similar character in the

- locality in which the Work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed in the California Labor Code.
- D. Contractor stipulates that it shall comply with all applicable wage and hour laws, including without limitation, California Labor Code §§ 1776 and 1810-1815. Failure to so comply shall constitute a default under this Contract.
- E. Contractor and its Subcontractors shall be responsible for compliance with Labor Code §§ 1810-1815.
1. Eight hours of labor performed in execution of the Contract constitutes a legal day's work. The time of service of any workman employed on the Project is limited and restricted to 8 hours during any one calendar day, and 40 hours during any one calendar week.
 2. Contractor and its Subcontractors shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by him or her in connection with the Project. The record shall be kept open at all reasonable hours to the inspection Owner and to the Division of Labor Standards Enforcement.
 3. Contractor or its Subcontractors shall, as a penalty to Owner, forfeit twenty-five dollars (\$25) for each worker employed in the execution of the Contract Documents by the respective Contractor or Subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of Labor Code §§ 1810-1815.
 4. Work performed on the Project by employees of Contractor or its Subcontractors in excess of 8 hours per day, and 40 hours during any one week, shall be permitted upon compensation for all hours worked in excess of 8 hours per day at not less than 1 1/2 times the basic rate of pay.
- F. Contractor and its Subcontractors shall be responsible for compliance with Labor Code Section 1776.
1. Contractor and Subcontractors must keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the Work of the Contract Documents. Each payroll record shall contain or be verified by a written declaration as required by Labor Code Section 1776.
 2. The payroll records enumerated above must be certified and shall be available for inspection at all reasonable hours at the principal office of the Contractor as required by Labor Code Section 1776.
 - a. Contractor shall inform Owner of the location of records enumerated above, including the street address, city and county, and shall, within five working days, provide a notice of a change of location and address.
 - b. Contractor or Subcontractor has 10 days in which to comply subsequent to receipt of a written notice requesting the records enumerated above. In the event that the Contractor or Subcontractor fails to comply with the ten-day period, he or she shall, as a penalty to Owner on whose behalf the contract is made or awarded, forfeit \$100.00 for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. Contractor is not subject to a penalty assessment pursuant to this Paragraph due to the failure of a Subcontractor to comply with this Paragraph.
 3. Contractor shall also deliver certified payrolls to Owner with each Application for Payment as set forth above in this Document 00 7200 (General Conditions).

15.09 Compliance Monitoring By Department of Industrial Relations

- A. This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

15.010 Environmental Controls

- A. Contractor shall comply with all rules, regulations, ordinances, and statutes that apply to any Work performed under the Contract Documents including, without limitation, any toxic, water, stormwater management and soil pollution controls and air pollution controls specified in California Government Code §11017. Contractor shall be responsible for insuring that Contractor's Employees, Subcontractors, and the public are protected from exposure to airborne hazards or contaminated water, soil, or other toxic materials used during or generated by activities on the Site or associated with the Project.

15.011 Shoring Safety Plan

- A. Any conflict between this Paragraph and Division 2 of the Specifications shall be resolved in favor of the most stringent requirement.
- B. At least five Days in advance of any excavation five feet or more in depth, Contractor shall submit to Owner a detailed plan showing the shoring, bracing and sloping design (including calculations) and other provisions to be made for worker protection from the hazard of caving ground during the excavation, as required by California Labor Code §6705. A civil or structural engineer registered in California shall prepare and sign any plan that varies from the shoring system standards established by the State Construction Safety Orders.
- C. During the course of Work, Contractor shall be responsible for determining where sloping, shoring, and/or bracing is necessary and the adequacy of the design, installation, and maintenance of all shoring and bracing for all excavation, including any excavation less than five feet in depth. Contractor will be solely responsible for any damage or injuries that may result from excavating or trenching. Owner's acceptance of any drawings showing the shoring or bracing design or Work schedule shall not relieve Contractor of its responsibilities under this Paragraph.
- D. Appoint a qualified supervisory employee who shall be responsible to determine the sloping or shoring system to be used depending on local soil type, water table, stratification, depth, etc.

END OF DOCUMENT

SUPPLEMENTARY CONDITIONS – INSURANCE AND INDEMNIFICATION

ARTICLE 1 - INSURANCE

- 1.01** At or before the date specified in Document 00 2113 (Instructions to Bidders), Contractor shall furnish to the City of Seaside ("Owner") satisfactory proof that Contractor has taken out for the entire period covered by the Contract the following classes of insurance in the form and with limits and deductibles specified below, unless otherwise specified in Contract Documents:
- A. Comprehensive General Liability Insurance covering claims for personal injury, bodily injury and property damage arising out of the Work and in a form providing coverage not less than that of a Standard Commercial General Liability Insurance policy ("Occurrence Form"). Such insurance shall provide for all operations and include independent contractors, products liability, completed operations for one year after Final Completion and acceptance of the final payment for the Work, contractual liability, and coverage for explosion, collapse, and underground hazards. The limits of such insurance shall not be coverage of less than **\$1,000,000** each occurrence, **\$2,000,000** general aggregate limit, and **\$2,000,000** aggregate for products and completed operations. The policies shall be endorsed to provide Broad Form Property Damage Coverage.
 - B. Comprehensive Automobile Liability Insurance covering all owned, non-owned, and hired vehicles. Such insurance shall provide coverage not less than the standard Comprehensive Automobile Liability policy with limits not less than **\$1,000,000** each person Bodily Injury, **\$1,000,000** each occurrence Bodily Injury, and **\$1,000,000** each occurrence Property Damage.
 - C. All-Risk Course of Construction Insurance including damage to property owned by Owner, Contractor or third parties caused by fire. Insurance shall be in the amount of 100 percent of the completed value of the Work to be performed under this Contract. Deductible shall not exceed **\$10,000.00**. Each loss shall be borne by Contractor.
 - D. Workers' Compensation Insurance for all persons whom the Contractor may employ in carrying out Work contemplated under Contract Documents, in accordance with the Act of Legislature of State of California, known as "Workers' Compensation Insurance and Safety Act," approved May 26, 1913, and all acts amendatory or supplemental thereto, in the statutory amount.
 - E. **[Option]** Environmental Impairment Liability Insurance covering bodily injury and property damage utilizing an occurrence policy form, in an amount no less than **\$1,000,000** combined single limit for each occurrence.
- 1.02** All policies of insurance shall be placed with insurers acceptable to Owner. The insurance underwriter(s) for all insurance policies except Workers' Compensation shall have an A. M. Best Company rating of **A-**, or better, unless otherwise specified in Contract Documents. Required minimum amounts of insurance may be increased should conditions of Work, in opinion of Owner, warrant such increase. Contractor shall increase required insurance amounts upon direction by Owner.
- 1.03** Required Endorsements: The policies required under Document 00 7200 (General Conditions) and this Document 00 7316 shall be endorsed as follows:
- A. Name Owner, its elected and/or appointed governing body and boards, employees, representatives, consultants, and agents, and Project Manager as additional insureds, but only with respect to liability arising out of the activities of the named insured.
 - B. Each such policy shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limit of the insurance company's liability required hereunder. Should any of the policies identified herein contain a "cross-suits" exclusion, such exclusion must not apply to any additional insureds.
 - C. Insurance shall be primary to Owner and no other insurance or self-insured retention carried or held by Owner shall be called upon to contribute to a loss covered by insurance for the named insured.

- 1.04** Certificates of insurance and endorsements shall have clearly typed thereon Owner Contract Number and title of Contract Documents. Written notice of cancellation, non-renewal, or reduction in coverage of any policy shall be mailed to Owner (Attention: Owner Risk Manager / Purchasing Agent) at the address listed in Document 00 5200 (Agreement), 60 Days in advance of the effective date of the cancellation, non-renewal, or reduction in coverage. Written notice of cancellation for non-payment shall be mailed within 10 Days of cancellation. Contractor shall maintain insurance in full force and effect during entire period of performance of Contract Documents. Contractor shall keep insurance in force during warranty and guarantee periods, except that Contractor may discontinue All-Risk Course of Construction Insurance after Final Payment. At time of making application for extension of time, and during all periods exceeding the Contract Time resulting from any cause, Contractor shall submit evidence that insurance policies will be in effect during requested additional period of time. Upon Owner's request, Contractor shall submit to Owner, within 30 Days, copies of the actual insurance policies or renewals or replacements.
- 1.05** Contractor shall pay all insurance premiums, including any charges for required waivers of subrogation or the endorsement of additional insureds. If Contractor fails to maintain insurance, Owner may take out comparable insurance, and deduct and retain amount of premium from any sums due Contractor under Contract Documents.
- 1.06** If injury occurs to any employee of Contractor, Subcontractor or sub-subcontractor for which the employee, or the employee's dependents in the event of employee's death, is entitled to compensation from Owner under provisions of the Workers' Compensation Insurance and Safety Act, as amended, or for which compensation is claimed from Owner, Owner may retain out of sums due Contractor under Contract Documents, amount sufficient to cover such compensation, as fixed by the Act, as amended, until such compensation is paid, or until it is determined that no compensation is due. If Owner is compelled to pay compensation, Owner may, in its discretion, either deduct and retain from the Contract Sum the amount so paid, or require Contractor to reimburse Owner.
- 1.07** Nothing herein shall be construed as limiting in any way the extent to which Contractor or any Subcontractor may be held responsible for payment of damages resulting from their operations.
- 1.08** All Subcontractors shall maintain the same insurance required to be maintained by Contractor with respect to their portions of the Work unless otherwise indicated in Contract Documents, and Contractor shall cause the Subcontractors to furnish proof thereof to Owner within ten Days of Owner's request.
- 1.09** The following provisions apply to any licensed professional engaged by Contractor to perform portions of the Work ("Professional").
- A. Each Professional shall maintain the following insurance, unless otherwise specified in Contract Documents:
1. Professional Liability Insurance, insuring against professional errors and omissions arising from Professional's Work on the Project, in an amount not less than \$1,000,000 combined single limit for each occurrence. If Professional cannot provide an occurrence policy, Professional shall provide insurance covering claims made as a result of performance of Work on this Project and shall maintain such insurance in effect for not less than two years following Final Completion of the Project.
 2. Professional shall satisfy all other provisions of this Document 00 7316 relating to that insurance, including without limitation providing required insurance certificates (containing the required endorsements) before commencing its Work on the Project.

ARTICLE 2 - RESPONSIBILITY OF CONTRACTOR AND INDEMNIFICATION

- 2.01** Owner and each of its officers, employees, consultants and agents including, but not limited to, the Board, Project Manager and each Owner's Representative, shall not be liable or accountable

in any manner for loss or damage that may happen to any part of the Work; loss or damage to materials or other things used or employed in performing the Work; injury, sickness, disease, or death of any person; or damage to property resulting from any cause whatsoever except their sole negligence, willful misconduct or active negligence, attributable to performance or character of the Work, and Contractor releases all of the foregoing persons and entities from any and all such claims.

- 2.02** To the furthest extent permitted by law (including without limitation California Civil Code §2782), Contractor shall assume defense of, and indemnify and hold harmless, Owner and each of its officers, employees, consultants and agents, including but not limited to the Board, Project Manager and each Owner's Representative, from claims, suits, actions, losses and liability of every kind, nature and description, including but not limited to claims and fines of regulatory agencies and attorney's fees and consultant's fees, directly or indirectly arising out of, connected with or resulting from performance of the Work, failure to perform the Work, or condition of the Work which is caused in whole or part by any act or omission of Contractor, Subcontractors, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, resulting from any cause whatsoever except their sole negligence, willful misconduct or active negligence.
- 2.03** With respect to third-party claims against Contractor, Contractor waives any and all rights to any type of express or implied indemnity against Owner and each of its officers, employees, consultants and agents including, but not limited to Owner, the Board, Project Manager and each Owner's Representative. Owner shall provide timely notice to Contractor of any third-party claim relating to the Contract Documents, in accordance with Section 9201 of the California Public Contract Code.
- 2.04** Approval or purchase of any insurance contracts or policies shall in no way relieve from liability nor limit the liability of Contractor, its Subcontractors of any tier, or the officers or agents of any of them.
- 2.05** To the furthest extent permitted by law (including, without limitation, Civil Code §2782), the indemnities, releases of liability and limitations of liability, claims procedures, and limitations of remedy expressed throughout Contract Documents shall apply even in the event of breach of Contract, negligence (active or passive), fault or strict liability of the party(ies) indemnified, released, or limited in liability, and shall survive the termination, rescission, breach, abandonment, or completion of the Work or the terms of the Contract Documents. If Contractor fails to perform any of these defense or indemnity obligations, Owner may in its discretion back charge Contractor for Owner's costs and damages resulting therefrom and withhold such sums from progress payments or other Contract moneys which may become due.
- 2.06** The indemnities in the Contract Documents shall not apply to any indemnified party to the extent of its sole negligence or willful misconduct; nor shall they apply to Owner or other indemnified party to the extent of its active negligence.

END OF DOCUMENT

DOCUMENT 00 9113

ADDENDA

CONTRACT NUMBER 347-9539

CITY OF SEASIDE

City Hall Solar Canopy

located at

**440 HARCOURT AVENUE
SEASIDE, CALIFORNIA, 93955**

The following Addenda were issued, modifying the Project Manual:

Addendum No. 1, issued on **August 29, 2019**
Addendum No. 2, issued on **September 4, 2019**

Addenda have been incorporated into the conformed Plans, Project Manual, Contract Documents,
Technical Specification and Appendices.

END OF DOCUMENT

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 1100

SUMMARY

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes Summary of Work and Work Restrictions including:

1. Work Covered By Contract Documents
2. Bid Items
3. Time of Completion / Liquidated Damages
4. Work Under Other Contracts
5. Work Sequence
6. Work Days and Hours
7. Shutdown for Discovery of Cultural Resources
8. Partial Occupancy/Utilization Requirements
9. Contractor Use of Site
10. Project Site Maintenance
11. Construction Staking and Monument Protection
12. Protection of Existing Structures and Underground Facilities
13. Permits
14. Actual Damages for Permit Violations
15. Protection of Existing Trees During Construction
16. Construction Water
17. Work Performed by the Owner
18. Conditions of Use
19. Contractor's Responsibilities

1.02 WORK COVERED BY CONTRACT DOCUMENTS

Work comprises of the construction of Owner's **City Hall Solar Canopy** located at **440 Harcourt Avenue**, Seaside, California, 93955.

- A. This project includes installation of all equipment shown on drawings necessary for a complete, interconnected and operational 66.6kWAC solar PV system, including construction of parking canopy shade structures located on an existing parking lot.
- B. The Work of this Contract comprises construction of all the Work indicated, described in the Specifications, or otherwise required by the Contract Documents. Unless provided otherwise in the Contract Documents, all risk of loss to Work covered by Contract Documents shall rest with Contractor until Final Acceptance of the Work. Cost of maintenance of systems and equipment prior to Final Acceptance will be considered as included in prices Bid and no direct or additional payment will be made therefore.
- C. For all Bid items, furnish and install all Work, including connections to existing systems, indicated and described in Specifications and all other Contract Documents. Work and requirements applicable to each individual Bid item, or unit of Work, shall be deemed incorporated into the description of each Bid item (whether Lump Sum or Unit Price). Any Bid item may be deleted from the Work and Contract Sum, in total or in part, prior to or after award of Contract without compensation in any form or adjustment of other Bid items or prices therefore.
- D. Allowance Work, if applicable, shall be done as Change Orders and as specified in Section 01 2600 (Modification Procedures). Identify Allowance Items (See Document 00 4113 [Bid Form]) work on the Progress Schedules and on Applications for Payment. The Amount given on Document 00 4113 (Bid Form) under each Allowance Item is the sum of money set aside for each

Allowance Item. These amounts shall be included in the Contract Sum on the Bid Form. If the cost of Work done under any Allowance Item is less than the amount given on the Bid Form under that Allowance Item, the Contract Sum shall be reduced by the difference between the amount given in the Bid Form and the cost of Work actually done.

1.03 BID ITEMS

Bid Item 1 – Mobilization – The contract lump sum price paid for Mobilization shall include full compensation for furnishing all labor, supervision, materials, tools, equipment and incidentals and for doing all work involved in mobilization for construction and installation of parking shade canopy structures and installation of 66.6kWAC photovoltaic system including associated appurtenances. Includes all necessary temporary facilities and utilities, resident notifications, and building permits. Provide temporary lighting and secure construction area. Best Management Practices (BMP's) installation, project site maintenance, every day housekeeping, dust control, fire prevention, traffic control, USA notifications, demobilization, and clean-up, as shown on the plans, as specified in the Contract Documents, and Technical Specifications.

Bid Item 2 – Parking Shade Canopy Structure(s) – The contract lump sum price paid for construction of parking shade canopy structure, including column foundations, shall include full compensation for furnishing all labor, supervision, materials, tools, equipment and incidentals, for all work as shown on the plans, as specified in the Contract Documents, and Technical Specifications.

Bid Item 3 –66.6 kWAC Photovoltaic System– The contract lump sum price paid for installation of 66.6 kWAC interconnected Photovoltaic System shall include full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals, and all work including Solar PV modules, conduits, subsurface conduits, inverters, transformer, all electrical switch gear, connectors, cabling, patch paving, and components necessary for a complete solar system. Provide monitoring equipment necessary to remotely access and download real-time and historical PV energy production, and for all work as shown on the plans, as specified in the Contract Document, and Technical Specifications.

Bid Item 4 – Utility Coordination – The contract lump sum price paid for Utility Coordination shall include full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals, and for all work in completing utility interconnection application and process, including tariff change requests and all coordination with local electrical utility necessary to achieve interconnect and permission to operate the 66.6 kWAC interconnected photovoltaic system as shown on the plans, as specified in the Contract Documents and Technical Specifications.

Bid Item 5 – Photovoltaic System Commissioning – The contract lump sum price paid for commissioning the 66.6 kWAC Photovoltaic System shall include full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals, and for all work including, but not limited to, testing AC & DC conductors, inspection of conduits and junction boxes, continuity testing, inverter tests per manufacturer instructions, system performance testing, provide training to City staff and submission of a commission report, as shown on the plans, as specified in the Contract Documents, and Technical Specifications.

Bid Item 6 – Project Close Out – The contract lump sum price paid for Project Close Out shall include full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals, and for all work including but not limited to submission of complete Record Drawings, Operations and Maintenance Manuals, and return disturbed areas to preconstruction conditions as shown on the plans, as specified in the Contract Documents and Technical Specifications.

ADDITIONAL ALTERNATE BID ITEMS

Bid Item 7 – EV Charging Station– The contract lump sum price paid for EV Charging Station shall include full compensation for furnishing all labor, supervision, materials, tools and incidentals to install two (2) Owner supplied –ChargePoint+ CT4000 dual electric vehicle charge stations. For the purpose of bidding, charge stations shall be bollard mounted and include a cellular repeater.

1.04 TIME OF COMPLETION AND LIQUIDATED DAMAGES

- A. Time of Completion: **180** working days from the Notice to Proceed
- B. The Contractor shall pay to the Owner a sum of \$1,000 per day, for each and every calendar days delay in finishing the work in excess of the number of working days prescribed above.

1.05 WORK UNDER OTHER CONTRACTS

- A. The Owner does not anticipate any work under other contracts occurring at 440 Harcourt Avenue, Seaside CA, 93955 site simultaneously with this project.

1.06 WORK SEQUENCE

- A. Construct work in stages and at times to accommodate Owner operation requirements during the construction period; coordinate construction schedule and operations with Owner.
- B. The allowable working conditions stated below are requirements by the Owner. Any requested change must be approved by the Owner. The Contractor may request a change in the allowable working conditions by submitting a written request to the Owner with a minimum 48 hours notice.
 - 1. All scheduling conditions included in permits issued by the affected agencies shall be followed.
 - 2. The Contractor shall coordinate all work with the Owner.
 - 3. Access to the Monterey County Library, Seaside Branch shall remain unimpeded.
- C. Special operational constraints include the following:
 - 1. Before any work can commence, the Contractor shall give a 7 calendar day advance notice to the Owner of their intended construction start date.

1.07 WORK DAYS AND HOURS

- A. Work Days and hours: Monday-Friday inclusive, 7:30 AM-5:30 PM, local time.
- B. Work at the Site on weekends or holidays is not permitted, unless the contractor requests otherwise from Owner in writing at least 48 hours in advance and Owner approves in its sole discretion.
- C. Designated legal City holidays are: New Year's Day, Dr. Martin Luther King's Birthday, President's Day, Cesar Chavez Day Observed, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Day Following Thanksgiving Day, Day before and Christmas Day. When a designated legal holiday falls on a Sunday, the following Monday shall be a designated legal holiday. When November 11th falls on a Saturday, the preceding Friday shall be a designated legal holiday.

1.08 SHUTDOWN FOR DISCOVERY OF CULTURAL RESOURCES

- A. If discovery is made of items of historical archaeological or paleontological interest, immediately cease all Work in the area of discovery. Archaeological indicators may include, but are not limited to, dwelling sites, locally darkened soils, stone implements or other artifacts, fragments of glass or ceramics, animal bones, human bones, and fossils. After cessation of excavation, immediately contact Owner. Do not resume Work until authorization is received from Owner. When resumed, excavation or other activities shall be as directed by Owner.

1.09 PARTIAL OCCUPANCY/UTILIZATION REQUIREMENTS

- A. Allow Owner to take possession of and use any completed or partially completed portion of the Work during the progress of the Work as soon as is possible without interference to the Work.

- B. Possession, use of Work, and placement and installation of equipment by Owner shall not in any way evidence the completion of the Work or any part of it.
- C. Contractor shall not be held responsible for damage to the occupied part of the Work resulting from Owner occupancy.
- D. Make available, in areas occupied, on a 24 hour per day and 7 day per week basis if required, any utility services, heating, and cooling in condition to be put in operation at the time of occupancy.
 - 1. Responsibility for operation and maintenance of said equipment shall remain with Contractor.
 - 2. Make, and Owner shall certify, an itemized list of each piece of equipment so operated with the date operation commences.
 - 3. Itemized list noted above shall be basis for commencement of warranty period for equipment.
 - 4. Owner shall pay for utility cost arising out of occupancy by Owner during construction.
- E. Use and occupancy by Owner prior to acceptance of Work does not relieve Contractor of its responsibility to maintain insurance and bonds required under the Contract until entire Work is completed and accepted by Owner.
- F. Prior to date of Final Acceptance of the Work by Owner, all necessary repairs or renewals in Work or part thereof so used, not due to ordinary wear and tear, but due to Defective materials or workmanship or to operations of Contractor, shall be made at expense of Contractor, as required in Document 00 7200 (General Conditions).
- G. Use by Owner of Work or part thereof as contemplated by this Section 01 1100 shall in no case be construed as constituting acceptance of Work or any part thereof. Such use shall neither relieve Contractor of any responsibilities under Contract, nor act as waiver by Owner of any of the conditions thereof.
- H. Owner may specify in the Contract Documents that portions of the Work, including electrical and mechanical systems or separate structures, shall be substantially completed on dates described in this Section 01 1100, if any, prior to Substantial Completion of all of the Work. Notify Owner in writing when Contractor considers any such part of the Work ready for its intended use and Substantially Complete and request Owner to issue a Certificate of Substantial Completion for that part of the Work.

1.10 CONTRACTOR USE OF SITE

- A. Confine operations at Site to areas permitted by Contract Documents, permits, ordinances, and laws. Do not unreasonably encumber Site with materials or equipment.
- B. Assume full responsibility for protection and safekeeping of products stored on premises. Move any stored products that interfere with operations of Owner or other contractor.
- C. Coordinate parking, storage, staging, and Work areas with Owner. Use of the work area is permitted only for the purposes necessary to perform the work. If practicable, dispose of construction debris concurrently with its removal. If stockpiling is necessary, dispose of stockpiles weekly, Owner will provide a storage area for Contractor's equipment and materials. Parking and storage will be confined to the areas designated for storage or otherwise approved by the Owner. Do not store construction materials in the drip line of any tree.
- D. Prior to commencement of Work or excavation, Contractor and Owner shall jointly survey the area adjacent to the Project area making permanent note and record of such existing damage such as cracks, sags or other similar damage. This record shall serve as a basis for determination of subsequent damage to structures, conditions or other existing improvements due to Contractor's operations. All parties making the survey shall sign the official record of existing damage. Cracks, sags or damage of any nature to the adjacent Project area, not noted in the original survey but subsequently noted, shall be reported immediately to Owner.
- E. The Contractor shall follow all city ordinances in force during the duration of this Contract.

- F. It is essential that the Contractor perform the Work with as little interference and disturbance as possible to the surrounding neighborhood.
- G. When suspect materials, outside the scope of Work, are encountered during the Work or restoration process, the Contractor shall immediately contact the Project Manager for evaluation and approval of the methods for dealing with the material.

1.11 PROJECT SITE MAINTENANCE

A. Disposal of Material –

1. Unless otherwise shown on the plans or specified herein, all excess materials and materials removed from existing improvements shall become the property of, and be disposed by the Contractor. The Contractor shall be responsible for all costs associated with disposing all excess materials in a safe and legal manner. No material shall be placed on private or public property without prior approval from the Owner and the property owner. The Contractor shall not allow and refuse, excavated material, surplus concrete or mortar, or any associated washings, to be disposed upon paved streets, into manholes or into the Owner's storm drain system.
2. Contractor shall establish a system for daily collection and disposal of waste materials from construction areas and elsewhere on the site. Contractor shall handle waste materials that are hazardous, dangerous, or unsanitary separately from inert waste by containerizing appropriately. Burning or burying of waste materials on site will not be permitted. No extra payment will be made for handling/disposal of hazardous material.

B. Cleanup and Dust Control –

1. At all times during construction, including weekends and holidays, and throughout all phases of construction, including work suspensions and until final acceptance of the project, the Contractor shall keep the work site clean and free from rubbish, debris, and prevent the formation of an airborne dust nuisance.
2. Materials and equipment shall be removed from the site as soon as they are no longer necessary. Upon completion of the work and before final inspection, the entire site shall be cleared of equipment, unused materials, and rubbish so as to present a satisfactory clean and neat appearance. All cleanup costs shall be absorbed in the Contractor's bid.
3. The Contractor shall abate dust nuisance by cleaning, sweeping, and sprinkling with water, those excavated areas of dirt or other materials which are prone to causing dust, within both the project site and the storage or staging area. If required or directed by the Engineer, the Contractor shall provide an approved water truck of large capacity with spraying capability.
4. The Contractor shall be required to apply water for dust control immediately during construction efforts within one (1) hour after notification by the Engineer that an airborne nuisance exists. If dust control is not adequate in the opinion of the Engineer, the Engineer will have this work done by others and will deduct such cost from the total contract price.
5. All hauling trucks or other construction vehicles leaving the site shall be cleaned of mud or dirt clinging to the exterior body surfaces or wheel rims before travelling on public streets outside the work limits. All trucks coming to or leaving the site with materials or loose debris shall be loaded in a manner which will prevent the dropping of materials or debris on public streets. Spillage resulting from hauling operations along or across any public traveled way shall be removed immediately at the Contractor's expense.
6. When construction operations cause dirt to be deposited on public streets, the Contractor shall immediately remove such material. Streets shall be cleaned by street sweeping, rather than flushing, so as to prevent material from entering the storm drain system.
7. Excess excavated material shall be removed from the site immediately. Sufficient material may remain for use as backfill if permitted by the specifications. Forms and form lumber shall be removed from the site as soon as practicable after stripping.
8. Failure of the Contractor to comply with the Engineer's cleanup orders may result in an order to suspend work until the condition is corrected. No additional compensation will be allowed as a result of such suspension.

- C. Air Pollution Control: The Contractor shall not discharge smoke, dust or any other air contaminants into the atmosphere in such quantity as will violate the regulations of any legally constituted authority.
- D. Noise Control: The Contractor shall make every reasonable effort to control noise generated as a result of construction to the satisfaction of the Engineer. Use of an air compressor, jackhammer or other loud, vibrating sound generating devices shall be limited to operations between the hours of 8:00 a.m. and 4:30 p.m. unless otherwise authorized by the Engineer. A sound barrier shall be used for any equipment required to run between 4:30 pm and 8:00 am. Sound barrier details shall be coordinated with and approved by the Owner.
- E. Vermin Control: At the time of acceptance, structures entirely constructed under the contract shall be free of rodents, insects, vermin and pests. Necessary extermination work shall be arranged and paid for by the Contractor as part of the contract work within the contract time and shall be performed by a license exterminator in accordance with requirements of governing authorities. The Contractor shall be liable for injury to persons or property and responsible for the elimination of offensive orders resulting from extermination operations.
- F. Sanitation: The Contractor shall provide and maintain enclosed toilets for the use of employees engaged in the work. These accommodations shall be maintained in a neat and sanitary condition. They shall also comply with all applicable laws, ordinances and regulations pertaining to the public health and sanitation of dwellings and camps.
- G. Temporary Light and Power: The Contractor shall at his own expense furnish, install, maintain, and remove all temporary light and power, including piping, wiring, lamps, and other equipment, necessary for the work.
- H. Storm Water Pollution Control
 - 1. Storm Water Pollution Control work shall consist of following Best Management Practices (BMP) for storm water pollution prevention, submitting a Water Pollution Control Plan in compliance with the most current NPDES requirements.
 - 2. In compliance with State and Federal regulations on construction storm water management and non-point source pollution control, no pollutants will be allowed to enter the storm drainage system. The Contractor shall be responsible for containing and removing any waste from the Contractor's construction operations using the appropriate BMP. The Contractor shall be responsible for cleaning catch basins of solid or liquid waste materials originating from the Contractor's operation before this material migrates further into the storm drain system.
 - 3. Violation of this provision shall cause the Owner to issue a stop-work notice and take necessary action to require the Contractor to correct and comply with regulations. All costs related to the stop-work action and corrective work to come into compliance shall be fully borne by the Contractor.
 - 4. All construction efforts shall be conducted in a manner which prevents the release of hazardous material or hazardous waste into the soil or groundwater, and minimizes the discharge of pollutants into the storm drain system.

1.12 CONSTRUCTION STAKING AND MONUMENT PROTECTION

- A. Contractor shall provide its own survey staking. Provide Owner with Contractor's survey staking information in writing within 3 Business Days after it becomes available to Contractor.
- B. Contractor shall be responsible for laying out the Work, shall protect and preserve the established construction stakes and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Whenever Contractor knows or reasonably should know that any Work activity is likely to damage or destroy any construction stakes or property monuments, or require relocation because of necessary changes in grades or locations, Contractor shall replace or repair construction stake or property monuments at Contractor's expense.
- C. Perform brush clearing and traffic control, as necessary, in Owner's sole judgment.

1.13 PROTECTION OF EXISTING STRUCTURES AND UNDERGROUND FACILITIES

- A. The Drawings may indicate existing above- and below-grade structures, drainage lines, storm drains, sewers, water lines, gas lines, electrical lines, hot water lines, and other similar items and Underground Facilities that are known to Owner. At least 2 Business Days, or as otherwise noted, prior to commencement of excavation, notify the owners of the following Underground Facilities:

1. Solar Interconnection PG&E
NEMExpFollowups@pge.com
Notification #: 116608503
Project #83130, Seaside City Hall
2. Sewer lines: Seaside County Sanitation District
440 Harcourt Avenue, Seaside 93955
Phone: (831) 899-6841
3. Water lines: California American Water
511 Forest Lodge Road #100, Pacific Grove, CA
Phone: (831) 646-3287
4. Telephone conduit: AT&T
515 Chappell Rd
Watsonville, CA 95076
Sue Barraza
Office Phone: (831)725-6571
5. Cable Cablecom
11325 Commercial Parkway
Castroville, CA 93912
Mark Rose
(831) 633-2392

- B. Where overhead service to a structure, known to receive service, does not exist, then underground service shall be assumed to exist.
- C. Attention is also directed to the existence of overhead power and telephone lines.
- D. Perform pot-holing by hand within 24 inches (in any direction) of the Underground Facilities. This may be done on an area-by-area basis, but shall be accomplished at least 7 Days in advance of the date of construction within such area.
- E. In addition to reporting, if a utility is damaged, Contractor must take appropriate action as provided in Document 00 7200 (General Conditions).
- F. Additional compensation or extension of time on account of utilities not indicated or otherwise brought to Contractor's attention including reasonable action taken to protect or repair damage shall be determined as provided in Document 00 7200 (General Conditions).

1.14 PERMITS

- A. The Contractor shall, at the Contractor's expense, obtain all necessary permits and licenses for the construction of each part of the Public improvement, give all necessary notices, and pay all fees and taxes required by law. The Contractor shall obtain and maintain in effect a business license from the Owner until the Owner has accepted the Public Improvements in their entirety.
- B. Permits, agreements, or written authorizations that are known by Owner to apply to this Project are listed below:
1. City of Seaside Building Permit
 2. Pacific Gas & Electric (Utility) Interconnection Application

- C. All other permits that may be required, such as electrical, mechanical, fire prevention, irrigation, grading, slope protection, tree cutting, etc., have not been applied for and shall be obtained by Contractor. Applicable permit fees will be reimbursed to the extent specified in Document 00 7200 (General Conditions).

1.15 ACTUAL DAMAGES FOR PERMIT VIOLATIONS

- A. In addition to damages which are impracticable or extremely difficult to determine, for which liquidated damages will be assessed as described in Document 00 5200 (Agreement) and Document 00 7200 (General Conditions), Owner may incur actual damages, including fines imposed by any regulatory agency, where the violations result from Contractor's activities.
- B. Contractor shall be liable for and shall pay Owner the amount of any actual losses in addition to liquidated damages or other remedies provided by the Contract Documents.
- C. The amount of liquidated damages provided in Document 00 5200 (Agreement) and Document 00 7200 (General Conditions) is not intended to include, nor does the amount include, any damages incurred by Owner for reasons other than those listed in that paragraph. Any money due or to become due to Contractor may be retained by Owner to cover both the liquidated and the actual damages described above and, should such money not be sufficient to cover such damages, Owner shall have the right to recover the balance from Contractor or its sureties.

1.16 PROTECTION OF EXISTING TREES DURING CONSTRUCTION ACTIVITIES

- A. The Contractor shall protect all existing trees on the job site from construction activities, starting from within the drip lines of each tree. The Owner reserves the right to issue a stop-working notice if it is determined that the Contractor's negligence has caused damaged to existing trees.
- B. Care must be taken when digging near any existing tree to minimize harm to the tree. Excavation must be done by hand until below the root zone. If any roots 2" or grater in diameter are encountered, they must be protected from damage. If the work cannot proceed without damaging such roots, the Engineer must be notified at once.
- C. No storage of materials; disposal of paints, solvents or other noxious materials; no unnecessary operation of equipment or parked cars shall be allowed within the drop line of any trees.

1.17 CONSTRUCTION WATER

- A. The Contractor to coordinate with California American Water for water from nearest fire hydrant.

1.18 WORK TO BE DONE BY THE OWNER

- A. The Owner will be responsible for the following items of work on the project:
 - 1. Complete interconnection documents as requested by the Contractor or Utility.

1.19 Conditions of Use

- A. The Contractor shall assume full responsibility for the protection and safekeeping of project materials, tools, and equipment stored on premises. Any stored products interfering with Owner operations shall be moved by the Contractor at his/her expense. The Contractor shall obtain and pay for use of any additional storage or work area for operations.
- B. The Owner will require the following of the Contractor in addition to the requirements shown and described elsewhere in these documents:
 - 1. The Contractor shall hand carry written notification to property owners adjacent to the project area a minimum 7 days in advance of beginning construction. The Contractor shall submit a draft notification letter to the Owner during the pre-construction meeting.
 - 2. The Contractor shall also hand carry written notifications to property owners adjacent to the project area a minimum 7 days in advance of beginning tank exterior blasting due to the excessive noise created by these activities. The Contractor shall submit a draft notification letter to the Owner during the pre-construction meeting.
 - 3. The Contractor shall designate a person to contact should a problem arise during non-working hours or days. The Owner shall be given that person's name, phone number, e-mail.

4. The Contractor shall not operate Owner valves at any time.

1.20 CONTRACTOR'S RESPONSIBILITIES

- A. Unless noted otherwise, the Contractor shall provide and pay for:
 1. Labor, supervision, materials, and equipment
 2. Tools, construction equipment and machinery
 3. Utilities required for construction.
 4. All other facilities and services necessary for proper execution and completion of work.
 5. Contractor must submit in their proposal acknowledgement of State and Federal laws and regulations regarding all facets of removing and disposing of coating which contains lead or asbestos found.
- B. Pay all required sales, consumer and use taxes.
- C. Conform to the requirements of all permits including, but not limited to any construction permits associated with the project.
- D. The Contractor acknowledges and is familiar with the existing site condition constraints, topographic features, and overall geographical locations of the project.
- E. Secure and pay for, as necessary proper execution and completion of the work, applicable permits and licenses.
- F. Give required notices to homeowners
- G. Comply with Codes, ordinances, rules, regulations, orders, and other legal requirements of public authorities, which bear performance on the work.
- H. Promptly submit written notice to the Owner of observed variance of Contract documents from legal requirements.
- I. The Contractor shall be responsible for all costs associated with the containment and disposal of waste (hazardous / non-hazardous) that may result from execution of this project.
- J. The Contractor shall provide their own power, fuel, and power supplies.

PART 2 – PRODUCTS

2.01 PRODUCTS ORDERED IN ADVANCE

- A. As provided in Document 00 7200 (General Conditions) and Section 00 2113 (Measurement and Payment), and subject to all other provisions of the Contract Documents, Owner will pay for the following materials and equipment prior to incorporation into the Work:
 1. None

PART 3 – EXECUTION – NOT USED

END OF SECTION

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 2000

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes description of requirements and procedures for determining amount of Work performed and for obtaining payment for Work performed.

1.02 REFERENCES

- A. California Public Contract Code
- B. Code of Civil Procedures
- C. Government Code

1.03 COMPOSITION AND SCOPE OF CONTRACT SUM

A. Scope of Contract Sum

- 1. The Contract Sum for performance of the Work under Contract Documents, or under any Bid item, allowance, or Alternate, shall include full compensation for all Work required under the Contract Documents, including without limitation, all labor, materials, taxes, transport, handling, storage, supervision, administration, and all other items necessary for the satisfactory completion of the Work, whether or not expressly specified or indicated, incidental work and unexpected expenses, and all terms, conditions, requirements and limitations set forth in the Contract Documents.
- 2. Contract Sum may be expressed as lump sum, unit price, GMP, allowance, or combination thereof.

B. Unit Price items

- 1. Quantity of Work to be paid for under any item for which a unit price is fixed in Contract Documents shall be determined by Owner based on, so far as practicable, actual number of units satisfactorily completed, as determined by Owner and certified by Contractor, within prescribed or ordered limits, and no payment will be made for Work unsatisfactorily performed or done outside of limits.
- 2. Unit Prices shall apply to Work covered by unit prices so long as actual quantities performed on the Project are not less than 75 percent or greater than 125 percent of the estimated quantities bid or otherwise stated in the Contract Documents. If actual quantities exceed these parameters, then the unit price shall be adjusted by an amount to reflect the Contractor's incremental cost differential resulting from increased or decreased economies of scale.

C. Lump Sum Items

- 1. When estimated quantity for specific portion of Work is not indicated and/or Work is designated as lump sum, payment will be on a lump sum basis for Work satisfactorily completed in accordance with Contract Documents.
- 2. Payment for lump sum Work, or items of Work subject to a lump sum (e.g. without limitation, change order work), shall be made on the basis of satisfactory completion of such Work or work item, earned in progressive stages in accordance with the Contract Documents, up to but not exceeding the Contractor's percentage completion of the Work or item.
- 3. Lump sum items shall be paid based upon the approved Schedule of Values, which shall

be used to measure progressive payments based upon satisfactory progress towards completion of the item.

D. Allowance Items

1. Allowances: Allowance Work will be authorized by Owner in writing, following change order procedures to determine cost, supporting documentation and authorization to proceed. Unused allowance amounts at Contract completion shall reduce the Contract price accordingly.

1.04 PAYMENT PROCEDURES

A. Schedule of Values:

1. Within ten Days from issuance of Notice of Award and prior to the Contractor's first Application for Payment, Contractor shall submit a detailed breakdown of its Bid by scheduled Work items and/or activities, including coordination responsibilities and Project Record Documents responsibilities. Where more than one Subcontractor comprises the work of a Work item or activity, the Schedule of Values shall show a separate line item for each subcontract. Contractor shall furnish such breakdown of the total Contract Sum by assigning dollar values (cost estimates) to each applicable Progress Schedule network activity, which cumulative sum equals the total Contract Sum. This breakdown shall be referred to as the Schedule of Values.
2. Contractor's overhead, profit, insurance, cost of bonds (except to the extent expressly identified in a Bid item) and/or other financing, as well as "general conditions costs," (e.g., Site cleanup and maintenance, temporary roads and access, off-Site access roads, temporary power and lighting, security, and the like), shall be prorated through all activities so that the sum of all the Schedule of Values line items equals Contractor's total Contract Sum, less any allowances designated by Owner. Scheduling, record documents and quality assurance control shall be separate line items.
3. Owner will review the breakdown in conjunction with the Progress Schedule to ensure that the dollar amounts of this Schedule of Values are, in fact, reasonable cost allocations for the Work items listed. Upon favorable review by Owner, Owner will accept this Schedule of Values for use. Owner shall be the sole judge of fair market cost allocations.
4. Owner will reject any attempt to increase the cost of early activities, i.e., "front loading," resulting in a complete reallocation of moneys until such "front loading" is corrected. Repeated attempts at "front loading" may result in suspension or termination of the Work for default, or refusal to process progress payments until such time as the Schedule of Values is acceptable to Owner.

B. Contractor's Requests for Progress Payments

1. If requested by Contractor, progress payments will be made monthly, under the following conditions:
 - a. On or before the 25th Day of each month, Contractor shall submit to Owner one copies of an Application for Payment for the cost of the Work put in place during the period from the last Day of the previous month to the end of the current month, along with one copy of an updated Progress Schedule. Such Applications for Payment shall be for the expected total value of activities completed or partially completed, based upon Schedule of Values prices (or Bid item prices if unit price) of all labor and materials incorporated in the Work up until midnight of the last Day of that one month period, less the aggregate of previous payments. Accumulated retainage shall be shown as separate item in payment summary. Owner and Contractor will reconcile any differences in the field, based on the reconciled monthly report sheets. If Contractor is late submitting its Application for Payment, that Application may be processed at any time during the succeeding one-month period, resulting in processing of Contractor's Application for Payment being delayed for more than a Day for Day basis.
 - b. Except as otherwise provided in a labor compliance program applicable to the Work

(if any) or as otherwise required by Owner, concurrently with each Application for Payment, Contractor shall submit to the Owner the Contractor's and its Subcontractors' certified payroll records required to be maintained pursuant to Labor Code Section 1776 for all labor performed during pay periods ending during the period covered by the Application for Payment.

- c. No progress payment will be processed prior to Owner receiving all requested, acceptable schedule update information and certified payrolls, and in Owner's sole and absolute discretion, Owner may deny the entire Application for Payment for noncompliance.
- d. Each Application for Payment shall list each Change Order and Construction Change Directive ("CCD") executed prior to date of submission, including the Change Order/CCD Number, and a description of the Work activities, consistent with the descriptions of original Work activities. Contractor shall submit a monthly Change Order/CCD status log to Owner.
- e. If Owner requires substantiating data, Contractor shall submit information requested by Owner, with cover letter identifying Project, Application for Payment number and date, and detailed list of enclosures. Contractor shall submit one copy of substantiating data and cover letter for each copy of Application for Payment submitted.
- f. If Contractor fails or refuses to participate in monthly Work reconciliations or other construction progress evaluation with Owner, Contractor shall not receive current payment until Contractor has participated fully in providing construction progress information and schedule update information to Owner.

C. Owner's Review of Progress Payment Applications

- 1. Owner will review Contractor's Application for Payment following receipt and during the Progress Schedule and Billing Meeting. If adjustments need to be made to percent of completion of each activity, Owner will make appropriate notations and return to Contractor. Contractor shall revise and resubmit. All parties shall update percentage of completion values in the same manner, i.e., express value of an accumulated percentage of completion to date.
- 2. If Owner determines that portions of the Application for Payment are not proper or not due under the Contract Documents, then Owner may approve the other portions of the Application for Payment, and in the case of disputed items or Defective Work not remedied, may withhold up to 150 percent of the disputed amount from the progress payment.
- 3. Pursuant to California Public Contract Code §20104.50, if Owner fails to make any progress payment within 30 Days after receipt of an undisputed and properly submitted Application for Payment from Contractor, Owner shall pay interest to the Contractor equivalent to the legal rates set forth in subdivision (a) of Section 685.010 of the California Code of Civil Procedure. The 30-Day period shall be reduced by the number of Days by which Owner exceeds the seven-Day return requirement set forth herein.
- 4. As soon as practicable after approval of each Application for Payment for progress payments, Owner will pay to Contractor in manner provided by law, an amount equal to 95 percent (95%) of the amounts otherwise due as provided in the Contract Documents, or a lesser amount if so provided in Contract Documents and by law, provided that payments may at any time be withheld if, in judgment of Owner, Work is not proceeding in accordance with Contract, or Contractor is not complying with requirements of Contract, or to comply with stop notices or to offset liquidated damages accruing or expected. In Owner's sole discretion, if Contractor has failed to comply with either its Progress Schedule update or project record documents requirements, Owner may retain an additional 5% of any earned amounts until such requirements are satisfied.
- 5. Before any progress payment or final payment is due or made, Contractor shall submit satisfactory evidence that Contractor is not delinquent in payments to employees, Subcontractors, suppliers, or creditors for labor and materials incorporated into Work. This specifically includes, without limitation, conditional lien release forms for the current

progress payment and unconditional release forms for past progress payments. This also includes copies of certified payroll from contractor and subcontractors for the current payment period.

D. Payment for Material and Equipment Not Yet Incorporated Into the Work

1. No payment shall be made for materials or equipment not yet incorporated into the Work, except as specified elsewhere in the Contract Documents or as may be agreed to by Owner in its sole discretion. Where Contractor requests payment on the basis of materials and equipment not incorporated in the Work, Contractor must satisfy the following conditions:
2. The materials and/or equipment shall be delivered and suitably stored at the Site or at another local location agreed to in writing, for example, a mutually acceptable bonded and insured warehouse.
3. Full title to the materials and/or equipment shall vest in Owner at the time of delivery to the Site, warehouse or other storage location. Obtain a negotiable warehouse receipt, endorsed over to Owner for materials and/or equipment stored in an off-site warehouse. No payment will be made until such endorsed receipts are delivered to Owner.
4. Stockpiled materials and/or equipment shall be available for Owner inspection, but Owner shall have no obligation to inspect them and its inspection or failure to inspect shall not relieve Contractor of any obligations under the Contract Documents. Materials and/or equipment shall be segregated and labeled or tagged to identify these specific Contract Documents.
5. After delivery of materials and/or equipment, if any inherent or acquired defects are discovered, defective materials and/or equipment shall be removed and replaced with suitable materials and/or equipment at Contractor's expense.
6. At Contractor's expense, insure the materials and/or equipment against theft, fire, flood, vandalism, and malicious mischief, as well as any other coverages required under the Contract Documents.
7. Contractor's Application for Payment shall be accompanied by a bill of sale, invoice or other documentation warranting that Owner has received the materials and equipment free and clear of all liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect Owner interest therein, all of which must be satisfactory to Owner. This documentation shall include, but not be limited to, conditional releases of mechanics' liens and stop notices from all those providing materials and equipment as to which the Application for Payment relates, as well as unconditional releases of the same from the same as to the previous Application for Payment for which they have not already been provided. Amounts previously paid for materials and equipment prior to incorporation into the Work shall be deducted from amounts otherwise due Contractor as they are incorporated.

1.05 FINAL PAYMENT

A. Final Payment

1. As soon as practicable after all required Work is completed in accordance with Contract Documents, including punchlist, testing, record documents and Contractor maintenance after Final Acceptance, Contractor shall submit its Application for Final Payment.
2. Provided Contractor has met all conditions required for Final payment, Owner will pay to Contractor, in manner provided by law, unpaid balance of Contract Sum of Work (including, without limitation, retentions), or whole Contract Sum of Work if no progress payment has been made, determined in accordance with terms of Contract Documents, less sums as may be lawfully retained under any provisions of Contract Documents or by law.

B. Final Accounting

1. Prior progress payments and change orders shall be subject to audit and correction in the final payment.
2. Contractor and each assignee under an assignment in effect at time of final payment shall

execute and deliver at time of final payment, and as a condition precedent to final payment, Document 00 6530 (Agreement and Release of Claims).

1.06 SUBSTITUTION OF SECURITIES

A. **Public Contract Code Section 22300.** In accordance with the provisions of Public Contract Code Section 22300, substitution of securities for any moneys withheld under Contract Documents to ensure performance is permitted under following conditions:

1. At request and expense of Contractor, securities listed in Section 16430 of the Government Code, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by Contractor and Owner which are equivalent to the amount withheld under retention provisions of Contract shall be deposited with Controller or with a state or federally chartered bank in California, as the escrow agent, who shall then pay such moneys to Contractor. Upon satisfactory completion of Contract, securities shall be returned to Contractor.
2. Alternatively, Contractor may request and Owner shall make payment of retentions earned directly to the escrow agent at the expense of Contractor. At the expense of Contractor, Contractor may direct the investment of the payments into securities and receive the interest earned on the investments upon the same terms provided for securities deposited by Contractor. Upon satisfactory completion of the work of the Contract Documents, Contractor shall receive from escrow agent all securities, interest, and payments received by the escrow agent from Owner. Contractor shall then pay to each Subcontractor, not later than 10 Days after receipt of the payment, the respective amount of interest earned, net of costs attributed to retention withheld from each Subcontractor, on the amount of retention withheld to insure the performance of Contractor.
3. Contractor shall be beneficial owner of securities substituted for moneys withheld and shall receive any interest thereon.
4. Contractor may enter into an escrow agreement, form included in Contract Documents, as authorized under Public Contract Code Section 22300, specifying amount of securities to be deposited, terms and conditions of conversion to cash in case of default of Contractor, and termination of escrow upon completion of Contract Documents.
5. Public Contract Code Section 22300, in effect on Bid Day, is hereby incorporated in full by this reference and shall supersede anything inconsistent therewith.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 2600

MODIFICATION PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes requirements that supplement the paragraphs of Document 00 7200 (General Conditions).
- B. Description of procedures for modifying the Contract Documents and determining costs for changes in contract amounts.

1.02 PROCEDURES FOR CONTRACTOR INITIATED CHANGE ORDER

A. Contractor-Initiated Change Proposal Request (CPR) and Procedures:

- 1. Contractor may initiate changes by submitting a Change Proposal Request ("CPR").
- 2. Whenever Contractor elects or is entitled to submit a CPR, Contractor shall prepare and submit to Owner for consideration a CPR using the form included in this Project Manual. All CPRs must contain a complete breakdown of costs of credits, deducts and extras; itemizing materials, labor, taxes, Markup and any requested changes to Contract Time. All Subcontractor Work shall be so indicated. Individual entries on the CPR form shall include applicable Schedule of Values code, with all amounts determined as provided herein. After receipt of a CPR with a detailed breakdown, Owner will act promptly thereon.
- 3. If Owner accepts a CPR, Owner will prepare a Change Order for Owner and Contractor signatures.
- 4. If CPR is not acceptable to Owner because it does not agree with Contractor's proposed cost and/or time, Owner will provide comments thereto. Contractor will then, within seven (7) Days (except as otherwise provided herein), submit a revised CPR.
- 5. When necessity to proceed with a change does not allow Owner sufficient time to conduct a proper check of a CPR (or revised CPR), Owner may issue a Change Directive (CD) as provided below.

B. Contractor-Initiated Request for Information (RFI) Procedures, Requirements and Limitations:

- 1. Contractor may submit RFI's for clarifications in Owner-prepared Contract Documents, which may result in the Contractor submitting a CPR.
- 2. Whenever Contractor requires information regarding the Project or Owner-prepared Contract Documents, or receives a request for such information from a Subcontractor, Contractor may prepare and deliver an RFI to Owner. Contractor shall use RFI format provided on approval by Owner. Contractor shall not issue an RFI to Owner solely to clarify Contractor-prepared Construction Documents. Contractor must submit time critical RFIs at least 30 days before scheduled start date of the affected Work activity. Contractor shall reference each RFI to an activity of Progress Schedule and shall note time criticality of the RFI, indicating time within which a response is required. Contractor's failure to reference RFI to an activity on the Progress Schedule and note time criticality on the RFI shall constitute Contractor's waiver of any claim for time delay or interruption to the Work resulting from any delay in responding to the RFI.
- 3. Contractor shall be responsible for its costs to implement and administer RFIs throughout the Contract duration. Regardless of the number of RFIs submitted, Contractor shall not be entitled to additional compensation for the effort required to submit the RFIs. Contractor shall be responsible for Owner's administrative costs for answering RFIs where the answer could reasonably be found by reviewing the Contract Documents, as determined by

Owner; at Owner discretion, such costs may be deducted from progress payments or final payment.

4. Owner will respond within ten (10) days from receipt of RFI with a written response to Contractor. Contractor shall distribute response to all appropriate Subcontractors.
5. If Contractor is satisfied with the response and does not request a change in Contract Sum or Contract Time, then the response shall be executed without a change.
6. If Contractor believes the response is incomplete, Contractor shall issue another RFI (with the same RFI number with the letter "A" indicating it is a follow-up RFI) to Owner clarifying original RFI. Additionally, Owner may return RFI requesting additional information should original RFI be inadequate in describing condition.

C. Time Requirements:

1. If Contractor believes that an Owner response to an RFI, submittal or other Owner direction, results in change in Contract Sum or Contract Time, Contractor shall notify Owner with the issuance of a preliminary CPR within ten Days after receiving Owner's response or direction, and in no event after starting the disputed work or later than the time allowed under Article 12 of Document 00 7200 (General Conditions). If Contractor also requests a time extension, or has issued a notice of delay or otherwise requests a time extension with a CPR, then Contractor shall submit the TIE required herein concurrently with the CPR and in no event later than ten Days after providing the notice of delay.
2. If Contractor requires more time to accurately identify the required changes to the Contract Sum or Contract Time, Contractor may submit an updated and final CPR and TIE within 14 days of submitting the preliminary CPR.
3. If Owner agrees with Contractor's CPR and/or TIE, then Owner will prepare a Change Order for Owner and Contractor signatures. If Owner disagrees with Contractor, then Contractor may give notice of potential claim as provided in Article 12 of Document 00 7200 (General Conditions), and proceed thereunder.
4. Contractor must submit CPRs, notices of potential claim or Claims within the required time periods. Any failure to do so waives Contractor's right to submit a CPR or file a Claim.

D. Cost Estimate Information:

1. Contractor and subcontractors shall, upon Owner's request, permit inspection of the original unaltered cost estimates, subcontract agreements, purchase orders relating to the change, and documents substantiating all costs associated with its CPR or Claims arising from changes in the Work.

1.03 PROCEDURES FOR OWNER INITIATED CHANGE ORDERS

A. Owner Initiated Change Directives (CD):

1. Owner may, by Change Directive ("CD") or initially by Instruction Bulletin or by following the procedures for disputed work herein, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, with or without adjustment to Contract Sum or Contract Time.
2. If at any time Owner believes in good faith that a timely Change Order will not be agreed upon using the foregoing procedures, or at any other time, Owner may issue a CD with its recommended cost and/or time adjustment (if any). Upon receipt of CD, Contractor shall promptly proceed with the change of Work involved and respond to Owner within ten (10) Days.
3. Contractor's response must be any one of following:
 - a. Return CD signed, thereby accepting Owner response, including adjustment to time and cost (if any).
 - b. Submit a (revised if applicable) Cost Proposal with supporting documentation (if applicable, reference original Cost Proposal number followed by letter A, B, etc. for each revision), if Owner so requests.
 - c. Give notice of intent to submit a claim as described in Article 12 of Document 00 7200 (General Conditions), and submit its claim as provided therein.

4. If CPR or the CD provides for an adjustment to any Contract Sum, the adjustment shall be based on one of the following methods:
 - a. Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation.
 - b. Contractor to proceed on cost reimbursable (force account) basis while negotiating towards a firm price.
 - c. Cost to be determined in a manner agreed.
5. Change Directive signed by Contractor indicates the agreement of Contractor therewith, including adjustment in Contract Sum or the method for determining them. Such agreement shall be effective immediately and shall be finalized as a Change Order. Where Owner authorizes CD work on a time and materials basis up to a maximum amount, then Contractor shall promptly advise Owner upon reaching 75% of such maximum amount, otherwise Contractor shall accept fully the risk of completing the CD work without exceeding such maximum amount.
6. If Contractor does not respond promptly or disagrees with the method for adjustment (or non-adjustment) in the Contract Sum, the method and the adjustment shall be determined by Owner on the basis of the Contract Documents and the reasonable expenditures and savings of those performing the Work attributable to the change. If the parties still do not agree on the proper adjustment due to a Change Directive, Contractor may file a Claim per Article 12 of Document 00 7200 (General Conditions) and/or Owner may direct the changed work through a unilateral change order. Contractor shall keep and present an itemized accounting in a manner consistent with the SOV, together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this paragraph shall be limited to those provided herein.
7. Pending final determination of cost to Owner, Contractor may include amounts not in dispute in its Applications for Payment. The amount of credit to be allowed by Contractor to Owner for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by Owner. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for Markup shall be figured on the basis of net increase, if any, with respect to that change.

B. Owner Initiated Change Order (CO) or Request for Proposal (RFP):

1. Owner may initiate changes in the Work or Contract Time by issuing a Request for Proposal ("RFP") or Change Order ("CO") to Contractor.
2. Owner may issue an RFP to Contractor. Any RFP will detail all proposed changes in the Work and request a quotation of changes in Contract Sum and Contract Time from Contractor.
3. In response to an RFP, Contractor shall furnish a Change Proposal Request (CPR) within twenty-one (21) Business Days of Owner's RFP. Upon approval of CPR, Owner may issue a Change Directive directing Contractor to proceed with extra Work.
4. If the parties agree on price and time for the work, the Owner will issue a Contact Change Order. If the parties do not agree on the price or time for a CPR, Owner may either issue a CD or decide the issue per Article 12 of Document 00 7200 (General Conditions). Contractor shall perform the changed Work notwithstanding any claims or disagreements of any nature.

1.04 PROCEDURES THAT APPLY TO CONTRACTOR- AND OWNER-INITIATED CHANGE ORDERS

A. Adjustment of Schedules to Reflect Change Orders or CDs:

1. Contractor shall revise Schedule of Values and Application for Payment forms to record each authorized Change Order or CD as a separate line item and adjust the Contract Sum as shown thereon prior to the next monthly pay period.
2. Contractor shall revise the Progress Schedules prior to the next monthly pay period, to reflect CO or CD.

3. Contractor shall enter changes in Project Record Documents prior to the next monthly pay period.

B. Required Documentation for Adjustments to Contract Amounts:

1. For all changes and cost adjustments requested, Contractor shall provide documentation of change in Contract Amounts asserted, with sufficient data to allow evaluation of the proposal.
2. In all requests for compensation, cost proposals, estimates, claims and any other calculation of costs made under the Contract Documents, Contractor shall breakout and quantify costs of labor, equipment and materials identified herein, for Contractor and subcontractors of any tier.
3. Contractor shall, on request, provide additional data to support computations for:
 - a. Quantities of products, materials, labor and equipment.
 - b. Taxes, insurance, and bonds.
 - c. Justification for any change in Contract Time and new Progress Schedule showing revision due, if any.
 - d. Credit for deletions from Contract, similarly documented.
4. Contractor shall support each claim or computation for additional cost, with additional information including:
 - a. Origin and date of claim or request for additional compensation.
 - b. Dates and times Work was performed and by whom.
 - c. Time records and wage rates paid.
 - d. Invoices and receipts for products, materials, equipment and subcontracts, similarly documented.
 - e. Credit for deletions from Contract, similarly documented.

C. Responses and Disputes:

1. For all responses for which the Contract Documents do not provide a specific time period, recipients shall respond within a reasonable time.
2. For all disputes arising from the procedures herein, Contractor shall follow Article 12 of Document 00 7200 (General Conditions).

1.05 COST DETERMINATION FOR CHANGES IN CONTRACT AMOUNTS

A. Calculation of Total Cost of Extra Work:

1. Total cost of changed Work, extra Work or of Work omitted shall be the sum of three components defined immediately below as: Component 1 (Direct Cost(s)); Component 2 (Markup); and, Component 3 (bonds, insurance, taxes)
2. Component 1: Direct Cost(s) of labor, equipment and materials, is calculated based upon actually incurred (or omitted) labor costs, material costs and equipment rental costs, as defined herein;
3. Component 2: Markup on such actually incurred Direct Costs, is applied in the percentages identified below; and
4. Component 3: Actual additional costs for any additionally required insurance, bonds, and/or taxes, defined herein, is calculated without Markup.

1.06 MEASUREMENT OF DIRECT COST OF CONSTRUCTION (COST COMPONENT NO. 1)

A. Composition of Component 1 (Direct Cost of Construction):

1. Component 1 has four subcomponents, also referred to as "LEMS":
 - a. Labor (Component 1A)
 - b. Equipment (Component 1B)
 - c. Materials (Component 1C)
 - d. Subcontractors (Component 1D)

B. Measurement of Cost of Labor (Component 1A):

1. Cost of Labor shall be calculated as: Cost of labor for workers (including forepersons when authorized by Owner) used in actual and direct performance of the subject work, whether employer is Contractor, Subcontractor or other forces, in the sum of the following:
 - a. Actual Wages: Actual wages paid shall include any employer payments to or on behalf of workers for health and welfare, pension, vacation, and similar purposes.
 - b. Labor surcharge: Payments imposed by local, county, state, and federal laws and ordinances, and other payments made to, or on behalf of, workers, other than actual wages as defined, such as worker's compensation insurance. Such labor surcharge shall not exceed generally accepted standards in the State for labor rates in effect on date upon which extra Work is accomplished.
 - c. Cost of labor shall include no other costs, fees or charges.
2. Labor cost for operators of equipment owned and operated by Contractor or any Subcontractor, shall be no more than rates of such labor established by collective bargaining agreements for type of worker and location of Work, whether or not owner-operator (i.e., Contractor or Subcontractor) is actually covered by such an agreement.
3. Cost of labor shall be recorded and documented in certified payroll records, maintained in the form customary and/or required in the State, delivered to Owner weekly.

C. Measurement of Cost of Equipment (Component 1B):

1. Measurement of Component 1B (Cost of Equipment). Cost of Equipment shall be calculated as: Cost of Equipment used in actual and direct performance of the subject work, whether by Contractor, Subcontractor or other forces. Cost of Equipment shall be calculated as herein described.
2. For rented equipment, cost will be based on actual rental invoices, appropriate for the use and duration of the work. Equipment used on extra Work shall be of proper size and type. If, however, equipment of unwarranted size or type and cost is used, cost of use of equipment shall be calculated at rental rate for equipment of proper size and type, as determined by Owner.
3. Equipment rental cost for Contractor or Subcontractor-owned equipment, shall be determined by reference to, and not in excess of, the generally accepted standards in the State for equipment rental rates in effect on date upon which extra Work is accomplished. If there is no applicable rate for an item of equipment, then payment shall be made for Contractor- or Subcontractor-owned equipment at rental rate listed in the most recent edition of the CalTrans Standard Schedules and Specifications, and absent a rental rate therein, then the Association of Equipment Distributors (AED) book.
4. In all cases, rental rates paid shall be deemed to cover cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals.
5. Unless otherwise specified, manufacturer's ratings, and manufacturer-approved modifications, shall be used to classify equipment for determination of applicable rental rates. Individual pieces of equipment or tools not listed in said publication and having a replacement value of \$100 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefore as payment is included in payment for labor. Rental time will not be allowed while equipment is inoperative due to breakdowns.
6. For equipment on Site, rental time to be paid for equipment shall be time equipment is in operation on extra Work being performed or on standby as approved by Owner. The following shall be used in computing rental time of equipment:
 - a. When hourly rates are listed, less than 30 minutes of operation shall be considered to be ½ hour of operation.
 - b. When daily rates are listed, less than four hours of operation shall be considered to be ½ Day of operation.

- c. Rates shall correspond to actual rates paid by Contractor, i.e., if Contractor pays lower weekly or monthly rates, then same shall be charged to Owner.
- 7. For equipment that must be brought to Site to be used exclusively on extra Work, cost of transporting equipment to Site and its return to its original location shall be determined as follows:
 - a. Owner will pay for costs of loading and unloading equipment.
 - b. Cost of transporting equipment in low bed trailers shall not exceed hourly rates charged by established haulers.
 - c. Cost of transporting equipment shall not exceed applicable minimum established rates of California Public Utilities Commission or appropriate State Dept. of Transportation.
 - d. Owner will not make any payment for transporting and loading and unloading equipment if equipment is used on Work in any other way than upon extra Work.
 - e. Rental period may begin at time equipment is unloaded at Site of extra Work and terminate at end of the performance of the extra Work or Day on which Owner directs Contractor to discontinue use of equipment, whichever first occurs. Excluding Saturdays, Sundays, and Owner legal holidays, unless equipment is used to perform extra Work on such Days, rental time to be paid per Day shall be four hours for zero hours of operation, six hours for four hours of operation and eight hours for eight hours of operation, time being prorated between these parameters. Hours to be paid for equipment that is operated less than eight hours due to breakdowns, shall not exceed eight less number of hours equipment is inoperative due to breakdowns.
- 8. Employee vehicles are not part of Component 1A, rather, are included within Component 2 (Markup).
- 9. Equipment costs shall include no other costs, fees or charges.
- D. **Measurement of Cost of Material (Component 1C):**
 - 1. Cost of Material shall be calculated as herein described. Cost of such materials will be cost to purchaser (Contractor, Subcontractor or other forces) from supplier thereof, except as the following are applicable:
 - 2. If cash or trade discount by actual supplier is offered or available to purchaser, it shall be credited to Owner notwithstanding fact that such discount may not have been taken.
 - 3. For materials salvaged upon completion of Work, salvage value of materials shall be deducted from cost, less discounts, of materials.
 - 4. If cost of a material is, in opinion of Owner, excessive, then cost of material shall be deemed to be lowest current wholesale price at which material is available in quantities concerned delivered to Site, less any discounts as provided in this Paragraph.
 - 5. Material costs shall include no other costs, fees or charges.
- E. **Measurement of Cost of Subcontractors (Component 1D):**
 - 1. Where reimbursed or calculated per the terms of the Contract Documents, change order or Change Directive, cost of Subcontractors shall be calculated as amounts earned by Subcontractors procured in compliance with the Contract Documents and approved by the Owner, provided such subcontractor earned amounts meet the following requirements:
 - a. Such amounts are earned under the terms of the Subcontracts and the Work complies with the terms of the Contract Documents;
 - b. Such amounts are properly requested, documented and permitted under the terms of the subcontract(s) and the Contract Documents.
 - c. Total cost to Owner of Direct Costs of Construction (labor, equipment, materials), Markup, and costs of bonds, insurance and taxes, conform to contract limitations (i.e., totals paid by Owner do not exceed the 20% Markup limitation.).

1.07 **MEASUREMENT AND PAYMENT OF MARK UP (COST COMPONENT 2)**

A. **Markup Percentages for Changed Work (Component 2):**

1. Markup on Direct Cost of labor and materials for extra Work shall be 15%. Markup on Direct Cost of equipment for extra Work shall be 15%.
2. When extra Work is performed by Subcontractors, regardless of the number of tiers, total Markup on "Component 1" Direct Costs shall not exceed 20%. Contractor and its Subcontractors shall divide the 20% as they may agree.
3. Under no circumstances shall the total Markup on any extra Work exceed twenty (20) percent, stated as a percent of the Direct Cost of labor, equipment and materials. This limitation shall apply regardless of the actual number of subcontract tiers.
4. On proposals covering both increases and decreases in Contract Sum, Markup shall be allowed on the net increase only as determined above. When the net difference is a deletion, no percentage for Markup shall be allowed, but rather an appropriate percentage deduction shall be issued in the amount of the net difference.

B. **Measurement and Payment of Mark Up (Component 2):**

1. Mark Up (Component 2) provides complete compensation to Contractor for:
 - a. All Contractor profit;
 - b. All Contractor home-office overhead;
 - c. All Contractor assumption of risk assigned to Contractor under the Contract Documents;
 - d. Subject to the qualifications below regarding self-performed work, all General Conditions and General Requirements.
2. Profit. Compensation for profit included within Component 2 (Mark Up), includes without limitation: Fees of all types, nature and description; and Profit and margins of all types, nature and description.
3. Home Office Expenses. Compensation for home office expenses included within Component 2 (Mark Up), includes without limitation: Salaries and other compensation of any type of Contractor's personnel (management, administrative and clerical), and all direct and indirect operating, travel, payroll, safety, storage, quality control, maintenance and overhead costs of any nature whatsoever, incurred by Contractor at any location other than the Project specific site office, including without limitation, Contractor's principal or branch offices; insurance premiums other than those for Project specific insurance directed by the Owner in a change order; all hardware, software, supplies and support personnel necessary or convenient for Contractor's capture, documentation and maintenance of its costs and cost accounting data and cost accounting and control systems and work progress reporting.
4. Assumption of Risk. Compensation for Contractor's assumption of risk under the Contract Documents, included within Component 2 (Mark Up), includes without limitation loss, cost, damage, expense or liability resulting directly or indirectly from any of the following causes ("unallowable costs"), for Contractor and subcontractors of any tier: noncompliance with the Contract Documents, fault or negligence, defective or non-conforming Work, by Contractor or any Subcontractor or Vendor of any tier or anyone directly or indirectly employed by any of them, or for whose acts or omissions any of them are responsible or liable at law or under the Contract Documents; cost overruns of any type; costs in excess of any lump sum, not to exceed amount or GMP; costs resulting from bid or "buy out" errors, unallocated scope, or incomplete transfer of scope or contract terms to subcontractors; any costs incurred by Contractor relating to a Change in the Work without a Change Order or Change Directive in accordance with the Contract Documents; costs for work or materials for which no price is fixed in the Contract Documents, unless it is expressly specified that such work or material is to be paid for as extra work.
5. General Conditions and Division 1 General Requirements. Compensation for Contractor's General Conditions and General Requirements Costs included within Component 2 (Mark Up), includes compensation to Contractor for: Contractor's direct costs, without overhead

or profit, for salaries and related forms of compensation and employer's costs for labor and personnel costs, of Contractor's employees and subconsultant's employees (if any), while and only to the extent they are performing Work at the Project Site. Personnel and Work compensated by this Component include without limitation: All required Project management responsibilities; all on-site services; monthly reporting and scheduling; routine field inspection of Work; general superintendence; general administration and preparation of cost proposals, schedule analysis, change orders and other supporting documentation as necessary; salaries of project superintendent, project engineers, project managers, safety manager, other manager, timekeeper, and secretaries; all cost estimates and updates thereto; development, validation and updates to the project schedule; surveying; estimating. Compensation for Contractor's General Requirements Costs included within Component 2 (Mark Up), compensates Contractor for its "General Requirements" Costs, including without limitation: all scheduling hardware, software, licenses, equipment, materials and supplies; purchase, lease or rental, build out, procurement, supporting equipment and maintenance of temporary on-Site facilities, Project field and office trailers and other temporary facilities, office equipment and supporting utilities; platforms, fencing, cleanup and jobsite security; temporary roads, parking areas, temporary security or safety fencing and barricades, etc.; all Contractor's motor vehicles used by any Contractor's personnel, and all costs thereof; all health and safety requirements, required by law or Owner procedures; all surveying; all protection of Work; handling and disposal fees; final cleanup; repair or maintenance; other incidental Work; all items, activities and function similar to any of those described above; all travel, entertainment, lodging, board and the like.

6. Personnel compensated by the Markup Component do not include workers of foreman level or below in the case of self-performed work; rather, such personnel shall be treated as a Direct Cost of Construction. Costs compensated by the Markup component do not include temporary measures specifically required by the changed work, not otherwise required or ongoing in the prosecution of the Work, that commence specifically to support the changed work and conclude with the completion of the changed work. Such costs shall be treated as Direct Costs of Construction. Examples of General Requirements costs that this component may not cover are the following: temporary barricades or fencing of specific areas required specifically for the changed work; cranes required specifically for the changed work; extra security required specifically for the changed work.

1.08 **MEASUREMENT AND PAYMENT OF BONDS INSURANCE TAXES (COMPONENT 3)**

A. **Measurement of Bonds, Insurance, Taxes (Component 3):**

1. Component 3 (Bonds, Insurance, Taxes) consists of the cost of bonds, insurance and taxes, also referred to as "**BIT**". All State sales and use taxes, applicable County and applicable City sales taxes, shall be included. Federal and Excise tax shall not be included.
2. There is no mark up on BIT.

1.09 **EFFECT OF PAYMENT**

A. **Change Order Compensation is All Inclusive.**

1. Except as provided expressly below regarding changes that extend the Contract Time, payment of calculated cost of extra work constitutes full and complete compensation for costs or expense arising from the extra Work, and is intended to be all inclusive.
2. Payment for Direct Cost of Construction (Component 1 or LEMS) is intended to be all-inclusive. Any costs or risks not delineated within cost of labor, equipment or materials herein, shall be deemed to be within the costs and risks encompassed by the applicable Markups and unallowable in any separate amount.
3. Payment of Markup (Component 2) is intended to be all-inclusive. Contractor waives claims for any further or different payment of cost and risk items delineated herein, other than the allowable percentage markup on costs set forth in the Contract Documents; such separate, further or different cost or risk items shall be unallowable, waived and liquidated within the allowable percentage markup.

4. Contractor shall recover no other costs or markups on extra work of any type, nature or description.

B. Exception for Changes Extending the Contract Time.

1. Where a change in the Work extends the Contract Time, Contractor may request and recover additional, actual direct costs, provided Contractor can demonstrate such additional costs are (i.) actually incurred performing the Work, (ii.) not compensated by the Markup allowed, and (iii) directly result from the extended Contract Time. Contractor shall make such request and provide such documentation following all required procedures, documentation and time requirements in the Contract Documents, and subject to all contract limitations of liability. Contractor may not seek or recover such costs using formulas (e.g., Eichleay).

C. Limits of Liability / Accord and Satisfaction.

1. The foregoing limits of compensation apply in all cases of claims for changed Work, whether calculating Change Proposal Requests, Change Orders or CDs, or calculating claims and/or damages of all types, and applies even in the event of fault, negligence, strict liability, or tort claims of all kinds, including strict liability or negligence. Contractor may recover no other costs arising out of or connected with the performance of extra Work, of any nature.
2. Under no circumstances may Contractor claim or recover special, incidental or consequential damages against Owner, its representatives or agents, whether arising from breach of contract, negligence, strict liability or other tort or legal theory, unless specifically and expressly authorized in the Contract Documents.
3. No change in Work shall be considered a waiver of any other condition of Contract Documents. No claim shall be made for anticipated profit, for loss of profit, for damages, or for extra payment whatever, except as expressly provided for in Contract Documents.
4. Accord and Satisfaction: Every Change Order and accepted CD shall constitute a full accord and satisfaction, and release, of all Contractor (and if applicable, Subcontractor) claims for additional time, money or other relief arising from or relating to the subject matter of the change including, without limitation, impacts of all types, cumulative impacts, inefficiency, overtime, delay and any other type of claim. Contractor may elect to reserve its rights to disputed claims arising from or relating to the changed Work at the time it signs a Change Order or approves a CD, but must do so expressly in a writing delivered concurrently with the executed Change Order or approved CD, and must also submit a Claim for the reserved disputed items pursuant to Article 12 of Document 00 7200 (General Conditions) no later than thirty (30) days after Contractor's first written notice of its intent to reserve rights. Execution of any Change Order or CD shall constitute Contractor's representation of its agreement with this provision.

1.010 MISCELLANEOUS REQUIREMENTS

A. Owner-Furnished Materials.

1. Owner reserves right to furnish materials as it deems advisable, and Contractor shall have no claims for costs and Markup on such materials.

B. Records And Certification.

1. All charges shall be recorded daily and summarized in Change Proposal Request form attached hereto. Contractor or authorized representative shall complete and sign form each day. Contractor shall also provide with the form: the names and classifications of workers and hours worked by each; an itemization of all materials used; and a list by size type and identification number of equipment and hours operated.
2. Owner shall have the right to audit all records in possession of Contractor relating to activities covered by Contractor's claims for modification of Contract, including CD Work. This right shall be specifically enforceable, and any failure of Contractor to voluntarily

comply shall be deemed an irrevocable waiver and release of all claims then pending that were or could have been subject to Article 12 of Document 00 7200 (General Conditions).

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION

[COST PROPOSAL FORM FOLLOWS ON NEXT PAGE]

COST PROPOSAL (CP)

Owner **[Insert Project Name]**
 Contract Number _____

CP Number: _____
 Date: _____
 In Response To _____
 Bulletin #, etc.

To: **[Insert Name of Owner]**
 Attention: [_____]
[Insert Owner's Address]
 Phone: (____) ____-____
 Fax: (____) ____-____

From: **[Insert Contractor's Name/Address]** _____

This Cost Proposal is in response to the above-referenced _____ **[insert Bulletin, etc. as applicable]**.

Brief description of change(s): _____

ITEM DESCRIPTION	PRIME CONTRACTOR	SUB 1	SUB 2	SUB 3	SUB 4	TOTAL
MATERIAL						
LABOR						
EQUIPMENT						
Other (Specify) Extended Overhead						
TOTAL COST						
Subcontractor's Overhead & Profit 15 percent						
Contractor's Overhead & Profit 15 percent						
Overhead & Profit to Contractor for Subcontractor's Work 5 percent						
(percent of Total Cost above not including any Overhead & Profit – may not exceed 20%)						
GRAND TOTAL						
REQUESTED CHANGE IN CONTRACT TIME (DAYS) (Time Impact Evaluation Enclosed)						

By Contractor: _____

Signature: _____

Date: _____

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 3119

PROJECT MEETINGS

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes description of required project meetings.

1.02 PRECONSTRUCTION CONFERENCE

- A. Preconstruction Conference. Owner will call for and administer Preconstruction Conference at time and place to be announced (usually the week prior to start of Work at the Site). Contractor, all major Subcontractors, and major suppliers shall attend Preconstruction Conference. Agenda may include, but not be limited to, the following items:

1. Schedules
2. Personnel and vehicle permit procedures
3. Use of premises
4. Location of the Contractor's on-Site facilities
5. Security
6. Housekeeping
7. Submittal and RFI procedures
8. Inspection and testing procedures, on-Site and off-Site
9. Utility shutdown procedures
10. Control and reference point survey procedures
11. Injury and Illness Prevention Program
12. Contractor's Initial Progress Schedule
13. Contractor's Schedule of Values
14. Contractor's Schedule of Submittals
15. Jurisdictional agency requirements

- B. The Contractor shall deliver the following submittals at the preconstruction meeting:

1. Schedules
2. Water Pollution Control Plan (BMPs)
3. Safety Plan
4. Sample Resident Notification Letter
5. Any submittal requiring prompt review due to required lead times

1.03 WEEKLY PROJECT MEETINGS

- A. Owner will schedule and administer weekly progress meetings throughout duration of Work. Progress meetings will be held weekly unless otherwise directed by Owner. Meetings shall be held at Owner's Offices unless otherwise specified in Contract Documents.

1. Owner's Representative will prepare agenda and distribute it 4 Days in advance of meeting to the Contractor.
2. Participants with agenda items shall present them.
3. The Architect/Engineer and other responsible entities shall attend meetings unless otherwise specified in Contract Documents or provided by Owner.
4. Owner shall record and distribute the meeting minutes. Minutes shall be distributed by the Owner to the Contractor within 3 business days after the meeting. Contractor shall distribute the minutes to those affected by decisions made at meeting. Attendees shall have five business days to submit comments or additions to the minutes. Minutes shall

- constitute final memorialization of results of meeting.
5. Progress meetings shall be attended by Contractor's job superintendent, major Subcontractors and suppliers, Owner, and others as appropriate to agenda topics for each meeting.
 6. Agenda may contain the following items, as appropriate:
 - a. Review, revise as necessary, and approve previous meeting minutes
 - b. Review of Work progress since last meeting
 - c. Status of Construction Work Schedule, delivery schedules, adjustments
 - d. Submittal, RFI, and Change Order status
 - e. Review of the Contractor's safety program activities and results, including report on all serious injury and/or damage accidents
 - f. Other items affecting progress of Work

1.04 PROGRESS SCHEDULE AND BILLING MEETINGS

- A. A meeting will be held on approximately the 20th of each month to review the schedule update submittal and progress payment application.
- B. At this meeting, at a minimum, the following items will be reviewed:
 1. Percent complete of each activity;
 2. Time impact evaluations for Change Orders and Time Extension Request;
 3. Actual and anticipated activity sequence changes;
 4. Actual and anticipated duration changes; and
 5. Actual and anticipated Contractor delays.
- C. These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, Contractor's General Superintendent and Scheduler shall attend these meetings.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 3230

PROGRESS SCHEDULES AND SUBMITTALS

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes description of requirements and procedures for submitting progress schedules and submittals.

1.02 CONTRACTOR TO SUBMIT PROGRESS SCHEDULES

- A. Contractor shall submit original (baseline) progress schedule before or at the pre-construction meeting for review by the Owner.
- B. Baseline Progress Schedule shall show Contractor's construction and procurement activities, including but not limited to, equipment procurement and delivery (Contractor and Owner supplied), activities with Subcontractors and suppliers, major submittal reviews, commissioning of systems, use of major equipment on site, and necessary interface with Owner and third parties required to complete the Work in a timely manner and in accordance with Contract Time.

1.03 SCHEDULE REQUIREMENTS.

- A. Unless Owner agrees in writing otherwise, progress schedule shall be on Microsoft Project, Primavera P6, Suretrack, or equivalent software, as Owner may specify, which Contractor shall prepare and supply to Owner, with all datapoint entries completed for start dates, necessary work activities, durations (not longer than 21 calendar days) and logic ties.
- B. Contractor's progress schedule may be in the form of a CPM (arrow) diagram or, if Owner agrees in writing, a bar chart. The hard copies of the schedule supplied to Owner shall indicate the critical path of the Work (in red) and shall show a logical progression of the Work through completion within Contract Time.
- C. Unless Owner agrees in writing otherwise, progress schedule shall also show early and late start and finish dates and total available float (float to the successor activity's late start date) for each activity. Owner has no obligation to accept an early completion schedule.

1.04 MONTHLY UPDATES

- A. Contractor's progress schedule shall be updated monthly to reflect actual progress. The schedule shall be subject to Owner's review and acceptance for use in monitoring Contractor's Work and evaluating Applications for Payment.
- B. Contractor shall supply Owner with an electronic copy of the updated progress schedule with each monthly payment application. Contractor shall provide Owner with three-week lookahead schedules weekly, showing in detail and activities and resources scheduled for the immediate three week period.

1.05 RECOVERY SCHEDULE

- A. Owner may request a recovery schedule should Contractor fall 21 or more Days behind any schedule Milestone, which schedule shall show Contractor's plan and resources committed to retain Contract completion dates.
- B. The recovery schedule shall show the intended critical path. If Owner requests, Contractor shall also:
 - 1. Secure and demonstrate appropriate Subcontractor and supplier consent to the recovery Schedule.
 - 2. Submit a narrative explaining trade flow and construction flow changes and man-hour loading assumptions for major Work activities and/or Subcontractors.

1.06 TIME IMPACT EVALUATION ("TIE") FOR CHANGE ORDERS, TIME EXTENSIONS AND DELAYS:

- A. When Contractor requests a time extension for any reason, Contractor shall submit a TIE that includes both a written narrative and a schedule diagram depicting how the changed Work or other impact affects other schedule activities. The schedule diagram shall show how Contractor proposes to incorporate the changed Work or other impact in the schedule and how it impacts the current Schedule update critical path or otherwise. Contractor is also responsible for requesting time extensions based on the TIE's impact on the critical path. The diagram shall be tied to the main sequence of scheduled activities to enable Owner to evaluate the impact of changed Work to the scheduled critical path.
- B. Contractor is responsible for all costs associated with the preparation of TIE's, and the process of incorporating TIE's into the current schedule update. Provide Owner with four copies of each TIE.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 3300

SUBMITTALS

PART 1 – PART 1 GENERAL

1.01 SUMMARY

- A. Section includes description of requirements and procedures for submittals. Please refer to the technical specifications and/or plans for any additional submittals not specifically mentioned in this section.

1.02 SCHEDULE OF SUBMITTALS

- A. Contractor shall prepare for Owner's review and acceptance prior to commencement of work on the Site, for purposes of contract administration, a schedule of submittals (also referred to as a submittal register) required to complete the Work, prepared by Contractor and accepted by Owner for contract administration. Schedule of submittals shall include, for each submittal: the specification or drawing reference requiring the submittal, if applicable; the material, item, or process for which the submittal is required; the submittal number and identifying title of the submittal; the Contractor's anticipated submission date and the approval need date.
- B. Contractor shall update monthly the schedule of submittals to reflect actual submission and acceptance dates for submittals. Review by Owner of schedule of submittals does not excuse Contractor of obligation to supply, schedule and coordinate all submittals required by the Contract Documents.
- C. Following is a list of anticipated submittals. Please refer to the technical specifications for any additional submittals not specifically mentioned in this section.
 - 1. Safety Plan
 - 2. Water Pollution Control Plan
 - 3. Spill Prevention Plan
 - 4. Tests, Certificates
 - 5. Record Drawings
 - 6. Calculations/Certifications for meeting Cal-OSHA Requirements

1.03 CONTRACTOR TO SUBMIT SHOP DRAWINGS, PRODUCT DATA AND SUBMITTALS.

- A. Contractor shall review for compliance with Contract Documents, approve and submit to Owner Shop Drawings, Product Data, Samples and similar submittals required by Contract Documents.
- B. Contractor shall schedule and submit concurrently submittals covering component items forming a system or items that are interrelated. Contractor shall include certifications to be submitted with the pertinent drawings at the same time.
- C. Contractor shall coordinate scheduling, sequencing, preparing and processing of all submittals with performance of work so that work will not be delayed by submittal processing.
- D. Submittals shall specifically identify any Work depicted that does not conform to the Contract Documents.

1.04 OWNER REVIEW OF SHOP DRAWINGS, PRODUCT DATA AND SUBMITTALS.

- A. After review by Owner of each Submittal, material will be returned to Contractor with actions defined as follows:
1. NO EXCEPTIONS TAKEN - Accepted subject to its compatibility with general design concept of the Work, future Submittals and additional partial Submittals for any portions of the Work not covered in this Submittal. Does not constitute acceptance or deletion of specified or required items not shown on the Submittal.
 2. MAKE CORRECTIONS NOTED (NO RESUBMISSIONS REQUIRED) - Same as item 1 above, except that minor corrections as noted shall be made by Contractor.
 3. REVISE AS NOTED AND RESUBMIT - Rejected because of major inconsistencies or errors that shall be resolved or corrected by Contractor prior to subsequent review by Owner.
 4. REJECTED - RESUBMIT - Submitted material does not conform to Drawings and/or Specifications in major respect, i.e.: wrong size, model, capacity, or material.
- B. Favorable review will not constitute acceptance by Owner of any responsibility for the accuracy, coordination, or completeness of the Submittals. Accuracy, coordination, and completeness of Submittals shall be sole responsibility of Contractor, including responsibility to back-check comments, corrections, and modifications from Owner's review before fabrication. Contractor, Subcontractors, or suppliers may prepare Submittals, but Contractor shall ascertain that Submittals meet requirements of Contract Documents, while conforming to structural space and access conditions at point of installation. Owner's review will be only to assess if the items covered by the Submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as indicated by the Contract Documents. Favorable review of Submittal, method of Work, or information regarding materials and equipment Contractor proposes to furnish shall not relieve Contractor of responsibility for errors therein and shall not be regarded as assumption of risks or liability by Owner, or any officer or employee thereof, and Contractor shall have no claim under Contract Documents on account of failure or partial failure or inefficiency or insufficiency of any plan or method of Work or material and equipment so accepted. Favorable review shall be considered to mean merely that Owner has no objection to Contractor using, upon Contractor's own full responsibility, plan or method of Work proposed, or furnishing materials and equipment proposed.
- C. Unless otherwise specified, Owner's review will not extend to the means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
- D. Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been favorably reviewed by the Owner; otherwise, any such Work is at Contractor's sole risk.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 4100

REGULATORY REQUIREMENTS

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes:

1. Regulatory requirements applicable to Contract Documents
2. Required provisions under Local Agency Disputes Act
3. Required references under federal law

1.02 GENERAL

A. Compliance with Laws

1. Conform to all applicable codes, laws, ordinances, rules and regulations, which shall have full force and effect as though printed in full in these Specifications. Codes, laws, ordinances, rules, regulations and ordinances (**Regulatory Requirements**) are not furnished to Contractor, because Contractor is assumed to be familiar with these requirements.
2. Any listing of Regulatory Requirements for hazardous waste abatement Work in the Contract Documents is supplied to Contractor as a courtesy and shall not limit Contractor's responsibility for complying with all applicable Regulatory Requirements having application to the Work. Where conflict among the Regulatory Requirements or with these Specifications occurs, the most stringent requirements shall be used.
3. Specific reference in the Specifications to codes and regulations or requirements of regulatory agencies shall mean the latest printed edition of each adopted by the regulatory agency in effect at the time of the opening of Bids, except as may be otherwise specifically stated in the Contract Documents.

B. Precedence

1. Where specified requirements differ from Regulatory Requirements, the more stringent requirements shall take precedence. Where Drawings or Specifications require or describe products or execution of better quality, higher standard or greater size than required by Regulatory Requirements, then Drawings and Specifications shall take precedence so long as such increase is legal. Where no requirements are identified on Drawings or in Specifications, comply with all Regulatory Requirements of governing authorities having jurisdiction.
2. Should any conditions develop not covered by the Contract Documents wherein the finished Work will not comply with current codes, a Change Order detailing and specifying the required Work shall be submitted to and approved by Owner before proceeding with the Work.

1.03 REGULATORY REQUIREMENTS

A. Applicable Codes

1. Codes that apply to Contract Documents include all Codes applicable to construction, including, but not limited to, the following:
 - a. California Building Code (2016 Edition or latest applicable code) as amended by applicable local ordinances for all construction work.

- b. California Electrical Code (2016 Edition or latest applicable code) as amended by applicable local ordinances for all construction work.
- c. California Plumbing Code (2016 Edition or latest applicable code) as amended by applicable local ordinances for plumbing, sewage disposal and health requirements.
- d. California Mechanical Code (2016 Edition or latest applicable code) as amended by applicable local ordinances for all construction work.
- e. International Fire Code (2016 Edition or latest applicable code) as amended by applicable local ordinances for all construction work.
- f. California Administrative Code Titles 15, 19 and 24 (with California amendments), and Americans with Disabilities Act (ADA) accessibility guidelines, whichever is more stringent.
- g. All State laws and City and County Ordinances, rules of the State or City or County Health Departments, rules of the National Board of Fire Underwriters and National Fire Protection Associations, and local power company regulations for mechanical and electrical work.

B. Applicable Laws, Statutes, Ordinances, Rules, And Regulations

- 1. During prosecution of Work to be done under Contract Documents, Contractor shall comply with applicable laws, ordinances, rules and regulations, including, but not limited to, the following:
 - a. Federal:
 - 1) Americans With Disabilities Act of 1990
 - 2) 29 CFR, Section 1910.1001, Asbestos
 - 3) 40 CFR, Subpart M, National Emission Standards for Asbestos
 - 4) Executive Order 11246
 - 5) Federal Endangered Species Act
 - 6) Clean Water Act
 - b. State of California:
 - 1) California Code of Regulations, Titles 5, 8, 17, 19, 21, 22, 24 and 25
 - 2) California Public Contract Code
 - 3) California Health and Safety Code
 - 4) California Government Code
 - 5) California Labor Code
 - 6) California Civil Code
 - 7) California Code of Civil Procedure
 - 8) CPUC General Order 95, Rules for Overhead Electric Line Construction
 - 9) CPUC General Order 128, Rules for Construction of Underground Electric Supply and Communications Systems
 - 10) Cal/OSHA
 - 11) OSHA: Hazard Communications Standards
 - 12) California Endangered Species Act
 - 13) Water Code
 - 14) Fish and Game Code
 - c. State of California Agencies:
 - 1) State and Consumer Services Agency
 - 2) Office of the State Fire Marshall
 - 3) Office of Statewide Health Planning and Development
 - 4) Department of Fish and Game
 - 5) All Air Quality Management Districts with jurisdiction
 - 6) All Regional Water Quality Control Boards with jurisdiction
 - 7) Division of the State Architect (if having jurisdiction)
 - d. All Local Agencies with jurisdiction (cities, counties, fire departments)

C. Change Orders and Claims:

1. The California Public Contract Code, including but not limited to Section 7105(d)(2), and the California Government Code Section 930.2 et seq., apply to all contract procedures for changes, time extensions, change orders (time or compensation) and claims.
2. Any change, waiver, or omission to implement contract change order and claim procedures shall have no legal effect unless expressly permitted in a fully executed change order approved by Contractor and Owner and approved as to form by their respective legal counsel.

D. Required Provisions On Contract Claim Resolution

1. The California Public Contract Code specifies required provisions on resolving contract claims less than \$375,000, which are set forth below, and constitute a part of this Contract.
2. For the purposes of this section, "Claim" means a separate demand by Contractor of \$375,000 or less for (1) a time extension, (2) payment or money or damages arising from Work done by or on behalf of Contractor arising under the Contract Documents and payment of which is not otherwise expressly provided for or the Claimant is not otherwise entitled to, or (3) an amount the payment of which is disputed by Owner. In order to qualify as a Claim, the written demand must state that it is a Claim submitted under paragraph 12 of Document 00 7200 (General Conditions) and be submitted in compliance with all requirements of Document 00 7200 (General Conditions), paragraph 12. Separate Claims which total more than \$375,000 do not qualify as a "separate demand of \$375,000 or less," as referenced above, and are not subject to this section.
3. A voucher, invoice, payment application, or other routine or authorized form of request for payment is not a Claim for purposes of this section. If such request is disputed as to liability or amount, then the disputed portion of the submission may be converted to a Claim under this section by submitting a separate claim in compliance with Contract Documents claim submission requirements.
4. Caution. This section does not apply to tort claims and nothing in this section is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 and Chapter 2 of Part 3 of Division 3.6 of Title 1 of the California Government Code.
5. Procedure:
 - a. The Claim must be in writing, submitted in compliance with all requirements of Document 00 7200 (General Conditions), paragraph 12, including, but not limited to, the time prescribed by and including the documents necessary to substantiate the Claim, pursuant to Document 00 7200 (General Conditions), paragraph 12.3. Claims must be filed on or before the day of final payment. Nothing in this section is intended to extend the time limit or supersede notice requirements for the filing of claims as set forth in Document 00 7200 (General Conditions), paragraph 12 or elsewhere in the Contract Documents.
 - b. For Claims of fifty thousand dollars (\$50,000) or less, Owner shall respond in writing within forty-five (45) days of receipt of the Claim, or Owner may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims Owner may have against Claimant. If additional information is thereafter required, it shall be requested and provided in accordance with this section upon mutual agreement of Owner and Claimant. Owner's written response to the Claim, as further documented, shall be submitted to Claimant within fifteen (15) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.
 - c. For Claims over Fifty Thousand Dollars (\$50,000) and less than or equal to \$375,000: Owner shall respond in writing within sixty (60) days of receipt of the Claim, or Owner may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims Owner may have against Claimant. If additional information is thereafter

required, it shall be requested and provided in accordance with this section, upon mutual agreement of Owner and Claimant; Owner's written response to the Claim, as further documented, shall be submitted to Claimant within thirty (30) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.

- d. Meet and Confer: If Claimant disputes Owner's written response, or Owner fails to respond within the time prescribed above, Claimant shall notify Owner, in writing, either within fifteen (15) days of receipt of Owner's response or within fifteen (15) days of Owner's failure to timely respond, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon demand Owner will schedule a meet and confer conference within thirty (30) days for settlement of the dispute.
- e. Following the meet and confer conference, if the Claim or any portion remains in dispute, Claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the California Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time Claimant submits its written claim as set forth herein, until the time that Claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

E. Compliance With Americans With Disabilities Act

1. Contractor acknowledges that, pursuant to the Americans with Disabilities Act (ADA), programs, services and other activities provided by a public entity to the public, whether directly or through a Contractor, must be accessible to the disabled public. Contractor shall provide the services specified in the Contract Documents in a manner that complies with the ADA and any and all other applicable federal, state and local disability rights legislation. Contractor agrees not to discriminate against disabled persons in the provision of services, benefits or activities provided under the Contract Documents and further agrees that any violation of this prohibition on the part of Contractor, its employees, agents or assigns shall constitute a material breach of the Contract Documents.

F. Compliance With IRCA

1. Contractor acknowledges that Contractor, and all subcontractors hired by Contractor to perform services under this Agreement, are aware of and understand the Immigration Reform and Control Act ("IRCA"). Contractor is and shall remain in compliance with the IRCA and shall ensure that any subcontractors hired by Contractor to perform services under this Agreement are in compliance with the IRCA. In addition, Contractor agrees to indemnify, defend and hold harmless Owner, its agents, officers and employees, from any liability, damages or causes of action arising out of or relating to any claims that Contractor's employees, or employees of any subcontractor hired by Contractor, are not authorized to work in the United States for Contractor or its subcontractor and/or any other claims based upon alleged IRCA violations committed by Contractor or Contractor's subcontractors.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 4200

REFERENCES AND DEFINITIONS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Reference standards, abbreviations, symbols, and definitions used in Contract Documents.
2. Full titles are given in this Section for standards cited in other Sections of Specifications.

1.02 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES; REPORTING AND RESOLVING DISCREPANCIES

A. References

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code, or laws or regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated in the Contract Documents.
2. If during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such law or regulation applicable to the performance of the Work or of any such standard, specification, manual, or code or of any instruction of any supplier, Contractor shall report it in writing at once to Owner's Representative and Architect/Engineer, and Contractor shall not proceed with the Work affected thereby until consent to do so is given by Owner.

B. Precedence

1. Except as otherwise specifically stated in the Contract Documents or as may be provided by Change Order, CCD, or Supplemental Instruction, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. The provisions of any such standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. The provisions of any such laws or regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such law or regulation).
2. No provision of any such standard, specification, manual, code, or instruction shall be effective to change the duties and responsibilities of Owner, Owner's Representative, Architect/Engineer or Contractor, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents, nor shall it be effective to assign to Owner, Architect/Engineer, or any of their consultants, agents, representatives or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

C. **Referenced Grades, Classes, and Types:**

1. Where an alternative or optional grade, class, or type of product or execution is included in a reference but is not identified in Drawings or in Specifications, provide the highest, best, and greatest of the alternatives or options for the intended use and prevailing conditions.

D. **Edition Date of References:**

1. When an edition or effective date of a reference is not given, it shall be understood to be the current edition or latest revision published as of the date of opening Bids.
2. All amendments, changes, errata and supplements as of the effective date shall be included.

E. **ASTM and ANSI References:** Specifications and Standards of the American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI) are identified in the Drawings and Specifications by abbreviation and number only and may not be further identified by title, date, revision, or amendment. It is presumed that Contractor is familiar with and has access to these nationally- and industry-recognized specifications and standards.

1.03 DEFINITIONS

A. **Meaning of Words and Phrases**

Wherever any of the words or phrases defined below, or a pronoun used in place thereof, is used in any part of the Contract Documents, it shall have the meaning here set forth. Where abbreviations and symbols are used, such abbreviations and symbols shall be given their common meaning in the construction industry. In the Contract Documents, the neuter gender includes the feminine and masculine, and the singular number includes the plural.

While Owner has made an effort to identify all defined terms with initial caps, the following definitions shall apply regardless of case unless the context otherwise requires:

1. Addenda: Written or graphic instruments issued prior to the opening of Bids, which clarify, correct, or change the bidding requirements or the Contract Documents. Addenda shall not include the minutes of the Pre-Bid Conference and/or Site Visit.
2. Agreement (Document 00 5200): Agreement is the basic Contract Document that binds the parties to construction Work. Agreement defines relationships and obligations between Owner and Contractor and by reference incorporates Conditions of Contract, Drawings, and Specifications and contains Addenda and all Modifications subsequent to execution of Contract Documents.
3. Alternate: Work added to or deducted from the base Bid, if accepted by Owner.
4. Application for Payment: Written application for monthly or periodic progress or final payment made by Contractor complying with the Contract Documents.
5. Approved Equal: Approved in writing by Owner as being of equivalent quality, utility and appearance.
6. Architect/Engineer: If used elsewhere in the Contract Documents, "Architect/Engineer" shall mean a person (or that person's firm) holding a valid California State Architect's or Engineer's license representing the Owner in the administration of the Contract Documents. Architect/Engineer may be an employee of or an independent consultant to Owner. When Architect/Engineer is referred to within the Contract Documents and not an employee of Owner, Architect/Engineer shall be construed to include employees of Architect/Engineer and/or employees that Architect/Engineer supervises. When the designated Architect/Engineer is an employee of Owner, his or her authorized representatives on the Project will be included under the term Architect/Engineer. If Architect/Engineer is an employee of Owner, Architect/Engineer is the beneficiary of all Contractor obligations to Owner, including without limitation, all releases and indemnities. Architect/Engineer may also be referred to as Architect or Engineer.

7. Asbestos: Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by OSHA or Cal/OSHA.
8. Bid: The offer or proposal of the Bidder submitted on the prescribed form(s) setting forth the prices for the Work to be performed.
9. Bidder: One who submits a Bid.
10. Bidding Documents: All documents comprising the Project Manual (including all documents and Specification Sections listed in Document 00 0110 [Table of Contents]), including documents supplied for bidding purposes only and Contract Documents.
11. Board: The governing body of the Owner.
12. Business Day: Any Day other than Saturday, Sunday, and the following days that have been designated as holidays by Owner. If a holiday falls on a Saturday, the preceding Friday will be the holiday. If a holiday falls on a Sunday, the following Monday will be the holiday.
 - a. New Year's Day, January 1;
 - b. Martin Luther King Jr.'s Birthday, third Monday in January;
 - c. Presidents' Day, third Monday in February;
 - d. Memorial Day, last Monday in May;
 - e. Independence Day, July 4;
 - f. Labor Day, first Monday in September;
 - g. Veterans' Day, November 11;
 - h. Thanksgiving Day, as designated by the President;
 - i. The Day following Thanksgiving Day;
 - j. The Day preceding Christmas Day, December 24;
 - k. Christmas Day, December 25; and
 - l. Each day appointed by the Governor of California and formally recognized by the Governing Board as a day of mourning, thanksgiving, or special observance.
13. By Owner: Work that will be performed by Owner or its agents at the Owner's expense.
14. By Others: Work that is outside scope of Work to be performed by Contractor under this Contract, which will be performed by Owner, other contractors, or other means.
15. Change Order: A written instrument prepared by Owner and signed by Owner and Contractor, stating their agreement upon all of the following:
 - a. a change in the Work;
 - b. the amount of the adjustment in the Contract Sum, if any; and
 - c. the amount of the adjustment in the Contract Time, if any.
16. Code Inspector: A local or state agency responsible for the enforcement of applicable codes and regulations.
17. Concealed: Work not exposed to view in the finished Work, including within or behind various construction elements.
18. Construction Change Directive ("CCD"): A written order prepared and signed by Owner, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both.
19. Contract Amount: a change order price, line item price, Contract Sum, or other price assigned to a scope of work.
20. Contract Conditions or Conditions of the Contract: Consists of two parts: General Conditions and Supplementary Conditions.
 - a. General Conditions are general clauses that are common to the Owner Contracts, including Document 00 7200 (General Conditions).

- b. Supplementary Conditions modify or supplement General Conditions to meet specific requirements for Contract Documents, including Document 00 7201 (Supplementary Conditions).
- 21. Contract Documents and Contract: Contract Documents and Contract shall consist of the documents identified as the Contract Documents in Document 00 5200 (Agreement), plus all changes, Addenda, and modifications thereto.
- 22. Contract Modification: Either:
 - a. a written amendment to Contract signed by Contractor and Owner; or
 - b. a Change Order; or
 - c. a Construction Change Directive; or
 - d. a written directive for a minor change in the Work issued by Owner.
- 23. Contract Sum: The sum stated in the Agreement and, including authorized adjustments, the total amount payable by Owner to Contractor for performance of the Work and the Contract Documents. The Contract Sum is also sometimes referred to as the Contract Price or the Contract Amount.
- 24. Contract Time: The number or numbers of Days or the dates stated in the Agreement to achieve Substantial Completion of the Work or designated Milestones; and/or to achieve Final Completion of the Work so that it is ready for final payment and is accepted.
- 25. Contractor: The person or entity identified as such in the Agreement and referred to throughout the Contract Documents as if singular in number and neutral in gender. The term "Contractor" means the Contractor or its authorized representative.
- 26. Contractor's Employees: Persons engaged in execution of Work under Contract as direct employees of Contractor, as Subcontractors, or as employees of Subcontractors.
- 27. Day: One calendar day of 24 hours measured from midnight to the next midnight, unless the word "day" is specifically modified to the contrary.
- 28. Defective: An adjective which, when modifying the word "Work," refers to Work that is unsatisfactory or unsuited for the use intended, faulty, or deficient, that does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents (including but not limited to approval of Samples and "or equal" items), or has been damaged prior to final payment (unless responsibility for the protection thereof has been assumed by Owner). Unapproved substitutions are defective. Owner is the judge of whether Work is Defective.
- 29. Division of State Architect: A division of the State of California providing, design and construction oversight for K-12 schools and community colleges, and developing and maintaining accessibility standards and codes utilized in public and private buildings throughout the State of California.
- 30. Drawings: The graphic and pictorial portions of Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.
- 31. Equal: Equal in opinion of Owner. Burden of proof of equality is responsibility of Contractor.
- 32. Final Acceptance or Final Completion: Owner's acceptance of the Work as satisfactorily completed in accordance with Contract Documents. Requirements for Final Acceptance/Final Completion include, but are not limited to:
 - a. Final cleaning is completed.
 - b. All systems having been tested and accepted as having met requirements of Contract Documents.
 - c. All required instructions and training sessions having been given by Contractor.
 - d. All Project Record Documents having been submitted by Contractor, reviewed by Owner, and accepted by Owner.
 - e. All punch list Work, as directed by Owner, having been completed by Contractor.

- f. Generally all Work, except Contractor maintenance after Final Acceptance/Final Completion, having been completed to satisfaction of Owner.
33. Force Account: Work directed to be performed without prior agreement as to lump sum or unit price cost thereof, and which is to be billed at cost for labor, materials, equipment, taxes, and other costs, plus a specified percentage for overhead and profit.
34. Exposed: Work exposed to view in the finished Work, including behind louvers, grilles, registers and various other construction elements.
35. Furnish: Supply only, do not install.
36. Indicated: Shown or noted on the Drawings.
37. Install: Install or apply only, do not furnish.
38. Latent: Not apparent by reasonable inspection, including but not limited to, the inspections and research required as a condition to bidding under Document 00 7200 (General Conditions).
39. Law: Unless otherwise limited, all applicable laws including without limitation all federal, state, and local laws, statutes, standards, rules, regulations, ordinances, and judicial and administrative decisions.
40. Material: This word shall be construed to embrace machinery, manufactured articles, materials of construction (fabricated or otherwise), and any other classes of material to be furnished in connection with Contract, except where a more limited meaning is indicated by context.
41. Milestone: A principal event specified in Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all Work.
42. Modification: Same as Contract Modification.
43. Not in Contract or "NIC": Work that is outside the scope of Work to be performed by Contractor under Contract Documents.
44. Notice of Completion: Shall have the meaning provided in California Civil Code §3093, and any successor statute.
45. Off Site: Outside geographical location of the Project.
46. Owner: Owner is defined in Document 00 5200 (Agreement).
47. Owner-Furnished, Contractor Installed: Items furnished by Owner at its cost for installation by Contractor at its cost under Contract Documents.
48. Owner's Representative(s): See Document 00 5200 (Agreement).
49. Partial Utilization: Use by Owner of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all of the Work.
50. PCBs: Polychlorinated byphenyls.
51. Phase: A specified portion of the Work (if any) specifically identified as a Phase in Document 00 5200 (Agreement) or Document 01 1100 (Summary).
52. Product Data: That information (brochures, catalog sheets, manufacturer's cut sheets, etc.) supplied by vendors having technical and commercial characteristics of the supplied equipment or materials and accompanying commercial terms such as warranties, instructions, and manuals.
53. Progress Report: A periodic report submitted by Contractor to Owner with progress payment invoices accompanying progress schedule. See Document 00 7200 (General Conditions).
54. Project: Total construction of which Work performed under Contract Documents may be whole or part.
55. Project Manager: If used elsewhere in the Contract Documents, "Project Manager" shall mean a person representing the Owner in the administration of the Contract Documents. Project Manager may be an employee of or an independent consultant to Owner. When

Project Manager is referred to within the Contract Documents and no Project Manager has in fact been designated, then the matter shall be referred to Owner. The term Project Manager shall be construed to include employees of Project Manager and/or employees that Project Manager supervises. When the designated Project Manager is an employee of Owner, his or her authorized representatives on the Project will be included under the term Project Manager. If Project Manager is an employee of Owner Project Manager is the beneficiary of all Contractor obligations to Owner, including without limitation, all releases and indemnities.

56. Project Manual: Project Manual consists of Bidding Requirements, Agreement, Bonds, Certificates, Contract Conditions, Drawings, and Specifications.
57. Project Record Documents: All Project deliverables required under the Contract Documents, including without limitation, as built drawings; Installation, Operation, and Maintenance Manuals; and Machine Inventory Sheets.
58. Provide: Furnish and install.
59. Request for Information ("RFI"): A document prepared by Contractor requesting information regarding the Project or Contract Documents. The RFI system is also a means for Owner to submit Contract Document clarifications or supplements to Contractor.
60. Request for Proposals ("RFP"): A document issued by Owner to Contractor whereby Owner may initiate changes in the Work or Contract Time as provided in Contract Documents.
61. Request for Substitution ("RFS"): A document prepared by Contractor requesting substitution of materials as permitted and to the extent permitted in Contract Documents.
62. RFI-Reply: A document consisting of supplementary details, instructions, or information issued by Owner that clarifies or supplements Contract Documents, and with which Contractor shall comply. RFI-Replies do not constitute changes in Contract Sum or Contract Time except as otherwise agreed in writing by Owner. RFI-Replies will be issued through the RFI administrative system.
63. Samples: Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
64. Shop Drawings: All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
65. Shown: As indicated on Drawings.
66. Site: The particular geographical location of Work performed pursuant to the Contract Documents.
67. Specifications: The written portion of the Contract Documents consisting of requirements for materials, equipment, construction systems, standards, and workmanship for the Work; performance of related services.
68. Specified: As written in Specifications.
69. Subcontractor: A person or entity that has a direct contract with Contractor to perform a portion of the Work at the Site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and neutral in gender and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.
70. Substantial Completion: The Work (or a specified part thereof) has progressed to the point where, in the opinion of Owner as evidenced by a notice or certificate of Substantial Completion, the Work is sufficiently complete, in accordance with Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended, and unperformed or incomplete work elements are minor in nature; or if no such certificate is issued, when the Work (or specified part) is complete and ready for final payment as

evidenced by written recommendation of Owner for final payment. The terms "Substantially Complete" and "Substantially Completed" as applied to all or part of the Work refer to Substantial Completion thereof.

71. Supplemental Instruction: A written directive from Owner to Contractor ordering alterations or Modifications that do not result in change in Contract Sum or Contract Time, and do not substantially change Drawings or Specifications.
72. Testing and Special Inspection Agency: An independent entity engaged to inspect and/or test the workmanship, materials, or manner of construction of buildings or portions of buildings, to determine if such construction complies with the Contract Documents and applicable codes.
73. Underground Facilities: All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities that have been installed underground to furnish any of the following services or materials: Electricity, gases, chemicals, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems, or water.
74. Unit Price Work: Shall be the portions of the Work for which a unit price is provided in Document 00 5200 (Agreement) or Section 01 1100 (Summary).
75. Work: The entire completed construction, or the various separately identifiable parts thereof, required to be furnished under the Contract Documents within the Contract Time. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents including everything shown in the Drawings and set forth in the Specifications. Wherever the word "work" is used, rather than the word "Work," it shall be understood to have its ordinary and customary meaning.

B. Other Defined Terms

The following terms are not necessarily identified with initial caps; however they shall have the meaning set forth below:

1. Wherever words "as directed," "as required," "as permitted," or words of like effect are used, it shall be understood that direction, requirements, or permission of Owner is intended. Words "sufficient," "necessary," "proper," and the like shall mean sufficient, necessary, or proper in judgment of Owner. Words "approved," "acceptable," "satisfactory," "favorably reviewed," or words of like import, shall mean approved by, or acceptable to, or satisfactory to, or favorably reviewed by Owner.
2. Wherever the word "may" or "ought" is used, the action to which it refers is discretionary. Wherever the word "shall" or "will" is used, the action to which it refers is mandatory.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 7700

CONTRACT CLOSEOUT

PART 1 - GENERAL

1.01 SUMMARY

A. Section describes requirements and procedures for:

1. Project cleaning
2. Testing of equipment and systems
3. Substantial Completion
4. Final Completion
5. Close Out
6. Warranties

1.02 SUBSTANTIAL COMPLETION

A. Removal of Temporary Construction Facilities and Project Cleaning.

1. Prior to Substantial Completion inspection: remove temporary materials, equipment, services, and construction; clean all areas affected by the Work; clean and repair damage caused by installation or use of temporary facilities; restore permanent facilities used during construction to specified condition.

B. Equipment and Systems.

1. Prior to Substantial Completion, Contractor shall start up, run for periods prescribed by Owner, operate, adjust and balance all manufactured equipment and Project systems, including but not limited to, mechanical, electrical, safety, fire, and controls.
2. Demonstrate that such equipment and systems conform to contract standards and manufacturer's guarantees. Where applicable, specified by the plans, Contract Documents or Technical Specification, use testing protocols specified, and if the contract is silent, then consistent with manufacturer's recommendations and industry standards.

C. Procedure for Substantial Completion

1. When Contractor considers Work or designated portion of the Work as Substantially Complete, submit written notice to Owner, with list of items remaining to be completed or corrected and explanation of why such items do not prevent Owner's beneficial use and occupancy of the Work for its intended purposes. Within reasonable time, Owner will inspect to determine status of completion.
2. Should Owner determine that Work is not Substantially Complete, Owner will promptly notify Contractor in writing, listing all defects and omissions. Contractor shall remedy deficiencies and send a second written notice of Substantial Completion. Owner will reinspect the Work. If deficiencies previously noted are not corrected on reinspection, then pay the cost of the reinspection.
3. When Owner concurs that Work is Substantially Complete, Owner will issue a written notice or certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected as verified by Owner.
4. Manufactured units, equipment and systems that require startup must have been started up and before a notice or certificate of Substantial Completion will be issued.
5. A punch list examination will be performed upon Substantial Completion. One follow-up review of punch list items for each discipline will be provided. If further Site visits are required to review punch list items due to incompleteness of the Work by Contractor, Contractor will reimburse Owner for costs associated with these visits.

1.03 FINAL COMPLETION

A. Requirements

1. Final Completion occurs when Work meets requirements for Owner's Final Acceptance.

B. Procedure

1. When Contractor considers Work is Finally Complete, submit written certification that:
 - a. Contractor has inspected Work for compliance with Contract Documents, and all requirements for Final Acceptance have been met.
 - b. Except for Contractor maintenance after Final Acceptance, Work has been completed in accordance with Contract Documents and deficiencies listed with Certificate of Substantial Completion have been corrected. Equipment and systems have been tested in the presence of Owner, and are operative.
 - c. Project Record Documents are completed and turned over to Owner, and Work is complete and ready for final inspection.
2. In addition to submittals required by Contract Documents (Guaranty 00 6536, Surety Bond 00 6113.14, etc.), provide submittals required by governing authorities and submit final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.
3. Should Owner determine that Work is incomplete or Defective, Owner promptly will so notify Contractor, in writing, listing the incomplete or Defective items. Contractor shall promptly remedy the deficiencies and notify the Owner when it is ready for reinspection.

C. Final Adjustments of Accounts:

1. Submit a final statement of accounting to Owner, showing all adjustments to the Contract Sum and complete and execute Document 00 6530 (Agreement and Release of Claims).
2. If so required, Owner shall prepare a final Change Order for submittal to Contractor, showing adjustments to the Contract Sum that were not previously made into a Contract Modification.

D. Warranties

1. Execute Contractor's Submittals and assemble warranty documents, and Installation, Operation, and Maintenance Manuals, executed or supplied by Subcontractors, suppliers, and manufacturers. Provide table of contents and assemble in 8½ inches by 11 inches three-ring binder with durable plastic cover, appropriately separated and organized. Assemble in Specification Section order.
2. Submit material prior to final Application for Payment. For equipment put into use with Owner's permission during construction, submit within 14 Days after first operation. For items of Work delayed materially beyond Date of Substantial Completion, provide updated Submittal within 14 Days after acceptance, listing date of acceptance as start of warranty period.
3. Warranty Forms: Submit drafts to Owner for approval prior to execution. Forms shall not detract from or confuse requirements or interpretations of Contract Documents. Warranty shall be countersigned by manufacturers. Where specified, warranty shall be countersigned by Subcontractors and installers.
4. Rejection of Warranties: Owner reserves right to reject unsolicited and coincidental product warranties that detract from or confuse requirements or interpretations of Contract Documents.
5. Term of Warranties: For materials, equipment, systems, and workmanship, warranty period shall be two years minimum from date of Final Completion of entire Work except where:
 - a. Detailed Specifications for certain materials, equipment or systems require longer warranty periods.

- b. Materials, equipment or systems are put into beneficial use of Owner prior to Final Completion as agreed to in writing by Owner.
- 6. The Contractor shall be required to provide the following minimum warranties consistent with Net Energy Metering requirements and the California Public Utility Code 387.5(d)(4).
 - a. The Contractor shall provide a warranty of not less than 10 years to protect against defects and/or faulty installation.
 - b. Contractor shall also warranty no more than a 15% degradation of electrical generation output may occur as a result of faulty installation.
 - c. Standard warranty coverage should be at least twenty-five (25) years for any PV modules, at least ten (10) years for all inverters, or consistent with current Net Energy Metering Requirements for PV System warranty requirements, whichever is greater.
 - d. Meters must have a 1-year warranty to ensure against defective workmanship, system or component breakdown, or degradation in electrical output of more than 15% from their originally rated electrical output during the warranty period. For meters that are integrated into the inverter, the meter warranty period must be 10 years.

E. Warranty of Title:

- 1. No material, supplies, or equipment for Work under Contract shall be purchased subject to any chattel mortgage, security agreement, or under a conditional sale or other agreement by which an interest therein or any part thereof is retained by seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all Work to deliver premises, together with improvements and appurtenances constructed or placed thereon by Contractor, to Owner free from any claim, liens, security interest, or charges, and further agrees that neither Contractor nor any person, firm, or corporation furnishing any materials or labor for any Work covered by Contract shall have right to lien upon premises or improvement or appurtenances thereon. Nothing contained in this paragraph, however, shall defeat or impair right of persons furnishing materials or labor under bond given by Contractor for their protection or any rights under law permitting persons to look to funds due Contractor in hands of Owner.

- F. **Turn-In.** Contract Documents will not be closed out and final payment will not be made until all keys issued to Contractor during prosecution of Work and letters from property owners, pursuant to Contract Documents, are turned in to Owner.
- G. **Release of Claims.** Contract Documents will not be closed out and final payment will not be due or made until Document 00 6530 (Agreement and Release of Claims) is completed and executed by Contractor and Owner.
- H. **Fire Inspection Coordination.** Coordinate fire inspection and secure sufficient notice to Owner to permit convenient scheduling (if applicable).
- I. **Building Inspection Coordination.** Coordinate with Owner a final inspection for the purpose of obtaining an occupancy certificate (if applicable).

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

**TECHNICAL SPECIFICATIONS FOR
CITY OF SEASIDE SOLAR PHOTOVOLTAIC PROJECT**

For Construction

Prepared for
City of Seaside Engineering Department



August 5, 2019



Prepared by
Blymyer Engineers, Inc.
1101 Marina Village Parkway, Suite 100
Alameda, CA 94501
(510) 521-3773



A handwritten signature in blue ink, likely belonging to Rick Riedl, is written over a horizontal line.

Approved by
Rick Riedl, P.E.
Public Works Director / City Engineer
440 Harcourt Avenue
Seaside, CA 93955

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DIVISION 3 THRU 34

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PART 1 - GENERAL

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- A. Layout of formwork.
- B. Formwork construction.
- C. Embedded items and openings in concrete.
- D. Form release materials.
- E. Removal of forms.
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1.04 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. ACI 117 Specifications for Tolerances for Concrete Construction and Materials and Commentary
 - 2. ACI 301 Specifications for Structural Concrete
 - 3. ACI 318 Building Code Requirements for Structural Concrete and Commentary
 - 4. ACI 347R Guide to Formwork for Concrete
- B. American Plywood Association (APA):
 - 1. U.S. Product Standard PS-1 Structural Plywood
- C. West Coast Lumber Inspection Bureau (WCLIB):
 - 1. WCLIB No. 17 Standard Grading Rules

1.05 QUALITY ASSURANCE

- A. Formwork Standards: Unless otherwise indicated, design, construct, erect, maintain, and remove forms and related structures for concrete work in accordance with applicable requirements of ACI 301, ACI 318, and ACI 347R.
 - 1. Architectural Concrete: Forms for architectural concrete shall be designed and constructed in accordance with ACI 301.
 - 2. Deflection: Where dead and live loads on forms will be more than 20 percent greater than the weight of the concrete, provide framing lumber of required strength, and comply with ACI 301 and ACI 347R for design of framing members. Deflection shall be kept within the herein specified tolerances.
 - 3. Concrete Mix Design: Design of formwork shall be coordinated with the concrete mix design, as specified in the design drawings, Portland Cement Concrete, so that form materials, form surfaces, and formwork strength will produce the desired concrete tolerances and finishes.
- B. Formwork Surface Materials: Provide material and work quality which will produce clean and uniform finished surfaces within the allowable tolerances specified and which will conform with the following requirements:
 - 1. Concrete Exposed to View: Provide material and work quality that will produce clean, smooth, and uniform concrete surfaces. Refer to ACI 301 for requirements.

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- 2. Concrete Concealed from View: Provide material and work quality that will produce aligned concrete surfaces free of fins, honeycomb, and stains.
 - C. Special Formwork Sections: Provide openings, offsets, sinkages, keyways, recesses, moldings, rustication strips, chamfers, blocking, screeds, bulkheads, anchorages, embedded items, and other features. Select materials and provide workmanship that will ensure indicated finishes.
 - D. Chamfered Corners: All external corners shall be chamfered, unless otherwise indicated.
 - E. Removal Features: Design formwork to be readily removable without impact, shock, and damage to concrete surfaces and adjacent materials.
 - F. Tolerances for Formed Surfaces: For buildings and similar structures, comply with the requirements of ACI 301, as applicable. For those items of work or parts of the structure not covered by ACI 301, comply with the requirements of ACI 117, as applicable. Coordinate with the requirements specified in Section 03 30 00, Cast-In-Place Concrete.
 - 1. The class of surface for offset between adjacent pieces of formwork facing material shall be Class A for surfaces permanently exposed to public view and Class C for surfaces that will be permanently concealed, unless otherwise specified.
- 1.06 SUBMITTALS
- A. Shop Drawings: Submit drawings that indicate and include the following details and requirements:
 - 1. Forming system and method of erection with associated details.
 - 2. Locations of construction joints in plan and elevation views. Means of leakage prevention for concrete exposed to view in finished construction.
 - 3. Locations and sizes of conduits, openings, recesses, pipes, ducts, and other attached or embedded products.
 - 4. Method and schedule for removing forms and shoring.
 - B. Product Data: Submit manufacturers' product data for manufactured products. Include products proposed for leakage control.
- 1.07 DELIVERY, STORAGE, AND HANDLING
- A. Storage: Store form panels to prevent warpage. Protect panels from damage and contamination which could adversely affect concrete.
 - B. Handling: Lift form panels by methods that will protect panels from damage and distortion.
- 1.08 JOB CONDITIONS
- A. Allow sufficient time between erection of forms and placing of concrete for the various trades to properly install concrete reinforcement, embedded items, sleeves, and blockouts.
 - B. Do not apply superimposed loads to the structure until concrete has developed its specified 28-day compressive strength, to be confirmed with concrete break tests.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Lumber: Boards and framing lumber shall be graded and grade-marked in accordance with WCLIB No. 17. Provide framing lumber of required strength, conforming with the above-specified WCLIB No. 17.
 - 1. Boards: Provide all West Coast Species, "Construction" or "Standard" Boards. Use dressed side of lumber for surface in contact with the concrete, and provide boards with dressed or tongue-and-groove edges to provide tight joints to prevent mortar leakage.
 - 2. Framing Lumber:
 - a. Light Framing: Provide all West Coast Species, "Construction" or "Standard" Light Framing, dressed or rough. Where loads are not a factor, "Utility" Light Framing will be acceptable.
 - b. Joists and Planks: Provide all West Coast Species, "No. 2" Structural Joists and Planks, dressed or rough.
 - c. Beams and Stringers: Provide all West Coast Species, "Standard" Beams and Stringers or "No. 2 Structural" Beams and Stringers, dressed or rough.
- B. Plywood (Plyform): Plywood shall be graded and grade-marked in accordance with U.S. Product Standard PS-1.
 - 1. B-B Plyform: Provide Class I, EXT-APA, sanded, APA trade marked.
 - 2. B-C Plyform: Provide Class I, EXT-APA, APA trade marked.
 - 3. High Density Overlay (HDO) Plyform: Provide A-A, 60-60, Class I, EXT-APA, APA trade marked.
 - 4. Thickness: As required to maintain surface smoothness without deflection, but not thinner than 5/8 inch.
- C. Steel Forms: Proprietary, patented, or fabricated steel forms, using standard or commercial quality, uncoated steel sheet or plate, 3/16-inch minimum thickness, for panel facings. Provide surfaces that will not impart corrosion residue to concrete. Include panel framing, reinforcement, and erection accessories.
- D. Round Column Forms: Pressed or molded fiber-reinforced plastic or steel, manufactured round column forms, seamless or one-piece (one vertical seam), smooth surface, of sizes indicated.
 - 1. Provide forms with will not deflect under pressure of concrete placement, and which will not deflect or blow off under added pressure of placement of fly-ash modified concrete.
- F. Formliners for Exposed and Architectural Concrete: Thermally formed, pressed or molded fiber-reinforced plastic (FRP), ABS alloy plastic, PVC alloy plastic, or similar material, manufactured to produce finished concrete of design, configuration, and surface texture indicated. Formliners shall be continuous, one piece. No horizontal joints shall be acceptable unless the applicable height exceeds the available formliner height. Provide formliners with inherent form-

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release surface. Formliners may be manufactured for single-use or multi-use service as appropriate.

- G. Leakage Control Materials: Provide materials capable of producing flush, watertight, and nonabsorbent surfaces and joints, and compatible with forming material and concrete ingredients. Seal form edges with gasketing material or sealant placed in the joint in such a way that neither a fin nor groove is made in the face of the cast concrete.
- H. Form Release Agent: Commercial formulation, silicone-free form-release agent, designed for use on all types of forms, which will not bond with, stain, nor adversely affect concrete surfaces, and which will not impair subsequent treatment of concrete surfaces requiring bond or adhesion nor impede wetting of surfaces which will be cured with water, steam, or curing compounds.
- I. Plugged Cone Form Ties: Rod type, with ends or end fasteners which can be removed without spalling the concrete and which leave a hole equal in depth to the required reinforcement clearance. Form ties shall be of a design in which the hole left by the removed end or end fastener is easily filled to match the surface of the hardened concrete. Provide removable cones one and a fourth inches in diameter by one and a half inches deep. Provide preformed mortar plugs to match the color of the concrete, recessed one fourth inch, adhered with an approved epoxy adhesive.
- J. Inserts: Cast stainless steel or welded stainless steel, Type 316 or similar 300 Series, complete with anchors to concrete and fittings such as bolts, wedges, and straps. Provide hanger inserts spaced to match grid of suspended ceiling.
- K. Dovetail Anchor Slots: 22 gage or heavier galvanized steel dovetail anchor slots, for anchoring of masonry veneer with galvanized steel dovetail anchors provided under Division 4, Masonry.
- L. Chamfer Strips: Three fourths inch by three fourths inch triangular fillets milled from clear, straight-grain pine, surfaced each side, or extruded vinyl type with or without nailing flange.
- M. Miscellaneous Joint Strips: Preformed strips for reveals, rustications, and similar joints fabricated of wood, metal, or plastic.

2.02 FABRICATION

- A. Formwork, General: Fabricate forms in accordance with approved Shop Drawings. Maintain forms clean, smooth, and free from imperfections and distortion. Fabricate forms for architectural concrete in accordance with applicable requirements of ACI 301.
- B. Joints:
 - 1. Arrange form panels in symmetrical patterns conforming to general lines of the structure.
 - 2. Unless otherwise indicated, orient panels on vertical surfaces with long dimension horizontal, and make horizontal joints level and continuous.

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3. Align form panels on each side of the panel joint with fasteners common to both panels, and in a manner which will result in a continuous, unbroken concrete plane surface.
- C. Steel Forms: Use material which is clean, smooth, and free from warps, bends, kinks, rust, cracks, and matter which may stain concrete. Fabricate panels in accordance with approved Shop Drawings. Deflection between form supports from concrete placement shall not exceed 1/240 of the span length.

PART 3 - EXECUTION

3.01 LAYOUT OF FORMWORK

- A. Locate and stake out all forms and establish all lines, levels, and elevations.

3.02 CONSTRUCTION

- A. Formwork:
 1. Construct formwork in accordance with the approved Shop Drawings, and in a manner that will produce finished concrete surfaces conforming to indicated design and within specified tolerances. Formwork for concrete not exposed to view in the finished work may be constructed of any material that will adequately support the weight of the concrete.
 2. Make joints and seams mortar-tight. Install leakage control materials in accordance with the manufacturer's installation instructions, and in a manner that will maintain a smooth continuity of plane between abutting form panels and which will resist displacement by concreting operations.
 3. Kerf wood inserts for forming keyways, reglets, and recesses in a manner that will prevent swelling and ensure ease of removal.
 4. Maintain forms clean and free from indentations and warpage. Do not use rust stained steel surfaces for forms in contact with concrete. Do not sandblast steel form surfaces to remove rust or mill scale; remove these imperfections by grinding.
 5. Brace temporary closures to prevent warpage or displacement and set tightly against forms in a manner that will prevent loss of concrete mortar.
 6. Support joints with extra studs or girts, and in a manner that will ensure true, square intersections.
 7. Assemble forms in a manner that will facilitate their removal without damage to the concrete.
 8. Construct molding shapes, recesses, and projections with smooth finish materials and install in forms with sealed joints.
 9. Provide camber in formwork as required to compensate for deflections caused by weight and pressures of fresh concrete and construction loads and as otherwise indicated. Provide camber strips to compensate for deflections due to permanent loads and long-term deflections due to shrinkage and creep as required.
 10. Provide construction openings in forms where required for concrete pour pockets, vibrator access holes, and inspection openings to aid in proper placement and consolidation of concrete, and close up openings during placement of concrete as applicable.

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11. Provide inspection and cleanout openings in forms at bottom of walls and columns and elsewhere as required. Do not close cleanouts until inspected and accepted by the Engineer just before placing concrete.
 12. Drill air escape holes in bottom members of blockouts.
 13. Ensure that formed stair risers within a stair run are equal.
- B. Edge Forms and Screeds for Slabs: Set edge forms or bulkheads and intermediate screeds for slabs to obtain required elevations and contours in the finished slab surface. Support screeds substantially without penetrating waterproof membranes and vapor barriers.
- C. Corner Treatment: Form chamfers with three fourths inch on each leg, unless otherwise indicated, and accurately shape and surface in a manner which will produce uniformly straight lines and edge joints and which will prevent mortar runs. Extend terminal edges to limits, and miter chamfer strips at changes in direction.
- D. Construction Joints:
1. Locate joints as indicated. Support forms for joints in concrete so as to rigidly maintain their positions during placement, vibration, and curing of concrete. Install keys in all joints.
 2. Locate and install construction joints, for which locations are not indicated, so as not to impair strength and appearance of the structure, and indicate such joints on Shop Drawings. Locations of construction joints require approval of the Engineer.
 3. Position joints perpendicular to longitudinal axis of pier, beam, or slab as the case may be.
 4. Locate joints in walls, vertically as indicated; at top of footing; at top of slabs on grade; at bottom of door openings; and at underside of the deepest beam or girder framing into wall; or as required to conform to indicated details.
 5. Provide keyways as indicated in construction joints in walls and slabs, and between walls and footings unless otherwise indicated. Place construction joints perpendicular to the main reinforcement. Continue reinforcement across construction joints.
- E. Load Supports: Loads for construction of roof slab and suspended floor slabs shall be carried down to on-grade base slabs. These loads shall not be carried by intermediate slabs at any time. Formwork loads shall be carried only by structural elements that are supported directly by footings.
- F. Conform with Existing Asphalt Concrete (AC) Paving: Existing AC paving shall be sawcut with a clean butt joint, a minimum of 12 inches from the proposed formwork. The AC plug section shall be installed per Section 32 12 16, Asphalt Paving, as applicable. AC plug section shall match existing AC section with the AC plug having a AC depth of no less than 6 inches.
- 3.03 EMBEDDED ITEMS AND OPENINGS IN CONCRETE
- A. Install conduit, pipe sleeves, waterstops, appliance boxes, frames for items recessed in walls, door frames, drains, metal ties, inserts, nailing strips,

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blocking, grounds, and other fastening devices required for anchorage or attachment of other work. Firmly secure products in position, located accurately as indicated, before beginning concrete placement.

- B. Provide openings in concrete for passage of ducts, and provide clearances therefore as indicated on approved Shop Drawings.
- C. Where masonry walls will be tied to concrete construction in future construction, use dovetail anchor slots positioned for maximum flexibility for masonry installation.

3.04 FORM RELEASE MATERIAL

- A. Coat form contact surfaces with approved form release material before reinforcement is placed. Do not allow excess form release material to accumulate in the forms or to come into contact with surfaces that are required to be bonded to fresh concrete such as concrete reinforcement and embedded items. Apply form release material in compliance with manufacturer's application instructions.
- B. Coat steel forms with non-staining, rust-preventive form release material or otherwise protect against rusting.
- C. Apply form release material to bolts and rods that are to be removed or that are to be free to move.

3.05 REMOVAL OF FORMS

- A. Remove forms by methods which will not injure, mar, gouge, or chip concrete surfaces, overstress concrete members, or distort formwork. Use air pressure or other approved methods. Do not pry against concrete. Cut off nails flush. Leave surfaces clean and unblemished.
 - 1. Where early form removal is not necessary and will not impact the Contractor's schedule, leave forms in place at least 72 hours, unless otherwise approved by the Engineer.
- B. When repair of surface defects or finishing is required at an early age, forms may be removed as soon as the concrete has hardened sufficiently to resist damage from removal operations and its own weight.
 - 1. Concrete work that is damaged by removal operations shall be repaired. Where exposed surfaces are damaged beyond acceptable repairing measures, the damaged concrete shall be removed and replaced with new concrete.
- C. Top forms on sloping surfaces of concrete may be removed as soon as the concrete has attained sufficient stiffness to prevent sagging. Any needed repairs or treatment required on such sloping surfaces shall be performed at once and shall be followed by the specified curing.
- D. Wood forms for wall openings shall be loosened as soon as this can be accomplished without damage to the concrete.
- E. Formwork for columns, walls, sides of beams, and other parts not supporting the weight of the concrete may be removed as soon as the concrete has hardened sufficiently so as not to be damaged by removal operations.

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- F. Forms and shoring in the formwork used to support the weight of concrete in beams, suspended slabs, girders, and other structural members shall remain in place until the concrete has reached adequate strength and stiffness to support itself. Forms shall not be removed before the concrete has reached a minimum of 70 percent of the indicated design compressive strength, unless otherwise approved in writing by the Engineer.
- G. When shores and other vertical supports are so arranged that the non-load-carrying form-facing material may be removed without loosening or disturbing the shores and supports, the facing material may be removed at an earlier age provided the concrete surfaces are not damaged by such earlier removal.
- H. Plan reshoring operations in a manner that will ensure that areas of new construction will not be required to support their own weight. Reshoring shall be in place before shoring is removed. During reshoring, do not permit live loads on new construction. Do not locate reshores in a manner and location that will overstress members or induce tensile stresses where reinforcing bars have not been provided.
- I. When removal of formwork or reshoring is based on the concrete reaching a specified strength, the concrete shall be presumed to have reached this strength when test cylinders, field cured along with the concrete they represent, have reached the strength specified for removal of formwork or reshoring.

3.06 FIELD QUALITY CONTROL

- A. Before placing concrete, check lines and grades of erected formwork and positioning of embedded inserts, blockouts, and joints for correctness. Verify that embedded piping and conduit are free from obstructions. Make corrections or adjustments to ensure proper size and location of concrete members and stability of forming systems.
- B. While placing concrete, provide quality control to assure that formwork and related supports have not been displaced, that loss of cement paste through joints is prevented, and that completed work will be within specified tolerances.
- C. During form removal, verify that architectural features meet the form and texture requirements of the samples approved by the Engineer.

3.07 DETECTION OF MOVEMENT

- A. Check movement using methods, such as plumb lines, tell tales, and survey equipment, to detect movement of formwork during concrete placement.

3.08 RE-USE OF FORMS

- A. Clean and repair surfaces of forms to be reused in the work. Split, frayed, delaminated, or otherwise damaged form facing material will not be acceptable. Remove such material from the site. Apply form release coating as specified for new formwork.
- B. Align and secure joints in a manner that will preclude offsets. Do not use patched forms for exposed concrete surfaces.

END OF SECTION

PART 1 -GENERAL

1.01 SECTION INCLUDES

- A. Steel reinforcing bars.
- B. Galvanized reinforcing bars.
- C. Epoxy-coated reinforcing bars.
- D. Wire and spiral reinforcement.
- E. Welded steel wire fabric.
- F. Steel bar mats.
- G. Tie wire.
- H. Accessories.
- I. Welding Electrodes.
- J. Exothermic Metal-filled Sleeve.
- K. Mechanical Splice Coupler.

1.02 RELATED SECTIONS

- A. Reinforcing steel for drilled shaft foundations, specified in its respective Section 31 63 29.

1.03 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. ACI 301 Specifications for Structural Concrete
 - 2. ACI SP-066 ACI Detailing Manual
 - 3. ACI 318 Building Code Requirements for Structural Concrete and Commentary
 - 4. ACI 439.3R Types of Mechanical Splices for Reinforcing Bars
- B. American Society for Testing and Materials (ASTM):
 - 1. ASTM A370 Standard Test Methods and Definitions for Mechanical Testing of Steel Products
 - 2. ASTM A615/ Standard Specification for Deformed and Plain Carbon A615M Steel Bars for Concrete Reinforcement
 - 3. ASTM E8/E8M Standard Test Methods of Tension Testing of Metallic Materials
 - 4. ASTM E165/ Standard Practice for Liquid Penetrant Examination E165M for General Industry.
- C. American Welding Society (AWS):
 - 1. AWS D1.4/D1.4M Structural Welding Code – Reinforcing Steel
- D. Concrete Reinforcing Steel Institute (CRSI):
 - 1. CRSI Manual of Standard Practice
 - 2. CRSI, Placing Reinforcing Bars

1.04 SUBMITTALS

- A. Shop Drawings:
 - 1. Submit bar lists, bending diagrams and schedules, and placement plans and details for all reinforcing steel.

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2. Indicate descriptions, details, dimensions, arrangements and assemblies, and locations of reinforcing steel. Include number of pieces, sizes, and markings of reinforcing steel, laps and splices, supporting devices and accessories, and any other information required for fabrication and placement. Indicate any adjustments required as specified in Article 1.06.B.
3. Check Contract Drawings for anchor bolt schedules and locations, anchors, hangers, inserts, conduits, sleeves, blockouts, and any other items to be cast in concrete for possible interference with reinforcing steel. Indicate required clearances on Shop Drawings.
4. Detail reinforcing steel in accordance with requirements of the ACI SP-066. Indicate individual weight of each bar, total weight of each bar size, and total weight of all bars on the list. Base calculated weights upon nominal weights specified in ACI 318, Appendix on Steel Reinforcement Information.
5. For mechanical splice couplers furnish the following:
 - a. Certified test reports showing that the couplers meet all of the specified requirements.
 - b. Written assembly and installation instructions for each type, model and bar size for which the coupler is designed. Installation instructions shall include typical installation sequence, recommended installation tools, guidelines for laboratory testing of couplers and coupler size designations with corresponding range of bar sizes.
 - c. Reports showing the results of all tests.

C. Product Data:

1. Submit manufacturers' product data and installation instructions for proprietary manufactured materials and reinforcement accessories.
2. Submit manufacturers' product data and installation instructions for proprietary exothermic metal splicing systems and proprietary mechanical coupler splicing systems when such splicing methods are permitted.

D. Certificates:

1. For each lot or load of reinforcing steel delivered to the jobsite, furnish mill affidavits or test reports of compliance or similar certification, certifying the grades and physical and chemical properties of the reinforcing steel and conformance with applicable ASTM Specifications, including ASTM A370.
2. For welders, furnish welding certificates or affidavits attesting to the welders' qualifications to perform the indicated welding in accordance with applicable requirements of AWS D1.4/D1.4M.
3. For exothermic sleeve coupler splicing, furnish certificates or affidavits attesting to the crew's special qualifications to perform the splicing.

1.05 QUALITY CONTROL

A. Tolerances:

1. Fabrication: Fabricate bars to meet the following tolerances:

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- a. Sheared length: plus or minus 1 inch.
 - b. Depth of truss bars: plus 0, minus 1/2 inch.
 - c. Overall dimensions of stirrups, ties and spirals: plus or minus 1/2 inch.
 - d. All other bends: plus or minus 1 inch.
 - e. Fabrication tolerances not indicated on the Contract Drawings or specified above shall comply with the applicable requirements of ACI 301 and CRSI Manual of Standard Practice, Chapter 7.
 2. Placement: Place bars to the following tolerances:
 - a. Clear distance to formed surfaces: plus or minus 1/4 inch.
 - b. Minimum spacing between bars: minus 1/4 inch.
 - c. Top bars in slabs and beams:
 - 1) Member 8 inches deep or less: plus or minus 1/4 inch.
 - 2) Member greater than 8 inches, but less than 2 feet deep: plus or minus 1/2 inch.
 - 3) Members 2 feet or more deep: plus or minus 1 inch.
 - d. Crosswise of members: spaced evenly within 2 inches.
 - e. Lengthwise of members: plus or minus 2 inches.
 - f. Placement tolerances not indicated on the Contract Drawings or specified above shall comply with the requirements of ACI 301, ACI 318, or CRSI Manual of Standard Practice, as applicable.
 - B. Adjustments: Bars may be moved as necessary to avoid interference with other reinforcing steel, conduits, or embedded items. If bars are moved more than one bar diameter, or in excess of the above tolerances, the resulting arrangement of bars shall require the Engineer's approval. Minimum spacings shall not be decreased, and the required number of bars shall be placed. Bars moved to permit access for cleanup operations shall be properly replaced and secured before the start of concrete placement.
- 1.06 DELIVERY, STORAGE, AND HANDLING
- A. Deliver reinforcing bars to the fabricator in bundles, limited to one size and length of bar, securely tied and identified with plastic tags in an exposed position indicating the mill, the melt or heat number, and the grade and size of bars.
 - B. Deliver steel reinforcement to the jobsite, store, and cover in a manner which will ensure that no damage shall occur to it from moisture, dirt, grease, oil, or other cause which might impair bond with concrete.
 - C. Deliver steel reinforcement to the jobsite properly tagged and identified, as specified herein in Article 2.03, in accordance with approved Shop Drawings.
 - D. Handle and store galvanized and epoxy-coated reinforcement in a manner which will prevent damage to the coatings. For epoxy-coated reinforcement, comply with the requirements of ASTM D3963/D3963M.
 - E. Maintain identification of steel reinforcement after bundles are broken.

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- F. Provide special facilities for the storage and handling of exothermic materials as recommended by the splicing system manufacturer.

PART 2 -PRODUCTS

2.01 MATERIALS

- A. Steel Reinforcing Bars:
 - 1. Deformed Carbon Steel Bars: ASTM A615/A615M.
 - 2. Low-Alloy Steel Bars: ASTM A706/A706M.
 - 3. Weights of Bars: Refer to ACI 318, Appendix on Steel Reinforcement Information.
- B. Wire and Spiral Reinforcement: ASTM A1064/A1064M for plain wire and deformed wire.
- C. Steel Bar Mats – Deformed Bars: ASTM A184/A184M, using ASTM A706/A706M deformed bars, sizes and spacings of members as indicated, welded or clipped at intersections.
- D. Accessories: Provide reinforcement accessories, consisting of bar supports, spacers, hangers, chairs, ties, and similar items as required for spacing, assembling, and supporting reinforcement in place. Conform with CRSI referenced standards and the following requirements:
 - 1. For footings, grade beams, and slabs on grade, provide supports with precast concrete or mortar bases or plates or horizontal runners where wetted base materials will not support chair legs.
 - 2. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms or are in close proximity to finish surfaces, provide supports with legs which are galvanized, plastic-protected, or stainless steel.
 - 3. For galvanized reinforcement, provide all galvanized accessories.
 - 4. For epoxy-coated reinforcement, provide accessories which are nylon-, epoxy, or plastic-coated.
- E. Tie Wire: No. 16 gage or heavier, black or galvanized, soft or commercial grade steel tie wire. Where tie wire is in close proximity to finish surfaces of exposed-to-view concrete, provide soft stainless steel wire.
- K. Welding Electrodes: E90XX low hydrogen electrodes (for shielded metal arc welding.)
- L. Exothermic Metal-Filled Sleeve Coupler:
 - 1. System Description: Provide bar splicing connection, produced by a standard exothermic process whereby molten filler metal, contained by a high-strength steel sleeve of larger inside diameter than adjoining bars, is introduced into the annular space between the bars and the sleeve as well as between the ends of the bars. Splicing system shall produce complete fusion with 100 percent penetration of the joint.
 - 2. Spliced Strength in Tension: 125 percent of the yield strength of connected reinforcing bars.

M. Mechanical Splice Coupler:

1. System Description: Provide bar-splicing connections, produced by threaded reinforcing bar ends and threaded coupler, or by sleeves hydraulically pressed or forged onto butt-ended reinforcing bars, or by other proprietary mechanical splicing method as proposed by the Contractor and approved by the Engineer. Mechanical splice couplers shall be capable of being installed in the clear space indicated and to provide the required clearances.
2. Spliced Strength in Tension: Minimum 125 percent of the yield strength of connected reinforcing bars, unless otherwise indicated.

2.02 FABRICATION

- A. Fabrication Standards: Fabrication of steel reinforcement shall be in accordance with the Contract Drawings and approved Shop Drawings. Where specific details are not indicated, comply with applicable requirements of ACI 301, ACI 318, and CRSI Manual of Standard Practice.
- B. Cutting and Bending: Cutting and bending shall be performed at a central location, equipped and suitable for the purpose. Bars shall be accurately cut and bent as indicated. Bars shall be bent cold. Heating of bars for bending or straightening will not be permitted. Bars shall not be bent or straightened in any manner which will injure the material. Label all bars in accordance with bending diagrams and schedules, and secure like pieces in bundles when appropriate.
- C. Welding:
 1. Welding of reinforcement, where indicated and approved, including preparation of bars, shall conform with applicable requirements of AWS D1.4/D1.4M. Welders shall be prequalified in accordance with AWS D1.4/D1.4M, Chapter 6.
 2. Use full penetration butt welds by the electric-arc method unless otherwise indicated or approved. Weld splices shall develop 125 percent of the specified yield strength of the bars, or of the smaller bar in transition splices.
 3. Clean bars of oil, grease, dirt, and other foreign matter and flame-dry before welding. Preheat bars before welding in accordance with AWS D1.4/D1.4M, Chapter 5. Stagger splices in adjacent bars a minimum of 48 inches.
- D. Repair of Damaged Coatings: Bars for galvanized reinforcement shall be cut and bent cold before galvanizing. Galvanized and epoxy coatings damaged by shipping, handling, or cutting and bending shall be repaired as specified in ACI 301, and ASTM A767/A767M, ASTM A775/A775M, ASTM A884/A884M, and ASTM D3963/D3963M, as applicable.

2.03 IDENTIFICATION

- A. Reinforcing steel shall be bundled and tagged with grades and sizes, heat numbers, and suitable identification marks for checking, sorting, and placing. Sizes and mark numbers shall correspond to placing Shop Drawings and schedules. Tags and markings shall be water-resistant and shall not be removed until steel reinforcement is placed in position.

2.04 REINFORCING STEEL FOR DUCT BANKS

- A. Reinforcing steel shall be provided for duct banks. Longitudinal steel shall be provided with a minimum total cross sectional area of 0.0018 times the gross area of the duct bank. The maximum spacing of reinforcing bars shall be 18 inches, with a minimum of one bar provided in each corner. Tie bars in the transverse direction enclosing the longitudinal steel bars shall also be provided, with a minimum size of No. 3 bars at a minimum spacing of 12 inches. The minimum clear concrete cover over reinforcing steel shall be 3 inches where concrete is cast directly against earth, and 1-1/2 inches where concrete is cast directly against fabricated formwork.
- B. Where duct banks enter rigid underground structures, reinforcing steel shall be provided to tie the duct bank to the structure. Details shall be provided showing methods used to prevent damage to duct banks due to differential settlement at these points.

PART 3 -EXECUTION

3.01 VERIFICATION OF CONDITIONS

- A. Verify that surfaces, over or against which concrete is to be placed, are clean and in proper condition for placing reinforcement.
- B. Verify that items to be embedded in concrete inserts, sleeves, and block-outs are secured in place as required.

3.02 PLACING

- A. Placing Standards: Reinforcing steel shall be placed in accordance with the Contract Drawings, approved Shop Drawings, and the applicable requirements of ACI 301, ACI 318, CRSI Manual of Standard Practice, and CRSI Placing Reinforcing Bars. Install reinforcement accurately and secure against movement, particularly under the weight of workers and the placement of concrete.
- B. Reinforcing Supports: Bars shall be supported on metal or plastic chairs, spacers, and hangers, accurately placed and securely fastened to steel reinforcement in place. Support legs of accessories in forms without embedding in the form surface. Hoops and stirrups shall be accurately spaced and wired to the reinforcement.
- C. Placing and Tying: Reinforcing steel shall be installed in place, spaced, and securely tied or wired with tie wire at all splices and at crossing points and intersections in the positions indicated. Comply with requirements of CRSI Placing Reinforcing Bars, Chapter 10. Welding to secure or support rebar replacement is prohibited. Snap ties are acceptable for intermediate intersections. Rebending of bars on the job to fit different conditions will not be permitted. Point ends of wire ties away from adjacent form surfaces.
- D. Spacing: Center-to-center distance between parallel bars shall be in accordance with the Contract Drawings or, where not indicated, the minimum clear spacing shall be in accordance with ACI 318.

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- E. Longitudinal Location of Bends and Ends of Bar: A maximum of plus or minus 3 inches from the indicated location will be permitted, provided that specified protective concrete cover at ends of members is not reduced by more than 1/2 inch.
- F. Splices:
1. Lapped Splices:
 - a. Laps of splices shall be securely tied together to maintain the alignment of the bars, to provide the required minimum clearances, and to transfer stress by bond. Lapped splices and development lengths not shown shall be detailed to develop Class B lapping lengths and development lengths in tension, respectively, in accordance with ACI 318.
 - b. Splices of alternate bars shall be staggered a minimum clear offset of 2 feet between splices. Splices shall be tied with tie wire, or splices may be lap welded in accordance with AWS D1.4/D1.4M. Lapped splices are not permitted for No. 14 and No. 18 bars, or when specifically excluded by Contract provisions regardless of size.
 2. Exothermic Metal-Filled Coupler Splices: Conform with the product manufacturer's installation instructions and recommendations and with applicable requirements of AWS D1.4/D1.4M for exothermic welding.
 3. Mechanical Coupler Splices:
 - a. Perform installation of coupler and tightening of joint assembly in accordance with the coupler manufacturer's installation instructions and recommendations.
 - b. Reinforcing bars to be joined shall be shop threaded using special machinery to produce the required tapered threads. Where previously threaded bars must be cut or where threads are damaged, bars shall be replaced, or an alternate splicing system approved by the Engineer shall be substituted. Bars shall not be rethreaded, and damaged threads shall not be repaired in the field.
 - c. Prior to joining, inspect all threads and assure that they have been properly made and are clean.
 - d. Rotate coupler and bar initially by hand or wrench until snug (approximately 3-1/4 to 4 turns). Apply 24-inch minimum pipe wrench and turn coupler (or bar) until further turning is resisted with the application of a minimum torque of 200 foot-pounds. Suitably mark joint to indicate that tightening has been completed.
 - e. For proprietary mechanical splicing systems not specified herein, installation shall conform with the manufacturer's installation instructions.
 4. Spiral Reinforcement Splices: Splices shall conform with applicable requirements of ACI 318.

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- G. Dowels: Provide dowels where indicated or required for connecting construction and for maintaining structural and reinforcement continuity. Dowels shall be tied securely in place before concrete is deposited. Provide additional bars for proper support and anchorage where required. Do not bend dowels after embedment.

3.03 PROTECTIVE CONCRETE COVER

- A. Minimum concrete coverage for steel reinforcement shall be as specified in ACI 301, ACI 318, or CRSI Manual of Standard Practice. If there is a conflict between the standards specified, the thicker concrete coverage shall govern.

3.04 CLEANING:

- A. Reinforcement at time of depositing concrete shall be free of corrosion and coatings that may impair bond with concrete, such as form oil, mill scale, or loose deposits of rust and other corrosion.

3.05 FIELD QUALITY CONTROL

- A. Quality control inspections and tests to be performed by the Contractor include the following:

1. Placement of Reinforcing Steel: Visual inspection of reinforcing steel in place, including bar supports, tied laps and intersections, welded wire fabric, and barmats.
2. Welds:
 - a. Visual inspection of reinforcing bar welds.
 - b. Tension tests of welded butt joints. Tests shall be performed on sample welds produced by the Contractor in accordance with ASTM E8/E8M.
 - c. Nondestructive tests of installed welded butt joints shall be performed in accordance with ASTM E165/E165M.
 - d. Inspections and tests shall be performed in accordance with the applicable requirements of AWS D1.4/D1.4M, Chapters 6 and 7.
3. Exothermic/Coupler Splices:
 - a. Continuous visual inspection for the first eight hours, minimum, of the work as performed by any crew, and again by any replacement crew. All splices require visual inspection before concrete may be placed.
 - b. Visual inspection shall be performed in accordance with the product manufacturer's instructions and recommendations for such inspection.
 - c. Inspections shall measure and record all voids. Exothermic rebar splices shall be accepted, provided measured "void limits," per end, do not exceed manufacturer's specified "void limits."
 - d. Splices indicating improper fill, slag at tap hole, or blowouts shall be rejected.
4. Mechanical Coupler Splices: Test 100 percent of the couplers, using a 24-inch click-type torque wrench calibrated to 200 foot-pounds. Minimum turning torque of 200 foot-pounds shall be applied to the extent that further turning is resisted. Where tests reveal failure of couplers to be properly tightened, couplers shall be removed and replaced.

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- B. For exothermic/coupler splices, the Contractor shall provide qualification splices for each position as follows:
1. One sister splice for the first 25 splices; thereafter, one sister splice for every 50 splices.
 2. Sister splices shall be laboratory tested by the Engineer for strength in tension (125 percent of the yield strength of connecting bars).

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cast-in-place concrete, including concrete materials, mixture design, placement procedures, and finishes.

B. Related Requirements:

1. Section 031100 "Concrete Forming" for form-facing materials, form liners, insulating concrete forms, and waterstops.
2. Section 032000 "Concrete Reinforcing" for steel reinforcing bars and welded-wire reinforcement.
3. Section 312000 "Earth Moving" for drainage fill under slabs-on-ground.

1.2 DEFINITIONS

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

- B. Water/Cement Ratio (w/cm):** The ratio by weight of water to cementitious materials.

1.3 ACTION SUBMITTALS

A. Product Data: For each of the following.

1. Portland cement.
2. Fly ash.
3. Slag cement.
4. Blended hydraulic cement.
5. Aggregates.
6. Admixtures:
 - a. Include limitations of use, including restrictions on cementitious materials, supplementary cementitious materials, air entrainment, aggregates, temperature at time of concrete placement, relative humidity at time of concrete placement, curing conditions, and use of other admixtures.
7. Vapor retarders.
8. Liquid floor treatments.
9. Curing materials.
10. Joint fillers.

B. Design Mixtures: For each concrete mixture, include the following:

1. Mixture identification.
2. Minimum 28-day compressive strength.
3. Durability exposure class.
4. Maximum w/cm.
5. Calculated equilibrium unit weight, for lightweight concrete.
6. Slump limit.

7. Air content.
 8. Nominal maximum aggregate size.
 9. Indicate amounts of mixing water to be withheld for later addition at Project site if permitted.
 10. Intended placement method.
 11. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
- C. Shop Drawings:
1. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
 - a. Location of construction joints is subject to approval of the Architect.
- D. Concrete Schedule: For each location of each Class of concrete indicated in "Concrete Mixtures" Article, including the following:
1. Concrete Class designation.
 2. Location within Project.
 3. Exposure Class designation.
 4. Formed Surface Finish designation and final finish.
 5. Final finish for floors.
 6. Curing process.
 7. Floor treatment if any.
- 1.4 INFORMATIONAL SUBMITTALS
- A. Material Certificates: For each of the following, signed by manufacturers:
1. Cementitious materials.
 2. Admixtures.
 3. Curing compounds.
 4. Vapor retarders.
 5. Joint-filler strips.
- B. Material Test Reports: For the following, from a qualified testing agency:
1. Portland cement.
 2. Fly ash.
 3. Slag cement.
 4. Blended hydraulic cement.
 5. Aggregates.
 6. Admixtures:
- C. Research Reports: For concrete admixtures in accordance with ICC's Acceptance Criteria AC198.
- D. Preconstruction Test Reports: For each mix design.
- E. Field quality-control reports.
- F. Minutes of preinstallation conference.

1.5 QUALITY ASSURANCE

- A. Ready-Mixed Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C94M requirements for production facilities and equipment.
 - 1. Manufacturer certified in accordance with NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

1.6 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on each concrete mixture.
 - 1. Include the following information in each test report:
 - a. Admixture dosage rates.
 - b. Slump.
 - c. Air content.
 - d. Seven-day compressive strength.
 - e. 28-day compressive strength.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Comply with ASTM C94/C94M and ACI 301 (ACI 301M).

1.8 FIELD CONDITIONS

- A. Cold-Weather Placement: Comply with ACI 301 (ACI 301M) and ACI 306.1.
- B. Hot-Weather Placement: Comply with ACI 301 (ACI 301M) and ACI 305.1 (ACI 305.1M).

PART 2 – PRODUCTS

2.1 CONCRETE, GENERAL

- A. ACI Publications: Comply with ACI 301 (ACI 301M) unless modified by requirements in the Contract Documents.

2.2 CONCRETE MATERIALS

- A. Cementitious Materials:
 - 1. Portland Cement: ASTM C150/C150M, Type I, Type II, Type I/II, Type III, Type V.
 - 2. Fly Ash: ASTM C618, Class C or F.
 - 3. Slag Cement: ASTM C989/C989M, Grade 100 or 120.
- B. Normal-Weight Aggregates: ASTM C33/C33M, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source.
 - 1. Alkali-Silica Reaction: Comply with one of the following:
 - a. Expansion Result of Aggregate: Not more than 0.04 percent at one-year when tested in accordance with ASTM C1293.

- b. Expansion Results of Aggregate and Cementitious Materials in Combination: Not more than 0.10 percent at an age of 16 days when tested in accordance with ASTM C1567.
 - c. Alkali Content in Concrete: Not more than 4 lb./cu. yd. (2.37 kg/cu. m) for moderately reactive aggregate or 3 lb./cu. yd. (1.78 kg/cu. m) for highly reactive aggregate, when tested in accordance with ASTM C1293 and categorized in accordance with ASTM C1778, based on alkali content being calculated in accordance with ACI 301 (ACI 301M).
- 2. Maximum Coarse-Aggregate Size: **1-1/2 inches (38 mm)** nominal.
 - 3. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Lightweight Aggregate: ASTM C330/C330M, **3/4-inch (19-mm)** nominal maximum aggregate size.
- D. Air-Entraining Admixture: ASTM C260/C260M.
- E. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride in steel-reinforced concrete.
- 1. Water-Reducing Admixture: ASTM C494/C494M, Type A.
 - 2. Retarding Admixture: ASTM C494/C494M, Type B.
 - 3. Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type D.
 - 4. High-Range, Water-Reducing Admixture: ASTM C494/C494M, Type F.
 - 5. High-Range, Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type G.
 - 6. Plasticizing and Retarding Admixture: ASTM C1017/C1017M, Type II.
- F. Water and Water Used to Make Ice: ASTM C94/C94M.
- 2.3 VAPOR RETARDERS
- A. Sheet Vapor Retarder, Class A: ASTM E1745, Class A, not less than 10 mils (0.25 mm) thick. Include manufacturer's recommended adhesive or pressure-sensitive tape.
- 2.4 LIQUID FLOOR TREATMENTS
- A. Penetrating Liquid Floor Treatment: Clear, chemically reactive, waterborne solution of inorganic silicate or silicate materials and proprietary components; odorless; that penetrates, hardens, and densifies concrete surfaces.
- 2.5 CURING MATERIALS
- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) when dry.
 - B. Moisture-Retaining Cover: ASTM C171, polyethylene film burlap-polyethylene sheet.
 - 1. Color:
 - a. Ambient Temperature Below 50 deg F (10 deg C): Black.

- b. Ambient Temperature between 50 deg F (10 deg C) and 85 deg F (29 deg C): Any color.
 - c. Ambient Temperature Above 85 deg F (29 deg C): White.
 - C. Curing Paper: Eight-feet- (2438-mm-) wide paper, consisting of two layers of fibered kraft paper laminated with double coating of asphalt.
 - D. Water: Potable or complying with ASTM C1602/C1602M.
 - E. Clear, Waterborne, Membrane-Forming, Dissipating Curing Compound: ASTM C309, Type 1, Class B.
 - F. Clear, Waterborne, Membrane-Forming, Nondissipating Curing Compound: ASTM C309, Type 1, Class B.
 - G. Clear, Waterborne, Membrane-Forming, Curing and Sealing Compound: ASTM C1315, Type 1, Class A.
- 2.6 RELATED MATERIALS
- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D1751, asphalt-saturated cellulosic fiber.
 - B. Floor Slab Protective Covering: Eight-feet- (2438-mm-) wide cellulose fabric.
- 2.7 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, in accordance with ACI 301 (ACI 301M).
 - 1. Use a qualified testing agency for preparing and reporting proposed mixture designs, based on laboratory trial mixtures.
 - B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
 - 1. Fly Ash or Other Pozzolans: 25 percent by mass.
 - 2. Slag Cement: 50 percent by mass.
 - 3. Total of Fly Ash or Other Pozzolans, Slag Cement: 50 percent by mass, with fly ash or pozzolans not exceeding 25 percent by mass.
 - 4. Total of Fly Ash or Other Pozzolans: 35 percent by mass with fly ash or pozzolans not exceeding 25 percent by mass.
 - C. Admixtures: Use admixtures in accordance with manufacturer's written instructions.
 - 1. Use water-reducing, high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
 - 2. Use water-reducing and -retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
 - 3. Use water-reducing admixture in pumped concrete.
- 2.8 CONCRETE MIXTURES
- A. Class A: Normal-weight concrete used for footings, grade beams, and tie beams.

1. Exposure Class: ACI 318 (ACI 318M) **S1, C1.**
2. Minimum Compressive Strength: **3000 psi (20.7 MPa)** at 28 days.
3. Maximum w/cm: **0.40**
4. Slump Limit: 4 inches (100 mm), plus or minus 1 inch (25 mm).
5. Slump Flow Limit: **22 inches (550 mm)**, plus or minus **1.5 inches (40 mm)**
6. Limit water-soluble, chloride-ion content in hardened concrete to **1.00** percent by weight of cement.

2.9 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete in accordance with ASTM C94/C94M and furnish batch ticket information.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete in accordance with ASTM C94/C94M. Mix concrete materials in appropriate drum-type batch machine mixer.
 1. For mixer capacity of 1 cu. yd. (0.76 cu. m) or smaller, continue mixing at least 1-1/2 minutes, but not more than five minutes after ingredients are in mixer, before any part of batch is released.
 2. For mixer capacity larger than 1 cu. yd. (0.76 cu. m), increase mixing time by 15 seconds for each additional 1 cu. yd. (0.76 cu. m).
 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixture time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 INSTALLATION OF EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining Work that is attached to or supported by cast-in-place concrete.
 1. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of ANSI/AISC 303.
 3. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.

3.2 INSTALLATION OF VAPOR RETARDER

- A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder in accordance with ASTM E1643 and manufacturer's written instructions.
 1. Install vapor retarder with longest dimension parallel with direction of concrete pour.
 2. Face laps away from exposed direction of concrete pour.

3. Lap vapor retarder over footings and grade beams not less than 6 inches (150 mm), sealing vapor retarder to concrete.
4. Lap joints 6 inches (150 mm) and seal with manufacturer's recommended tape.
5. Terminate vapor retarder at the top of floor slabs, grade beams, and pile caps, sealing entire perimeter to floor slabs, grade beams, foundation walls, or pile caps.
6. Seal penetrations in accordance with vapor retarder manufacturer's instructions.
7. Protect vapor retarder during placement of reinforcement and concrete.
 - a. Repair damaged areas by patching with vapor retarder material, overlapping damages area by 6 inches (150 mm) on all sides, and sealing to vapor retarder.

3.3 JOINTS

- A. Construct joints true to line, with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Coordinate with floor slab pattern and concrete placement sequence.
 1. Install so strength and appearance of concrete are not impaired, at locations indicated on Drawings or as approved by Architect.
 2. Place joints perpendicular to main reinforcement.
 - a. Continue reinforcement across construction joints unless otherwise indicated.
 - b. Do not continue reinforcement through sides of strip placements of floors and slabs.
 3. Form keyed joints as indicated. Embed keys at least 1-1/2 inches (38 mm) into concrete.
 4. Locate joints for beams, slabs, joists, and girders at third points of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
 5. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
 6. Space vertical joints in walls indicated on Drawings. Unless otherwise indicated on Drawings, locate vertical joints beside piers integral with walls, near corners, and in concealed locations where possible.
- C. Control Joints in Slabs-on-Ground: Form weakened-plane control joints, sectioning concrete into areas as indicated. Construct control joints for a depth equal to at least $\frac{1}{4}$ of concrete thickness as follows:
 1. Grooved Joints: Form control joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch (3.2 mm). Repeat grooving of control joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
 2. Sawed Joints: Form control joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3.2-mm-) wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random cracks.

D. Isolation Joints in Slabs-on-Ground: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated on Drawings.
2. Terminate full-width joint-filler strips not less than 1/2 inch (13 mm) or more than 1 inch (25 mm) below finished concrete surface.
3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.

E. Doweled Joints:

1. Install dowel bars and support assemblies at joints where indicated on Drawings.
2. Lubricate or asphalt coat one-half of dowel bar length to prevent concrete bonding to one side of joint.

F. Dowel Plates: Install dowel plates at joints where indicated on Drawings.

3.4 CONCRETE PLACEMENT

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

1. Immediately prior to concrete placement, inspect vapor retarder for damage and deficient installation, and repair defective areas.
2. Provide continuous inspection of vapor retarder during concrete placement and make necessary repairs to damaged areas as Work progresses.

B. Notify Architect and testing and inspection agencies 24 hours prior to commencement of concrete placement.

C. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect in writing, but not to exceed the amount indicated on the concrete delivery ticket.

1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

D. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301 (ACI 301M), but not to exceed the amount indicated on the concrete delivery ticket.

1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

E. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness.

1. If a section cannot be placed continuously, provide construction joints as indicated.
2. Deposit concrete to avoid segregation.

3. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
 4. Consolidate placed concrete with mechanical vibrating equipment in accordance with ACI 301 (ACI 301M).
 - a. Do not use vibrators to transport concrete inside forms.
 - b. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches (150 mm) into preceding layer.
 - c. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity.
 - d. 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.
 - F. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
 1. Do not place concrete floors and slabs in a checkerboard sequence.
 2. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 3. Maintain reinforcement in position on chairs during concrete placement.
 4. Screed slab surfaces with a straightedge and strike off to correct elevations.
 5. Level concrete, cut high areas, and fill low areas.
 6. Slope surfaces uniformly to drains where required.
 7. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface.
 8. Do not further disturb slab surfaces before starting finishing operations.
- 3.5 FINISHING FORMED SURFACES
- A. As-Cast Surface Finishes:
1. ACI 301 (ACI 301M) Surface Finish SF-1.0: As-cast concrete texture imparted by form-facing material.
 - a. Patch voids larger than 1-1/2 inches (38 mm) wide or 1/2 inch (13 mm) deep.
 - b. Remove projections larger than 1 inch (25 mm).
 - c. Tie holes do not require patching.
 - d. Surface Tolerance: ACI 117 (ACI 117M) Class D.
- B. Related Unformed Surfaces:
1. At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a color and texture matching adjacent formed surfaces.
 2. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.6 FINISHING FLOORS AND SLABS

- A. Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Scratch Finish:
 - 1. While still plastic, texture concrete surface that has been screeded and bull-floated or darbied.
 - 2. Use stiff brushes, brooms, or rakes to produce a profile depth of 1/4 inch (6 mm) in one direction.
- C. Float Finish:
 - 1. When bleedwater sheen has disappeared and concrete surface has stiffened sufficiently to permit operation of specific float apparatus, consolidate concrete surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats.
 - 2. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture and complies with ACI 117 (ACI A117M) tolerances for conventional concrete.
- D. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and locations indicated on Drawings.
 - 1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.
 - 2. Coordinate required final finish with Architect before application.

3.7 INSTALLATION OF MISCELLANEOUS CONCRETE ITEMS

- A. Filling In:
 - 1. Fill in holes and openings left in concrete structures after Work of other trades is in place unless otherwise indicated.
 - 2. Mix, place, and cure concrete, as specified, to blend with in-place construction.
 - 3. Provide other miscellaneous concrete filling indicated or required to complete the Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

3.8 CONCRETE CURING

- A. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
 - 1. Comply with ACI 301 (ACI 301M) and ACI 306.1 for cold weather protection during curing.
 - 2. Comply with ACI 301 (ACI 301M) and ACI 305.1 (ACI 305.1M) for hot-weather protection during curing.

3. Maintain moisture loss no more than 0.2 lb/sq. ft. x h (1 kg/sq. m x h), calculated in accordance with ACI 305.1,) before and during finishing operations.

B. Curing Formed Surfaces: Comply with ACI 308.1 (ACI 308.1M) as follows:

1. Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces.
2. Cure concrete containing color pigments in accordance with color pigment manufacturer's instructions.
3. If forms remain during curing period, moist cure after loosening forms.
4. If removing forms before end of curing period, continue curing for remainder of curing period, as follows:
 - a. Continuous Fogging: Maintain standing water on concrete surface until final setting of concrete.
 - b. Continuous Sprinkling: Maintain concrete surface continuously wet.
 - c. Absorptive Cover: Pre-dampen absorptive material before application; apply additional water to absorptive material to maintain concrete surface continuously wet.
 - d. Water-Retention Sheeting Materials: Cover exposed concrete surfaces with sheeting material, taping, or lapping seams.
 - e. Membrane-Forming Curing Compound: Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's written instructions.
 - 1) Recoat areas subject to heavy rainfall within three hours after initial application.
 - 2) Maintain continuity of coating and repair damage during curing period.

3.9 TOLERANCES

- A. Conform to ACI 117 (ACI 117M).

3.10 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a special inspector to perform field tests and inspections and prepare testing and inspection reports.
- B. Testing Agency: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
 1. Testing agency shall be responsible for providing curing container for composite samples on Site and verifying that field-cured composite samples are cured in accordance with ASTM C31/C31M.
 2. Testing agency shall immediately report to Architect, Contractor, and concrete manufacturer any failure of Work to comply with Contract Documents.
 3. Testing agency shall report results of tests and inspections, in writing, to Owner, Architect, Contractor, and concrete manufacturer within 48 hours of inspections and tests.

- a. Test reports shall include reporting requirements of ASTM C31/C31M, ASTM C39/C39M, and ACI 301, including the following as applicable to each test and inspection:
 - 1) Project name.
 - 2) Name of testing agency.
 - 3) Names and certification numbers of field and laboratory technicians performing inspections and testing.
 - 4) Name of concrete manufacturer.
 - 5) Date and time of inspection, sampling, and field testing.
 - 6) Date and time of concrete placement.
 - 7) Location in Work of concrete represented by samples.
 - 8) Date and time sample was obtained.
 - 9) Truck and batch ticket numbers.
 - 10) Design compressive strength at 28 days.
 - 11) Concrete mixture designation, proportions, and materials.
 - 12) Field test results.
 - 13) Information on storage and curing of samples before testing, including curing method and maximum and minimum temperatures during initial curing period.
 - 14) Type of fracture and compressive break strengths at seven days and 28 days.
- C. Batch Tickets: For each load delivered, submit three copies of batch delivery ticket to testing agency, indicating quantity, mix identification, admixtures, design strength, aggregate size, design air content, design slump at time of batching, and amount of water that can be added at Project site.
- D. Inspections:
 1. Headed bolts and studs.
 2. Verification of use of required design mixture.
 3. Concrete placement, including conveying and depositing.
 4. Curing procedures and maintenance of curing temperature.
 5. Verification of concrete strength before removal of shores and forms from beams and slabs.
 6. Batch Plant Inspections: On a random basis, as determined by Architect.
- E. Concrete Tests: Testing of composite samples of fresh concrete obtained in accordance with ASTM C 172/C 172M shall be performed in accordance with the following requirements:
 1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof.
 - 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.

2. Slump: ASTM C143/C143M:
 - a. 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.
 - b. Perform additional tests when concrete consistency appears to change.
3. Slump Flow: ASTM C1611/C1611M:
 - a. 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.
 - b. Perform additional tests when concrete consistency appears to change.
4. Air Content: ASTM C231/C231M pressure method, for normal-weight concrete.
 - a. One test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
5. Concrete Temperature: ASTM C1064/C1064M:
 - a. One test hourly when air temperature is 40 deg F (4.4 deg C) and below or 80 deg F (27 deg C) and above, and one test for each composite sample.
6. Unit Weight: ASTM C567/C567M fresh unit weight of structural lightweight concrete.
 - a. One test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
7. Compression Test Specimens: ASTM C31/C31M:
 - a. Cast and laboratory cure two sets of three 6-inch (150 mm) by 12-inch (300 mm) or 4-inch (100 mm) by 8-inch (200 mm) cylinder specimens for each composite sample.
 - b. Cast, initial cure, and field cure two sets of three standard cylinder specimens for each composite sample.
8. Compressive-Strength Tests: ASTM C39/C39M.
 - a. Test one set of three laboratory-cured specimens at seven days and one set of two specimens at 28 days.
 - b. Test one set of three field-cured specimens at seven days and one set of two specimens at 28 days.
 - c. 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.
9. 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.
10. 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 (3.4 MPa) if specified compressive strength is 5000 psi (34.5 MPa), or no compressive strength test

value is less than 10 percent of specified compressive strength if specified compressive strength is greater than 5000 psi (34.5 MPa).

11. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.

12. Additional Tests:

- a. 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 Architect.
- b. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42/C42M or by other methods as directed by Architect.

- 1) Acceptance criteria for concrete strength shall be in accordance with ACI 301 (ACI 301M), section 1.6.6.3.

13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

14. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

- F. Measure floor and slab flatness and levelness in accordance with ASTM E1155 (ASTM E1155M) within 48 hours of completion of floor finishing and promptly report test results to Architect.

3.11 PROTECTION

- A. Protect concrete surfaces as follows:

1. Protect from petroleum stains.
2. Diaper hydraulic equipment used over concrete surfaces.
3. Prohibit vehicles from interior concrete slabs.
4. Prohibit use of pipe-cutting machinery over concrete surfaces.
5. Prohibit placement of steel items on concrete surfaces.
6. Prohibit use of acids or acidic detergents over concrete surfaces.
7. Protect liquid floor treatment from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by liquid floor treatments installer.
8. Protect concrete surfaces scheduled to receive surface hardener or polished concrete finish using Floor Slab Protective Covering.

END OF SECTION 033000



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ESR-3332

Reissued 09/2018

This report is subject to renewal 09/2019.

DIVISION: 05 00 00—METALS
SECTION: 05 05 23—METAL FASTENINGS

REPORT HOLDER:

ELCO CONSTRUCTION PRODUCTS

EVALUATION SUBJECT:

DRIL-FLEX® SELF-DRILLING STRUCTURAL FASTENERS



*"2014 Recipient of Prestigious Western States Seismic Policy Council
(WSSPC) Award in Excellence"*



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DIVISION: 05 00 00—METALS

Section: 05 05 23—Metal Fastenings

REPORT HOLDER:

ELCO CONSTRUCTION PRODUCTS

EVALUATION SUBJECT:

DRIL-FLEX® SELF-DRILLING STRUCTURAL FASTENERS

ADDITIONAL LISTEE:

HILTI, INC.

PRODUCT NAME: KWIK-FLEX® SELF DRILLING SCREWS

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2015, 2012, 2009 and 2006 *International Building Code®* (IBC)
- 2015, 2012 and 2009 *International Residential Code®* (IRC)

Property evaluated:

Structural

2.0 USES

Elco Dril-Flex® and Hilti Kwik-Flex® Self-Drilling Structural Fasteners are used in engineered connections of cold-formed steel members. The fasteners may be used under the IRC when an engineered design is submitted for review in accordance with IRC Section R301.1.3.

3.0 DESCRIPTION

3.1 General:

Elco Dril-Flex® and Hilti Kwik-Flex® Self-Drilling Structural Fasteners are proprietary, self-drilling tapping screws that have a dual heat treatment and that are coated with a corrosion-preventive coating identified as Silver Stalgard®. The drill point and lead threads of the screws are heat-treated to a relatively high hardness to facilitate drilling and thread forming. The balance of the fastener is treated to a lower hardness complying with the hardness limits for SAE J429 Grade 5 screws and the hardness limits for ASTM A449-10 Type 1 screws. The threaded portion of the screw with the lower hardness is considered the load-bearing area, used to transfer loads between connected elements. See Figures 10, 11 and 12. Table 1 provides screw descriptions (size, tpi, length), nominal diameters, head styles, head diameters, point styles, drilling capacities and length of load-bearing area.

3.1.1 EDX445 (Type 1): The EDX445 screw is a #10, coarse threaded screw with a phillips pan head. See Figure 1.

3.1.2 EAF430, EAF460, EAF470, EAF480 (Type 2): These screws are #10, coarse threaded screws with an indented hex washer head. See Figure 2.

3.1.3 EAF621, EAF641, EAF681, EAF690, EAF715 (Types 3 and 4): These screws are #12, coarse threaded screws with an indented hex washer head. See Figure 3.

3.1.4 EAF755 (Type 5): The EAF755 screw is a #12, fine threaded screw with an indented hex washer head. See Figure 4.

3.1.5 EAF816, EAF841, EAF846 (Type 6): These screws are 1/4-inch-diameter, coarse threaded screws with an indented hex washer head. See Figure 5.

3.1.6 EAF865, EAF876, EAF886, EAF890 (Type 7): These screws are 1/4-inch-diameter, fine threaded screws with an indented hex washer head. See Figure 6.

3.1.7 EAF888 (Type 8): The EAF888 screw is a 1/4-inch-diameter, fine threaded screw with an indented hex washer head. The lead threads have a design identified by the manufacturer as Round Body Taptite®. See Figure 7.

3.1.8 EAF900, EAF910 (Types 9 and 10): These screws are 1/4-inch-diameter, partially threaded, fine threaded screws with an indented hex washer head.

3.1.9 EAF940 (Type 11): The EAF940 screw is a 5/16-inch-diameter, fine threaded screw with an indented hex washer head. The lead threads have a design identified by the manufacturer as Round Body Taptite®. See Figure 8.

3.1.10 EAF960, EAF970 (Type 12): These screws are 5/16-inch-diameter, fine threaded screws with an indented hex washer head. At the lead end of the screw, the shank of the screw is notched to form a shank slot. See Figure 9.

3.2 Screw Material:

The screws are formed from alloy steel wire complying with the manufacturer's specifications. The screws are heat-treated to a through-hardness of 28 to 34 HRC. The drilling point and lead threads are heat-treated to a minimum of 52 HRC.

3.3 Connected Material:

The connected steel materials must comply with one of the standards listed in Section A2.1.1 of AISI S100-12 (Section A2 of AISI S100-07 for the 2012 and 2009 IBC, AISI-NAS for the 2006 IBC) and must have the minimum thickness, yield strength and tensile strength shown in the tables in this report.

4.0 DESIGN AND INSTALLATION

4.1 Design:

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Elco Dril-Flex® and Hilti Kwik-Flex® Self-Drilling Structural Fasteners are recognized for use in engineered connections of cold-formed steel construction. Design of the connections must comply with Section E4 of AISI S100 (AISI-NAS for the 2006 IBC). Nominal and available fastener tension and shear strengths for the screws are shown in Table 2. Available connection shear, pull-over and pull-out capacities are given in Tables 3, 4 and 5, respectively. For tension connections, the lowest of the available fastener tension strength, pull-over strength and pull-out strength, in accordance with Tables 2, 4 and 5, respectively, must be used for design. For shear connections, the lower of the available fastener shear strength and the shear (bearing) strength, in accordance with Tables 2 and 3, respectively, must be used for design. Design provisions for tapping screw connections subjected to combined shear and torsion loading are outside the scope of the report. The connection shear strength is for connections where the connected steel elements are in direct contact with one another.

For screws used in framing connections, in order for the screws to be considered fully effective, the minimum spacing between the fasteners and the minimum edge distance must be three times the nominal diameter of the screws, except when the edge is parallel to the direction of the applied force, the minimum edge distance must be 1.5 times the nominal screw diameter. When the spacing between screws is 2 times the fastener diameter, the connection shear strength values in Table 3 must be reduced by 20 percent (Refer to Section D1.5 of AISI S200).

For screws used in applications other than framing connections, the minimum spacing between fasteners must be three times the nominal screws diameter and the minimum edge and end distance must be 1.5 times the nominal screw diameter. Additionally, under the 2009 and 2006 IBC, when the distance to the end of the connected part is parallel to the line of the applied force, the allowable connection shear strength determined in accordance with Section E4.3.2 of Appendix A of AISI S100-07 (AISI – NAS for the 2006 IBC) must be considered.

Connected members must be checked for rupture in accordance with Section E6 of AISI S100-12 for the 2015 IBC (Section E5 of AISI S100-07/S2-10 for the 2012 IBC; Section E5 of AISI S100-07 for the 2009 IBC).

When tested for corrosion resistance in accordance with ASTM B117, the screws meet the minimum requirement listed in ASTM F1941, as required by ASTM C1513, with no white corrosion after three hours and no red rust after twelve hours.

4.2 Installation:

Installation of Elco Dril-Flex® and Hilti Kwik-Flex® Self-Drilling Structural Fasteners must be in accordance with the manufacturer's published installation instructions and this report. The manufacturer's published installation instructions must be available at the jobsite at all times during installation.

Screw length and point style must be selected by considering, respectively, the length of load-bearing area and the drilling capacities shown in Table 1. The fasteners must be installed without predrilling holes in the receiving member of the connection. The drilling function of the fastener must be completed prior to the lead threads of the fastener engaging the metal. When the total connection thickness exceeds the maximum drilling capacity shown in Table 1, clearance holes must be provided in the attached material to reduce the thickness to be drilled by the screw. Clearance holes must be $\frac{13}{64}$, $\frac{15}{64}$, $\frac{17}{64}$ and $\frac{21}{64}$ inch

(5.2, 5.9, 6.7 and 8.3 mm) in diameter for #10, #12, $\frac{1}{4}$ -inch-diameter and $\frac{5}{16}$ -inch-diameter (4.7, 5.3, 6.4 and 7.9 mm) fasteners, respectively. The screw must be installed perpendicular to the work surface using a 1,200 to 2,500 rpm screw gun incorporating a depth-sensitive or torque-limiting nose piece. The screw must penetrate through the supporting metal with a minimum of three threads protruding past the back side of the supporting metal.

5.0 CONDITIONS OF USE

The Elco Dril-Flex® and Hilti Kwik-Flex® Self-Drilling Structural Fasteners described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The fasteners must be installed in accordance with the manufacturer's published installation instructions and this report. If there is a conflict between the manufacturer's published installation instructions and this report, the more severe requirements govern.
- 5.2 The allowable connection capacities specified in Section 4.1 are not to be increased when the fasteners are used to resist short-duration loads, such as wind or seismic forces.
- 5.3 The utilization of the nominal connection capacities contained in this evaluation report, for the design of cold-formed steel diaphragms, is outside the scope of this report.
- 5.4 Drawings and calculations verifying compliance with this report and the applicable code must be submitted to the code official for approval. The drawings and calculations are to be prepared by a registered design professional when required by the statutes of the jurisdiction in which the project is to be constructed.
- 5.5 The fasteners are manufactured under a quality-control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Tapping Screw Fasteners (AC118), dated February 2016.

7.0 IDENTIFICATION

7.1 The Elco Dril-Flex® and Hilti Kwik-Flex® self-drilling tapping screws are marked with a "C" on the top surface of the screw heads, as shown in Figures 1 through 9. Packages of self-drilling tapping screws are labeled with the report holder or listee name (Elco Construction Products or Hilti, Inc.) and address, product brand name (Dril-Flex® or Kwik-Flex®), product number or item number, size and length, point style and the evaluation report number (ESR-3332).

7.2 The report holder's contact information is the following:

ELCO CONSTRUCTION PRODUCTS
1302 KERR DRIVE
DECORAH, IOWA 52101
(800) 435-7213
www.elcoconstruction.com
infoElco@sbdinc.com

7.3 The Additional Listee's contact information is the following:

HILTI, INC.
7250 DALLAS PARKWAY, SUITE 1000
PLANO, TEXAS 75024
(800) 879-8000
www.us.hilti.com

TABLE 1—ELCO DRIL-FLEX SELF-DRILLING STRUCTURAL FASTENERS

SCREW TYPE	ELCO PRODUCT NUMBER	HILTI ITEM NUMBER	DESCRIPTION (nom. size-tpi x length)	NOMINAL DIAMETER (in.)	HEAD STYLE ¹	HEAD DIAMETER (in.)	POINT STYLE	DRILLING CAPACITY (in.)		LENGTH OF LOAD BEARING AREA ² (in.)
								Min.	Max.	
1	EDX445	03409732	#10-16x ³ / ₄	0.190	PPH	0.365	2	0.11	0.110	0.38
2	EA430	00408123	#10-16x ³ / ₄	0.190	IHWH	0.399	3	0.11	0.150	0.38
	EA460	03489672	#10-16x1 ¹ / ₂	0.190	IHWH	0.399	3	0.11	0.150	1.00
	EA470	03458234	#10-16x2	0.190	IHWH	0.415	3	0.11	0.150	1.50
	EA480	03492651	#10-16x2 ¹ / ₂	0.190	IHWH	0.399	3	0.11	0.150	1.83
3	EA621	00087572	#12-14x ¹ / ₈	0.216	IHWH	0.415	3	0.11	0.187	0.38
	EA641	00087646	#12-14x1	0.216	IHWH	0.415	3	0.11	0.187	0.50
	EA681	00087647	#12-14x1 ¹ / ₂	0.216	IHWH	0.415	3	0.11	0.187	1.00
	EA690	00008595	#12-14x2	0.216	IHWH	0.415	3	0.11	0.187	1.50
4	EA715	03011177	#12-14x3	0.216	IHWH	0.500	2	0.11	0.110	2.35
5	EA755	03458235	#12-24x1 ³ / ₄	0.216	IHWH	0.415	5	0.11	0.500	0.80
6	EA816	00087648	¹ / ₄ -14x1	0.250	IHWH	0.500	3	0.11	0.210	0.45
	EA841	00087649	¹ / ₄ -14x1 ¹ / ₂	0.250	IHWH	0.500	3	0.11	0.210	0.95
	EA846	00008598	¹ / ₄ -14x2	0.250	IHWH	0.500	3	0.11	0.210	1.45
7	EA865	03011203	¹ / ₄ -20x1 ¹ / ₈	0.250	IHWH	0.500	4	0.11	0.312	0.50
	EA876	00000451	¹ / ₄ -20x1 ¹ / ₂	0.250	IHWH	0.500	4	0.11	0.312	0.83
	EA886	00000452	¹ / ₄ -20x2	0.250	IHWH	0.500	4	0.11	0.312	1.33
	EA890	00010436	¹ / ₄ -20x2 ¹ / ₂	0.250	IHWH	0.500	4	0.11	0.312	1.83
8	EA888	03458236	¹ / ₄ -20x1 ³ / ₄	0.250	IHWH	0.500	5	0.11	0.500	0.80
9	EA900	03414194	¹ / ₄ -20x3 ³ / ₈	0.250	IHWH	0.500	3	0.11	0.210	2.70
10	EA910	03463594	¹ / ₄ -20x4	0.250	IHWH	0.500	4	0.11	0.312	3.50
11	EA940	03011230	⁵ / ₁₆ -18x1 ¹ / ₂	0.313	IHWH	0.600	3	0.11	0.312	0.80
12	EA960	03006009	⁵ / ₁₆ -24x1 ¹ / ₂	0.313	IHWH	0.600	4	0.11	0.312	0.80
	EA970	03432628	⁵ / ₁₆ -24x2	0.313	IHWH	0.600	4	0.11	0.312	1.25

For SI: 1 inch = 25.4 mm.

¹Head styles: IHWH = Indented Hex Washer Head; PPH = Phillips Pan Head.²The Length of Load Bearing Area is based on the length of the threaded portion of the screw that is heat treated to HRC 28-34, and represents the limit of the total thickness of the connected elements. See Sections 3.1 and 4.2 and Figures 10 through 12 for further clarification.TABLE 2—FASTENER SHEAR AND TENSION STRENGTH, pounds-force^{1,2,3}

SCREW TYPE	SCREW SIZE	NOMINAL STRENGTH (TESTED)		ALLOWABLE STRENGTH (ASD) Ω=3		DESIGN STRENGTH (LRFD) Φ=0.5	
		Shear, P _{ss}	Tension, P _{ts}	Shear, P _{ss} /Ω	Tension, P _{ts} /Ω	Shear, ΦP _{ss}	Tension, ΦP _{ts}
1	#10-16	1526	2273	509	758	763	1136
2	#10-16	1463	2276	488	759	732	1138
3, 4	#12-14	1992	3216	664	1072	996	1608
5	#12-24	2503	4177	834	1392	1252	2088
6	¹ / ₄ -14	2692	4363	897	1454	1346	2182
7, 9, 10	¹ / ₄ -20	2659	4729	886	1576	1330	2364
8	¹ / ₄ -20	2617	4619	872	1540	1308	2309
11	⁵ / ₁₆ -18	4568	8070	1523	2690	2284	4035
12	⁵ / ₁₆ -24	5471	8757	1824	2919	2736	4379

For SI: 1 inch = 25.4 mm, 1 lbf = 4.4 N.

¹For tension connections, the lower of the available fastener tension strength, pullover strength, and pull-out strength found in Tables 2, 4 and 5, respectively, must be used for design.²For shear connections, the lower of the available fastener shear strength and the allowable shear (bearing) capacity found in Tables 2 and 3, respectively, must be used for design.³Nominal strengths are based on laboratory tests.

TABLE 3—SHEAR (BEARING) CAPACITY OF SCREW CONNECTIONS, pounds-force^{1,2,3,4,5}

SCREW TYPE	SCREW DESIGNATION	NOMINAL DIAMETER (in.)	DESIGN THICKNESS (in.) ⁶						
			0.048-0.048	0.048-0.075	0.060-0.060	0.075-0.075	¹ / ₈ "- ³ / ₁₆ "	³ / ₁₆ "- ¹ / ₄ "	¹ / ₄ "-0.105"
ALLOWABLE STRENGTH (ASD)									
1	#10-16	0.190	289	289	404	-	-	-	-
2	#10-16	0.190	369	395	453	-	-	-	-
3, 4	#12-14	0.216	356	573	513	497	-	-	-
6	¹ / ₄ -14	0.250	377	626	520	661	638	-	-
7, 8	¹ / ₄ -20	0.250	386 ^{7,8}	526 ^{7,8}	533 ⁸	670 ⁸	595 ⁹	624 ⁹	554 ⁹
11	⁵ / ₁₆ -18	0.313	408	622	561	891	-	-	-
12	⁵ / ₁₆ -24	0.313	-	-	-	-	1347	984	887
DESIGN STRENGTH (LRFD)									
1	#10-16	0.190	433	433	605	-	-	-	-
2	#10-16	0.190	590	631	724	-	-	-	-
3, 4	#12-14	0.216	569	917	820	795	-	-	-
6	¹ / ₄ -14	0.250	603	1001	833	1058	1021		
7, 8	¹ / ₄ -20	0.250	617 ^{7,8}	842 ^{7,8}	852 ⁸	1072 ⁸	952 ⁹	999 ⁹	886 ⁹
11	⁵ / ₁₆ -18	0.313	653	996	897	1425	-	-	-
12	⁵ / ₁₆ -24	0.313	-	-	-	-	2155	1575	1419

For SI: 1 inch = 25.4 mm, 1 lbf = 4.4 N, 1 ksi = 6.89 Mpa.

¹Available strengths are based on laboratory tests, with safety factors/resistance factors calculated in accordance with AISI S100.

²For shear connections, the lower of the available fastener shear strength and the available shear (bearing) capacity must be used for design.

³Values are based on steel members with a minimum yield strength of $F_y = 33$ ksi and a minimum tensile strength of $F_u = 45$ ksi.

⁴Available capacity for other member thickness may be determined by interpolating within the table.

⁵Unless otherwise noted, when both steel sheets have a minimum specified tensile strength $F_u \geq 58$ ksi, multiply tabulated values by 1.29 and when both steel sheets have a minimum tensile strength $F_u \geq 65$ ksi steel, multiply tabulated values by 1.44.

⁶The first number is the thickness of the steel sheet in contact with the screw head (top sheet). The second number is the thickness of the steel sheet not in contact with the screw head (bottom sheet).

⁷When both steel sheets have a minimum specified tensile strength of $F_u \geq 55$ ksi (e.g. ASTM A653 SS Grade 40), multiply tabulated values by 1.22.

⁸When both steel sheets have a minimum specified tensile strength of $F_u \geq 52$ ksi (e.g. ASTM A653 SS Grade 37), multiply tabulated values by 1.15.

⁹When both steel sheets have a minimum specified tensile strength of $F_u \geq 58$ ksi (e.g. ASTM A36), multiply tabulated values by 1.29.

TABLE 4—TENSILE PULL-OVER CAPACITY OF SCREW CONNECTIONS, pounds-force^{1,3,4,5,6}

SCREW TYPE	SCREW DESIGNATION	NOMINAL DIAMETER (in.)	MINIMUM EFFECTIVE PULL-OVER DIAMETER (in.)	DESIGN THICKNESS OF MEMBER IN CONTACT WITH SCREW HEAD (in.)							
				0.048	0.060	0.075	0.105	¹ / ₈ "	³ / ₁₆ "	¹ / ₄ "	⁵ / ₁₆ "
ALLOWABLE STRENGTH (ASD)											
1	#10-16	0.190	0.357	386	481 ²	481 ²	481 ²	481 ²	-	-	-
2	#10-16	0.190	0.384	415	481 ²	481 ²	481 ²	481 ²	-	-	-
3, 4	#12-14	0.216	0.398	430	537	672	734 ²	734 ²	734 ²	-	-
5	#12-24	0.216	0.398	430	537	672	734 ²	734 ²	734 ²	734 ²	734 ²
6	¹ / ₄ -14	0.250	0.480	518	648	810	1126 ²	1126 ²	1126 ²	-	-
7, 8	¹ / ₄ -20	0.250	0.480	-	648	810	1126 ²	1126 ²	1126 ²	1126 ²	1126 ²
11	⁵ / ₁₆ -18	0.313	n/a ²	-	-	-	1169 ²	1169 ²	-	-	-
12	⁵ / ₁₆ -24	0.313	n/a ²	-	-	-	1326 ²	1326 ²	1326 ²	1326 ²	1326 ²
DESIGN STRENGTH (LRFD)											
1	#10-16	0.190	0.357	578	723	781 ²	781 ²	781 ²	-	-	-
2	#10-16	0.190	0.384	622	778	781 ²	781 ²	781 ²	-	-	-
3, 4	#12-14	0.216	0.398	645	806	1007	1192 ²	1192 ²	1192 ²	-	-
5	#12-24	0.216	0.398	645	806	1007	1192 ²	1192 ²	1192 ²	1192 ²	1192 ²
6	¹ / ₄ -14	0.250	0.480	778	972	1215	1701	1830 ²	1830 ²	-	-
7, 8	¹ / ₄ -20	0.250	0.480	-	972	1215	1701	1830 ²	1830 ²	1830 ²	1830 ²
11	⁵ / ₁₆ -18	0.313	n/a ²	-	-	-	1871 ²	1871 ²	-	-	-
12	⁵ / ₁₆ -24	0.313	n/a ²	-	-	-	2121 ²	2121 ²	2121 ²	2121 ²	2121 ²

For SI: 1 inch = 25.4 mm, 1 lbf = 4.4 N, 1 ksi = 6.89 Mpa.

¹Available strengths are based on calculations in accordance with AISI S100, unless otherwise noted.

²Available strengths are based on laboratory tests, with safety factors/resistance factors calculated in accordance with AISI S100, or on the shear strength of the integral washer. Increasing values for higher steel tensile strength per Note 6 is not allowed.

³For tension connections, the lowest of the available pull-out, pull-over, and fastener tension strength must be used for design.

⁴Values are based on steel members with a minimum yield strength of $F_y = 33$ ksi and a minimum tensile strength of $F_u = 45$ ksi.

⁵Available capacity for other member thickness may be determined by interpolating within the table.

⁶For steel with a minimum tensile strength $F_u \geq 58$ ksi, multiply tabulated values by 1.29 and for steel with a minimum tensile strength $F_u \geq 65$ ksi steel, multiply tabulated values by 1.44.

TABLE 5—TENSILE PULL-OUT CAPACITY OF SCREW CONNECTIONS, pounds-force^{1,2,3,4,5}

SCREW TYPE	SCREW DESIGNATION	NOMINAL DIAMETER (in.)	DESIGN THICKNESS OF MEMBER NOT IN CONTACT WITH SCREW HEAD (in.)							
			0.048	0.060	0.075	0.105	¹ / ₈ "	³ / ₁₆ "	¹ / ₄ "	⁵ / ₁₆ "
ALLOWABLE STRENGTH (ASD)										
1	#10-16	0.190	136	193	236	307	297	-	-	-
2	#10-16	0.190	136	193	236	307	297	-	-	-
3, 4	#12-14	0.216	132	205	264	328	510	665	-	-
6	¹ / ₄ -14	0.250	131	207	255	342	561	899	-	-
7, 8, 9, 10	¹ / ₄ -20	0.250	-	204 ⁶	260 ⁶	423 ⁶	524 ⁷	914 ⁷	1044	1206
11	⁵ / ₁₆ -18	0.313	-	-	-	520	707	-	-	-
12	⁵ / ₁₆ -24	0.313	-	-	-	459	637	724	1189	1424
DESIGN STRENGTH (LRFD)										
1	#10-16	0.190	217	309	378	492	476	-	-	-
2	#10-16	0.190	217	309	378	492	476	-	-	-
3, 4	#12-14	0.216	211	328	423	525	816	1064	-	-
6	¹ / ₄ -14	0.250	210	331	409	548	897	1439	-	-
7, 8, 9, 10	¹ / ₄ -20	0.250	-	326 ⁶	416 ⁶	677 ⁶	838 ⁷	1462 ⁷	1670	1930
11	⁵ / ₁₆ -18	0.313	-	-	-	832	1131	-	-	-
12	⁵ / ₁₆ -24	0.313	-	-	-	735	1019	1159	1903	2279

For SI: 1 inch = 25.4 mm, 1 lbf = 4.4 N, 1 ksi = 6.89 Mpa.

¹Available strengths are based on laboratory tests, with safety factors/resistance factors calculated in accordance with AISI S100.

²For tension connections, the lowest of the available pull-out, pull-over, and fastener tension strength must be used for design.

³Values are based on steel members with a minimum yield strength of $F_y = 33$ ksi and a minimum tensile strength of $F_u = 45$ ksi.

⁴Available capacity for other member thickness may be determined by interpolating within the table.

⁵Unless otherwise noted, for steel with a minimum tensile strength $F_u \geq 58$ ksi, multiply tabulated values by 1.29 and for steel with a minimum tensile strength $F_u \geq 65$ ksi steel, multiply tabulated values by 1.44.

⁶When both steel sheets have a minimum specified tensile strength of $F_u \geq 52$ ksi (e.g. ASTM A653 SS Grade 37), multiply tabulated values by 1.15.

⁷When both steel sheets have a minimum specified tensile strength of $F_u \geq 58$ ksi (e.g. ASTM A36), multiply tabulated values by 1.29.

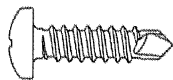


FIGURE 1—#10-16 PHILLIPS PAN HEAD (TYPE 1 SCREW)



FIGURE 2—#10-16 INDENTED HEX WASHER HEAD (TYPE 2 SCREW)



FIGURE 3—#12-14 INDENTED HEX WASHER HEAD (TYPE 3 AND 4 SCREW)

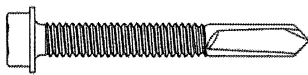


FIGURE 4—#12-24 INDENTED HEX WASHER HEAD (TYPE 5 SCREW)

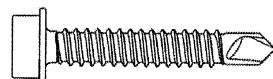
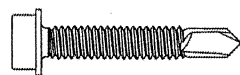
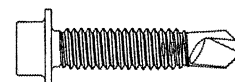
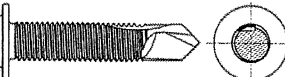
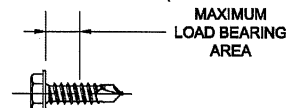
FIGURE 5— $\frac{1}{4}$ -14 INDENTED HEX WASHER HEAD (TYPE 6 SCREW)FIGURE 6— $\frac{1}{4}$ -20 INDENTED HEX WASHER HEAD TYPE 7 SCREWFIGURE 7— $\frac{1}{4}$ -20 INDENTED HEX WASHER HEAD ROUND BODY TAPTITE (TYPE 8 SCREW)FIGURE 8— $\frac{5}{16}$ -18 INDENTED HEX WASHER HEAD ROUND BODY TAPTITE (TYPE 11 SCREW)FIGURE 9— $\frac{5}{16}$ -24 INDENTED HEX WASHER HEAD WITH SHANK SLOT (TYPE 12 SCREW)

FIGURE 10—PHILLIPS PAN HEAD AND INDENTED HEX WASHER HEAD LOAD BEARING AREA

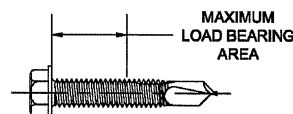


FIGURE 11—INDENTED HEX WASHER HEAD WITH SHANK SLOT LOAD BEARING AREA

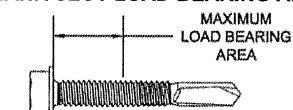


FIGURE 12—INDENTED HEX WASHER HEAD ROUND BODY TAPTITE LOAD BEARING AREA

ICC-ES Evaluation Report

ESR-3332 FBC Supplement

Reissued September 2018

This report is subject to renewal September 2019.

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A Subsidiary of the International Code Council®

DIVISION: 05 00 00—METALS

Section: 05 05 23—Metal Fastenings

REPORT HOLDER:

ELCO CONSTRUCTION PRODUCTS

EVALUATION SUBJECT:

DRIL-FLEX® SELF-DRILLING STRUCTURAL FASTENERS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the fasteners, recognized in ICC-ES master evaluation report ESR-3332, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2014 *Florida Building Code—Building* (FBC-B)
- 2014 *Florida Building Code—Residential* (FBC-R)

2.0 CONCLUSIONS

The fasteners, described in Sections 2.0 through 7.0 of the master evaluation report, ESR-3332, comply with the *Florida Building Code—Building* and the *Florida Building Code—Residential* when designed and installed in accordance with the *International Building Code* (IBC) provisions noted in the master evaluation report, and the following conditions apply:

- Design wind loads must be based on Section 1609 of the *Florida Building Code—Building* or Section 301.2.1.1 of the *Florida Building Code—Residential*, as applicable.
- Load combinations must be in accordance with Section 1605.2 or Section 1605.3 of the *Florida Building Code—Building*, as applicable.

Use of the fasteners have also been found to be in compliance with the High-Velocity Hurricane Zone provisions on the *Florida Building Code—Building* and the *Florida Building Code—Residential* under the condition that the design wind loads must be based on Section 1620 of the *Florida Building Code—Building*, as applicable.

For products falling under Florida Rule 9N-3, verification that the report holder's quality-assurance program is audited by a quality-assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official, when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the master report, reissued September 2018.

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Structural Steel for Bridges.
- B. Structural Steel for Buildings and Other Structures.
- C. Structural Tubing.
- D. Pipe.
- E. Steel Pins.
- F. Anchors and Fasteners.
- G. Stud Shear Connectors.
- H. Forgings.
- I. Castings.

1.02 REFERENCES

- A. American National Standards Institute (ANSI)/American Institute of Steel Construction (AISC):
 - 1. AISC Steel Construction Manual
 - 2. ANSI/AISC 303 Code of Standard Practice for Steel Buildings and Bridges
 - 3. AISC RCSC Specifications for Structural Joints Using High-Strength Bolts
 - 4. ANSI/AISC 341 Seismic Provisions for Structural Steel Buildings
 - 5. ANSI/AISC 360 Specifications for Structural Steel Buildings
 - 6. AISC 348 Specification for Structural Joints Using High-Strength Bolts
- B. American Society for Testing and Materials (ASTM):
 - 1. ASTM A6/A6M Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling
 - 2. ASTM A36/A36M Standard Specification for Carbon Structural Steel
 - 3. ASTM A153/A153M Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
 - 4. ASTM A325 Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength
 - 5. ASTM A500/A500M Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
 - 6. ASTM A563 Standard Specification for Carbon and Alloy Steel Nuts
 - 7. ASTM A572/A572M Specification for High-Strength Low-Alloy Columbium Vanadium Structural Steel
 - 8. ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process
 - 9. ASTM A992 Standard Specification for Structural Steel Shapes
 - 10. ASTM F436 Standard Specification for Hardened Steel Washers
 - 11. ASTM F1554 Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength
- D. American Welding Society (AWS):
 - 1. AWS A2.4 Standard Symbols for Welding, Brazing and Nondestructive Examination

SECTION 05 12 00: STRUCTURAL STEEL FRAMING SPECIFICATION

City of Seaside Solar Photovoltaic Project

2. AWS D1.1/D1.1M Structural Welding Code - Steel

1.03 REGULATORY REQUIREMENTS:

- A. The regulatory requirements which govern the work of this Section include the following governing code: California Code of Regulations (CCR), Title 24, Part 2, California Building Code, Chapter 22, "Steel", and Chapter 22A, "Steel".

1.04 SUBMITTALS

A. Shop Drawings:

1. Submit detailed Shop Drawings of structural steel work prior to fabrication, showing sizes, details of fabrication and construction, methods of assembly, locations of hardware, anchors, and accessories, and erection sequence and details. Include procedures for heavy lifts and rigging.
2. Shop Drawings shall include member identity, welding technique, cuts, copes, gussets, connections, holes, fasteners, camber, fabrication and erection tolerances, type and extent of finishes, paint system, weights of members, and critical clearances.
3. Welds, both shop and field, shall be indicated by standard welding symbols of AWS A2.4. Drawings shall show the size, length, and type of each weld.
 - a. Indicate individual welders' identification (I.D.) on project record drawings.
4. The Contractor shall be responsible for errors of fabrication and for correct fitting of structural members.

- C. Detailing Requirements: Requirements for the detailing of structural steel work are specified herein under Part 2 - Products because of the close relationship of detailing with fabrication requirements.

- D. Product Data: Submit manufacturer's product data of load-indicator washers (Compressible-Washer-type direct tension indicators) when proposed for use.

E. Mill Test Reports:

1. Submit certified mill test reports of structural steel materials, covering chemical analysis and physical properties of each heat of steel from which the material for structural steel will be furnished, in conformance with the hereinafter specified ASTM Specifications.
2. Steel materials which are not properly certified as conforming with specified ASTM Specifications will be rejected.

1.05 QUALITY ASSURANCE

- A. Fabricator's Shop or Facility: Fabrication of structural steel shall be performed by an approved fabricator at an approved facility.
- B. Indicated Dimensions: Unless otherwise indicated, dimensions at expansion joints and similar construction were determined for a temperature of 50 degrees Fahrenheit. Make proper adjustments for temperature when the structure is to be fabricated and

installed at any other temperature.

C. Calibration of Torque Wrenches:

1. The calibrating device for setting calibrated torque wrenches shall be checked for accuracy by the Contractor's qualified personnel not more than 30 days prior to its first use on the work, and at intervals not more than six months thereafter.
2. Calibrate torque wrenches as specified in AISC 348.

D. Qualifications of Welders and Welding Procedures: Welders, welding operators, tack welders, and welding procedures shall be prequalified or qualified in accordance with appropriate AWS Welding Codes and Standards.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Avoid bending, scraping, and overstressing the steelwork. Block with wood, or otherwise protect, projecting parts which may be bent or damaged.
- B. Mark weight and piece (mark) number, corresponding to shop erection sequence drawing, on all members. Match-mark all shop pre-fitted members.
- C. Ship small parts, such as bolts, nuts, washers, pins, fillers, clips, and small connecting plates and anchors, in boxes, crates, or barrels. Pack separately each length and diameter of bolt and each size of nut and washer. Plainly mark an itemized list and description of the contents on the outside of each container.
- D. Load, transport, unload, and store structural steel materials in such a manner that the metal is kept clean and free from injury. Store materials above ground on platforms, skids, or other supports, and cover and protect from corrosion.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General: Manufactured steel clips and angles will be accepted where such will meet the requirements of the Contract Drawings and are shown on the Shop Drawings.
- B. Structural Steel for Buildings and Other Structures:
 1. Structural Steel: ASTM A572/A572M, Grade 50, or ASTM A36/A36M
 2. High-Strength Steel: A572/A572M, grade or type as indicated.
 3. Impact Tests: For rolled shapes of ASTM A6/A6M Groups 4 and 5, shapes built up by welding plates 2 inches thick or thicker, and supplied weld filler metals subject to tensile stresses, shall be furnished with Charpy V-notch testing in accordance with ASTM A6/A6M, Supplementary Requirements, S5. Charpy impact testing shall be in accordance with ASTM A370 and A673/A673M and as specified herein.
- C. Structural Tubing:
 1. Cold-Formed Carbon Steel: ASTM A500/A500M, Grade B or as indicated.
- D. Anchors and Fasteners:

SECTION 05 12 00: STRUCTURAL STEEL FRAMING SPECIFICATION

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1. Anchors, Bolts, Nuts, and Washers: Bolts and studs, nuts, and washers shall conform with ASTM A325, ASTM A449, A563, F436/F436M, and F1554 as applicable. Bolts and studs, nuts, and washers shall be hot-dip galvanized in accordance with ASTM A153/A153M, except bolts, nuts, and washers for structural steel shall be machined items without protective coatings.
 2. High-Strength Bolted Connections: Slip-critical type, high-strength bolts. All other threaded fasteners: Furnished with locking hardware.
 3. Heavy-Duty Hardened Hex Nuts and Washers:
 - a. Nuts:
 - 1) For Type 1 Bolts: ASTM A563, Grade DH.
 - 2) For Type 3 Bolts: ASTM A563, Grade DH3.
 - b. Washers: ASTM F436/F436M
 4. Lubricant for Bolts: Molybdenum disulfide base.
- E. Grout: Provide high-strength, non-shrink grout for base plates in accordance with the design drawings. Grout should have a compressive strength of 5,000 psi at 28 days.

2.02 DETAILING REQUIREMENTS

A. Detailing Standards:

1. Except as specified otherwise herein or as indicated otherwise on the Contract Drawings, detailing and tolerances shall conform with applicable requirements of AISC Steel Construction Manual, ANSI/AISC 360 and ANSI/AISC 303.
2. Special seismic detailing provisions shall conform with ANSI/AISC 341.

B. Required Provisions:

1. All working points indicated on the Contract Drawings shall be adhered to in the detailing of the work.
2. Substitutions of sections shall be made only as approved by the Engineer.
3. Provide holes required for securing other work to structural steel framing, and for passage of other work through steel framing members.
4. Detail and fabricate work with suitable drain and vent holes as required to provide positive drainage and to prevent the trapping of moisture and stagnant air.

C. Connections:

1. Connections shall be as indicated and as specified herein.
2. Furnish all bolts and bolt placement lists for field and shop connections, including all temporary carbon steel erection bolts and clips required for field erection.
3. Except as otherwise indicated, all connections shall be shop welded and field bolted. Field welded connections will be permitted only where indicated on the Contract Drawings or where specifically approved by the Engineer in writing.
4. Framed beam connections which are not detailed or otherwise indicated shall be shop welded and field bolted in accordance with AISC Steel Construction Manual,

SECTION 05 12 00: STRUCTURAL STEEL FRAMING SPECIFICATION

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ANSI/AISC 341 and ANSI/AISC 360.

5. Detail field splice connections to develop the full strength of the section in which the splice is made.
6. All joints made with high strength bolts shall be considered to be bearing-type connections with threads included in the plane of shear, except moment-resisting joints and connection joints where slip-critical type high-strength bolts are required.

2.03 FABRICATION

- A. Structural steelwork shall conform with the applicable requirements of the California Building Code, ANSI/AISC 341, and ANSI/AISC 360.
- B. Steel members and metal fabrications shall be prefabricated and preassembled in the factory or shop as far as practicable.
- C. Form and fabricate the work to meet installation conditions. Include accessories to adequately secure the work in place.
- D. Cutting, drilling, punching, and welding shall be neatly performed with burrs and rough edges removed. Remove all weld flux.
- E. Straighten rolled material, if necessary, before it is laid out for fabrication, in a manner conforming to the mill tolerances specified in ASTM A6/A6M, and by a process and in a manner which will not injure the material. Sharp kinks and bends will be cause for rejection of the material. Heat shrinking of low-alloy structural steel will not be permitted.
- F. Perform shearing, flame cutting, and chipping carefully and accurately so as not to induce residual stress in the metal being cut. The radii of re-entrant gas-cut fillets shall be not less than 3/4 inch and as much larger as practicable. Perform flame cutting in such manner that metal being cut is not carrying stress. Cut edges exposed in the finished work shall be machine cut, sheared, or flame cut, and ground flush. All working points shall be maintained.
- G. Fabricate bearing stiffeners and stiffeners intended as supports for concentrated loads as indicated. Mill or grind bearing surfaces of these stiffeners.
- H. Bend load-carrying cold-rolled steel plates cold at right angles to the direction of rolling. The radius of bend, measured to the concave face of the metal, shall be not less than indicated in the following table, in which T is the thickness of the plate.

Angle Through Which Plate is Bent	Minimum Radius
61 to 120 degrees	1.0 T
121 to 150 degrees	2.0 T

1. If a shorter radius is indicated, bend the plate hot. Before bending, round plate edges, where bending occurs, to a radius of 1/16 inch.
- I. Connections shall be bolted or welded as indicated.

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- J. Holes shall be drilled or punched at right angles to the surface of the metal and shall not be made or enlarged by burning. Holes in base or bearing plates shall be drilled. Holes shall be provided in members to permit connecting the work of other trades. Holes shall be punched or drilled at 1/16 inch larger than the diameter of the bolt.
- K. For high-strength bolting, assemble joints and install bolts in accordance with AISC 348. Hardened-face washers shall be used for all connections using ASTM F1554 bolts. High-strength bolting will be inspected by a qualified inspector employed by the Contractor's testing laboratory.
- L. For items bearing on concrete, provide steel bearing plates and anchors as indicated. Base or bearing plates shall be leveled by means of adjustment nuts. Templates shall be furnished, together with instructions for setting of anchors, anchor bolts, and bearing plates. Contractor shall assure that anchors and related items are properly set in concrete during the progress of the work.
- M. Fabricate metal bearing surfaces which will come in contact with preformed elastomeric bearing pads or grout, flat to within 1/8-inch tolerance in 12 inches and to within 3/16 inch overall.
- N. Include reinforcing angles, clip angles, plates, punched straps, brackets, and hangers as required to complete the work as indicated.
- O. Provide drainage holes in structural components where water may accumulate without escape.
- P. Fabricate architecturally exposed structural steel members straight within one-half of the standard camber and sweep tolerances permitted by ASTM A6/A6M.

PART 3 - EXECUTION

3.01 ERECTION AND INSTALLATION

- A. Reference Standards: Erection and installation of structural steel shall conform with the applicable requirements of AISC 303 and ANSI/AISC 360.
- B. Lines and Levels: Structural steel shall be installed accurately at established lines and levels. Steel shall be plumb and level before bolting is commenced. Installation shall be in accordance with accepted Shop Drawings and actual conditions, true and horizontal or perpendicular as the case may be, level and square, with angles and edges parallel with related lines of the building or structure.
- C. Temporary Bracing: Temporary bracing shall be provided as required and shall be kept in position until final completion. Shop fabricated items subject to damage shall be braced and carefully handled to prevent distortions or other damage. All items installed before concrete is placed shall be properly braced to prevent distortion by pressure of concrete. Bracing shall be watched and maintained by the Contractor during concreting operations.
- D. Anchors, Anchor Bolts, Studs, and Fasteners:

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1. Shop connections shall be welded and field connections bolted, unless indicated otherwise. Use washers under bolt heads and nuts to give full grip when nuts are turned tight. Use beveled washers where bolts bear on sloping surfaces.
 2. Anchors, bolts and washers, inserts, studs, and fasteners as required for the erection, installation, and completion of the work, and other miscellaneous steel or iron fastenings to be installed in forms before concrete placement, or built into concrete, shall be provided as indicated at the time scheduled for this work.
 3. Bolts and anchors shall be preset by the use of templates or such other methods as may be required to locate the anchors and anchor bolts accurately.
- E. Bases and Bearing Plates: Bases and plates which require grouting shall be supported at the correct level by means of adjustment nuts on anchor bolts. Bases and plates shall be set accurately using a high-strength, non-shrink grouting mortar as specified in the design drawings.
- F. Erection and Assembly:
1. After erection and field assembly, the various members forming parts of the completed structure shall be aligned and adjusted accurately before being fastened. Tolerances shall conform with the applicable requirements of AISC 303.
 2. Fastening of splices of compression members shall be performed after the abutting surfaces have been brought into contact. Bearing surfaces and surfaces which will be in permanent contact shall be cleaned before the members are assembled. Splices will be permitted only where indicated.
 3. Unless removal is required, erection bolts used in welded construction may be tightened securely and left in place. If erection bolts are removed, the holes shall be filled with plug welds and ground smooth. Poor matching of holes shall be corrected by drilling to the next larger size and providing the next larger size bolt. Welding for redrilling will not be permitted.
 4. For moment-resisting joints with flanges or combined flange-reinforcing plates $\frac{1}{2}$ inches thick or thicker, web bolts shall not be tightened past snug-tight until after completion of joint penetration welds.
- G. Driftpins: Driftpins may be used only to bring together the several parts or components. Fit-up bolts and driftpins shall not be used to bring out-of-tolerance fabricated members and components into alignment. Driftpins shall not be used with such force as to distort or damage the material.
- H. Gas Cutting: The use of a gas-cutting torch in the field for correcting fabrication errors will not be permitted.
- I. Bolting:
1. Bolts shall be driven accurately into holes without damaging the thread. Bolt heads shall be protected from damage during driving. Washers shall be placed under all bolt heads and nuts. Bolt heads and nuts shall rest squarely against the washers.
 2. Where bolts are to be used on beveled surfaces having slopes greater than 1 in 20 with a plane normal to the bolt axis, beveled washers shall be provided to

SECTION 05 12 00: STRUCTURAL STEEL FRAMING SPECIFICATION

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give full bearing to the head or nut. Bolt threads shall be upset or spoiled to prevent the nuts from backing off.

3. Bolts transmitting shear shall be threaded to such a length that not more than one thread will be within the grip of the metal.
4. Bolts shall extend through but not more than 1/4-inch beyond the nuts, unless otherwise indicated. Bolt heads and nuts shall be drawn tight against the work with a suitable wrench not less than 15 inches long. Bolt heads shall be tapped with a hammer while the nut is being tightened. After having been finally tightened, nuts shall be locked by upsetting or spoiling the threads as close as possible to the nut face and to a depth of penetration necessary to deform one or more threads on the bolt.

J. High-Strength Bolting:

1. Assemble joints in accordance with AISC RCSC.
2. Tighten bolts to their proof loads with calibrated impact wrenches to a torque not less than recommended for the size of the bolt.
3. Contact surfaces of joints shall be free of paint, lacquer, or other friction-reducing coatings.

3.02 FIELD QUALITY CONTROL:

- A. Field-assembled and installed high-strength bolting shall be inspected and torque tested in accordance with AISC RCSC by a qualified inspector selected and paid for by the Contractor.

END OF SECTION

SECTION 05 90 02: STRUCTURAL PHOTOVOLTAIC SHADE CANOPY SPECIFICATION

City of Seaside Solar Photovoltaic Project

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. The Contract and all Attachments.
- B. Section 26 00 00: General Electrical Specifications
- C. Section 26 60 00: Photovoltaic System Specifications
- D. Section 05 12 00: Structural Steel Framing Specification

1.02 GENERAL

- A. This project scope includes the construction of Structural Photovoltaic Shade Canopies (PV Canopies). Installation shall conform to all requirements as shown on plans and defined by the applicable codes, laws, rules, and standards as specified in the Contract.
- B. The Contractor shall include all items and all work reasonable inferred by these specifications and the Contract for compliance with all applicable structural codes. If the Contractor is in doubt as to the intent of any portion of these specifications and the Contract, or necessary information is omitted, the Contractor shall notify the Owner in writing for clarifications or corrections to be provided by addendum.
- C. All submittal documents shall be submitted, reviewed and accepted by the Owner per the guidelines specified in the Contracting Requirements (Document 00 72 00, Article 12, Submittals) and General Requirements (Section 01 33 00, Submittal Procedures).
- D. General Specifications as described in Section 26 00 00: General Electrical Specifications, are referred to herein and shall apply to this specification. Section 26 00 00 shall be deemed to supersede this specification in the case of conflicts.
- E. Specifications as described in Section 05 12 00: Structural Steel Framing Specification, are referred to herein and shall apply to this specification. Section 05 12 00 shall be deemed to supersede this specification in the case of conflicts.

1.03 WORK INCLUDED

- A. The work shall include the construction of the structural systems, in conformity with plans, applicable codes and professionally recognized standards.
- B. Contractor shall provide all materials, labor, equipment, services, and incidentals necessary to install the structures at each Site as shown on the design drawings and as specified hereinafter.
- C. Contractor shall provide temporary power and lighting as required for construction. Additionally, contractor must provide sufficient temporary facility

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lighting in place of removed existing lighting during construction phase until under canopy lighting is fully operational.

- D. Contractor responsible for confirming location of all underground utilities and infrastructure with the use of Ground Penetrating Radar (GPR) or equivalent technology and Underground Service Alert (USA) prior to construction.
- E. Contractor shall be responsible for prompt removal and disposal of spoils from all related construction activities.

1.04 SUBMITTALS

- A. Submittals shall be provided in accordance with Section 05 12 00: Structural Steel Framing Specification. (See 05 12 00 Subsection 1.04, Submittals.)

1.05 COATINGS AND CORROSION CONTROL

- A. Each canopy system and associated components must be designed and selected to withstand the environmental conditions of the site (e.g., temperatures, winds, rain, flooding, etc.) to which they will be exposed. The design life shall be a minimum of 25-years.
- B. All structural members and racking installed outdoors shall be hot dipped galvanized steel.
 - 1. All galvanized materials cut during construction shall be field coated with a long-lasting rust inhibiting coating, color matched and intended for coating hot-dipped galvanized metal in outdoor settings.
 - 2. All galvanized materials shall comply with ASTM 123/A-02 Standard Specification for Zinc (Hot-Dipped Galvanized) Coatings on Iron and Steel Products.
 - 3. All purlin framing members shall be G120 galvanized steel or higher per Engineer of Record's specification.
- C. Particular attention shall be given to the prevention of corrosion at the connections between dissimilar metals.

1.06 GEOTECHNICAL STUDY AND ANALYSIS

- A. A geotechnical analysis has been performed as part of the design of project and is provided as an attachment to Volume IB of the RFP. Any proposed alterations or value engineering to the design shall reference the geotechnical investigation. Any proposed structural modifications shall include the stamp of California registered structural engineer regularly employed in the design of similar structures.

PART 2 - PRODUCTS

2.01 SOLAR CANOPY STRUCTURES

- A. As shown on plans, canopies shall have a clear height of 12 foot at the lowest point of any structure.

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- B. All structural system components shall be constructed as shown on plans and specifications to withstand the environmental conditions of the site to which they will be exposed. The mounting systems shall be installed as shown on plans to resist dead load, live load, corrosion UV degradation, wind loads, and seismic loads appropriate to the geographic area over the expected life of the PV system, a minimum 25-years.
- C. The PV Canopies shall consist of interconnected columns, beams, purlins, and blocking with solar modules connected to the purlins by approved means of through bolting. Columns shall be located between parking stall spaces with beams cantilevered to either side of the column for both dual entry (aisle) and single entry (perimeter) parking structures.
- D. All materials shall conform to the requirements and tolerances of the latest editions of the AISC Manual of Steel Construction, AISI Specifications for the Design of Cold Formed Steel Members, ASTM Standard Specifications for General Requirements for rolled steel plates, shapes, sheets and bars for structural use.
- E. All canopy bolts, nuts and washers, unless otherwise noted, shall be hot dip galvanized or stainless steel.
- F. Purlins shall be structurally connected to the beams as detailed on the drawings with hot-dipped galvanized fasteners, unless otherwise specified by the Structural Engineer of Record. Number of purlins and purlin spacing shall be as shown on the drawings. Should an approved substitution of modules dictate modification of purlin placement, Contractor shall provide stamped drawings for review detailing any modifications. Mounting holes for the racking system and solar module installation shall be pre-located and pre-drilled prior to finishing and coating operations.
- G. Canopies shall be clearly labeled with max clearance for vehicles at the low points. Labels shall be rated for long-term UV exposure with lifetime to match warranties specified for PV panels in Section 26 60 00. Minimum labeling of three locations, one every 50 feet of carport on the long axis and one at every exterior corner of each array within a parking lot. Label should be easily visible from a vehicle.
- H. Concrete foundations for canopies in parking lots shall extend a minimum height of 30 inches above grade as shown on plans for protection of structural steel from vehicle strikes.
- I. Electrical conduits extending from the canopy to grade are to be encased in the foundations, not mounted on the outside of finished piers. All electrical connections between separate structures shall be underground. Overhead "jumpers" between structures shall not be permitted.
- J. Provide underground and above-grade conduits as shown on the drawings. Spare conduit shall include a minimum of two sufficiently rated pull strings or wires inside conduit for future wire pull. All spare conduits to be properly capped to prohibit water, debris and vermin from entering.
- K. All framing material shall be drained or have provisions to prevent water pooling on or within the framing member (weep holes).

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- L. All canopies to be co-planer and in alignment horizontally and vertically with adjacent arrays. Top of column heights shall be shown in design drawings.
- M. All anchor bolts shall be double nutted or 'staked' (threading irreversibly altered) to protect from structural compromise and vandalism.
- N. All structural connections at the flanged base of columns shall be outfitted with metal pole skirts coated to match columns. Pole skirts shall have rounded corners.
- O. Canopy tilt shall be as shown on drawings. Should a modification of tilt be requested by the Contractor and approved by the Owner, minimum tilt shall be five degrees (5°) and maximum tilt shall be ten degrees (10°).

2.02 LIGHTING SYSTEMS

- A. Canopy lighting systems shall be as shown on plans and meet the Illuminating Engineering Society of North America (IESNA) requirements for parking lot areas and meet or exceed minimum values and maximum uniformity ratios as listed in the IESNA criteria.
- B. Lighting shall meet all Title 24 requirements for installations in California.
- C. Lighting sources shall be LED type.
- D. Lighting control system shall be connected to the existing lighting controls in each area. Contractor shall field verify that existing lighting circuit conductor, controls, and overcurrent protective device at the circuit point of supply are sufficiently rated for the final lighting load after removal of existing lighting and addition of new lighting. The Contractor shall notify the Owner if existing conductors or infrastructure are found to be deficient, and connection of the new lighting to the new project panelboard will be arranged.
- E. Existing pole mounted lighting in areas of new carport canopies shall be removed. Modify other existing lighting circuits to coordinate with the new work and design, including reconnection of any existing downstream circuiting and controls as needed to ensure a fully functional lighting system. Foundations of existing pole mount lighting are to be completely removed a minimum of 6-inches below grade, with grade restored to surrounding condition.

PART 3 - EXECUTION

3.01 SITE PREPARATION AND INSPECTION

- A. Contractor shall direct, oversee and inspect all site work related to structural installation. Site preparation shall be in accordance with final drawings and specifications provided by manufacturer.

3.02 INSTALLATION

- A. Erect/Stand structural steel with proper equipment and qualified installers.
- B. Actively cooperate with other trades and provide incidental welding, connections, etc. for securement of work of others to structural steel framing.
- C. Erect/Stand temporary flooring, planking, and scaffolding necessary in connection with erection of structural steel or support of erection machinery. Use of

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temporary floors shall be as required by municipal or state laws and governing safety regulations. Hoist metal deck onto structural frame.

- D. After erection, clean connections and abrasions to shop coat and spot paint with same primer used in shop.
- E. Installation of the structural system and all components shall be in strict accordance with manufacturer's recommendations.
- F. Post installation, Contractor shall provide the materials and labor to grout the base of the column to produce a finished joint.

3.03 ERECTION TOLERANCES

- A. Erection tolerances for structural steel work shall be in accordance with latest AISC "Code of Standard Practice for Steel Buildings and Bridges" .

3.04 BOLTING

- A. High strength steel bolts shall be used where indicated. Fabrication and erection shall be in strict accordance with the latest edition of "Specifications for Assembly of Structural Joints Using High-Strength Steel Bolts" , as approved by the Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation. Load indicator washer shall be used. Use beveled washers on sloping surfaces.

3.05 WELDING

- A. Welding and welded joints shall be in accordance with AWS standards. Work shall be performed by operators who have been qualified by test in accordance with AWS D1.1, "Structural Welding Code - Steel" , to perform type of work required for this project.
- B. All methods, sequence, qualifications and procedures, including preheating, post-heating, etc. shall be detailed in writing and submitted to Architect for review by the testing laboratory. Provisions shall be made in detailing of lengths of members for dimensional changes as a result of shrinkage stresses so as to provide specified finished dimensions.
- C. Remove all runoff tabs, and bottom backing bars. Top backup bars to be removed or have continuous fillet weld to column.

3.06 ANCHOR BOLTS

- A. Provide and install all anchor bolts, bearing plates, and templates to be embedded in concrete.
- B. Provide necessary steel or wood templates and diagrams for setting and securing of such anchor bolts in concrete forms.
- C. Be responsible for proper locating and installing bolts. Make good any deficiencies and errors.
- D. Setting of anchor bolts in hardened concrete necessitates cast-in-place anchors solidly grouted in place. Submit materials and methods for review and approval.

END OF SECTION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. The Contract documents.
- B. Section 26 60 00: Photovoltaic System Specifications
- C. Section 05 90 02: Structural Photovoltaic Shade Canopy Specification

1.02 GENERAL

- A. This specification defines the general electrical work required for complete and fully functioning photovoltaic systems at each site. The design and installation shall conform to all requirements as defined by the applicable codes, laws, rules, regulations and standards as specified in the Contract.
- B. The Contractor shall include all items and all work reasonably inferred by these specifications and the Contract. If the Contractor is in doubt as to the intent of any portion of these specifications and the Contract, or necessary information is omitted, the Contractor shall notify the Owner in writing for clarifications or corrections to be provided by addendum.
- C. All design documents, cut sheets, shop drawings, and technical specifications shall be submitted, reviewed and accepted by the Owner per Owner guidelines.

1.03 WORK INCLUDED

- A. The work shall include construction of the electrical systems, materials, equipment, fabrication, installation and tests in conformity with applicable codes and professionally recognized standards.
- B. Contractor shall investigate existing switchgear and utility transformers for interconnection compatibility as part of pre-construction site walk.
- C. All required as-built and close-out documents and compliance documentation.
- D. Temporary power and lighting as required for construction.
- E. All required incidental work directly related to the construction of the System, such as excavating, directional boring, backfilling, roof flashing, fire stopping, waterproofing, pavement repair, striping, and testing.
- F. Any other electrical work as might reasonably be implied as required to fulfill the contracted scope, even though not specifically mentioned herein or shown on the drawings
- G. Coordination with all other disciplines and trades.
- H. All other utilities, labor, materials, apparatus, tools, equipment, transportation, and special or occasional services as required to fulfill the contracted scope.

1.09 CONDITIONS AT SITE:

- A. Contractor is responsible for familiarizing themselves with all discernible site

conditions. No extra payment will be allowed for work required because of these conditions, whether specifically mentioned or not.

- B. Lines of other services that are damaged as a result of this work shall promptly be repaired at no expense to the Owner and to the complete satisfaction of the Owner.

1.10 QUALITY ASSURANCE

- A. General:

- 1. Any requested change in design/value engineering, including any modifications of interconnection documentation, shall be designed and signed by a validated, registered professional engineer in the State of California.

- B. Conformance:

- 1. All equipment and accessories to be the product of a manufacturer regularly engaged in its manufacture.
 - 2. Supply all new equipment and accessories free from defects and listed by Underwriter's Laboratories, Inc., or bearing its label or label of a Nationally Recognized Testing Laboratory (NRTL).
 - 3. All items of a given type shall be the products of the same manufacturer.
 - 4. If after contract is awarded, minor changes and additions are required by aforementioned authorities, they shall be included at Contractor's expense.

- C. Coordination:

- 1. Contractor shall become familiar with the conditions at each job site and plan the installation of the electrical work to conform with the existing conditions so as to provide the commercially reasonable assembly of the combined work of all trades within the Contractor's scope.

- D. Contractor shall comply with quality assurance notes in the project drawings.

1.12 DELIVERY, STORAGE AND HANDLING

- A. Protection: Use all means necessary to protect the materials of this Section before, during, and after installation and to protect the work and materials of all trades.
- B. Delivery and Storage: Deliver all materials to the job site in their original containers with all labels intact and legible at time of use. Store in strict accordance with approved manufacturers' recommendations. All deliveries are to be made to the Contractor's job trailer or approved storage location. Under no circumstances shall Owner be responsible for accepting deliveries.
- C. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Owner and at no additional cost to the Owner.
- D. Contractor shall personally, or through an authorized representative, check all materials upon receipt at jobsite for conformance with approved shop drawings and/or plans and specifications.

1.13 SCHEDULING/SEQUENCING

- A. Contractor shall coordinate all schedules and sequencing of electrical work with Owner.

- B. Place orders for all equipment in time to prevent any delay in construction schedule or completion of project. If any materials or equipment are not ordered in time, additional charges made by equipment manufacturers to complete their equipment in time to meet the construction schedule, together with any special handling charges, shall be borne by the Contractor.
 - 1. Contractor shall coordinate production and delivery schedule for all Owner-supplied equipment with the equipment suppliers to ensure that all Owner-supplied equipment is delivered to site in coordination with the construction schedule and in such a manner as to cause no delays in completion of the Contract as scheduled.

1.14 PERMITS AND INSPECTIONS

- A. Contractor shall obtain all required permits and arrange for all required inspections, including utility company requirements, inspections, and sign-offs.
- B. Do not allow or cause any of the work to be covered or enclosed until it has been tested and/or inspected.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Materials of the same type or classification, used for the same purpose, shall be the product of the same manufacturer.

2.02 POSTED OPERATING INSTRUCTIONS

- A. Furnish approved operating instructions for systems and equipment where indicated in the technical sections for use by operation and maintenance personnel. The operating instructions shall include wiring diagrams, control diagrams, and control sequence for each principal system and equipment. Print or engrave operating instructions and frame under glass or in approved laminated plastic. Post instructions as directed. Attach or post operating instructions adjacent to each principal system and equipment including startup, proper adjustment, operating, lubrication, shutdown, safety precautions, procedure in the event of equipment failure, and other items of instruction as recommended by the manufacturer of each system or equipment. Provide weather-resistant materials or weatherproof enclosures for operating instruction exposed to the weather. Operating instruction shall not fade when exposed to sunlight and shall be secured to prevent easy removal or peeling.

2.03 CATALOGED PRODUCTS / SERVICE AVAILABILITY

- A. Materials and equipment shall be current products by manufacturers regularly engaged in the production of such products. Specified product models shall have been in satisfactory commercial or industrial use for a minimum of 2 years prior to design. The 2-year period shall include applications of equipment and materials under similar circumstances and of similar size. The 2-year period shall be satisfactorily completed by a product for sale on the commercial market through advertisements, manufacturers' catalogs, or brochures. Products having less than a 2-year field service record will be acceptable if a certified record of satisfactory field operation for not less than

6,000 hours, exclusive of the manufacturers' factory or laboratory tests, is furnished. The equipment items shall be supported by service organizations which are reasonable convenient to the equipment installation in order to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.

2.04 ACCEPTABLE MANUFACTURERS

- A. Materials shall be of make mentioned elsewhere in this specification or approved equivalent. All materials shall be new and approved by the Underwriters' Laboratories or an NRTL.

2.05 BASIC ELECTRICAL EQUIPMENT AND MATERIALS

- A. Inverters and PV Modules - See Specification 26 60 00.
- B. AC Panelboards:
 - 1. As manufactured by Cutler-Hammer, Square D, General Electric, Siemens, IEM, Schneider or to match existing equipment at each Site, wherever possible. Similar products may be submitted for considerations and formal approval. Equipment shall at a minimum be NEMA 4X outdoors (316 stainless) or NEMA 1 for surface mount in unfinished interior locations and flush mounted in finished and occupied spaces. Provide housekeeping pads for all floor or slab mounted equipment.
 - 2. Enclosures: code gauge 316 stainless sheet steel with welded full flange end pieces, stretcher- leveled steel trim, back pan and door.
 - 3. Phase and ground bussing of copper with silver-plated or tin-plated or nickel plated contact surfaces.
 - 4. Trims on surface-mounted cabinets secured with nickel-plated screws with cup washers, bottom of all trims to have lugs for resting on cabinet flange.
 - 5. Panels shall be 20 inches minimum in width, provided with approved gutter space, barriers and adjustable supports. Doors mounted with concealed hinges provided with combination spring latch and lock. Doors and trims and surface mounted cabinets primed and finished with one coat baked on gray enamel.
 - 6. Each panel shall be equipped with a copper ground bus.
 - 7. All panels shall be fully bussed to accept future circuit breakers.
- C. Distribution Low Voltage Dry-Type Transformers (120/208V and 277/480V):
 - 1. Ventilated type, NEMA 3R where used indoors. The temperature rise at rated voltage and full load shall not exceed 150 degrees C with a 220 degrees C U.L. Component Recognized Insulation System.
 - 2. Fully encapsulated, NEMA 4X, 316 Stainless where used outdoors. The temperature rise at rated voltage and full load shall not exceed 115 degrees C with a 180 degrees C U.L. Component Recognized Insulation System.
 - 3. Transformer shall be 3 phase, 60 Hertz. Utility-side winding shall be Delta connected and inverter-side winding shall be Wye connected. The windings shall be Aluminum or Copper.
 - 4. The higher voltage winding shall have quantity (6) 2.5% taps - (2) FCAN and (4) FCBN. Set secondary voltage for 120/208V.
 - 5. Transformer terminals shall be front connected for ease of installation and

- maintenance.
6. Where the transformers are installed outdoors provide weatherproof drip cover, rodent screen and a NEMA 4X (316 stainless) rating of the enclosure.
 7. Transformers shall be suitable to carry the PV load characteristics and in the direction of power flow required for the PV system power production.
- D. Circuit Breakers:
1. Circuit breakers shall be molded case rated 250 or 480 volt, multiple or single pole with amperage ratings as required for each circuit. All breakers to be bolt on, manually operated with "de-ion" arc chutes. Plug-in breakers are not acceptable.
 2. Circuit breakers shall be rated to interrupt the available short circuit current at the point of application.
- E. Raceways and Conduit Bodies: Only the raceways specified below shall be utilized on these projects. Substitutions shall be pre-approved in writing:
1. Rigid Type - hot dip galvanized or sherardized steel, to be used at all exterior locations, below grade, or in concrete slab, and to 18" on either side of structural expansion joints in floor slabs, with completely watertight, threaded fittings throughout.
 - a. All rigid steel conduit couplings and elbows in soil or concrete or under membrane to be ½ lap wrapped with Scotch #50 tape and threaded ends coated with T&B #S.C.40 rust inhibitor prior to installation of couplings.
 - b. ½ lap wrap all rigid steel conduit stub-ups from slab or grade to 6" above finished grade level with Scotch #50 tape.
 - c. In lieu of rigid steel conduit for power and control raceways and branch circuit conduits in soil or concrete slabs, "Schedule 40" PVC with Schedule 80 PVC conduit elbows and stub-ups may be used with code size (minimum No. 12) ground wire. A "stub-up" is considered to terminate 6" above the finished surface.
 - 1) Schedule 80 PVC conduit shall be used in all concrete footings or foundations and to 18" of either side of footings or foundation walls.
 - 2) Schedule 80 PVC conduit shall be used in all concrete masonry unit (CMU) walls or columns.
 2. Conduit installed using horizontal directional boring (HDB) shall include tracer tape or traceable conduit. Minimum depth of the conduit shall be per NEC 2011 Article 300.5. The Contractor is responsible for demonstrating that all conduits installed utilizing horizontal boring meets the minimum depth requirement and is solely responsible for any remediation costs and schedule impacts if the specification is not met. Contractor shall provide documentation of final depth and routes of all conduit installed in horizontal bores.
 3. Conduit buried underground shall be suitable for the application and compliant with all applicable codes. PVC shall be constructed of a virgin homopolymer PVC compound and be manufactured according to NEMA and UL specifications. All PVC conduit feeders shall contain an appropriate copper grounding conductor sized per NEC requirements and continuity shall be maintained throughout conduit runs and pull boxes. Minimum conduit size shall be ¾". A metallic tracing/caution

tape shall be installed in the trench over all buried conduit. All underground conduits placed in trenches, buried under roadways, or swales shall be encased with red dyed concrete slurry cap.

4. All conduit runs in concrete floor slabs (where allowed) shall be installed to comply with all applicable UBC and structural codes to maintain the structural integrity of the floor slab. Where conflicts occur, alternate routing shall be provided at no additional cost to the Owner.
5. Electrical Metallic Tubing (EMT) shall only be exposed in electrical and mechanical rooms and in unfinished spaces and in concealed and furred spaces, made up with steel watertight or steel set screw type fittings and couplings. Set screws shall have hardened points. Cast fittings are unacceptable. EMT may be used in exterior installations above 8' and where allowed by NEC, DSA, Owner code and any other applicable code. All exterior fittings shall be watertight. EMT may not be installed in areas subject to severe physical damage, including in any carport location with potential for vehicle strike or within 8' of grade.
6. All exposed conduits on sides of buildings, or in other visible areas, shall be properly primed/prepared and painted to match adjacent finishes, after complete installation.
7. Fasten conduits securely to boxes with locknuts and bushings to provide good electrical continuity.
8. To facilitate pulling of conductors, install junction boxes as required.
9. If any empty conduits are provided as part of the projects, they shall be provided with a properly rated mil tape/pull-wire and capped in place with PVC or RMC cap, duct seal may be applied if appropriate cap is unavailable.
10. If conduits are to pass through structural expansion joints in floor slab, rigid galvanized conduit shall be used 18" on either side of joint, complete with Appleton expansion couplings and bonding jumpers, or equal. All above grade expansion joint crossings shall also utilize expansion joint couplings or flex conduit transitions as required for each particular installation. No solid conduits shall be allowed to cross expansion joints without proper provisions for building and seismic movement. Expansion joints only refer to contiguous structures, not the overhead space between adjacent, separate canopies. Under no circumstance shall conduits/conductors pass overhead between separate canopies.
11. Provide thermal expansion fittings or provisions, per NEC 300.7(b), for all raceways subject to high temperatures in direct exposure to sunlight. Provide expansion provisions where more than 0.25" of expansion is calculated.
12. Provide a minimum cover of 36 inches for all conduits in ground outside of buildings, unless otherwise noted.
13. Provide and install exterior wall conduit seals and cable seals in the locations listed below. Coordinate installation and scheduling with other trades:
 - a. Conduit seals through exterior wall or slab (below grade): O.Z. Gedney series "FSK" in new cast in concrete locations, series "CSM" in cored locations.
 - b. Conduit seals through exterior wall or slab (above grade): O.Z. Gedney series "CSMI."
 - c. Cable seals at first interior conduit termination after entry through

exterior wall or slab: O.Z. Gedney series "CSBI." Coordinate quantity of conductors at each location.

F. Junction Boxes / Pull Boxes:

1. One piece steel knockout type drawn j-boxes, unless otherwise noted, sized as required for conditions at each location.
2. J-boxes for wet locations, cast aluminum FS or FD type with cast aluminum gasketed spring lid cover. Weatherproof "Bell" type boxes are not acceptable.
3. Pull boxes to be NEMA 1 (indoor) or NEMA 4X (outdoor), sized per code, with grey enamel finish, steel construction, and screw-on covers.
4. All connectors from conduit to junction or outlet boxes shall have insulated throats. Connectors shall be manufactured with insulated throats as integral part. Insertable insulated throats are unacceptable.
5. Conduit Bodies: Malleable iron type, with lubricated spring steel clips over edge of conduit body, O-Z/Gedney type EW, or equal.

G. Site Pull boxes: All site pull boxes shall be flush in-ground concrete, with engraved covers identifying service use (i.e. electrical, communications, etc.). Boxes shall be NEMA 250, Type 6, outside flanged, with recessed cover for flush mounting, by Christy or equal, with required depth to provide box and conduit depths shown or required.

1. Provide concrete covers for all boxes in planted or paved areas (up to available concrete cover size).
2. Provide galvanized steel covers for all larger boxes (when concrete is not available), or in traffic areas. No cast iron covers.
3. Provide bolted covers and slab bottoms (with grouted perimeter) or vault type boxes for all electrical distribution and signal system pull boxes used for site distribution, to prevent rodent entry. No collar type boxes with dirt or gravel bottoms.
4. Provide drain hole at bottom of all vault type boxes, with loose aggregate base below, for proper drainage.
5. All covers to be completely flush with finished adjacent surfaces.
6. Provide galvanized steel H20 rated covers and installation of box rated for H20 in all traffic areas.

H. Wire and Cable:

1. 600 or 1,000-volt class (as required for system design), insulation color coded, minimum No. 12 AWG for DC string circuits or AC circuits.
2. All conductors shall be copper.
3. Insulation type:
 - a. AC conductors in raceways shall be Type THWN-2 or XHHW-2 for wet and dry locations. AC conductors shall be installed in raceways.
 - b. DC PV string conductors shall be Type PV or USE-2/RHW-2 marked minimum 1000V and sunlight resistant.
 - c. All AC wire sizes used shall be based on a 75-degree insulation rating, unless specifically used with 90-degree rated devices. For wires/cables with 90 deg C insulation, the 90 deg C ampacity ratings shall be used for cable sizing before conditions of use de-rates are applied per NEC. All DC wire sizes shall be based on 90-degree insulation rating, when used with

90-degree rated PV equipment and components.

4. All conductors shall be stranded.
 5. Install all wiring (low voltage and line voltage) in conduit, except PV string wiring at modules, which may be run outside of raceway per Exhibit A, Section 2.
 6. Do not pull conductors into conduit until raceways and boxes have been thoroughly cleaned and swabbed as necessary to remove water and debris.
 7. Approximately balance all AC circuits about the neutral conductors in AC collector panels.
 8. All wire and cable shall bear the Underwriters' Label or equivalent NRTL label, brought to the job in unbroken packages.
 9. The equipment grounding conductor shall be insulated or bare copper; where it is insulated, the insulation shall be colored green.
 10. Install all circuits in one continuous section unless splices are approved by Purchaser. Exercise care in pulling to avoid damage or disarrangement of conductors, using approved grips. No cable shall be bent to smaller radius allowed by NEC code or manufacturer recommendations. Color code feeder cables at terminals. Provide identifying linen tags in each pull box
- I. Fire stopping: as manufactured by 3M Fire Protection Products or equal.
1. Fire-rated and smoke barrier construction: Maintain barrier and structural ceiling fire and smoke resistance ratings including resistance to cold smoke at all penetrations, connections with other surfaces or types of construction, at separations required to permit building movement and sound vibration absorption, and at other construction gaps.
 2. Systems or devices listed in the UL Fire Resistance Directory under categories XHCR and XHEZ may be used, providing that it conforms to the construction type, penetration type, annular space requirements and fire rating involved in each separate instance, and that the system be symmetrical for wall penetrations. Systems or devices must be asbestos free.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Examine the areas and conditions under which the work of this Section will be installed. Correct conditions detrimental to the proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

3.02 FIELD QUALITY CONTROL

- A. All workmanship shall be first class and carried out in a manner satisfactory to and approved by the Owner.
- B. This Contractor shall personally, or through an authorized and competent representative, constantly supervise the work and so far as possible keep the same foreman and workmen on the job throughout.

3.03 INSTALLATION/APPLICATION/ERECTION

- A. All cutting, repairing and structural reinforcing for the installation of this work

shall be done by the General Contractor in conformance with the Owner's requirements.

- B. Excavate and trench or directional bore as necessary for the electrical installation, and when the work has been installed, inspected and approved, backfill all excavations with clean earth from excavation, or imported sandy soil in maximum 8" (eight-inch) layers, moisten and machine tamp to 95% compaction, and restore the ground and/or paving or floor surfaces to their original condition.
- C. Floor Mounted Equipment Installation: Provide mounting channels for grouting into floor or slab. Channels shall be properly drilled to receive the equipment placed flush in floor, leveled and secured in place prior to pouring of floor, of length as required for switchboard. Bolt or weld switchboard to channels.
- D. Furnish and install all disconnect switches as required by code (AC and DC).

3.04 EARTHQUAKE RESISTANT INSTALLATION & FASTENING:

- A. All electrical equipment and raceways shall be designed to withstand forces generated by earthquake motions. As a minimum, equipment and equipment frames shall be designed to withstand a force of 25% of the weight of the equipment and frame acting at its center of gravity. Anchorage of the equipment and/or frame to the structure shall be for a force of 50% gravity also acting at the center of gravity.
- B. For floor mounted equipment and switchboards / distribution panels, the above values shall be doubled. Design stresses in either case may be increased 1/3 over normal allowable stresses but never beyond yield.

3.05 ADJUSTING AND CLEANING

- A. All electrical equipment, including existing equipment not "finish painted" under other sections, shall be touched up where finished surface is marred or damaged.
- B. All equipment shall be left in clean condition, with all shipping and otherwise unnecessary labels removed there from.
- C. All metal shavings shall be removed, and rust inhibitor applied to minimize oxidation of new steel equipment and boxes.

3.06 IDENTIFICATION

- A. Inverters, combiner boxes, pull boxes, switchboards, panel boards, distribution circuit breakers, disconnect switches, and related electrical enclosures shall be properly identified by means of engraved laminated plastic descriptive nameplates mounted on apparatus using stainless steel screws or permanent epoxy adhesive where set screws are not feasible. Standard adhesives alone are not acceptable. Nameplates shall have white letters with black background. Cardholders in any form are not acceptable.
- B. Provide all required safety and identification placards as required by code.

3.07 PAINTING OF EQUIPMENT

- A. Factory Applied: Electrical equipment shall have factory-applied painting systems which shall, as a minimum, meet the requirements of NEMA ICS 6 corrosion-resistance

test, except equipment specified to meet requirements of ANSI C37.20 shall have a finish as specified in ANSI C37.20.

- B. Field Applied: Paint electrical equipment as required to match finish or meet safety criteria.

3.08 TESTING

A. General:

1. All inspections and tests shall be in accordance with the International Electrical Testing Association - Acceptance Testing Specifications ATS-2009 (referred to herein as NETA ATS-2009).
2. Final test and inspection may be conducted in presence of Owner: Tests shall be conducted at the expense of and by the Contractor at a mutually agreed time. Submit written test reports.
3. The electrical installation shall be inspected and tested to ensure safety to building occupants, operating personnel, conformity to code authorities, and final Construction Shop Drawings.
4. Refer to 26 60 00 Commissioning requirements.
5. Final Inspection Certificates: Prior to final payment approval, deliver to the Owner, with a copy to the Owner, signed certificates of final inspection by the appropriate inspection authority.

a. Grounding System:

- 1) All ground connections shall be checked and the entire system shall be checked for continuity. The resistance of the ground system at each site shall be measured using a 3 point fall-of-potential method. The maximum ground resistance shall be three ohms.
- 2) Ground tests shall meet the requirements of the National Electric Code, Article 250.
- 3) All PV system grounding shall meet the requirements of NEC Article 690.

END OF SECTION

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metal conduits and fittings, including GRC.
2. Rigid nonmetallic duct.
3. Flexible nonmetallic duct.
4. Duct accessories.
5. Precast concrete handholes.
6. Polymer concrete handholes and boxes with polymer concrete cover.
7. Fiberglass handholes and boxes with polymer concrete cover.
8. Fiberglass handholes and boxes.
9. High density plastic boxes.
10. Precast manholes.
11. Utility structure accessories.

1.2 DEFINITIONS

- A. Direct Buried:** Duct or a duct bank that is buried in the ground, without any additional casing materials such as concrete.
- B. Duct:** A single duct or multiple ducts. Duct may be either installed singly or as component of a duct bank.
- C. Duct Bank:**
1. Two or more ducts installed in parallel, with or without additional casing materials.
 2. Multiple duct banks.

1.3 ACTION SUBMITTALS

- A. Product Data:** For each type of product.
- B. Shop Drawings:**
1. Precast Handholes and Boxes:
 - a. Include plans, elevations, sections, details, attachments to other work, and accessories.
 - b. Include duct entry provisions, including locations and duct sizes.
 - c. Include reinforcement details.
 - d. Include grounding details.
 - e. Include dimensioned locations of cable rack inserts, pulling-in and lifting irons, and sumps.
 - f. Include joint details.
 2. Factory-Fabricated Handholes and Boxes Other Than Precast Concrete:
 - a. Include dimensioned plans, sections, and elevations, and fabrication and installation details.
 - b. Include duct entry provisions, including locations and duct sizes.

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- c. Include cover design.
- d. Include grounding details.
- e. Include dimensioned locations of cable rack inserts, and pulling-in and lifting irons.

1.4 INFORMATIONAL SUBMITTALS

- A. Duct and Duct-Bank Coordination Drawings: Show duct profiles and coordination with other utilities and underground structures. Drawings shall be signed and sealed by a qualified professional engineer.
- B. Qualification Data: For professional engineer and testing agency responsible for testing nonconcrete handholes and boxes.
- C. Product Certificates: For concrete and steel used in precast concrete handholes, as required by ASTM C858.
- D. Source quality-control reports.
- E. Field quality-control reports.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified according to ASTM E329 for testing indicated.

PART 2 – PRODUCTS

2.1 METAL CONDUIT AND FITTINGS

- A. GRC: Comply with ANSI C80.1 and UL 6. Comply with NEC requirements for RMC.
- B. Used at stub-ups only, including elbow or sweep and vertical stub.
- C. Shall be wrapped underground with a double layer of 10-mil PVC pipe wrap tape approved for the application, or equivalent corrosion protection. Wrapping shall extend at least 18" above grade.
- D. GRC underground beyond stub-up shall be PVC-coated GRC.
- E. Listed and labeled as defined in NFPA 70, by a nationally recognized testing laboratory, and marked for intended location and application.

2.2 RIGID NONMETALLIC DUCT

- A. Underground Plastic Utilities Duct: Schedule 40 and Schedule 80 RNC, complying with NEMA TC 2 and UL 651, with matching fittings complying with NEMA TC 3 by same manufacturer as duct.
- B. Listed and labeled as defined in NFPA 70, by a nationally recognized testing laboratory, and marked for intended location and application.
- C. Solvents and Adhesives: As recommended by conduit manufacturer.

2.3 FLEXIBLE NONMETALLIC DUCTS

- A. HDPE Duct: Schedule 40 or 80, complying with NEMA TC 7 and UL 651A.

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- B. Listed and labeled as defined in NFPA 70, by a nationally recognized testing laboratory, and marked for intended location and application.

2.4 DUCT ACCESSORIES

- A. Duct Spacers: Factory-fabricated, rigid, PVC interlocking spacers; sized for type and size of duct with which used, and selected to provide minimum duct spacing indicated while supporting duct during concreting or backfilling.
- B. Underground-Line Warning Tape: Shall be provided in all trenches.

2.5 PRECAST CONCRETE HANDHOLES AND BOXES

- A. Description: Factory-fabricated, reinforced-concrete, monolithically poured walls and bottom unless open-bottom enclosures are indicated. Frame and cover shall form top of enclosure and shall have load rating consistent with that of handhole or box.
- B. Comply with ASTM C858 for design and manufacturing processes.
- C. Frame and Cover: Weatherproof cast-iron frame, with cast-iron cover with recessed cover hook eyes and tamper-resistant, captive, cover-securing bolts.
- D. Frame and Cover: Weatherproof steel frame, with steel cover with recessed cover hook eyes and tamper-resistant, captive, cover-securing bolts.
- E. Frame and Cover: Weatherproof steel frame, with hinged steel access door assembly with tamper-resistant, captive, cover-securing bolts.
 - 1. Cover Hinges: Concealed, with hold-open ratchet assembly.
 - 2. Cover Handle: Recessed.
- F. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
- G. Cover Legend: Molded lettering, **"ELECTRIC."**
- H. Configuration: Units shall be designed for flush burial and have open bottom unless otherwise indicated.
- I. Extensions and Slabs: Designed to mate with bottom of enclosure. Same material as enclosure.
 - 1. Extension shall provide increased depth of 12 inches.
 - 2. Slab: Same dimensions as bottom of enclosure, and arranged to provide closure.
- J. Joint Sealant: Asphaltic-butyl material with adhesion, cohesion, flexibility, and durability properties necessary to withstand maximum hydrostatic pressures at the installation location with the ground-water level at grade.
- K. Knockout Panels: Precast openings in walls, arranged to match dimensions and elevations of approaching duct, plus an additional 12 inches vertically and horizontally to accommodate alignment variations.
- L. Duct Entrances in Handhole Walls: Cast end-bell or duct-terminating fitting in wall for each entering duct.
- M. Handholes 6 feet long and larger shall have inserts for cable racks and pulling-in irons installed before concrete is poured.

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- N. Box and cover shall be H-20 load rated where exposed to vehicular traffic.

2.6 POLYMER CONCRETE HANDHOLES AND BOXES WITH POLYMER CONCRETE COVER

- A. Description: Molded of sand and aggregate, bound together with a polymer resin, and reinforced with steel or fiberglass or a combination of the two.
- B. Standard: Comply with SCTE 77. Comply with tier requirements in "Underground Enclosure Application" Article.
- C. Color: Gray.
- D. Configuration: Units shall be designed for flush burial and have open bottom unless otherwise indicated.
- E. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure.
- F. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
- G. Cover Legend: Molded lettering, **"ELECTRIC."**
- H. Direct-Buried Wiring Entrance Provisions: Knockouts equipped with insulated bushings or end-bell fittings, selected to suit box material, sized for wiring indicated, and arranged for secure, fixed installation in enclosure wall.
- I. Duct Entrance Provisions: Duct-terminating fittings shall mate with entering duct for secure, fixed installation in enclosure wall.
- J. Handholes 6 feet long and larger shall have factory-installed inserts for cable racks and pulling-in irons.
- K. Box and cover shall be H-20 load rated where exposed to vehicular traffic.

2.7 FIBERGLASS HANDHOLES AND BOXES WITH POLYMER CONCRETE FRAME AND COVER

- A. Description: Sheet-molded, fiberglass-reinforced, polyester resin enclosure joined to polymer concrete top ring or frame.
- B. Standard: Comply with SCTE 77. Comply with tier requirements in "Underground Enclosure Application" Article.
- C. Color: **Gray.**
- D. Configuration: Units shall be designed for flush burial and have open bottom unless otherwise indicated.
- E. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure.
- F. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
- G. Cover Legend: Molded lettering, **"ELECTRIC."**
- H. Direct-Buried Wiring Entrance Provisions: Knockouts equipped with insulated bushings or end-bell fittings, selected to suit box material, sized for wiring indicated, and arranged for secure, fixed installation in enclosure wall.

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- I. Duct Entrance Provisions: Duct-terminating fittings shall mate with entering duct for secure, fixed installation in enclosure wall.
- J. Handholes 6 feet long and larger shall have factory-installed inserts for cable racks and pulling-in irons.
- K. Box and cover shall be H-20 load rated where exposed to vehicular traffic.

2.8 FIBERGLASS HANDHOLES AND BOXES

- A. Description: Molded of fiberglass-reinforced polyester resin, with covers made of **reinforced concrete, cast iron, or hot-dip galvanized-steel diamond plate.**
- B. Standard: Comply with SCTE 77. Comply with tier requirements in "Underground Enclosure Application" Article.
- C. Color: **Gray**
- D. Configuration: Units shall be designed for flush burial and have open bottom unless otherwise indicated.
- E. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure.
- F. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
- G. Cover Legend: Molded lettering, **"ELECTRIC."**
- H. Direct-Buried Wiring Entrance Provisions: Knockouts equipped with insulated bushings or end-bell fittings, selected to suit box material, sized for wiring indicated, and arranged for secure, fixed installation in enclosure wall.
- I. Duct Entrance Provisions: Duct-terminating fittings shall mate with entering duct for secure, fixed installation in enclosure wall.
- J. Handholes 6 feet long and larger shall have factory-installed inserts for cable racks and pulling-in irons.
- K. Box and cover shall be H-20 load rated where exposed to vehicular traffic.

2.9 HIGH-DENSITY PLASTIC BOXES

- A. Description: Injection molded of HDPE or copolymer-polypropylene. Cover shall be made of **polymer concrete, hot-dip galvanized-steel diamond plate, or plastic.**
- B. Standard: Comply with SCTE 77. Comply with tier requirements in "Underground Enclosure Application" Article.
- C. Color: **Gray**
- D. Configuration: Units shall be designed for flush burial and have **open** bottom unless otherwise indicated.
- E. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure.
- F. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
- G. Cover Legend: Molded lettering, **"ELECTRIC."**

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- H. Direct-Buried Wiring Entrance Provisions: Knockouts equipped with insulated bushings or end-bell fittings, selected to suit box material, sized for wiring indicated, and arranged for secure, fixed installation in enclosure wall.
- I. Duct Entrance Provisions: Duct-terminating fittings shall mate with entering duct for secure, fixed installation in enclosure wall.
- J. Handholes 6 feet long and larger shall have factory-installed inserts for cable racks and pulling-in irons.
- K. High-density plastic boxes may not be used where exposed to vehicular traffic, unless H-20 load rated.

2.10 SOURCE QUALITY CONTROL

- A. Test and inspect precast concrete utility structures according to ASTM C1037.
- B. Nonconcrete Handhole and Pull-Box Prototype Test: Test prototypes of manholes and boxes for compliance with SCTE 77. Strength tests shall be for specified tier ratings of products supplied.
 - 1. Tests of materials shall be performed by an independent testing agency.
 - 2. Strength tests of complete boxes and covers shall be by an independent testing agency or manufacturer. A qualified registered professional engineer shall certify tests by manufacturer.
 - 3. Testing machine pressure gages shall have current calibration certification, complying with ISO 9000 and ISO 10012, and traceable to NIST standards.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Coordinate layout and installation of duct, duct bank, manholes, handholes, and boxes with final arrangement of other utilities, site grading, and surface features as determined in the field. Notify Engineer of Record if there is a conflict between areas of excavation and existing structures or archaeological sites to remain.
- B. Coordinate elevations of duct and duct-bank entrances into manholes, handholes, and boxes with final locations and profiles of duct and duct banks, as determined by coordination with other utilities, underground obstructions, and surface features. Revise locations and elevations as required to suit field conditions and to ensure that duct and duct bank will drain to manholes and handholes, and as approved by Engineer of Record.

3.2 UNDERGROUND DUCT APPLICATION

- A. Duct for Electrical Feeders and Branch Circuits 600 V and Less: RNC Schedule 40 and Schedule 80, direct-buried unless otherwise indicated.
- B. Bored Underground Duct: Schedule 40 or 80, unless otherwise indicated.
- C. Stub-ups and elbows: Shall be RNC Schedule 80 or GRC Schedule 40.

3.3 UNDERGROUND ENCLOSURE APPLICATION

- A. Handholes and Boxes for 600 V and Less:

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1. Units in Roadways and Other Deliberate Traffic Paths: Precast concrete. AASHTO HB 17, **H-20** structural load rating.
2. Units in Driveway, Parking Lot, and Off-Roadway Locations, Subject to Occasional, Nondeliberate Loading by Heavy Vehicles: H-20 structural load rating.
3. Units in Sidewalk and Similar Applications with a Safety Factor for Nondeliberate Loading by Vehicles: **Precast concrete, AASHTO HB 17, H-10; Polymer concrete units, SCTE 77, Tier 8; Heavy-duty fiberglass units with polymer concrete frame and cover, SCTE 77, Tier 8** structural load rating.
4. Units Subject to Light-Duty Pedestrian Traffic Only: **Fiberglass-reinforced polyester resin or High-density plastic**, structurally tested according to SCTE 77 with 3000-lbf vertical loading.
5. Cover design load shall not exceed the design load of the handhole or box.

3.4 EARTHWORK

- A. Restoration: Replace area **after construction vehicle traffic in immediate area is complete**.
- B. Restore surface features at areas disturbed by excavation, and re-establish original grades unless otherwise indicated. Replace removed sod immediately after backfilling is completed.
- C. Restore areas disturbed by trenching, storing of dirt, cable laying, and other work. Restore vegetation and include necessary topsoiling, fertilizing, liming, seeding, sodding, sprigging, and mulching.

3.5 DUCT AND DUCT-BANK INSTALLATION

- A. Where indicated on Drawings, install duct, spacers, and accessories into the duct-bank configuration shown. Duct installation requirements in this Section also apply to duct bank.
- B. Install duct according to NEMA TCB 2.
- C. Slope: Pitch duct a minimum slope of 1:300 down toward handholes and away from buildings and equipment. Slope duct from a high point between two handholes, to drain in both directions.
- D. Curves and Bends: Use 5-degree angle couplings for small changes in direction. Use manufactured long sweep bends with a minimum radius of 48 inches both horizontally and vertically, at other locations unless otherwise indicated.
 1. Duct shall have maximum of two 90 degree bends or the total of all bends shall be no more 180 degrees between pull points.
- E. Joints: Use solvent-cemented joints in duct and fittings and make watertight according to manufacturer's written instructions. Stagger couplings so those of adjacent duct do not lie in same plane.
- F. Installation Adjacent to High-Temperature Steam Lines: Where duct is installed parallel to underground steam lines, perform calculations showing the duct will not be subject to environmental temperatures above 40 deg C. Where environmental

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temperatures are calculated to rise above 40 deg C, and anywhere the duct crosses above an underground steam line, install insulation blankets listed for direct burial to isolate the duct bank from the steam line.

- G. End Bell Entrances to Polymer Concrete Handholes: Use end bells, spaced approximately 10 inches o.c. for 5-inch duct, and vary proportionately for other duct sizes.
- H. Terminator Entrances to Manholes and Concrete and Polymer Concrete Handholes: Use manufactured, cast-in-place duct terminators, with entrances into structure spaced approximately 6 inches o.c. for 4-inch duct, and vary proportionately for other duct sizes.
- I. Sealing: Provide temporary closure at terminations of duct with pulled cables. Seal spare duct at terminations. Use sealing compound and plugs to withstand at least 15-psig hydrostatic pressure.
- J. Pulling Cord: Install 200-lbf test nylon cord in empty ducts.
- K. Concrete-Encased Ducts and Duct Bank:
 - 1. Excavate trench bottom to provide firm and uniform support for duct. Prepare trench bottoms as specified in Section 312000 "Earth Moving" for pipes less than 6 inches in nominal diameter.
 - 2. Width: Excavate trench 3 inches wider than duct on each side.
 - 3. Depth: Install so top of duct envelope is at least 24 inches below finished grade in areas not subject to deliberate traffic, and at least 30 inches below finished grade in deliberate traffic paths for vehicles unless otherwise indicated.
 - 4. Support duct on duct spacers coordinated with duct size, duct spacing, and outdoor temperature.
 - 5. Spacer Installation: Place spacers close enough to prevent sagging and deforming of duct, with not less than **four** spacers per 20 feet of duct. Place additional spacers within 24 inches of duct ends. Stagger spacers approximately 6 inches between tiers. Secure spacers to earth and to duct to prevent floating during concreting. Tie entire assembly together using fabric straps; do not use tie wires or reinforcing steel that may form conductive or magnetic loops around ducts or duct groups.
 - 6. Minimum Space between Duct: 3 inches between edge of duct and exterior envelope wall, 2 inches between ducts for like services, and 4 inches between power and communications ducts. On-center duct spacing shall not be less than 7.5" unless approved by the engineer of record.
 - 7. Elbows: Use manufactured duct elbows for stub-ups, at building entrances, and at changes of direction in duct unless otherwise indicated. Extend encasement throughout length of elbow.
 - 8. Elbows: Use manufactured GRC elbows for stub-ups, at building entrances, and at changes of direction in duct run.
 - 9. Reinforcement: Reinforce concrete-encased duct where crossing disturbed earth and where indicated. Arrange reinforcing rods and ties without forming conductive or magnetic loops around ducts or duct groups.

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10. Forms: Use walls of trench to form side walls of duct bank where soil is self-supporting and concrete envelope can be poured without soil inclusions; otherwise, use forms.
 11. Concrete Cover: Install a minimum of 3 inches of concrete cover between edge of duct to exterior envelope wall, 2 inches between duct of like services, and 4 inches between power and communications ducts.
 12. Concreting Sequence: Pour each run of envelope between manholes or other terminations in one continuous operation.
 13. Pouring Concrete: Comply with requirements in "Concrete Placement" Article in Section 033000 "Cast-in-Place Concrete." Place concrete carefully during pours to prevent voids under and between duct and at exterior surface of envelope. Do not allow a heavy mass of concrete to fall directly onto ducts. Allow concrete to flow around duct and rise up in middle, uniformly filling all open spaces. Do not use power-driven agitating equipment unless specifically designed for duct-installation application.
- L. Direct-Buried Duct and Duct Bank:
1. Excavate trench bottom to provide firm and uniform support for duct. Comply with requirements in Section 312000 "Earth Moving" for preparation of trench bottoms for pipes less than 6 inches in nominal diameter.
 2. Width: Excavate trench 3 inches wider than duct on each side.
 3. Depth: Install top of duct at least 36 inches below finished grade unless otherwise indicated.
 4. Set elevation of bottom of duct bank below frost line.
 5. Support ducts on duct spacers coordinated with duct size, duct spacing, and outdoor temperature.
 6. Spacer Installation: Place spacers close enough to prevent sagging and deforming of duct, with not less than **four** spacers per 20 feet of duct. Place spacers within 24 inches of duct ends. Stagger spacers approximately 6 inches between tiers. Secure spacers to earth and to ducts to prevent floating during concreting. Tie entire assembly together using fabric straps; do not use tie wires or reinforcing steel that may form conductive or magnetic loops around ducts or duct groups.
 7. Install duct with a minimum of 3 inches between ducts for like services and 6 inches between power and communications duct. On-center duct spacing shall not be less than 7.5" unless approved by the engineer of record.
 8. Elbows: Install manufactured duct elbows for stub-ups, at building entrances, and at changes of direction in duct direction unless otherwise indicated.
 9. Install manufactured GRC elbows or RNC Schedule 80 elbows for stub-ups.
 10. After installing first tier of duct, backfill and compact. Start at tie-in point and work toward end of duct run, leaving ducts at end of run free to move with expansion and contraction as temperature changes during this process. Repeat procedure after placing each tier. After placing last tier, hand place backfill to 4 inches over duct and hand tamp. Firmly tamp backfill around ducts to provide maximum supporting strength. Use hand tamper only. After placing controlled backfill over final tier, make final duct connections at end of run and complete backfilling with normal compaction. Comply with requirements in Section 312000 "Earth Moving" for installation of backfill materials.

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- a. Place minimum 4 inches of sand as a bed for duct. Place sand to a minimum of 4 inches above top level of duct.
 - b. Place minimum 6 inches of engineered fill above concrete encasement of duct.
 - c. Backfill specifications shall comply with the recommendations of the geotechnical report and the project drawings, and sand equivalent shall be greater than or equal to 30.
 - M. Underground-Line Warning Tape: Bury **conducting** underground line no less than 12 inches above all duct and duct banks. Align tape parallel to and within 3 inches of centerline of duct bank. Provide an additional warning tape for each 12-inch increment of duct-bank width over a nominal 18 inches. Space additional tapes 12 inches apart, horizontally.
- 3.6 INSTALLATION OF CONCRETE HANDHOLES AND BOXES
- A. Precast Concrete Handhole Installation:
 1. Comply with ASTM C891 unless otherwise indicated.
 2. Install units level and plumb and with orientation and depth coordinated with connecting duct, to minimize bends and deflections required for proper entrances.
 3. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.
 - B. Elevations:
 1. Install handholes with bottom below frost line.
 2. Handhole Covers: In paved areas and trafficways, set surface flush with finished grade. Set covers of other handholes 1 inch above finished grade.
 3. Where indicated, cast handhole cover frame integrally with handhole structure.
 - C. Hardware: Install removable hardware, including pulling eyes, cable stanchions, and cable arms as required for installation and support of cables and conductors and as indicated.
 - D. Fixed Manhole Ladders: Arrange to provide for safe entry with maximum clearance from cables and other items in manholes.
 - E. Field-Installed Bolting Anchors in Concrete Handholes: Do not drill deeper than 3-7/8 inches for manholes and 2 inches for handholes, for anchor bolts installed in the field. Use a minimum of two anchors for each cable stanchion.
- 3.7 INSTALLATION OF HANDHOLES AND BOXES OTHER THAN PRECAST CONCRETE
- A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting duct, to minimize bends and deflections required for proper entrances. Use box extension if required to match depths of duct, and seal joint between box and extension as recommended by manufacturer.

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- B. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.
- C. Elevation: In paved areas and trafficways, set cover flush with finished grade. Set covers of other handholes 1 inch above finished grade.
- D. Install handholes and boxes with bottom below frost line.
- E. eyes, cable stanchions, cable arms, and insulators, as required for installation and support of cables and conductors and as indicated. Select arm lengths to be long enough to provide spare space for future cables, but short enough to preserve adequate working clearances in enclosure.
- F. Field cut openings for duct according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.
- G. For enclosures installed in **asphalt paving** and subject to occasional, nondeliberate, heavy-vehicle loading, form and pour a concrete ring encircling, and in contact with, enclosure and with top surface screeded to top of box cover frame. Bottom of ring shall rest on **compacted earth**.
 - 1. Concrete: 3000 psi 28-day strength, complying with Section 033000 "Cast-in-Place Concrete," with a troweled finish.
 - 2. Dimensions: **10 inches wide by 12 inches deep**.

3.8 GROUNDING

- A. Ground underground ducts and utility structures according to the project drawings.

3.9 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections:
 - 1. Demonstrate capability and compliance with requirements on completion of installation of underground duct, duct bank, and utility structures.
- B. Correct deficiencies and retest as specified above to demonstrate compliance.
- C. Prepare test and inspection reports.

3.10 CLEANING

- A. Pull leather-washer-type duct cleaner, with graduated washer sizes, through full length of duct until duct cleaner indicates that duct is clear of dirt and debris. Follow with rubber duct swab for final cleaning and to assist in spreading lubricant throughout ducts.
- B. Clean internal surfaces of manholes, including sump.
 - 1. Sweep floor, removing dirt and debris.
 - 2. Remove foreign material.

END OF SECTION

SECTION 26 60 00: PHOTOVOLTAIC SYSTEM SPECIFICATIONS

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PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. The Contract documents.
- B. Section 26 00 00: General Electrical Specifications
- C. Section 05 90 02: Structural Photovoltaic Shade Canopy Specification

1.02 GENERAL

- A. The project includes the construction of complete Photovoltaic Systems (PV), including all AC and DC components. The installation shall conform to all requirements as defined by the applicable codes, laws, rules, regulations and standards as specified in the Contract.
- B. The Contractor shall include all items and all work reasonable required to complete the System in accordance with the Agreement. If the Contractor is in doubt as to the intent of any portion of these specifications, or necessary information is omitted, the Contractor shall notify the Owner in writing for clarifications or corrections to be provided by addendum.
- C. All cut sheets, shop drawings, and technical specifications shall be submitted, reviewed and accepted by the Owner per the guidelines specified in the Contract.

1.03 WORK INCLUDED

- A. The work shall include the materials, labor, equipment, installation, testing, services, and incidentals necessary to install complete Photovoltaic (PV) Systems in conformity with contract documents, plans, specifications, applicable codes and professionally recognized standards.
- B. PV systems consist of arrays of framed photovoltaic modules, mounting hardware, terminal boxes, combiner boxes, quick-connect electrical connectors, DC wiring, DC disconnects, utility interactive inverters, AC disconnects, AC feeders, transformers, AC circuit breakers, AC panel boards / switchgear, and complete data acquisition and monitoring systems.
- C. The PV systems shall be utility grid connected. An initial interconnection application has been submitted with the Utility. The Contractor shall be responsible for all interconnection coordination during construction including utility company coordination, revisions to interconnect applications as-needed, inspections, permits, and final approval for the complete interconnection of the PV systems with the utility company grid, including bi-directional utility meters at each location.
- D. The Contractor shall ensure adequate clearance and equipment space within the allotted areas and existing building and site conditions. All equipment and sizes / clearances shall be coordinated with the Owner prior to rough-in.
- E. The Contractor shall provide for the disconnection, disposition and proper disposal of all existing equipment to be replaced.

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1.04 QUALITY ASSURANCE

- A. All equipment shall be listed to Underwriters' Laboratories (UL) standards as applicable.
- B. Installer Qualifications - The installing contractor shall be familiar with the equipment to be installed and have the necessary training to install in the equipment, inclusive of a California Class A or Class B and C-10 or C-46 license.

1.05 MATERIALS, DELIVERY, STORAGE, AND HANDLING

- A. All materials shall be delivered new, undamaged and without defects.
- B. All equipment and panels shall be handled with care so as not to damage the delivered products. All equipment shall be installed in new and neat condition.
- C. Appropriate protective clothing shall be worn when handling the equipment.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Acceptable system manufacturers/vendors shall be as specified in other sections of this Contract. Manufacturers shall provide their latest line of equipment, meeting all current industry standards, utility requirements and criteria set forth in this Contract. The Owner seeks equipment from proven, industry leading manufacturers in solid financial standing, producing tier-one equipment.
- B. Contractor proprietary products shall have an ICC report or a testing report stamped and signed by a licensed California engineer.

2.02 EQUIPMENT AND MATERIALS

- A. All PV Modules shall meet the following specifications:
 - 1. Module manufacturer that has produced no less than 250MW of modules in the prior year.
 - 2. Modules are from a field-tested product line that has been commercially available for no less than three years.
 - 3. Module manufacturer shall provide a 25-year warranty on the solar modules with at least 80 percent power output guaranteed at 25 years.
 - 4. Have a minimum 25-year design life, designed for normal, unattended operation.
 - 5. UL 1703 listed.
 - 6. UL listed for the specified voltage (1000 V-DC).
 - 7. Meet IEC 61215 (crystalline silicon PV modules) or IEC 61646 (thin film PV modules) standards.
 - 8. Project costs shall include all known and future duties, tariffs, export tariffs, customs, demurrage, and shipping costs.
 - 9. Meet California SB1 Guidelines for Eligibility.
- B. No substitution for contracted equipment shall be made without the written consent of Owner. Such consent will not to be unreasonably conditioned, delayed, or withheld.

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- C. All Inverters shall meet the following requirements:
1. String-type inverters.
 2. Integrated AC and DC disconnects
 3. Include a 10-year warranty.
 4. Manufacturer produced no less than 250 MWp of inverters in the prior fiscal year.
 5. Field-tested product line that is commercially available for no less than 2 fiscal years.
 6. UL 1741 listed and Comply with IEEE 1547, including testing to IEEE 1547.1 and IEEE C62.45. Regulatory standards compliance shall also include IEEE C62.41.2 and CSA107.1-01.1.
 7. Incorporate disconnect switch for main DC power disconnect as shown on Drawings in compliance with applicable codes and utility requirements.
 8. Inverters shall be per Drawings. Should a substitution be approved, inverter shall support the PV module production load within the rating of the equipment, together with all other components.
 9. CEC approved, Rule 21 compliant and shall be utility line interactive type.
 10. Capable of producing reactive power to operate between a power factor of 0.9 lagging to 0.9 leading (as adjusted on the inverter equipment).
 11. Meet the following requirements:
 - a) Nominal AC Voltage (Three-phase, + 10%): 208, 240, or 480 VAC (as required per site)
 - b) Nominal AC Frequency (+ 0.5 Hz): 60 Hz
 - c) Line Power Factor (Above 20% rated power): >0.99
 - d) AC Current Distortion (At rated power): <5% THD
 - e) Maximum Open Circuit Voltage DC: 1,000 VDC
 - f) Maximum Ripple Current (% of rated current): <5%
 - g) Minimum Inverter Efficiency: >96%
 - h) Temperature Range Ambient: -4° F to 122° F (-20° C to 50° C)
 - i) Enclosure Environmental Rating (minimum): NEMA 4X
 - j) Relative Humidity (non-condensing): 0-95%
 - k) Sound level: <85 dBa
 - l) Protective Functions: Standard wakeup voltage, wakeup time delay, shutdown power, shutdown time delay, AC over / under voltage and time delays, AC over / under frequency and time delays, ground over current, over-temperature, AC and DC over current, DC over voltage
 - m) User Display: Standard-LCD with on/off capability and physical screen cover or other means of protection from UV exposure.
 - n) DC Disconnect: 1,000 VDC load break rated
 - o) Zone 4 Seismic Rating (free standing) or wall mounted
 - p) Internal combiner panel option to allow connections of sub-arrays at the Inverter without the use of additional equipment.
- D. Upon connection of the new PV systems, provide a placard on the respective Main Switchboard to identify the two sources of power feeding the equipment.
- E. Combiner boxes (where used) shall be NEMA 4X rated (minimum) and shall include fuses for string inputs and a bus bar to combine the strings into sub-arrays, for input

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into the Inverter system. Minimum combiner box output bus ampacity shall be 156% of the rated short circuit current available to be carried on the bus (the sum from all strings to the bus).]

- F. All AC interconnecting feeders shall be sized per applicable sections of NEC Articles 310, 690, and 705. Conduit fill to 40% max. Include temperature derating as required for the ambient temperatures and roof conditions per NEC. Provide equipment grounding conductor in each conduit.
- G. All roof and exterior mounted raceways shall be designed and installed to accommodate expansion and contraction due to heating affects, including adequate cable length and listed expansion couplings. All expansion couplings or installations shall include grounding bonding jumpers as required by code.
- H. All AC circuits to be 3-wire or 4-wire + ground, as required by inverter manufacturer's installation manual. All grounding per NEC 690, Part V.
- I. All DC circuits and feeders sized to NEC table 310.15(B)(16) (90-degree column). Minimum ampacity shall be 156% of the rated short circuit current available to be carried on the specific conductor. Conduit fill to 40% max. Include temperature derating as required for the ambient temperatures and roof conditions per NEC, and conduit fill derating as required. Provide equipment grounding conductor in each conduit.
- J. All DC circuits to be 2-wire + ground.
- K. AC conductors in raceways shall be Type THWN-2 or XHHW-2 for wet and dry locations. AC conductors shall be installed in raceways.
- L. DC PV string conductors shall be Type PV or USE-2/RHW-2 marked minimum 1000V and sunlight resistant.
- M. Above ground exposed conduit shall be rigid galvanized steel with threaded fittings except where the project drawings and applicable codes specifically allow for the use of EMT conduit. All conduit shall meet NEC Code, local jurisdictional requirements, and any applicable standards. Exterior installations shall have watertight fittings. All conduit shall be rated for exposed installation and a minimum design life equivalent to the solar panels. Paint all visible exposed raceways and boxes to match adjacent surface finish after installation. Colors to be selected and approved by the Owner, such approval not to be unreasonably conditioned, delayed, or withheld.
- N. All conduits and stub-ups under array canopies shall be encased within concrete caissons or piers or, protected from parking traffic with appropriately sized bollards if protection is required by electrical engineer.
- O. All interior conduit to be EMT with steel set-screw fittings (no cast fittings).

2.03 WIRE MANAGEMENT

- A. All DC string wiring methods must meet or exceed current industry standards for wire management, strain relief and fastening.

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- B. All DC string wire management shall use stainless steel or galvanized steel cable clips, Heyco or similar. UV rated cable ties shall be used minimally and only in locations where the use of cable clips is impossible.
- C. Wiring shall not be routed over sharp edges of structural members, equipment or modules.
- D. Wiring shall be routed under the modules of the array wherever possible to avoid direct exposure to the sun or elements.
- E. Wiring shall be secured under the array so as to prevent excessive slack resulting in wire motion, and to minimize visibility of inter-module and home run wiring to the public.
- F. Excess slack in the wire shall be secured such that it is in the module channel or secured to the junction box of the module. Factory-installed wire leads for modules can be wrapped around the junction box of the module.
- G. Where exposed, wires, cables and conductors shall be managed in a neat and orderly manner. Where exposed to environmental conditions e.g. sunlight, rain, wind etc. and visible from below, wires shall be fastened in a uniform and discrete fashion.
- H. All conductors and conduits between separate arrays shall be routed underground. Wiring shall be routed down columns, encased in piers/caissons, routed underground between arrays or carports, and up the nearest column on the adjacent array. Under no circumstance will circuits, conduits, or chaseways be mounted overhead between separate structures, including seismic gaps).
- I. Strain relief and drip loops shall be utilized at all entrances to and from conduit bodies, junction boxes, weather heads, switchgear, inverters and panelboards etc. Conductors shall be strapped with strain relief as not to stress panel leads, home runs or mechanically crimped connections within the array. Sufficient slack shall be provided at both ends of cables to allow service and re-termination, and to prevent thermal expansion and contraction from stressing connections.
- J. Wire in switchboards, panelboards, meter cabinets, pull boxes, and other cabinets shall be neatly grouped and tied in bundles with nylon ties rated for the temperature rating of the electrical equipment at 10-inch intervals. In switchboards, panels and terminal blocks, wires shall be fanned out to terminals and trained for straight entry into the terminals. At no point shall nylon ties be used on bussing or bussing used in any manner to support other materials including but not limited to circuit conductors.
- K. Maintain the conductor required bending radius per NEC and manufacturer specifications.
- L. Wires shall not be installed until debris and moisture is removed from conduits, boxes, and cabinets. Wires stored at site shall be protected from physical damage until they are installed and walls are completed.
- M. Wire-pulling compounds furnished as lubricants for installation of conductors in raceways shall be compounds approved and listed by UL, NRTL, or equal. Oil, grease,

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graphite, or similar substances are not permitted. When pulling conductors, do not exceed manufacturer's recommended values.

N. Conductor Color Codes

1. AC Circuits (<600V): Conductors must be color-coded by phase and voltage as required by NEC, the AHJ, and the utility.
2. DC Circuits, grounded

<i>Conductor</i>	<i>Color</i>
Positive	Red
Negative	White

3. DC Circuits, ungrounded

<i>Conductor</i>	<i>Color</i>
Positive	Red
Negative	Black

4. For phase and neutral conductors 6 gauge or larger, permanent thermoplastic-colored tape may be furnished to mark conductor end instead of coded insulation. Tape shall cover not less than 2 inches of conductor insulation within enclosure.

O. Conductor Identification

1. All conductors, including DC homerun circuits, shall be labeled at each point the conduit run is broken by a cabinet, box, gutter, etc. Where terminal ends are available, identification shall be by means of heat shrink wire markers.
2. Labels shall indicate circuit or string and phase in accordance with the project drawings.

P. Tape and Splice Kits

1. Wire splice kits shall be UL listed for their manner of use, such as direct burial or wet operation. Splices, joints, and connectors joining conductors in dry and wet locations shall be covered with listed insulation approved by the manufacturer for use with the splice, or as contained in the listed splice kit. Free ends of conductors connected to energized sources shall be taped.
2. Thermoplastic insulating material approved by UL, NRTL, or equal for installation as sole insulation of splices shall be furnished and shall be installed according to manufacturer's printed specifications. Standard electrical tape shall not be the sole insulation material for splices unless explicitly listed for use in the application and meeting the temperature rating of the insulation requirements for the splicing connection.

Q. Terminations

1. Terminations of conductors shall be performed to the requirements and recommendations listed within the manufacturer manuals of the termination hardware and equipment where the termination shall occur.
2. Conductors shall be terminated with minimal exposure of the bare conductor.

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3. Conductors cannot exceed the size and quantity restrictions of the lug. Contractor to verify equipment lugs supplied will accept the size and quantity of conductors shown in the project drawings.
4. Full engagement of the conductor within the lug must be maintained.
5. Provide necessary coating of anti-oxidation coating on all exposed conductor ends entering the lug.
6. Where mechanical connectors are used, torque all setscrews to manufacturer specifications with a calibrated torque wrench and indicate with torque marks. Torqueing electrical connectors "hand tight" is not allowed.
7. Where compression connectors are used, they must be installed with compression tools and dies approved by the manufacturer for use with the connector.
8. Ensure the final portion of the conductor before entering the termination is not part of a conductor bend (straight on entry).
9. Terminations of aluminum conductors cannot be made within 18 inches of earth/grade.
10. Termination fittings, connectors, and lugs must be rated and listed for the conductor metal type connected.

2.04 MISC. SYSTEM REQUIREMENTS

- A. All exterior equipment to be sunlight and UV resistant as well as rated for elevated temperatures at which they are expected to operate (on roofs in hot sunlight).
- B. No dissimilar metals are allowed to contact each other (use deox, joint compound, plastic or rubber washers) with the exception of anodized aluminum module frames in contact with galvanized carport purlins. Best practices shall be used to avoid corrosion.
- C. No aluminum in contact with concrete or masonry materials.
- D. Bolted connections shall be non-corrosive and include locking devices designed to prevent twisting over the design life of the PV system.
- E. Environmental impact of system equipment containing hazardous materials shall be disclosed, as well as maintenance and disposal instructions for equipment at the end of its useful life.
- F. PV Module Mounting and Grounding Devices
 1. Contractor shall submit proposed method for mounting and grounding PV modules to the canopy structure. The proposed method shall utilize either of the following:
 - a) UL 2703 listed module mounting and grounding clamps and devices.
 - b) Direct bolting of the module to the canopy steel structural purlins and UL listed PV module grounding devices.
 2. If PV modules are mounted to the canopy structure with module mounting clamps, the clamps must be approved for this purpose by their manufacturer as part of a UL 2703 listed assembly. Clamps shall be listed for PV module grounding to galvanized steel substrate, and their installation shall comply with the clamp installation manual and the PV module installation manual.
 3. If PV modules are direct bolted to the canopy steel structural purlins, mounting bolt size and specification must be written and detailed in the canopy structural

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drawings. Mounting bolt size must comply with the PV module installation manual and be compatible with the module mounting hole diameter.

4. Washer-type PV module grounding devices shall be listed for grounding PV modules to galvanized steel substrate and shall be installed according the manufacturer' s installation manual with appropriate bolt size and clearance hole size.
5. All PV modules shall be bonded to each other and to the canopy galvanized steel structural purlins with listed PV module grounding devices and equipment grounding conductors. The canopy galvanized steel structural purlins shall be bonded to the structural beams, unless a welded structural connection exists between the purlins and beams. An equipment grounding conductor shall ground the PV array to the PV inverter ground bar, and a grounding electrode conductor shall ground the PV inverter to the canopy grounding electrode.
6. Where PV modules and steel purlins are grounded and bonded, contact between dissimilar metals such as copper and galvanized steel shall be avoided. Where contact cannot be avoided, outdoor-rated deox or conductive joint compound shall be applied between the interfacing metal surfaces.

2.05 SYSTEM ELECTRICAL

- A. The modules shall be interconnected using cable assemblies. The pigtails shall be quick-connect electrical wiring connections rated for the application (90 degree rated). DC string connectors for homerun wires and jumpers provide by the Contractor must match the make and model of the connectors supplied with the PV module, or must be UL listed as compatible with the connectors supplied with the PV module.
- B. Raceway system shall be installed in a manner that prevents water from draining into electrical equipment.
- C. Full specifications of the inverter shall be supplied as part of the system submittal.
- D. All major components of the systems and the installation procedures shall meet National Electrical Code requirements, including Articles 690 and 705.
- E. The PV system shall automatically drop offline when normal utility power is lost to avoid unintentional islanding effects as required by the local utility.
- F. All electrical system equipment shall be properly rated to withstand and interrupt (in the case of over current protection devices) the available fault current at the point of use.
- G. The system shall be capable of producing reactive power to operate between a power factor of 0.9 lagging to 0.9 leading (as adjusted on the inverter equipment).
- H. All required overcurrent protection and electrical bussing sizes per NEC 690.
- I. Means of system grounding as shown on Drawings.
- J. When PV system supply side interconnection is shown in the project drawings, the Contractor shall inspect the existing main service switchgear to confirm suitability of the switchgear supply side bus for interconnection of the PV system. Where required by the AHJ, any modification of the existing switchgear necessary to construct the supply side connection shall be approved by the switchgear manufacturer or a Nationally

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Recognized Testing Laboratory. Where a NRTL approves modification of the switchgear, a field labeling report shall be provided to the Owner. The Contractor is responsible for obtaining switchgear manufacturer approval of any modification required to accommodate the supply side connection, or NRTL approval and report.

- K. Outdoor grounding connections between dissimilar metals (such as aluminum lugs and copper wire) will be protected against galvanic corrosion by the application of outdoor-rated deox or conductive joint compound between the interfacing metal surfaces.

2.06 MONITORING

- A. A Data Acquisition and Monitoring System (DAS) shall be provided as shown on Drawings. DAS shall include, but not be limited to, the measurement, calculation, display, and reporting of the following items:
1. PV production in 15-min reporting intervals.
 2. Energy consumption in 15-min reporting intervals.
 3. Weather data in 15-min reporting intervals
 4. System electrical functions (instantaneous and accumulated power output (kW and kWh), AC and DC system voltage and amperage, and peak value tracking with associated time stamps).
 5. Pounds of CO₂ emissions avoided from the generation of PV energy at the site (compared to local utility fuel mix electric carbon content).
 6. DAS shall be capable of outputting data in the Western Renewable Energy Generation Information System (WREGIS) format sufficient for registering Renewable Energy Credits (RECs) from each system.
 7. Lifetime logging and access to data reported by DAS.
 8. DAS shall allow customer or customer's third-party designee to programmatically download data through Application Program Interface ("API) at no cost to customer or customer's third-party designee. This data shall, at a minimum, include PV production data, energy consumption data, inverter production data, inverter AC power data, inverter current data, inverter voltage data, weather station and/or satellite data, and alarm status readings. All data shall be available over multiple timescales, ranging from 15-min intervals to annual intervals and shall include both real-time and historic data.
- B. Cellular data shall be used for communications with the DAS and metering systems. In the absence of cellular service availability, the Owner may, at its own discretion, provide internet connections on a site by site basis.
- C. A separate consumption meters shall be provided as shown on Drawings. Consumption meters shall include a web-enabled interface and 15-min reporting intervals to be synced with PV meter production intervals.
- D. Contractor shall load software (as applicable) on Owner provided computers and train Owner in operation and maintenance of software or cloud-based systems and related monitoring functions.
- E. A weather station shall be provided as shown on plans. The station shall provide at a minimum: solar irradiation (coplanar and horizontal), ambient temperature, wind speed and any other data relevant to weather correction of solar PV system performance.

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PART 3 – EXECUTION

3.01 REQUIRED PLACARDS

- A. All placards shall be machine generated phenolic type with red background and white lettering, affixed to equipment with stainless steel screws or with permanent adhesive where set screws are not feasible. Minimum lettering size to be 1/4" unless otherwise noted or required for legibility.
- B. Provide a placard clearly visible at each main service panel to identify both sources of power, with the following wording in 1/4" high lettering per NEC 690.64(B)(4):
"Warning – This Service Is Fed By Two Sources Of Power - The Utility Service Main Disconnect And The PV System Main Disconnect - Both Services Must Be Disconnected To Remove Power From The Switchboard" .
- C. Provide a placard on each PV system input circuit breaker (where used) at the main panel with the following wording in 1/4" high lettering per NEC 690.64(B)(7): "Warning - Inverter Output Connection - Do Not Relocate This Overcurrent Device" .
- D. Provide a placard on all disconnects with the following wording in 1/4" high lettering per NEC 690.17: "Warning – Electric Shock Hazard – Do Not Touch Terminals – Terminals On Both The Line and Load Sides May Be Energized In The Open Position".
- E. Provide a placard on the Main PV System Disconnect (adjacent to each main service panel) with the following information in 1/4" high lettering per NEC 690.53: "Photovoltaic Power Source Disconnect – Operating Current: X Amps; Operating voltage: XX VAC; Maximum System Voltage: XX VAC; Short-Circuit Current: XXX Amps", where X is the operating current, XX is the system voltage, and XXX is the maximum short circuit current contribution of the generating facility at the point of interconnection with the utility system.
- F. Provide a placard at each Main Switchboard with the following information in 1/4" High lettering per NEC 690.54: "Caution – Possible Backfeed From Photovoltaic Power System - X VAC, XX Amps", where X is the system voltage and XX is the maximum AC amperes of the installed system.
- G. Provide a placard on each PV System Inverter with the following information in 1/4" high lettering: "Photovoltaic Power Source Inverter Rating – Operating Current: XX Amps; Operating voltage: XXX VDC; Maximum System Voltage: 1,000 VDC; Short-Circuit Current: XXXX Amps", where XX is the maximum DC amperes of the installed system, XXX is the operating voltage DC, and XXXX is the short circuit current that the Inverter can provide (from all strings in parallel).
- H. Provide utility-required System Directory placard and utility safety switch Identification placard as required by local utility company, to identify all system components.
- I. Provide a placard for all Combiner Boxes to read: "DC Combiner Box [XXX]- [*System Voltage*] VDC Maximum" .

3.02 UTILITY INTERCONNECTION

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- A. The Owner has submitted an interconnection application, and the Contractor shall take all responsibility for continuation and completion of the interconnect process upon contract execution. The Contractor shall complete submissions for the utility interconnection agreement with the Owner's approval. The Contractor shall submit the required authorization form with the utility to act on behalf of the Owner.
- B. The PV system at each Site shall not be interconnected with the Utility's distribution facilities until written authorization from the Utility Company has been obtained. Unauthorized interconnections may result in injury to persons and damage to equipment or property for which the installing contractor may be liable.

3.03 INSTALLATION STANDARDS

- A. System Installation shall conform to the equipment manufacturers Installation Manual(s) and requirements or guidelines.
- B. All Local, State, and NEC codes shall be observed, including all industry standards related to the installation, operation, and maintenance of photovoltaic power systems.

3.04 TESTING

- A. Photovoltaic modules shall be tested in the factory for design performance and results shall be included in the Operation and Maintenance manuals.
- B. Inverters shall be factory tested for performance and the results shall be included in the Operation and Maintenance manuals.
- C. System testing of the installed photovoltaic array shall be performed on all system strings and recorded in commissioning documentation and the Operation and Maintenance manuals.
- D. Commissioning of PV Systems shall include (at a minimum):
 - 1. Conductors
 - a. AC & DC conductor inspection. Insulation resistance and DC hi-pot testing of each AC and DC conductor, phase-to-phase and phase-to-ground.
 - b. Wire management check
 - c. DC string polarity, V_{oc} , & I_{sc} testing and recording
 - d. Confirm all conduits & junction boxes are installed properly/watertight
 - 2. Inspection of DC fusing and disconnects
 - 3. Inspection of AC components: AC Disconnect, Main Switch Board, AC Combiner Panel Boards, Breakers, Fuses, Terminations, Phasing, OCPD operation, etc.
 - 4. Grounding & bonding system inspection & continuity testing
 - 5. Inverters
 - 5.1. Inverter inspections & tests per manufacturer instructions
 - 5.2. Inverter start-up & confirm proper inverter settings
 - 5.3. Inverter output tests - Confirm PV system AC output as expected based on design, insolation and inverter readings
 - 6. IV Curve Trace, Performance testing and recording
 - 7. As-built sun access measurement at the corners of all arrays, minimum.
 - 8. Thermal Imaging
 - 8.1. Check all electrical components while systems are energized
 - 8.2. Spot check, Modules, Inverters, Disconnects, AC system etc.

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9. Torque spot check on mechanical and electrical terminations
10. Inspection of corrosion control measures
11. Confirm signage and placards meet plans
12. Workmanship evaluation
13. Inspection of DAS / CT metering and monitoring equipment
14. Weather station component inspection and performance audit
15. Confirm web-based monitoring interface operations
16. Lighting Controls
 - 16.1. Confirm canopy lighting levels match photometric design
 - 16.2. Verify component installations
 - 16.3. Confirm lighting controls function as specified
17. Commissioning of any other major electrical infrastructure installed on the project per manufacturer requirements
18. Medium voltage equipment tested to NETA requirements
- E. Testing to be performed per CPUC Electric Rule 21 testing procedures and requirements. All testing to be done on “no-cloud” days to avoid system fluctuation by passing clouds. Installer to provide all testing and certification / commissioning.
- F. System start-up procedure shall be as outlined by the Manufacturer’ s Installation Manual and the Inverter Manual.

3.05 DOCUMENTATION

- A. All commissioning and testing reports shall be provided to the Owner within 15-days of completion of testing.
- B. The Contractor shall submit to the Owner a comprehensive Operations and Maintenance (O&M) Manual for each system. O&M Manuals shall be compiled as a single, bookmarked portable document format (PDF) file, plus two photo-reproducible copies. The document shall be a well-organized, comprehensive and custom document created with details for each site. The document shall include at a minimum the following:
 1. System description and overview
 2. Simplified site plan that shows array naming convention, inverter locations, and disconnects
 3. Safety Details, including shut down procedures
 4. Contact information for the system installer and maintenance personnel
 5. Monitoring system login and operation details
 6. Standard procedures for both Owner and O&M personnel
 7. Maintenance information, including schedules and responsibilities for ongoing maintenance
 8. Troubleshooting and repair, including responses to typical issues and responsible parties
 9. Summary of Performance Guarantee on a site-by-site basis, inclusive of COD for each site, reporting dates and true-up dates.
 10. Example performance report.
 11. Summary table with the following details for each site: Site, System Size, Permission-to-Operate (PTO), Commercial Operation Date (COD), Final Completion Date, DSA Closeout Date

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12. Any other information that may be required for the Owner to easily and safely interact with, confirm performance, troubleshoot, maintain and/or service the materials and equipment installed under this Contract.
13. O&M Attachments shall include:
 - a) Formal Permission-to-Operate (PTO) notice, and any other pertinent Utility documentation
 - b) As built Record Drawings in both AutoCAD and PDF (single compiled file for each site), provided as separate files from the fully compiled O&M Manual PDF. In addition, one full-sized photo-reproducible copy will be provided. The updated as-built drawings shall also include the following details:
 - DC string maps with corresponding inverter nomenclature (ID), locations, serial numbers, azimuth, and tilt.
 - Data logger make, model and serial number
 - Include all horizontal/directional boring logs and column footing depths
 - c) As-built predicted performance data, including expected production over time. Expected hourly production and insolation data shall also be provided in spreadsheet format to represent one full year (8760 hours)."
 - d) Complete material list of all items furnished and installed, including but not limited to the following: PV Modules, inverters, wiring, combiner boxes, panelboards, switch gear, optimizers, disconnects, boxes, metering and DAS equipment, etc. PV System operation details
 - e) All warranties, cut sheets and manuals for major equipment
 - f) System testing and commissioning documentation

END OF SECTION

SECTION 31 20 00: EARTH MOVING AND EXCAVATING

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PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:

1. Preparing subgrades for slabs-on-grade and pavements.
2. Excavating and backfilling for buildings and structures.
3. Drainage course for concrete slabs-on-grade.
4. Subbase course and base course for asphalt paving.
5. Excavating and backfilling trenches for utilities and pits for buried utility structures.

1.2 DEFINITIONS

A. Backfill: Soil 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 hot-mix asphalt paving.

C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
2. 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.

G. Fill: Soil materials used to raise existing grades.

H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

I. 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.

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- J. 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.
 - K. Utilities: On-site underground pipes, conduits, ducts, and cables as well as underground services within buildings.
- 1.3 INFORMATIONAL SUBMITTALS
- A. Material test reports.
- 1.4 FIELD CONDITIONS
- A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth-moving operations.

PART 2 – PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations. All materials imported to site shall be in accordance with the geotechnical report.
- B. Satisfactory Soils: Shall be free of rock or gravel larger than 3 inches (75 mm) in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; with at least 90 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve. Must be greater than 30 Sand Equivalent per AASHTO T 176/ASTM D 2419.
- D. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; with at least 95 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve. Must be greater than 30 Sand Equivalent per AASHTO T 176/ASTM D 2419.
- E. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; with at least 90 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve. Must be greater than 30 Sand Equivalent per AASHTO T 176/ASTM D 2419.
- F. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; except with 100 percent passing a 1-inch (25-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve. Must be greater than 30 Sand Equivalent per AASHTO T 176/ASTM D 2419.

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2.2 ACCESSORIES

- A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of the utility; colored to comply with local practice or requirements of authorities having jurisdiction.
- B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches (150 mm) wide and 4 mils (0.1 mm) 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 (750 mm) deep; colored to comply with local practice or requirements of authorities having jurisdiction.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth-moving operations..

3.2 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
 - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

3.3 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch (25 mm). If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
 - 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
- B. Excavations at Edges of Tree- and Plant-Protection Zones:
 - 1. Excavate by hand or with an air spade to indicated lines, cross sections, elevations, and subgrades. If excavating by hand, use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.

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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. Excavate trenches to indicated gradients, lines, depths, and elevations.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.
 - 1. Clearance: 3 inches **each side of pipe or conduit** or as indicated.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
 - 1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.
- D. Trenches in Tree- and Plant-Protection Zones:
 - 1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
 - 2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.

3.6 SUBGRADE INSPECTION

- A. Proof-roll subgrade with a pneumatic-tired dump truck to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
- B. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

3.7 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 (17.2 MPa), may be used when approved by Architect.
 - 1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Architect.

3.8 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

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1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.9 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Trenches under footings are not allowed.
- D. Backfill adjacent to conduits: refer to Section 26 05 43: "Underground Ducts and Raceways for Electrical Systems" .
- E. Final Backfill: Place and compact final backfill of satisfactory soil to final subgrade elevation.
- F. Warning Tape: Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.10 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
 1. Under grass and planted areas, use satisfactory soil material.
 2. Under walks and pavements, use satisfactory soil material.
 3. Under steps and ramps, use engineered fill.
 4. Under building slabs, use engineered fill.
 5. Under footings and foundations, use engineered fill.

3.11 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.

3.12 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.

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- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to **ASTM D698** or **ASTM D1557**:
 - 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.
 - 2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.
 - 3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.
 - 4. For utility trenches, compact each layer of initial and final backfill soil material at 85 percent.
- 3.13 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS
 - A. Place subbase course and base course on subgrades free of mud.
 - B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:
 - 1. Shape subbase course and base course to required crown elevations and cross-slope grades.
 - 2. Place subbase course and base course that exceeds 6 inches (150 mm) in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches (150 mm) thick or less than 3 inches (75 mm) thick.
 - 3. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D698] [ASTM D1557.
- 3.14 DRAINAGE COURSE UNDER CONCRETE SLABS-ON-GRADE
 - A. Place drainage course on subgrades free of mud, frost, snow, or ice.
 - B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
 - 1. Place drainage course that exceeds 6 inches (150 mm) in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches (150 mm) thick or less than 3 inches (75 mm) thick.
 - 2. Compact each layer of drainage course to required cross sections and thicknesses to not less than 95 percent of maximum dry unit weight according to ASTM D698.
- 3.15 FIELD QUALITY CONTROL
 - A. Special Inspections: Owner will engage a qualified special inspector to perform inspections:
 - B. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.
 - C. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.

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- D. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Architect.
- E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.16 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.17 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION

SECTION 31 63 29: DRILLED CONCRETE PIERS AND SHAFTS SPECIFICATION

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PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Method Test Shaft
- B. Load Test
- C. Excavation
- D. Installation of Concrete Reinforcement
- E. Concrete Placement
- F. Withdrawal of Temporary Steel Casing
- G. Field Quality Control

1.02 DEFINITIONS

- A. The words and terms used in these Specifications conform to the definitions given in ACI 336.1.
- B. The terms “drilled shaft” and “cast in drilled hole (CIDH) piles” are used interchangeably.

1.03 REFERENCES

- A. International Association of Foundation Drilling (formerly Association of Drilled Shaft Contractors) (ADSC):
 - 1. ADSC Standards and Specifications for the Foundation Drilling Industry.
- B. American Concrete Institute (ACI):
 - 1. ACI 336.1 Specification for the Construction of Drilled Piers
- C. American Society for Testing and Materials (ASTM):
 - 1. ASTM D1143/D1143M Standard Test Methods for Deep Foundations Under Static Axial Compressive Load
 - 2. ASTM D3689/D3689M Standard Test Methods for Deep Foundations Under Static Axial Tensile Load
 - 3. ASTM D3966/D3966M Standard Test Methods for Deep Foundations Under Lateral Loads
 - 4. ASTM D6760 Standard Test Method for Integrity Testing of Concrete Deep Foundations by Ultrasonic Crosshole Testing.

1.04 SUBMITTALS

- A. Concrete Reinforcement: Provide submittals in accordance with the requirements of Section 03 20 00, Concrete Reinforcing.
- B. Qualifications of Welders and Welding Procedures: Provide submittals in accordance with requirements of Section 03 20 00, Concrete Reinforcing, for reinforcing steel.
- C. Portland Cement Concrete: Provide submittals in accordance with the requirements of the design drawings. Include submittal for tremie concrete equipment and placement method.
- E. Drilling Equipment: Submit description of equipment including but not limited to power rating, torque, downward thrust, and type and size of drilling tools to be

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used.

- F. Records and Reports: Submit daily reports and shaft record reports or logs as required by ADSC's "Standards and Specifications for the Foundation Drilling Industry," using ADSC formats for forms.

1.05 QUALITY ASSURANCE

- A. Construction Standards: Drilled shaft foundations shall be constructed in accordance with applicable requirements of ACI 336.1 and ADSC's "Standards and Specifications for the Foundation Drilling Industry."

B. Design Criteria:

1. Drilled shaft foundations shall consist of monolithically cast-in-place concrete piles of the sizes indicated.
2. Shaft foundations shall be straight cylindrical shaft type as indicated.
3. Shaft foundations shall extend from the indicated concrete cutoff elevation to the indicated tip elevation.

C. Tolerances:

1. Maximum variation of the center of any shaft foundation from the required location: 3 inches, measured at the ground surface.
2. Bottom Diameter: minus zero, plus 6 inches, measured in any direction.
3. Maximum variation from plumb: 1 (horizontal):40 (vertical).
4. Maximum bottom level tolerance: plus or minus 2 inches.

D. Inspection of Shaft Excavations:

1. The Contractor shall provide equipment for checking the dimensions and alignment of each shaft excavation. Dimensions and alignment shall be determined jointly by the Contractor and the Engineer. Final shaft depths shall be measured with an appropriate weighted tape measure or other approved method after final cleaning.
2. A minimum of 50 percent of the base of each shaft shall have less than 1/2 inch of sediment at the time of placement of concrete. Maximum depth of sediment or debris at any place on the base of the shaft shall not exceed 1-1/2 inches. Shaft cleanliness will be determined by the Geotechnical Engineer by visual inspection.

1.06 SEQUENCING AND SCHEDULING

- A. Unless otherwise permitted by the Engineer, the Contractor shall schedule drilling or excavating, installation of reinforcing steel and concrete placement so that each excavated shaft is poured the same day that the drilling is performed.
- B. Do not permit vibration or excessive wheel loads within the immediate vicinity of any shaft excavation until placement of concrete is complete. Maintain excavation stability at all times.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Concrete Reinforcement: Conform to applicable requirements of Section 03 20 00,

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Concrete Reinforcing, of grades and sizes indicated.

- B. Concrete: Conform to applicable requirements of Section 03 30 00, Cast-in-Place Concrete. Provide class of concrete indicated on the Contract Drawings. Where class of concrete is not indicated, provide Class 3000 concrete.

1. Prepare separate mix designs for each class of concrete.
2. Slump for concrete: Slump shall be 4 inches plus or minus 1 inch for dry shafts without temporary casing, and 7 inches plus or minus 1 inch for dry shafts with temporary casing.

- C. Steel Casing:

1. Where earth wall of drilled shaft is unstable or has a tendency to slough, crumble, or fall away, provide temporary steel casing to stabilize the shaft wall.
2. Inside diameter of the casing shall be the full diameter of the drilled shaft foundation as indicated, plus or minus 1/2 inch.
3. Steel casing shall have adequate strength to withstand the pressure of concrete placement without distortion.
4. Inside surfaces of steel casing shall be smooth and coated to facilitate easy lifting and removal during placement of concrete.

2.02 EXCAVATING AND DRILLING EQUIPMENT

- A. Excavating and drilling equipment shall have adequate capacity, including power, torque, and down thrust to excavate a hole of the maximum diameter and to a depth of 20 percent beyond the depth indicated. Excavation and overreaming tools shall be of adequate design, size, and strength to perform the work indicated.
- B. When the material encountered cannot be drilled using conventional earth augers or overreaming tools, special drilling equipment shall be provided, including rock core barrels, rock tools, air tools, and other equipment as necessary to construct the shaft excavation to the size and depth indicated.

PART 3 - EXECUTION

3.01 EXCAVATION

- A. General:

1. Excavate for shaft foundations by drilling or by other methods to advance the excavation to the required bottom elevation as indicated on the Contract Drawings or as directed by the Engineer. Avoid over excavation. Excavation shall be performed through whatever materials are encountered to the dimensions, depths, and tolerances indicated. Bottoms of excavations shall be level and flat.
2. Protect excavated walls with temporary steel casing as necessary to prevent cave-ins, displacement of the surrounding earth, water incursion, injury to personnel, and damage from construction operations. Maintain indicated neat lines of excavation for cased areas.
3. Make bottom surfaces level within the tolerances specified herein. Remove loose material, debris, and muck with cleaning buckets.

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B. Ground Water Control:

1. Notify the Geotechnical Engineer immediately when ground water is encountered.
2. Suitable steel casings shall be furnished and placed when necessary to control water. Drilling mud or chemical stabilizers shall not be used unless permitted by the Engineer.

C. Inspection: After completion of excavation and prior to placement of reinforcing steel, the condition of the excavation will be inspected by the Engineer. Use clean-out buckets or air-lifts to remove any slough or other loose material from the shaft prior to placing reinforcing steel and concrete. An accumulation of soil or rock in the bottom of the excavation will not be permitted.

3.02 INSTALLATION OF CONCRETE REINFORCEMENT

- A. Where it is not practicable to deliver the cage assembly to the jobsite as a complete unit ready for installation, make the remaining connections or splices, as indicated on the approved Shop Drawings, at-grade prior to lowering the assembly into the hole.
- B. Lower reinforcing steel into the hole in such a manner as to prevent damage to the walls and cause sloughing. Place and tie or clip symmetrically about the axis of the shaft. Use centering devices, securely attached to the cage, to clear the shaft walls and to maintain the cage in place throughout the concrete placement.
- C. Set reinforcing steel at required location and elevation prior to concrete placement. Hold and support steel such that it does not move during concrete placement.
- D. Check the elevation of top reinforcing steel before and after concrete placement. Make adjustments if steel cage position is not maintained.
- E. Check depth of hole using a weighted tape before and after placement of the reinforcing steel. If more than 1 inch to the bottom of the hole is lost, remove cage and remove slough at bottom of hole.

3.03 CONCRETE PLACEMENT

- A. Place concrete in dry excavations whenever practicable. Use all practicable means to obtain a dry excavation before and during concrete placement.
- B. Concrete shall be placed as soon as possible after reinforcing steel installation. Concrete placement shall be continuous from the bottom to the top elevation of the shaft. Concrete placement shall continue until good quality is evident at the top of the shaft. Concrete shall be placed with a tremie pipe connected to a concrete boom truck.
- C. Infiltration of groundwater at or near the bottom of the hole exceeding $\frac{1}{4}$ inch rise per minute will be considered a wet placement.
- D. Wet Concrete Placement
 1. Fill hole with water or slurry to the natural water level to equalize the hydraulic head inside and outside the shaft excavation before starting concrete placement. Use only concrete mix designed for tremie placement.

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2. Tremie shall be constructed such that it is watertight and will readily discharge concrete. The tremie shall be of sufficient length to permit the discharge end to be immersed in concrete at all times.
3. A plug or similar device shall be used to separate the concrete from the fluid in the hole until pumping begins. Once concrete placement begins, the tip of the tremie pipe shall be maintained to prevent reentry of the slurry into the pipe.
4. Flow of concrete shall be continuous and concrete in tremie shall have sufficient capacity to maintain a positive pressure differential at all times to prevent water or slurry intrusion into the shaft concrete.

3.04 WITHDRAWAL OF TEMPORARY STEEL CASING

- A. Where temporary steel casings are used to support the excavation walls, withdraw the casing as the concrete is being placed, unless otherwise indicated or unless the Engineer requires that the casing be permanently grouted in place. Remove the steel casing in such a manner so that the lower edge of the steel liner will always remain a minimum of 5 feet below the surface of the concrete as placed to prevent water from entering the casing from the bottom. Vibrate concrete during withdrawal of the steel casing.

3.05 FIELD QUALITY CONTROL

- A. Inspections and Tests: The Contractor shall perform inspections and tests of concrete as specified in drawings.
- B. Records and Reports: Keep a record, on an approved form, for each drilled shaft foundation installed. Record on the form the location, dimensions, elevations of top and bottom, depth of stratum penetration, condition of bottom of excavation, concrete placement data, a continuous record of actual concrete volume placed versus theoretical volume, and any other data called for on the approved report form or pertinent to the foundation.

END OF SECTION

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:

1. Hot-mix asphalt overlay.
2. Hot-mix asphalt patching.

B. Related Requirements:

1. Section 312000 "Earth Moving" for subgrade preparation, fill material, separation geotextiles, unbound-aggregate subbase and base courses, and aggregate pavement shoulders.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Herbicide.

B. Hot-mix asphalt designs.

1.3 INFORMATIONAL SUBMITTALS

A. Material Certificates:

1. Aggregates.
2. Asphalt binder.
3. Tack coat.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of the City of Seaside for asphalt paving work.

1. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

PART 2 – PRODUCTS

2.1 AGGREGATES

- A. Coarse Aggregate: ASTM D692/D692M, sound; angular crushed stone, crushed gravel, or cured, crushed blast-furnace slag.
- B. Fine Aggregate: ASTM D1073, sharp-edged natural sand or sand prepared from stone, gravel, cured blast-furnace slag, or combinations thereof.
- C. Mineral Filler: ASTM D242/D242M rock or slag dust, hydraulic cement, or other inert material.

2.2 ASPHALT MATERIALS

- A. Asphalt Binder: ASTM D6373 binder designation PG 58-28.
- B. Asphalt Cement: ASTM D3381/D3381M for viscosity-graded material.

- C. Tack Coat: ASTM D977 emulsified asphalt, or ASTM D2397/D2397M emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.

2.3 AUXILIARY MATERIALS

- A. Recycled Materials for Hot-Mix Asphalt Mixes: Reclaimed asphalt pavement; reclaimed, unbound-aggregate base material; and recycled tires, asphalt shingles, or glass from sources and gradations that have performed satisfactorily in previous installations, equal to performance of required hot-mix asphalt paving produced from all new materials.
- B. Herbicide: Commercial chemical for weed control, registered by the EPA, and not classified as "restricted use" for locations and conditions of application. Provide in granular, liquid, or wettable powder form.

2.4 MIXES

- A. Hot-Mix Asphalt: Dense-graded, hot-laid, hot-mix asphalt plant mixes approved by the City of Seaside; designed in accordance with procedures in AI MS-2, "Asphalt Mix Design Methods"; and complying with the following requirements:
 - 1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.

PART 3 – EXECUTION

3.1 PATCHING

- A. Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches (300 mm) into perimeter of adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompact existing unbound-aggregate base course to form new subgrade.
- B. Portland Cement Concrete Pavement: Break cracked slabs and roll as required to reseal concrete pieces firmly.
 - 1. Remove disintegrated or badly cracked pavement. Excavate rectangular or trapezoidal patches, extending into perimeter of adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Recompact existing unbound-aggregate base course to form new subgrade.
- C. Tack Coat: Before placing patch material, apply tack coat uniformly to vertical asphalt surfaces abutting the patch. Apply at a rate of 0.05 to 0.15 gal./sq. yd. (0.2 to 0.7 L/sq. m).
 - 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
 - 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

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- D. Placing Patch Material: Fill excavated pavement areas with hot-mix asphalt base mix for full thickness of patch and, while still hot, compact flush with adjacent surface.

3.2 SURFACE PREPARATION

- A. Ensure that prepared subgrade is ready to receive paving. Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces.
- B. Herbicide Treatment: Apply herbicide in accordance with manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.
 - 1. Mix herbicide with prime coat if formulated by manufacturer for that purpose.
- C. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd. (0.2 to 0.7 L/sq. m).
 - 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
 - 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.3 JOINTS

- A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.
 - 1. Clean contact surfaces and apply tack coat to joints.
 - 2. Offset longitudinal joints, in successive courses, a minimum of 6 inches (150 mm).
 - 3. Offset transverse joints, in successive courses, a minimum of 24 inches (600 mm).
 - 4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method in accordance with AI MS-22, for both "Ending a Lane" and "Resumption of Paving Operations."

3.4 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.
 - 1. Complete compaction before mix temperature cools to 185 deg F (85 deg C).
- B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.

- C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
 - 1. Average Density, Rice Test Method: 92 percent of reference maximum theoretical density in accordance with ASTM D2041/D2041M, but not less than 90 percent or greater than 96 percent.
 - D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
 - E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.
 - F. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
 - G. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.
- 3.5 INSTALLATION TOLERANCES
- A. Pavement Thickness: Compact each course to produce thickness indicated within the following tolerances:
 - 1. Base Course and Binder Course: Plus or minus 1/2 inch (13 mm).
 - 2. Surface Course: Plus 1/4 inch (6 mm), no minus.
 - B. Pavement Surface Smoothness: Compact each course to produce surface smoothness within the following tolerances as determined by using a 10-foot (3-m) straightedge applied transversely or longitudinally to paved areas:
 - 1. Base Course and Binder Course: [1/4 inch (6 mm)]
 - 2. Surface Course: [1/8 inch (3 mm)]
 - 3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch (6 mm).
- 3.6 FIELD QUALITY CONTROL
- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
 - B. Replace and compact hot-mix asphalt where core tests were taken.
 - C. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.
- 3.7 WASTE HANDLING
- A. General: Handle asphalt-paving waste in accordance with approved waste management plan required in Section 017419 "Construction Waste Management and Disposal."

END OF SECTION 321216

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. The Contract documents.
- B. Section 26 00 00: General Electrical Specifications
- C. Appendices: CT4000 Make-Ready Requirements Specification (14 pages), CT4000 Level 2 Commercial Charging Station Specifications (4 pages), CT4000 Family ChargePoint Networked Charging Station Installation Guide (78 pages)

1.02 GENERAL

- A. The project includes the construction of complete owner supplied Electric Vehicle (EV) Charging Station, including all components. The installation shall conform to all requirements as defined by the applicable codes, laws, rules, regulations and standards as specified in the Contract.
- B. The Contractor shall include all items and all work reasonable required to complete the System in accordance with the Agreement. If the Contractor is in doubt as to the intent of any portion of these specifications, or necessary information is omitted, the Contractor shall notify the Owner in writing for clarifications or corrections to be provided by addendum.
- C. All cut sheets, shop drawings, and technical specifications shall be submitted, reviewed and accepted by the Owner per the guidelines specified in the Contract.
- D. Refer to the appendices for technical information for the owner supplied CT4000 Level 2 EV Charging Station.
- E. In the event of a conflict, the technical specifications for the CT4000 shall prevail over the requirements of this document.

1.03 WORK INCLUDED

- A. The work shall include the materials, labor, tools, installation, testing, services, and incidentals necessary to install owner supplied commercial grade, dual-port, pedestal mounted SAE J1772 Level 2 chargers with self-retracting cords. Each port shall have 240V/40A charging on each port and sufficient capacity to supply 40A to each port when all ports are being used to charge vehicles simultaneously.
- B. Panel board(s) and conduit(s) supplying chargers should be sized to accommodate future expansion plans-i.e., addition of up to 4 vehicle chargers.
- C. At least one port shall supply an ADA parking space.
- D. Bollards or other code compliant protection against vehicle strikes.
- E. Include a spare 4" conduit with pull wire from the main service to a Crusty box in the vicinity of the EV panel board(s).
- F. Chargers shall include metering and ability for Owner to collect fees from use of the stations. Meter and fee system shall be web-based with data transmission over cellular

modem.

- G. The Contractor shall ensure adequate clearance and equipment space within the allotted areas and existing building and site conditions. All equipment and sizes / clearances shall be coordinated with the Owner prior to rough-in.

1.04 QUALITY ASSURANCE

- A. All equipment shall be listed to Underwriters' Laboratories (UL) standards as applicable.
- B. Installer Qualifications - The installing contractor shall be familiar with the equipment to be installed and have the necessary training to install in the equipment, inclusive of a California Class A or Class B and C-10 or C-46 license.

1.05 MATERIALS, DELIVERY, STORAGE, AND HANDLING

- A. Owner shall supply CT4000 Charging Station
- B. Contractor shall provide all remaining materials. All materials shall be delivered new, undamaged and without defects.
- B. All equipment and panels shall be handled with care so as not to damage the delivered products. All equipment shall be installed in new and neat condition.
- C. All exterior equipment to be sunlight and UV resistant.
- D. Appropriate protective clothing shall be worn when handling the equipment.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Acceptable system manufacturers/vendors shall be as specified in other sections of this Contract. Manufacturers shall provide their latest line of equipment, meeting all current industry standards, utility requirements and criteria set forth in this Contract. The Owner seeks equipment from proven, industry leading manufacturers in solid financial standing, producing tier-one equipment.
- B. Contractor proprietary products shall have an ICC report or a testing report stamped and signed by a licensed California engineer.

PART 2 - PRODUCTS

3.01 INSTALLATION STANDARDS

- A. System Installation shall conform to the equipment manufacturers Installation Manual(s) and requirements or guidelines. Refer to appendices for information.
- B. All Local, State, and NEC codes shall be observed, including all industry standards related to the installation, operation, and maintenance of EV charging stations.

3.02 TESTING

- A. System shall be tested per the manufactures requirements.

SECTION 34 60 13: Electric Vehicle Charging Station
City of Seaside Solar Photovoltaic Project

3.03 DOCUMENTATION

- A. All commissioning and testing reports shall be provided to the Owner within 15-days of completion of testing.

END OF SECTION

APPENDICES

for

66.6 KWAC CITY HALL SOLAR CANOPIES

located at

**440 HARCOURT AVENUE
SEASIDE CA 93955**

**CITY OF SEASIDE
DEPARTMENT OF PUBLIC WORKS**



City of Seaside
440 Harcourt Ave.
Seaside, CA 93955



January 2, 2019

File No.: 302488-001

Mr. Greg Mazur, P.E.
Blymer Engineers, Inc.
1101 Marina Village Parkway, Suite 100
Alameda, CA 94501

PROJECT: SEASIDE BRANCH LIBRARY PV SYSTEM
500 HARCOURT AVENUE
SEASIDE, CALIFORNIA

SUBJECT: Addendum No. 1 to Geotechnical Engineering Report

REF.: Geotechnical Engineering Report, Seaside Branch Library PV System, 500
Harcourt Avenue, Seaside, California, by Earth Systems Pacific, dated
November 29, 2018

Dear Mr. Mazur:

Per our recent discussion with Mr. Carl Milsum, S.E., the minimum foundation pier penetration depth of 15 feet into dense soils or weathered bedrock recommended on Page 8 in the referenced report may be reduced to the depth required by the engineering calculations to provide the necessary vertical and lateral support. However, the weight of the piers should be combined with other forces in the vertical capacity calculations due to the loss of frictional support that might occur during liquefaction of the overlying saturated sandy soils. As mentioned in the report, the pier penetration into dense soil or bedrock should be confirmed by the geotechnical engineer based on the conditions observed at the time of construction.

Thank you for this opportunity to have been of service. Please do not hesitate to contact this office if you have any questions or desire additional information.

Sincerely,

Earth Systems Pacific

George J. Barnett
Geotechnical Engineer



Doc. No.: 1901-001.ADD1/ev



November 29, 2018

File No.: 302488-001

Mr. Greg Mazur, P.E.
Blymer Engineers, Inc.
1101 Marina Village Parkway, Suite 100
Alameda, CA 94501

PROJECT: SEASIDE BRANCH LIBRARY PV SYSTEM
500 HARCOURT AVENUE
SEASIDE, CALIFORNIA

SUBJECT: Geotechnical Engineering Report

REF.: Proposal for a Geotechnical Engineering Investigation, Seaside Branch Library PV System, 500 Harcourt Avenue, Seaside, California, by Earth Systems Pacific, dated August 21, 2018

Dear Mr. Mazur:

In accordance with your authorization of the above-referenced proposal, this geotechnical engineering report was prepared for use in development of plans and specifications for the planned Seaside Branch Library PV System at 500 Harcourt Avenue in Seaside. We understand that the project will entail installation of four to five canopies within the existing parking lot. No site grading is planned, but underground electrical conduits will be installed.

Scope of Services

The scope of work for the geotechnical engineering investigation included a general site reconnaissance, subsurface exploration, laboratory testing of soil samples, engineering evaluation of the data collected, and preparation of this report. The analysis and subsequent recommendations were based on verbal information and an email message from the client on August 1, 2018.

The report and recommendations are intended to comply with the considerations of Sections 1803.1 through 1803.6, 1803.7 (portions of), J104.3 and J104.4 of the 2016 California Building Code (CBC), and common geotechnical engineering practice in this area at this time under similar conditions. The tests were performed in general conformance with the standards noted, as modified by common geotechnical practice in this area at this time under similar conditions.



Preliminary geotechnical recommendations for foundations, utility trenches, site drainage and finish improvements, and geotechnical observation and testing are presented to guide the development of project plans and specifications. It is our intent that this report be used by the client to form the geotechnical basis of the design of the project as described herein, and in the preparation of plans and specifications.

Evaluation of the site geology; analyses of the soil for infiltration rates, mold or other microbial content, asbestos, radioisotopes, hydrocarbons, or other chemical properties are beyond the scope of this report. This report does not address issues in the domain of contractors such as, but not limited to, site safety, loss of volume due to stripping of the site, shrinkage of soils during compaction, excavatability, shoring, temporary slope angles, and construction means and methods. Ancillary features such as temporary access roads, fences, light poles, swimming pools, effluent disposal systems, LID/BMP improvements, and nonstructural fills are not within our scope and are also not addressed.

To verify that pertinent issues have been addressed and to aid in conformance with the intent of this report, it is requested that foundation plans be submitted to the geotechnical engineer for review as they near completion. In the event that there are any changes in the nature, design, or locations of improvements, or if any assumptions used in the preparation of this report prove to be incorrect, the conclusions and recommendations contained herein shall not be considered valid unless the changes are reviewed and the conclusions of this report are verified or modified in writing by the geotechnical engineer. The criteria presented in this report are considered preliminary until such time as they are verified or modified in writing by the geotechnical engineer in the field during construction.

Site Setting

The Seaside Branch Library is located at 500 Harcourt Avenue in Seaside, California. The proposed PV System will be constructed in the main parking lot fronting the library and other community buildings. The parking lot is surfaced with asphalt concrete pavement, contains some landscape islands, and is gently sloped to drain.



Subsurface Investigation and Laboratory Testing

The subsurface exploration consisted of five borings drilled at the site on September 17, 2018. The borings were drilled using a truck mounted Mobile Drill rig, Model B-53, equipped with an 8-inch outside diameter continuous flight, hollow-stem auger. The approximate boring locations are indicated on the attached Boring Location Map.

Soils encountered in the borings were categorized and logged in general accordance with the Unified Soil Classification System (ASTM D2488-17), and the bedrock was categorized with regard to type, hardness, degree of weathering, and amount of fracturing. Copies of the boring logs are attached. As the borings were drilled, soil and bedrock samples were obtained using an internally-lined barrel sampler (ASTM D 3550-17, with shoe similar to D 2937-17), standard penetration tests were performed at selected intervals (ASTM D1586-11), and bulk samples were obtained from the auger cuttings.

Nine liner samples were tested for unit weight and moisture (ASTM D 2937-17, modified for ring liners). One bulk sample and two standard penetration test samples were tested for grain size distribution (ASTM D 1140-17 and D 422-63/07). A sample of the upper soil was tested by CERCO Analytical for corrosion potential. A description of their test methods, the results of their tests, and a brief evaluation of the test results; as well as the results of other laboratory tests, are attached.

General Subsurface Profile

The pavement sections at the boring locations consisted of approximately 2 to 3 inches of asphalt concrete over 4 to 8 inches of aggregate base. The underlying soils were classified as loose to medium dense poorly graded sands with clay (SP-SC) and clayey sands (SC). At the locations of Borings 2, 3, and 5, the clayey sand became dense below depths ranging from 13-½ to 18 feet. In Borings 3 and 4, layers of fat clay and sandy fat clay (CH) were encountered below depths of 9 and 10 feet, respectively. The soil contained significant quantities of organic material in most of the borings below an average depth of 8 feet and extending to a maximum depth of 18 feet. In the deep boring (Boring 5), mudstone bedrock was present below 22-½ feet. The mudstone was soft (in terms of bedrock consistency), slightly weathered, and contained few silt laminations. Groundwater was encountered at depths ranging from 7 to 13 feet below the ground surface. The soils above the groundwater were generally moist to very moist at the time of drilling.



Conclusions

Site Suitability:

Based on the results of the field investigation and laboratory testing program, in our opinion, the site is geotechnically suitable for the proposed PV system provided that the recommendations contained herein are implemented in the design and construction. The primary geotechnical consideration is the potential for seismically-induced settlement of the upper soils at the site. Due to this consideration, it is recommended that the PV canopies be supported by either drilled, cast-in-place, reinforced concrete friction piers (caissons) extending below the potentially liquefiable soils, or that ground improvement measures be implemented to reduce the potential for seismically-induced settlements and to allow the canopies to be supported by conventional spread footings.

Soil Expansion Potential:

The upper soils at the site are essentially non-plastic and therefore have a low expansion potential. Thus, measures are not considered necessary to mitigate soil expansion and contraction.

Seismic Setting:

The site is located within a seismically active area, but outside of Alquist-Priolo Earthquake Fault Zones. The USGS Working Group on California Earthquake Probabilities (WGCEP) (1995; cited in WGCEP 2008) originally classified seismic sources in California as either Type A, B, or C. The 1997 Uniform Building Code and the 2001 California Building Code (CBC) adopted these designations and classified faults based on the rate of their seismicity and likelihood of generating damaging earthquakes. Type A sources were defined as faults that have sufficient data on the location, timing, and slip during previous earthquakes that permanent rupture boundaries can be hypothesized. Type B sources were defined as faults that have slip-rate estimates but where data on distribution and timing of previous events are inadequate to estimate recurrence intervals. Type C sources were defined as crustal shear zones where significant strain is accumulated but where knowledge is insufficient to apportion slip onto specific faults. Type A faults have generally produced the strongest earthquakes, but Type B faults are capable of producing earthquakes of significant magnitude.



According to the Maps of Known Active Fault Near Source Zones in California and Adjacent Portions of Nevada (International Conference of Building Officials, February 1998), the site is located about 2 km northeast of the Type B Monterey Bay-Tularcitos Fault. No Type A faults are mapped within 20 km of the site. Strong ground shaking should be expected during the design life of the planned PV system. At a minimum, the planned improvements should be designed to resist seismic shaking in accordance with current California Building Code (CBC) requirements. Seismic design parameters based on the 2016 Edition of the CBC are presented later in the report.

Potential for Seismically-Induced Settlement:

Seismically-induced settlement can often have two components; liquefaction-induced settlement of saturated soils, and seismically-induced (non-liquefaction) settlement of unsaturated sands. Soil liquefaction is a phenomenon where saturated granular soils near the ground surface undergo a substantial loss of strength due to increased pore water pressure resulting from cyclic stress applications induced by earthquakes or other vibrations. In this process, the soil acquires mobility sufficient to permit both vertical and horizontal movements, which if not confined, may result in significant deformations. Soils most susceptible to liquefaction are loose, uniformly graded, fine-grained sands. In addition, recent literature indicates that fine grained soils (silts and clays) may also be susceptible to liquefaction or cyclic strain softening. Examples of highly susceptible fine-grained soil include “nonplastic silts and clayey silts of low plasticity ($PI < 12$) at high water content to liquid limit ratios ($w_c/LL > 0.85$).” Examples of soils moderately susceptible to liquefaction include “clayey silts and silty clays of moderate plasticity ($12 < PI < 18$) at $w_c/LL > 0.80$ ” (Bray and Sancio, 2006). It is generally acknowledged that liquefaction will not occur if these deposits are located at a depth greater than 50 feet below the ground surface. In the deeper deposits, the greater overburden pressure is sufficient to prevent liquefaction from occurring.

Seismically-induced (non-liquefaction) settlement of unsaturated granular soils occurs when the soils experience a loss of volume when subjected to sufficiently strong ground shaking. Although seismically induced settlement of unsaturated sands is not a form of liquefaction, it is a related phenomenon that can occur in conjunction with liquefaction.

The potential for seismically-induced liquefaction and unsaturated sand settlement was evaluated using the methodology suggested in the 1996 and 1998 National Center for Earthquake



Engineering Research workshops (NCEER) on evaluation of liquefaction resistance of soils (Youd & Idriss, editors), and the 1999 Southern California Earthquake Center (SCEC) "*Recommended Procedures for Implementation of DMG Special Publication 117*".

The analysis indicated that the upper soils would be subject to seismically-induced settlement, with total settlement estimated to be on the order of 7 to 8 inches. The settlement would likely occur within the upper 14 to 20 feet of soil. The analysis also indicated that seismically-induced soil settlement could result in loss of foundation bearing capacity unless the foundations are extended into the deeper dense soil or bedrock (drilled piers), or unless ground improvement measures are taken to reduce the potential for excessive seismically-induced soil settlement (ground improvement measures combined with conventional spread footings).

General recommendations for ground improvement are provided later in this report assuming that ground improvement measures such as rammed aggregate piers are to be utilized. However, ground improvement is typically performed by a design-build specialty contractor who determines the dimensions of the ground improvement elements, as well as the allowable bearing capacity and other details of the design based on the geotechnical information provided herein. It is pointed out that, while ground improvement can reduce the local effects of seismically-induced soil settlement near the ground improvement elements, the potential for seismically-induced settlement will not entirely be eliminated unless the entire site is improved. Thus, it is expected that foundations constructed over the recommended ground improvement measures would not experience complete bearing failure or collapse but may be subject to tilting or other forms of deformation that may require releveling and/or repair following a major earthquake. Our recommendations are intended to comply with Section 1.1, Intent, of the *2015 NEHRP Recommended Seismic Provisions for New Buildings and Other Structures*, which allows some structural damage provided that structural collapse will be avoided and means of egress will be maintained.

A secondary effect of seismically-induced settlement would be possible damage to underground conduits, pavement and other improvements. The conduits and connections should be designed for high strength and ductility with maximum ease of repair. Repair of pavement, exterior flatwork and other site improvements could also be necessary if the soils at the site were to experience seismically-induced settlement.



Soil Corrosion Potential

The corrosivity analysis indicated that based on resistivity measurement, the sample tested is classified as “moderately corrosive”, so measures should be taken to protect all buried iron or steel structures and metallic piping. No chloride ion concentrations were detected, and the sulfate ion concentration was determined to be insufficient to damage reinforced concrete structures and cement mortar-coated steel. The pH of the sample tested was 8.08, which does not present a corrosion problem for buried iron, steel, mortar-coated steel and reinforced concrete structures. The redox potential is indicative of “slightly corrosive” soil conditions. Please refer to the attached Corrosivity Analysis by CERCO Analytical for the complete analysis.

Recommendations

Seismic Design Parameters

1. The seismic design parameters for the site per Chapter 16 of the California Building Code (2016 Edition) are as follows. The values were determined utilizing the USGS U.S. Seismic Design Maps web-based tool and the 2015 International Building Code (2016 CBC) provisions. The site coordinates were determined using the Google Earth web site.

Site Class = E

Short Term Spectral Acceleration Parameter, $S_s = 1.492$ g

1 Second Spectral Acceleration Parameter, $S_1 = 0.543$ g

Site Coefficient, $F_a = 0.9$

Site Coefficient, $F_v = 2.4$

Adjusted Spectral Acceleration Parameter, $S_{MS} = 1.343$ g

Adjusted Spectral Acceleration Parameter, $S_{M1} = 1.303$ g

Design Spectral Acceleration Parameter, $S_{DS} = 0.895$ g

Design Spectral Acceleration Parameter, $S_{D1} = 0.869$ g

Drilled Pier (Caisson) Foundations

1. The PV canopies can be supported by drilled, cast-in-place reinforced concrete friction piers extending below the soils having a potential for seismically-induced settlement. Based on the results of the subsurface exploration, such soils extend to approximate depths ranging from 14 to 20 feet below the ground surface. The piers should penetrate



a minimum 15 feet into the dense soils or weathered bedrock below the upper loose to medium dense soils. The geotechnical engineer should be present during pier drilling operations to observe the recommended penetration into material having the desired consistency. As groundwater was encountered at depths as shallow as 7 feet below the ground surface, casing of the pier excavations during drilling and placement of the concrete using a tremie or other methods acceptable to the design professional and geotechnical engineer should be planned.

2. The piers should have minimum diameters of 24 inches and should be reinforced as directed by the architect/engineer. Minimum clear spacing between piers should be 3 pier diameters.
3. The piers should be designed to derive support from skin friction against the dense soil and bedrock; end-bearing capacity of the piers, and skin friction in the upper soil should be disregarded in the calculations. The dense soil and bedrock should be assigned a maximum allowable skin friction value of 800 psf. The allowable skin friction value may be increased by one-third when transient loads such as wind or seismicity are included. Using these values, total and differential settlements are expected to be on the order of ¼-inch.
4. Lateral loads should be resisted by passive resistance of the soil and bedrock against the piers. Passive resistance within the dense soil and bedrock should be calculated based on an equivalent fluid pressure of 350 pcf. In the upper soils, lateral resistance should be calculated based on a passive equivalent fluid pressure of 150 pcf. Passive resistance may be assumed to act over two pier diameters. Due to possible disturbance during drilling, lateral resistance in the upper 2 feet of soil should be neglected in the calculations.
5. The piers should not deviate from a plumb line by more than 2 percent of the pier length, as measured from the top to the point of interest. Adequate pier oversize may be assumed to provide the recommended tolerance. The bottoms of the pier excavations should be firm and should not contain excessive loose debris and slough material. Loose drilling spoils should be removed or compacted prior to placement of reinforcing steel.



Conventional Spread Footings

1. As an alternative to the drilled piers, the PV canopies can be supported by conventional spread footings bearing on the ground improvement elements (refer to subsequent section). The footings should have minimum depths of 24 inches below lowest adjacent grade and should be reinforced as directed by the design engineer. The footing excavations should be observed by the geotechnical engineer prior to placement of formwork or reinforcement and should be moistened to close any desiccation cracks prior to placement of concrete.
2. The foundation design parameters should be based on the preliminary recommendations for ground improvement provided below, or on final design values provided by the design-build specialty contractor.
3. Resistance to lateral loads should be calculated based on a passive equivalent fluid pressure of 250 pcf and a friction factor of 0.45 (concrete against ground improvement elements). Passive and frictional resistance can be combined in the calculations without reductions. These values are based on the assumption that backfill adjacent to foundations is adequately compacted.

Ground Improvement

1. The ground improvement measures should be designed by the specialty contractor to provide a minimum 6,000 psf allowable foundation bearing capacity, with a 1/3 increase for wind and seismic loading. The corresponding maximum static and differential foundation settlements should be 1 inch and ½ inch, respectively. The ground improvement measures should also provide a minimum friction factor of 0.45 between the improvement elements and the foundation bottoms. The final design should be based on the canopy column loading provided by the structural engineer once the foundation design nears completion.
2. The ground improvement construction should be monitored by the specialty contractor and the geotechnical engineer. Together, the QA/QC program will monitor and document installation procedures, load tests, drill depths, average lift thickness, aggregate quality, and densification of lifts for each ground improvement element. The specialty



contractor's proposed installation methods and QA/QC plans should be submitted to the geotechnical engineer prior to initiating construction.

Utility Trenches

1. A select, noncorrosive, granular, easily compacted material should be used as bedding and shading immediately around utility pipes. The site soils may be used for trench backfill above the select material. However, if obtaining compaction is difficult with the site soils, use of a more easily compacted sand may be desirable. The upper foot of backfill in unimproved areas should consist of native material to reduce the potential for seepage of water into the backfill.
2. Trench backfill in the upper 8 inches of subgrade beneath pavement areas should be compacted to a minimum of 95 percent of maximum dry density. Trench backfill in other areas should be compacted to a minimum of 90 percent of maximum dry density. Jetting of utility trench backfill should not be allowed.
3. The recommendations of this section are minimums only and may be superseded by the specifications of the architect/engineer based upon soil corrosivity or the requirements of pipe manufacturers, utility companies, or the governing jurisdiction.

Site Drainage and Finish Improvements

1. Unpaved ground surfaces should be finish graded to direct surface runoff away from site improvements at a minimum 5 percent grade for a minimum distance of 10 feet. The site should be similarly sloped to drain away from improvements during construction. If this is not practicable due to the terrain, property lines, or other site features, swales with improved surfaces or other drainage facilities should be provided to divert runoff from those areas. The landscape should be planned and installed to maintain proper surface drainage conditions.
2. Runoff should discharge in a non-erosive manner away from foundations, slopes, pavements, and other improvements in accordance with the requirements of the governing jurisdictions.



Geotechnical Observation and Testing

1. It must be recognized that the recommendations contained in this report are based on a limited subsurface investigation and rely on continuity of the subsurface conditions encountered.
2. It is assumed that the geotechnical engineer will be retained to provide consultation during the design phase, to interpret this report during construction, and to provide construction monitoring in the form of testing and observation.
3. Unless otherwise stated, the terms "compacted" and "recompacted" refer to soils placed in level lifts not exceeding 8 inches in loose thickness and compacted to a minimum of 90 percent of maximum dry density. The standard tests used to define maximum dry density and field density should be ASTM D 1557-12 and ASTM D 6938-17, respectively, or other methods acceptable to the geotechnical engineer and jurisdiction.
4. Unless otherwise stated, "moisture conditioning" refers to adjusting the soil moisture to at least optimum moisture prior to application of compactive effort.
5. At a minimum, the following should be provided by the geotechnical engineer:
 - Review of foundation plans as they near completion
 - Professional observation during foundation construction
 - Oversight of soil compaction testing during construction
 - Oversight of soils special inspection during construction
6. Special inspection of grading and foundation construction should be provided as per Sections 1705.6 and 1705.8, and Tables 1705.6 and 1705.8 of the CBC; the soils special inspector should be under the direction of the geotechnical engineer. In our opinion, the following operations should be subject to continuous soils special inspection:
 - Foundation pier drilling
 - Ground improvement



7. In our opinion, the following operations may be subject to *periodic* soils special inspection; subject to approval by the Building Official:
 - Compaction of utility trench backfill
 - Compaction of pavement subgrade and aggregate base courses
8. It will be necessary to develop a program of quality control prior to beginning grading. It is the responsibility of the owner, contractor, or project manager to determine any additional inspection items required by the architect/engineer or the governing jurisdiction.
9. The locations and frequencies of compaction tests should be as per the recommendations of the geotechnical engineer at the time of construction. The recommended test locations and frequencies may be subject to modification by the geotechnical engineer based upon soil and moisture conditions encountered, the size and type of equipment used by the contractor, the general trend of the compaction test results, and other factors.
10. A preconstruction site conference between a representative of the owner, the geotechnical engineer, the soils special inspector, the architect/engineer, and contractors is recommended to discuss planned construction procedures and quality control requirements. This firm should be notified at least 48 hours prior to beginning grading operations.

Closure

This report is valid for conditions as they exist at this time for the type of project described herein. Our intent was to perform the investigation in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the locality of this project at this time under similar conditions. No representation, warranty, or guarantee is either expressed or implied. This report is intended for the exclusive use by the client as discussed in the Scope of Services section. Application beyond the stated intent is strictly at the user's risk.

If changes with respect to the project type or location become necessary, if items not addressed in this report are incorporated into plans, or if any of the assumptions stated in this report are



not correct, the geotechnical engineer should be notified for modifications to this report. Any items not specifically addressed in this report should comply with the California Building Code and the requirements of the governing jurisdiction.

The preliminary recommendations of this report are based upon the geotechnical conditions encountered during the investigation and may be augmented by additional requirements of the architect/engineer, or by additional recommendations provided by the geotechnical engineer based on conditions exposed at the time of construction.

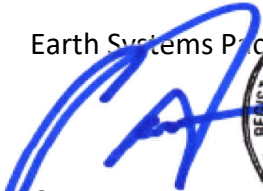
If Earth Systems Pacific is not retained to provide construction observation and testing services, it shall not be responsible for the interpretation of the information by others or any consequences arising there from.

This document, the data, conclusions, and recommendations contained herein are the property of Earth Systems Pacific. This report should be used in its entirety, with no individual sections reproduced or used out of context. Copies may be made only by Earth Systems Pacific, the client, and their authorized agents for use exclusively on the subject project. Any other use is subject to federal copyright laws and the written approval of Earth Systems Pacific.

Thank you for this opportunity to have been of service. Please feel free to contact this office at your convenience if you have any questions regarding this report.

Sincerely,

Earth Systems Pacific


George J. Barnett
Geotechnical Engineer




Phillip Penrose
Staff Engineer

Attachments: Boring Location Map
Boring Logs (5)
Laboratory Test Results

Doc No: 1811-107.SER/ev

TN
MN
13.1



Approximate Scale in Feet

 B-5 Approximate boring location

Base: Google Earth (2018)



Earth Systems Pacific

Seaside Branch Library PV System
500 Harcourt Avenue
Seaside, California

Boring Location Map

302448-001



Earth Systems Pacific

Boring No. 1

PAGE 1 OF 1

LOGGED BY D. T. [signature]

DRILL RIG B-52

FILE NO. 302488-001

AUGER TYPE 8" H S

DATE 9/17/2018

DEPTH [ft]	USCS CLASS	SYMBOL	Seaside Branch Library PV System 500 Harcourt Avenue Seaside, California	SAMPLE DATA						
			SOIL DESCRIPTION	INTERVAL [ft]	SAMPLE NUMBER	SAMPLE TYPE	DRY DENSITY [pcf]	MOISTURE [%]	BLOWS PER 6 IN.	POCKET PEN [psi]
0			AC - 2.5-inches, AB - 7.5-inches							
1	SP-SC		POORLY graded SAND with CLAY; medium dense, yellow brown, moist, mostly fine sand -brown -loose, very moist -black, wet, fine sand, organic debris, wood chips, wood fiber	1.0-5.0	Bag A	○	105.0	6.7	10	
2				1.5-3.0	1-1	■			11	
3									10	
4									4	
5				3.5-5.0	1-2	■			5	
6									3	
7										
8										
9	SC		CLAYEY SAND; medium dense, gray brown, wet, fine to medium sand -gray	8.5-10.0	1-3	●			10	
10									8	
11									11	
12										
13										
14				13.5-15.0	1-4	●			9	
15									9	
16									14	
17										
18										
19										
20				18.5-20.0	1-5	●			12	
21			Bottom of boring at 20'					8		
22			Groundwater encountered at 9'					9		
23										
24										
25										
26										

LEGEND: 2.5" Med Co S [symbol] B S [symbol] S [symbol] SPT [symbol] Gr [symbol]

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



Earth Systems Pacific

Boring No. 2

LOGGED BY D. T. [redacted]

PAGE 1 OF 1

DRILL RIG B-52

FILE NO. 302488-001

AUGER TYPE 8" H [redacted] S [redacted]

DATE 9/17/2018

DEPTH [ft] [in]	USCS CLASS	SYMBOL	Seaside Branch Library PV System 500 Harcourt Avenue Seaside, California	SAMPLE DATA								
			SOIL DESCRIPTION	INTERVAL [ft] [in]	SAMPLE NUMBER	SAMPLE TYPE	DRY DENSITY [pcf]	MOISTURE [%]	BLOWS PER 6 IN.	POCKET PEN [tsf]		
0			AC - 2.5-inches, AB - 4-inches									
-	SC		CLAYEY SAND; medium dense, yellow brown, moist, mostly fine sand, trace fine gravel	0.5-5.0	Bag B	○			13			
1												
-												
2						1.5-3.0	2-1	■	107.3	4.7	12	
-												
3												
-												
4					-loose, brown, very moist						6	
-												
5						3.5-5.0	2-2	■	102.4	15.3	6	
-												
6												
-												
7												
-												
8												
-			-fine to medium sand									
9			-loose, black, fine sand									
-												
10				8.5-10.0	2-3	●			3			
-												
11			-wet						3			
-												
12												
-												
13												
-			-dense, gray, fine to medium sand									
14												
-				13.5-15.0	2-4	●			18			
15									20			
-									23			
16			Bottom of boring at 15'									
-			Groundwater encountered at 11'									
17												
-												
18												
-												
19												
-												
20												
-												
21												
-												
22												
-												
23												
-												
24												
-												
25												
-												
26												
-												

LEGEND ■ 2.5" Med C Co S [redacted] ○ B S [redacted] □ S [redacted] T [redacted] ● SPT ▼ Gr [redacted]

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



Earth Systems Pacific

Boring No. 3

LOGGED BY D. T. [redacted]

PAGE 1 OF 1

DRILL RIG B-52

FILE NO. 302488-001

AUGER TYPE 8" H [redacted] S [redacted]

DATE 9/17/2018

DEPTH [redacted]	USCS CLASS	SYMBOL	Seaside Branch Library PV System 500 Harcourt Avenue Seaside, California	SAMPLE DATA					
			SOIL DESCRIPTION	INTERVAL [redacted]	SAMPLE NUMBER	SAMPLE TYPE	DRY DENSITY [redacted]	MOISTURE [redacted]	BLOWS PER 6 IN. [redacted]
0			AC - 3-inches, AB - 4-inches						
1	SP-SC	[diagonal lines]	POORLY graded SAND with CLAY; medium dense, brown, moist, fine sand						
2									18
3				1.5-3.0	3-1	[solid black]	106.3	3.6	20
4			-loose						16
5				3.5-5.0	3-2	[solid black]	97.7	5.1	6
6									6
7									7
8									
9	CH	[diagonal lines]	FAT CLAY; very stiff, black, very moist, few fine sand, organic debris, grass, wood chips						9
10				8.5-10.0	3-3	[solid black]			12
11									17
12									
13	SC	[diagonal lines]	CLAYEY SAND; medium dense, very dark brown to black, wet, fine to medium sand, high plasticity						7
14				13.5-15.0	3-4	[solid black]			7
15									9
16									
17									
18	SC	[diagonal lines]	CLAYEY SAND; dense, dark gray brown, wet, fine to medium sand						18
19				18.5-20.0	3-5	[solid black]			22
20									25
21			Bottom of boring at 20'						
22			Groundwater encountered at 13'						
23									
24									
25									
26									

LEGEND [redacted] 2.5" Med C [redacted] [redacted] B [redacted] S [redacted] [redacted] S [redacted] T [redacted] [redacted] SPT [redacted] Gr [redacted] [redacted]

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



Earth Systems Pacific

Boring No. 4

LOGGED BY D. T. [redacted] [redacted]

PAGE 1 OF 1

DRILL RIG B-52

FILE NO. 302488-001

AUGER TYPE 8" H [redacted] S [redacted]

DATE 9/17/2018

DEPTH [] [] [] []	USCS CLASS	SYMBOL	Seaside Branch Library PV System 500 Harcourt Avenue Seaside, California	SAMPLE DATA						
			SOIL DESCRIPTION	INTERVAL [] [] [] []	SAMPLE NUMBER	SAMPLE TYPE	DRY DENSITY [] [] [] []	MOISTURE [] [] []	BLOWS PER 6 IN.	POCKET PEN [] [] [] []
0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23 - 24 - 25 - 26 -			AC - 2-inches, AB - 6-inches	1.5-3.0	4-1	[]	103.4	4.5	8 9 10	
	SP-SC	[]	POORLY graded SAND with CLAY; medium dense, yellow brown, moist, mostly fine to medium sand							
		[]	-loose, brown, very moist							
		[]	-black, fine sand, organic debris, wood chips	3.5-5.0	4-2	[]	104.8	9.6	3 5 7	
		[]								
		[]								
		[]		8.5-10.0	4-3	[]			5 4 3	
	CH	[]	SANDY FAT CLAY; very stiff, black, wet, fine to medium sand, organic debris, organic odor							
		[]								
		[]		13.5-15.0	4-4	[]			9 8 11	
		[]								
		[]								
		[]	Bottom of boring at 15' Groundwater encountered at 10'							

LEGEND [redacted] 2.5" Mod C [redacted] [redacted] B [redacted] [redacted] [redacted] S [redacted] [redacted] [redacted] SPT [redacted] [redacted] Gr [redacted]

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



Earth Systems Pacific

Boring No. 5

LOGGED BY D. T. [redacted] [redacted]

PAGE 1 OF 2

DRILL RIG B-52

FILE NO. 302488-001

AUGER TYPE 8" H [redacted] S [redacted]

DATE 9/17/2018

DEPTH [ft] [in]	USCS CLASS	SYMBOL	Seaside Branch Library PV System 500 Harcourt Avenue Seaside, California	SAMPLE DATA						
			SOIL DESCRIPTION	INTERVAL [ft] [in]	SAMPLE NUMBER	SAMPLE TYPE	DRY DENSITY [pcf] [kg/m³]	MOISTURE [%] [g/g]	BLOWS PER 6 IN. [blows]	POCKET PEN [psi] [MPa]
0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23 - 24 - 25 - 26 -			AC - 2-inches, AB - 8-inches							
	SP-SC		POORLY graded SAND with CLAY; medium dense, brown, moist, fine to medium sand -loose, brown, very moist -wet	1.5-3.0 <						

LEGEND 2.5" Mod Clay Borehole Sand SPT Groundwater

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



Earth Systems Pacific

Boring No. 5

LOGGED BY D. T. [redacted]

PAGE 2 OF 2

DRILL RIG B-52

FILE NO. 302488-001

AUGER TYPE 8" H [redacted] S [redacted]

DATE 9/17/18

DEPTH [redacted]	USCS CLASS	SYMBOL	Seaside Branch Library PV System 500 Harcourt Avenue Seaside, California	SAMPLE DATA					
			SOIL DESCRIPTION	INTERVAL [redacted]	SAMPLE NUMBER	SAMPLE TYPE	DRY DENSITY [redacted]	MOISTURE [redacted]	BLOWS PER 6 IN. [redacted]
27 - 28 - 29 - 30 - 31 - 32 - 33 - 34 - 35 - 36 - 37 - 38 - 39 - 40		x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x		28.5-29.0	5-7	●			50/2"
41 - 42 - 43 - 44 - 45 - 46 - 47 - 48 - 49 - 50 - 51 - 52 - 53 -			Bottom of boring at 40' due to auger refusal Groundwater encountered during drilling at 19.5' Groundwater encountered after drilling at 7'	33.5-34.0	5-8	●			50/5"
				38.5-39.0	5-9	●			50/6"

LEGEND [redacted] 2.5" Med C [redacted] S [redacted] ○ B [redacted] S [redacted] [redacted] 2.0" Med C [redacted] S [redacted] ● SPT [redacted] Ground [redacted]

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



Seaside Branch Library PV System
Seaside, California

File No. 302488-001

BULK DENSITY TEST RESULTS

ASTM D 2937-17 (modified for ring liners)

September 25, 2018

BORING NO.	DEPTH feet	MOISTURE CONTENT, %	WET DENSITY, pcf	DRY DENSITY, pcf
B-1	2.5 - 3.0	6.7	112.0	105.0
B-2	2.5 - 3.0	4.7	112.4	107.3
B-2	4.5 - 5.0	15.3	118.1	102.4
B-3	2.5 - 3.0	3.6	110.1	106.3
B-3	4.5 - 5.0	5.1	102.7	97.7
B-4	2.5 - 3.0	4.5	108.1	103.4
B-4	4.5 - 5.0	9.6	114.9	104.8
B-5	2.5 - 3.0	3.7	103.3	99.6
B-5	4.5 - 5.0	10.7	103.7	93.6



Seaside Branch Library PV System
Seaside, California

File No. 302488-001

PARTICLE SIZE ANALYSIS

ASTM D 422-63/07; D 1140-17

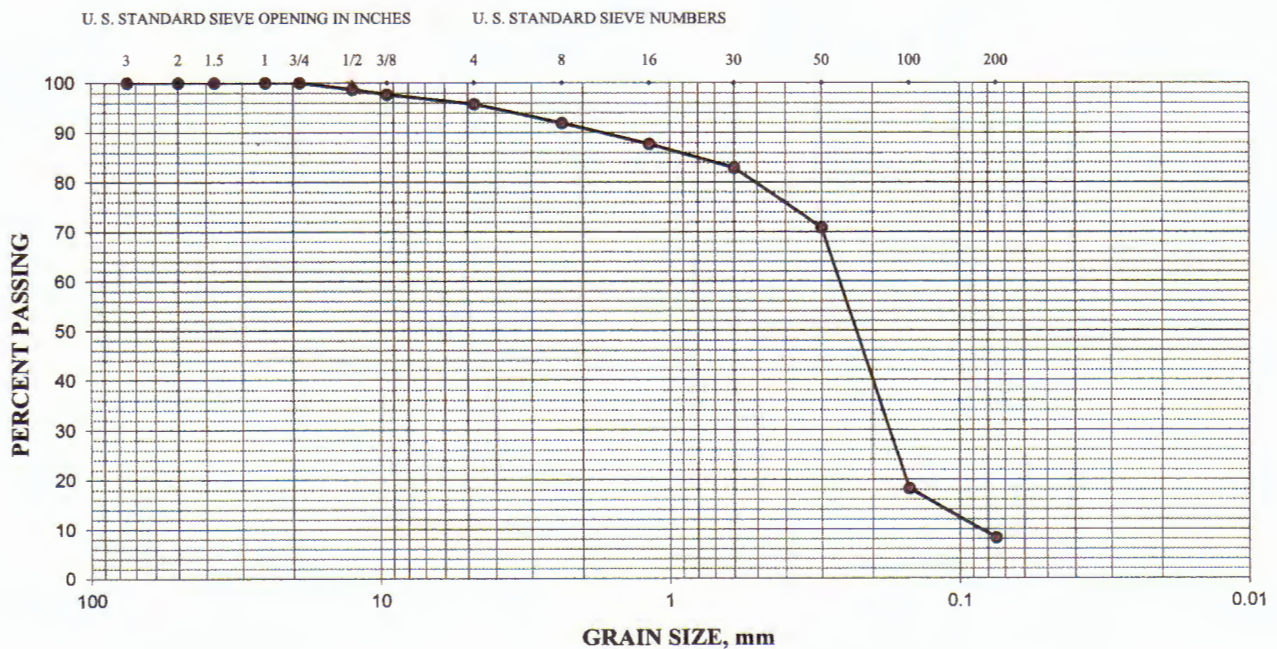
Boring #1 Bag A @ 1.0 - 5.0'

September 25, 2018

Poorly Graded Sand with Clay (SP-SC)

Cu = 3.1; Cc = 1.4

Sieve size	% Retained	% Passing
3" (75-mm)	0	100
2" (50-mm)	0	100
1.5" (37.5-mm)	0	100
1" (25-mm)	0	100
3/4" (19-mm)	0	100
1/2" (12.5-mm)	1	99
3/8" (9.5-mm)	2	98
#4 (4.75-mm)	4	96
#8 (2.36-mm)	8	92
#16 (1.18-mm)	12	88
#30 (600-μm)	17	83
#50 (300-μm)	29	71
#100 (150-μm)	82	18
#200 (75-μm)	92	8





Seaside Branch Library PV System
Seaside, California

File No. 302488-001

PARTICLE SIZE ANALYSIS

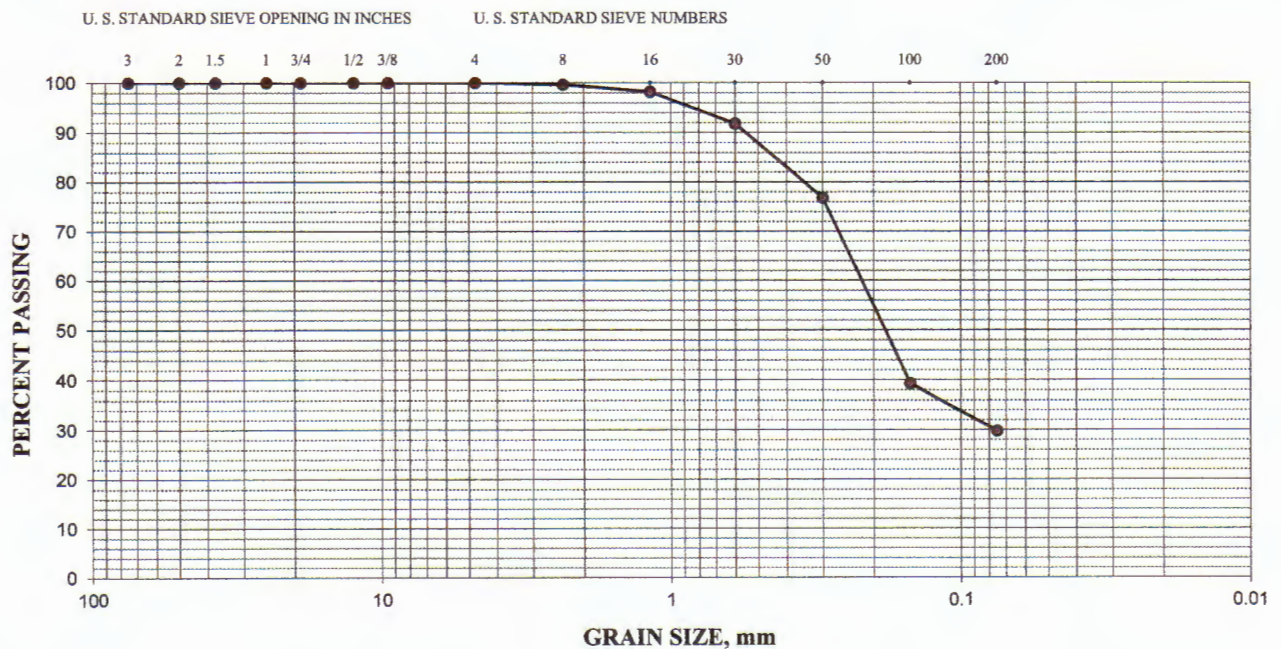
ASTM D 422-63/07; D 1140-17

Boring #2 @ 9.0 - 10.0'

September 25, 2018

Clayey Sand (SC)

Sieve size	% Retained	% Passing
3" (75-mm)	0	100
2" (50-mm)	0	100
1.5" (37.5-mm)	0	100
1" (25-mm)	0	100
3/4" (19-mm)	0	100
1/2" (12.5-mm)	0	100
3/8" (9.5-mm)	0	100
#4 (4.75-mm)	0	100
#8 (2.36-mm)	0	100
#16 (1.18-mm)	2	98
#30 (600- μ m)	8	92
#50 (300- μ m)	23	77
#100 (150- μ m)	61	39
#200 (75- μ m)	70	30





Seaside Branch Library PV System
Seaside, California

File No. 302488-001

PARTICLE SIZE ANALYSIS

ASTM D 422-63/07; D 1140-17

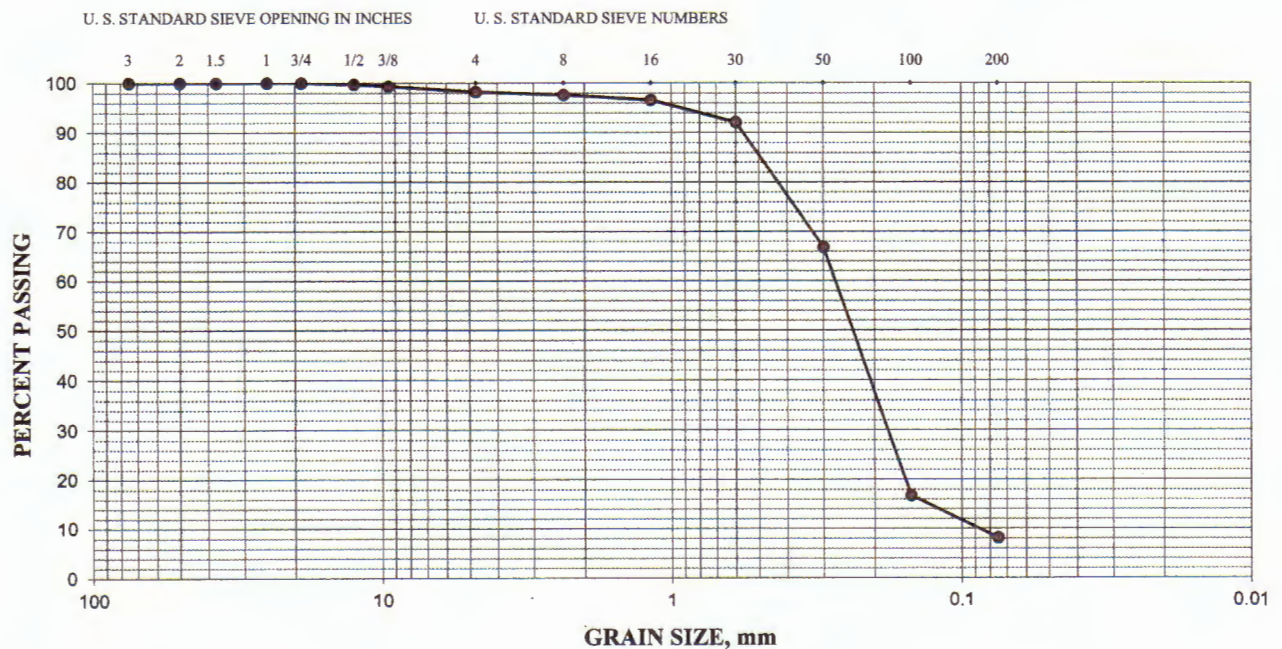
Boring #4 @ 8.5 - 10.0'

September 25, 2018

Poorly Graded Sand with Clay (SP-SC)

Cu = 3.1; Cc = 1.4

Sieve size	% Retained	% Passing
3" (75-mm)	0	100
2" (50-mm)	0	100
1.5" (37.5-mm)	0	100
1" (25-mm)	0	100
3/4" (19-mm)	0	100
1/2" (12.5-mm)	0	100
3/8" (9.5-mm)	1	99
#4 (4.75-mm)	2	98
#8 (2.36-mm)	2	98
#16 (1.18-mm)	3	97
#30 (600-μm)	8	92
#50 (300-μm)	33	67
#100 (150-μm)	83	17
#200 (75-μm)	92	8





1100 Willow Pass Court, Suite A

Concord, CA 94520-1006

925 462 2771 Fax. 925 462 2775

www.cercoanalytical.com

27 September, 2018

Job No. 1809156

Cust. No. 11221

Mr. George Barnett
Earth Systems
500 Park Center Drive, Suite 1
Hollister, CA 95023

Subject: Project No.: 302488-001
Project Name: Seaside Branch Library PV System, 500 Harcourt Ave., Seaside, CA
Corrosivity Analysis – ASTM Test Methods

Dear Mr. Barnett:

Pursuant to your request, CERCO Analytical has analyzed the soil sample submitted on September 20, 2018. Based on the analytical results, a brief corrosivity evaluation is enclosed for your consideration.

Based upon the resistivity measurement, this sample is classified as “moderately corrosive”. All buried iron, steel, cast iron, ductile iron, galvanized steel and dielectric coated steel or iron should be properly protected against corrosion depending upon the critical nature of the structure. All buried metallic pressure piping such as ductile iron firewater pipelines should be protected against corrosion.

The chloride ion concentration reflects none detected with a reporting limit of 15 mg/kg.

The sulfate ion concentration is 54 mg/kg and is determined to be insufficient to damage reinforced concrete structures and cement mortar-coated steel at this location.

The pH of the soil is 8.08, which does not present corrosion problems for buried iron, steel, mortar-coated steel and reinforced concrete structures.

The redox potential is 260-mV and is indicative of potentially “slightly corrosive” soils resulting from anaerobic soil conditions.

This corrosivity evaluation is based on general corrosion engineering standards and is non-specific in nature. For specific long-term corrosion control design recommendations or consultation, please call *JDH Corrosion Consultants, Inc.* at (925) 927-6630.

We appreciate the opportunity of working with you on this project. If you have any questions, or if you require further information, please do not hesitate to contact us.

Very truly yours,
CERCO ANALYTICAL, INC.


J. Darby Howard, Jr., P.E.
President

JDH/jdl
Enclosure

Client: Earth Systems

Client's Project No.: 302488-001

Client's Project Name: Seaside Branch Library PV System, 500 Harcourt Avenue, Seaside, CA

Date Sampled: 17-Sep-18

Date Received: 20-Sep-18

Matrix: Soil

Authorization: 09/19/18/ Transmittal Letter

1100 Willow Pass Court, Suite A

Concord, CA 94520-1006

925 462 2771 Fax. 925 462 2775

www.cercoanalytical.com

Date of Report: 27-Sep-2018

[illegible]

Method:	ASTM D1498	ASTM D4972	ASTM D1125M	ASTM G57	ASTM D4658M	ASTM D4327
Reporting Limit:	-	-	10	-	50	15
Date Analyzed:	25-Sep-2018	25-Sep-2018	-	25-Sep-2018	-	26-Sep-2018

* Results Reported on "As Received" Basis

N.D. - None Detected

Packet Page 390

Cheryl McMillen

Laboratory Director

Quality Control Summary - All laboratory quality control parameters were found to be within established limits

Dana Coe

From: NEM Expanded Followups
Sent: Monday, July 29, 2019 12:03 PM
To: dana@sagerenew.com
Subject: (Advanced to Engineering Review) Notification#116608503 Seaside City Hall SEASIDE CITY HALL

Importance: High

The project has advanced to Engineering Review.

Per the [Rule 21](#) tariff, absent extraordinary circumstances, PG&E shall perform the Initial Review within 15BD following validation of an Interconnection Request.

Please note that the Initial Review may require:

- Additional studies
- System upgrades that may extend the project timeline of issuing the Permission to Operate (PTO) and additional expenses to the Customer

Requested Information	Description
Variance Request	Attach pictures clearly showing: ☐ Customer's side open section showing the entire meter panel including PG&E side ☐ Picture showing routing identified by arrows ☐ Picture showing connection points identified by arrows/circles

PG&E must issue written Permission to Operate before the Customer can the generating system.

We will email you the review results as soon as the report is relayed to us.

Thank you,

Valerie on behalf of
Electric Grid Interconnection Team

Dana Coe

From: Dana Coe
Sent: Thursday, July 25, 2019 1:27 PM
To: 'NEM Expanded Followups'
Subject: RE: INCOMPLETE (Application) NEM Def. Notice-Notification#116608503 Seaside City Hall
Attachments: Seaside SLD 20190725.pdf

Thank you, Valerie –

We have decided to proceed with a different inverter, SMA STP33-US-41. An updated SLD is attached.

I acknowledge that some photos required to accompany the variance request are still pending. Other than these photos, are there any other informational items that you will need to finalize the interconnection application?

Thank you kindly!

Dana Coe
Associate Principal
Sage Renewables

415-757-5042 Direct | 415-663-9914 Office
1719 Fifth Avenue | San Rafael, CA 94901
[LinkedIn–Dana Coe](#) | [sagerenew.com](#)

From: NEM Expanded Followups <NEMExpFollowups@pge.com>
Sent: Friday, April 19, 2019 9:09 AM
To: Dana Coe <dana@sagerenew.com>
Subject: RE: INCOMPLETE (Application) NEM Def. Notice-Notification#116608503 Seaside City Hall
Importance: High

Hi Dana,

Thank you for the information. You may wait until the inverter is added to the Go Solar list or you may select an inverter from the list that already has the FWVW requirement enabled. Please note that the project cannot move forward until the PVI models are on the Go Solar list. Please advise as to how you would like to proceed.

Thank you.

Dana Coe

From: NEM Expanded Followups
Sent: Friday, April 19, 2019 9:09 AM
To: Dana Coe
Subject: RE: INCOMPLETE (Application) NEM Def. Notice-Notification#116608503 Seaside City Hall

Importance: High

Hi Dana,

Thank you for the information. You may wait until the inverter is added to the Go Solar list or you may select an inverter from the list that already has the FWVW requirement enabled. Please note that the project cannot move forward until the PVI models are on the Go Solar list. Please advise as to how you would like to proceed.

Thank you.

*Kind regards,
Valerie on behalf of
Electric Grid Interconnection Team*

From: Dana Coe <dana@sagerenew.com>
Sent: Thursday, April 18, 2019 12:18 PM
To: NEM Expanded Followups <NEMExpFollowups@pge.com>
Subject: RE: INCOMPLETE (Application) NEM Def. Notice-Notification#116608503 Seaside City Hall

*******CAUTION: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.*******

Hello Maddie – Thank you for these clarifications. I am providing some additional information as follows:

Inverter: Solectria has provided the attached memo regarding UL-1741SA listing of the volt-watt and frequency-watt functions for the PVI36TL inverter, with anticipated dates. They recently received the listing update for the 50 and 60TL, so for those inverters they are just waiting on CEC to update their website. In light of this additional information, please advise if our application can proceed with the Solectria inverter or if another inverter will have to be specified.

Variance request: Photos are still pending and will be provided at a future date. I acknowledge that the application cannot be approved until they are submitted.

Confirm 24/7 Access: The primary contact at the City of Seaside is:

Scott Ottmar, P.E.
Senior Civil Engineer

Dana Coe

From: Dana Coe
Sent: Thursday, April 18, 2019 12:18 PM
To: 'NEM Expanded Followups'
Subject: RE: INCOMPLETE (Application) NEM Def. Notice-Notification#116608503 Seaside City Hall
Attachments: 1903_CEC listing PVI36-60TL dates.pdf

Hello Maddie – Thank you for these clarifications. I am providing some additional information as follows:

Inverter: Solectria has provided the attached memo regarding UL-1741SA listing of the volt-watt and frequency-watt functions for the PVI36TL inverter, with anticipated dates. They recently received the listing update for the 50 and 60TL, so for those inverters they are just waiting on CEC to update their website. In light of this additional information, please advise if our application can proceed with the Solectria inverter or if another inverter will have to be specified.

Variance request: Photos are still pending and will be provided at a future date. I acknowledge that the application cannot be approved until they are submitted.

Confirm 24/7 Access: The primary contact at the City of Seaside is:

Scott Ottmar, P.E.
Senior Civil Engineer
City of Seaside
40 Harcourt Avenue
Seaside, CA 93955
831-899-6885 (office)
831-899-6311 (fax)
SOttmar@ci.seaside.ca.us

Thank you very kindly for your assistance!

Dana Coe
Associate Principal
Sage Renewables

415-757-5042 Direct | 415-663-9914 Office
1719 Fifth Avenue | San Rafael, CA 94901
[LinkedIn–Dana Coe](#) | sagerenew.com

Dana Coe

From: NEM Expanded Followups
Sent: Monday, March 11, 2019 3:11 PM
To: Dana Coe
Subject: RE: INCOMPLETE (Application) NEM Def. Notice-Notification#116608503 Seaside City Hall

Importance: High

Hello Dana,

Thank you for the updated information and documents. Please see below for the remaining requested information.

Document	Action														
Inverter [FWVW]	Effective 2/22/2019, all new applications must have Smart Inverters that meet the Frequency Watt and Volt Watt functionality requirements. Smart Inverters with this functionality must be listed on the CEC inverter list.														
	The inverter on the application Yaskawa Solectria Solar/ PVI 36TL-480 (480V) [SI1] is not FWVW certified.														
	<table><tr><th>Manufacturer Name</th><th>Model Number¹</th><th>UL 1741 Supplement SA Testing</th><th>UL 1741 SA13 Volt-Var</th><th>UL 1741 SA Freq-Watt Volt-Watt</th></tr><tr><td>Yaskawa Solectria Solar</td><td>PVI 36TL-480 [480V]</td><td>Y</td><td>Y</td><td>N</td></tr></table>					Manufacturer Name	Model Number ¹	UL 1741 Supplement SA Testing	UL 1741 SA13 Volt-Var	UL 1741 SA Freq-Watt Volt-Watt	Yaskawa Solectria Solar	PVI 36TL-480 [480V]	Y	Y	N
	Manufacturer Name	Model Number ¹	UL 1741 Supplement SA Testing	UL 1741 SA13 Volt-Var	UL 1741 SA Freq-Watt Volt-Watt										
	Yaskawa Solectria Solar	PVI 36TL-480 [480V]	Y	Y	N										
When you visit this link: https://gosolarcalifornia.org/equipment/inverters.php , the inverters must have a “Y” under the Frequency-Watt and Volt-Watt column as pictured above.															
For more information about this requirement, please visit www.pge.com/nem2program , under “SMART INVERTER FREQUENCY WATT MODE AND VOLT WATT MODE REQUIREMENTS (2/22/2019)”.															

Document	Action
	Please reply to this email with an inverter model that is compliant with the Frequency Watt and Volt Watt functionality requirements.
Variance Request	<u>Attach pictures clearly showing:</u> [] Customer’s side open section showing the entire meter panel including PG&E side [] Picture showing routing identified by arrows [] Picture showing connection points identified by arrows/circles
Confirm 24/7 Access	Please provide the name and contact information of the City staff member that can provide 24/7 access to the AC Disconnect.

Thank you,

Maddie on behalf of
Electric Grid Interconnection Team

For faster processing, please reply to this email without changing the email subject line.

From: Dana Coe <dana@sagerenew.com>
Sent: Friday, March 8, 2019 7:06 PM
To: NEM Expanded Followups <NEMExpFollowups@pge.com>
Subject: RE: INCOMPLETE (Application) NEM Def. Notice-Notification#116608503 Seaside City Hall

*****CAUTION: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.*****

Hello Maddie – Thank you for following up with us concerning the referenced interconnection application.

We would like to update the application with the following information.

- Our application contained an error for the following query.
 - Maximum 3-phase fault current contributed by the Generating Facility to a 3-phase fault at the Point of Common Coupling (PCC)? (Amps)

Dana Coe

From: Dana Coe
Sent: Friday, March 8, 2019 7:06 PM
To: 'NEM Expanded Followups'
Subject: RE: INCOMPLETE (Application) NEM Def. Notice-Notification#116608503 Seaside City Hall
Attachments: pvi_36tl-480_nrtl-csa_cofc.pdf; 218061 Seaside E-2.0 2019-03-05.pdf; SCE Field Engineering Data Interconnection Request_ Solectria PVI36TL_Up....pdf; Variance Request Form - Revised 5_31_16 - Seaside.docx; PVI36TL-PVI50TL-PVI60TL_Islanding and Fault Data R...pdf; City of Seaside - Customer Authorization Form Executed 2018-05-18.pdf

Hello Maddie – Thank you for following up with us concerning the referenced interconnection application.

We would like to update the application with the following information.

1. Our application contained an error for the following query.
 - **Maximum 3-phase fault current** contributed by the Generating Facility to a 3-phase fault at the Point of Common Coupling (PCC)? (Amps)
 - The correct information should be **86.6 Amps maximum current**.
2. The **inverter** to be installed, Solectria PVI-36TL, is compliant with the Frequency Watt and Volt Watt functionality requirements. Documentation is attached.
3. A revised **single-line diagram** is attached specifying a different and correct A/C disconnect, Eaton DG325NGK.
4. A **variance request form** is attached. **The photos required to accompany the variance request are pending.**
5. **Authorization Form 79-1095** is attached.
6. **Site inspection point of contact** is Scott Ottmar, City Engineer, City of Seaside, 831-899-6885, sottmar@ci.seaside.ca.us.
7. Re: **access to the AC Disconnect...** The disconnect is located within a secure room of Seaside City Hall. A City staff member will provide access.

Other than the **photos still needed**, please let me know if you need further information.

Thank you kindly!

Dana Coe
Associate Principal
Sage Renewables

415-757-5042 Direct | 415-663-9914 Office

Dana Coe

From: NEM Expanded Followups
Sent: Wednesday, February 27, 2019 1:56 PM
To: dana@sagerenew.com
Subject: INCOMPLETE (Application) NEM Def. Notice-Notification#116608503 Seaside City Hall
Attachments: Variance Request Form - Revised 5_31_16.doc; Auth Form ELEC_FORMS_79-1095 (Aug 2018) - fillable.pdf

Importance: High

Hello,

We have received confirmation that the payment was received and it has been processed. Upon review of your NEM Expanded application with the NEM documents PG&E received, we found the following discrepancies outlined below. Confirm or update appropriately and submit the corrected documents back to us.

Please be advised that the E&P (Engineering & Planning) review cannot commence until all these items are corrected and provided to us.

Document	Action
	Effective 2/22/2019, all new applications must have Smart Inverters that meet the Frequency Watt and Volt Watt functionality requirements. Smart Inverters with this functionality must be listed on the CEC inverter list.
Inverter [FWVW]	For more information about this requirement, please visit www.pge.com/nem2program , under “SMART INVERTER FREQUENCY WATT MODE AND VOLT WATT MODE REQUIREMENTS (2/22/2019)”. Please reply to this email confirming whether the installed inverter is compliant with the Frequency Watt and Volt Watt functionality requirements.
	The equipment provided on the Application does not match the SLD. See below
Single-Line-Diagram	

Document	Action
	☐ Application is correct, provide revised SLD OR ☐ SLD is correct
Variance Request	Complete the attached Variance Form in its entirety, paying special attention to the line side tap questions. Attach pictures clearly showing: ☐ Customer’s side open section showing the entire meter panel including PG&E side ☐ Picture showing routing identified by arrows ☐ Picture showing connection points identified by arrows/circles <u>Temporary shutdown for line side tap (Do not schedule until after Variance has been approved)</u> ☐ Yes, a Temporary shutdown has already been done/The site is ready for a field inspection: If so, what was the Temporary shutdown for: ☐ No, a Temporary shutdown has not been done and will be scheduled after Variance has been approved
Form 79-1095	Please complete the attached Authorization Form 79-1095 in order to be deemed as an Authorized Contact for the customer. **Please be advised <u>Box 2 and 2B</u> is also required to be initialed if you desire to receive copies of the PTO Letter and executed Agreement after this project has been interconnected.
Site Inspection Point of Contact	Information for person that will be onsite to operate the equipment during the inspection. Name: Email: Number:

Document	Action
Confirm 24/7 Access	Confirm PG&E has 24/7 access to the AC Disconnect. Please be advised that PG&E can install a lockbox (at no cost to you or the customer) if there is a need for one. Please make sure that the Customer is granting PG&E permission to do this if they take this option.

******PG&E must issue written permission in order to operate your generating system.***

******Any required upgrades that are identified in the engineering and planning review may extend the timeline of the project’s progress to PTO and additional expenses to the customer may be incurred.***

Thank you,

***Maddie on behalf of
Electric Grid Interconnection Team***

For faster processing, please reply to this email without changing the email subject line.

From: aceitportal-noreply@egi-pge.com
To: SOttmar@ci.seaside.ca.us
Cc: SOttmar@ci.seaside.ca.us; dana@sagerenew.com;
NEMExpFollowups@pge.com
Subject: Ref: 83130 PG&E Interconnection Request Confirmation: NEM Expanded
(>30kW to 1MW)

To CITY OF SEASIDE:

Please do not reply to this email address, as it is not being monitored.

Thank you for submitting an Interconnection Request NEM Other (including Expanded NEM with or without Energy Storage) Expanded NEM via egi-pge.com on 2019-02-26 12:24:16. Your project reference number is 83130. Please use this reference number on all correspondence with PG&E regarding your proposed project.

For questions or more information on the application process or your Interconnection Request, please contact us at NEMExpFollowups@pge.com. We look forward to working with you on your interconnection project.

Sincerely,

Electric Generation Interconnection
Pacific Gas and Electric Company

To view your application, please go to the following link:
<https://www.egi-pge.com/ic-app-detail-aceit/83130/Detail>



Variance Check-list: (Please answer all the questions by marking “[X]” where appropriate)

- Line side/Supply side tap (Any interconnection ahead of the Customer’s main breaker)
[] A line side tap is not present with this project (ignore follow-up line side tap questions if this box is checked)

(Only check these boxes if a line side tap is present. The following statements must all be true.)
[X] Line side tap is NOT in PG&E Section (i.e. pull section and metering CT section)
[X] Line side tap is in customer section only
[X] No conductors are routed through or any other equipment installed in the PG&E sealed section
- Temporary shutdown for line side tap (Do not schedule until after Variance has been approved)
[] Yes, a Temporary shutdown has already been done/The site is ready for a field inspection:
 If so, what was the Temporary shutdown for:
[X] No, a Temporary shutdown has not been done and will be scheduled after Variance has been approved
- AC disconnect (Do not include sub-panels, breakers, and integrated disconnects)
[] I am not required by PG&E to have an AC disconnect and I do not have a line side tap, so I have not installed one for this project (No AC disconnect questions below should be checked)

[X] Yes, only using one AC disconnect
[] No, I have more than one AC disconnect (Please list all AC disconnects on Form 79-1151B, separated by “/” for each required field)
- AC disconnect is on PG&E approved list
[X] Yes, AC disconnect is on the PG&E approved list. This information has been verified by EGI.
[] No, AC disconnect is not on the PG&E approved list and I will provide a spec sheet from the manufacturer.
- AC disconnect is within 10 feet of the panel (Required for line side taps)
[X] Yes, AC disconnect is within 10 feet of main panel
[] No, AC disconnect is greater than 10 feet from the panel
- AC disconnect is FUSIBLE (If there is a line side tap, both boxes are required to be true)
[X] Yes, AC disconnect is FUSIBLE.
[X] Yes, AC disconnect is lockable/ visible (blades).
- For Line side taps—Please attach pictures clearly showing:
[] Customer’s side open section
[] Picture showing routing identified by arrows/circles
[] Picture showing connection points identified by arrows/circles

Summary (Complete this section in its entirety)

1. I am submitting a variance request because:

We request to connect a photovoltaic system via a line side tap because the existing customer switchboard does not have sufficient ampacity.

2. Please provide name and project address here:

Seaside City Hall
400 Harcourt Ave
Seaside CA 93955

To-Do List: (Please complete this section in its entirety. If not applicable, place "N/A".)

1. Attach a copy of the Custom Single Line Diagram to this email
2. (For Line side taps) Attach color photos of the customer's area or section for the proposed work to this email
3. Attach manufacturer specification drawings for unapproved equipment that you are requesting an approval to this email (if applicable)



Select Program and Account

SELECT PROGRAM

Program	NEM Other (including Expanded NEM with or without Energy Storage)
Sub-Program	Expanded NEM
SelfInstalled	Yes

FACILITY AND ACCOUNT INFORMATION

Study Process	Fast Track
Facility Type	New Generating Facility
Account Considerations	An interconnection under Community Choice Aggregation Service (CCA)
Electric Service Agreement Number	8460074175
Electric Badge Meter Number	02421R

Project Contact Info

CUSTOMER AND GENERATING FACILITY INFORMATION

PG&E Project Name	Seaside City Hall
Max three-phase fault	2222
Short Circuit Interruption Rating	42000
	Other
Customer E-mail	S0ttmar@ci.seaside.ca.us
Customer First Name	
Customer Last Name	
Customer Company Name	CITY OF SEASIDE
Customer Mailing Address	440 Harcourt Ave
Customer Mailing Address City	SEASIDE
Customer Mailing Address State	CA
Customer Mailing Address Zip Code	93955
Customer Phone Number	(831) 899-6885
Customer Phone Extension	
Contractor Is	the Customer
CSLB Number?	Does not have CSLB Number.
Contractor First Name	
Contractor Last Name	
Contractor Company	CITY OF SEASIDE
Contractor Address	440 Harcourt Ave
Contractor Address City	SEASIDE
Contractor Address State	CA
Contractor Address Zip	93955
Contractor Phone Number	(831) 899-6885
Contractor Phone Ext	
Contractor Fax	
Contractor Email	S0ttmar@ci.seaside.ca.us

Project Manager's	me (Use Login Info)
Project Manager First Name	Dana
Project Manager Last Name	Coe
Project Manager Company	
Project Manager Address	dana@sagerenew.com
Project Manager City	San Rafael
Project Manager State	CA
Project Manager Zip	94903
Project Manager Phone	(415) 757-5042
Project Manager Phone Ext	
Project Manager Fax	
Project Manager Email	dana@sagerenew.com

Export

EXPORT INFORMATION

Export Interconnection Service	Existing Service
Export Generator Nameplate Export	72
Export Max Expected Net Export	72
Export Service Panel Upgrade	No

Equipment

EQUIPMENT DETAILS

Program	Expanded NEM
Tech Type	Solar PV
Generator Type	Inverter-Incorporated
Fuel Type	Solar
Generator Size	30 kW up to 1 MW
Is this generator capable of being operated as a backup?	No
Not Listed	True
Manufacturer	Yaskawa Solectria Solar
Model	PVI 36TL-480
Quantity	2
Nameplate Rating (kW)	72
Nameplate Rating (kVA)	72.0
Nameplate Capacity (kW)	144.0
Effective Rating (kw)	14112.0
Effective Rating (kva)	14112.0
Inverter Efficiency	98
Output Voltage Rating	480
Phase	Three Phase
Power Factor	1
Power Factor Adjustment Max	0
Power Factor Adjustment Min	0
Total Gen (kW)	144.0
Tech Type	Solar PV
Generator Type	PV Panels
Fuel Type	Solar
Manufacturer	LG Electronics Inc.

Model	LG400N2W-A5
Software Version	IDK
Quantity	240
Inverter Efficiency	98
PTC Rating (kW-DC)	0.3684
Nameplate Rating (kW)	36.1032
Nameplate Capacity (kW)	8664.768
Total Gen (kW)	88.416

AC DISCONNECT

Not Listed	True
Manufacturer	Eaton
Model	DH225FGK
Quantity	1
Rating	400

Customer Sector

MATERIAL MODIFICATION

Is this a Material Modification to an existing generator with no generator size increase?	No

LINESIDE TAP AND WARRANTY

Solar Lineside Tap	Yes
Warranty Solar	A warranty of at least 10 years has been provided on all equipment and on its installation.

SOLAR STATISTICS DATA

Solar Customer Sector	Other Government
Solar System Owner	PGE Customer Owned
Solar System Cost	507000
Solar PACE Financed	No
CA Rebate Program	No
California Solar Initiative Rebate	No
NEMVMASH DEV CSI Eligible	No
Electric Vehicles	Yes
Electric Vehicles Number	2
Solar PV Mounting Method	Mixed
Solar PV Tracking Type	Fixed
Solar PV Tracking Fixed Tilt	05
Solar PV Tracking Fixed Azimuth	90
Solar PMRS	Yes
Solar PMRS Data Receiving	3rd Party
Solar PMRS Receiving Name	Sage Renewables

Document Upload

DOCUMENT UPLOAD

Single-Line Drawing 2019-02-26 11:57:50

Site Plans and Diagrams	2019-02-26 12:01:05
AC Disconnect Variance Requested	No
Lineside Tap Variance Letter	2019-02-26 12:21:00
Variance Photos	
Additional Technical Documentation	

PAYMENT OPTION

Apply payment now?	Yes

Payment

THANK YOU FOR YOUR PAYMENT

Payment Date	2019-02-26
Payment Type	Credit Card
Paypal Reference	r1djQ0qq
Payment Order ID	83130_20190226122401



Pacific Gas and
Electric Company®

INTERCONNECTION AGREEMENT FOR NET ENERGY METERING (NEM2) OF SOLAR OR WIND ELECTRIC GENERATING FACILITIES OF 1,000 KW OR LESS, OTHER THAN FACILITIES OF 30 KW OR LESS

This *Interconnection Agreement for Net Energy Metering (NEM2) of Solar or Wind Electric Generating Facilities of 1,000 kW or Less, Other Than Facilities of 30 kW or Less* (Agreement)¹ is entered into by and between CITY OF SEASIDE Notification# 116608503 (Customer-Generator), and Pacific Gas and Electric Company (PG&E), a California Corporation. Customer-Generator and PG&E are sometimes also referred to in this Agreement jointly as "Parties" or individually as "Party." In consideration of the mutual promises and obligations stated in this Agreement and its attachments, the Parties agree as follows:

1. SCOPE AND PURPOSE

This Agreement provides for Customer-Generator to interconnect and operate a Generating Facility in parallel with PG&E's Electric System to serve the electrical loads connected to the electric service agreement ID number that PG&E uses to interconnect Customer-Generator's Generating Facility. Customer-Generator's Generating Facility is intended primarily to offset part or all of the Customer-Generator's own electrical requirements. Consistent with, and in order to effectuate, the provisions of Sections 2827, 2827.7 and 2827.8 of the California Public Utilities Code and PG&E's electric rate Schedule NEM2 (NEM2), Parties enter into this Agreement. This Agreement applies to the Customer-Generator's Generating Facilities identified below with the specified characteristics and generating capacity, and does not allow interconnection or operation of facilities different than those described.

2. SUMMARY AND DESCRIPTION OF CUSTOMER-GENERATOR'S GENERATING FACILITY AND DESIGNATION OF OTHERWISE-APPLICABLE RATE SCHEDULE

2.1 A description of the Generating Facility, including a summary of its significant components and a single-line diagram showing the general arrangement of how Customer-Generator's Generating Facility and loads are interconnected with PG&E's Electric System, is attached to and made a part of this Agreement. (This description is supplied by Customer-Generator as Appendix A).

2.2 Generating Facility identification number: 30S444301 (Assigned by PG&E).

2.3 Customer-Generator's electric service agreement ID number: 8460074175 (Assigned by PG&E).

2.4 Name and address used by PG&E to locate the electric service agreement ID number used to interconnect the Generating Facility with PG&E's Electric System:

Name: CITY OF SEASIDE

Address: SEASIDE CITY HALL

City/Zip Code: SEASIDE 93955

¹ Additional forms are available on PG&E's website at <http://www.pge.com/gen>.

INTERCONNECTION AGREEMENT FOR NET ENERGY METERING (NEM2) OF SOLAR OR WIND ELECTRIC GENERATING FACILITIES, OTHER THAN FACILITIES OF 30 KW OR LESS

2.5 The Gross Nameplate Rating of the Generating Facility is: 66.600 kW.

2.6 The Net Nameplate Rating of the Generating Facility is 86.2060 kW.

2.7 Customer-Generator's otherwise-applicable rate schedule as of the execution of this Agreement _____.

2.8 The Generating Facility's expected date of Initial Operation is _____.
The expected date of Initial Operation shall be within two years of the date of this Agreement.

2.9 Smart Inverters - For Customer-Generator applications received on or after September 9, 2017, the Customer-Generator certifies that their inverter-based Generating Facilities fully comply with Section Hh of Rule 21, including configuration of protective settings **and default settings**, in accordance with the specifications therein.

Distribution Provider may require a field verification of the Customer-Generator's inverter. Customer-Generator further agrees to cooperate fully with any such request and make their inverter available to the Distribution Provider for such verification. Customer-Generator understands that in the event the inverter is not set in accordance with Section Hh of Rule 21, Customer-Generator will need to cease operation of generating facility until verification is confirmed by Distribution Provider.

(Solar Inverter models and firmware versions that comply with Rule 21 Section Hh can be found at <http://www.gosolarcalifornia.org/equipment/inverters.php>.)

Verification of compliance with such requirements shall be provided by the Customer-Generator upon request by PG&E in accordance with PG&E's Electric Rule 21.

An "existing inverter" is defined as an inverter that is a component of an existing Generating Facility that meets one or more of the following conditions:

- (a) it is already approved by PG&E for interconnection prior to September 9, 2017
- (b) the Customer-Generator has submitted the interconnection application prior to September 9, 2017,
- (c) the Customer-Generator provides evidence of having applied for an electrical permit for the Generating Facility installation that is dated prior to September 9, 2017 and submitted a complete interconnection application² no later than March 31, 2018, or

² A complete application consists all of the following without deficiencies:

- 1. A completed Interconnection Application including all supporting documents and required payments,
- 2. A completed signed Interconnection Agreement,
- 3. Evidence of the Customer-Generator final inspection clearance from the governmental authority having jurisdiction over the generating system.

INTERCONNECTION AGREEMENT FOR NET ENERGY METERING (NEM2) OF SOLAR OR WIND ELECTRIC GENERATING FACILITIES, OTHER THAN FACILITIES OF 30 KW OR LESS

- (d) the Customer-Generator provides evidence of a final inspection clearance from the governmental authority having jurisdiction over the Generating Facility prior to September 9, 2017.

All “existing inverters” are not required to be Smart Inverters and are only subject to Section H of Rule 21. Customer-Generator replacing an “existing inverter” certifies it is being replaced with either:

- (i) inverter equipment that complies with Section Hh of Rule 21, (encouraged); or
- (ii) a conventional inverter that is of the same size and equivalent ability to that of the inverter being replaced, as allowed in Rule 21 Section H.3.d.ii.

3. DOCUMENTS INCLUDED AND DEFINED TERMS

- 3.1 This Agreement includes the following exhibits that are specifically incorporated herein and made a part of this Agreement.

Appendix A	Description of Generating Facility and Single-Line Diagram (Supplied by Customer-Generator).
Appendix B	A Copy of <i>PG&E's Agreement for Installation or Allocation of Special Facilities</i> (Forms 79-255, 79-280, 79-702) or <i>Agreements to Perform Any Tariff Related Work</i> (62-4527), if applicable (Formed by the Parties).
Appendix C	NEM2 Load Aggregation Customer-Generator Declaration Warranting NEM2 Aggregation Is Located On Same or Adjacent or Contiguous Property to Generator Parcel

In addition, PG&E Electric Tariff Rules and Rates, including but not limited to Electric Rules 2, 14, 15, 16, and 21, Schedule NEM2, and Customer-Generator's otherwise-applicable rate schedule, available at PG&E's website at www.pge.com or by request, are specifically incorporated herein and made part of this Agreement.

- 3.2 When initially capitalized, whether in the singular or in the plural, the terms used herein shall have the meanings assigned to them either in this Agreement or in PG&E's Electric Rule 21, Section C.

4. CUSTOMER BILLING AND PAYMENT

Customer-Generator initially selects Pacific Gas and Electric Company's electric rate schedule referenced in Section 2.6 of this Agreement as its otherwise-applicable rate schedule. Customer-Generator understands that they will be billed according to the otherwise-applicable rate schedule and Schedule NEM2.

5. TERM AND TERMINATION

- 5.1 This Agreement shall become effective as of the last date entered in Section 18 below. The Agreement shall continue in full force and effect until the earliest date that one of the following events occurs:

INTERCONNECTION AGREEMENT FOR NET ENERGY METERING (NEM2) OF SOLAR OR WIND ELECTRIC GENERATING FACILITIES, OTHER THAN FACILITIES OF 30 KW OR LESS

- (a) The Parties agree in writing to terminate the Agreement.
 - (b) Unless otherwise agreed in writing by the Parties, at 12:01 A.M. on the day following the date the electric service agreement ID number through which Customer-Generator's Generating Facility is interconnected to PG&E is closed or terminated.
 - (c) At 12:01 A.M. on the 61st day after Customer-Generator or PG&E provides written Notice pursuant to Section 11 below to the other Party of Customer-Generator's or PG&E's intent to terminate this Agreement.
- 5.2 Customer-Generator may elect to terminate this Agreement pursuant to the terms of Section 5.1(c) for any reason. PG&E may elect to terminate this Agreement pursuant to the terms of Section 5.1(c) for one or more of the following reasons:
- (a) A change in applicable rules, tariffs, or regulations, as approved or directed by the Commission, or a change in any local, state or federal law, statute or regulation, either of which materially alters or otherwise affects PG&E's ability or obligation to perform PG&E's duties under this Agreement; or,
 - (b) Customer-Generator fails to take all corrective actions specified in PG&E's Notice that Customer-Generator's Generating Facility is out of compliance with the terms of this Agreement within the time frame set forth in such Notice; or,
 - (c) Customer-Generator abandons the Generating Facility. PG&E shall deem the Generating Facility to be abandoned if PG&E determines, in its sole opinion, the Generating Facility is nonoperational and Customer-Generator does not provide a substantive response to PG&E Notice of its intent to terminate this Agreement as a result of Customer-Generator's apparent abandonment of the Generating Facility affirming Customer-Generator's intent and ability to continue to operate the Generating Facility; or,
 - (d) Customer-Generator's Generating Facility ceases to meet all applicable safety and performance standards set out in Section 6.
- 5.3 Notwithstanding any other provisions of this Agreement, PG&E shall have the right to unilaterally file with the Commission, pursuant to the Commission's rules and regulations, an application to terminate this Agreement.
- 5.4 Any agreements attached to and incorporated into this Agreement shall terminate concurrently with this Agreement unless the Parties have agreed otherwise in writing.

6. GENERATING FACILITY REQUIREMENTS

- 6.1 Customer-Generator's Generating Facility must meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the Commission regarding safety and reliability including Rule 21.
- 6.2 Customer-Generator shall: (a) maintain the Generating Facility and Interconnection Facilities in a safe and prudent manner and in conformance with all applicable laws and regulations including, but not limited to, Section 6.1, and (b) obtain any governmental

INTERCONNECTION AGREEMENT FOR NET ENERGY METERING (NEM2) OF SOLAR OR WIND ELECTRIC GENERATING FACILITIES, OTHER THAN FACILITIES OF 30 KW OR LESS

authorizations and permits required for the construction and operation of the Generating Facility and Interconnection Facilities. Customer-Generator shall reimburse PG&E for any and all losses, damages, claims, penalties, or liability it incurs as a result of Customer-Generator's failure to obtain or maintain any governmental authorizations and permits required for construction and operation of Customer-Generator's Generating Facility.

- 6.3 Customer-Generator shall not commence parallel operation of the Generating Facility until PG&E has provided express written approval. Such approval shall normally be provided no later than thirty (30) business days following PG&E's receipt of: (1) a completed *Generating Facility Interconnection Application for Non-Export or Certain Net Energy Metered Generating Facilities* (Form 79-974-02), including all supporting documents and payments as described in the Application; (2) a signed and completed *Interconnection Agreement for Net Energy Metering (NEM2) of Solar or Wind Electric Generating Facilities, Other Than Facilities of 30 KW or Less* (Form 79-978-02); and (3) a copy of the Customer-Generator's final inspection clearance from the governmental authority having jurisdiction over the Generating Facility. Such approval shall not be unreasonably withheld. PG&E shall have the right to have representatives present at the Commissioning Test as defined in Rule 21. Customer-Generator shall notify PG&E at least five (5) business days prior to the initial testing.
- 6.4 In order to promote the safety and reliability of the customer Generating Facility, the Customer-Generator certifies that as a part of this interconnection request for NEM2, that all major solar system components are on the verified equipment list maintained by the California Energy Commission and certifies that other equipment, as determined by PG&E, has safety certification from a nationally recognized testing laboratory.
- 6.5 Customer-Generator certifies as a part of this interconnection request for NEM2 that
- (i) a warranty of at least 10 years has been provided on all equipment and on its installation, or
 - (ii) a 10-year service warranty or executed "agreement" has been provided ensuring proper maintenance and continued system performance.
- 6.6 Customers on this tariff must pay for the interconnection of their Generation Facilities as provided in Electric Rule 21, pursuant to Decision 16-01-044.

7. INTERCONNECTION FACILITIES

- 7.1 Customer-Generator and/or PG&E, as appropriate, shall provide Interconnection Facilities that adequately protect PG&E's Electric System, personnel, and other persons from damage or injury, which may be caused by the operation of Customer-Generator's Generating Facility.
- 7.2 Customer-Generator shall be solely responsible for the costs, design, purchase, construction, permitting, operation, and maintenance of the Interconnection Facilities that Customer-Generator owns.
- 7.3 If the provisions of PG&E's Electric Rule 21, or any other tariff or rule approved by the Commission, require PG&E to own and operate a portion of the Interconnection Facilities, Customer-Generator and PG&E shall promptly execute a Special Facilities Agreement that establishes and allocates responsibility for the design,

INTERCONNECTION AGREEMENT FOR NET ENERGY METERING (NEM2) OF SOLAR OR WIND ELECTRIC GENERATING FACILITIES, OTHER THAN FACILITIES OF 30 KW OR LESS

installation, operation, maintenance, and ownership of the Interconnection Facilities. This Special Facilities Agreement shall be attached to and made a part of this Agreement as Appendix B.

8. LIMITATION OF LIABILITY

Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever.

9. INSURANCE

Customer-Generator Facility is required to comply with standards and rules set forth in Section 6 and provide the following for insurance policies in place.

Customer-Generator shall furnish the required certificates and all endorsements to PG&E prior to Parallel Operation.

The certificate shall provide thirty (30) calendar days' written notice to PG&E prior to cancellation, termination, alteration, or material change of such insurance.

PG&E shall have the right to inspect or obtain a copy of the original policy or policies of insurance.

- 9.1 If at any time during this agreement the Customer-Generator fails to meet the requirements in Section 6 and is not self-insured under Section 9.3, the following insurance shall apply:

Customer-Generator shall procure and maintain a commercial general liability insurance policy at least as broad as the Insurance Services Office (ISO) commercial general liability coverage "occurrence" form; or, if Customer-Generator is an individual, then liability coverage with respect to premises and use at least as broad as the ISO homeowners' or personal liability Insurance occurrence policy form, or substitute, providing equivalent coverage no less than the following limits, based on generator size:

- (a) Two million dollars (\$2,000,000) for each occurrence if the Gross Nameplate Rating of the Generating Facility is greater than one hundred (100) kW; or
- (b) One million dollars (\$1,000,000) for each occurrence if the Gross Nameplate Rating of the Generating Facility is greater than twenty (20) kW and less than or equal to one hundred (100) kW; or
- (c) Five hundred thousand dollars (\$500,000) for each occurrence if the Gross Nameplate Rating of the Generating Facility is twenty (20) kW or less;
- (d) Two hundred thousand dollars (\$200,000) for each occurrence if the Gross Nameplate Rating of the Generating Facility is ten (10) kW or less and the Generating Facility is connected to an account receiving residential service from PG&E.

The insurance shall, by endorsement:

INTERCONNECTION AGREEMENT FOR NET ENERGY METERING (NEM2) OF SOLAR OR WIND ELECTRIC GENERATING FACILITIES, OTHER THAN FACILITIES OF 30 KW OR LESS

- (a) Add PG&E as an additional insured;
 - (b) State that coverage provided is primary and is not in excess to or contributing with any insurance or self-insurance maintained by PG&E.
 - (c) Contain a severability of interest clause or cross-liability clause.
- 9.2 If Customer-Generator's Generating Facility is connected to an account receiving residential service from PG&E and the requirement of Section 9.1 prevents Customer-Generator from obtaining the insurance required in this Section, then upon Customer-Generator's written Notice to PG&E in accordance with Section 11.1, the requirements of Section 9.1 may be waived.
- 9.3 Customer-Generator may self-insure with approval from PG&E. Evidence of an acceptable plan to self-insure, at least thirty (30) calendar days' prior to operations shall be submitted. Customer-Generators such as state agencies that self-insure under this section are exempt from Section 10.1.

If Customer-Generator ceases to self-insure to the level required hereunder, or if Customer-Generator is unable to provide continuing evidence of Customer-Generator's ability to self-insure, Customer-Generator agrees to immediately obtain the coverage required under agreement.

- 9.4 All required certificates, endorsements or letters of self-insurance shall be issued and submitted via email or fax to the following:

Pacific Gas and Electric Company
c/o EXIGIS LLC
support@exigis.com
Fax: 646-755-3327

10. INDEMNITY FOR FAILURE TO COMPLY WITH INSURANCE PROVISIONS

- 10.1 If Customer-Generator fails to comply with the insurance provisions of this Agreement, Customer-Generator shall, at its own cost, defend, save harmless and indemnify PG&E, its directors, officers, employees, agents, assignees, and successors in interest from and against any and all loss, liability, damage, claim, cost, charge, demand, or expense of any kind or nature (including attorney's fees and other costs of litigation) resulting from the death or injury to any person or damage to any property, including the personnel and property of the utility, to the extent that the utility would have been protected had Customer-Generator complied with all such insurance provisions. The inclusion of this Section 10.1 is not intended to create any expressed or implied right in Customer-Generator to elect not to provide any such required insurance.
- 10.2 The provisions of this Section 10 shall not be construed to relieve any insurer of its obligations to pay any insurance claims in accordance with the provisions of any valid insurance policy.

11. NOTICES

- 11.1 Any written notice, demand, or request required or authorized in connection with this Agreement (Notice) shall be deemed properly given if delivered in person or sent by



INTERCONNECTION AGREEMENT FOR NET ENERGY METERING (NEM2) OF SOLAR OR WIND ELECTRIC GENERATING FACILITIES, OTHER THAN FACILITIES OF 30 KW OR LESS

first class mail, postage prepaid, to the person specified below:

If to PG&E: Pacific Gas and Electric Company
Attention: Electric Generation Interconnection - Contract
Management
245 Market Street
Mail Code N7L
San Francisco, California 94105-1702

If to Customer-Generator:

Customer-Generator Name: _____
Address: _____
City: _____
Phone: (____) _____
FAX: (____) _____

- 11.2 A Party may change its address for Notices at any time by providing the other Party notice of the change in accordance with Section 11.1.
- 11.3 The Parties may also designate operating representatives to conduct the daily communications, which may be necessary or convenient for the administration of this Agreement. Such designations, including names, addresses, and phone numbers may be communicated or revised by one Party's Notice to the other.

12. REVIEW OF RECORDS AND DATA

- 12.1 PG&E shall have the right to review and obtain copies of Customer-Generator's operations and maintenance records, logs, or other information such as Generating Facility availability, maintenance outages, circuit breaker operation requiring manual reset, relay targets and unusual events pertaining to Customer-Generator's Generating Facility or its interconnection to PG&E.
- 12.2 Customer-Generator authorizes to release to the California Energy Commission (CEC) information regarding Customer-Generator's facility, including customer name and Generating Facility location, size, and operational characteristics, as requested from time to time pursuant to the CEC's rules and regulations.

13. ASSIGNMENT

Customer-Generator shall not voluntarily assign its rights nor delegate its duties under this Agreement without PG&E's written consent. Any assignment or delegation Customer-Generator makes without PG&E's written consent shall not be valid. PG&E shall not unreasonably withhold its consent to Customer-Generator's assignment of this Agreement.

14. NON-WAIVER

None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon



INTERCONNECTION AGREEMENT FOR NET ENERGY METERING (NEM2) OF SOLAR OR WIND ELECTRIC GENERATING FACILITIES, OTHER THAN FACILITIES OF 30 KW OR LESS

strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect.

15. GOVERNING LAW, JURISDICTION OF COMMISSION, INCLUSION OF PG&E's TARIFF SCHEDULES AND RULES

- 15.1 This Agreement shall be interpreted, governed, and construed under the laws of the State of California as if executed and to be performed wholly within the State of California without giving effect to choice of law provisions that might apply to the law of a different jurisdiction.
- 15.2 This Agreement shall, at all times, be subject to such changes or modifications by the Commission as it may from time to time direct in the exercise of its jurisdiction.
- 15.3 The interconnection and services provided under this Agreement shall at all times be subject to the terms and conditions set forth in the Tariff Schedules and Rules applicable to the electric service provided by PG&E, which Tariff Schedules and Rules are hereby incorporated into this Agreement by this reference.
- 15.4 Notwithstanding any other provisions of this Agreement, PG&E shall have the right to unilaterally file with the Commission, pursuant to the Commission's rules and regulations, an application for change in rates, charges, classification, service, tariff or rule or any agreement relating thereto.

16. AMENDMENT AND MODIFICATION

This Agreement can only be amended or modified by a writing signed by both Parties.

17. ENTIRE AGREEMENT

This Agreement, including any incorporated Tariff Schedules and Rules, contains the entire Agreement and understanding between the Parties, their agents, and employees as to the subject matter of this Agreement. Each party also represents that in entering into this Agreement, it has not relied on any promise, inducement, representation, warranty, agreement or other statement not set forth in this Agreement or in the incorporated Tariff Schedules and Rules.

18. SIGNATURES

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the last date set forth below.

(Customer Generator's Name)

PACIFIC GAS AND ELECTRIC COMPANY

(Signature)

(Signature)



INTERCONNECTION AGREEMENT FOR NET ENERGY METERING (NEM2) OF SOLAR OR WIND ELECTRIC GENERATING FACILITIES, OTHER THAN FACILITIES OF 30 KW OR LESS

(Print Name)

(Print Name)

(Title)

(Title)

(Date)

(Date)

APPENDIX A

DESCRIPTION OF GENERATING FACILITY
AND SINGLE-LINE DIAGRAM

(Provided by Customer-Generator)

Dana Coe

From: NEM Expanded Followups
Sent: Friday, August 9, 2019 2:06 PM
To: dana@sagerenew.com
Subject: (Passed Engineering Review – Incomplete Agreement and Final Building Permit) Notification#116608503 Seaside City Hall

Importance: High

Hello,

This project passed Engineering and does not require mitigation work.

Reply to this email without changing the subject line with the information requested below.

Requested Information	Description											
Interconnection Agreement (Form 79-978-02)	Signed completed Interconnection Agreement (IA). The customer is eligible for the following rates: A10SX, A1X, E19S Tips for filling out the IA: - Be sure to complete sections 2.7 and 2.8. - If the IA is signed electronically, please include the audit report.											
Final Building Permit	All final building permits include the information below. The information is typically found on pages of the Building Permit Application and Inspection Card. If applicable, submit both pages. - Name of jurisdiction (i.e. letter head, name on print out) - Site Address for project - Scope of work (i.e. solar, PV install) - Final Sign-off date - Final Sign-off (i.e. signature, initials, or “Final” for web print outs)											
Confirmation of Equipment Installed	Confirm the following equipment has been installed at the job site <table><tr><th><u>Equipment</u></th><th>Make</th><th>Model</th><th>Qty</th></tr><tr><td></td><td></td><td></td><td></td></tr></table>				<u>Equipment</u>	Make	Model	Qty				
<u>Equipment</u>	Make	Model	Qty									

	<table><tr><td>AC Disconnect</td><td>Cutler-Hammer</td><td>DG325NGK</td><td>1</td></tr><tr><td>Inverter</td><td>SMA America</td><td>STP 33-US-41 [480V] [SI1-FWVW]</td><td>2</td></tr><tr><td>PV Modules</td><td>LG Electronics Inc.</td><td>LG400N2W-A5</td><td>240</td></tr></table> Installed Equipment: Check one ☐ The proposed system listed above was installed. ☐ The proposed system was not installed (List the installed system equipment below and provide a revised SLD). <table><tr><td></td><td>Make</td><td>Model</td><td>Qty</td></tr><tr><td>AC Disconnect</td><td></td><td></td><td></td></tr><tr><td>Inverter</td><td></td><td></td><td></td></tr><tr><td>PV Modules</td><td></td><td></td><td></td></tr></table>	AC Disconnect	Cutler-Hammer	DG325NGK	1	Inverter	SMA America	STP 33-US-41 [480V] [SI1-FWVW]	2	PV Modules	LG Electronics Inc.	LG400N2W-A5	240		Make	Model	Qty	AC Disconnect				Inverter				PV Modules			
AC Disconnect	Cutler-Hammer	DG325NGK	1																										
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	Make	Model	Qty																										
AC Disconnect																													
Inverter																													
PV Modules																													
Variance Request	Attach pictures clearly showing: ☐ Customer's side open section showing the entire meter panel including PG&E side ☐ Picture showing routing identified by arrows ☐ Picture showing connection points identified by arrows/circles																												

PLEASE NOTE: The engineering study that was performed is a review of the generator’s impact to the PG&E circuit from the transformer to the PG&E substation. If a service/main panel upgrade is required, please let us know.

****Please be advised that a service/main panel upgrade may require additional work to the existing facilities (i.e. transformer, conductor/conduits, wires, etc.) which can result in the customer incurring additional costs to upgrade said facilities. If additional work is required, the timeline for project completion will be extended****

Thank you,
Bhavik on behalf of
Electric Grid Interconnection Team



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CT4000 Level 2 Commercial Charging Stations

Specifications and Ordering Information

Ordering Information

Specify model number followed by the applicable code(s).
The order code sequence is: **Model-Options. Software, Services**
and **Misc** are ordered as separate line items.

Hardware

Description		Order Code
Model	1830 mm (6') Single Port Bollard Mount	CT4011
	1830 mm (6') Dual Port Bollard Mount	CT4021
	1830 mm (6') Single Port Wall Mount	CT4013
	1830 mm (6') Dual Port Wall Mount	CT4023
	2440 mm (8') Dual Port Bollard Mount	CT4025
	2440 mm (8') Dual Port Wall Mount	CT4027
Options	Integral Gateway Modem - USA	-GW1
	Integral Gateway Modem - Canada	-GW2
Misc	Power Management Kit	CT4000-PMGMT
	Bollard Concrete Mounting Kit	CT4001-CCM

Software & Services

Description	Order Code
ChargePoint Commercial Service Plan	CTSW-SAS-COMM- <i>n</i> ¹
ChargePoint Service Provider Plan	CTSW-SAS-SP- <i>n</i> ¹
ChargePoint Assure	CT4000-ASSURE ⁿ ²
Station Activation and Configuration	CPSUPPORT-ACTIVE
ChargePoint Station Installation and Validation	CT4000-INSTALLVALID

Note: All CT4000 stations come with 1 year of ChargePoint Assure coverage at no charge for qualified installations. Other conditions apply. All CT4000 stations require a network service plan.

¹ Substitute *n* for desired years of service (1, 2, 3, 4, or 5 years).

² Substitute *n* for the duration of the additional coverage (1, 2, 3, or 4 years).

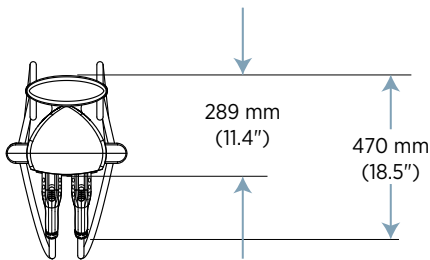
Order Code Examples

If ordering this	the order code is
1830 mm (6') Dual Port Bollard USA Gateway Station with Concrete Mounting Kit	CT4021-GW1 CT4001-CCM
ChargePoint Commercial Service Plan, 3 Year Subscription	CTSW-SAS-COMM-3
ChargePoint Station Installation and Validation	CT4000-INSTALLVALID
2 Additional Years of Assure Coverage	CT4000-ASSURE2
1830 mm (6') Single Port Wall Mount Station	CT4013
ChargePoint Commercial Service Plan, 5 Year Subscription	CTSW-SAS-COMM-5
4 Additional Years of Assure Coverage	CT4000-ASSURE4
Station Activation and Configuration	CPSUPPORT-ACTIVE

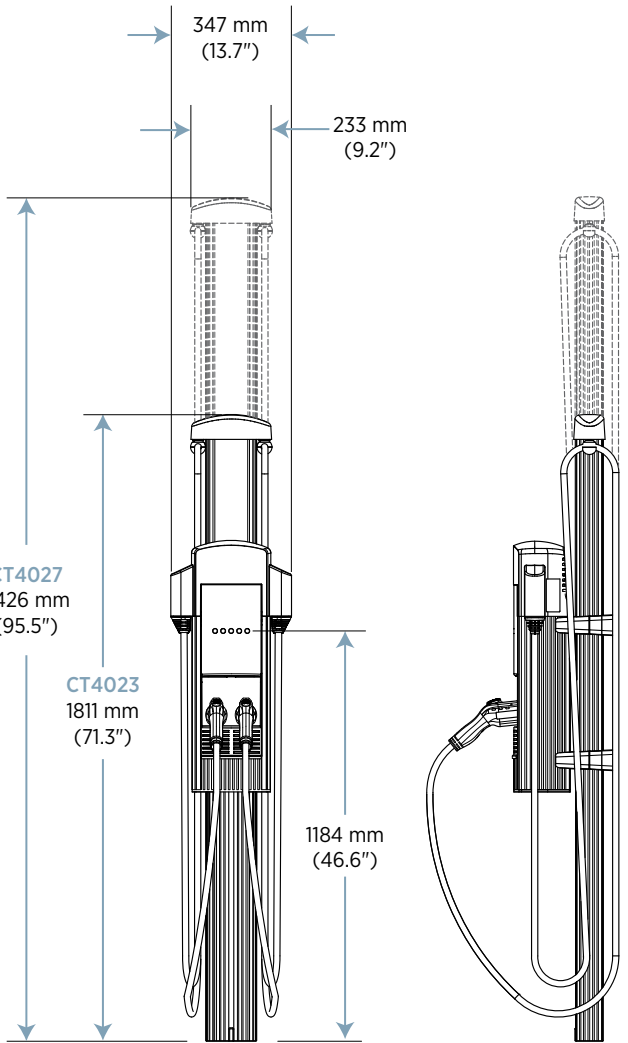
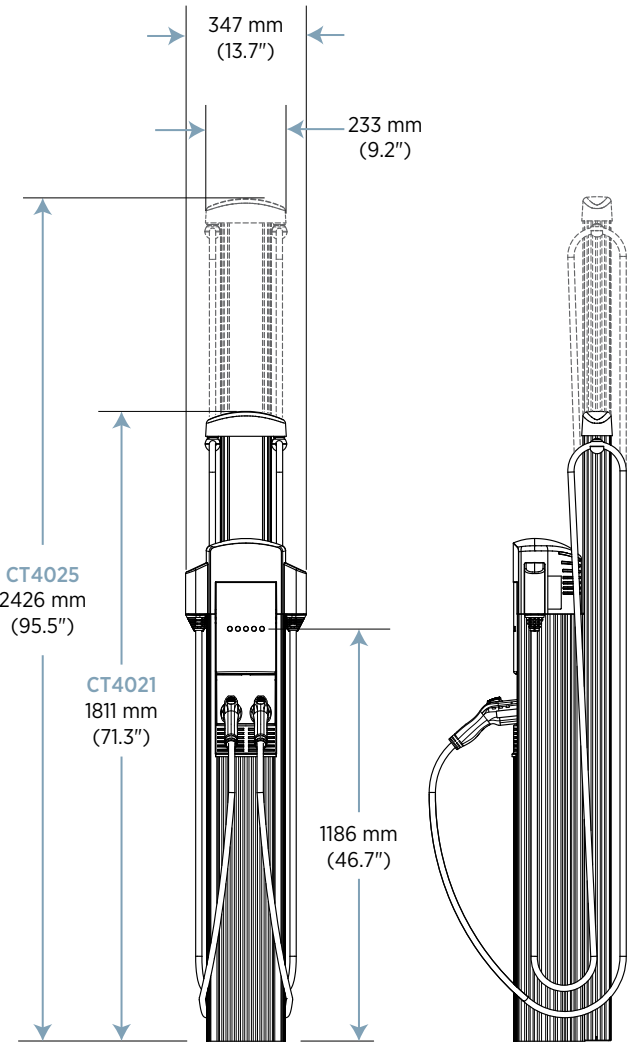
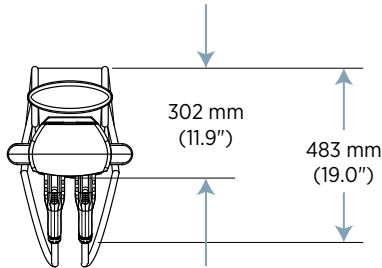


CT4021

CT4021 1830 mm (6')
CT4025 2440 mm (8')
Bollard



CT4023 1830 mm (6')
CT4027 2440 mm (8')
Wall Mount



CT4000 Family Specifications

Electrical Input	Single Port (AC Voltage 208/240V AC)			Dual Port (AC Voltage 208/240V AC)		
	Input Current	Input Power Connection	Required Service Panel Breaker	input Current	Input Power Connection	Required Service Panel Breaker
Standard	30A	One 40A branch circuit	40A dual pole (non-GFCI type)	30A x 2	Two independent 40A branch circuits	40A dual pole (non-GFCI type) x 2
Standard Power Share	n/a	n/a	n/a	32A	One 40A branch circuit	40A dual pole (non-GFCI type)
Power Select 24A	24A	One 30A branch circuit	30A dual pole (non-GFCI type)	24A x 2	Two independent 30A branch circuits	30A dual pole (non-GFCI type) x 2
Power Select 24A Power Share	n/a	n/a	n/a	24A	One 30A branch circuit	30A dual pole (non-GFCI type)
Power Select 16A	16A	One 20A branch circuit	20A dual pole (non-GFCI type)	16A x 2	Two independent 20A branch circuits	20A dual pole (non-GFCI type) x 2
Power Select 16A Power Share	n/a	n/a	n/a	16A	One 20A branch circuit	20A dual pole (non-GFCI type)
Service Panel GFCI	Do not provide external GFCI as it may conflict with internal GFCI (CCID)					
Wiring - Standard	3-wire (L1, L2, Earth)			5-wire (L1, L1, L2, L2, Earth)		
Wiring - Power Share	n/a			3-wire (L1, L2, Earth)		
Station Power	8W typical (standby), 15W maximum (operation)					

Electrical Output

Standard	7.2kW (240V AC @ 30A)	7.2kW (240V AC@30A) x 2
Standard Power Share	n/a	7.2kW (240V AC@30A) x 1 or 3.8kW (240V AC@16A) x 2
Power Select 24A	5.8kW (240V AC@24A)	5.8kW (240V AC@24A) x 2
Power Select 24A Power Share	n/a	5.8kW (240V AC@24A) x 1 or 2.9kW (240V AC@12A) x 2
Power Select 16A	3.8kW (240V AC@16A)	3.8kW (240V AC@16A) x 2
Power Select 24A Power Share	n/a	3.8kW (240V AC@16A) x 1 or 1.9kW (240V AC@8A) x 2

Functional Interfaces

Connector(s) Type	SAE J1772™	SAE J1772™ x 2
Cable Length - 1830 mm (6') Cable Management	5.5 m (18')	5.5 m (18') x 2
Cable Length - 2440 mm (8') Cable Management	n/a	7 m (23')
Overhead Cable Management System	Yes	
LCD Display	145 mm (5.7") full color, 640x480, 30fps full motion video, active matrix, UV protected	
Card Reader	ISO 15693, ISO 14443, NFC	
Locking Holster	Yes	Yes x 2

Safety and Connectivity Features

Ground Fault Detection	20mA CCID with auto retry
Open Safety Ground Detection	Continuously monitors presence of safety (green wire) ground connection
Plug-Out Detection	Power terminated per SAE J1772™ specifications
Power Measurement Accuracy	+/- 2% from 2% to full scale (30A)
Power Report/Store Interval	15 minute, aligned to hour
Local Area Network	2.4 GHz Wi-Fi (802.11 b/g/n)
Wide Area Network	3G GSM, 3G CDMA

Safety and Operational Ratings

Enclosure Rating	Type 3R per UL 50E
Safety Compliance	UL listed for USA and cUL certified for Canada; complies with UL 2594, UL 2231-1, UL 2231-2, and NEC Article 625
Surge Protection	6kV @ 3000A. In geographic areas subject to frequent thunder storms, supplemental surge protection at the service panel is recommended.
EMC Compliance	FCC Part 15 Class A
Operating Temperature	-30°C to +50°C (-22°F to 122°F)
Storage Temperature	-30°C to +60°C (-22°F to 140°F)
Non-Operating Temperature	-40°C to +60°C (-40°F to 140°F)
Operating Humidity	Up to 85% @ +50°C (122°F) non-condensing
Non-Operating Humidity	Up to 95% @ +50°C (122°F) non-condensing
Terminal Block Temperature Rating	105°C (221°F)
Charging Stations per 802.11 Radio Group	Maximum of 10. Each station must be located within 45m (150') "line of sight" of a gateway station.

ChargePoint, Inc. reserves the right to alter product offerings and specifications at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document.

Contact Us

To order your CT4000 charging station:

-  Visit chargepoint.com/sales
-  Call +1.408.705.1992
-  Email sales@chargepoint.com



ChargePoint, Inc.
254 East Hacienda Avenue | Campbell, CA | 95008-6617 USA
+1.408.841.4500 or toll free +1.877.370.3802
chargepoint.com

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Printed on paper made with 100% post-consumer fiber and 100% certified renewable energy, and processed chlorine free.



Listed by Underwriters
Laboratories Inc. 

CT4000 Family

ChargePoint® Networked Charging Station



Installation Guide

ChargePoint, Inc.
1692 Dell Ave.
Campbell, CA 95008-6901 USA
US toll free: +1-877-850-4562
www.chargepoint.com

Document P/N: 75-001084-02 Rev. 3

SAVE THESE IMPORTANT SAFETY INSTRUCTIONS

This manual contains important instructions that must be followed during installation of a ChargePoint® Networked Charging Station.

Grounding instructions

The ChargePoint® Charging Station must be connected to a grounded, metal, permanent wiring system; or an equipment-grounding conductor is to be run with circuit conductors and connected to the equipment grounding terminal or lead on the Electric Vehicle Supply Equipment (EVSE). Connections to the EVSE shall comply with all applicable codes and ordinances.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case, you will be required to correct the interference at your own expense.

Important: Changes or modifications to this product not authorized by ChargePoint, Inc., could affect the EMC compliance and revoke your authority to operate this product.

Exposure to Radio Frequency Energy: The radiated power output of the 802.11 b/g/n radio and cellular modem (optional) in this device is below the FCC radio frequency exposure limits for uncontrolled equipment. This device should be operated with a minimum distance of at least 20 cm between the 802.11 b/g/n and cellular antennas and a person's body and must not be co-located or operated with any other antenna or transmitter by the manufacturer, subject to the conditions of the FCC Grant.

Industry Canada

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

FCC/IC Compliance Labels

Go to <http://www.chargepoint.com/labels/>.

Safety and compliance

This document provides instructions to install the ChargePoint® Charging Station and should not be used for any other product. Before installing the ChargePoint® Charging Station, you should review this manual carefully and consult with a licensed contractor, licensed electrician and trained installation expert to ensure compliance with local building practices, climate conditions, safety standards, and all applicable codes and ordinances.

The ChargePoint® Charging Station should be installed only by a licensed contractor and a licensed electrician and in accordance with all local and national codes and standards. The ChargePoint® Charging Station should be inspected by a qualified installer prior to the initial use. Under no circumstances will compliance with the information in this manual relieve the user of his/her responsibility to comply with all applicable codes or safety standards. This document describes the most commonly-used installation and mounting scenarios. If situations arise in which it is not possible to perform an installation following the procedures provided in this document, contact ChargePoint, Inc. ChargePoint, Inc. is not responsible for any damages that may occur resulting from custom installations that are not described in this document.

No accuracy guarantee

Reasonable effort was made to ensure that the specifications and other information in this manual are accurate and complete at the time of its publication. However, the specifications and other information in this manual are subject to change at any time without prior notice.

Warranty information and disclaimer

Your use of, or modification to, the ChargePoint® Charging Station in a manner in which the ChargePoint® Charging Station is not intended to be used or modified will void the limited warranty. Other than any such limited warranty, the ChargePoint products are provided "AS IS," and ChargePoint, Inc. and its distributors expressly disclaim all implied warranties, including any warranty of design, merchantability, fitness for a particular purposes and non-infringement, to the maximum extent permitted by law.

Limitation of liability

IN NO EVENT SHALL CHARGEPOINT, INC. OR ITS AUTHORIZED DISTRIBUTORS BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST PROFITS, LOST DATA, LOSS OF USE, COST OF COVER, OR LOSS OR DAMAGE TO THE CHARGEPOINT® CHARGING STATION, ARISING OUT OF OR RELATING TO THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CHARGEPOINT, INC. OR ITS AUTHORIZED DISTRIBUTORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

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Appendix A: Preparing the Installation Site for a Bollard Mount

Appendix B: CT4000 Power Management Instructions

Appendix C: Installing and Replacing Signs

Appendix D: Installing Cable Clamps

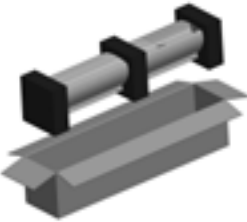
Appendix E: Limited Product Warranty

Introduction

1

This document provides step-by-step instructions on how to install a CT4000 ChargePoint® Charging Station.

Summary of Shipping Boxes

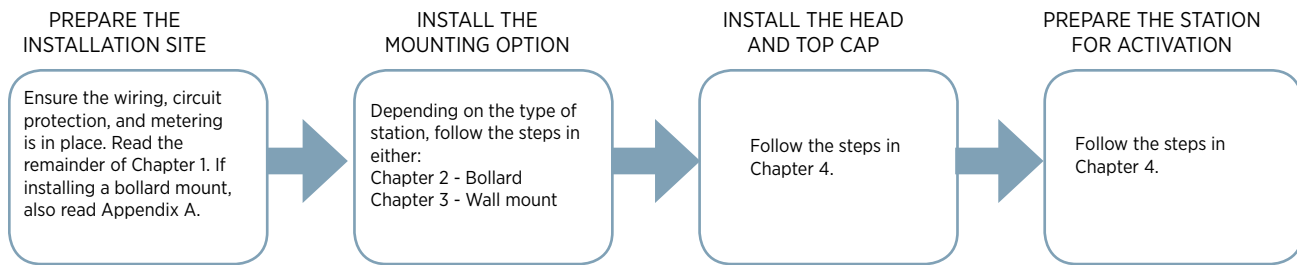
Assembly name...	Label on box says....	Overview of box contents...	Shipping Weight	For Installation Instructions, see...
Top Cap  IMPORTANT: Open this box first—it contains this Installation Guide	CT40XX-CAP*		5 lbs (2.1 kg)	Chapter 4
Body	CT40X1-BD or CT40X3-BD	Bollard Mount (CT40X1-BD):  Wall Mount (CT40X3-BD): 	Bollard: 50 lbs (22.7 kg) Wall: 15 lbs (6.8 kg)	Chapter 2 - Bollard Chapter 3 - Wall Mount
Cord Management Retractor	CT4000-CMK		CMK: 40 lbs (18.1 kg) CMK8: 50 lbs (22.7 kg)	Chapter 2 - Bollard Chapter 3 - Wall Mount
Head	CT40X0-HD* or CT40X0-HD-GW* For gateway stations the box also includes a Network Enablement Kit, CT4000-NEK1 (US) or CT4000-NEK2 (Canada)		Dual Port: 31 lbs (14 kg) Single Port: 25 lbs (11.3 kg)	Chapter 4
OPTIONAL: Power Management Kit	CT4000-PMGMT Allows both ports on a dual port station to share a single 40A circuit (Power Share). Also allows a CT4000 to be set up to operate at a lower current (Power Select).		5 oz (.14 kg)	Appendix B

**The last two digits of the four-digit model number depends on the station's features. The third digit (CT40X0) is "1" if the station has a single charging port, or "2" if the station has two charging ports. The last digit (CT401X) is either a 1 (bollard mount) or 3 (wall mount).*

NOTE: A more detailed list of the contents in each shipping box is provided in the associated chapter with the step-by-step installation instructions.

Installation Sequence

Regardless of the specific type of CT4000 charging station you are installing, and the options included, the high level installation sequence is the same:



Before Installing

You must complete an online training class to become a ChargePoint Certified Installer, and to get a login for ChargePoint. If you do not complete this training, you will be unable to complete the installation process.

- Ensure that the appropriate wiring, circuit protection, and metering is in place at the installation location by reviewing the specifications, wiring diagrams, and grounding requirements in the remainder of this chapter.
- Ensure that adequate CDMA (Verizon, Sprint) or GSM (AT&T, Rogers) cellular coverage is available at the installation location. To ensure adequate signal strength in underground garages or other enclosed parking structures, cellular repeaters may be required.
- For bollard mount charging stations, prepare the installation site by following the instructions in Appendix A. The mounting template for the bollard is stapled into the center fold of this document and a PDF version is available at www.chargepoint.com/support-installation-guides.php. Ensure the PDF version is accurate by printing it at 100% scale on 11" x 17" paper and then verifying at least one dimension.
- Review the CT4000 Data Sheet (available at www.chargepoint.com/support-product-data-sheets.php).
- Review the contents of this document to familiarize yourself with the contents of each shipping box and the required installation steps.

Specifications

Electrical Input	SINGLE PORT			DUAL PORT		
AC Voltage	208/240VAC			208/240VAC		
	Current	Input Power Connection	Required Service Panel Breaker	Current	Input Power Connection	Required Service Panel Breaker
Standard	30A	One 40A branch circuit	40A dual pole (non-GFCI type)	30A x 2	Two independent 40A branch circuits	40A dual pole (non-GFCI type) x 2
Standard Power Share	n/a	n/a	n/a	32A	One 40A branch Circuit	40A dual pole (non-GFCI type)
Power Select 24A	24A	One 30A Branch circuit	30A dual pole (non-GFCI type)	24A x 2	Two independent 30A branch circuits	30A dual pole (non-GFCI type) x 2
Power Select 24A Power Share	n/a	n/a	n/a	24A	One 30A branch circuit	30A dual pole (non-GFCI type)
Power Select 16A	16A	One 20A Branch circuit	20A dual pole (non-GFCI type)	16A x 2	Two independent 20A branch circuits	20A dual pole (non-GFCI type) x 2
Power Select 16A Power Share	n/a	n/a	n/a	16A	One 20A branch circuit	20A dual pole (non-GFCI type)
Service Panel GFCI	Do not provide external GFCI as it may conflict with internal GFCI (CCID)					
Wiring - Standard	3-wire (L1, L2, Earth)			5-wire (L1, L1, L2, L2, Earth)		
Wiring - Power Share	n/a			3-wire (L1, L2, Earth)		
Station Power	8W typical (standby), 15W maximum (operation)					

Electrical Output

Standard	7.2kW (240VAC@30A)	7.2kW (240VAC@30A) x 2
Standard Power Share	n/a	7.2kW (240VAC@30A) x 1 OR 3.8kW (240VAC@16A) x 2
Power Select 24A	5.8kW (240VAC@24A)	5.8kW (240VAC@24A) x 2
Power Select 24A Power Share	n/a	5.8kW (240VAC@ 24A) x 1 OR 2.9kW (240VAC@12A) x 2
Power Select 16A	3.8kW (240VAC@16A)	3.8kW (240VAC@16A) x 2
Power Select 16A Power Share	n/a	3.8kW (240VAC@16A) x 1 OR 1.9kW (240VAC@8A) x 2

Functional Interfaces

Connector(s) Type	SAE J1772™	SAE J1772™ x 2
Charging Cable Length	18' (5.5 meters)	18' (5.5 meters) x 2
Overhead Cable Management System	Yes	
LCD Display	5.7" full color, 640x480, 30fps full motion video, active matrix, UV protected	
Card Reader	ISO 15693, 14443, NFC	
Locking Holster	Yes	Yes x 2

Safety and Connectivity Features

Ground Fault Detection	20mA CCID with auto retry
Open Safety Ground Detection	Continuously monitors presence of safety (green wire) ground connection
Plug-Out Detection	Power terminated per SAE J1772™ specifications
Power Measurement Accuracy	+/- 2% from 2% to full scale (30A)
Power Report/Store Interval	15 minute, aligned to hour
Local Area Network	2.4 GHz Wi-Fi (802.11 b/g/n)
Wide Area Network	3G GSM, 3G CDMA

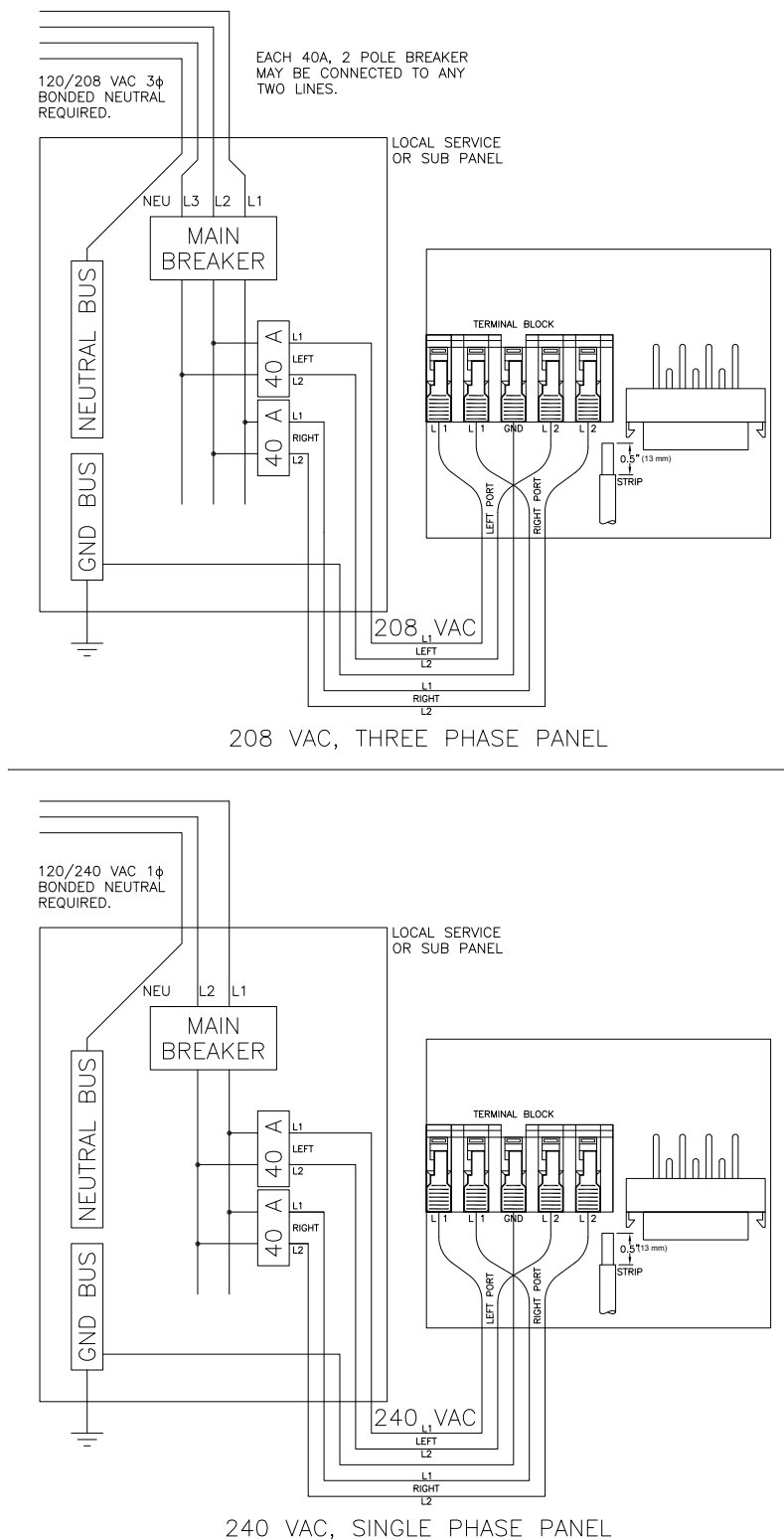
Safety and Operational Ratings

Enclosure Rating	Type 3R per UL 50E
Safety Compliance	UL listed for USA and cUL certified for Canada; complies with UL 2594, UL 2231-1, UL 2231-2, and NEC Article 625
Surge Protection	6kV @ 3000A. In geographic areas subject to frequent thunder storms, supplemental surge protection at the service panel is recommended.
EMC Compliance	FCC Part 15 Class A
Operating Temperature	-22°F to 122°F (-30°C to +50°C)
Storage Temperature	-40°F to 122°F (-40°C to +50°C)
Operating Humidity	up to 85% @ +50°C (122°F) non-condensing
Non-Operating Humidity	up to 95% @ +50°C (122°F) non-condensing
Terminal Block Temperature Rating	221°F (105°C)
Maximum Stations per 802.11 Radio Group	10. Each station must be located within 150 feet "line of sight" of a gateway station.

Dual Circuit Wiring Diagram

The following illustration describes the wiring for installing a CT4000 on a dual circuit. Wiring for a single circuit installation is described on the next page. Grounding requirements are described on page 1-6.

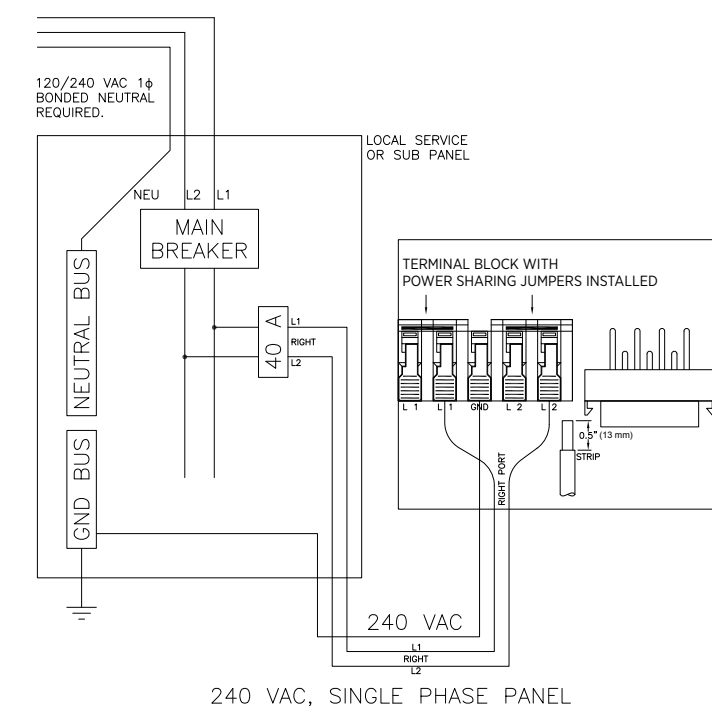
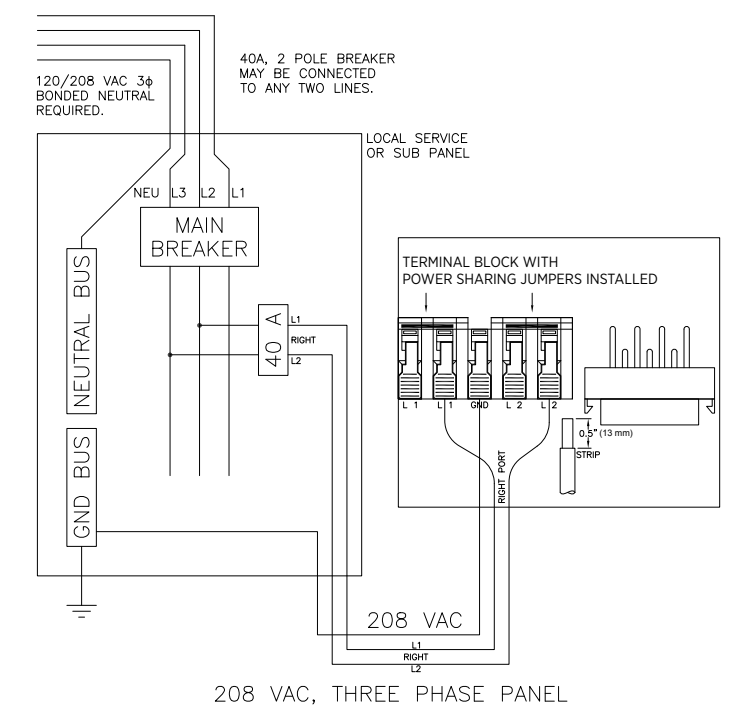
NOTE: Requires two dedicated circuits, each with its own two pole 40 A breaker. See Appendix B for lower power operation options.



Single Port or Shared Power Wiring Diagram

The following illustration describes the wiring for installing a dual port CT4000 on a shared single circuit. For this installation, you will need the power sharing kit to allow both ports to share a two pole 40A circuit breaker. Wiring connections are provided in Appendix B. Grounding requirements are described on page 1-6. See Appendix B for lower power operation options.

Wiring for a dual circuit installation, see the previous page.



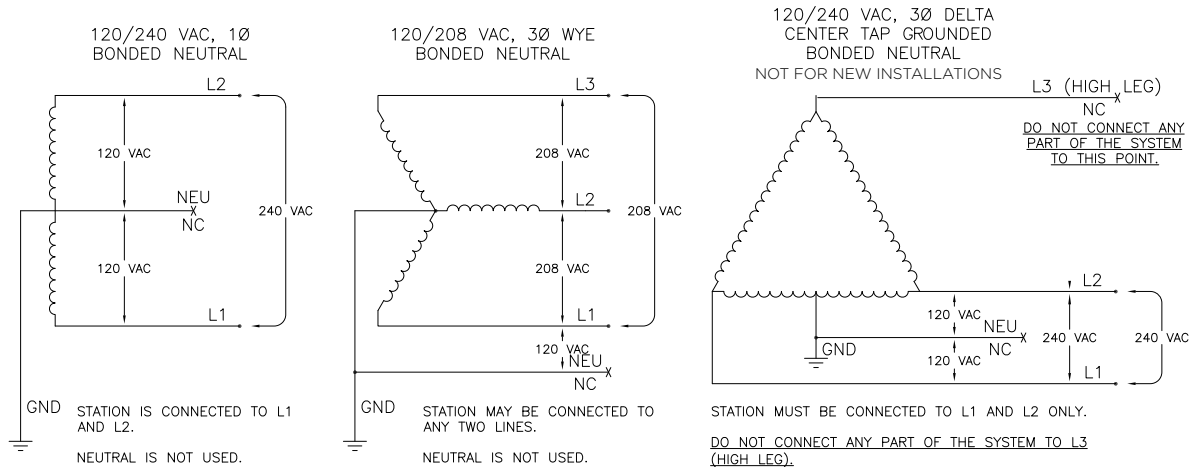
Grounding Requirements

The voltage of either line, relative to ground, must not fall below 80 volts or a Floating Line Connection error occurs (see page 5-3). Because the voltage of either line relative to ground must not be allowed to fluctuate, use only center-grounded systems. Neutral is not used to power the station but must be properly connected to ground, at the panel or transformer, to provide the necessary voltage reference relative to ground.

Connect to these systems

In a wye system, connect the station to ANY two lines, as shown below.

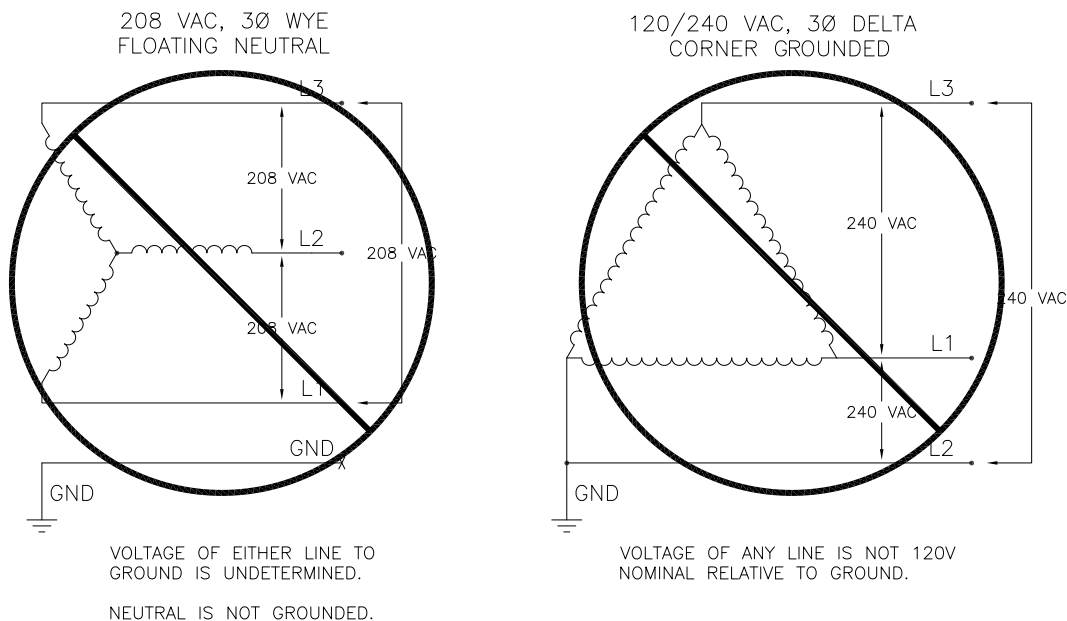
In a delta system, connect the station to a center-tapped secondary only, where the center tap is bonded and the station is connected to L1 and L3. This allows voltages to remain constant regardless of other loads that may be using the lines.



Do not connect to these systems

Do not connect ChargePoint stations to the following types of power sources:

- 120/208 VAC 3 phase wye, ungrounded
- 120/240 VAC 3 phase delta, corner-grounded
- Any system where the center point of the AC power source is not grounded



Installing a Bollard Mount

2

Before You Start

Before installing a bollard mount, prepare the installation site as described in Appendix A. After preparing the installation site, you need the following:

- Ratchet and 3/8" (10 mm) socket*
- 1/2" drive torque wrench and 15/16" (24 mm) 6-point deep socket, for 5/8 (11 /16 mm) nut**
- Adjustable wrench
- Bubble level
- #2 Phillips screwdriver
- Wire stripper
- Voltage tester

**For use with assembled SAE hardware.*

***For use with CT4000 Bollard to Concrete Mount Kit (35-001013-01).*

Overview of Steps

Installing the bollard mount involves a few simple steps, summarized below and detailed in the remainder of this chapter:

1. Check Boxes for Correct Contents (page 2-2)
2. Prepare Pole/Base Plate for Mounting (page 2-3)
3. Mount Pole/Base Plate (page 2-4)
4. Install Main Body (page 2-5)
5. Prepare Retractor for Mounting (page 2-6)
6. Install Retractor (page 2-7)
7. Connect Wiring (page 2-8)
8. Check Voltages (page 2-9)

When you have completed these steps, you will be ready to install the head and top assemblies as described in Chapter 4.

Step 1: Check Boxes for Correct Contents

The bollard mount ships in two boxes as described below.

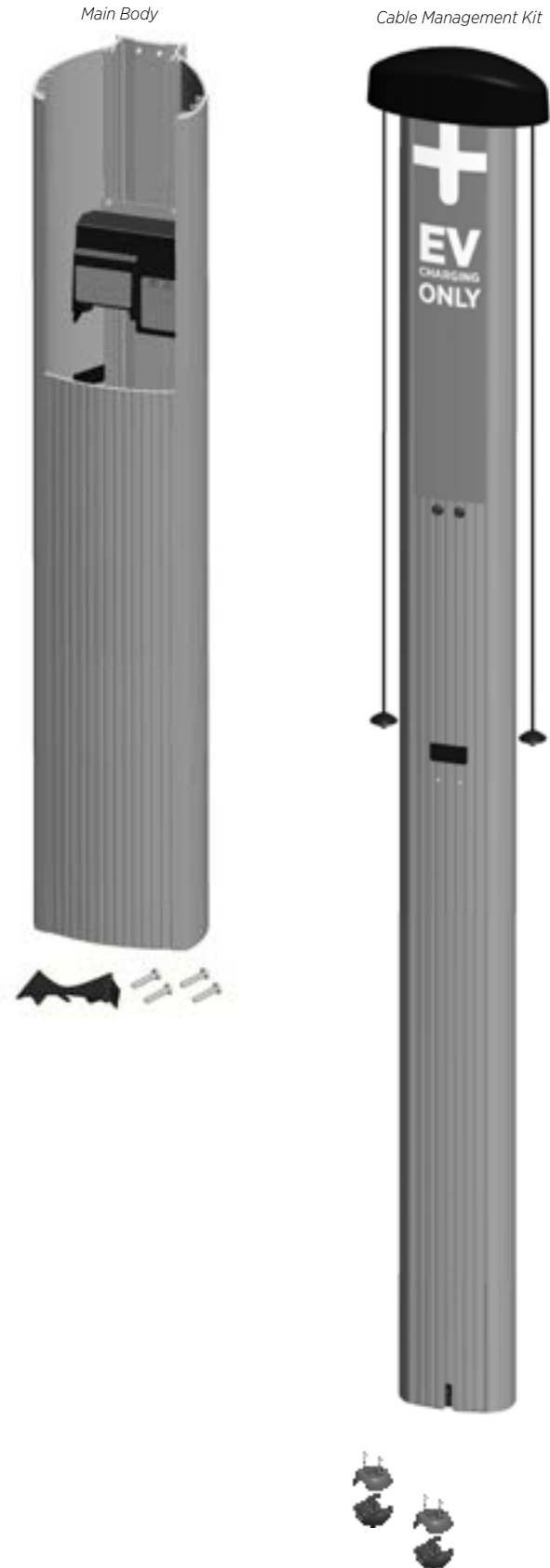
Main Body

- Main body, pre-assembled with mounting pole/base plate, rubber bumper, and brackets (1)
- Adapter plastic cap (1)
- ¼"-20 x 1 ¼" screws (4)

Cable Management Kit

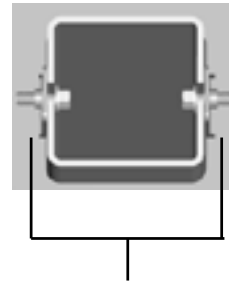
- Retractor assembly with pre-installed "EV CHARGING ONLY" sign (1)
- Cable clamps (2 sets)**

***The type of cable clamps included will vary (see page 4-11).*



Step 2: Prepare Pole/Base Plate for Mounting

- Use a 3/8" socket wrench to loosen (but not remove) the two screws holding the pole inside the main body.
- Remove the pole/base plate assembly from the main body by pulling it out from the bottom of the main body. Keep the rubber spacer in place over the pole.
- Remove and discard the cardboard shipping spacer.



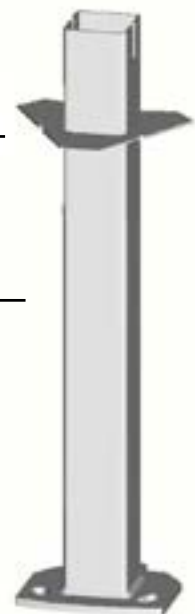
Loosen the 2 screws
(don't remove)



Rubber
spacer

Pole

Base
plate

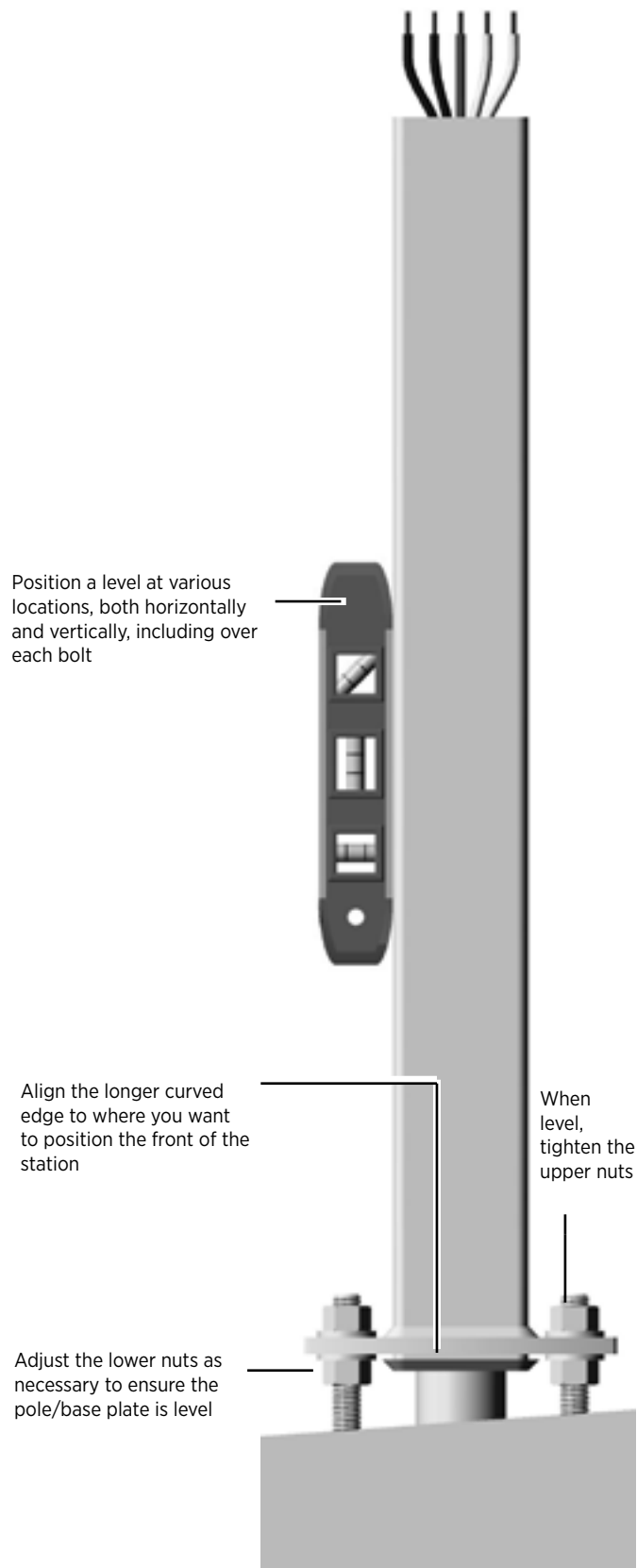


Step 3: Mount Pole/Base Plate

Prepare the installation site as described in Appendix A, then mount the pole/base plate assembly as follows:

- Pull wires through conduit.
- Place the pole/base plate assembly over the conduit, ensuring the long curved edge of the base plate is located where you want the front of the charging station located.
- Adjust the lower nuts as necessary to ensure the mounting pole is level.
- When level, tighten the nuts on top of the base plate to at least 1416 in-lbs (160 Nm).

⚠ IMPORTANT: Ensure the pole/base plate is level by adjusting the nuts underneath the base plate. Verify accuracy after each adjustment by positioning the level at various locations on the pole, above each bolt.



Step 4: Install Main Body

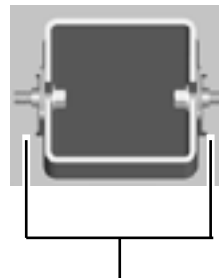
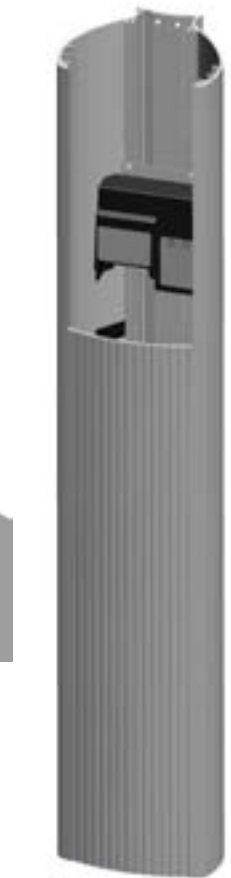
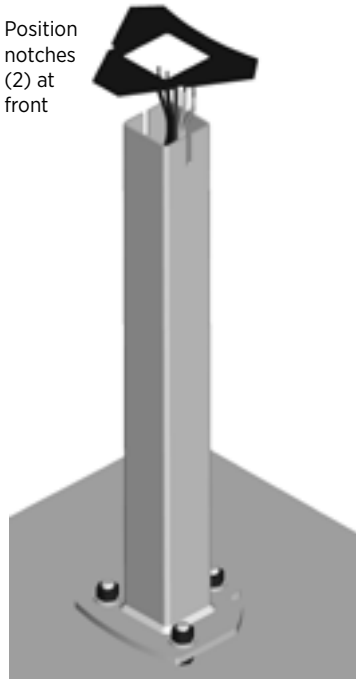
To install the main body:

- Align the notches on the rubber spacer with the front mounting nuts, then slide it all the way down the pole until it is flush with the base plate. This prevents any rocking motion between the main body and the base plate.
- Slide the body over the mounting pole.
- Re-tighten the screws you loosened in Step 2 to approximately 80 in-lbs (9 Nm) using a 3/8" (10 mm) socket wrench.

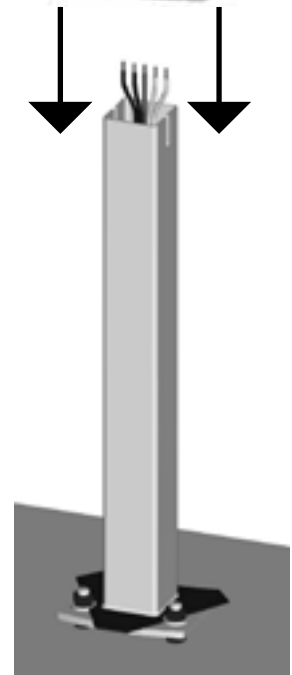
! IMPORTANT: Ensure the body is firmly aligned to the bottom surface and that no movement (rocking) can take place, even when significant pressure is applied.

! IMPORTANT: The bollard is designed to shed moisture between its bottom surface and the concrete pad. It is very important to maintain this moisture egress feature so that there is no unwanted moisture build up. Therefore, do not seal the bollard to the concrete pad with caulking, silicone or other sealing material.

Position
notches
(2) at
front



Re-tighten the 2 screws



Step 5: Prepare Retractor for Mounting

To prepare the retractor for mounting:

- Position the retractor packaging so that the bottom of the retractor is near the base of the bollard.

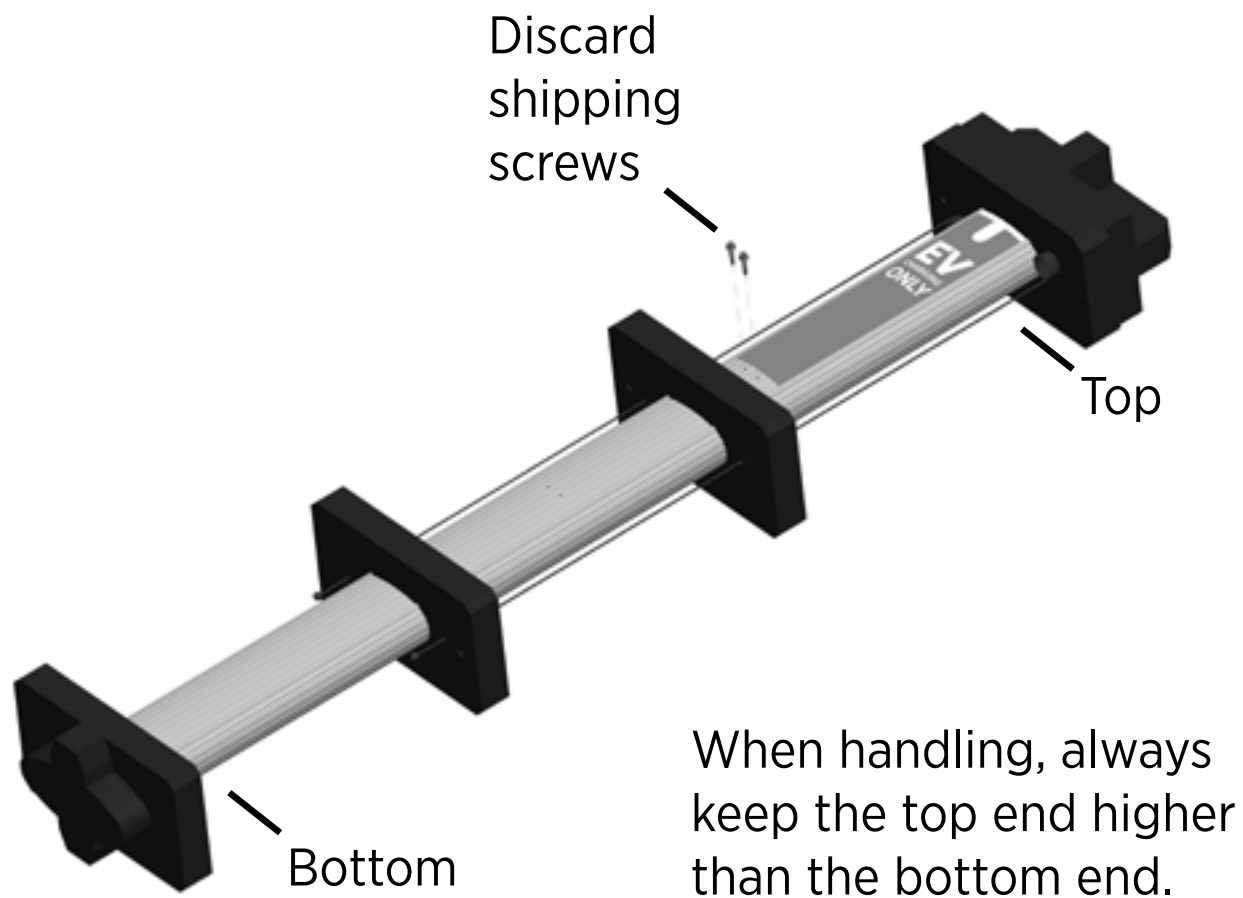


IMPORTANT: Do not unwrap the ropes.

- **Remove and discard the two 3/8" drive shipping screws from the front face of the retractor.**

NOTE: When you remove the shipping screws, the retractor's counterweights are free to move in either direction. Therefore, **do not tilt or carry the retractor assembly with the top end lower than the bottom end.**

- Remove the foam packaging from the retractor.
- OPTIONAL: If necessary, remove or replace the EV PARKING sign. See Appendix C.



Step 6: Install Retractor

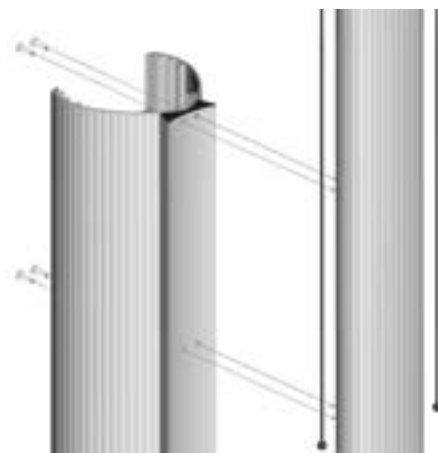
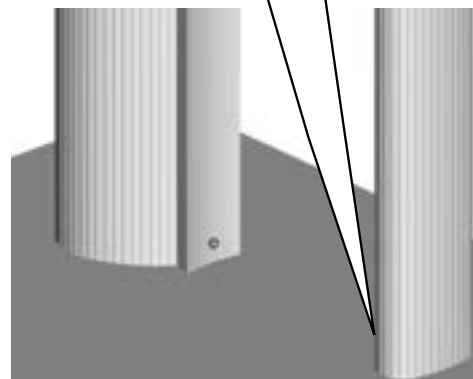
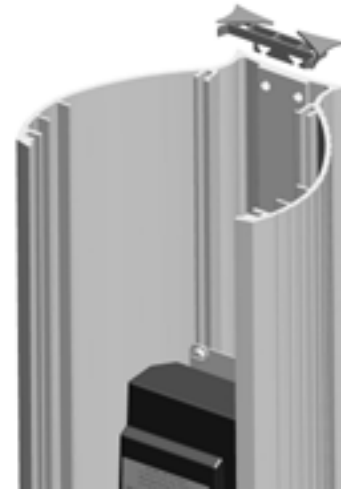
To install the retractor:

- Insert the black cap into the space at the top of the main body, between the main body and the retractor, as shown.
- With a Phillips screwdriver and at least one of the four ¼" - 20 x 1 ¼" screws in hand, position the retractor against the back of the main body. Place the slot at the bottom of the retractor over the knob at the bottom of the main body, as shown.



IMPORTANT: Hold the retractor in place until you've secured it with at least one screw.

- From inside the main body, insert the four ¼" - 20 x 1 ¼" screws through the main body and the retractor, and tighten to 60 in-lbs (7 Nm).

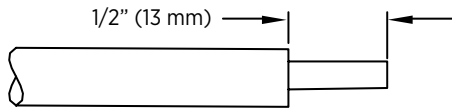


Step 7: Connect Wiring

! IMPORTANT: To power a dual-port station using a single 40A circuit, use the Power Share option provided in the Power Management Kit. Instead of following the instructions below, see Appendix B to properly install Power Share jumpers and relabel the station. After the station powers up, as described in Chapter 4, the on-screen Installation Wizard steps you through the process of configuring the station.

If you are not installing a power sharing kit, connect the wiring as follows:

- Strip wires ½" (13 mm).



- Push the black tab on the terminal block to release the terminal block cover, then slide the cover up until it locks into the raised position:

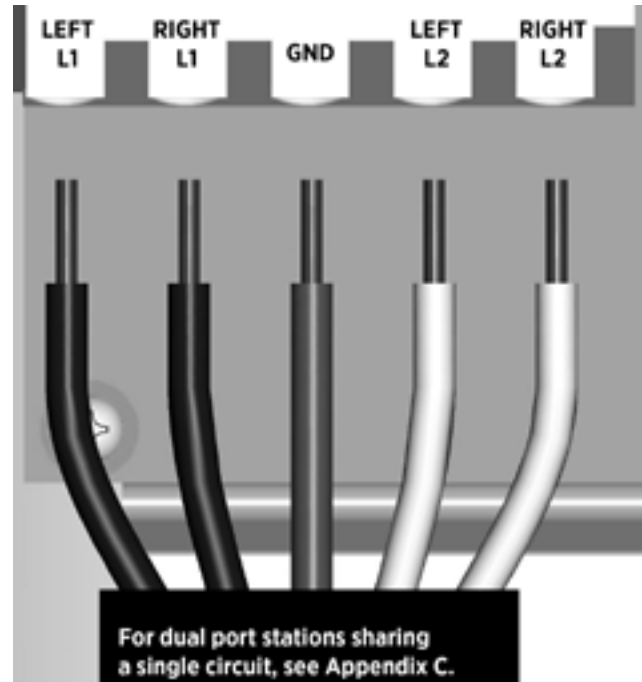


- Lift the corresponding white lever on the terminal block, insert the ground wire into the center connector, then push the lever down until it clicks into its fully closed position.
- Lift the corresponding white levers, insert the 240 VAC L1 and L2 wires, then push the levers down until they click into their fully closed position.

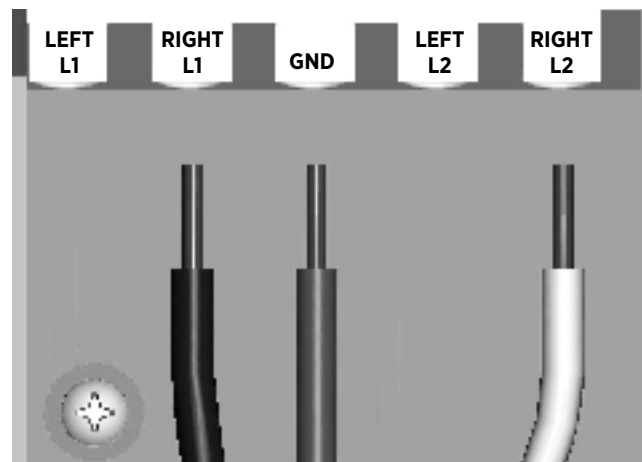
! WARNINGS:

- Use copper conductors only.
- Do NOT provide GFCI protection at panel. The CT4000 has built-in GFCI protection.
- In areas with frequent thunder storms, add surge protection at the service panel for all circuits.
- Use new circuit breakers only. Used breakers can damage equipment and introduce the potential for an electrical fire.**
- Ensure all power and ground connections, especially those at the breaker and buss bar, are clean and tight. Remove all oxide from all conductors and terminals before connecting wiring.**

For dual port stations:



For single port stations, use the connectors indicated for "RIGHT" side only.



Step 8: Check Voltages

- Turn power ON.
- Using a solenoid type voltage tester, check that the voltages at the charging station's terminal block are as follows:

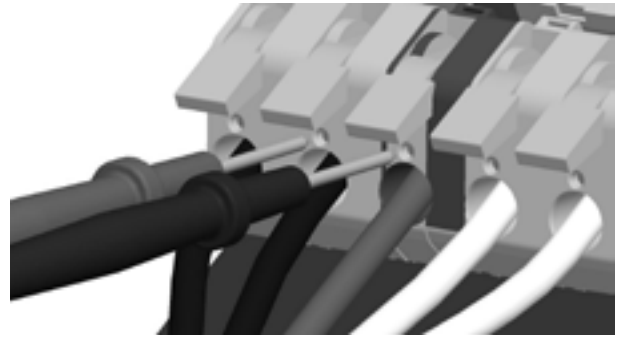
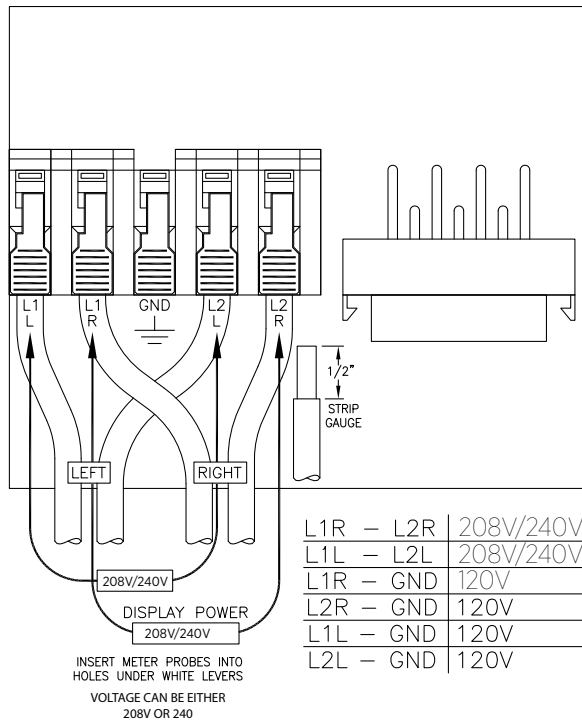
Measure Between	Volts
L1 and L2	208/240
GND and L1	120
GND and L2	120

If the voltages are not as expected, ensure that the wiring has been properly connected as describing on the previous page. For detailed wiring diagrams and grounding requirements, see pages 1-4 to 1-6.

Before continuing, resolve any wiring issues and ensure that voltages are as expected.

- Turn power OFF.

CT4000 Input Voltage Measurements



OPTIONAL: Apply custom signs to the front of the bollard and/or the back of the retractor. See Appendix C.

You have now finished installing the bollard mount and are ready to install the head assembly and top cap. See Chapter 4.



Installing a Wall Mount

3

Before You Start

You need the following:

- Drill and Tap for appropriate wall attachment hardware
- Attachment hardware, such as 3/8" x 3" (M10 x 75 mm) lag bolts (coach screws) if mounting to a wood wall
- Ratchet and 9/16" (15 mm) deep socket
- #2 Phillips screwdriver
- Tape measure
- Bubble level
- Marker
- Wire stripper
- Voltage tester

Overview of Steps

Installing the wall mount involves a few simple steps, summarized below and detailed in the remainder of this chapter:

1. Check Boxes for Correct Contents (page 3-2)
2. Drill Holes in Wall (page 3-3)
3. Mount Rear Brackets to Wall (page 3-4)
4. Prepare Retractor for Mounting (page 3-5)
5. Mount Retractor (page 3-6)
6. Install Conduit (page 3-7)
7. Install Main Body (page 3-8)
8. Connect Wiring (page 3-9)
9. Check Voltages (page 3-10)

When you have completed these steps, you will be ready to install the head and top cap as described in Chapter 4.

Step 1: Check Boxes for Correct Contents

The wall mount ships in two boxes as described below.

Main Body and Mounting Kit

- Main body, pre-assembled (1)
 - Mounting brackets with pre-installed 1/4-20 screws and 3/8-16x3/4 flange bolts (2 sets)
- NOTE: The packing box for the brackets serves as a template for drilling mounting holes. **Do not discard packaging until you've completed Step 2.**

- Slot cover (2)*

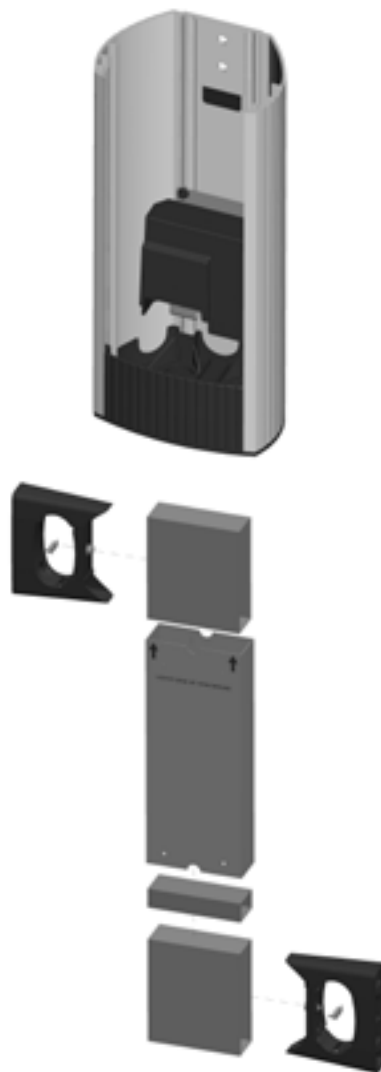
*One extra slot cover is included.

Cable Management Kit

- Retractor assembly with pre-installed "EV CHARGING ONLY" sign (1)
- Cable clamps (2 sets)**

**The type of cable clamps included will vary (see page 4-11).

Main Body and Mounting Kit



Cable Management Kit

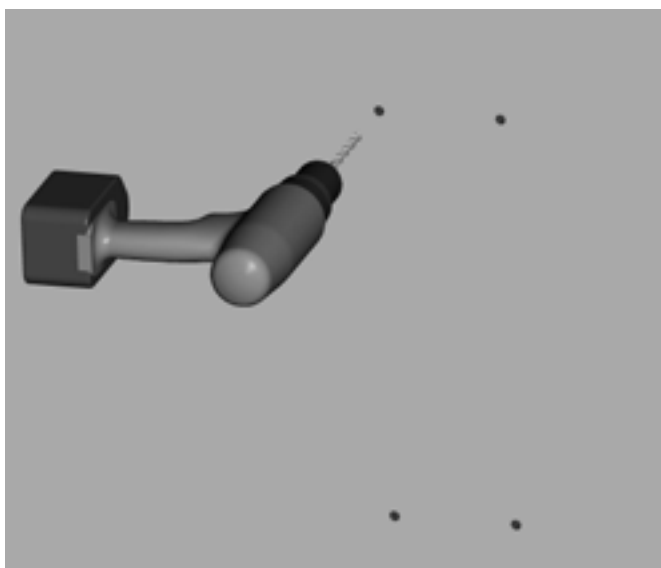


Step 2: Drill Holes in Wall

- The packing box for the brackets is used as a template for drilling the wall holes. Tear the packing box along the perforation to allow it to lay flat.
- Place the template against the wall. As described on the package insert, align the top where indicated, 49" above the floor or ground. Ensure that the template is level and the side of the packaging insert is plumb. Mark the four mounting holes.
- Drill four holes in the wall at the marked locations.

NOTE:

- If mounting to a hollow wall, bridge at least two studs using a 1-5/8" channel strut. For wood studs, use 3/8" lag bolts that are long enough to penetrate at least 2 1/2" into the stud. Then mount the supplied brackets to the channel strut using 3/8-16 x 1" long bolts, 3/8 ID x 13/16" OD washers, and 3/8-16 channel strut nuts.
- If mounting to a masonry wall, use 3/8" expanding masonry fasteners.
- If mounting to a wood wall, use 3/8" x 3" lag bolts.



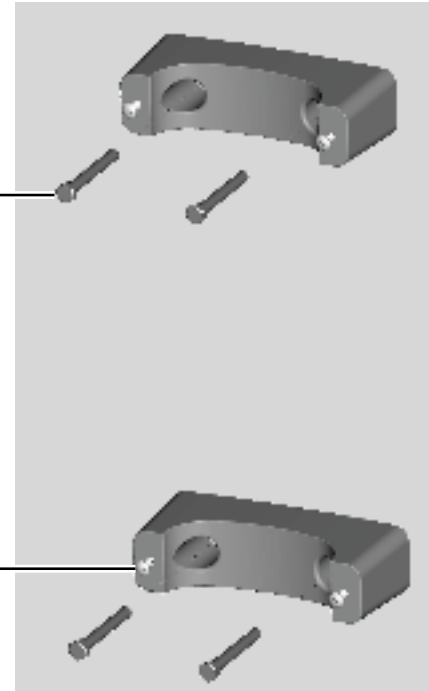
Step 3: Mount Rear Brackets to Wall

Separate the pre-assembled front and rear brackets by loosening (but not removing) the pre-installed screws. Leave about 3/4" (19 mm) protruding.

Mount each rear bracket to the wall using screws appropriate for the type of wall material.

Mount brackets using screws appropriate for type of wall material (not supplied)

Do not remove screws—leave about 3/4" (19 mm) protruding



Step 4: Prepare Retractor for Mounting

To prepare the retractor for mounting:

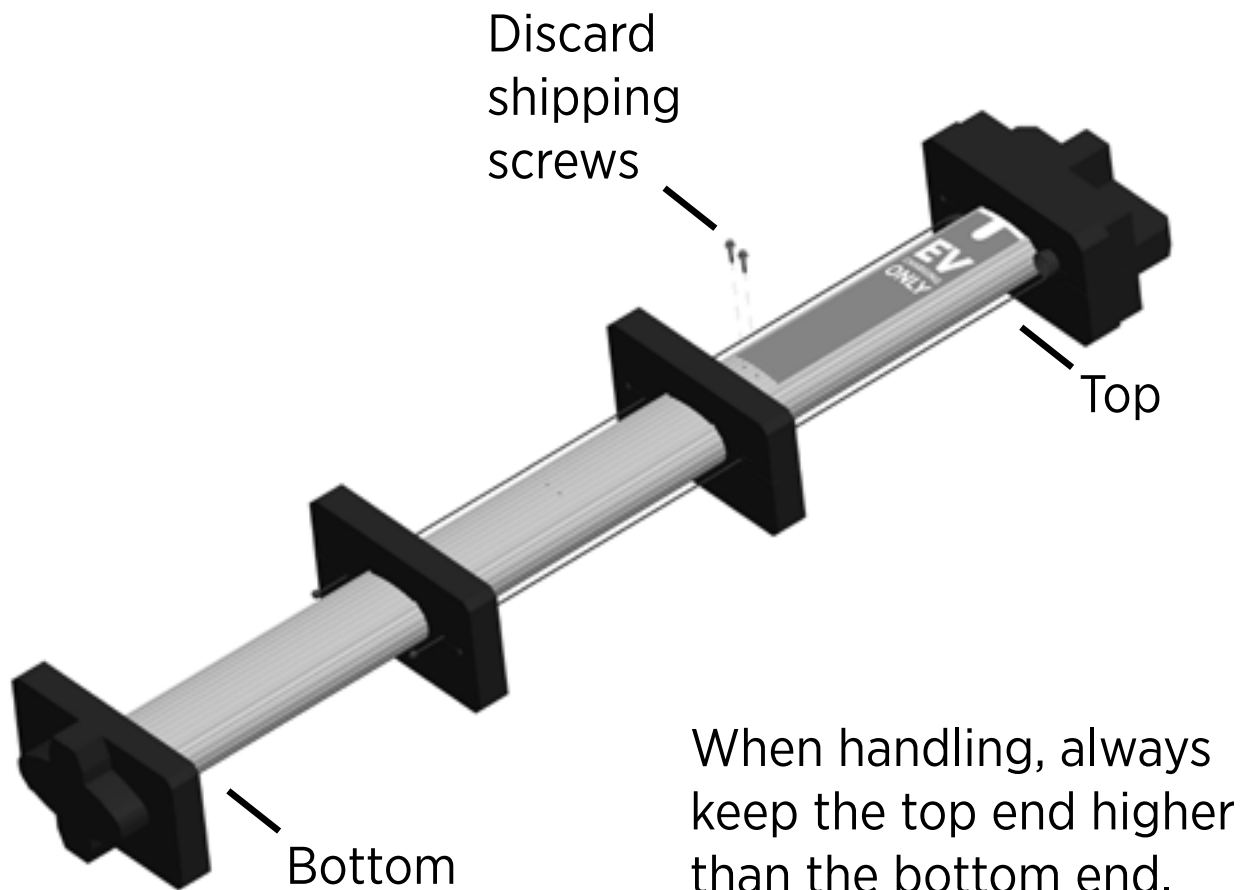
- Position the retractor packaging so that the bottom of the retractor is near the bottom of the wall.

 **IMPORTANT:** Do not unwrap the ropes.

- **Remove and discard the two 3/8" (10 mm) drive shipping screws from the front face of the retractor.**

NOTE: When you remove the shipping screws, the retractor's counterweights are free to move in either direction. Therefore, **do not tilt or carry the retractor assembly with the top end lower than the bottom end.**

- Remove the foam packaging from the retractor.
- OPTIONAL: If necessary, remove or replace the EV PARKING sign. See Appendix C.



Step 5: Mount Retractor

To mount the retractor assembly:

- Place the two front brackets where you can easily reach them.
- Tilt the retractor up against the rear brackets, with the front of the retractor facing towards you, as shown (mount holes visible).

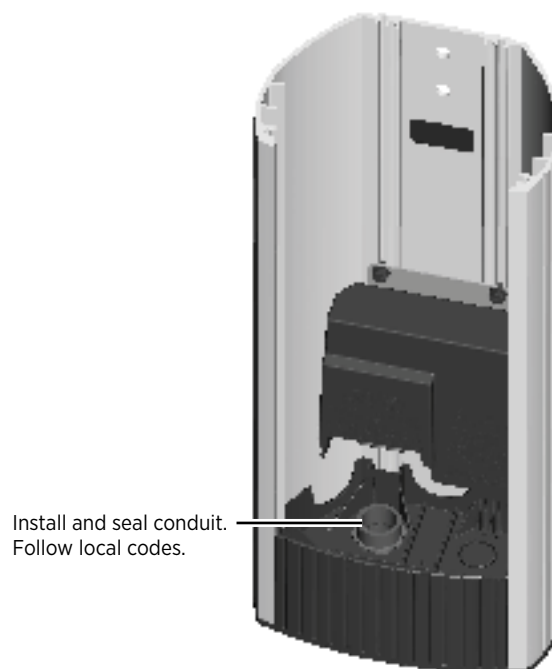
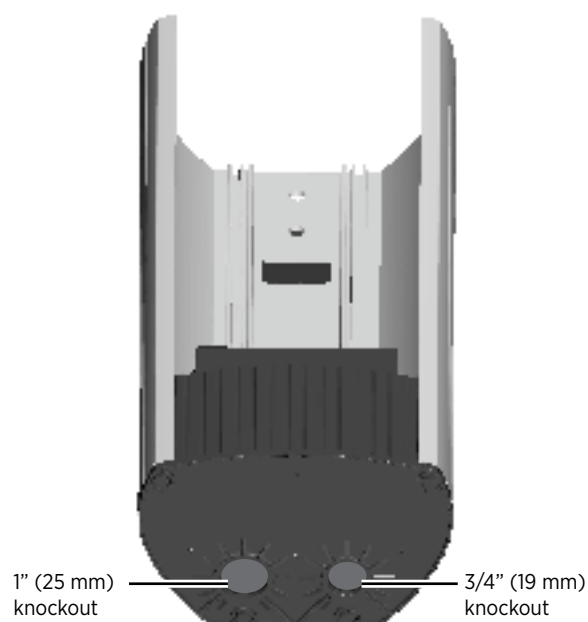
NOTE: The bottom of the retractor should rest on the ground.

- Place the top front bracket over the two corresponding screws protruding from the top rear bracket. You'll need to steady the retractor with one hand, while using the other hand to position the bracket.
- Repeat for the bottom bracket.
- Tighten all four screws to 60 in-lbs (7 Nm) using the Phillips screwdriver.
- Insert the slot cover, bottom first, into the slot at the bottom of the retractor.



Step 6: Install Conduit

As shown, the base of the main body has two conduit knockouts: 1" and 3/4" (25 mm and 19 mm). Using a flat screwdriver, remove the knockout for the appropriate conduit size.

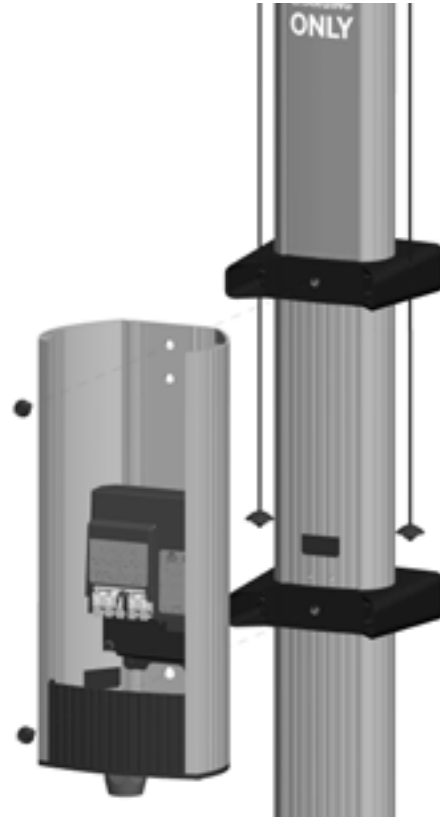


Step 7: Install Main Body

- Expose the pre-drilled hole located below the terminal block. To do so, push the tab on the terminal block to release the cover plate, then slide the cover plate upwards until it stays in position:



- Remove the pre-installed flange bolts from the front brackets.
- Position the main body so that the top hole aligns with the top retractor bracket.
- Re-insert a 3/8 - 16 x 3/4" flange bolt into the top hole and finger tighten.
- Re-insert the other flange bolt into the lower mounting hole.
- Tighten both flange bolts to 50 in-lbs (117 Nm).
- Connect the conduit and run wiring through the conduit and into the main body of the station.

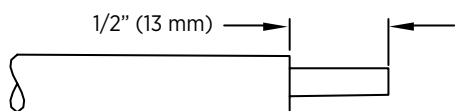


Step 8: Connect Wiring

! IMPORTANT: To power a dual-port station using a single 40A circuit, use the Power Share option provided in the Power Management Kit. Instead of following the instructions below, see Appendix B to properly install Power Share jumpers and relabel the station. After the station powers up, as described in Chapter 4, the on-screen Installation Wizard steps you through the process of configuring the station.

If you are not installing a power sharing kit, connect the wiring as follows:

- Strip wires ½" (13 mm).



- Push the black tab on the terminal block to release the terminal block cover, then slide the cover up until it locks into the raised position:

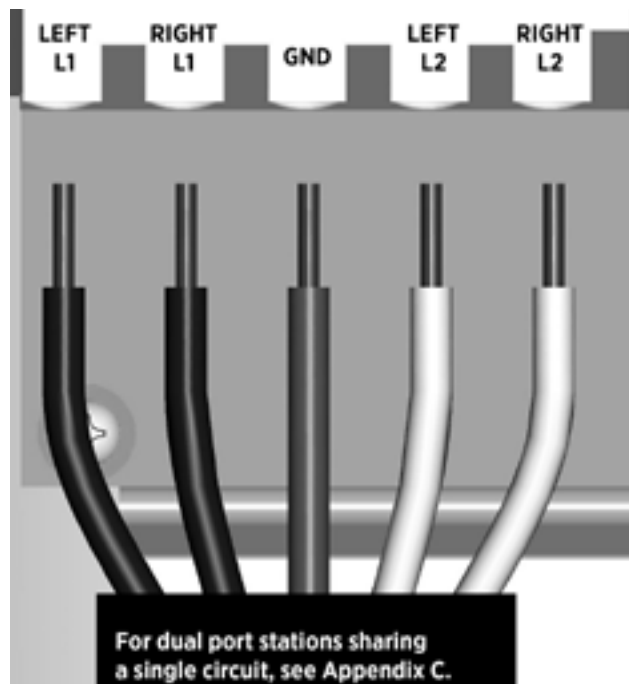


- Lift the corresponding white lever on the terminal block, insert the ground wire into the center connector, then push the lever down until it clicks into its fully closed position.
- Lift the corresponding white levers, insert the 240 VAC L1 and L2 wires, then push the levers down until they click into their fully closed position.

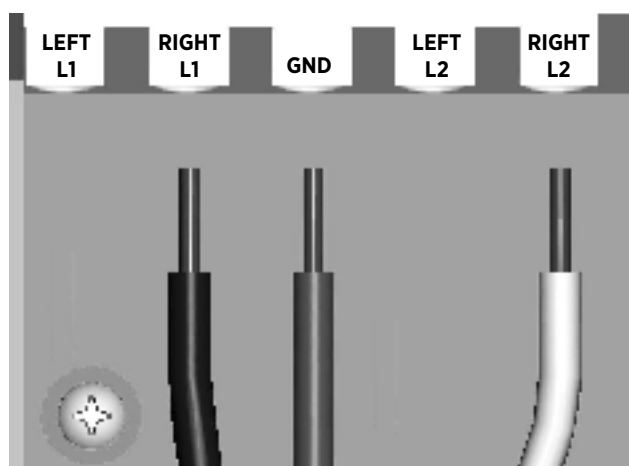
! WARNINGS:

- Use copper conductors only.
- Do NOT provide GFCI protection at panel. The CT4000 has built-in GFCI protection.
- In areas with frequent thunder storms, add surge protection at the service panel for all circuits.
- Use new circuit breakers only. Used breakers can damage equipment and introduce the potential for an electrical fire.**
- Ensure all power and ground connections, especially those at the breaker and buss bar, are clean and tight. Remove all oxide from all conductors and terminals before connecting wiring.**

For dual port stations:



For single port stations, use the connectors indicated for "RIGHT" side only.



Step 9: Check Voltages

- Turn power ON.
- Using a solenoid type voltage tester, check that the voltages at the charging station's terminal block are as follows:

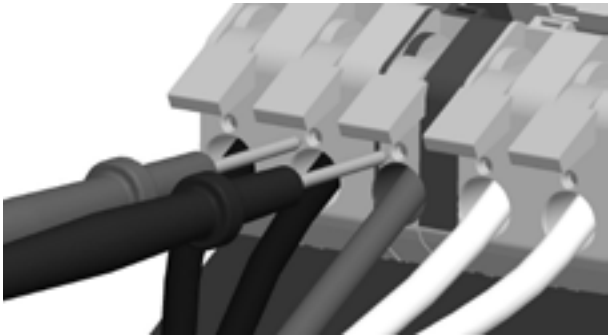
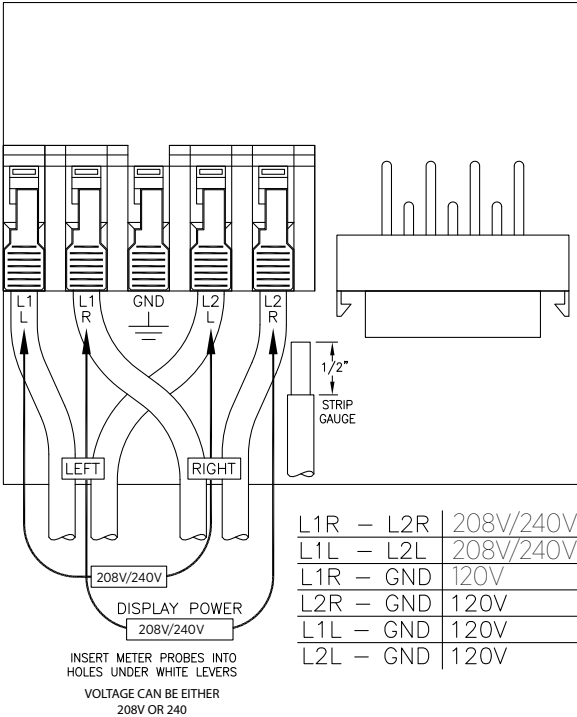
Measure Between	Volts
L1 and L2	208/240
GND and L1	120
GND and L2	120

If the voltages are not as expected, ensure that the wiring has been properly connected as describing on the previous page. For detailed wiring diagrams and grounding requirements, see pages 1-4 to 1-6.

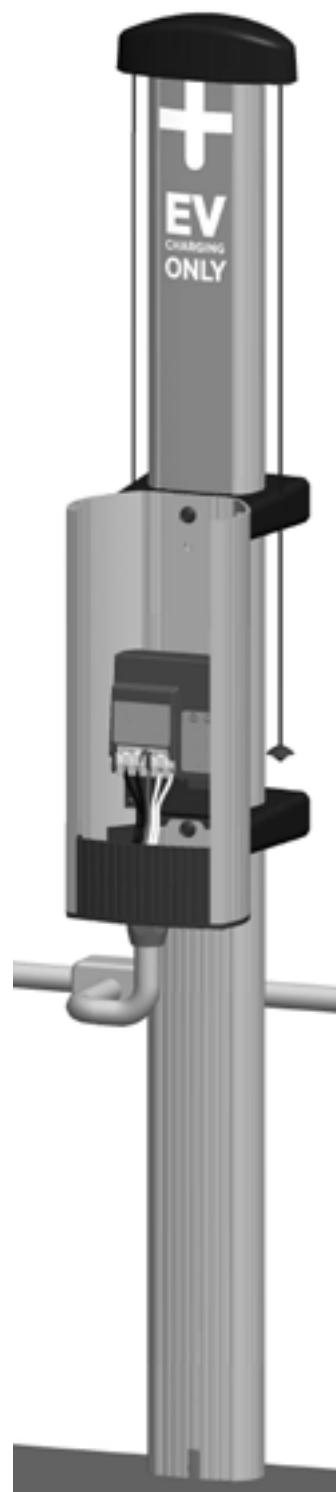
Before continuing, resolve any wiring issues and ensure that voltages are as expected.

- Turn power OFF.

CT4000 Input Voltage Measurements



You have now finished installing the wall mount and are ready to install the head assembly and top cap. See Chapter 4.



Installing the Head and Top Cap

4

Before You Start

Before installing the head and top cap, you must complete the installation of the main body and its cable management system as described in a previous chapter. You need the following:

- Smart phone with camera and internet connection
- ChargePoint login (provided during ChargePoint Installer Certification training)
- Wire stripper
- #2 Phillips screwdriver

Overview of Steps

Installing the head and top cap involves a few simple steps, summarized below and detailed in the remainder of this chapter:

1. Check Boxes for Correct Contents (page 4-2)
2. Prepare Head Assembly for Mounting (page 4-4)
3. Slide Head Assembly into Body (page 4-7)
4. Connect Head Assembly (page 4-8)
5. Use the Wizard to Complete the Installation (Page 4-9)
6. Secure Head Assembly (page 4-11)
7. Prepare the Station for Activation on ChargePoint (page 4-13)

When you have completed these steps, installation is complete.

Step 1: Check Boxes for Correct Contents

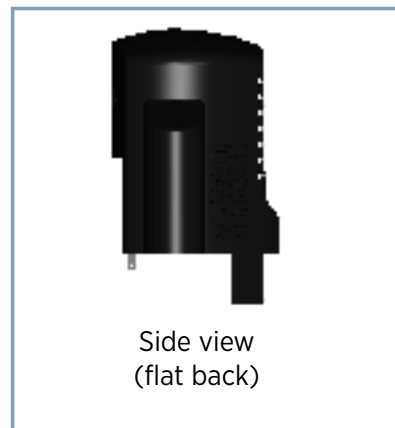
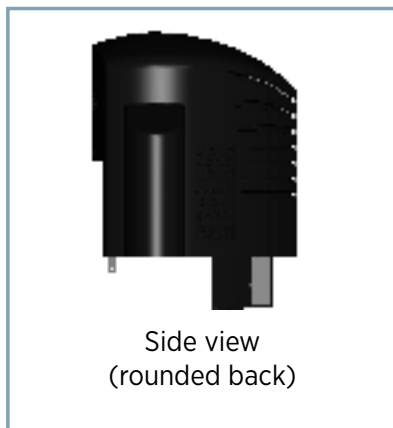
Top cap

The station's top cap ships in a box containing:

- Top cap (1)
- Phillips screws (2) - in some cases, the top cap does not require screws and instead has integrated snaps that allow you to snap it onto the head assembly (see page 4-5)
- CT4000 Installation Guide (this document)

Pay attention to the top cap's attachment type. Some top caps are attached using screws, whereas others have integrated snaps. Instructions are provided for each type.

If installing both bollard and wall mount stations, also pay attention to the top cap's shape. As illustrated below, the back of the top cap is rounded for bollard stations, and flat for wall mount stations.



Step 1 cont'd: Check Boxes for Correct Contents

Head assembly

The station's head assembly ships in a box containing:

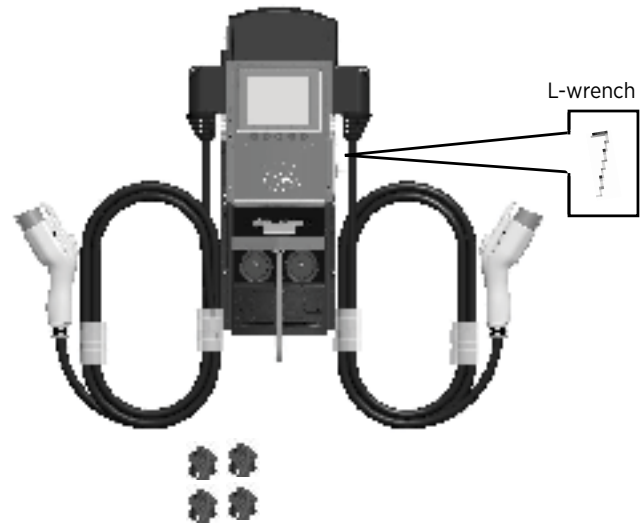
- Head assembly
- Rubber plugs (4) - two of these are spares.
- L-wrench (attached with a security tag on the side of the head assembly)
- Spare activation label (a duplicate label is attached to the head assembly)

! IMPORTANT: Keep the spare activation label for future reference. It contains critical information that is needed to document the radio groups when preparing the station for activation on ChargePoint (see page 4-15).

For gateway stations, a Network Enablement Kit is also included:

- SIM card
- Installation instructions

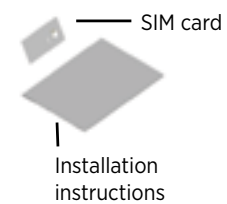
! IMPORTANT: Locate and retain the envelope containing the Network Enablement Kit, **located under the head assembly in the shipping box**. It contains critical components that allow the gateway station to communicate on the ChargePoint network (see installation instructions on page 4-4).



An activation label is attached to the head assembly. This duplicate label is provided to simplify the step of documenting the radio groups. It includes important information needed to activate the station on ChargePoint.

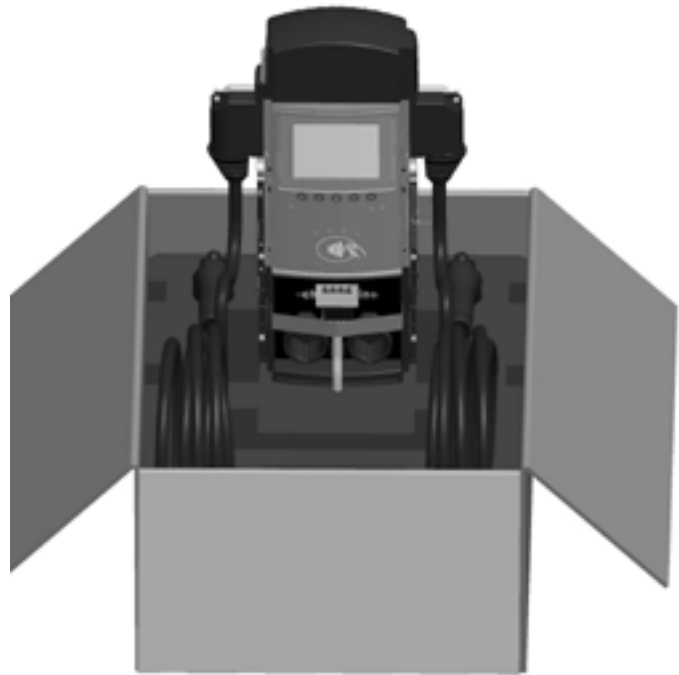
GATEWAY STATIONS ONLY:

The shipping box also includes an envelope containing the Network Enablement Kit.



Step 2: Prepare Head Assembly for Mounting

- To prepare the head assembly for mounting, open the box and stand the head upright on its foam packaging, as shown.



- If you are installing a gateway station, install the Network Enablement Kit:
 - a) Remove the SIM card from its carrier by pushing it firmly.
 - a) Lift the rubber flap located on the left hand side of the head assembly, as shown.
 - b) Insert the notched edge of the SIM card into the slot, with the notch facing upward. Slide it into the slot and push it FULLY into the slot until it “clicks” into place. Refer to the orientation instructions printed on the side of the head assembly.

TIP! To push the SIM card into the slot, use a corner of the SIM card’s carrier, as shown.



Remove the SIM card

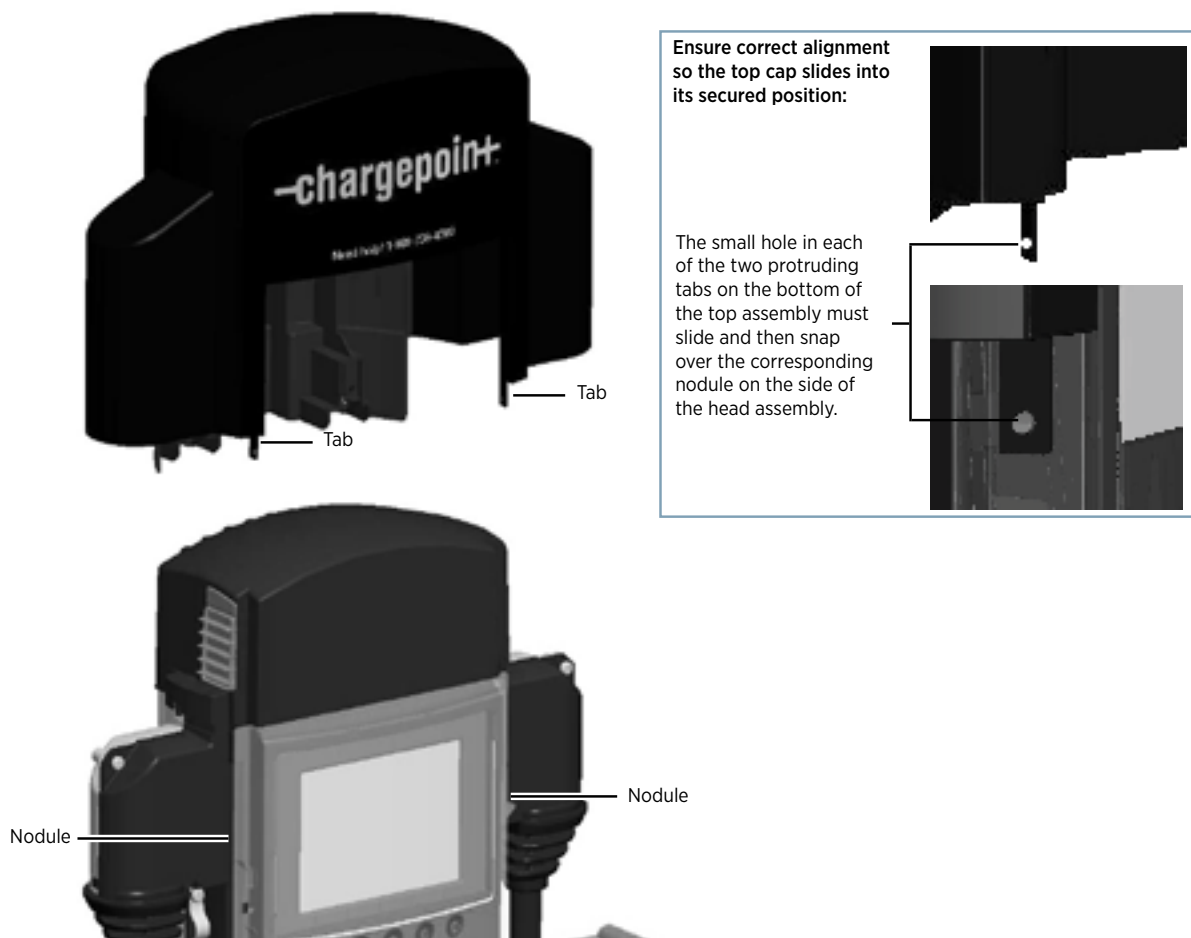


Step 2 cont'd: Prepare Head Assembly for Mounting

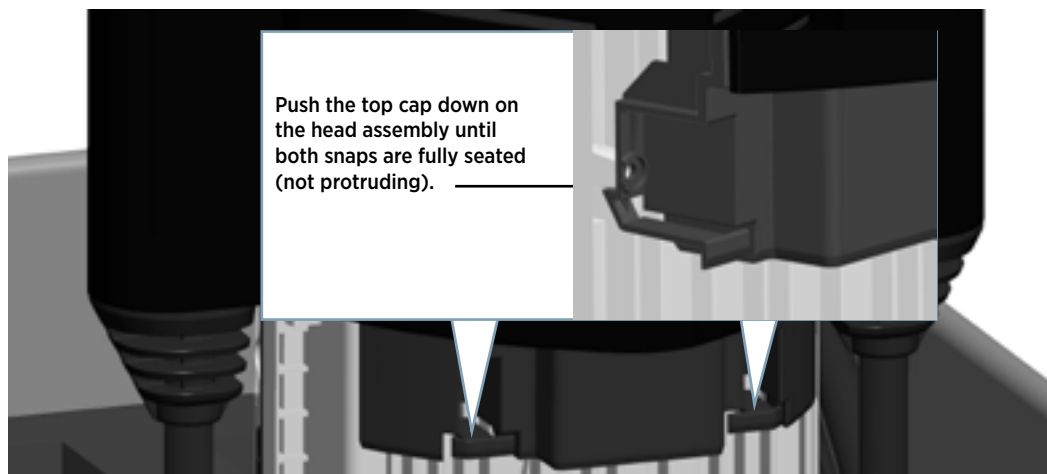
- Install the top cap. There are two types of top caps:
 - SNAP TYPE: The back of the top cap has levered snaps (follow instructions below)
 - SCREW TYPE: The back of the top cap has deep bosses for screws (follow instructions on the next page)

TO INSTALL A SNAP TYPE TOP CAP (to install a screw type top cap, see the next page)

- Place the top cap over the head assembly as shown, ensuring correct alignment.
- Push the top cap down onto the head assembly to secure it in place. Ensure that the front tabs are aligned over the nodules and the rear snaps are fully seated.

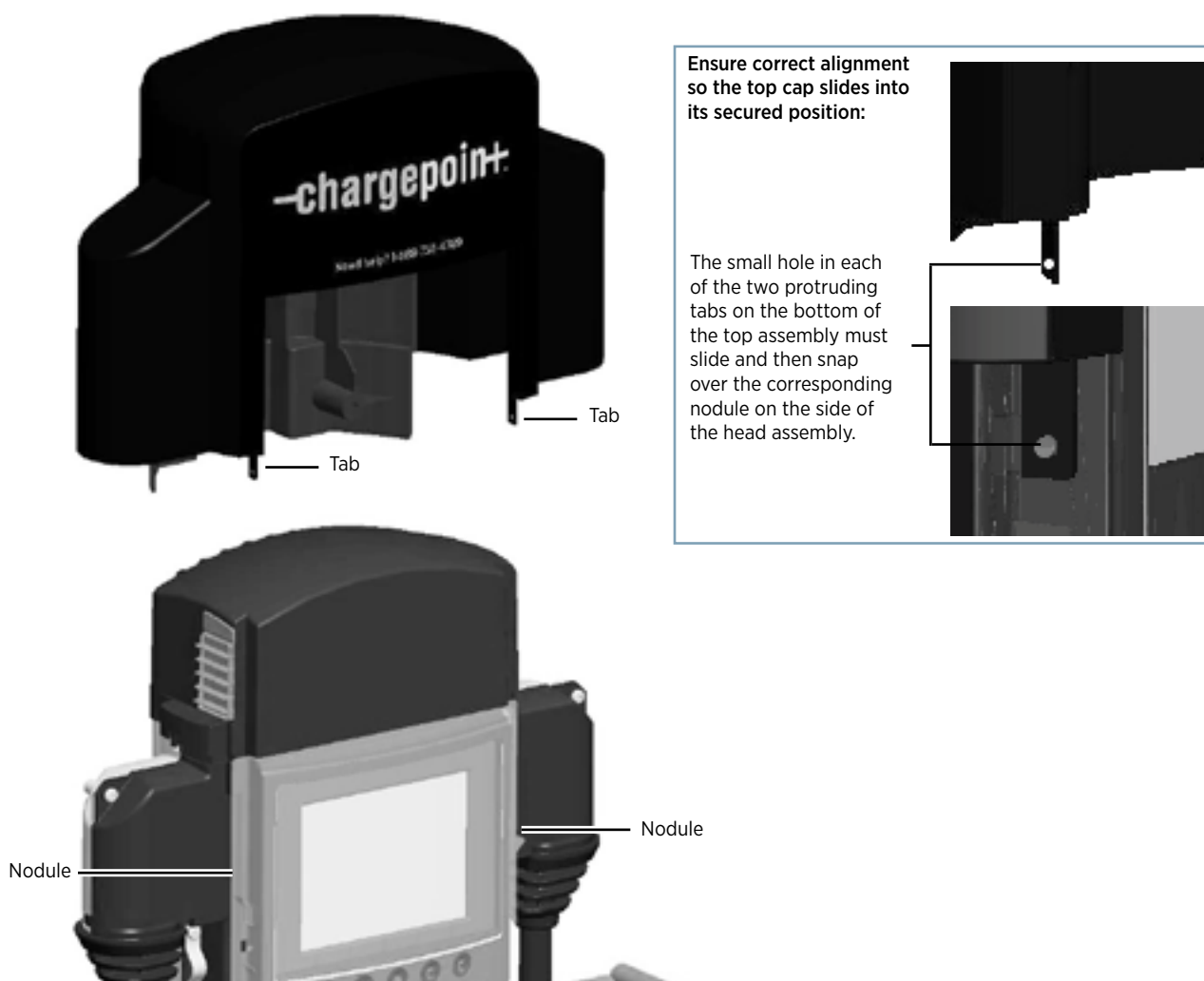


- Push the snaps located at the back of the top cap to secure the top cap to the head assembly. Ensure that both snaps are fully engaged.

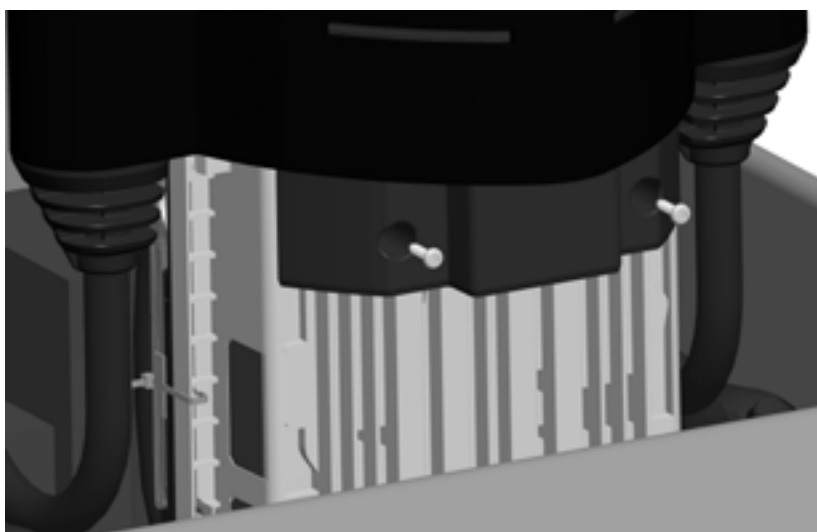


TO INSTALL A SCREW TYPE TOP CAP (to install a snap type top cap, see the previous page)

- a) Place the top cap over the head assembly as shown, ensuring correct alignment.



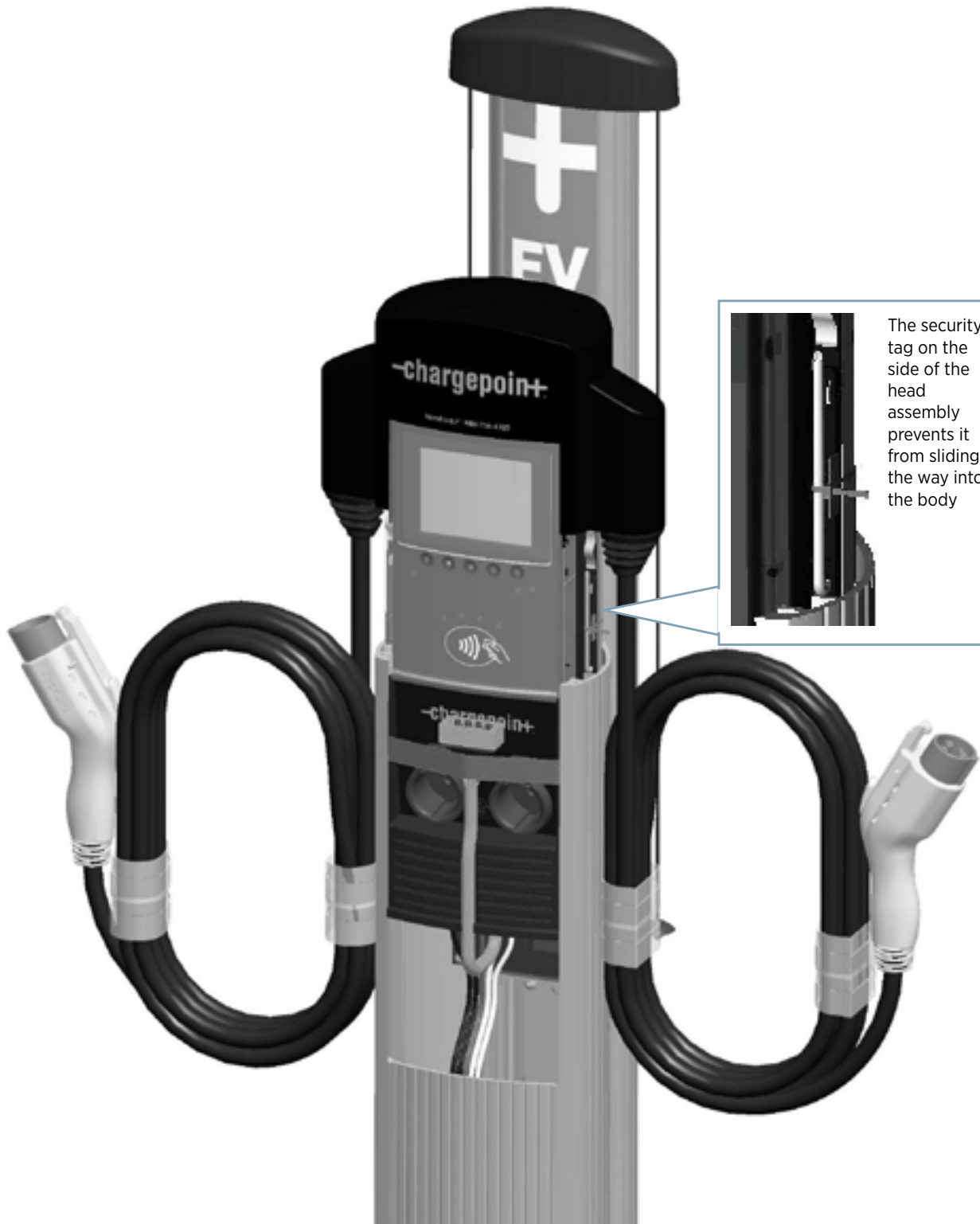
- b) Using a Phillips screwdriver, secure the top cap to the head assembly by inserting the two supplied screws into the back of the top cap and tightening to 20 in-lbs (2.3 Nm).



Step 3: Slide Head Assembly Into Body

Slide the head assembly into the main body until it is stopped by the head assembly's security tag.

 **IMPORTANT:** Do not insert the charging connectors into the holsters until after you've powered up the station. Doing so causes the holsters to permanently lock.



Step 4: Connect Head Assembly

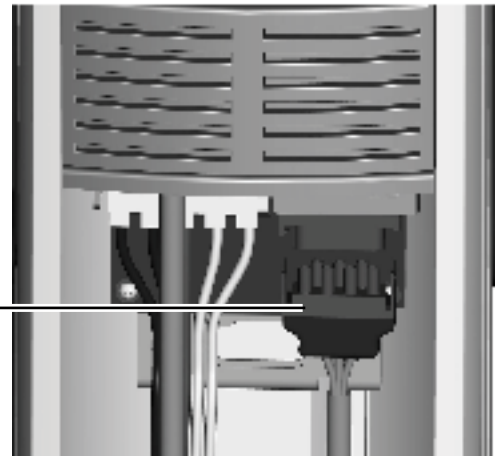


IMPORTANT: If configuring a dual station to operate from only one circuit, or to operate at a current capacity lower than 30A per circuit, see Appendix B for information on Power Management.

Pull to remove the yellow strap from the blue connector.

Connect the blue connector to the blue receptacle by the terminal block, ensuring it “clicks” into place and is fully seated.

The blue connector “clicks” into place



Push the cover down over the terminal block.

Push the cover down over the terminal block



Step 5: Use the Wizard to Complete the Installation

Power up the station to run the onscreen Installation Wizard, which helps you verify operation of the station and perform some basic setup tasks.

NOTE: If the station does not power up, check that the head assembly's blue rectangular connector is properly seated onto the terminal block.

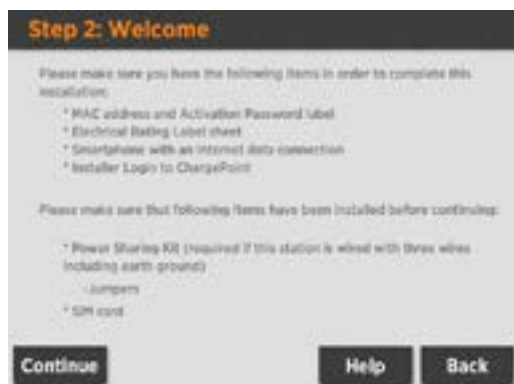
To complete the tasks in this Wizard, you must have completed ChargePoint Installer Certification training and received your ChargePoint installer login. You will also need a smart phone with a camera, internet connectivity, and one of the recommended QR Code scanning apps defined in the training.

If you have not completed the ChargePoint Installer Certification training, please STOP and contact ChargePoint to sign up for training now.

The CT4000 Installation Wizard includes these tasks:

- Set language
- Enable Power Sharing (see Appendix B)
- Configure Power Select (see Appendix B)
- Apply the appropriate rating label (see Appendix B)
- Check for faults
- Test locking holsters
- Install cable clamps (see Appendix D)
- Pinpoint the station on a map
- Test network connectivity

The following images are an example of steps you will follow using the wizard:



Step 3: Circuit Installation

Are the Power Sharing jumpers installed?

Jumpers (2)



Yes No Back

Step 3: Circuit Installation

What is the breaker rating in amps?

40A 30A 20A Back

Step 3: Circuit Installation

Apply the following Electrical Rating label to the terminal block cover.



Continue Back

Step 8: Pinpoint

What is Pinpointing?

Pinpointing into ChargePoint knows that you've installed a particular station and where that station is installed so Drivers can find it.

To Pinpoint a station:

1. Scan the following QR code using third party QR code scanner app or go to <https://cp.chargepoint.com>
2. Log into your Installer account
3. Pinpoint station and write down Pin Code
4. Continue to next screen

Continue Back

Step 4: Station Faults

All of following faults must be addressed to continue. Please select a fault to see more info.

If you need further assistance, call ChargePoint Installer Support at 1-877-850-4562.

Error #202-Earth Fault

Down Up Select Back

Step 10: Completed Physical Installation

You have now finished physical installation of CT4000 charging station.

Continue

The CT4000 Installation Wizard also includes a procedure for replacing a broken head assembly, which includes these tasks:

- Set language
- Configure the station for Power Share/Power Select (see Appendix B)
- Check for faults
- Test locking holsters
- Install cable clamps
- Transfer configuration from old station to new head

When using the Installation Wizard to replace a station, it is ready to use when the process is complete. The station owner does not need to activate the new station.

NOTE - ELECTRIC RATING LABELS

If you are using either Power Sharing to share one circuit for two ports, or Power Select to limit the maximum output power of the station, the wizard instructs you to apply the appropriate Electrical Rating label. The wizard describes which Electrical Rating label you must attach to the station.

NOTE - POWER MANAGEMENT KIT

If you are using Power Sharing to allow both ports on a dual port station to share a single 40A circuit, the wizard instructs you to install the jumpers that are provided in the optional Power Management Kit (ordered separately). For more information on Power Sharing, see Appendix B.

NOTE - CABLE CLAMPS

The wizard describes how to install the cable clamps, which are included in the shipping box with the Cable Management Kit. For more information, see Appendix D.

STARTING A CHARGING SESSION

A ChargePoint card is attached to the front page of this Installation Guide. Use this card to authorize a charging session. Make sure that both plug holsters unlock and that the station displays instructions on how to plug into the vehicle.

NOTE: The ChargePoint card supplied on the front cover can authorize up to ten charging sessions.

If you have performed the above steps, and the station operates as described and no errors exist, continue with the installation. If any of the above conditions are not met, resolve the error before continuing by referring to Chapter 5, Troubleshooting.

Step 6: Secure Head Assembly

Remove the L-wrench by rotating it to the right until the security tag breaks. Lift the head assembly slightly and remove the L-wrench.



IMPORTANT: If applicable, ensure the snaps on the top cap are fully engaged before lowering the head assembly. If they are not fully engaged, the head assembly will not be properly seated. See page 4-5.

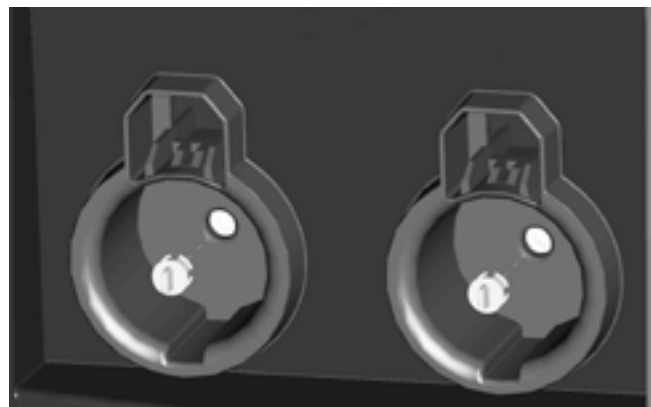
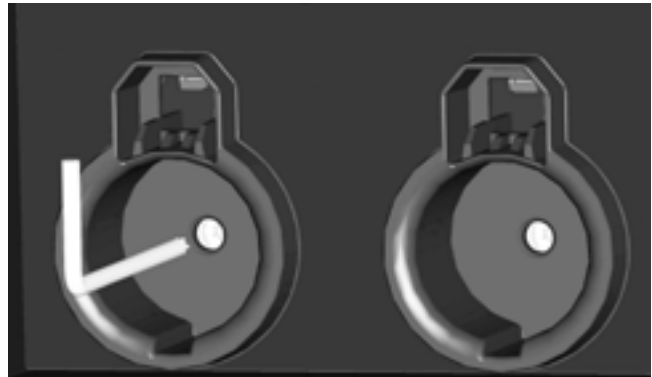
Lower the head assembly. Ensure the head assembly is fully seated and that no gap exists between the bottom of the head assembly and the main body. The head assembly fits tightly and may require extra downward force to ensure it is fully seated.

Using the L-wrench, tighten the two security set screws, located inside the holsters, to approximately 25 to 30 in-lbs (2.8 to 3.4 Nm).

Cover the screws using the two rubber plugs.

Insert the charging plugs into their corresponding holsters.

You have now finished the physical installation of the CT4000 charging station and are ready to prepare the station for activation on ChargePoint.



Step 7: Prepare the Station for Activation on ChargePoint

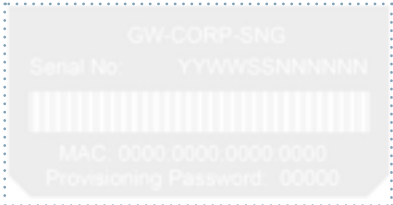
Before leaving the installation site, you must prepare the station for activation. To do so, you will need activation labels for all gateway and non-gateway stations in this radio group. An activation label is included in the shipping box with each head assembly (see page 4-2).

Preparing the station for activation on ChargePoint involves filling in the double-sided form on pages 4-15 and 4-16, detaching this sheet from this document, and providing it to the person responsible for activating the station on ChargePoint. After doing so, the installation of the CT4000 charging station is complete.

Document the Radio Groups

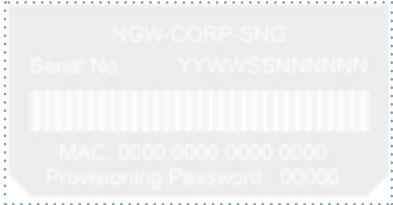
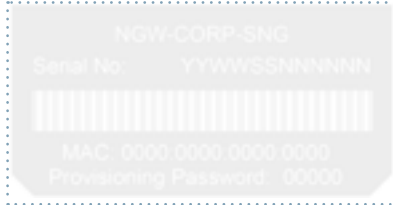
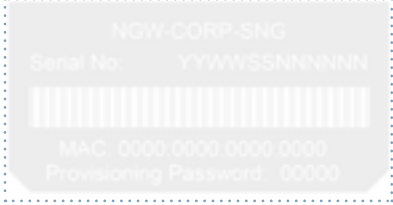
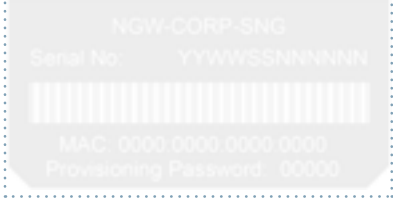
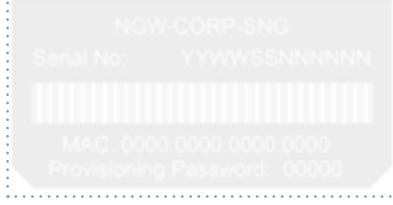
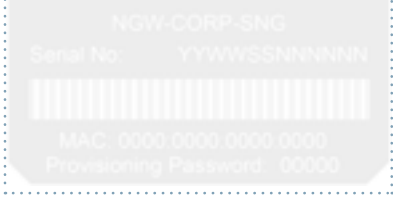
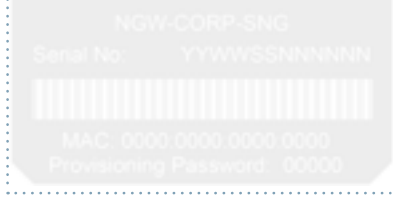
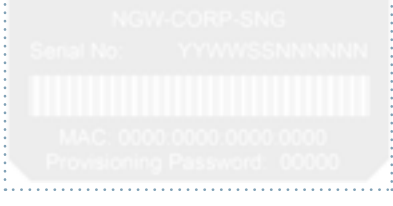
For each radio group, attach spare activation labels below to document how stations are organized. After completing the next step on the reverse side, tear out this page and give it to the person responsible for activating the station. If installing multiple radio groups, use one page for each radio group (this page is included in all CT4000 Installation Guides).

Customer Name	
Site Address	

Gateway	

NOTE:
Gateways begin
with "GW-"
Non-gateways
begin with "NGW-"



Non-gateway		Non-gateway	
Non-gateway		Non-gateway	
Non-gateway		Non-gateway	
Non-gateway		Non-gateway	
Non-gateway		NOTE: A radio group consists of one gateway station and up to nine non-gateways.	

After completing both sides, cut or tear along dotted line and give it to the person responsible for activating the station.



Post-Installation Checklist

Before leaving the installation site, complete this checklist for each radio group. Then tear out this page and give it to the person responsible for activating the station. If installing multiple radio groups, use one page for each radio group (this page is included in all CT4000 Installation Guides).

☒	Check each box below to confirm that the task has been completed for all stations within the radio group.
☐	All mounting hardware is tightly secured and all stations are level and rock solid.
☐	The two security screws inside the holster plugs on all head assemblies are tightened and the rubber plugs are in place.
☐	Cable retractors: • Cable clamp halves are assembled and screwed together with no gaps. • All charging cables operate smoothly through full extension and retraction.
☐	Voltages at all power plates have been verified with a solenoid type voltmeter (such as a Wiggy): • Line-to-Line measures 208/240VAC. • Line-to-Earth measures 120VAC.
☐	If Power Share Jumpers are installed: • All jumpers are fully inserted. Look for 1/8" (3 mm) depth. • Power Share mode has been configured, using the on-screen Installation Wizard, for all power-shared stations and the station's display indicates that power sharing is in effect. • The supplied Electrical Rating label has been applied above the terminal block and on the top cap as described in Appendix B.
☐	If Power Select is applied: • Power Select has been configured using the on-screen Installation Wizard. • The supplied Electrical Rating label has been applied above the terminal block and on the top cap as described in Appendix B.
☐	All steps of the Installation Wizard have been completed and that the station is currently showing the animation screen (illustrated on page 5-1), which describes how to use the station.
☐	The radio group has been documented for activation by attaching the spare activation labels to the previous page.

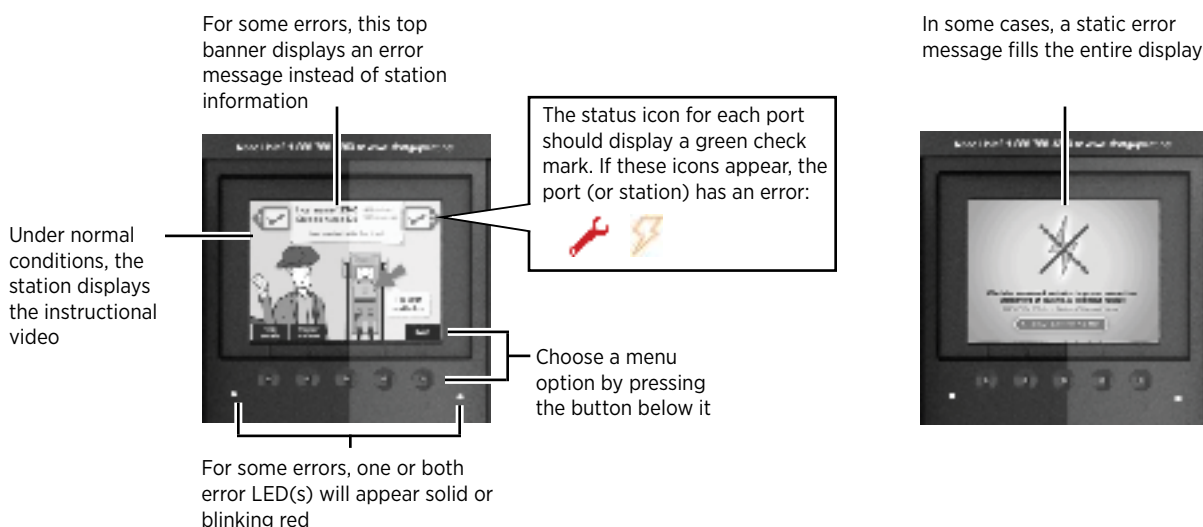
After completing both sides, cut or tear along dotted line and give it to the person responsible for activating the station.



Check the Station's Display

When the station is powered on and the Installation Wizard has been completed, you should see:

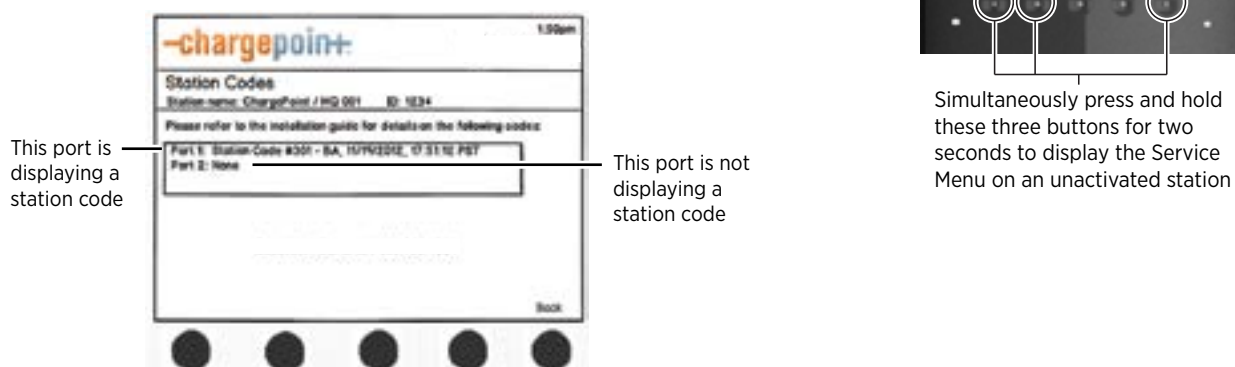
- The instructional video, and no error messages.
- The status icon for each port displaying a green check mark.
- both error LEDs are extinguished (for some errors, one or both error LEDs are solid or blinking red).



Display Station Codes

To check the station for errors anytime after initial power up, follow these steps to display station codes.

1. Display the station's Service Menu:
 - if the station is not activated on ChargePoint, simultaneously press and hold the two leftmost buttons and the rightmost button for two seconds
 - if the station is activated on ChargePoint, scan your ChargePoint Service card
2. Press the station button immediately below the "HELP" menu option.
3. Press the station button immediately below the "DOWN" menu option to highlight "Station Codes".
4. Press SELECT.



If you see a station code, you must resolve or report the error before leaving the installation site. Station codes are described on the following pages.

Description of Station Codes

Code	Symptom	Possible cause(s)	Recommended Action(s)
In most cases, a driver can resolve the following station codes that begin with the digit "1":			
101- Over Current Detection	 <i>n</i> = the number of the applicable port	During charging, the vehicle attempted to draw more power than allowed. The station stops delivering power to the vehicle.	Can indicate faulty wiring in the vehicle. End the session by inserting the station's plug back into its holster, then restart the session. If the error persists, call ChargePoint Customer Support at 1-877-850-4562.
102- Ventilation Requested	 <i>n</i> = the number of the applicable port	Vehicle requires ventilated charging which is not supported by the station. The station stops delivering power to the vehicle.	Driver will be unable to use the station to charge their type of vehicle. Call the vehicle manufacturer.
103- Soft Ground Fault	 <i>n</i> = the number of the applicable port	During charging, the station detected a ground fault. The station stops delivering power to the vehicle, but continues to retry every 30 seconds.	End the session by inserting the station's plug back into its holster, then restart the session. If the error persists, call ChargePoint Customer Support at 1-877-850-4562.
104- Immediate Ground Fault	 <i>n</i> = the number of the applicable port	On initial plug-in, the station detected a ground fault. The station stops delivering power to the vehicle.	End the charging session by inserting the station's plug back into its holster, then restart the session. If the error persists, call ChargePoint Customer Support at 1-877-850-4562.
In most cases, an electrician can resolve the following station codes that begin with the digit "2":			
201-SIM		SIM Not Detected - The SIM is either not installed or is incorrectly installed and the station can not communicate with the ChargePoint network.	Disconnect power and install (or re-install) the SIM card as described on page 5-4. If the error persists, call ChargePoint Customer Support at 1-877-850-4562.
202-EF	 	Earth Fault - The station has detected a poor ground connection and the station is not operational.	Disconnect power and check that the station is properly grounded as described on page 1-7. After ensuring the station is properly grounded, reconnect power. If the error persists, try unplugging the head assembly and plugging it back in. If the error continues to persist, call ChargePoint Customer Support at 1-877-850-4562.
203-SNP	The banner between the port icons displays "STATION NOT ACTIVATED ON CHARGEPOINT - GRACE SESSIONS REMAINING (N)." When all grace sessions have been used:  	Station not activated - The station can be used to charge for the specified number of remaining grace sessions. When all grace sessions have been used, the station is not operational.	Arrange for the station to be activated on ChargePoint by completing the steps in Chapter 4.
204-NGNP	Before activation: The banner between the port icons displays "NO GATEWAY WITHIN RANGE." After activation: All you will see is the code listed on Help > Station Codes.	Non-Gateway Not Paired - The station is set up to communicate with a gateway station that is either not within range, or is not powered on.	Verify that the gateway station is powered on and located within 150 feet line of sight (no obstructions). If the error persists after these requirements are met, call ChargePoint Customer Support at 1-877-850-4562.

Code	Symptom	Possible cause(s)	Recommended Action(s)
205-UNS	Before activation: The banner between the port icons displays "NETWORK SIGNAL NOT DETECTED." After activation: All you will see is the code listed on Help > Station Codes.	Unknown Network Signal - The gateway station is unable to establish a network connection on AT&T/Verizon (US) or Rogers (Canada).	Ensure the station is receiving an adequate signal strength from the cellular network. To do so, display the Service menu*, then: - Check the network signal for each type of modem by choosing: Basic mode > Display last measured RSSI. The strength of the signal should be A, B, or C. - If the network signal is Grade D, or if a better network signal is available on the other type of modem, change modems by choosing: Basic mode > Change modem technology (CDMA or GSM). If the signal strength is either weak (D) or not available for both CDMA and GSM, arrange for cellular repeaters to be installed near the installation site. If the error persists when the station shows a strong network signal, call ChargePoint Customer Support at 1-877-850-4562. *To display the station's Service Menu, scan your ChargePoint Service card (if the station is activated) or, if the station is not activated, press the three station buttons as described on page B-3.
206-FLC	Before activation:  After activation: You will see the code listed on Help > Station Codes and the port status icons will show:  n = the number of the applicable port or	Floating Line Connection - The voltage of an AC input line has fallen below 80 volts AC relative to ground. Even if the line to line voltage measures nominally 208 or 240 volts, the voltage of each line must be greater than 80 volts when measured to ground. The two most common causes of a Power Line Fault are: - A poor connection in the wiring supplying power and the ground connection to the station. There could be a poor connection between the buss bar and circuit breaker, the breaker to the branch circuit feeding the station, or at any splice along the branch circuit. - The station is connected to an incompatible improperly grounded power source. All power and ground connections must be clean and tight and carry the full rated current of the station. Do not connect the station to an ungrounded (floating neutral) system, a corner grounded Delta system, or the high (or "stinger" leg) of a center grounded Delta system.	Correct any faulty connections. Verify that the station is connected to a system with its neutral properly grounded according to NEC Article 250. Verify the station is connected to one of the system types described in Chapter 1. If the error persists, call ChargePoint Customer Support at 1-877-850-4562.

Code	Symptom	Possible cause(s)	Recommended Action(s)
ChargePoint Support may need to resolve the following station codes that begin with the digit “3”:			
301-BA	 	Breakaway Fault - The cable has been removed from the station or is damaged. The station is not operational.	Call ChargePoint Customer Support at 1-877-850-4562 to arrange to have the station replaced.
302-GST	 n = the number of the applicable port or  	GFCI Self Test Failed - The station detected a ground fault during power up and is not operational.	End the session by inserting the station's plug back into its holster, then restart the session. If the error persists, call ChargePoint Customer Support at 1-877-850-4562.
303-RSC	 n = the number of the applicable port or  	Relay Stuck Closed - When attempting to end a charging session, the relay stays closed. Although the driver can return the station's plug to its holster, the station doesn't end the session. Therefore, a new session can not be started.	Call ChargePoint Customer Support at 1-877-850-4562 to arrange to have the station replaced or repaired.
305-LCO	 	Pilot Unreachable - The station is out of service.	Disconnect and reconnect power. If the error persists, call ChargePoint Customer Support at 1-877-850-4562 to arrange to have the station replaced or repaired.
306-BF	 	Boot Fault - The station is out of service.	Disconnect and reconnect power. If the error persists, call ChargePoint Customer Support at 1-877-850-4562 to arrange to have the station replaced or repaired.
307-HE	 	Hardware Error - The station is out of service.	Disconnect and reconnect power. If the error persists, call ChargePoint Customer Support at 1-877-850-4562 to arrange to have the station replaced or repaired.

Charging Cable Doesn't Move Freely

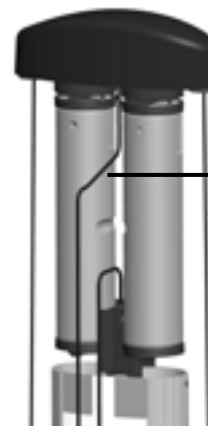
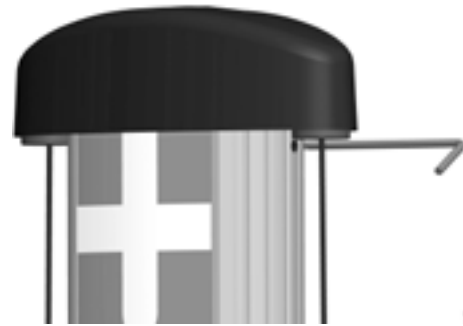
If the charging cable does not extend or retract fully and smoothly, it is likely that its rope has come off the pulley and you must re-position it.

You will need:

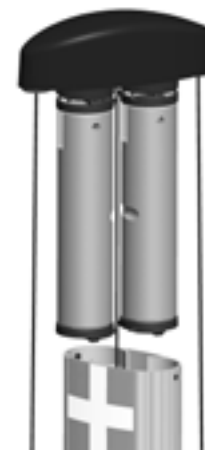
T25 L-wrench

Follow these steps:

1. Using the T25 L-wrench, loosen the set screws on each side of the retractor below the top cap.
2. Each rope is attached to a weight that sits on a shelf. Pull the weight shelf up by pulling the rope located in the middle of the top cap.
3. Rotate the top cap so the weight controlling the rope that doesn't move freely is facing towards you.

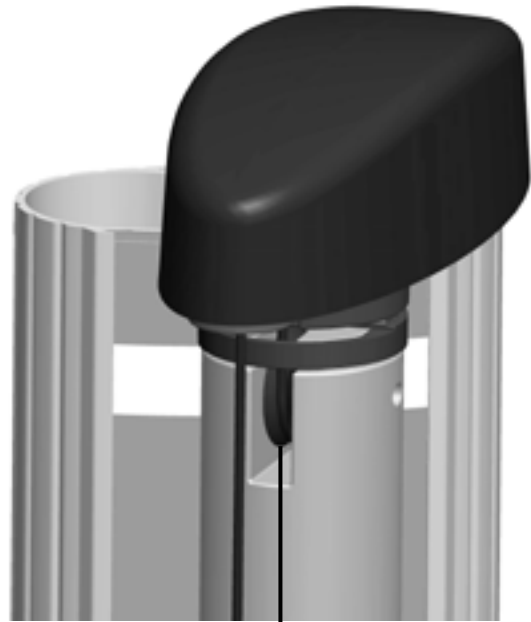


Pull the center rope to raise the weight shelf



Rotate the top cap so the faulty side faces towards you

4. Inspect the rope to ensure it is properly aligned onto the pulley.
5. Carefully lower the weight back into the retractor.
6. Rotate the top cap back into position and re-tighten the set screws to about 10 in-lbs.



Ensure the rope is properly aligned onto the pulley

Preparing the Installation Site for a Bollard Mount

A

Before You Start

The ChargePoint® Charging Station's bollard mount can be installed either:

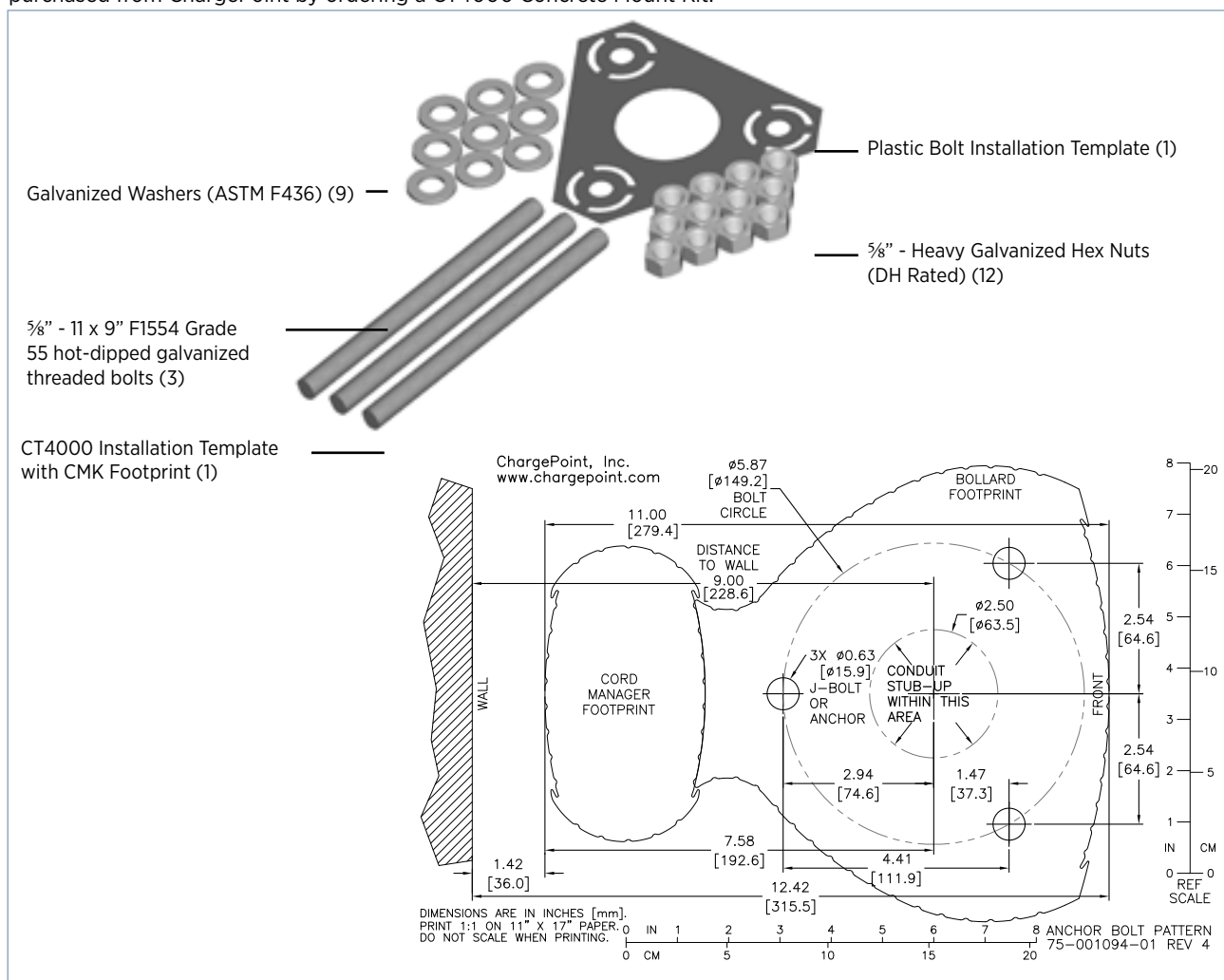
- into the ground
- onto an existing concrete surface (on an intermediate floor only)

The kit components you need to use, the tools required, and the installation steps vary depending on the type of installation. This appendix provides basic guidelines for both types of installations.

! IMPORTANT: Always check local codes to ensure compliance. You may need to adjust the guidelines provided in this appendix to comply with codes that apply at your installation location.

Installation Overview

To install the CT4000 bollard mount into the ground, you will need the components shown below. These components can be purchased from ChargePoint by ordering a CT4000 Concrete Mount Kit.



***NOTE:** When installing onto an existing concrete surface, you will need only 6 Galvanised Hex Nuts and 6 Galvanised Washers. But you will need several consumables as described on page A-3.

Casting into New Concrete

Before casting into new concrete, review the site for suitability to install a CT4000. The CT4000's Clean Cord Technology requires space behind the power stub-up for the Cord Management Kit (CMK). To ensure adequate space, refer to the illustrations below and to the CT4000 Installation Template (75-001094-01) included in this installation kit.

IMPORTANT:

- Always check local codes to ensure compliance. You may need to adjust these instructions to comply with codes that apply at your installation location.
- The concrete block must measure at least 24" on all sides.
- The bolt threads must extend 3" above the concrete.
- The conduit must be at least 1 1/2" in diameter and extend 12" to 24" above the concrete.
- Refer to the CT4000 Installation Guide for detailed installation instructions.

Kit Components Needed

You will need the entire contents of the CT4000 Concrete Mount Kit.

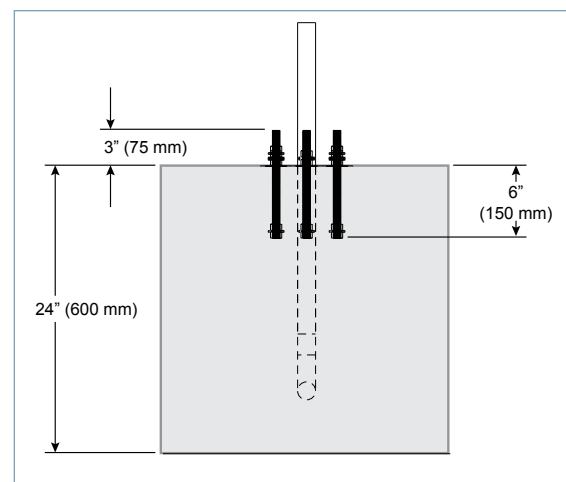
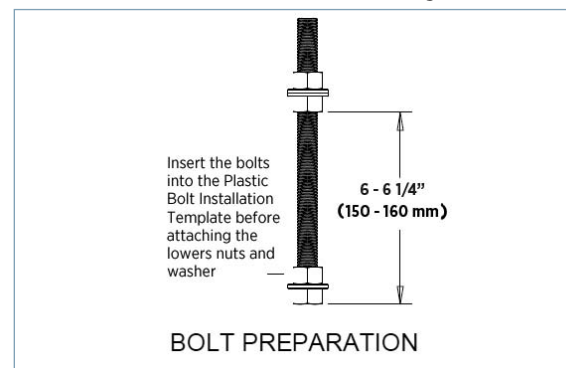
Follow These Steps

1. Install two nuts, with two washers captured between them, onto each of the three bolts, as illustrated. Lock them together so the lower end of the upper nut is located 6 - 6 1/4" from the bottom of the bolt. This sets the length of the exposed threads.
2. Insert the three bolts through the Plastic Bolt Installation Template. This ensures the relative position of the bolts and that the flange of the pole fits over the bolts.
3. On the bottom of each bolt, install a nut, a washer, and a nut. Lock the two nuts together so that the lower nut aligns to the bottom of the bolt.
4. Immediately after pouring the concrete, push the bolts into the concrete 6" deep, as illustrated. Ensure correct alignment and that the top 3" of the bolts remain exposed. Rotate the bolts as you insert them to draw concrete into the threads.

NOTE:

- It is important to rotate the bolts as you insert them. This allows the concrete to fully coat the threads of the bolts, reducing the amount of trapped air.
 - The Plastic Bolt Installation Template template can be left in place.
5. When the concrete is fully set, remove the upper nuts and one washer to install the bollard's mounting post.

You are now ready to install the CT4000's bollard mount. Refer to the CT4000 Installation Guide.



Installing on Existing Concrete

If installing on existing concrete, perform the following tasks:

- Review the site for suitability to install a CT4000. The CT4000's Clean Cord Technology requires space behind the power stub-up for the Cord Management Kit (CMK). To ensure adequate space, reference the CT4000 Installation Template (75-001094-01) included in this installation kit.
- Review the dimensions of the existing concrete slab. To safely mount a CT4000 charging station, the concrete must be at least 6" thick. At this thickness, all of the CT4000's mounting bolts must be positioned at least 15" from the front edge, at least 12" from the side edges, and at least 6" from the rear edge of the concrete slab.
- If an existing charging station is already in place at the installation site, turn off all power to the station and disassemble according to the original manufacturer's instructions. Cut away any existing bolts or non-power conduit stub-up to ground level. You may need to plug cut-away conduits at the slab end, and disconnect wiring at the other end.



IMPORTANT: Always check local codes to ensure compliance. You may need to adjust these instructions to comply with codes that apply at your installation location.

Kit Components Needed

The CT4000 Concrete Mount Kit contains 12 Heavy Galvanized Hex Nuts and 9 Galvanized Washers. You will need only 6 of each.

Tools Required

Electric drill or Hammer drill (½" chuck may be required depending on drill bits used) (1)

Consumables Required

These consumables can be ordered online directly from McMaster (McMaster Product #s are included in the table below). Delete any items you already have, and change quantities to accommodate the number of stations you are installing.

NOTE: The consumption rate of these products will vary depending on conditions at the installation site.

Quantity	McMaster Product #	Description	Purpose
1*	7505A55	Epoxy Adhesive for Concrete, 9.3 Ounce Cartridge (includes two mixing nozzles)	Filling drilled holes.
1*	7505A56	Mixing Nozzles for 9.3 Ounce Epoxy Adhesive for Concrete	Filling drilled holes. NOTE: You may need extra mixing nozzles to accommodate delays of over three minutes when applying epoxy.
1	7622T23	Ratchet Rod Caulk Gun with Half-Barrel Frame for 10-13 Ounce Cartridge, 6:1 Thrust	Filling drilled holes. NOTE: Any standard caulk gun will work.
1	7437K35	Electrical Cleaning and Maintenance Aerosol, Any Angle Spray Duster, 8 Ounce Net Weight	Cleaning drilled holes.
1	2960A22	Slow Spiral Round-Shank Masonry Drill Bit, ¾" diameter, ½" Shank, 10" Drill Depth, 12" Length Overall	Drilling ¾" holes in concrete. NOTE: The holes must be at least 6" deep.
1	28655A25	Drill Bit for Concrete Embedded Rebar, Round, ¾" bit size, ½" Shank diameter, 12" Length Overall	Drilling ¾" hole through rebar.
1	7221T13	Nylon Loop-Handle Brush, ¾" Brush Diameter, 3" Length Brush, 8 ½" Length Overall	Cleaning drilled holes.
1	9753K47	Push-on Round Cap, fits ⅝" - 1 1/16" OD, ½" Inside Height, Packs of 100	Keeping the epoxy inside the drilled holes in situations where the slab is only 6" deep.

* Quantity based on installation of one charging station.

Follow These Steps

1. Install two nuts with two washers captured between them. Lock them together so the lower end of the nut is located 6" from the bottom of the bolt. This sets the length of the exposed threads.
2. Use the Plastic Concrete Bolt Installation Template to mark the hole locations.
3. Remove the template and drill three $\frac{3}{4}$ " diameter holes 6" deep into the concrete. When locating the template, consider the charging station's total footprint. For reference, a template for the CT4000 charging station with CMK is included in this kit.

NOTE:

- It is important that the bolts are parallel after installation. Therefore, ensure the drill holes are plumb by using a bubble level to check the angle of the drill after drilling 1 to 1 ½" .
 - If installing over existing buried conduit, position the center of the template around the conduit stub-up.
 - You may need two drill bits - one for the concrete (with the pilot) and another for the rebar (without the pilot). Always start the hole using the standard drill bit, then switch to the rebar drill bit only if drilling through rebar.
4. Remove all dust from inside the drilled holes using compressed air, or a vacuum and/or a brush.
 5. If the concrete slab is only 6" deep, insert a plug (McMaster Product #9753K56) in each hole to keep the epoxy in place until it hardens. Place the plug over the long end of a bolt and then use the bolt to push the plug to the bottom of the hole.
 6. Fill each hole with epoxy to about 2 ½" to 3" below the top. Continue immediately to the next step because the epoxy sets within about eight minutes.

NOTE: Inserting the threaded bolts displaces the epoxy, causing it to fill the holes to grade level. If the epoxy is below grade level, you can add more after the next step.

7. Place the Plastic Concrete Bolt Installation Template over the holes. This ensures the relative position of the bolts and that the flange of the pole fits over the bolts.
8. Insert the bolts through the template, into the holes. Rotate the bolts as you insert them to draw epoxy into the threads.

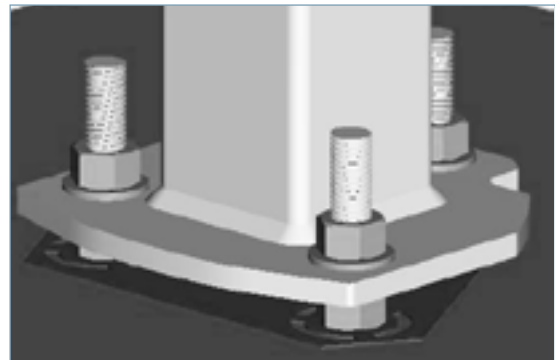
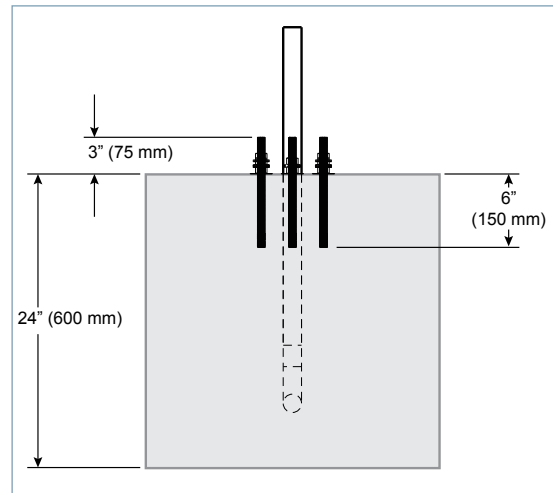
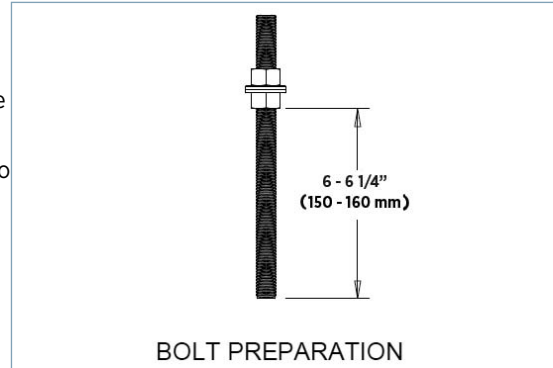
IMPORTANT: The epoxy is very thick. Therefore, it is important to rotate the bolts as you insert them. This allows the epoxy to fully coat the threads of the bolts, reducing the amount of trapped air.

NOTE: The installation template can be left in place.

9. If needed, top up the holes with epoxy to grade level.
10. Allow the epoxy to cure for at least 15 minutes* before removing the top nuts and washers.
11. Allow the epoxy to cure for 45 minutes* before applying torque to the nuts.

**Epoxy cure times assume you are using epoxy ordered from McMaster (Product # 7505A55). If using a different type of epoxy, you may need to adjust these times. Refer to the cure times provided with the epoxy.*

You are now ready to install the CT4000's bollard mount (see Chapter 2).



CT4000 Power Management Instructions

B

As shipped, a CT4000 charging station provides up to 30A of output power to each charging port. The Power Management Kit (ordered separately) provides two features that you can use to adjust the station's output power:

- Power Share allows both ports on a dual-port station to share a single circuit. In a default configuration, a dual-port CT4000 requires two 40A circuits. With Power Share, both ports can share one circuit.
- Power Select allows the station to operate at a lower current. When the total current capacity is less than the standard 30A per circuit, you can use Power Select to configure the station to operate at a lower current.

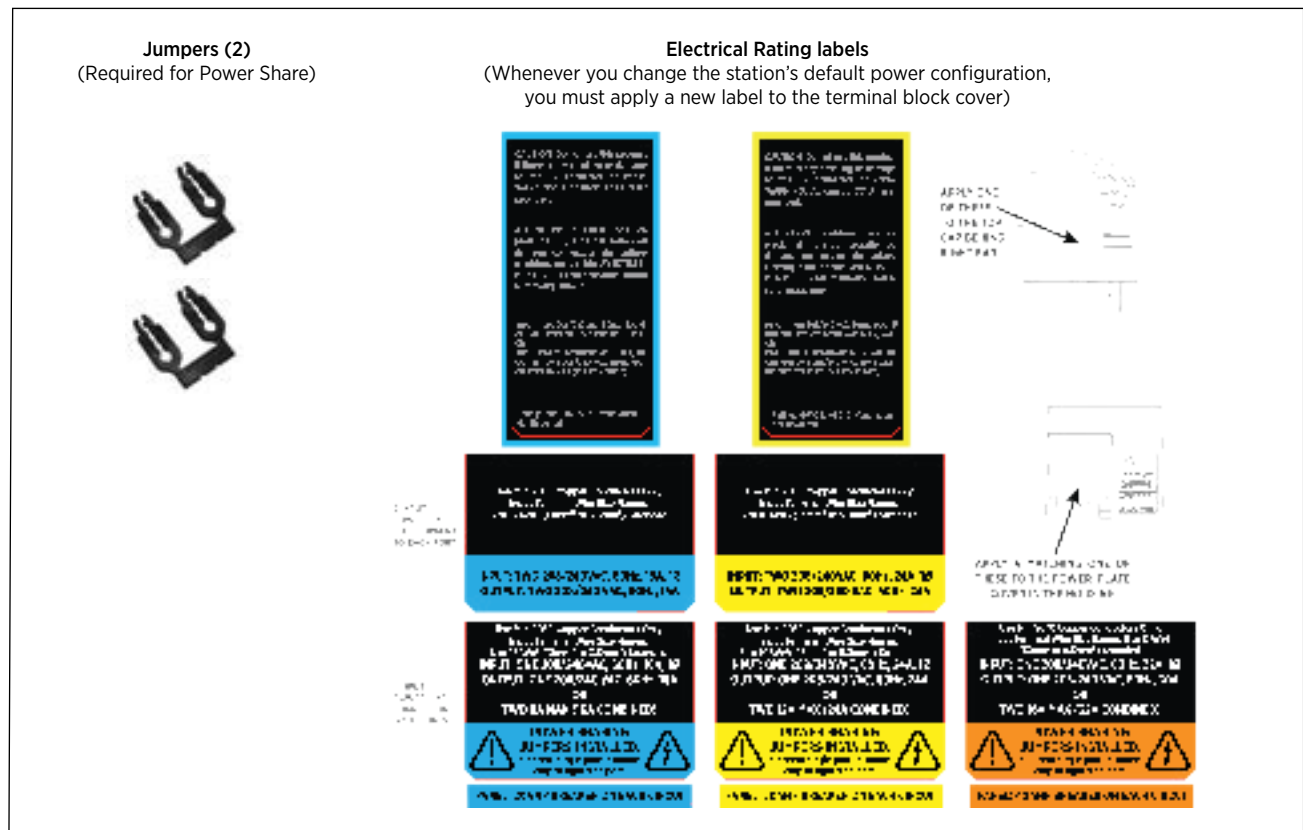
Before you start

Before using the Power Management Kit:

- Refer to the site design to determine the charging station's power requirements.
- Install the charging station's main body as described in Chapter 2 (Bollard Mount) or 3 (Wall Mount). If you are configuring Power Share, do not connect the wiring—you will first need to install the jumpers as described on page B-2.

! IMPORTANT: To configure Power Select, the station must be running software version 4.1.3 or later. To verify software version, power up the station and display the station's Service Menu as described on page B-3. Press the station button immediately below the "HELP" menu option, then press the station button immediately below the "DOWN" menu option to highlight "About", then press "SELECT". If a previous version of software is installed, call ChargePoint Customer Support at 1-877-850-4562 so they can upgrade the station's software.

Kit Contents



Power Share - Overview of Steps

1. Install jumpers and connect the wiring
2. Apply the Electrical Rating label
3. Complete the station installation (for new installations)
4. Enable Power Share

Power Share - Step by Step Instructions

Step 1: Install jumpers and connect wiring

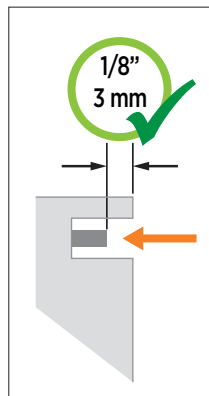
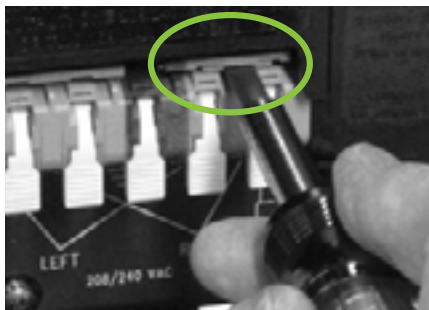
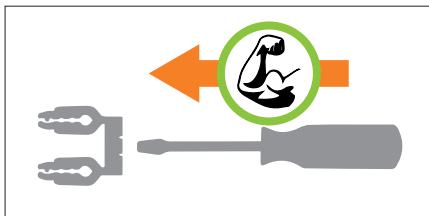


WARNING: Disconnect power before you begin.

Push the black tab on the terminal block to release the terminal block cover, then slide the cover up until it locks into the raised position:

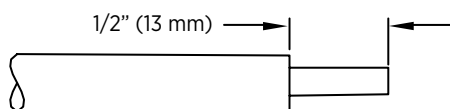


Insert the jumpers into the slots located near the upper edge of the terminal block. Using a large flat blade screwdriver, push firmly on each jumper until you feel it lock into place.



IMPORTANT: Ensure both jumpers are fully seated. The jumpers should recede 1/8" (3 mm) below the outer surface of the terminal block, as shown. If they are flush, they are not fully inserted.

Strip wires 1/2" (13 mm).



Lift the white lever on the terminal block that corresponds with the ground connection (center), insert the ground wire, then push the lever down until it clicks into its fully closed position.

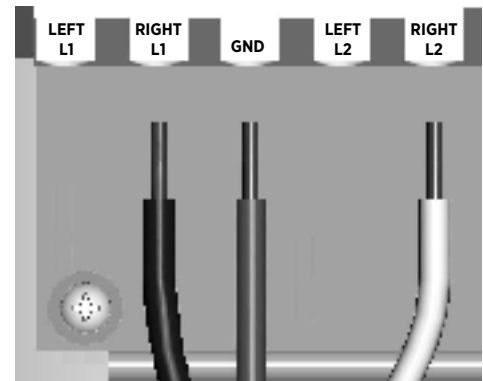
Lift the white levers on the terminal block that corresponds with the RIGHT port's L and N connections. Insert the L and N wires fully into the terminal block, then push the levers down until they click into their fully closed positions.

NOTE: The connections for the left port are not used. Power for the left port is carried through the jumpers.



WARNINGS:

- Use copper conductors only.
- Do NOT provide GFCI protection at the panel—the CT4000 has built-in GFCI protection.
- Use breakers rated at 40A (or lower, if you are configuring the station to operate at a lower current capacity as described on the following page).
- In areas with frequent thunder storms, add surge protection at the service panel for all circuits.
- **Use new circuit breakers only. Used breakers can damage equipment and cause a fire risk.**
- **Ensure all power and ground connections, especially those at the breaker, are clean and tight. Remove all oxide from all conductors and terminals before connecting wiring.**



Step 2: Apply the Electrical Rating labels

Described on page B-5.

Step 3: Complete the station installation

Install the head assembly and top cap as described in the CT4000 Installation Guide.

Step 4: Enable Power Share

Power up the station. If the Installation Wizard displays, follow the onscreen instructions to enable Power Sharing. If the Installation Wizard does not display, configure Power Sharing using the Service Menu as described below.

Display the station's Service Menu:

- if the station is not activated on ChargePoint, simultaneously press and hold the two leftmost buttons and the rightmost button for two seconds.
- if the station is activated on ChargePoint, scan your ChargePoint Service card.

Select **Basic mode**.

Scroll down to select **Power Sharing Configuration**.

Select **Enable**.

Select **Exit** to leave the Service Menu.

Confirm that the station's display indicates that power sharing has been configured.



If the Installation Wizard does not display upon power up, simultaneously press and hold these three buttons for two seconds to display the Service Menu on an unactivated station



Power Select - Overview of Steps

1. Configure Power Select
2. Apply the Electrical Rating label

Power Select - Step by Step Instructions

Step 1: Configure Power Select

Power up the station. If the station displays the Installation Wizard, follow the onscreen instructions to enable Power Select. If the station does not display the Installation Wizard, configure Power Select using the Service Menu as described below.

Display the station's Service Menu:

- if the station is not activated on ChargePoint, simultaneously press and hold the two leftmost buttons and the rightmost button for two seconds.
- if the station is activated on ChargePoint, scan your ChargePoint Service card.

Scroll down to select **Circuit Breaker Configuration**.

Choose the breaker size that matches what is installed for the station.

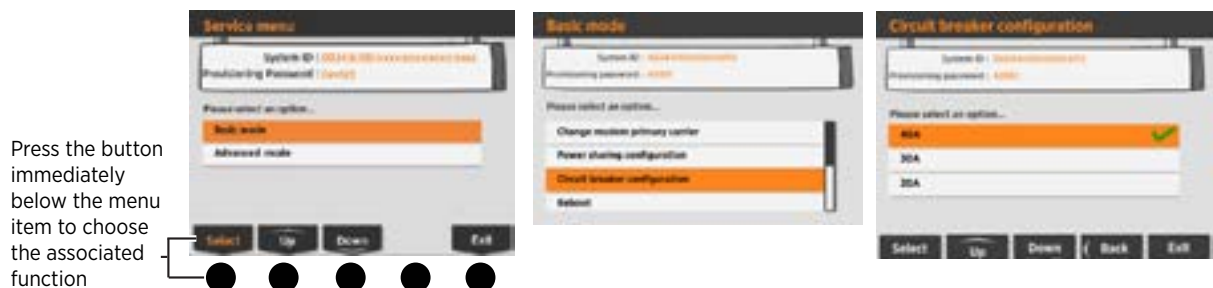
Select **Exit** to leave the Service Menu.

NOTE: If you make an error when using the Installation Wizard, your ChargePoint Network Manager can change the station's settings by logging into ChargePoint, selecting the station from the Manage Stations page, selecting the Configuration tab, and then clicking Edit to modify the station's Power Sharing and Power Select settings.

If the station must be reconfigured using the Installation Wizard, contact ChargePoint Customer Support at 1-877-850-4562 to have the station reset to its factory default configuration.



If the Installation Wizard does not display upon power up, simultaneously press and hold these three buttons for two seconds to display the Service Menu on an unactivated station



Step 2: Apply the Electrical Rating label

See next page.

Apply the Electrical Rating Label

Step 1: Choose the appropriate label

For 16A Circuits	For 24A Circuits	For Shared 30A Circuits
		
		
		

If both ports are sharing a single circuit (and you have therefore installed the jumpers), you must use the power sharing label from the bottom row

Step 2: Apply a label to the terminal block cover

Apply a label to the left side of the terminal block cover, just above the terminal block.

NOTE: Leave the terminal block cover in the raised position to facilitate connection of the head assembly.

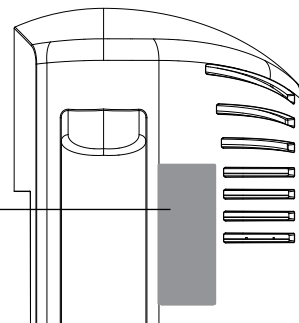
Electrical Rating Label on Terminal Block Cover



Step 3: Apply a label to the top cap

Apply the corresponding label to the right side of the Top Cap, behind the cable exit.

Electrical Rating Label on Top Cap

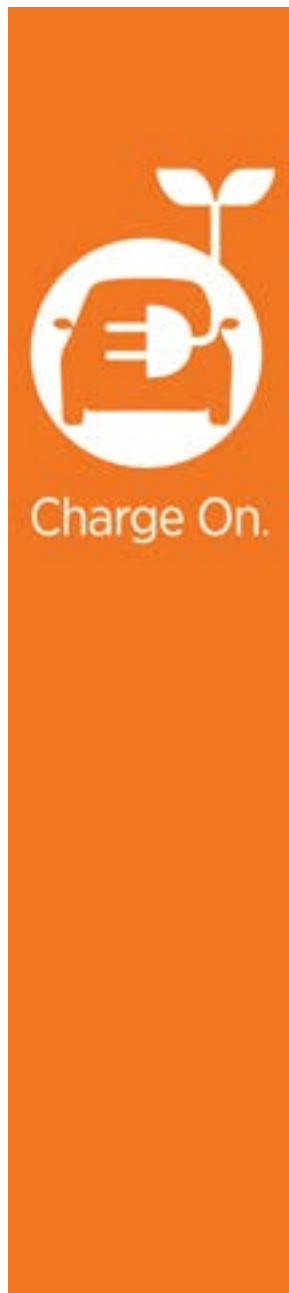


Installing and Replacing Signs



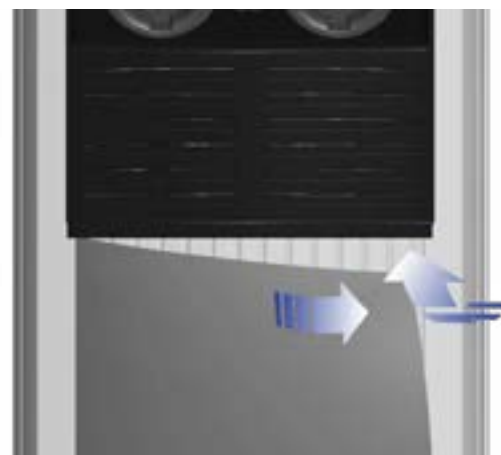
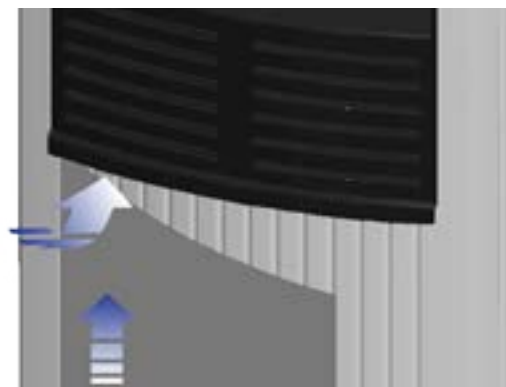
Follow these steps in this section to install signs onto the charging station. To ensure a proper fit, signs must follow the specification provided by ChargePoint. An example of the sign specification (not to scale) is provided below. Detailed sign specifications are available at www.chargepoint.com/support-guides/. To ensure a proper fit, a replacement sign must be a maximum of 1 mm thick, 102 mm wide and 514 mm high.

Installing a Front Sign on a Bollard



It is easier to install the sign before installing the head assembly, but it can be installed with the head assembly already in place. Follow these steps to install the sign with the head assembly in place. If the head assembly is not installed, the installation steps are the same, with the exception of inserting the top edge of the sign under the bottom lip of the head assembly.

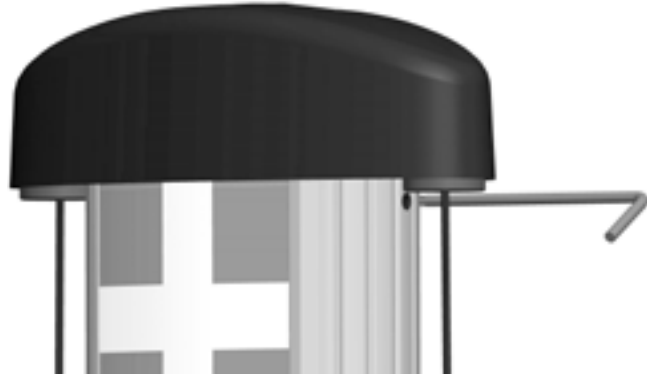
- Remove the tape from the adhesive strip on the back of the sign.
- With the adhesive strip facing toward the bollard, insert the top left corner of the sign under the groove on the top left corner of the bollard, sliding the sign upwards as far as possible to position the top of the sign under the bottom lip of the head assembly.
- Starting with the top left corner and working from top to bottom, use a thumb or finger to slide the left side of the sign under the bollard's leftmost groove.
- When the left side of the sign is fully inserted, bow the top of the sign outward slightly to insert the top right corner of the sign under the groove on the top right corner of the bollard, ensuring the top of sign remains positioned under the bottom lip of the head assembly.
- Starting with the top right corner and working from top to bottom, use your thumb or finger to slide the right side of the sign under the bollard's rightmost groove.
- When the sign is fully inserted into the bollard's left and right grooves, and under the bottom lip of the head assembly, run your hand down the center of the sign while applying enough pressure to make sure the sign's adhesive strip contacts the bollard.



Installing a Top Sign on the Retractor

To remove a sign after the station has been installed:

1. Use the L-wrench to loosen the set screw on each side of the top cap, as shown.
2. Pull the top assembly up and move it towards the back of the retractor.
3. Slide the existing sign out of the grooves.



To install the new sign:

1. Slide the replacement sign into the grooves by bending it slightly.

Bend the sign slightly to insert it into the grooves



2. Slide the sign all the way down, ensuring its bottom edge is located behind the plastic cap on the retractor's extrusion, as shown.
3. Re-install the top assembly. Remember to tighten the set screws.

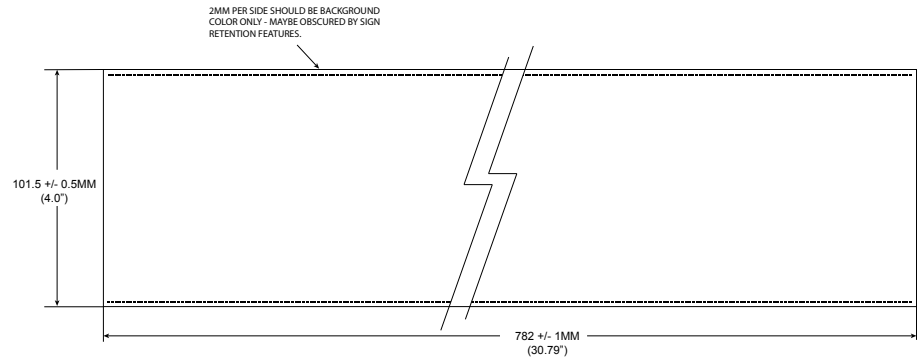
Slide the bottom edge of the sign until it is positioned behind the plastic cap



Installing a Bottom Sign on the Wall Mount Retractor

To ensure a proper fit, the bottom sign must have these minimum characteristics:

- Material - Vinyl with a maximum thickness of .03"
- Dimensions - Exactly 4.00" (102 mm) wide and up to 30.75" (782 mm) high



A detailed sign specification is available at www.chargepoint.com.au/support/technical-documents/. Example (not to scale):

The method used to install a bottom sign is the same with or without the main body installed:

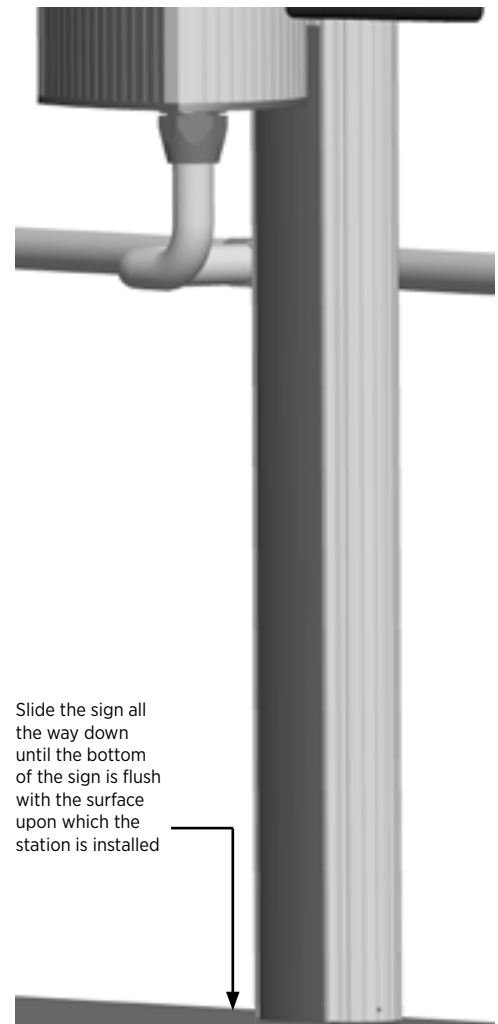
1. Insert one of the long edges into the retractor's grooves along the side portion of the retractor.
2. Bend the sign slightly to insert the other long edge.
3. Slide the sign all the way down until the bottom edge is against the bottom surface on which the station is installed.

Installing a Rear Sign on a Retractor

Installing a sign on the rear side of a retractor is the same as the instructions provided above for installing a bottom sign on a wall mount retractor.

Custom and Optional Signs

Detailed sign specifications for custom and optional signs are available at www.chargepoint.com/support-guides.php



Installing Cable Clamps

D

! IMPORTANT: Do not unwrap the ropes until they are securely attached to the charging cable.

There are two types of cable clamps available for the CT4000. The correct clamps are included in the shipping box with the cable management kit (see page 2-2 or 3-2). The type of clamp that is used depends on whether the end of the nylon rope in the cable management kit is equipped with a circular disc or a round bead:

If equipped with a circular disc, the cable clamps are spherical type



If equipped with a round bead, cable clamps are bracket type



NOTE: In some cases, you may need to remove an existing pre-installed portion of a cable clamp from the charging cables before you can install the type of clamp that is supplied in the cable management kit. When doing so, you must install the new clamp at the exact same location as the removed clamp.

! IMPORTANT: After installing the cable clamps, unwrap the rope and check that the charging cable extends and retracts fully and smoothly. If it doesn't, see page 6-4.

To install spherical clamps:

- Uncoil charging cable by gently extending it all the way out and away from the station. Rotate the plug as needed to remove any twist or kinks.
- Position the charging cable near the base of the station and locate the tape on the cable that marks the location where you must install the clamp.
- Insert a rubber shim into the bottom portion of each clamp. Ensure the top portion of the cable clamp is oriented correctly on the top side of the charge cable. Tighten screws to 20 in-lbs (2.3 Nm).

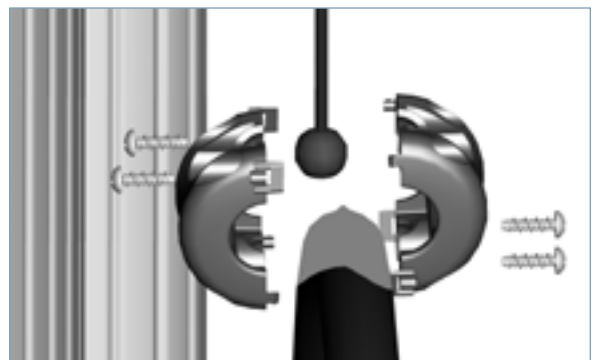


- Align the knot bearing on each rope to its corresponding mating feature on the cable clamp. Turn the knot bearing clockwise approximately 1/4 turn. You may need to push down while turning the knot bearing.



To install bracket clamps:

- Uncoil charging cable by gently extending it all the way out and away from the station. Rotate the plug as needed to remove any twist or kinks.
- Position the charging cable near the base of the station and locate the tape on the cable that marks the location where you must install the clamp.
- Locate the bead at the end of the retractor rope.
- Hold the charging cable with the marked tape positioned under the retractor top. Ensure the charging cable does not touch the ground when fully retracted.
- Insert the bead inside the clamp, then snap the opposite side of the clamp into place.
- Secure the two sides of the clamp together by inserting the rubber shim and the four screws, then tightening the screws securely using a Phillips screwdriver.



Limited Product Warranty



This Limited Product Warranty applies to you, a customer who has purchased CHARGEPOINT's Charging Stations and/or related products ("Products") from CHARGEPOINT, INC., or one of its authorized distributors and not for resale.

LIMITED ONE-YEAR WARRANTY: Subject to the exclusions from warranty coverage set forth below, CHARGEPOINT warrants that the Product will be free from any defects in materials and/or workmanship (the "Limited Warranty") for a period of one (1) year after the date of the initial installation of the Product (the "One-Year Warranty Period"). If the Product becomes defective in breach of the Limited Warranty, CHARGEPOINT will, upon written notice of the defect received during the One-Year Warranty period, either repair or replace, at ChargePoint's election, the Product if it proves to be defective; provided, that CHARGEPOINT will not be responsible for the cost of any labor associated with the repair or replacement of any defective Product.

TWO-, THREE-, FOUR- OR FIVE-YEAR EXTENDED WARRANTY (Additional Charge Applies): Subject to the exclusions from warranty coverage set forth below, if you have purchased an extended warranty, and if the Product becomes defective in breach of the Limited Warranty above at any time during the extended warranty period after the date of the initial installation of the Product, CHARGEPOINT will, upon written notice of the defect received during the extended warranty period, either repair, provide replacement parts for the defective parts of the Product or replace the Product, at ChargePoint's election, if it proves to be defective; provided, that CHARGEPOINT will not be responsible for the cost of any labor associated with the repair or replacement of any defective Product.

CHARGEPOINT's Options: You acknowledge that replacement products provided by CHARGEPOINT under each of the Limited Warranty and the Extended Warranty may be re-manufactured or reconditioned Products or, if the exact Product is no longer manufactured by CHARGEPOINT, a Product with substantially similar functionality ("Replacement Products"). Any Replacement Products so furnished will be warranted for the remainder of the original Warranty Period or ninety (90) days from the date of delivery of such Replacement Product, whichever is greater. Should CHARGEPOINT be unable to repair or replace the Product, CHARGEPOINT will refund the purchase price of the Product.

EXCLUSIONS FROM LIMITED WARRANTY AND EXTENDED WARRANTY

IMPORTANT: The Limited Warranty and, if purchased, the Extended Warranty on your Product shall not apply to defects, or service repairs, resulting from any of the following:

- Alteration or modification of the Product in any way not approved in writing by CHARGEPOINT.
- Vandalism.
- Abuse, damage or otherwise being subjected to problems caused by negligence (including but not limited to physical damage from being struck by a vehicle) or misapplication, or use of the Products other than as specified in the applicable CHARGEPOINT documentation.
- Installation or relocation of the Products unless performed by CHARGEPOINT or by a ChargePoint authorized installer or service provider.
- Improper site preparation or maintenance.
- Damage as a result of accidents, extreme power surge, extreme electromagnetic field, acts of nature or other causes beyond the control of CHARGEPOINT.
- Use of the Product with software, interfacing, parts or supplies not supplied by CHARGEPOINT.

You are responsible for the proper installation and maintenance of the Product. Any service or repairs beyond the scope of the Limited Warranty or the Extended Warranty above are subject to CHARGEPOINT's then prevailing current labor rates and other applicable charges.

Third Party Products. The Limited Warranty and Extended Warranty are exclusive of products manufactured by third parties ("Third Party Products"). If such third party manufacturer provides a separate warranty with respect to the Third Party Product, CHARGEPOINT will include such warranty in the packaging of the CHARGEPOINT Product.

OBTAINING WARRANTY SERVICE

To obtain warranty service you must: (a) obtain a return materials authorization number ("RMA#") from CHARGEPOINT by contacting 1-877-370-3802 (or for customers outside the U.S., contact 408-370-3802) and ask for Customer Service, and (b) deliver the Product, in accordance with the instructions provided by CHARGEPOINT, along with proof of purchase in the form of a copy of the bill of sale including the Product's serial number, contact information, RMA# and detailed description of the

defect, in either its original package or packaging providing the Product with a degree of protection equivalent to that of the original packaging, to CHARGEPOINT at the address below. You agree to obtain adequate insurance to cover loss or damage to the Product during shipment.

If you obtain an RMA# and return the defective Product as described above, CHARGEPOINT will pay the cost of returning the Product to CHARGEPOINT. Otherwise, you agree to bear such cost, and prior to receipt by CHARGEPOINT, you assume risk of any loss or damage to the Product. CHARGEPOINT is responsible for the cost of return shipment to you if the CHARGEPOINT Product is found to be defective.

Returned products which are found by CHARGEPOINT to be not defective, returned out-of-warranty or otherwise ineligible for warranty service will be repaired or replaced at CHARGEPOINT's standard charges and shipped back to you at your expense.

At CHARGEPOINT's sole option, CHARGEPOINT may perform repair service on the Product at your facility, and you agree to provide CHARGEPOINT with all reasonable access to such facility and the Product, as required. On-site repair service is not available outside the United States.

All replaced parts, whether under warranty or not, are the property of CHARGEPOINT.

WARRANTY LIMITATIONS

THE LIMITED WARRANTY SET FORTH ABOVE IS EXCLUSIVE AND NO OTHER WARRANTY, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED BY CHARGEPOINT, TO THE MAXIMUM EXTENT PERMITTED BY LAW. THERE ARE NO OTHER WARRANTIES RESPECTING THE PRODUCT AND DOCUMENTATION AND SERVICES PROVIDED UNDER THIS AGREEMENT, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF DESIGN, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (EVEN IF CHARGEPOINT OR DISTRIBUTOR HAS BEEN INFORMED OF SUCH PURPOSE) OR AGAINST INFRINGEMENT.

Some states or jurisdictions do not allow the exclusion of express or implied warranties so the above exclusions may not apply to you. IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED UNDER APPLICABLE LAW, THEN SUCH IMPLIED WARRANTY SHALL BE LIMITED IN DURATION TO THE LIMITED WARRANTY PERIOD DESCRIBED ABOVE. NO WARRANTIES APPLY AFTER THE TOTAL WARRANTY PERIOD. Some states or jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

NO AGENT OF CHARGEPOINT IS AUTHORIZED TO ALTER OR EXCEED THE WARRANTY OBLIGATIONS OF CHARGEPOINT.

CHARGEPOINT SPECIFICALLY DOES NOT WARRANT THAT ANY SOFTWARE WILL BE ERROR FREE OR OPERATE WITHOUT INTERRUPTION.

THE REMEDIES IN THIS LIMITED PRODUCT WARRANTY ARE YOUR SOLE AND EXCLUSIVE REMEDIES.

LIMITATIONS OF LIABILITY

You acknowledge and agree that the consideration which you paid to CHARGEPOINT or one of its authorized distributors does not include any consideration by CHARGEPOINT or one of its authorized distributors of the risk of consequential, indirect or incidental damages which may arise in connection with your use of, or inability to use, the Product. **THUS, CHARGEPOINT OR ONE OF ITS AUTHORIZED DISTRIBUTORS WILL NOT BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOST PROFITS, LOST BUSINESS, LOST DATA, LOSS OF USE, OR COST OF COVER INCURRED BY YOU ARISING OUT OF OR RELATED TO YOUR PURCHASE OR USE OF, OR INABILITY TO USE, THIS PRODUCT OR THE SERVICES, UNDER ANY THEORY OF LIABILITY, WHETHER IN AN ACTION IN CONTRACT, STRICT LIABILITY, TORT (INCLUDING NEGLIGENCE) OR OTHER LEGAL OR EQUITABLE THEORY, EVEN IF CHARGEPOINT KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES. IN ANY EVENT, THE CUMULATIVE LIABILITY OF CHARGEPOINT OR ONE OF ITS AUTHORIZED DISTRIBUTORS FOR ALL CLAIMS WHATSOEVER RELATED TO THIS PRODUCT OR THE SERVICE WILL NOT EXCEED THE PRICE YOU PAID FOR THIS PRODUCT.**

THE LIMITATIONS SET FORTH HEREIN ARE INTENDED TO LIMIT THE LIABILITY OF CHARGEPOINT AND SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY.

Some states or jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

THIS LIMITED PRODUCT WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE OR JURISDICTION TO JURISDICTION.

ADDITIONAL INFORMATION

This Limited Product Warranty is valid for U.S.A. and Canada only.

This Limited Product Warranty shall be governed by and construed in accordance with the laws of the State of California, U.S.A., exclusive of its conflict of laws principles. The U.N. Convention on Contracts for the International Sale of Goods shall not apply.

This Limited Product Warranty is the entire and exclusive agreement between you and CHARGEPOINT with respect to its subject matter, and any modification or waiver of any provision of this statement is not effective unless expressly set forth in writing by an authorized representative of CHARGEPOINT.

The Limited Product Warranty is not transferable by you to anyone else.

All inquiries or claims made under this Limited Product Warranty must be sent to CHARGEPOINT's address as follows:

ChargePoint, Inc.
1692 Dell Avenue
Campbell, California 95008-6901
Tel: 408-370-3802
Fax: 408-370-3847
Email: service@chargepoint.com

CT4000 Make-Ready Requirements Specification

Introduction

This document provides best practices and guidelines for preparing a site to install EV charging stations (Make-Ready). “Make-ready” means that all necessary electrical infrastructure to operate the charging stations, all conduit and wire is pulled to the station location(s), all concrete work is completed properly so the stations can be mounted and any cellular repeaters are installed if required.

ChargePoint recommends that you plan for 5%-10% of parking spaces and 10%-15% for high EV adoption areas like California for future planning. Consideration of electrical infrastructure that supports current and future needs for EV charging will help avoid costly upgrades later as demands for EV charging grows.

Regardless of the specific type of CT4000 charging station you will be installing, these high level Make Ready specification will be the same.

ChargePoint recommends using a certified electrician to evaluate available capacity of existing electrical panels and to identify any electrical panel upgrades that may be required to support EV charging for multiple make-ready parking spaces. An onsite evaluation is necessary to determine conduit and wiring requirements from panel to proposed “make-ready” parking spaces, as well as to measure cellular signal levels and identify suitable locations for placement of any necessary cellular signal booster equipment.

Station Location

To help minimize costs you will want to choose station locations that are somewhat close to the available electrical infrastructure. In selecting these types of locations it helps minimize long conduit and wire runs as well as any trenching work. You should also consider locations where it will be easy to add future stations.

You also need to ensure that station locations have strong 3G cellular connectivity to allow ChargePoint to communicate with the stations. If there is a weak signal at the station location a cellular signal booster (repeater) will need to be installed (See the Cellular Signal Levels section later in this document).

Finally, consider how easy the stations are to find for drivers needing to access them.

EV Make-Ready Construction

All construction must conform to all local codes that are designated by the state, local municipality or authorities of where you are performing the construction. Conduit and wire size will need to be determined based on the length of runs from electrical panel to the station location. The National Electrical Codes and local codes will help determine appropriate sizing.

Each Level 2 charging port requires a dedicated single-phase electrical circuit (32A @ 208/240V) with 40A circuit breaker at the electrical panel. A certified electrician must install all electrical circuits in accordance with local and National Electric Code requirements.

General guidelines for “make-ready” include:

- 1) Evaluation of existing electrical infrastructure to determine if there is sufficient existing utility service and electrical panel capacity and identify costs for any necessary upgrades and/or a new dedicated electrical panel.
- 2) For installation of dedicated EV electrical panel, choose panel location in close proximity to existing electrical supply.
- 3) Identify station locations for EV charging that are in close proximity to an electrical room with common area electrical panel; reduce distance for conduit runs and electrical wiring from electrical panel to all proposed EV parking spaces.
- 4) Determine the appropriate mounting location.
- 5) Ensure the wiring, circuit protection and metering is in place at the station installation location by reviewing the specification, wiring diagram and grounding requirements later in this document.
- 6) Ensure that you are using 6 or 8 gauge wire to station. If you will be feeding the station with larger wire like 4 gauge then you will need to splice the wire for 6 or 8 gauge.
- 7) If possible, avoid or minimize trenching requirements, especially more costly trenching to run conduit under asphalt surfaces.
- 8) Choose adjacent parking spaces in an area with adequate lighting and identify suitable locations with flat surface for wall mount stations or suitable floor surface for pedestal mount stations (no asphalt surfaces).
- 9) Use dual-port pedestal mount stations where possible in open areas for adjacent or tandem parking spaces.
- 10) Determine optimum conduit layout to minimize linear conduit costs to multiple EV parking spaces and size all conduit and electrical wiring in accordance with National Electric Code requirements.
- 11) Measure cellular signal levels for 3G Verizon and 3G AT&T carriers and identify optimum location for placement of ChargePoint gateway devices.
- 12) Ensure that adequate CDMA (Verizon, Sprint) or GSM (AT&T, Rogers) cellular coverage is available at the station installation location. To ensure adequate signal strength in underground or enclosed parking structures, cellular repeaters may be required. (See the Cellular Signal Levels section later in this document)
- 13) For below ground-level or enclosed parking garages, installation of a cellular signal booster often is required with indoor antenna located near gateway device and EV parking spaces and outdoor antenna typically located at the garage entrance ceiling or on the rooftop where cellular signal levels are optimum.
- 14) Determine cost budget options for make-ready electrical infrastructure to satisfy current needs and future needs. Prioritize locations for installation of charging stations based upon immediate and future needs, construction timelines, and costs.

For bollard mount charging stations, prepare the installation site by following the instructions in the Preparing Concrete Pad chapter. The mounting template for the bollard can be found at www.chargepoint.com/support-installation-guides.php. Ensure the PDF version is accurate by printing it

at 100% scale on 11" x 17" paper and then verify at least one dimension. (See also the Prepare the Installation Site for Bollard Mount later in this document)

Review the CT4000 Data Sheet (available at www.chargepoint.com/support-product-data-sheets.php).

It is recommended that only new 40A dual pole breakers are to be used. Used breakers can damage equipment and cause a fire risk.

Always check local codes to ensure compliance. You may need to adjust this specification to comply with codes that apply at your installation location.

If you have pre-existing infrastructure or are using your own preferred electrical contractor to prepare your site for charging, a Site Validation by a ChargePoint Operations and Maintenance (O&M) partner will be required to certify compliance with electrical specification requirements and to ensure that everything was prepared to ChargePoint specifications.

Cellular Signal Levels

ChargePoint charging stations communicate over the ChargePoint network via 3G cellular carriers to provide the following features to property managers and EV drivers:

- User authentication, access control, & billing
- Energy usage reporting
- Charging station utilization and charging session details for analytical reporting
- Real-time charging status to drivers using the ChargePoint mobile app or web portal
- Ability for drivers to start & stop charging sessions using the ChargePoint mobile app
- 24-hr driver support to remotely start charging sessions (ChargePoint cards also start & stop sessions)
- Text notifications to drivers when vehicle battery is full or stops charging
- Station fault alarms and remote diagnostic capability
- Over-the-air software upgrades for new station features or enhancements (future proof)

General guidelines when measuring cellular signal levels:

- Do not rely on cell phone apps to measure cellular signals when conducting site surveys
- Take 3G AT&T & 3G Verizon signal strength readings at exact proposed charging station locations
- Take cellular readings at location of where a cellular signal booster antennae will be installed to ensure there is enough signal to boost

Requirements for acceptable 3G AT&T and 3G Verizon cellular coverage are:

- Weakest acceptable signal levels at gateway device without using a signal booster are -85 dbm for 3G AT&T WCDMA & -90 dbm for 3G Verizon EVDO (ECLO > -10 using Squid Pro 3G);
- For a cellular signal booster solution inside parking garages, the weakest acceptable signal level at outside antenna location should be between -95 dbm and -100 dbm (the weaker the signal the less coverage area inside using a signal booster);

Below are a few suggested options for cellular signal boosters:

- WeBoost 4G-X for all carriers in North America, supports voice, 2G, 3G and 4G, max gain of 70 db for up to 10,000 square feet of coverage area;
- SureCall Fusion 5 for all carriers in North America, supports voice, 2G, 3G and 4G, average gain of 65 db & max 72 db for up to 6,000 square feet of coverage area;
- SureCall Force 5 for all carriers in North America to provide up to 20,000 square feet of coverage inside parking structure.

ChargePoint O&M partners will validate acceptable cellular signal strength at the site using a cellular signal strength reader. We recommend using a Squid Pro 3G M2M signal meter from Berkeley Varitronics Systems to distinguish 2G vs 3G cellular carrier frequencies. For details concerning acceptable cellular signal levels and signal booster solutions, please reference Make-Ready Specifications section at the end of this document.

Electrical Panel

Level 2 charging stations are considered continuous load devices (EVs draw maximum load for long durations); and therefore, electrical branch circuits to EV chargers must be sized at 125% of the load in accordance with National Electric Code requirements. This means that for a maximum 32A @208/240V output to an electric vehicle, 40A breakers are required and wiring conductor ampacity sized in accordance with NEC code for continuous load devices. Typically, 6 AWG or 8 AWG insulated electrical wiring is used depending upon distance between the electrical panel and the charging station.

When planning for multiple EV charging stations, it is best practice to segment non-continuous and continuous loads, with all branch circuits for EV charging on a dedicated electrical panel assembly with 40A circuit breakers. When sizing new electrical panels dedicated for EV charging, all branch circuits will support continuous load, and the panel rating sized for at least 125% of the total load on each leg of a 3-phase panel.

Specifications

Electrical Input	SINGLE PORT			DUAL PORT		
AC Voltage	208/240VAC			208/240VAC		
	Current	Input Power Connection	Required Service Panel Breaker	Current	Input Power Connection	Required Service Panel Breaker
Standard	30A	One 40A branch circuit	40A dual pole (non-GFCI type)	30A x 2	Two independent 40A branch circuits	40A dual pole (non-GFCI type) x 2
Standard Power Share	n/a	n/a	n/a	32A	One 40A branch Circuit	40A dual pole (non-GFCI type)
Power Select 24A	24A	One 30A Branch circuit	30A dual pole (non-GFCI type)	24A x 2	Two independent 30A branch circuits	30A dual pole (non-GFCI type) x 2
Power Select 24A Power Share	n/a	n/a	n/a	24A	One 30A branch circuit	30A dual pole (non-GFCI type)
Power Select 16A	16A	One 20A Branch circuit	20A dual pole (non-GFCI type)	16A x 2	Two independent 20A branch circuits	20A dual pole (non-GFCI type) x 2
Power Select 16A Power Share	n/a	n/a	n/a	16A	One 20A branch circuit	20A dual pole (non-GFCI type)
Service Panel GFCI	Do not provide external GFCI as it may conflict with internal GFCI (CCID)					
Wiring - Standard	3-wire (L1, L2, Earth)			5-wire (L1, L1, L2, L2, Earth)		
Wiring - Power Share	n/a			3-wire (L1, L2, Earth)		
Station Power	8W typical (standby), 15W maximum (operation)					

Electrical Output

Standard	7.2kW (240VAC@30A)	7.2kW (240VAC@30A) x 2
Standard Power Share	n/a	7.2kW (240VAC@30A) x 1 OR 3.8kW (240VAC@16A) x 2
Power Select 24A	5.8kW (240VAC@24A)	5.8kW (240VAC@24A) x 2
Power Select 24A Power Share	n/a	5.8kW (240VAC@ 24A) x 1 OR 2.9kW (240VAC@12A) x 2
Power Select 16A	3.8kW (240VAC@16A)	3.8kW (240VAC@16A) x 2
Power Select 16A Power Share	n/a	3.8kW (240VAC@16A) x 1 OR 1.9kW (240VAC@8A) x 2

Functional Interfaces

Connector(s) Type	SAE J1772™	SAE J1772™ x 2
Charging Cable Length	18' (5.5 meters)	18' (5.5 meters) x 2
Overhead Cable Management System	Yes	
LCD Display	5.7" full color, 640x480, 30fps full motion video, active matrix, UV protected	
Card Reader	ISO 15693, 14443, NFC	
Locking Holster	Yes	Yes x 2

Safety and Connectivity Features

Ground Fault Detection	20mA CCID with auto retry
Open Safety Ground Detection	Continuously monitors presence of safety (green wire) ground connection
Plug-Out Detection	Power terminated per SAE J1772™ specifications
Power Measurement Accuracy	+/- 2% from 2% to full scale (30A)
Power Report/Store Interval	15 minute, aligned to hour
Local Area Network	2.4 GHz Wi-Fi (802.11 b/g/n)
Wide Area Network	3G GSM, 3G CDMA

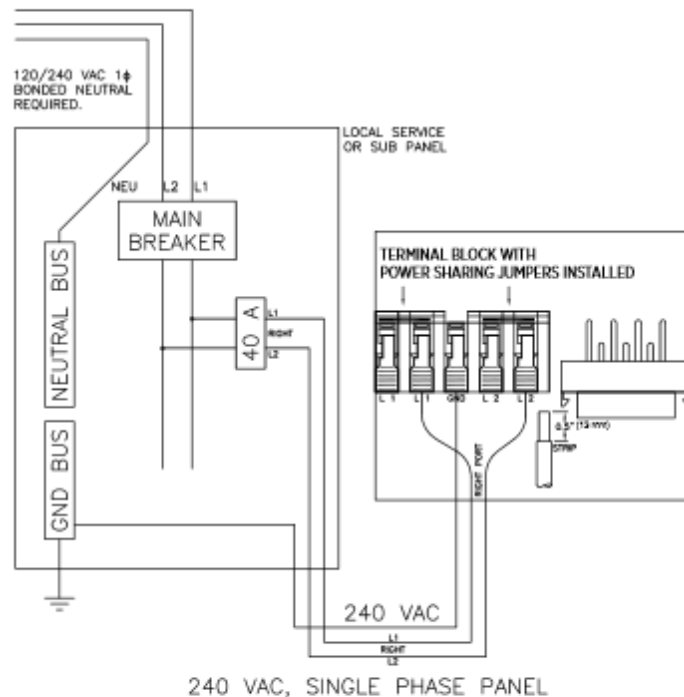
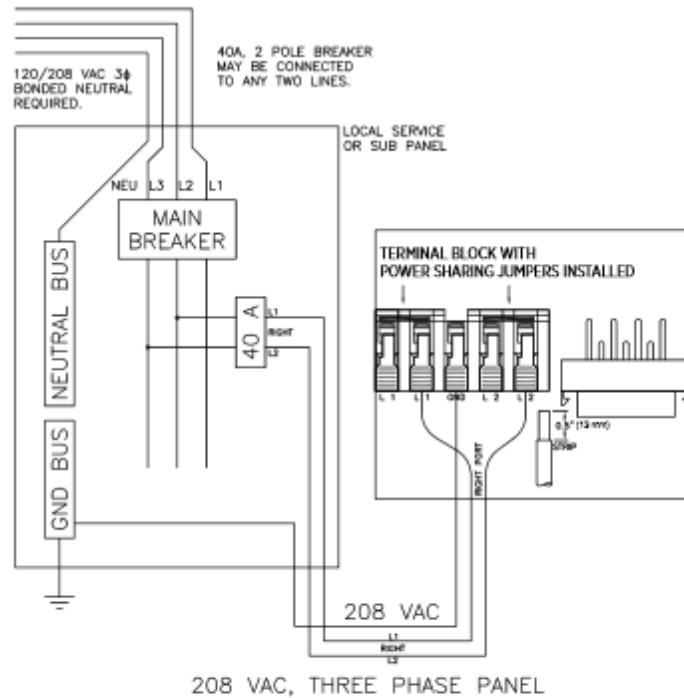
Safety and Operational Ratings

Enclosure Rating	Type 3R per UL 50E
Safety Compliance	UL listed for USA and cUL certified for Canada; complies with UL 2594, UL 2231-1, UL 2231-2, and NEC Article 625
Surge Protection	6kV @ 3000A. In geographic areas subject to frequent thunder storms, supplemental surge protection at the service panel is recommended.
EMC Compliance	FCC Part 15 Class A
Operating Temperature	-22°F to 122°F (-30°C to +50°C)
Storage Temperature	-40°F to 122°F (-40°C to +50°C)
Operating Humidity	up to 85% @ +50°C (122°F) non-condensing
Non-Operating Humidity	up to 95% @ +50°C (122°F) non-condensing
Terminal Block Temperature Rating	221°F (105°C)
Maximum Stations per 802.11 Radio Group	10. Each station must be located within 150 feet "line of sight" of a gateway station.

Single Port or Shared Power Wiring Diagram

The following illustration describes the wiring for installing a dual port CT4000 on a shared single circuit. For this installation, you will need the power sharing kit to allow both ports to share a two pole 40A circuit breaker. Wiring connections are provided in Appendix B. Grounding requirements are described on page 1-6. See Appendix B for lower power operation options.

Wiring for a dual circuit installation, see the previous page.



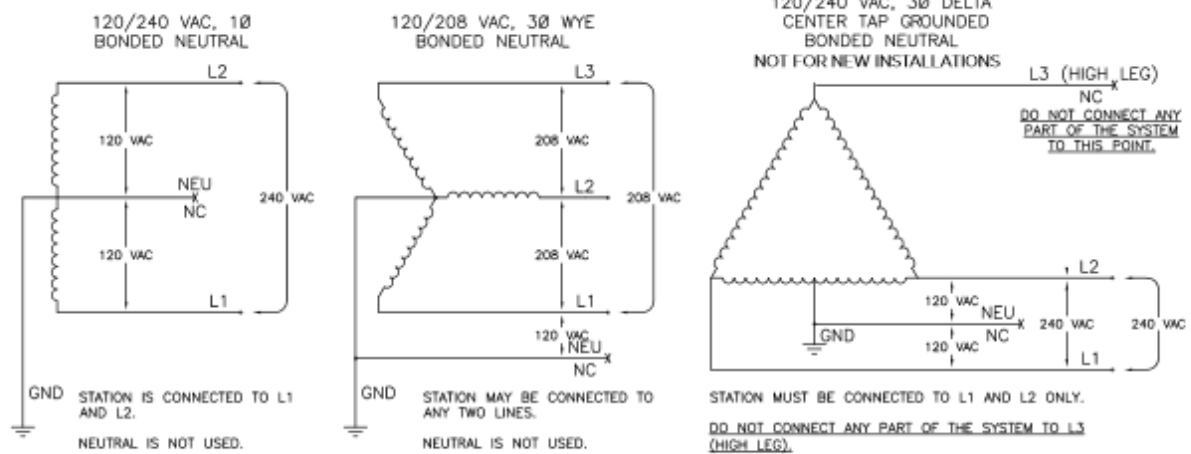
Grounding Requirements

The voltage of either line, relative to ground, must not fall below 80 volts or a Floating Line Connection error occurs (see page 5-3). Because the voltage of either line relative to ground must not be allowed to fluctuate, use only center-grounded systems. Neutral is not used to power the station but must be properly connected to ground, at the panel or transformer, to provide the necessary voltage reference relative to ground.

Connect to these systems

In a wye system, connect the station to ANY two lines, as shown below.

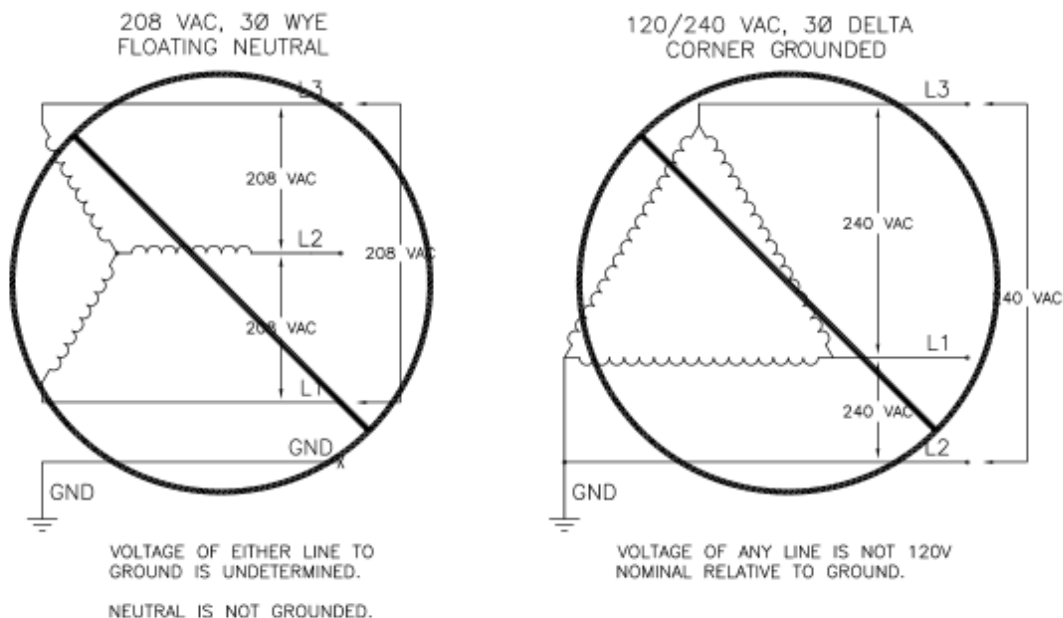
In a delta system, connect the station to a center-tapped secondary only, where the center tap is bonded and the station is connected to L1 and L3. This allows voltages to remain constant regardless of other loads that may be using the lines.



Do not connect to these systems

Do not connect ChargePoint stations to the following types of power sources:

- 120/208 VAC 3 phase wye, ungrounded
- 120/240 VAC 3 phase delta, corner-grounded
- Any system where the center point of the AC power source is not grounded



Preparing the Installation site for a Wall mount Station

When preparing the site for wall mounted stations, the conduit and wire must be brought to the location of the where the stations will be mounted. Below, are a couple images of sites showing how the conduit and wire was brought to the location where a wall mounted station will be installed. Flex conduit must be used to bring the wire to the station.



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Casting into New Concrete

Before casting into new concrete, review the site for suitability to install a CT4000. The CT4000's Clean Cord Technology requires space behind the power stub-up for the Cord Management Kit (CMK). To ensure adequate space, refer to the illustrations below and to the CT4000 Installation Template (75-001094-01) included in this installation kit.



IMPORTANT:

- Always check local codes to ensure compliance. You may need to adjust these instructions to comply with codes that apply at your installation location.
- The concrete block must measure at least 24" on all sides.
- The bolt threads must extend 3" above the concrete.
- The conduit must be at least 1 1/2" in diameter and extend 12" to 24" above the concrete.
- Refer to the CT4000 Installation Guide for detailed installation instructions.

Kit Components Needed

You will need the entire contents of the CT4000 Concrete Mount Kit.

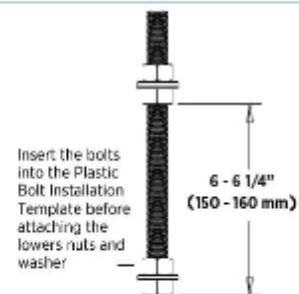
Follow These Steps

1. Install two nuts, with two washers captured between them, onto each of the three bolts, as illustrated. Lock them together so the lower end of the upper nut is located 6 - 6 1/4" from the bottom of the bolt. This sets the length of the exposed threads.
2. Insert the three bolts through the Plastic Bolt Installation Template. This ensures the relative position of the bolts and that the flange of the pole fits over the bolts.
3. On the bottom of each bolt, install a nut, a washer, and a nut. Lock the two nuts together so that the lower nut aligns to the bottom of the bolt.
4. Immediately after pouring the concrete, push the bolts into the concrete 6" deep, as illustrated. Ensure correct alignment and that the top 3" of the bolts remain exposed. Rotate the bolts as you insert them to draw concrete into the threads.

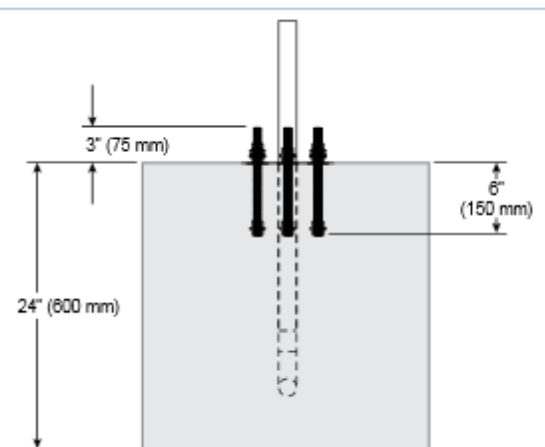
NOTE:

- It is important to rotate the bolts as you insert them. This allows the concrete to fully coat the threads of the bolts, reducing the amount of trapped air.
 - The Plastic Bolt Installation Template template can be left in place.
5. When the concrete is fully set, remove the upper nuts and one washer to install the bollard's mounting post.

You are now ready to install the CT4000's bollard mount. Refer to the CT4000 Installation Guide.



BOLT PREPARATION



Installing on Existing Concrete

If installing on existing concrete, perform the following tasks:

- Review the site for suitability to install a CT4000. The CT4000's Clean Cord Technology requires space behind the power stub-up for the Cord Management Kit (CMK). To ensure adequate space, reference the CT4000 Installation Template (75-001094-01) included in this installation kit.
- Review the dimensions of the existing concrete slab. To safely mount a CT4000 charging station, the concrete must be at least 6" thick. At this thickness, all of the CT4000's mounting bolts must be positioned at least 15" from the front edge, at least 12" from the side edges, and at least 6" from the rear edge of the concrete slab.
- If an existing charging station is already in place at the installation site, turn off all power to the station and disassemble according to the original manufacturer's instructions. Cut away any existing bolts or non-power conduit stub-up to ground level. You may need to plug cut-away conduits at the slab end, and disconnect wiring at the other end.

IMPORTANT: Always check local codes to ensure compliance. You may need to adjust these instructions to comply with codes that apply at your installation location.

Kit Components Needed

The CT4000 Concrete Mount Kit contains 12 Heavy Galvanized Hex Nuts and 9 Galvanized Washers. You will need only 6 of each.

Tools Required

Electric drill or Hammer drill (½" chuck may be required depending on drill bits used) (1)

Consumables Required

These consumables can be ordered online directly from McMaster (McMaster Product #s are included in the table below). Delete any items you already have, and change quantities to accommodate the number of stations you are installing.

NOTE: The consumption rate of these products will vary depending on conditions at the installation site.

Quantity	McMaster Product #	Description	Purpose
1*	7505A55	Epoxy Adhesive for Concrete, 9.3 Ounce Cartridge (includes two mixing nozzles)	Filling drilled holes.
1*	7505A56	Mixing Nozzles for 9.3 Ounce Epoxy Adhesive for Concrete	Filling drilled holes. NOTE: You may need extra mixing nozzles to accommodate delays of over three minutes when applying epoxy.
1	7622T23	Ratchet Rod Caulk Gun with Half-Barrel Frame for 10-13 Ounce Cartridge, 6:1 Thrust	Filling drilled holes. NOTE: Any standard caulk gun will work.
1	7437K35	Electrical Cleaning and Maintenance Aerosol, Any Angle Spray Duster, 8 Ounce Net Weight	Cleaning drilled holes.
1	2960A22	Slow Spiral Round-Shank Masonry Drill Bit, ¾" diameter, ½" Shank, 10" Drill Depth, 12" Length Overall	Drilling ¾" holes in concrete. NOTE: The holes must be at least 6" deep.
1	28655A25	Drill Bit for Concrete Embedded Rebar, Round, ¾" bit size, ½" Shank diameter, 12" Length Overall	Drilling ¾" hole through rebar.
1	7221T13	Nylon Loop-Handle Brush, ¾" Brush Diameter, 3" Length Brush, 8 ½" Length Overall	Cleaning drilled holes.
1	9753K47	Push-on Round Cap, fits ¾" - 1 ¼" OD, ½" Inside Height, Packs of 100	Keeping the epoxy inside the drilled holes in situations where the slab is only 6" deep.

* Quantity based on installation of one charging station.

Follow These Steps

1. Install two nuts with two washers captured between them. Lock them together so the lower end of the nut is located 6" from the bottom of the bolt. This sets the length of the exposed threads.
2. Use the Plastic Concrete Bolt Installation Template to mark the hole locations.
3. Remove the template and drill three $\frac{3}{4}$ " diameter holes 6" deep into the concrete. When locating the template, consider the charging station's total footprint. For reference, a template for the CT4000 charging station with CMK is included in this kit.

NOTE:

- It is important that the bolts are parallel after installation. Therefore, ensure the drill holes are plumb by using a bubble level to check the angle of the drill after drilling 1 to 1 $\frac{1}{2}$ ".
 - If installing over existing buried conduit, position the center of the template around the conduit stub-up.
 - You may need two drill bits - one for the concrete (with the pilot) and another for the rebar (without the pilot). Always start the hole using the standard drill bit, then switch to the rebar drill bit only if drilling through rebar.
4. Remove all dust from inside the drilled holes using compressed air, or a vacuum and/or a brush.
 5. If the concrete slab is only 6" deep, insert a plug (McMaster Product #9753K56) in each hole to keep the epoxy in place until it hardens. Place the plug over the long end of a bolt and then use the bolt to push the plug to the bottom of the hole.
 6. Fill each hole with epoxy to about 2 $\frac{1}{2}$ " to 3" below the top. Continue immediately to the next step because the epoxy sets within about eight minutes.

NOTE: Inserting the threaded bolts displaces the epoxy, causing it to fill the holes to grade level. If the epoxy is below grade level, you can add more after the next step.

7. Place the Plastic Concrete Bolt Installation Template over the holes. This ensures the relative position of the bolts and that the flange of the pole fits over the bolts.
8. Insert the bolts through the template, into the holes. Rotate the bolts as you insert them to draw epoxy into the threads.

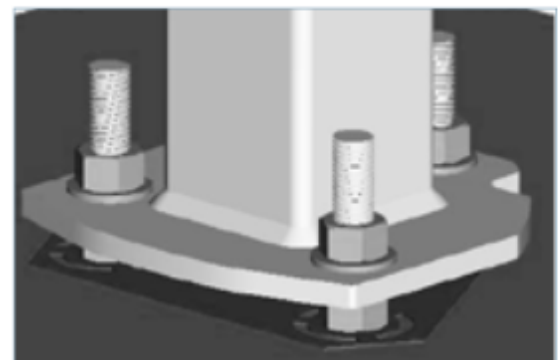
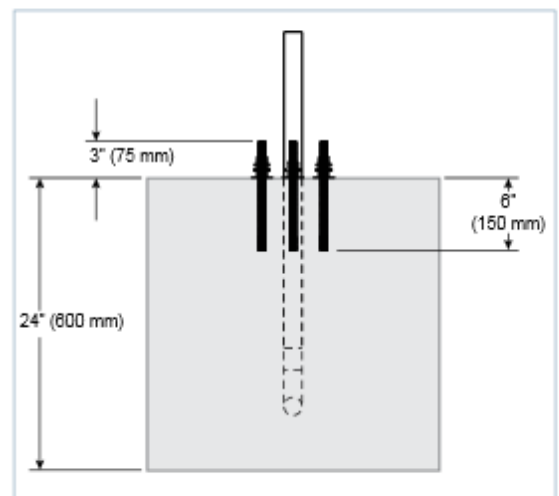
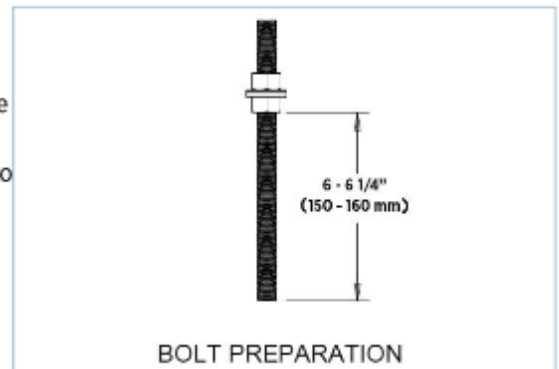
IMPORTANT: The epoxy is very thick. Therefore, it is important to rotate the bolts as you insert them. This allows the epoxy to fully coat the threads of the bolts, reducing the amount of trapped air.

NOTE: The installation template can be left in place.

9. If needed, top up the holes with epoxy to grade level.
10. Allow the epoxy to cure for at least 15 minutes* before removing the top nuts and washers.
11. Allow the epoxy to cure for 45 minutes* before applying torque to the nuts.

**Epoxy cure times assume you are using epoxy ordered from McMaster (Product # 7505A55). If using a different type of epoxy, you may need to adjust these times. Refer to the cure times provided with the epoxy.*

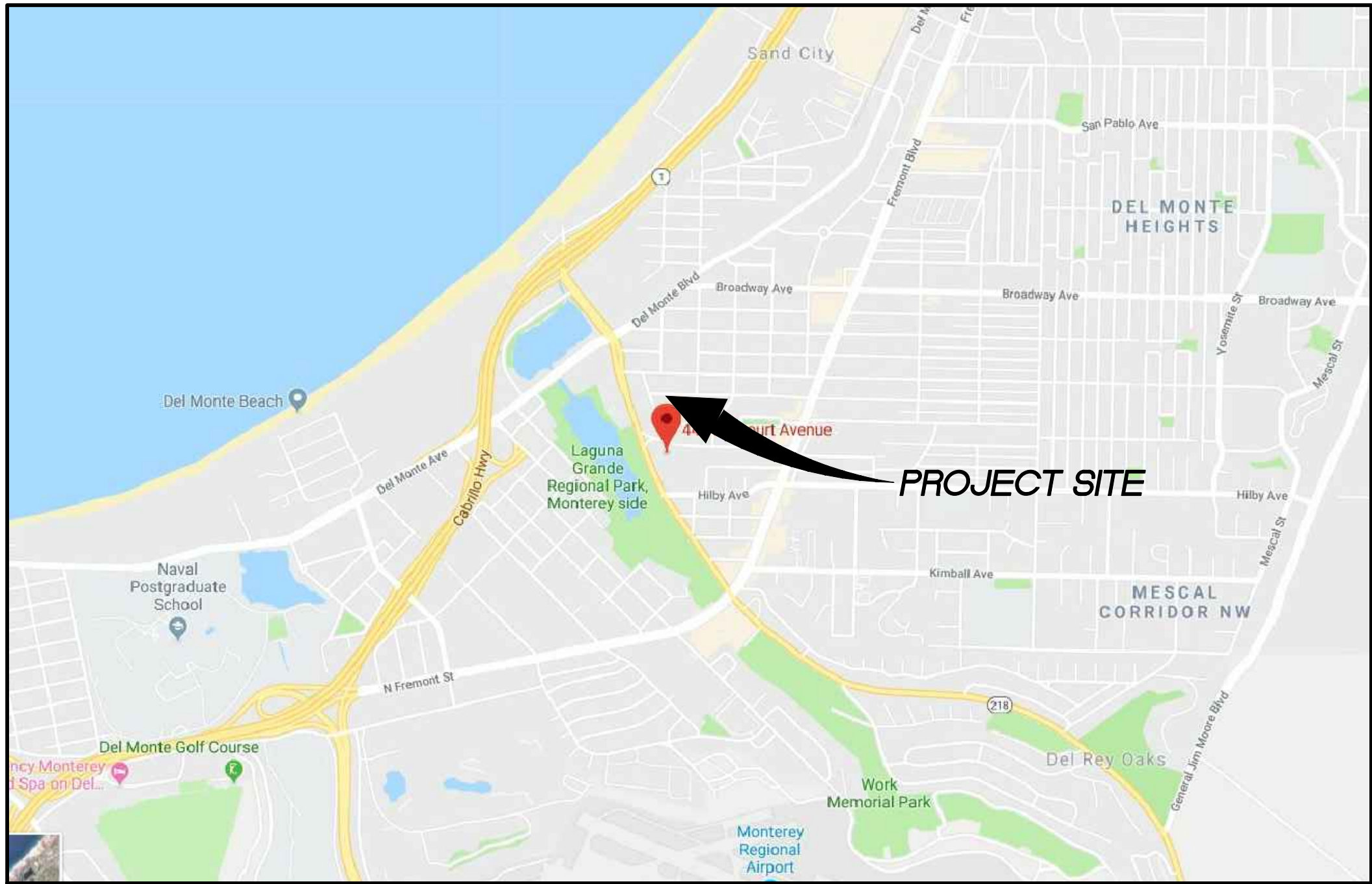
You are now ready to install the CT4000's bollard mount (see Chapter 2).



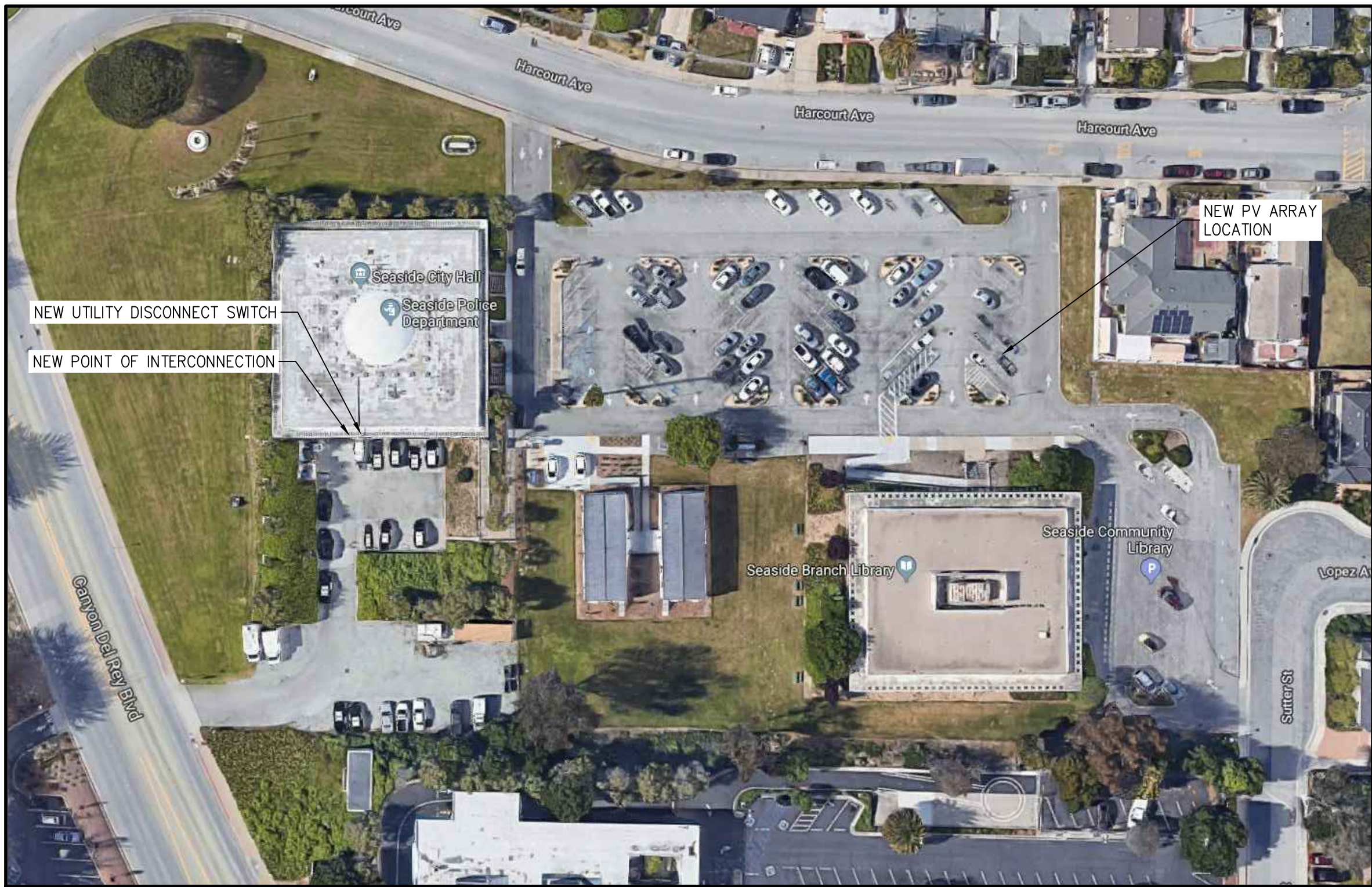
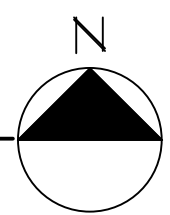


(Proper concrete pad with anchor bolts and conduit stub-up)

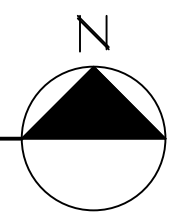
CITY OF SEASIDE
66.6 kWAC SOLAR CANOPIES
440 HARCOURT AVE, SEASIDE, CA 93955



VICINITY MAP
SCALE: NTS



SITE PLAN
SCALE: 1" = 80'-0"



SYSTEM SUMMARY	
PROJECT LOCATION	SEASIDE, CA
DESIGN TEMPERATURE (MIN.)	-1°C
STRING SIZE	15
MODULE TYPE	LG LG400N2W-A5 (OR APPROVED EQUIVALENT)
MODULE WATTAGE	400W
MODULE QTY.	240
INVERTER	SMA STP33-US-41 (OR APPROVED EQUIVALENT)
INVERTER QTY.	2
SYSTEM SIZE (AC)	66.6 kWAC
SYSTEM SIZE (DC)	96 kWDC

PROJECT PARAMETERS							
ARRAY	PANELS	#STRINGS	POWER (kW)	AZIMUTH	TILT	DIMENSIONS	COLUMN QTY.
1	120	8	48.00	275°	5°	81'-7" X 33'-3"	4
2	120	8	48.00	275°	5°	81'-7" X 33'-3"	4
TOTAL	240	16	96.00				



CONSULTANT



STAMP/SEAL



REV #	DESCRIPTION	DATE
0	ISSUED FOR BIDDING	07/18/2019

Richard Wiedel
SIGNATURE
RICHARD WIEDEL, PE
CITY ENGINEER
RCE 49631

PROJECT TITLE:
CITY OF SEASIDE CITY HALL
PHOTOVOLTAIC ARRAYS
440 HARCOURT AVE.
SEASIDE, CA

SHEET TITLE:

COVER SHEET

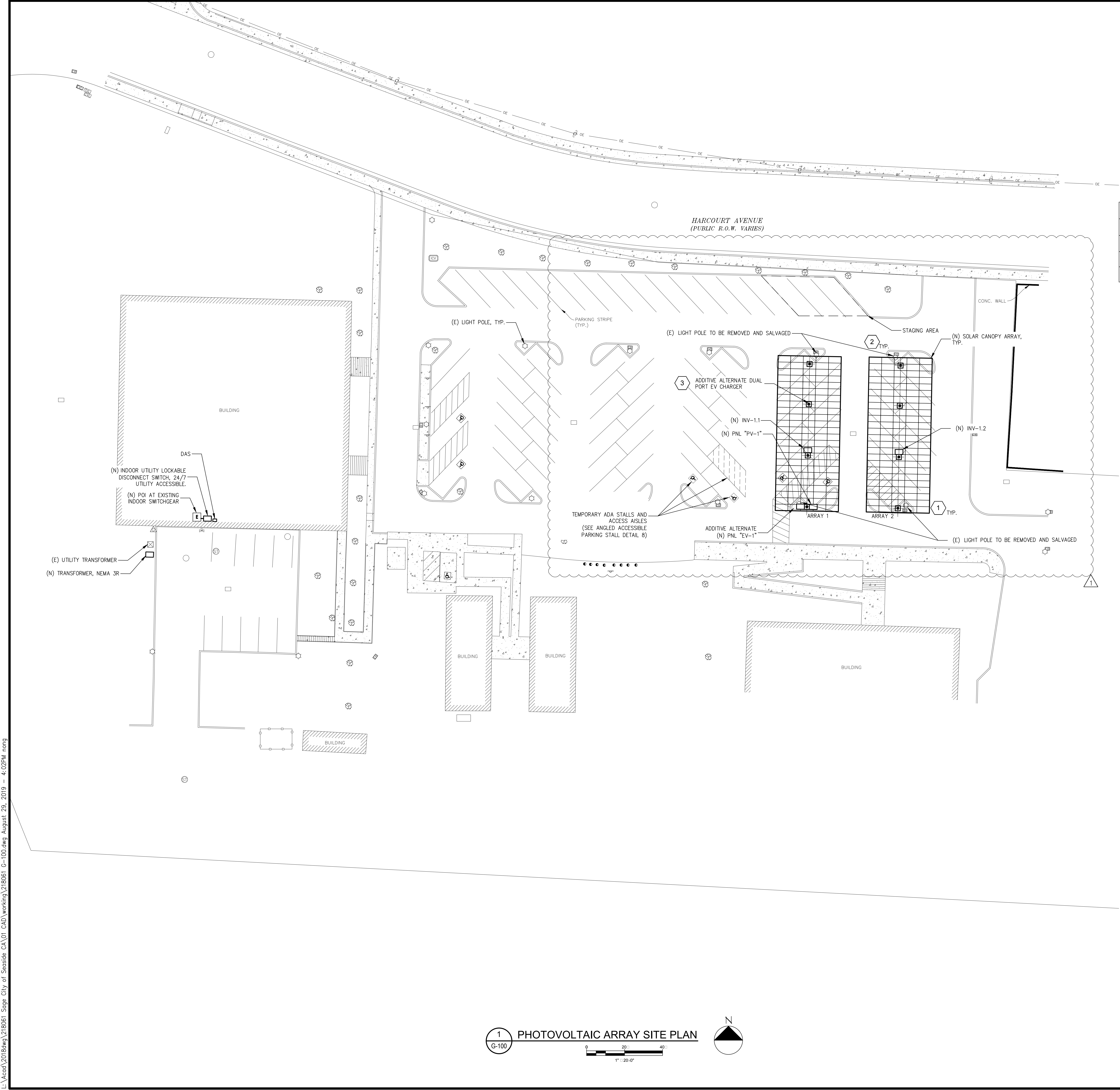
BLYMYER DRAWING LIST		PROJECT INFORMATION	SPECIAL INSPECTIONS	ABBREVIATIONS
CS-1 COVER SHEET G-100.0 PHOTOVOLTAIC OVERALL SITE PLAN G-101.0 PHOTOVOLTAIC ARRAY SITE PLAN E-1.0 GENERAL ELECTRICAL NOTES AND SYMBOLS E-2.0 ONE-LINE DIAGRAM E-3.0 PHOTOVOLTAIC ARRAY ELECTRICAL SITE PLAN E-3.1 PHOTOVOLTAIC ARRAY ELECTRICAL ARRANGEMENT E-4.0 WIRING DIAGRAM E-4.1 WIRING & PANEL SCHEDULE E-5.0 PHOTOVOLTAIC ARRAY LIGHTING PLAN E-6.0 TITLE 24 COMPLIANCE OUTDOOR LIGHTING E-6.1 TITLE 24 COMPLIANCE OUTDOOR LIGHTING E-7.0 GROUNDING DETAILS E-7.1 ELECTRICAL DETAILS E-7.2 DATA ACQUISITION SYSTEM E-9.0 ELECTRICAL SIGNS E-10.0 ELECTRICAL EQUIPMENT S-1 TYPICAL PHOTOVOLTAIC ARRAY "T" STRUCTURES S-1W TYPICAL PHOTOVOLTAIC ARRAY "T" STRUCTURES S-2 FOUNDATION DETAILS S-3 PURLIN CONNECTION, BLOCKING AND TOP CONNECTIONS DETAILS S-4 TYPE 2 - TYPICAL SOLAR MODULE ATTACHMENT, TYPICAL SOLAR MODULE, AND ZEE DETAIL		SCOPE OF WORK INSTALLATION OF CANOPY PV SYSTEM(66.6kWAC)INSTALLATION OF CONDUIT INFRASTRUCTURE ONLY FOR ELECTRIC VEHICLE (EV) CHARGING STATION. ADD ALTERNATE INSTALL ONE DUAL-PORT ELECTRIC VEHICLE CHARGING STATION AND RELATED WIRE, PANELBOARD, AND CIRCUIT BREAKERS. PROJECT OWNER CITY OF SEASIDE 440 HARCOURT AVE, SEASIDE, CA 93955 ENGINEERS OF RECORD STANISLAV GORBIS - PE LICENSE #C81928 1101 MARINA VILLAGE PARKWAY #100 ALAMEDA, CA 94501 (510) 521-3773 BENJAMIN LIU - PE LICENCE #21280 1101 MARINA VILLAGE PARKWAY #100 ALAMEDA, CA 94501 (510) 521-3703 GEORGE J. BARNETT - GEOTECHNICAL ENGINEER 1514 MOFFETT STREET, SUITE G SALINAS, CA 93905 (831)422-8547 KEY PROJECT CONTACT INFORMATION BLYMYER ENGINEERS STAS GORBIS, PROJECT MANAGER 1101 MARINA VILLAGE PARKWAY, SUITE 100 ALAMEDA, CA 94501 (510) 521-3773 CODES AND STANDARDS ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS, OR THEIR CURRENT EDITIONS, ALONG WITH ALL LOCAL AND STATE CODES: 2016 CALIFORNIA ELECTRICAL CODE 2016 CALIFORNIA BUILDING CODE 2016 CALIFORNIA FIRE CODE ALL WORK SHALL COMPLY WITH THE RECOMMENDATIONS CONTAINED WITHIN THE PROJECT GEOTECHNICAL REPORT	THE FOLLOWING TEST SHALL BE PERFORMED PRIOR TO ENERGIZATION OF THE SYSTEM WHEN APPLICABLE. TEST RESULTS SHALL BE MADE AVAILABLE TO THE ENGINEER OF RECORD OR BUILDING OFFICIAL UPON REQUEST. COORDINATE ALL INSPECTIONS WITH BUILDING INSPECTOR. 1. GROUND-FAULT PROTECTION EQUIPMENT 1.1. VERIFY PICKUP AND TIME DELAY SETTINGS ARE IN ACCORDANCE WITH SETTINGS PROVIDED BY THE ENGINEER OR EQUIPMENT MANUFACTURER. 2. ELECTRICAL TESTS SWITCHBOARDS, PANELBOARDS, MOTOR CONTROL CENTERS AND OTHER EQUIPMENT RATED 1000 AMPERES OR MORE, OR OVER 600 VOLTS. 2.1. VERIFY RELAY PICKUP AND TIME DELAY FOR ALL ANSI FUNCTIONS INDICATED IN THE DRAWINGS ARE IN ACCORDANCE WITH SETTINGS PROVIDED BY THE RESPONSIBLE ENGINEER. 2.2. TEST PRIMARY CONTROL VOLTAGE AT NOT MORE THAN 57 PERCENT OF ITS RATED VOLTAGE. 2.3. VERIFICATION OF CONTINUITY OF EQUIPMENT GROUNDING SYSTEM. 2.4. INSULATION RESISTANCE TEST ON EACH BUS AND PROTECTIVE DEVICE, PHASE-TO-PHASE AND PHASE-TO-GROUND. 2.5. DIELECTRIC VOLTAGE-WITHSTAND TEST ON EACH BUS AND PROTECTIVE DEVICE, PHASE-TO-PHASE AND PHASE-TO-GROUND. 2.6. CONTROL POWER TRANSFORMER, CONTROL POWER CIRCUITS AND POTENTIAL CIRCUITS. 2.7. CONTROL AND PROTECTIVE DEVICES FOR PROPER OPERATION. 3. ELECTRICAL TESTS ON TRANSFORMERS RATED 100 KVA OR MORE SINGLE PHASE AND 300 KVA OR MORE THREE PHASE. 3.1. INSULATION RESISTANCE TEST ON EACH WINDING. TEST WINDING-TO-WINDING AND WINDINGS-TO-GROUND. 3.2. TURNS-RATIO TEST FOR EACH WINDING AT ALL TAP SETTINGS. 3.3. CONTROL POWER TRANSFORMER, CONTROL POWER CIRCUITS AND POTENTIAL CIRCUITS. 3.4. CONTROL AND PROTECTIVE DEVICES FOR PROPER OPERATION. 4. CONDUCTORS THAT SUPPLY EQUIPMENT RATED AT 1000 AMPERES OR MORE, OR OVER 600 VOLTS 4.1. INSULATION RESISTANCE TEST ON EACH CONDUCTOR, PHASE-TO-PHASE AND PHASE-TO-GROUND. 4.2. PERFORM DC HIGH-POTENTIAL TEST ON EACH CONDUCTOR, PHASE-TO-PHASE AND PHASE-TO-GROUND. 4.3. MEDIUM VOLTAGE CONNECTORS SHALL BE INCLUDED IN TEST TO VERIFY PROPER TERMINATION AND ASSEMBLY OF CONNECTORS. 5. ELECTRICAL TESTS ON EMERGENCY AND STANDBY POWER SYSTEMS: SWITCHBOARDS, PANELBOARDS, DISTRIBUTION BOARDS, TRANSFER EQUIPMENT, POWER SOURCE, CONDUCTORS, FIRE PUMPS, EXHAUST AND VENTILATION FANS. 5.1. CONTROL AND PROTECTIVE DEVICES FOR PROPER OPERATION. 5.2. PHASE ROTATION TEST 5.3. INSULATION RESISTANCE TEST ON FEEDER CONDUCTORS AND EQUIPMENT, PHASE-TO-PHASE AND PHASE-TO-GROUND 5.4. AUTOMATIC LOAD TRANSFER TEST. TEST NORMAL AND EMERGENCY POWER, OR NORMAL AND STANDBY POWER, OR BOTH. SIMULATE LOSS OF EMERGENCY AND NORMAL POWER OR STANDBY AND POWER, OR BOTH. SIMULATE ALL FORMS OF SINGLEPHASE CONDITIONS. 5.5. CONDUCT OPERATIONAL TEST ON SYSTEM UNDER LOAD CONDITIONS. 6. PHOTOVOLTAIC-SPECIFIC SYSTEM COMMISSIONING TESTS, SUCH AS STRING IV CURVE TRACE, INFRARED IMAGING, AND AS-BUILT SUN ACCESS AND SHADING REPORTS. 7. ALL INSPECTIONS AND TESTS SHALL BE IN ACCORDANCE WITH THE INTERNATIONAL ELECTRICAL TESTING ASSOCIATION - ACCEPTANCE TESTING SPECIFICATIONS ATS-2009 (REFERRED TO HEREIN AS NETA ATS-2009). 8. FINAL TEST AND INSPECTION MAY BE CONDUCTED IN PRESENCE OF OWNER: TESTS SHALL BE CONDUCTED AT THE EXPENSE OF AND BY THE CONTRACTOR AT A MUTUALLY AGREED TIME. SUBMIT WRITTEN TEST REPORTS. 9. THE ELECTRICAL INSTALLATION SHALL BE INSPECTED AND TESTED TO ENSURE SAFETY TO BUILDING OCCUPANTS, OPERATING PERSONNEL, CONFORMITY TO CODE AUTHORITIES, AND FINAL CONSTRUCTION SHOP DRAWINGS.	A, AMPS A/C, AC AF, AMPERE FRAME AFF, ABOVE FINISHED FLOOR AFC, AMPERE INTERRUPTING CURRENT AL, ALUMINUM AS, AMPERE SWITCH AT, AMPERES TRIP ATS, AUTOMATIC TRANSFER SWITCH AWG, AMERICAN WIRE GAUGE BC, BARE COPPER BLDG, BUILDING BMS, BUILDING MANAGEMENT SYSTEM CONDUIT CB, CIRCUIT BREAKER CC, CENTER TO CENTER CKT, CIRCUIT CL, CENTER LINE CLG, CEILING CLR, CLEAR CO, CONDUIT ONLY WITH PULL ROPE CONC, CONCRETE CU, COPPER DAS, DATA ACQUISITION SYSTEM DB, DIRECT BURIAL DC, DIRECT CURRENT DIA, DIAMETER DN, DOWN DP, DISTRIBUTION PANEL DNG, DRAWING EGC, EQUIPMENT GROUNDING CONDUCTOR EM, EMERGENCY ENT, ELECTRICAL METALLIC TUBING EPO, EMERGENCY POWER OFF EQ, EQUAL EQUIP, EQUIPMENT EV, ELECTRIC VEHICLE (E), EXISTING FA, FIRE ALARM FACP, FIRE ALARM CONTROL PANEL FLA, FULL LOAD AMPERES (F), FUTURE GND, GROUND GALV, GALVANIZED GEC, GROUNDING ELECTRODE CONDUCTOR GRS, GALVANIZED RIGID STEEL GFI, GROUND FAULT CIRCUIT INTERRUPTER GFL, GROUND FAULT RELAY HH, HANDHOLE HOA, HAND-OFF-AUTO HP, HORSEPOWER HV, HIGH VOLTAGE HVAC, HEATING, VENTILATION, AIR CONDITIONING HZ, HERTZ INV, INVERTER IMC, INTERMEDIATE METAL CONDUIT ISC, INTERRUPTING SHORT CIRCUIT IG, ISOLATED GROUND INST, INSTANTANEOUS JB, JUNCTION BOX KAIC, KILO AMPERES INTERRUPTION CAPACITY KCMIL, KILO CIRCULAR MILS KV, KILVOLTS KVA, KILVOLT-AMPERES KW KILO WATTS KWH, KILO WATT-HOURS LCP, LIGHTING CONTROL PANEL LSIG, LONG TIME, SHORT TIME, INSTANTANEOUS, AND GROUND FAULT LIGHTING LTG, LIGHTING MAX, MAXIMUM MCC, MOTOR CONTROL CENTER MCB, MAIN CIRCUIT BREAKER MCP, MOTOR CIRCUIT PROTECTOR MFR, MANUFACTURER MH, MANHOLE MIN, MINIMUM MISC, MISCELLANEOUS MLO, MAIN LUGS ONLY MTD, MOUNTED MSB, MAIN SWITCHBOARD MSG, MAIN SWITCHGEAR MV, MEDIUM VOLTAGE MVA, MEGA VOLT AMPERES (N), NEW N, NEUTRAL NC, NORMALLY CLOSED NIC, NOT IN CONTRACT NL, NIGHT LIGHT NO, NORMALLY OPEN NTS, NOT TO SCALE OCPD, OVERCURRENT PROTECTIVE DEVICE OFCI, OWNER FURNISHED CONTRACTOR INSTALLED OVERHEAD OH, OVERHEAD PH, PHASE PH, PHASE PB, PUSHBUTTON PDU, POWER DISTRIBUTION UNIT PANEL, PANEL PNL, PANEL POCC, POINT OF COMMON COUPLING POI, POINT OF INTERCONNECTION PV, PHOTOVOLTAIC PVC, POLYVINYL CHLORIDE (R), EXISTING TO BE REMOVED (RE), NEW LOCATION OF RELOCATED DEVICE RMC, RIGID METAL CONDUIT (RL), EXISTING TO BE RELOCATED RTU, REMOTE TERMINAL UNIT SCA, SHORT CIRCUIT AVAILABLE SCADA, SUPERVISORY CONTROL & DATA ACQUISITION SEC, SECONDARY SECS, SPECIFICATIONS STD, STANDARD STP, SHIELDED TWISTED PAIR SWBD, SWITCHBOARD SYM, SYMMETRICAL TBD, TO BE DETERMINED TD, TIME DELAY TEL, TELEPHONE TVSS, TRANSIENT VOLTAGE SURGE SUPPRESSION TYP, TYPICAL UG, UNDERGROUND UL, UNDERWRITERS LABORATORIES UN, UNLESS OTHERWISE NOTED UPB, UNDERGROUND PULLBOX UTP, UNSHIELDED TWISTED PAIR V, VOLTS VA, VOLT-AMPERES VFD, VARIABLE FREQUENCY DRIVE VFI, VACUUM FAULT INTERRUPTER VP, VAPORPROOF W, WATTS, WIRE WH, WATER HEATER WP, WEATHERPROOF WT, WATERTIGHT XFMR, TRANSFORMER XLPE, CROSS-LINKED POLYETHYLENE XP, EXPLOSION PROOF

FOR BID

JOB NO.: 218061	PROJECT MGR: SG
DRAWN: CVV	SCALE: AS SHOWN
SHEET NUMBER	

CS-1

I:\Acad\2018dwg\218061 SAGE City of Seaside CA\01 CAD\working\218061 G-100.dwg August 29, 2019 - 4:02PM rmg



SYSTEM SUMMARY	
PROJECT LOCATION	SEASIDE, CA
DESIGN TEMPERATURE (MIN.)	-1°C
STRING SIZE	15
MODULE TYPE	LG LG400N2W-A5 (OR APPROVED EQUIVALENT)
MODULE WATTAGE	400W
MODULE QTY.	240
INVERTER	SMA STP33-US-41 (OR APPROVED EQUIVALENT)
INVERTER QTY.	2
SYSTEM SIZE (AC)	66.6 kWAC
SYSTEM SIZE (DC)	96 kWDC

PROJECT PARAMETERS							
ARRAY	PANELS	#STRINGS	POWER (kW)	AZIMUTH	TILT	DIMENSIONS	COLUMN QTY.
1	120	8	48.00	275°	5°	81'-7" X 33'-3"	4
2	120	8	48.00	275°	5°	81'-7" X 33'-3"	4
TOTAL	240	16	96.00				

- KEYED NOTES**
- CANOPIES PLACED IN PARKING LOTS SHALL BE CLEARLY LABELED WITH MAX CLEARANCE FOR VEHICLES AT THE LOW POINTS. LABELS SHALL BE RATED FOR LONG-TERM UV EXPOSURE WITH LIFETIME TO MATCH WARRANTIES SPECIFIED FOR PV PANELS IN SECTION 28 60 00. MINIMUM LABELING ALONG THE LONG AXIS OF THE LOW-SIDE OF THE CARPORT SHALL BE EVERY 50 FEET OF CANOPY OR 3 LABELS, WHICHEVER IS GREATER. LABELING SHALL ALSO INCLUDE THE EXTERIOR CORNER OF EACH CANOPY WITHIN A PARKING LOT. LABEL SHOULD BE EASILY VISIBLE FROM A VEHICLE.
 - EXISTING POLE MOUNTED LIGHTING IN AREAS OF NEW CARPORT CANOPIES SHALL BE REMOVED AND SALVAGED. MODIFY OTHER EXISTING LIGHTING TO COORDINATE WITH THE NEW WORK AND DESIGN, INCLUDING RECONNECTION OF ANY EXISTING DOWNSTREAM CIRCUITING AND CONTROLS TO REMAIN. FOUNDATIONS OF EXISTING POLE MOUNT LIGHTING ARE TO BE COMPLETELY REMOVED A MINIMUM OF 6-INCHES BELOW GRADE AND FOOTINGS TO BE DISPOSED. ONLY POLE AND LIGHT FIXTURE TO BE SALVAGED, WITH GRADE RESTORED TO SURROUNDING CONDITION AND DEMO'D MATERIAL REMOVED AND SALVAGED BY CONTRACTOR. PROPERLY TERMINATE AND LABEL ANY UNUSED CONDUCTORS.
 - EV CHARGER RELATED CONDUIT TO BE INCLUDED IN BASE BID, BUT EV CHARGER RELATED WIRE, PANELBOARD, CIRCUIT BREAKERS, AND NEW CHARGER SHOWN ARE ADDITIVE ALTERNATE. BASE BID EV CONDUITS SHALL BE STUBBED UP AND CAPPED.

1

G-100

PHOTOVOLTAIC ARRAY SITE PLAN

02040

1" = 20'-0"

N



CONSULTANT



STAMP/SEAL

REV #	DESCRIPTION	DATE
0	ISSUED FOR BIDDING	07/18/2019
1	ADDENDUM 1	08/28/2019

PROJECT TITLE:
CITY OF SEASIDE CITY HALL
PHOTOVOLTAIC ARRAYS
440 HARCOURT AVE.
SEASIDE, CA

SHEET TITLE:

PHOTOVOLTAIC ARRAY
SITE PLAN

JOB NO.: 218061	PROJECT MGR: SG
DRAWN: CVV	SCALE: 1" = 20'-0"
SHEET NUMBER	

G-100.0

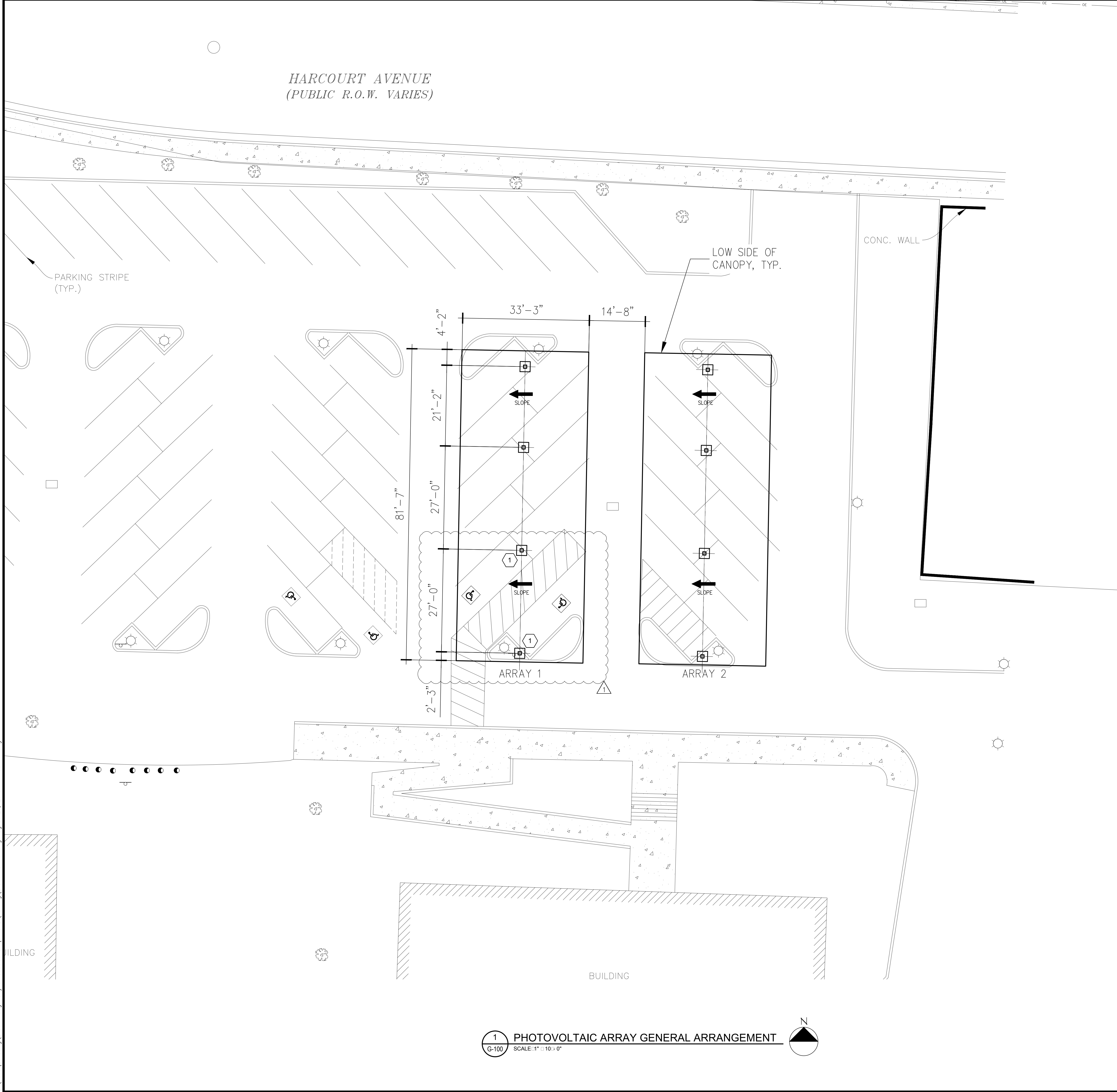
FOR BID

HARCOURT AVENUE
(PUBLIC R.O.W. VARIES)

PARKING STRIPE
(TYP.)

LOW SIDE OF
CANOPY, TYP.

CONC. WALL



SYSTEM SUMMARY

PROJECT LOCATION	SEASIDE, CA
DESIGN TEMPERATURE (MIN.)	-1°C
STRING SIZE	15
MODULE TYPE	LG LG400N2W-A5 (OR APPROVED EQUIVALENT)
MODULE WATTAGE	400W
MODULE QTY.	240
INVERTER	SMA STP33-US-41 (OR APPROVED EQUIVALENT)
INVERTER QTY.	2
SYSTEM SIZE (AC)	66.6 kWAC
SYSTEM SIZE (DC)	96 kWDC

PROJECT PARAMETERS

ARRAY	PANELS	#STRINGS	POWER (kW)	AZIMUTH	TILT	DIMENSIONS	COLUMN QTY.
1	120	8	48.00	275°	5°	81'-7" X 33'-3"	4
2	120	8	48.00	275°	5°	81'-7" X 33'-3"	4
TOTAL	240	16	96.00				

GENERAL NOTES

- CANOPIES PLACED IN PARKING LOTS SHALL BE CLEARLY LABELED WITH MAX. CLEARANCE FOR VEHICLES AT THE LOW POINTS. LABELS SHALL BE RATED FOR LONG-TERM UV EXPOSURE WITH LIFETIME TO MATCH WARRANTIES SPECIFIED FOR PV PANELS IN SECTION 26 60 00. MINIMUM LABELING ALONG THE LONG AXIS OF THE LOW-SIDE OF THE CARPORT SHALL BE EVERY 50 FEET OF CANOPY OR 3 LABELS, WHICHEVER IS GREATER. LABELING SHALL ALSO INCLUDE THE EXTERIOR CORNER OF EACH CANOPY WITHIN A PARKING LOT. LABEL SHOULD BE EASILY VISIBLE FROM A VEHICLE.

KEYED NOTES

- SALVAGE EXISTING ADA SIGNS AND MOUNT ON CANOPY COLUMNS PER ADA CODE REQUIREMENTS.



CONSULTANT



STAMP/SEAL

REV #	DESCRIPTION	DATE
0	ISSUED FOR BIDDING	07/18/2019
1	ADDENDUM 1	08/28/2019

PROJECT TITLE:
CITY OF SEASIDE CITY HALL
PHOTOVOLTAIC ARRAYS
440 HARCOURT AVE.
SEASIDE, CA

SHEET TITLE:

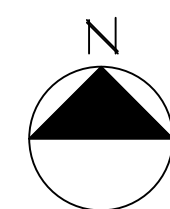
PHOTOVOLTAIC ARRAY
GENERAL ARRANGEMENT

JOB NO.: 218061	PROJECT MGR: SG
DRAWN: CVV	SCALE: 1" = 10'-0"
SHEET NUMBER	

G-101.0

FOR BID

1 PHOTOVOLTAIC ARRAY GENERAL ARRANGEMENT
G-100 SCALE: 1" = 10'-0"



GENERAL NOTES

1. AT ALL TIMES THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITION OF JOB SITE, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY AND FOR ALL NECESSARY INDEPENDENT ENGINEERING REVIEWS OF THESE CONDITIONS. THE ENGINEERS JOB SITE REVIEW IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTORS SAFETY MEASURES.
2. THE CONTRACTOR SHALL MAKE AN EXAMINATION OF THE SITE AND COMPARE THE SITE WITH THE DRAWINGS AND SPECIFICATIONS AND SATISFY HIMSELF AS TO CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. THE CONTRACTOR SHALL ASCERTAIN AND CHECK THE LOCATIONS OF ANY EXISTING STRUCTURES OR EQUIPMENT WHICH MAY AFFECT WORK THAT HAS TO BE PERFORMED, NO ALLOWANCE SHALL SUBSEQUENTLY BE MADE IN CONTRACTOR'S BEHALF FOR ANY EXPENSE TO WHICH THE CONTRACTOR MAY BE PUT DUE TO FAILURE OR NEGLECT BY CONTRACTOR TO MAKE SUCH EXAMINATION.
3. ALL WORK SHALL BE COORDINATED WITH THE OWNER TO MAINTAIN CONTINUITY OF SERVICE AND MAXIMUM UTILIZATION OF THE OWNERS FACILITY.
4. THE CURRENT ISSUE OF ALL NFPA, IBC, IFB, ANSI, OSHA, ASTM, NEMA, AND OTHER NATIONALLY PUBLISHED CODES OR SPECIFICATIONS SHALL APPLY TO THIS WORK UNLESS LOCAL JURISDICTION SUPERSEDES. THE MOST STRINGENT CODES SHALL APPLY.
5. NOTHING IN THE DRAWINGS OR SPECIFICATIONS IS INTENDED TO ALLOW A VIOLATION OF ELECTRICAL WORKING SPACE AROUND ELECTRICAL EQUIPMENT REQUIREMENT. ANY DEVIATION FROM THIS REQUIREMENT SHALL BE APPROVED IN WRITING, BY THE ENGINEER. THE CONTRACTOR SHALL RELOCATE ANY EQUIPMENT IN VIOLATION OF THE ELECTRICAL CODE AT HIS OWN COST.
6. PROVIDE PHENOLIC NAMEPLATE WITH WHITE LETTERING ON BLACK BACKGROUND FOR EACH ELECTRICAL EQUIPMENT. PROVIDE PERMANENT MEANS OF ATTACHMENT THAT WILL NOT VIOLATE NEMA RATING OR EQUIPMENT WARRANTY.
7. REFER TO THE DRAWINGS FOR LOCATIONS AND SPACE REQUIREMENTS OF ELECTRICAL EQUIPMENT. COORDINATE THE INSTALLATION OF ELECTRICAL EQUIPMENT WITH OTHER TRADES.
8. POWER FEEDERS MAY NOT BE SHOWN ON THE DRAWINGS. REFER TO THE SINGLE LINE DIAGRAM FOR FEEDER INFORMATION.
9. CONTRACTOR SHALL SECURE AND PAY FOR ELECTRICAL TRADE SPECIFIC CONSTRUCTION PERMITS, LICENSES, GOVERNMENTAL AND INSPECTION FEES NECESSARY FOR THE EXECUTION OF THE WORK, UNLESS OTHERWISE DIRECTED.
10. ELECTRICAL CONTRACTOR SHALL PROVIDE COMPLETE ELECTRICAL INSTALLATION IN ACCORDANCE WITH ESTABLISHED TECHNIQUES AND ACCEPTED PRACTICES AND ALL LOCAL, STATE, AND NATIONAL CODES HAVING JURISDICTION.
11. ELECTRICAL REQUIREMENTS SUCH AS CONDUIT ROUTING AND LOCATIONS OF ELECTRICAL DEVICES (RECEPTACLES, SWITCHES, FLOOR OUTLETS, CONDUIT STUDS, ETC.) SHOWN ON THESE PLANS ARE DIAGRAMMATIC AND SUBJECT TO VERIFICATION BY ELECTRICAL CONTRACTOR FOR THE INTERFACING OF THE ELECTRICAL WORK WITH THE INSTALLATION. CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS TO CLEAR THE OTHER FACILITIES EXCEPT AS SHOWN DIMENSIONED ON THE ARCHITECTURAL DRAWINGS OR AS APPROVED BY THE ARCHITECT.
12. ELECTRICAL EQUIPMENT SHOWN OR SPECIFIED FOR THIS PROJECT HAS BEEN GENERALLY SELECTED BASED ON DIMENSIONS TO FIT SPACE. THE CONTRACTOR SHALL VERIFY EQUIPMENT DIMENSIONS, AND/OR ANY INTERFERENCES PRIOR TO ORDERING THE EQUIPMENT.
13. MANUFACTURER'S RECOMMENDATIONS FOR CONDUCTOR SIZING, CIRCUIT BREAKER OR FUSE RATING OF ELECTRICALLY OPERATED EQUIPMENT MAY DIFFER FROM THOSE INDICATED ON DRAWINGS. CONTRACTOR SHALL CONFIRM RATINGS PRIOR TO ORDERING EQUIPMENT.
14. CONTRACTOR SHALL REVIEW THE MECHANICAL AND PLUMBING DRAWINGS IF APPLY, AND CONNECT ELECTRICALLY OPERATED EQUIPMENT UNLESS OTHERWISE NOTED. COORDINATE THE LOCATION AND ELECTRICAL CONNECTION REQUIREMENTS PRIOR TO ORDERING OF ELECTRICAL AND MECHANICAL EQUIPMENT.
15. CONTRACTOR SHALL REVIEW THE SECTIONS OF EACH DIVISION OF THE SPECIFICATION (WHERE APPROPRIATE) AND PROVIDE CONNECTIONS TO ELECTRICALLY OPERATED EQUIPMENT AS MAY BE SPECIFIED THEREIN.
16. ALL CONDUIT ONLY (CO) NOTED SHALL HAVE PULL ROPES OR WIRES INSTALLED, TENSILE STRENGTH MINIMUM OF 200 FT/LBS.
17. COORDINATE ALL UG PULLBOX LOCATIONS WITH THE CIVIL AND LANDSCAPE PLANS. REPORT AND RESOLVE ANY DISCREPANCIES PRIOR TO START OF WORK.
18. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE LISTED BY UNDERWRITER'S LABORATORIES OR OTHER APPROVED NRTL, AND SHALL BEAR THEIR LABEL. ALL CONTROL PANELS SHALL BE SO LISTED AS AN ASSEMBLY.
19. ELECTRICAL EQUIPMENT AND FEEDERS SHALL BE SUPPORTED AND/OR ANCHORED IN ACCORDANCE WITH CBC SEISMIC REQUIREMENTS. DO NOT SUPPORT CONDUITS FROM MECHANICAL DUCTS, PLUMBING, PIPING, OR EQUIPMENT OF ANY KIND.
20. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, FEES AND EQUIPMENT SPECIFIED. INDICATED OR IMPLIED IN THESE DOCUMENTS TO ACCOMPLISH THE CONSTRUCTION IN A PROFESSIONAL, WORKMANLIKE MANNER. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION TASKS INDICATED AND LOCAL CODES AND/OR ORDINANCES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE GENERAL CONTRACTOR AND/OR OWNER FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK AT ISSUE.
21. THE CONTRACTOR SHALL CONSULT THE MECHANICAL, STRUCTURAL, AND OTHER DRAWINGS AND DOCUMENTATION RELATED TO THE PROJECT FOR ADDITIONAL WORK TO BE PROVIDED.
22. THE OWNER RETAINS FIRST SALVAGE RIGHTS TO ALL EXISTING EQUIPMENT REMOVED UNDER THIS CONTRACT. THE ELECTRICAL CONTRACTOR SHALL CONSULT WITH THE OWNER FOR DISPOSITION OF THE EXISTING EQUIPMENT TO BE REMOVED.
23. ANY WORK INSTALLED INCORRECTLY, OR BEFORE APPROVAL HAS BEEN OFFICIALLY GRANTED FOR THOSE ITEMS AT ISSUE, SHALL BE CORRECTED BY THE ELECTRICAL CONTRACTOR AT NO CHARGE TO OWNER/ARCHITECT/CLIENT.
24. ALL MATERIALS AND EQUIPMENT FURNISHED BY THE CONTRACTOR SHALL BE NEW AND COMPLETELY SERVICEABLE UNLESS OTHERWISE SPECIFIED.
25. CONTRACTOR SHALL COORDINATE ROUGH-IN AND FINAL CONNECTION REQUIREMENTS WITH THE OWNER, EQUIPMENT SUPPLIERS, GENERAL CONTRACTOR AND OTHER BUILDING TRADES BEFORE PROCEEDING WITH ANY FURTHER RELATED WORK. INSTALLATIONS SHALL BE IN FULL ACCORDANCE WITH EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND REQUIRED CODES. CONFLICTS AND INTERFERENCES SHALL BE RESOLVED IMMEDIATELY, BEFORE ANY INSTALLATION BEGINS.
26. FINAL ACCEPTANCE OF WORK IN PLACE SHALL BE SUBJECT TO APPROVAL BY OWNER'S REPRESENTATIVE AND ARCHITECT/ENGINEER. INSTALLATION APPROVAL SHALL BE BASED ON APPROVED SUBMITTALS, SHOP DRAWINGS AND LOCAL INSPECTION.
27. CONTRACTOR SHALL SUBMIT "FOR RECORD" MARKUP DRAWINGS WITHIN TWO (2) WEEKS AFTER DATE OF NOTIFICATION OF FINAL APPROVAL OF WORK-IN-PLACE. CONTRACTOR'S FINAL INVOICE WILL NOT BE PAID WITHOUT COMPLETE DOCUMENTATION.
28. CONTRACTOR SHALL WARRANT ALL WORKS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE OF WORK-IN-PLACE. CONTRACTOR SHALL REPAIR OR REPLACE ANY DEFECTIVE WORK INCLUDING MATERIALS AND EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER WITHIN WARRANTY PERIOD.
29. THE CONTRACTOR SHALL PROVIDE NEW FUSES AND OVERLOAD HEATER ELEMENTS REQUIRED FOR THIS CONTRACT INSTALLATION INCLUDING ANY FUSES BLOWN DURING INITIAL TESTING. CONTRACTOR TO PROVIDE SPARE FUSES (2) OF EACH TYPE.
30. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO ALL WALLS, FLOORS AND PAVING. IF DAMAGE OCCURS DURING CONSTRUCTION, ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OWNER TO PATCH, PAINT AND REPAIR TO MATCH EXISTING CONDITIONS.
31. CONDUIT AND WIRE SCHEDULE FOR NEW EQUIPMENT ARE GENERALLY INDICATIVE. CONTRACTOR SHALL REFER TO MANUFACTURER AND SUPPLIER OF EQUIPMENT FOR DETAILED WIRING DIAGRAM AND VERIFY THE EXACT ROUTING AND CONDUCTOR SIZE.
32. THE CONTRACTOR SHALL REFER TO MANUFACTURER AND SUPPLIER OF ELECTRICAL CONTROL EQUIPMENT FOR EXACT WIRING INTERCONNECTION.
33. ALL CONDUCTORS SHALL BE COPPER STRANDED ONLY, AND HAVE INSULATION TEMPERATURE RATING NOT LESS THAN 90C, UNLESS OTHERWISE NOTED.
34. IDENTIFICATION OF GROUNDING CONDUCTORS SHALL BE IN ACCORDANCE WITH NEC 200.6. IDENTIFICATION OF UNGROUNDING CONDUCTORS SHALL BE IN ACCORDANCE WITH NEC 250.119. IDENTIFICATION OF UNGROUNDING CONDUCTORS SHALL BE IN ACCORDANCE WITH NEC 210.5(C) AND SHALL BE IDENTIFIED BY THE FOLLOWING COLORED INSULATION, MARKING TAPE, OR TAGGING AS FOLLOWS:

SYSTEM	480Y/277V	208Y/120V	120/240V 1-PHASE
PHASE A	BROWN	BLACK	BLACK (LINE 1)
PHASE B	ORANGE	RED	RED (LINE 2)
PHASE C	YELLOW	BLUE	
PV OUTPUT CIRCUIT	NEGATIVE GROUNDING SYSTEM	UNGROUNDING SYSTEM	
POSITIVE (+)	RED	RED	
NEGATIVE (-)	PER 200.6	RED	BLACK
PV SOURCE CIRCUIT	NEGATIVE GROUNDING SYSTEM	UNGROUNDING SYSTEM	
POSITIVE (+)	RED	RED	
NEGATIVE (-)	PER 200.6	RED	BLACK
35. USE WIRE IDENTIFICATION COLOR CODE PER SPECIFICATIONS BELOW.

COLOR	DESCRIPTION
LT. BLUE	INTRINSICALLY SAFE CIRCUITS
GREEN	EQUIPMENT GROUNDING CONDUCTOR
YELLOW	CONTROL CIRCUITS SUPPLIED FROM EXTERNAL POWER SOURCE, INTERLOCKS
36. MEDIUM VOLTAGE CABLE MARKINGS SHALL UTILIZE COLORED CONDUCTOR TAPE FOR ALL PHASES: YELLOW COLORED, SELF-ADHESIVE VINYL TAPE NOT LESS THAN 3 MILS THICK BY 1 INCH WIDE. 1 STRIPE FOR THE A PHASE CONDUCTOR, 2 STRIPES FOR THE B PHASE CONDUCTOR, 3 STRIPES FOR THE C PHASE CONDUCTOR. TAPE SHALL BE LOCATED AT ALL TERMINATIONS, SPLICES AND PULL BOXES.
37. THE ELECTRICAL ENGINEER OF RECORD SHALL PROVIDE REQUIRED SETTINGS FOR ALL ADJUSTABLE CIRCUIT BREAKERS AND RELAYS SPECIFIED IN THIS PROJECT. ARC FLASH LABELS SHALL ALSO BE PROVIDED FOR ALL NEW ELECTRICAL EQUIPMENT AS NEEDED. SETTINGS AND ARC FLASH LABELS ARE TYPICALLY SHOWN IN NEW ELECTRICAL SYSTEM STUDIES, BUT MAY INSTEAD BE PROVIDED IN THE PROJECT DRAWINGS OR VIA RFI. CONTRACTOR SHALL VERIFY ALL CIRCUIT BREAKER AND RELAY SETTINGS ARE PROVIDED AND HAVE BEEN APPLIED ON-SITE. IF SETTINGS ARE NOT PROVIDED, CONTRACTOR SHALL REQUEST THEM FROM THE ENGINEER OF RECORD.
39. OUTDOOR SITE LIGHTING SHALL COMPLY WITH TITLE 24 CALIFORNIA CODE OF REGULATIONS.
40. TAMPER-RESISTANT RECEPTACLES SHALL BE INSTALLED IN ALL DWELLING UNITS AS REQUIRED IN NEC 406.12.
41. PROJECT IS IN COASTAL ENVIRONMENT, ALL EQUIPMENT TO BE COASTAL RATED.
42. PLEASE REFER TO THE CONSTRUCTION SPECIFICATIONS AND OTHER DOCUMENTATION PROVIDED WITH THE BID PACKAGE FOR ADDITIONAL REQUIREMENTS.
43. CONTRACTOR TO PROVIDE MARKED UP AS-BUILT DRAWINGS. CONTRACTOR TO PROVIDE 2 COPIES OF MANUFACTURER O&M MANUALS FOR EQUIPMENT INSTALLED.

LIGHTING

	SURFACE OR PENDANT MOUNTED FIXTURE AND OUTLET	
	FLUORESCENT FIXTURE	
	FLUORESCENT FIXTURE TANDEM WIRED	
	FLUORESCENT STRIP FIXTURE	
	POST TOP MOUNTED FIXTURE	
	BOLLARD	
	FLOODLIGHT AND OUTLET	
	UNIVERSAL MOUNTED EXIT FIXTURE AND OUTLET	
	WALL RECESS OR SURFACE MOUNTED EXIT FIXTURE AND OUTLET	
	FIXTURE IDENTIFICATION TAG - SEE FIXTURE SCHEDULE	

DENOTES FIXTURE ON
EMERGENCY CIRCUIT

DENOTES FIXTURE ON
NIGHT LIGHT CIRCUIT

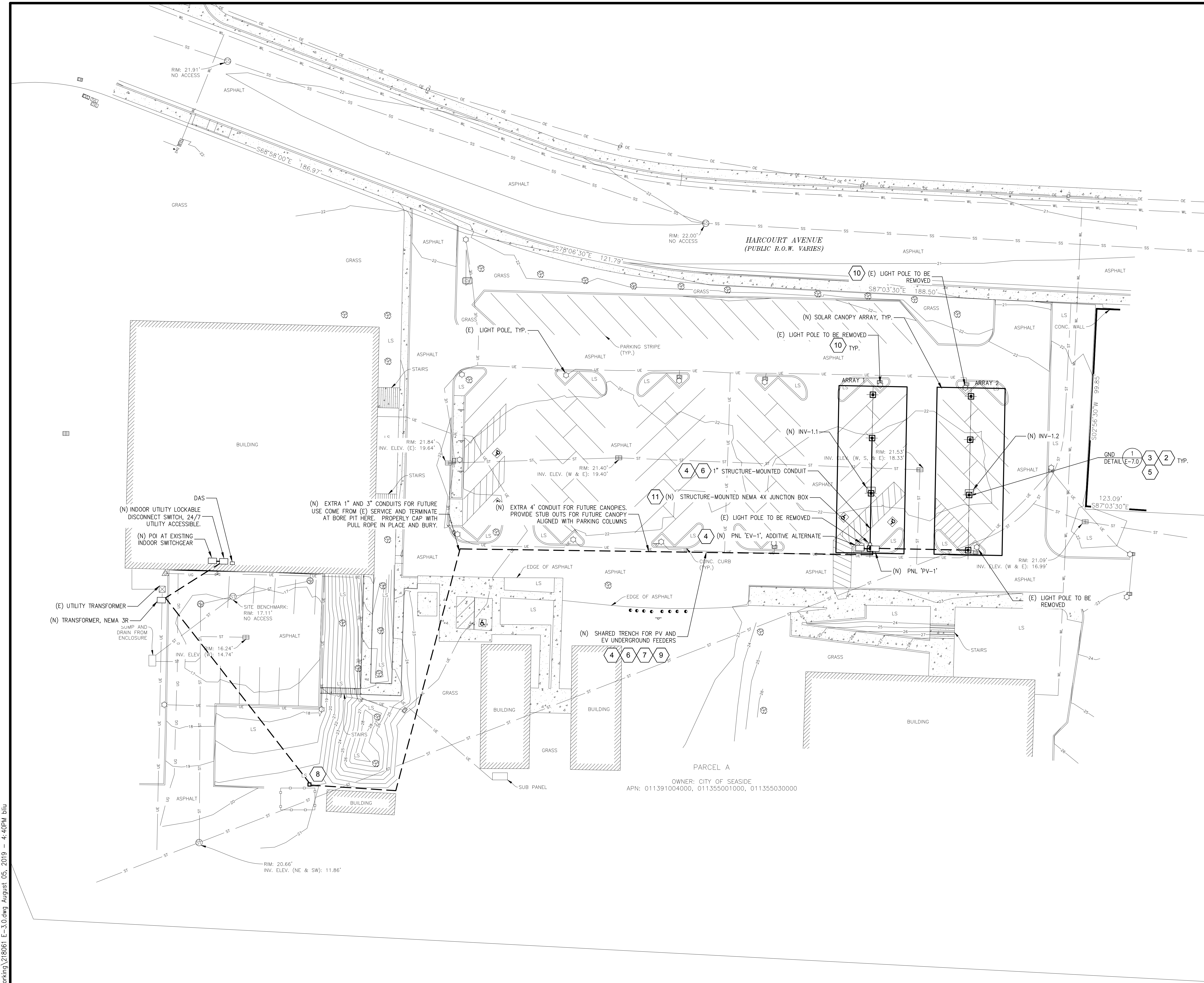
PROVIDE ARROW AND NUMBER
OF FACES AS REQUIRED

L DENOTES LOW LEVEL

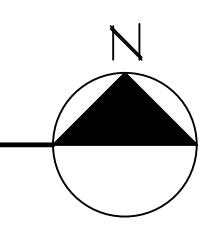
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1 PHOTOVOLTAIC ELECTRICAL SITE PLAN
E-3.0 SCALE: 1" = 20' - 0"



GENERAL NOTES

1. ALL EQUIPMENT SHALL BE UL LISTED.
2. PV MODULES ARE NOT SHOWN FOR CLARITY. REFER TO ELECTRICAL ARRANGEMENT DRAWING FOR WIRING DETAILS.
3. CONDUIT ROUTING AND EQUIPMENT LOCATIONS ARE DIAGRAMMATIC ONLY, AND SHALL BE COORDINATED TO AVOID INTERFERENCES WITH OTHER UTILITIES/UNDERGROUND INSTALLATIONS. CONTRACTOR IS RESPONSIBLE FOR FIELD CHECKING AND MAKING ALL NECESSARY OFFSETS AS REQUIRED.
4. NO PART OF THIS DRAWING OR SPECIFICATIONS IS INTENDED TO ALLOW A VIOLATION OF PHYSICAL WORKING SPACE REQUIREMENTS AROUND ELECTRICAL EQUIPMENT AS REQUIRED PER NEC 110.26.
5. INSTALL PULL ROPES IN EMPTY CONDUITS. USE MONOFILAMENT PLASTIC LINE WITH NOT LESS THAN 200LB TENSILE STRENGTH. LEAVE AT LEAST 12" OF SLACK AT EACH END OF THE PULL WIRE. SEAL ALL SPARE/EMPTY CONDUITS WITH WATER-TIGHT PVC OR RIGID CAPS.
6. ALL PULL BOXES LOCATED IN PARKING OR DRIVE ISLES SHALL BE H20 RATED FOR VEHICLE TRAFFIC.
7. REFER TO SHEET E-5.0 FOR LIGHTING PLAN
8. WIRING SHALL BE INSTALLED IN APPROVED RACEWAYS FOR ITS INTENDED USE. ADEQUATELY STRAP AND SUPPORT ALL RACEWAYS. IN GENERAL, SUPPORT ALL EMT, RGS CONDUIT WITHIN THREE (3) FEET OF OUTLET BOX, PANEL OR ENCLOSURE AND MAXIMUM TEN (10) FEET ON CENTER THEREAFTER; LFMC AND MC-PVC JACKETED CABLE WITHIN (1) FEET AND (4.5) FEET ADEQUATELY. RACEWAYS TO BE LISTED FOR WET LOCATION.
9. REFER TO E-2.X SERIES FOR SINGLE LINE DRAWING
10. REFER TO E-4.X SERIES FOR WIRE AND PANEL SCHEDULES
11. REFER TO E-7.X SERIES FOR GROUNDING AND INSTALLATION DETAILS
12. REFER TO E-9.X SERIES FOR EQUIPMENT LABELING
13. INSTALLATION SHALL BE IN ACCORDANCE WITH LATEST ELECTRICAL AND BUILDING CODES. AHA HAS FINAL JURISDICTIONAL AUTHORITY ON CODE APPLICATION AND COMPLIANCE.
14. ALL INVERTER WIRING AND GROUNDING METHODS SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDED PRACTICES. REFER TO PLANNING & INSTALLATION MANUAL FOR THIS GUIDANCE.
15. EXPOSED NON-CURRENT CARRYING METAL PARTS OF MODULE FRAMES, EQUIPMENT AND ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH NEC 250.134 AND 250.136(A). PHOTOVOLTAIC MODULES TO BE GROUNDED USING FACTORY GROUND POINT ONLY, OR OTHER APPROVED UL LISTED MEANS/METHODS.
16. EQUIPMENT SHALL BE LOCKABLE OR GUARDED AGAINST ACCESS BY UNQUALIFIED PERSONS.
17. LANDSCAPE SALVAGE SHALL BE DETERMINED IN FIELD BY CONTRACTOR, AS APPLICABLE PER LOCATION.

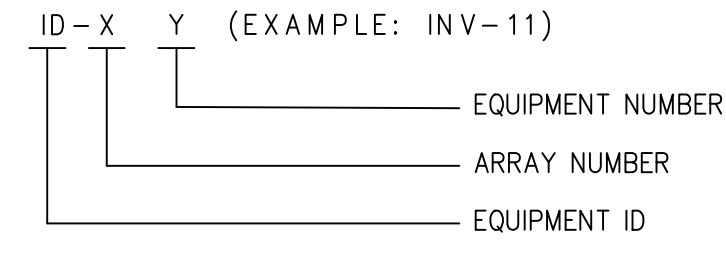
KEYED NOTES

- 1 TYPICAL INVERTER BLOCK INCLUDING PV INVERTER AND DC/AC DISCONNECTS.
- 2 CANOPY INVERTERS TO BE INSTALLED ON THE COLUMN ON CANOPY STRUCTURE AT THE MAX HEIGHT, TO LIMIT ACCESS TO UNAUTHORIZED PERSONNEL. MIN 8'-0" MOUNTING HEIGHT IS REQUIRED, OTHERWISE PROTECTING GUARD SHALL BE INSTALLED OVER INVERTER DISCONNECTING MEANS. SEE SHEET 1/E-7.2 AND INSTALLATION MANUAL FOR EXACT DIMENSIONS OF ACCESS, AND MOUNTING DETAILS.
- 3 INSTALL CONCRETE-ENCASED ELECTRODE IN ACCORDANCE WITH NEC 250.52(3) CONSISTING OF #2/OAWG BARE COPPER AT LEAST 20 FEET LONG; MIN ONE PER EACH SEPARATE CANOPY STRUCTURE AT THE CENTER COLUMN. INSTALL #2/OAWG BARE COPPER (BC) PTIALS FROM ELECTRODE TO THE COLUMN OF SUPPORTING STRUCTURE, AND BOND WITH INVERTER GND TERMINAL USING #4AWG BC. ALL GND CONNECTIONS SHALL BE MADE USING UL LISTED IRREVERSIBLE COMPRESSION CONNECTOR OR EXOTHERMIC WELD PROCESS AS APPLICABLE. MECHANICAL GND CONNECTORS CAN BE APPROVED FOR ABOVEGROUND CONNECTIONS.
- 4 EV CHARGER RELATED CONDUIT TO BE INCLUDED IN BASE BID, BUT EV CHARGER RELATED WIRE, PANELBOARD, CIRCUIT BREAKERS, AND NEW CHARGERS SHOWN ARE ADDITIVE ALTERNATE. BASE BID EV CONDUITS SHALL BE STUBBED UP AND CAPPED.
- 5 ALL ROOF-MOUNTED SECTIONS OF THE PV ARRAYS SHALL BE BONDED TOGETHER AND CONNECTED DIRECTLY TO AUXILIARY GE; OR TO THE METAL FRAME OF A BUILDING OR STRUCTURE IF THE REQUIREMENTS OF 250.52(A)(2) ARE MET.
- 6 INSTALL (1) 1" COMMUNICATION CONDUIT BETWEEN CANOPIES UP TO THE "DAS ENCLOSURE".
- 7 TRENCH ROUTE TO BE DETERMINED. CONTRACTOR IS RESPONSIBLE FOR IDENTIFICATION OF ALL UNDERGROUND CONSTRAINTS BY USE OF GROUND PENETRATING RADAR AND POT HOLING.
- 8 PROVIDE PULL BOXES AS NEEDED ALONG TRENCH ROUTE.
- 9 CONTRACTOR IS RESPONSIBLE FOR UIC CONSTRAINTS. ALL TRENCHING TO BE LINED WITH TRACEABLE METALLIC WARNING TAPE .
- 10 EXISTING POLE MOUNTED LIGHTING IN AREAS OF NEW CARPORT CANOPIES SHALL BE REMOVED. MODIFY OTHER EXISTING LIGHTING TO COORDINATE WITH THE NEW WORK AND DESIGN, INCLUDING RECONNECTION OF ANY EXISTING DOWNSTREAM CIRCUITING AND CONTROLS TO REMAIN. FOUNDATIONS OF EXISTING POLE MOUNT LIGHTING ARE TO BE COMPLETELY REMOVED A MINIMUM OF 6-INCHES BELOW GRADE, WITH GRADE RESTORED TO SURROUNDING CONDITION AND DEMO'D MATERIAL REMOVED AND DISPOSED OF BY CONTRACTOR.
- 11 PROVIDE STRUCTURE-MOUNTED NEMA 4X JUNCTION BOX FOR EV CHARGER BRANCH CIRCUITS. PROVIDE 2" CONDUIT BETWEEN PANEL EV-1 AND JUNCTION BOX, AND 1" CONDUIT BETWEEN JUNCTION BOX AND EV CHARGER. EV CHARGER BRANCH CIRCUIT CONDUIT SHALL BE STRUCTURE-MOUNTED ABOVE GROUND.

LEGEND

- UNDER GROUND FEEDER (TO BE INSTALLED USING DIRECTIONAL BORING)
- ABOVE GROUND FEEDER
- ARRAY STRUCTURE OUTLINE

EQUIPMENT NAMING CONVENTION



FOR BID

CONSULTANT

1101 MARINA VILLAGE PARKWAY # 100
ALAMEDA, CA 94501 510.521.3773

STAMP/SEAL

REV #	DESCRIPTION	DATE
0	ISSUED FOR BIDDING	07/18/2019

PROJECT TITLE:

**CITY OF SEASIDE CITY HALL
PHOTOVOLTAIC ARRAYS
440 HARCOURT AVE.
SEASIDE, CA**

SHEET TITLE:

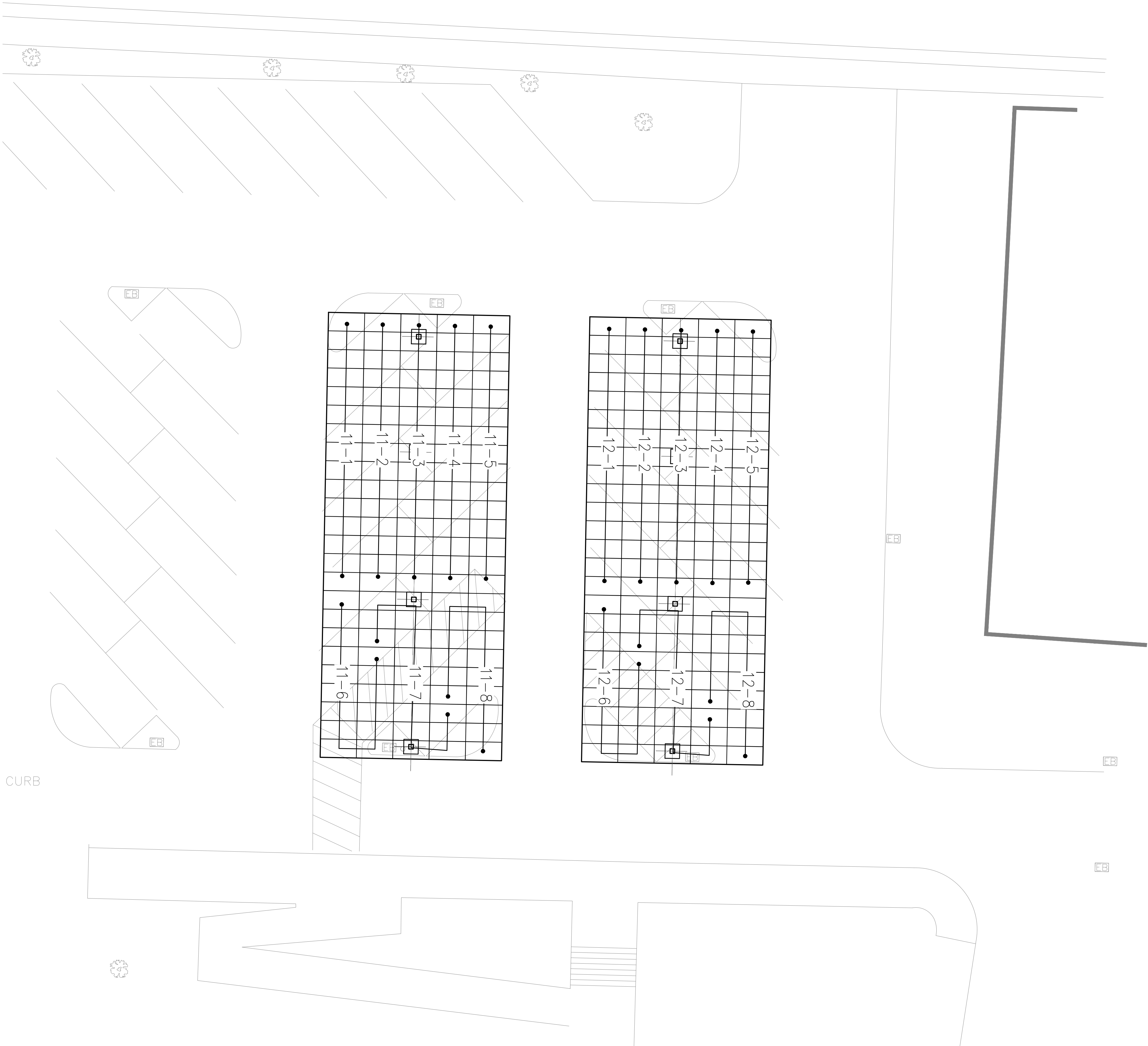
**PHOTOVOLTAIC ARRAY
ELECTRICAL SITE PLAN**

JOB NO.: 218061	PROJECT MGR: SG
DRAWN: CVV	SCALE: 1" = 20' - 0"
SHEET NUMBER	

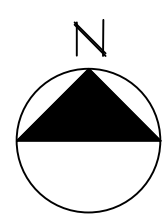
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(PUBLIC R.O.W. VARIES)



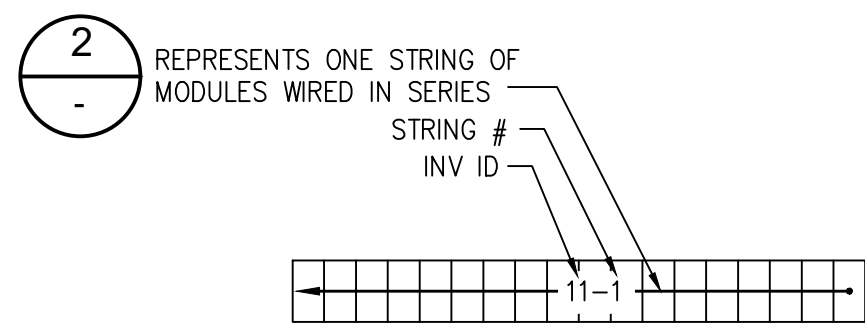
1 PHOTOVOLTAIC ARRAY ELECTRICAL ARRANGEMENT
SCALE: 1" = 10'-0"



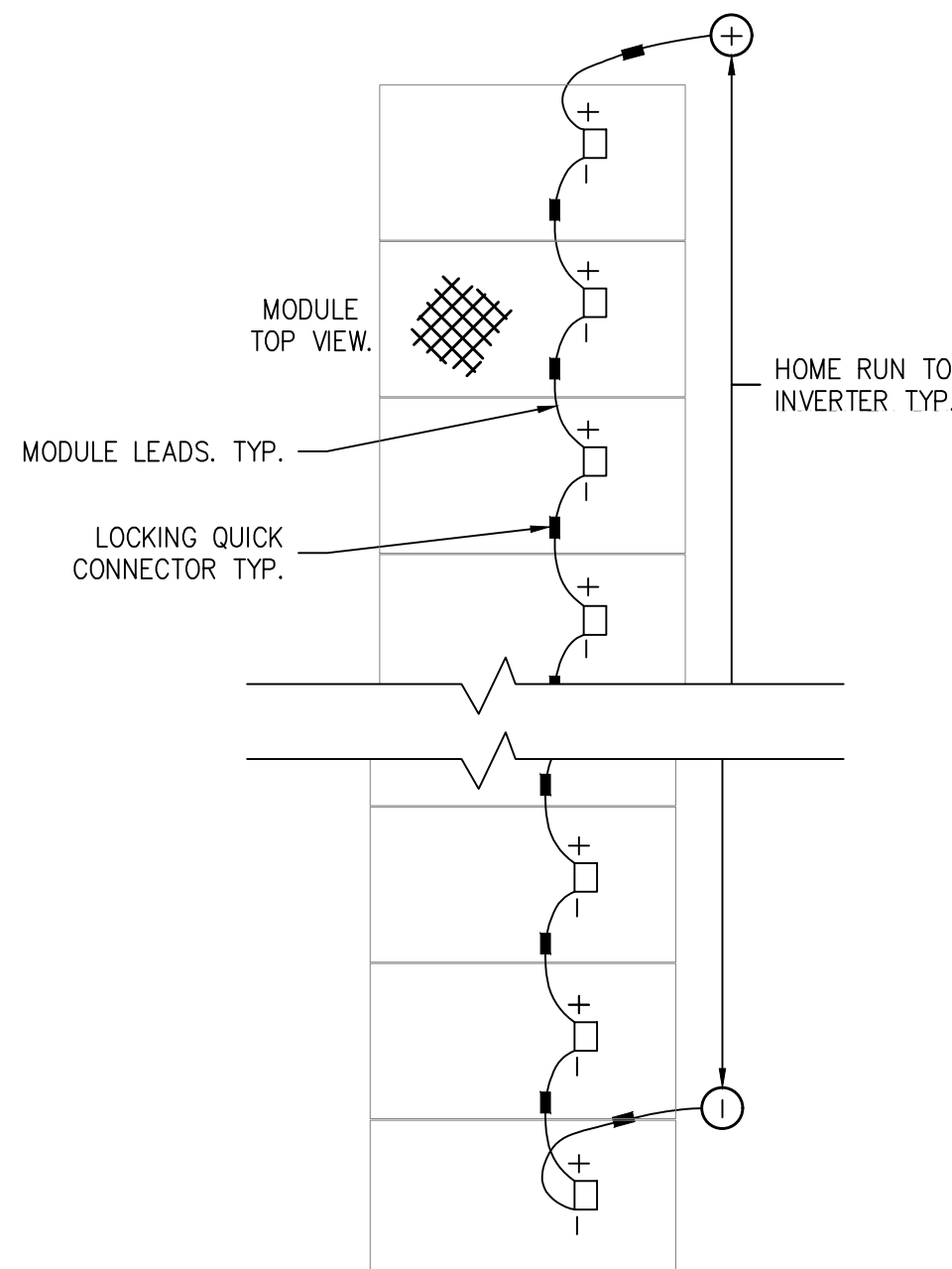
GENERAL NOTES

1. ALL EQUIPMENT SHALL BE UL LISTED.
2. STRINGS HOMERUNS SHALL USE UL LISTED WEATHERPROOF, UV SUNLIGHT RESISTANT, FINGERSAFE, PLUG-AND RECEPTACLE CONNECTORS, MULTICONCONTACT TYPE OR EQUIVALENT. EXISTING PV MODULE CONNECTORS SHALL BE UTILIZED, HOMERUNS TO MATCH.
3. WIRING SHALL BE INSTALLED IN APPROVED RACEWAYS FOR ITS INTENDED USE. ADEQUATELY STRAP AND SUPPORT ALL RACEWAYS. IN GENERAL, SUPPORT ALL EMT, RGS CONDUIT WITHIN THREE (3) FEET OF OUTLET BOX, PANEL OR ENCLOSURE AND MAXIMUM TEN (10) FEET ON CENTER THEREAFTER. LPMC AND MC-PVC JACKETED CABLE WITHIN (1) FEET AND (4.5) FEET ADEQUATELY. RACEWAYS TO BE LISTED FOR WET LOCATION.
4. STRING CIRCUIT NUMBERING IS DIAGRAMMATIC IN NATURE. USE SKIP STRING METHOD IF APPLICABLE.

LEGEND

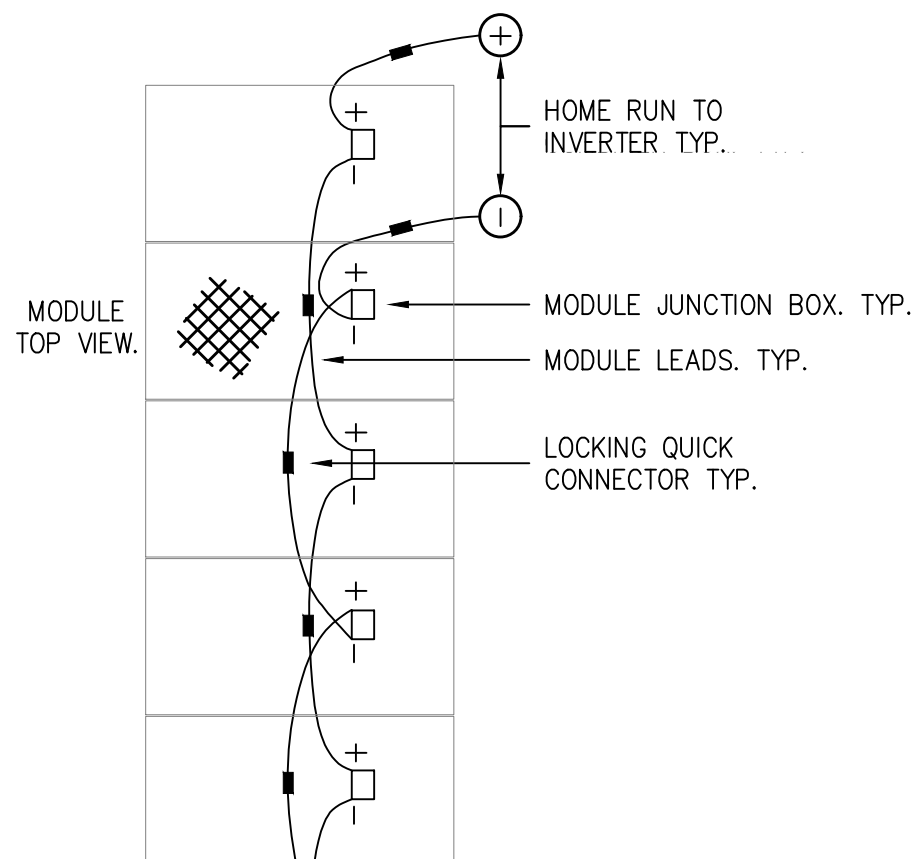


"ONE-BY-ONE STRINGING" WIRING METHOD SHOWN.
CONTRACTOR SHALL VERIFY MODULE LEADS ARE
LONG ENOUGH TO PERMIT THIS WIRING METHOD.



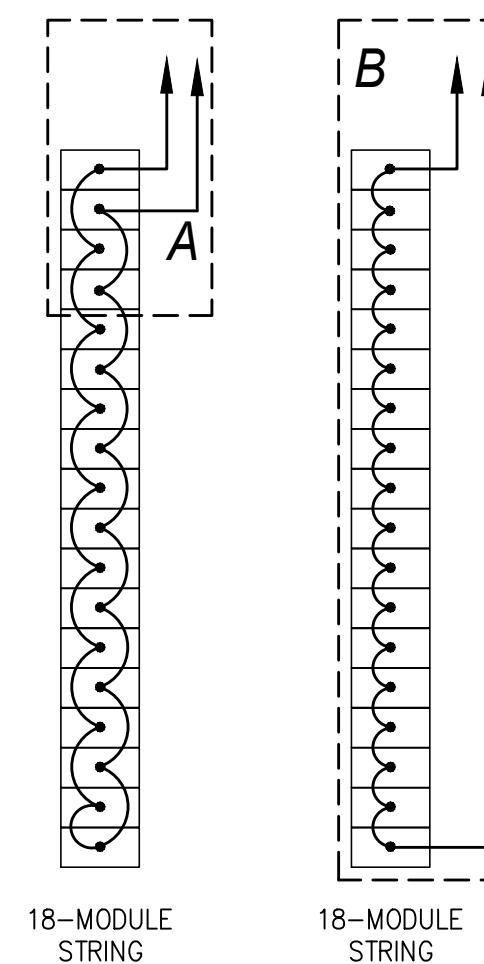
DETAIL B

"SKIP STRINGING" WIRING METHOD SHOWN.
CONTRACTOR SHALL VERIFY MODULE LEADS ARE
LONG ENOUGH TO PERMIT THIS WIRING METHOD.



DETAIL A

STRING HOME RUN
TO INVERTER, TYP.



2 TYPICAL STRING WIRING DETAILS
SCALE: NTS



CONSULTANT



STAMP/SEAL



REV #	DESCRIPTION	DATE
0	ISSUED FOR BIDDING	07/18/2019

PROJECT TITLE:
CITY OF SEASIDE CITY HALL
PHOTOVOLTAIC ARRAYS
440 HARCOURT AVE.
SEASIDE, CA

SHEET TITLE:

PHOTOVOLTAIC ARRAY
ELECTRICAL ARRANGEMENT

JOB NO.: 218061	PROJECT MGR: SG
DRAWN: CVV	SCALE: 1"= 10'
SHEET NUMBER	

E-3.1

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DC WIRE AND CONDUIT SCHEDULE																REMARKS
DEVICE	SOURCE CIRCUITS (STRINGS) CONNECTED	DESCRIPTION (STRINGS) CONNECTED	IDENTIFIER	OPEN CIRCUIT VOLTAGE (Voc @ STC)	MAXIMUM POWER VOLTAGE (Vmp)	SHORT CIRCUIT AMPS (Isc)	MAXIMUM POWER AMPS (Imp)	NOMINAL POWER RATING (KW)	MINIMUM FUSE SIZE (A)	FUSE SIZE SELECTED (A)	MINIMUM CONDUIT SIZE	MINIMUM WIRE SIZE & QTY CU. WITH PV WIRE INSULATION	MAXIMUM ONE-WAY DISTANCE (FT)	VOLTAGE DROP AT MAX. DISTANCE (%)	TEMPERATURE DERATE	
PVMODULE	LG LG400N2W-A5 (OR APPROVED EQUAL)	MODULE TO MODULE	A	49.30	40.60	10.47	9.86	0.4	N/A	N/A	N/A	BY VENDOR PV WIRE	N/A	N/A	1.00	WIRE TEMP. DERATED AT 22deg C
STRING CIRCUIT	15 MODULE STRING	TO INVERTER	B	739.50	609.00	10.47	9.86	6.00	16	20	N/A	2#10+1#10GND	100 AVERAGE	0.418	1.00	WIRE TEMP. DERATED AT 22deg C

PV module LG LG400N2W-A5 (OR APPROVED EQUAL) String or panel (collection of # modules)	Watts	Vmp	Voc	Imp	Isc	Coef. Voc.
	400	40.6	49.3	9.86	10.47	-0.26 % / °C
	Maximum fuse =				20	
	PV modules	String Vmp	String Voc	Lowest Temp.	Ambient Corr.	String Vocc
	15	609	739.5	-1.0 °C	1.07	789.49

AC WIRE AND CONDUIT SCHEDULE												
DESCRIPTION	FROM	TO	CIRCUIT LABEL	NOMINAL VOLTAGE (VOLTS)	OCPD SIZE (A)	QTY OF SETS	WIRE SIZE (AWG OR KCM)	WIRE METAL	WIRE INSULATION	MINIMUM CONDUIT SIZE (IN)	RACEWAY TYPE	MAXIMUM ONE WAY DISTANCE (FEET)
INVERTER OUTPUT	INV-1.1	PNL "PV-1"	G11	480	50	1	3#8+1#10N+1#10G	CU	THWN-2	3/4	EMT	40
INVERTER OUTPUT	INV-1.2	PNL "PV-1"	G12	480	50	1	3#8+1#10N+1#10G	CU	THWN-2	3/4	EMT	100
PV PNL OUTPUT	PNL "PV-1"	TRANSFORMER	I1	480	100	1	3#4/0+1#1N+1#1G	CU	THWN-2	2	PVC	440
PV PNL OUTPUT	TRANSFORMER	ACDS-1	T1	208	300	1	3#350+1#4G	CU	THWN-2	2 1/2	EMT	50
PV PNL OUTPUT	ACDS-1	SWBD-1	J1	208	300	1	3#350+1#4N+1#4G	CU	THWN-2	2 1/2	RMC	10
EV CHARGING STATION	EV CHARGER	PNL " EV-1"	EV1	208	(2)40	1	4#6+2#8G	CU	THWN-2	1	EMT	20
EV PANEL INPUT	PNL ' EV-1"	SWBD-1	K1	480	225	1	3#250+1#3N+1#3G	CU	THWN-2	3	PVC	150

GENERAL NOTES

- ALL EQUIPMENT SHALL BE UL LISTED.
- MULTIPLE CONDUCTORS SHALL BE PERMITTED FOR USE IN ANY OF THE WIRING METHOD. DERATING FACTORS SHALL APPLY TO MORE THAN THREE (3) CURRENT-CARRYING CONDUCTORS IN RACEWAY OR CABLE. THE ALLOWABLE AMPACITY OF EACH CONDUCTOR SHALL BE REDUCED AS SHOWN IN NEC TABLE 310.15(B)(2)(a). THE NUMBER OF CONDUCTORS SHALL NOT EXCEED THAT PERMITTED BY THE PERCENTAGE FILL SPECIFIED IN NEC TABLE 1, CHAPTER 9.
- TOTAL VOLTAGE DROP (WORST CASE) FOR DC CIRCUITS B SHALL NOT EXCEED 2%; OTHERWISE SIZE OF CONDUCTORS AND CONDUIT MAY HAVE TO BE INCREASED. CONTRACTOR SHALL NOTIFY ENGINEER IF ACTUAL ROUTING EXCEEDS THE DESIGNED MAXIMUM ONE-WAY DISTANCES SHOWN IN DC WIRE SCHEDULE.
- TOTAL VOLTAGE DROP (WORST CASE) FOR AC CIRCUITS G+I SHALL NOT EXCEED 3% (2.5% RECOMMENDED), AND FOR CIRCUIT J 2% OTHERWISE SIZE OF CONDUCTORS AND CONDUIT MAY HAVE TO BE INCREASED. CONTRACTOR SHALL NOTIFY ENGINEER IF ACTUAL ROUTING EXCEEDS THE DESIGNED MAXIMUM ONE-WAY DISTANCES SHOWN IN AC WIRE SCHEDULE.
- CONTRACTOR SHALL TORQUE ALL ELECTRICAL CONNECTIONS ACCORDING TO MANUFACTURER'S INSTALLATION INSTRUCTION. FOR DETAILED ELECTRICAL INFORMATION ON ELECTRICAL EQUIPMENT, SEE DATA SHEETS IN SPECIFICATIONS.
- WIRING SHALL BE INSTALLED IN CONDUIT TYPE AS APPLICABLE PER LOCATION. IN GENERAL ALL UNDERGROUND INSTALLATION SHALL USE PVC SCHEDULE 40. RGS SHALL BE USED FOR STUBS EMERGING FROM THE GROUND, AND IN CONCRETE ENCASEMENT. EMT AND LFMC SHALL BE ALLOWED FOR ABOVE GROUND INSTALLATION. EMT MAY NOT BE INSTALLED IN AREAS SUBJECT TO SEVERE PHYSICAL DAMAGE, INCLUDING IN ANY CARPORT LOCATION WITH POTENTIAL FOR VEHICLE STRIKE OR WITHIN 8' OF GRADE. RGS ENCASED IN CONCRETE AND EMERGING FROM THE GROUND SHOULD BE WRAPPED WITH CORROSION PROTECTIVE 10 MILL TAPE, UP TO 1" MIN. ABOVE THE SURFACE.
- ALL FEEDERS ARE COPPER UNLESS OTHERWISE NOTED.
- ALL LOW VOLTAGE AC CONDUCTORS SHALL HAVE THWN-2 OR XHHW-2 INSULATION, AND ALL PV DC CABLES SHALL HAVE 1000V PV WIRE INSULATION UNLESS OTHERWISE NOTED



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STAMP/SEAL



REV #	DESCRIPTION	DATE
0	ISSUED FOR BIDDING	07/18/2019

PROJECT TITLE:

CITY OF SEASIDE CITY HALL
PHOTOVOLTAIC ARRAYS
440 HARCOURT AVE.
SEASIDE, CA

SHEET TITLE:

WIRING & PANEL SCHEDULE

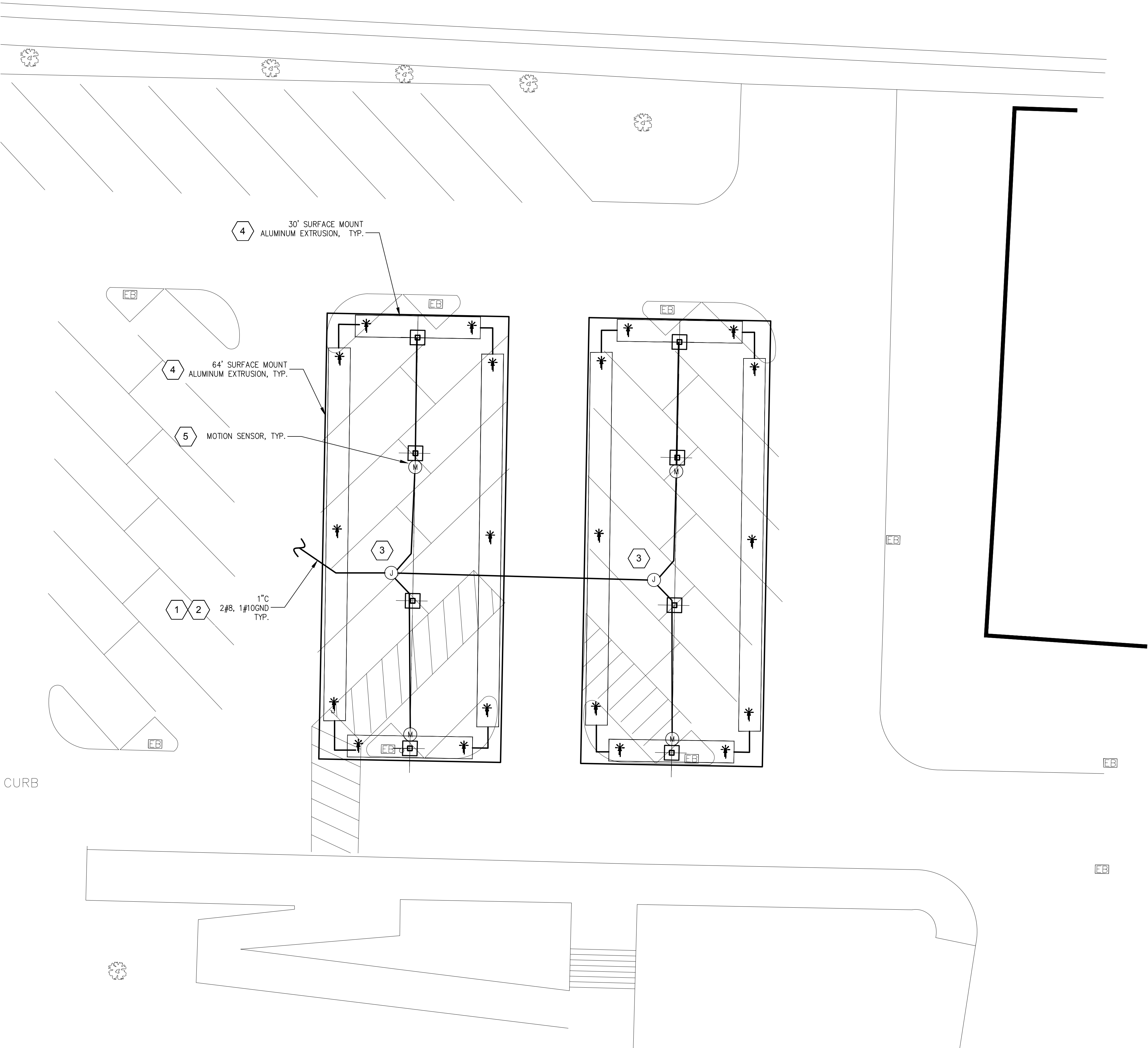
JOB NO.: 218061	PROJECT MGR: SG
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E-4.1

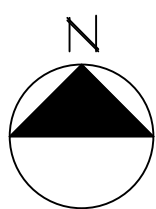
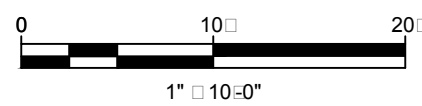
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(PUBLIC R.O.W. VARIES)



1 PHOTOVOLTAIC ARRAY LIGHTING PLAN
E-5.0 SCALE: 1" = 10'-0"



GENERAL NOTES

1. ALL EQUIPMENT SHALL BE UL LISTED.
2. DESIGN CRITERIA FOR ILLUMINATION LEVELS ARE: 1FC MINIMUM FOR GENERAL PARKING AREA UNDER CANOPY.
3. COLOR TEMPERATURE OF THE UNDER-CANOPY LIGHTING SHALL NOT BE GREATER THAN 4100K.
4. LIGHTING FIXTURES TO BE MOUNTED LESS THAN 24FT ABOVE THE GROUND AND TO BE CONTROLLED BY "PARTIAL-OFF" MOTION SENSORS. THIS SENSOR SHALL BE CAPABLE OF REDUCING LIGHTING POWER BY 40~80% IF AREA WILL BE VACATED OF OCCUPANTS.
5. NOMINAL SELECTION OF LIGHTING FIXTURE AS INDICATED. CONSULT WITH OWNER FOR VERIFICATION OR FINAL SELECTION OF LIGHTING FIXTURE. COORDINATE IN ADVANCE WITH CITY ARCHITECT TO ARRANGE FOR CONNECTION POINTS AT PURLINS (DRILLED HOLES) AND TO ARRANGE FOR LIGHTING INSTALLATION. PATRICK LONDON, CAL LIGHTING 925.575.4233 MOBILE, 855.9CALLTG OFFICE.

KEYED NOTES

1. CONNECT CANOPY LIGHTING CIRCUITS TO (E) PARKING LOT LIGHTING BRANCH CIRCUIT, OR PROVIDE NEW 20A LIGHTING CIRCUITS. TYPICAL LIGHTING SYSTEM SHALL CONTAIN PROGRAMMABLE ASTRONOMICAL TIME CLOCK OR PHOTOCELL AND "PARTIAL-OFF" OCCUPANT SENSOR. MAXIMUM LIGHTING LOAD ON ONE (1) CIRCUIT SHALL NOT EXCEED 80%.
2. VERIFY EXISTING CONDITIONS, CONNECTION POINTS, AND EXISTING SYSTEM OPERATING VOLTAGE FOR LIGHTING FIXTURE AND CLOCK SELECTION. ENGINEER SHALL BE NOTIFIED.
3. PROVIDE J-BOX IN VARIOUS LOCATIONS AS REQUIRED TO DISTRIBUTE POWER TO LIGHTING FIXTURES. ANY LIGHTING BRANCH CIRCUIT SHALL BE MINIMUM 2#10AWG AND 1#10GND OR ANOTHER WIRE SIZE INSIDE A 3/4" CONDUIT TO MAINTAIN A 3% MAXIMUM VOLTAGE DROP AT THE FARTHEST LIGHTING FIXTURE. WIRING SHALL BE INSTALLED IN METAL RACEWAYS LISTED FOR WET LOCATION. TYPE MC OR MI CABLE LISTED FOR WET LOCATION IS PERMITTED AND SHALL BE INSTALLED IN COMPLIANCE WITH NEC 330, 332 AND PROTECTED AGAINST PHYSICAL DAMAGE. BENDS IN TYPE MC OR MI CABLE SHALL BE MADE SO THAT THE CABLE WILL NOT BE DAMAGED.
4. SURFACE MOUNT ALUMINUM EXTRUSION, BELUX LIGHTING: AN02-SL-L610-IP66-40-EC-WL PLUG-DTR-MOD5531 (ORANGE FIXTURE)
5. CONTRACTOR SHALL SUBMIT MOTION SENSOR SUBMITTAL TO ENGINEER FOR APPROVAL.

LEGEND

- AC FEEDER, UNDER GROUND.
- AC FEEDER, ABOVE GROUND
- ARRAY STRUCTURE OUTLINE
- ☼ LIGHT FIXTURE
- ☼ LIGHT FIXTURE TYPE
- ☼ QUANTITY
- EB EXISTING UTILITY ELECTRICAL BOX



CONSULTANT



STAMP/SEAL



REV #	DESCRIPTION	DATE
0	ISSUED FOR BIDDING	07/18/2019

PROJECT TITLE:

CITY OF SEASIDE CITY HALL
PHOTOVOLTAIC ARRAYS
440 HARCOURT AVE.
SEASIDE, CA

SHEET TITLE:

PHOTOVOLTAIC ARRAY
LIGHTING PLAN

JOB NO.: 218061	PROJECT MGR: SG
DRAWN: SGG	SCALE: 1" = 20'-0"
SHEET NUMBER	

E-5.0

FOR BID

STATE OF CALIFORNIA OUTDOOR LIGHTING (ICC-NRCC-LTO-01-E, Revised 08/15)		CALIFORNIA ENERGY COMMISSION NRCC-LTO-01-E	
CERTIFICATE OF COMPLIANCE NRCC-LTO-01-E (Page 1 of 4)			
Outdoor Lighting		Date Prepared: 01-14-2019	
Project Name: CITY OF SEASIDE CITY HALL			

A. General Information	
Project Address: 440 Harcourt Ave, Seaside, CA	Total Illuminated Hardscape Area
Phase of Construction: ☒ New Construction ☐ Addition ☐ Alteration	
Outdoor Lighting Zone (OLZ) ☐ OLZ-1 ☐ OLZ-2 ☒ OLZ-3 ☐ OLZ-4	
I have confirmed with the AHJ which OLZ applies to this site. For default lighting zone designations, see Title 24 Part 6, §10-114	

B. LIGHTING COMPLIANCE DOCUMENTS	
(check box for each document included)	
For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.	
☒ NRCC-LTO-01-E	Certificate of Compliance
☒ NRCC-LTO-02-E	Outdoor Lighting Controls Certificate of Compliance
☒ NRCC-LTO-03-E	Outdoor Lighting Power Allowance Certificate of Compliance

C. Summary of Allowed Outdoor Lighting Power		Watts
1. Sum Total ALLOWED Outdoor Lighting Wattle from NRCC-LTO-03-E, page 1	=	2152.8
Complies Only if Installed ≤ Allowed		
2. Sum Total INSTALLED Outdoor lighting Wattle from NRCC-LTO-01-E, page 3		2152.8

D. Declaration of Required Installation Certificates	
Declare by checking all Installation Certificates that will be submitted. (Retain copies and verify forms are completed and signed.)	
☒ NRCC-LTO-01-E - Must be submitted for all buildings	☐ Field Inspector
☒ NRCC-LTO-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐ Field Inspector

E. Declaration of Required Certificates of Acceptance	
Declare by checking all of the Certificates of Acceptance that will be submitted. (Retain copies and verify forms are completed and signed.)	
☒ NRCA-LTO-02-A - Must be submitted for outdoor lighting controls.	☐ Field Inspector

STATE OF CALIFORNIA OUTDOOR LIGHTING CEC-MRCC-LTO-01-E (Revised 08/15) CERTIFICATE OF COMPLIANCE		 CALIFORNIA ENERGY COMMISSION NRCC-LTO-01-E	
Outdoor Lighting		(Page 2 of 4)	
Project Name: CITY OF SEASIDE CITY HALL		Date Prepared: 01-14-2019	

F. Schedule of luminaires exempt from the outdoor lighting power requirements in §140.7	
Name or Symbol	Description of exempt luminaire in accordance with the exemptions

G. Schedule of luminaires exempt from the cutoff requirements in §130.2(b)	
Name or Symbol	Description of exempt luminaire in accordance with the exemptions

H. Schedule of luminaires exempt from the outdoor lighting control requirements in §130.2(c)	
Name or Symbol	Description of exempt luminaire in accordance with the exemptions

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-MERCA-TITLE (Revised 08-09)

CERTIFICATE OF COMPLIANCE

Outdoor Lighting

Project Name: CITY OF SEASIDE CITY HALL

CALIFORNIA ENERGY COMMISSION

NRCC-LTO-01-E

(Page 3 of 4)

Project Name: CITY OF SEASIDE CITY HALL

Date Prepared: 01-14-2019

I. Outdoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts				Location	Cutoff	Field Inspector		
A	B	C	D	E	F	G	H	I	J	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined		Total Installed Watts in this area (C x E)	Primary Function area in which these luminaires are installed	BUG Rating	Pass	Fail	
			CCC default: Permitted According to B.9.0(d)	According to B.9.0(d)						
V	SURFACE MOUNT ALUMINUM EXTRUSION	5.85		☒	368	2152.8	NON-SALES CANOPY	N/A	☐	☐
			☐	☐		0			☐	☐
			☐	☐		0			☐	☐
			☐	☐		0			☐	☐
			☐	☐		0			☐	☐
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			☐	☐		0			☐	☐
			☐	☐		0			☐	☐
INSTALLED WATTS PAGE TOTAL:					2152.8	Enter sum total of all pages or if only one page is used, enter PAGE total here (Sum Total INSTALLED Outdoor lighting wattage)			2152.8	

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance

August 2015

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-MERCA-TITLE (Revised 08-09)

CERTIFICATE OF COMPLIANCE

Outdoor Lighting

Project Name: CITY OF SEASIDE CITY HALL

Project Name: CITY OF SEASIDE CITY HALL

Date Prepared: 01-14-2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I, certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Benjamin Iliu	Documentation Author Signature:
Company: BLYMYER ENGINEERS	Signature Date: 01-14-2019
Address: 1101 MARINA VILLAGE PARKWAY SUITE 100	CEA Certification Identification (if applicable):
City/State/Zip: ALAMEDA, CA 94501	Phone: 510-521-3773

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

- The information provided on this Certificate of Compliance is true and correct.
- I am eligible under Division 3 of the Business and Professions code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible design).
- The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
- The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
- I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Benjamin Iliu	Responsible Designer Signature:
Company: BLYMYER ENGINEERS	Date Signed: 01-14-2019
Address: 1101 MARINA VILLAGE PARKWAY SUITE 100	License: #21280
City/State/Zip: ALAMEDA, CA 94501	Phone: 510-521-3773

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance

August 2015

STATE OF CALIFORNIA OUTDOOR LIGHTING CONTROLS CEC-NRCC-LTO-02-E (Revised 08/10) CERTIFICATE OF COMPLIANCE Outdoor Lighting Controls Project Name: <u>CITY OF SEASIDE CITY HALL</u>	CALIFORNIA ENERGY COMMISSION NRCC-LTO-02-E (Page 1 of 3) Date Prepared: <u>01-14-2019</u>

The NRCC-LTO-02-E shall be used to document all mandatory outdoor lighting controls that are applicable to the project.

A. Mandatory Outdoor Lighting Control Declaration Statements

Check all that apply:

- ☒ Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with §110.9(a).
- ☒ Lighting shall be controlled by a lighting control system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with §130.4(b).
- ☒ All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with §130.1
 - ☐ Part-Night Outdoor Lighting Controls, as defined in Section 100.1(b), shall meet the requirements in Section 110.9(b)(5)
 - ☐ All outdoor incandescent luminaires rated over 100 watts, determined in accordance with Section 130.0(c), shall be controlled by a motion sensor.
 - ☐ All outdoor luminaires rated for use with lamps greater than 150 lamp watts, determined in accordance with Section 130.0(c), shall comply with Backlight, Uplight, and Glare (collectively referred to as "BUG") in accordance with Section 130.2(b)
- ☒ All installed outdoor lighting shall be controlled by a photocontrol or outdoor astronomical time-switch control in accordance with Section 130.2(c)(1)
- ☒ All installed outdoor lighting shall be circuited and independently controlled from other electrical loads by an automatic scheduling control in accordance with Section 130.2(c)(2)
- ☒ All installed outdoor lighting, where the bottom of the luminaire is mounted 24 feet or less above the ground, shall be controlled with automatic lighting controls in accordance with Section 130.2(c)(3)
 - ☐ For Outdoor Sales Frontage, Outdoor Sales Lots, and Outdoor Sales Canopies lighting, an automatic lighting control in accordance with Section 130.2(c)(4)
 - ☐ For Building Facade, Ornamental Hardcape and Outdoor Dining lighting, an automatic lighting control in accordance with Section 130.2(c)(5)
- ☒ Where an occupancy permit is granted for a newly constructed building or area, or a new lighting system serving a building, area, or site is operated for normal use, indoor lighting controls serving the building, area, or site shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with §130.4.(a). Outdoor lighting controls shall comply with the applicable requirements of Section 130.2(c) and Reference Nonresidential Appendix NA.7.8

[illegible]

OUTDOOR LIGHTING

OUTDOOR LIGHTING CERTIFICATE

OSC-MECCA-T10-02-E (Revised 09/15)

CALIFORNIA ENERGY EFFICIENCY COMMISSION

NRCC-LTO-02-E

(Page 3 of 3)

CERTIFICATE OF COMPLIANCE

Outdoor Lighting Controls

Project Name: CITY OF SEASIDE CITY HALL

Date Prepped: 01-14-2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Benjamin Ilu

Documentation Author Signature: _____

Company: BLYMYER ENGINEERS

Signature Date: 01-14-2019

Address: 1101 MARINA VILLAGE PARKWAY SUITE 100

CEA Certification Identification (if applicable):

City/State/Zip: ALAMEDA, CA 94501

Phone: 415-521-3773

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.

2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).

3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.

4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Benjamin Ilu

Responsible Designer Signature: _____

Company: BLYMYER ENGINEERS

Date Signed: 01-14-2019

Address: 1101 MARINA VILLAGE PARKWAY SUITE 100

License: E21280

City/State/Zip: ALAMEDA, CA 94501

Phone: 415-521-3773

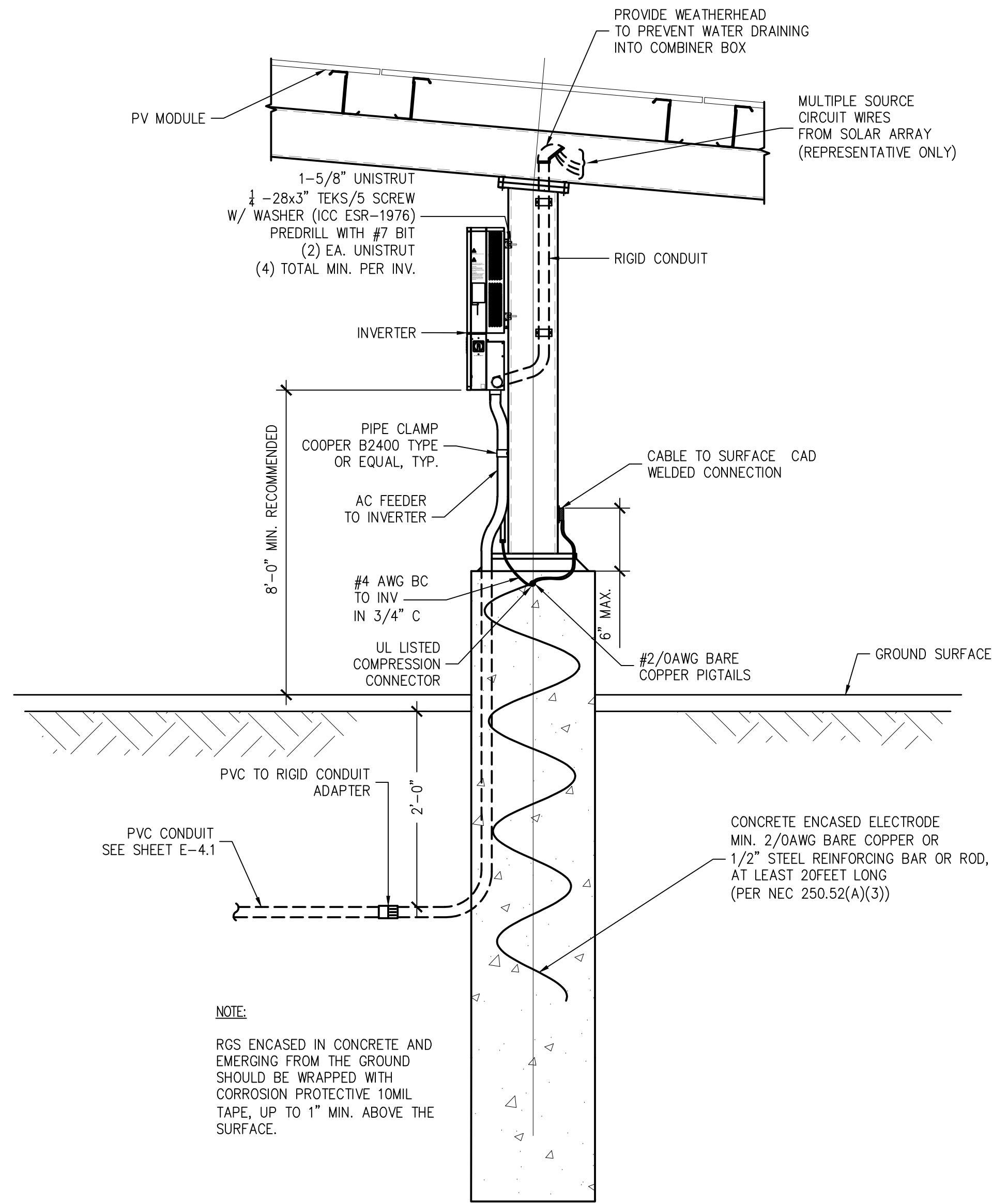
CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance

August 2015

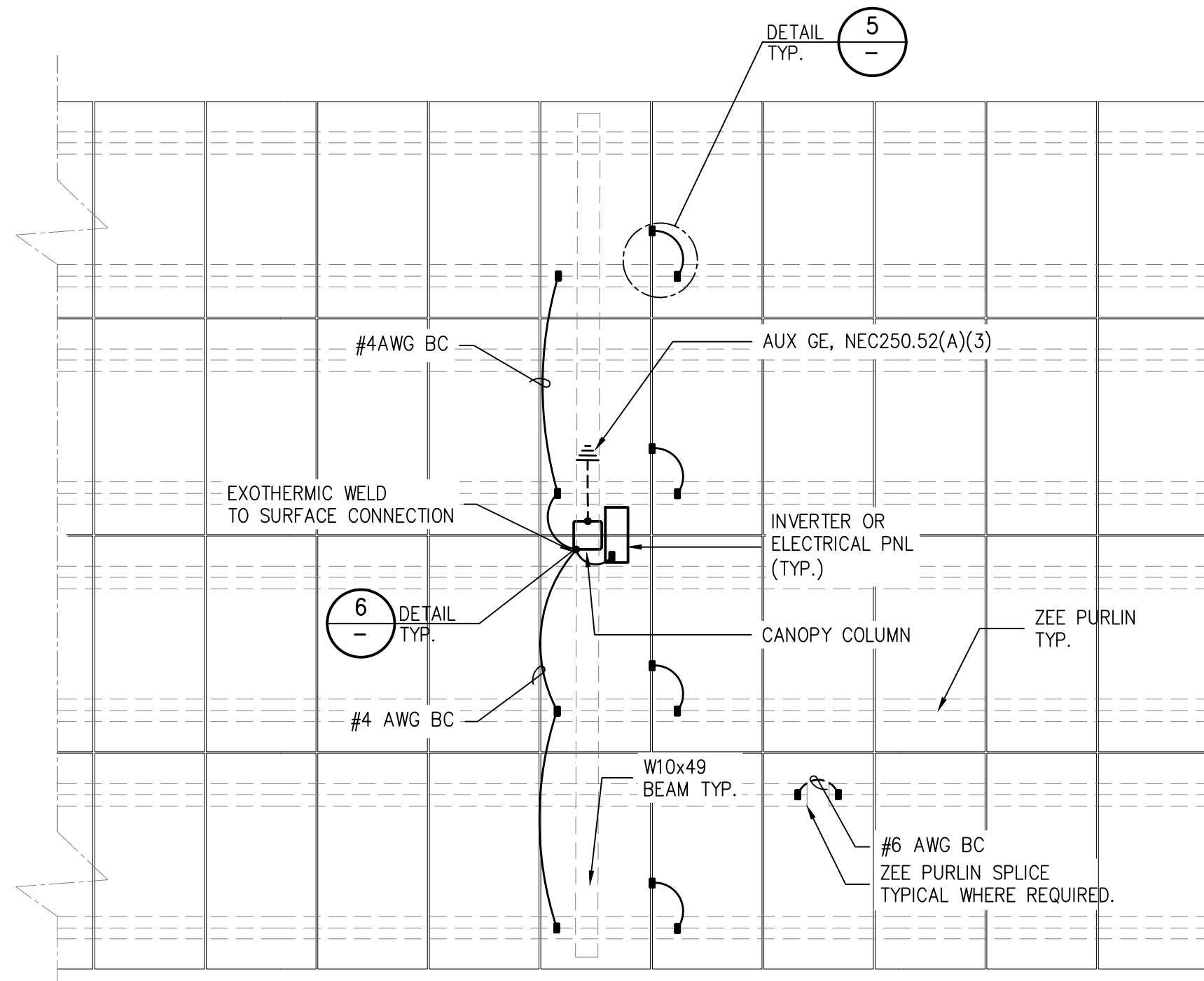
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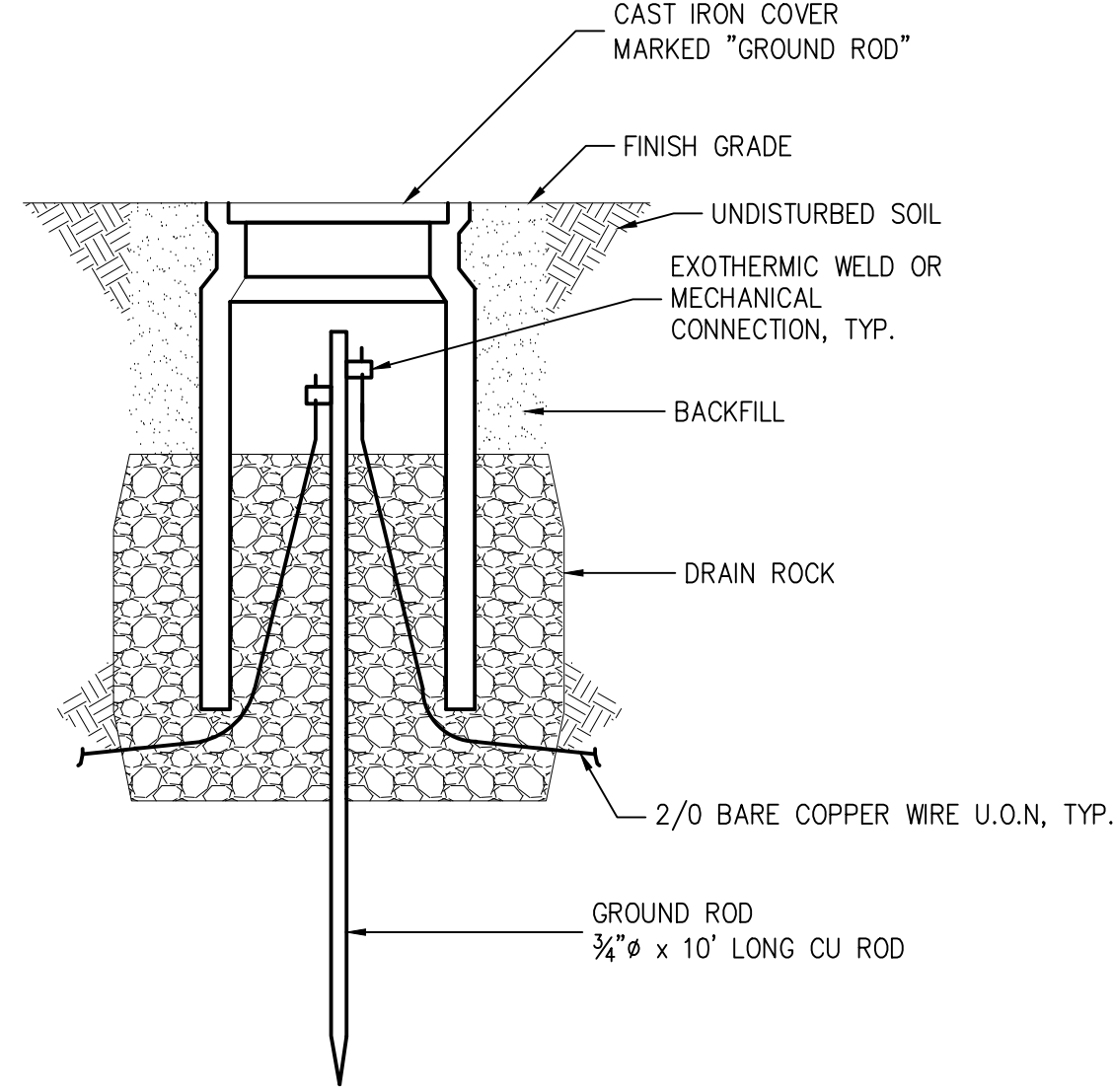
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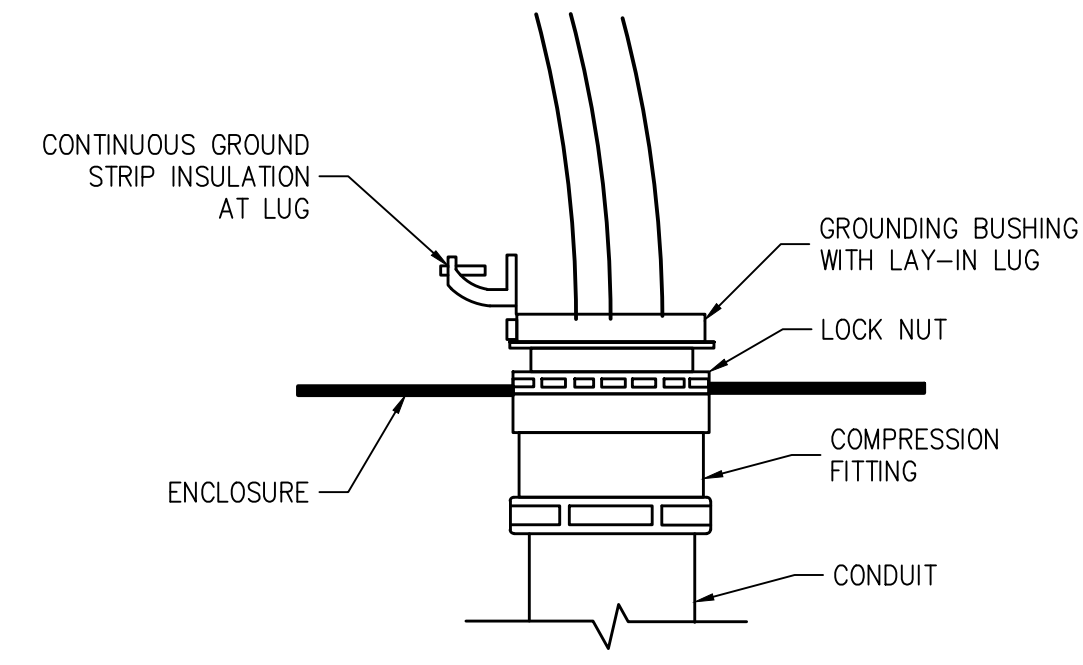
1 INVERTER MOUNTING DETAIL
E-7.0 SCALE: NTS



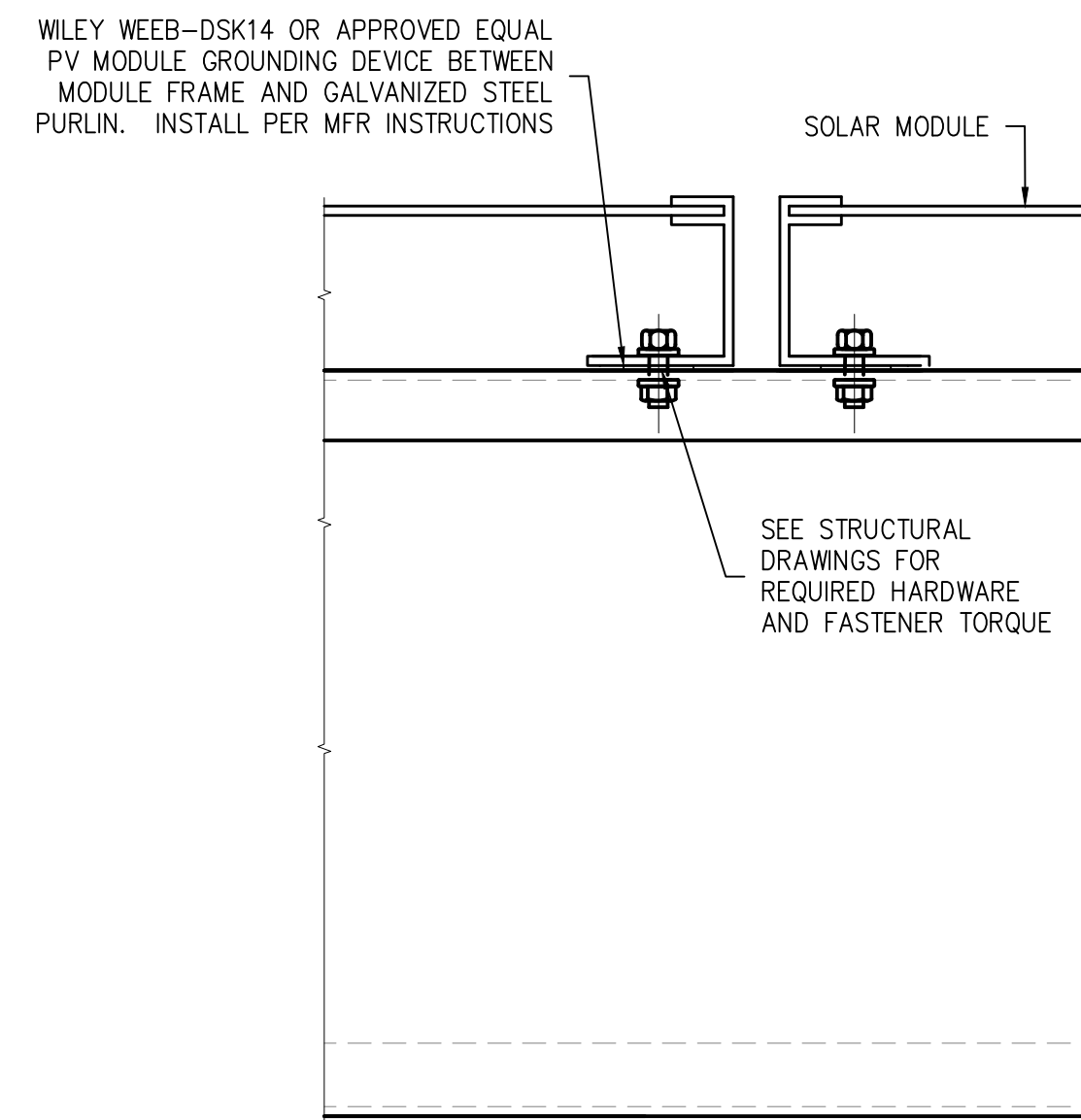
4 MODULE GROUNDING PLAN (TYP.)
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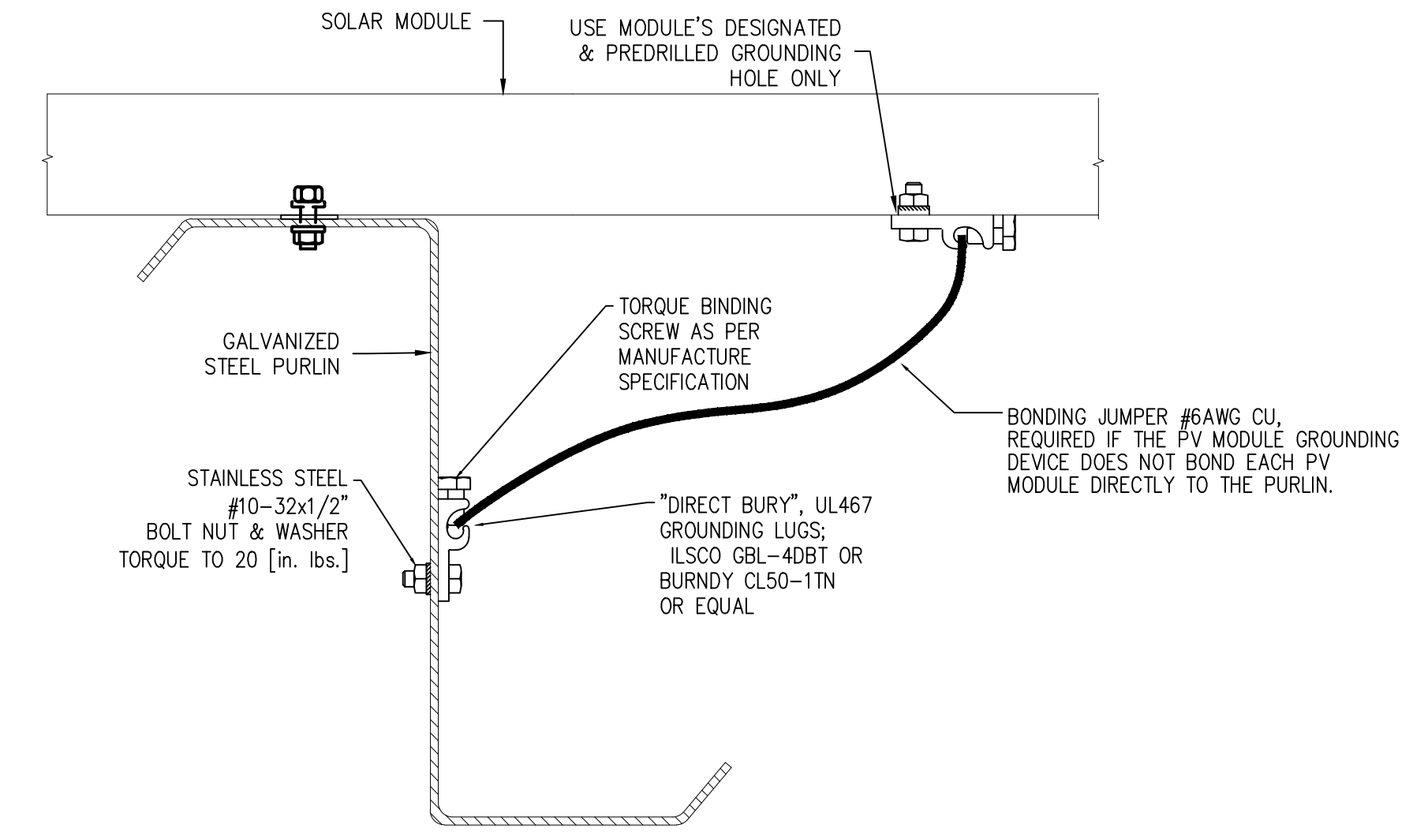
2 GROUND ROD WELL
E-7.0 SCALE: NTS



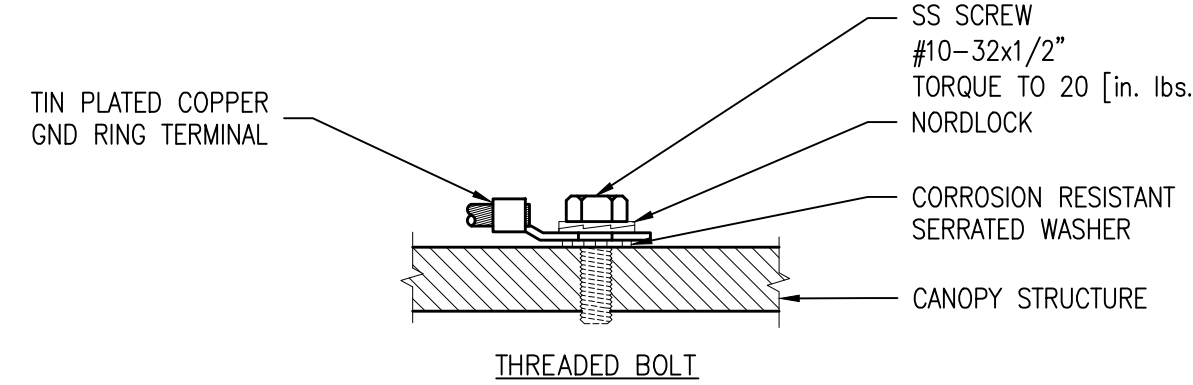
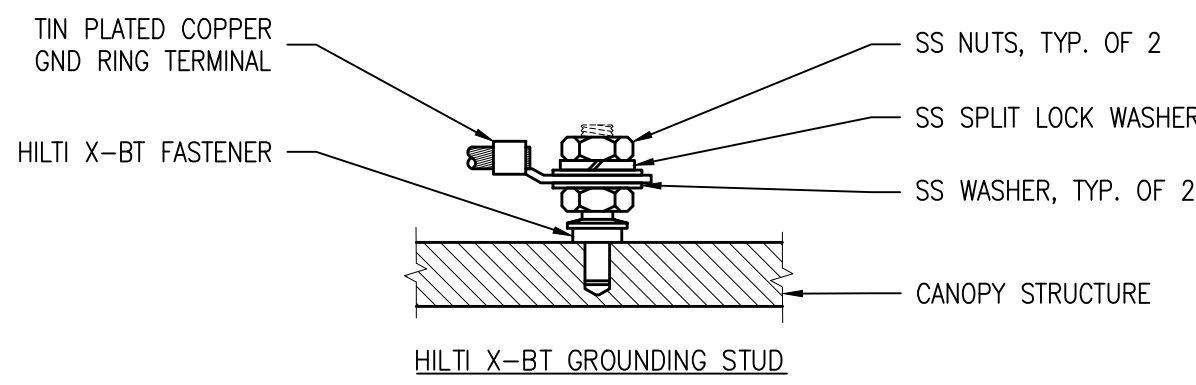
3 CONDUIT GROUNDING
E-7.0 SCALE: NTS



5 MODULE GROUNDING DETAIL
E-7.0 SCALE: NTS

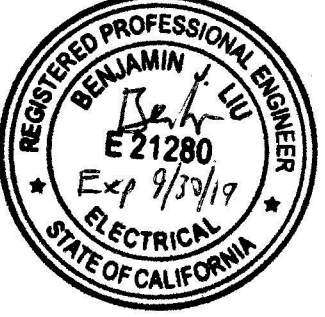
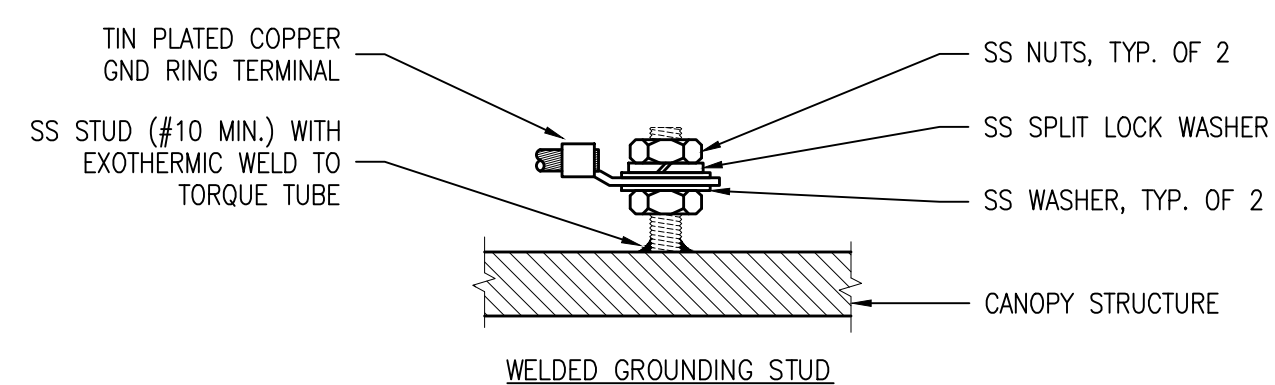


SECTION a
SCALE: HALF SIZE



NOTES:
1. GROUNDING CONNECTION SHALL COMPLY WITH NEC250.8(A).
2. WELDS SHALL BE COVERED WITH 'COLD GALVANIZING' COMPOUND.

6 EGC TO CANOPY STRUCTURE ATTACHMENT
E-7.0 SCALE: NTS



REV #	DESCRIPTION	DATE
0	ISSUED FOR BIDDING	07/18/2019

PROJECT TITLE:
CITY OF SEASIDE CITY HALL
PHOTOVOLTAIC ARRAYS
440 HARCOURT AVE.
SEASIDE, CA

SHEET TITLE:

GROUNDING DETAILS

JOB NO.: 218061	PROJECT MGR: SG
DRAWN: DG	SCALE: NO SCALE
SHEET NUMBER	

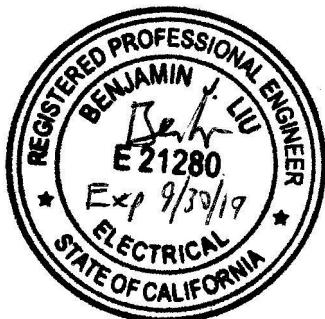
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FOR BID

CONSULTANT



STAMP/SEAL



REV #	DESCRIPTION	DATE
0	ISSUED FOR BIDDING	07/18/2019

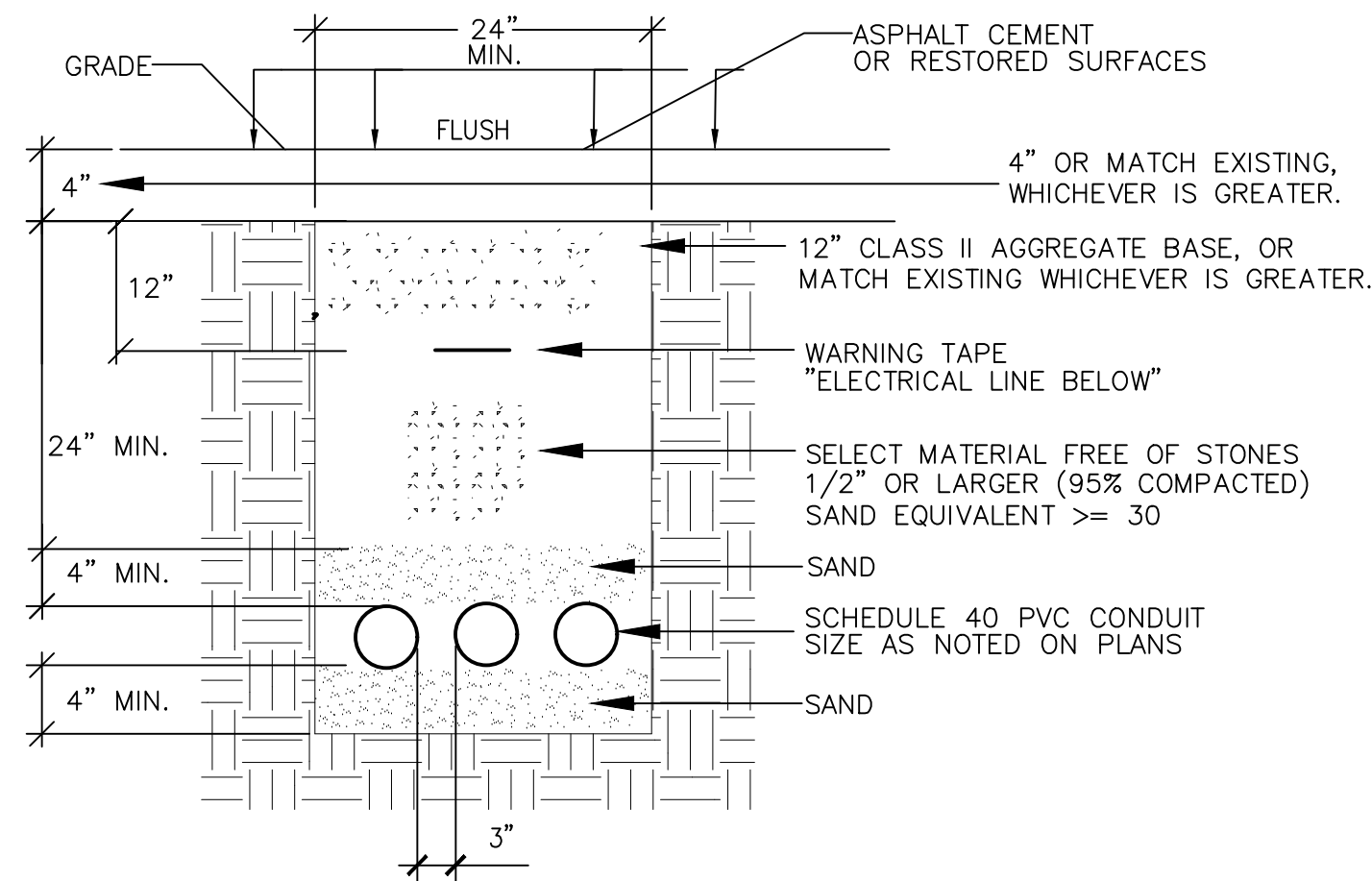
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CITY OF SEASIDE CITY HALL
PHOTOVOLTAIC ARRAYS
440 HARCOURT AVE.
SEASIDE, CA

SHEET TITLE:

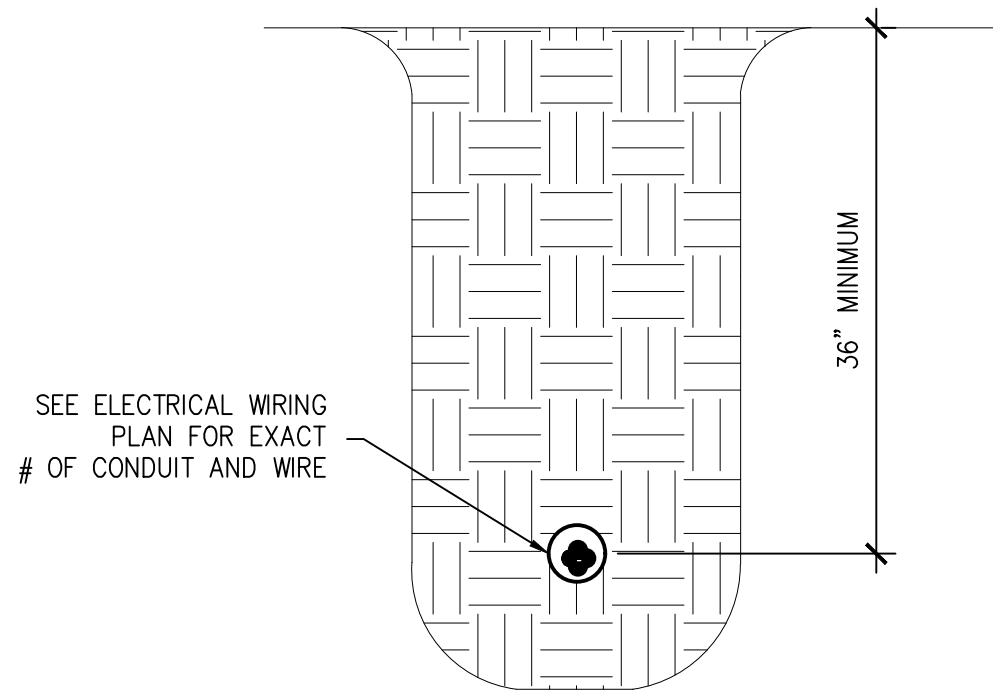
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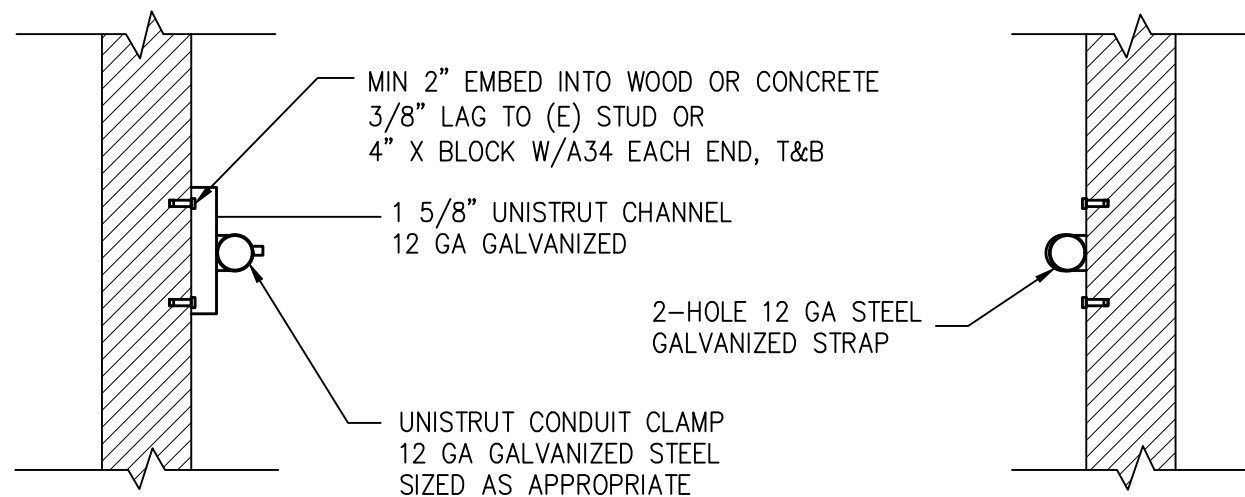
E-7.1



1 TRENCHING DETAIL
E-7.1 SCALE: NTS

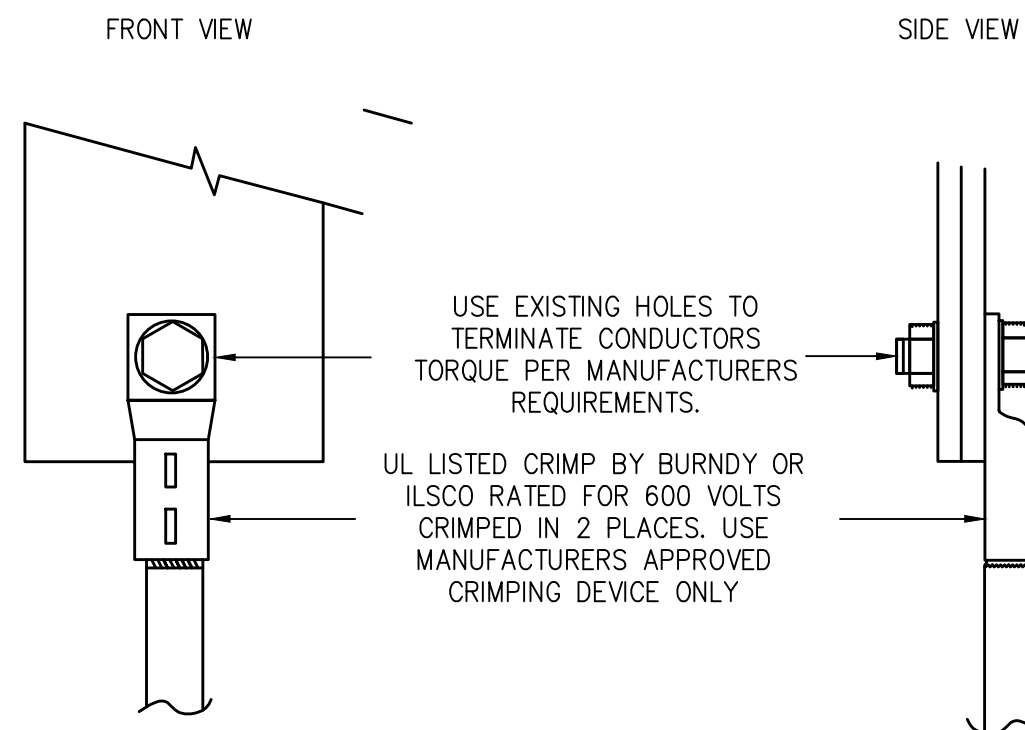


5 BORING DETAIL
E-7.1 SCALE: NTS

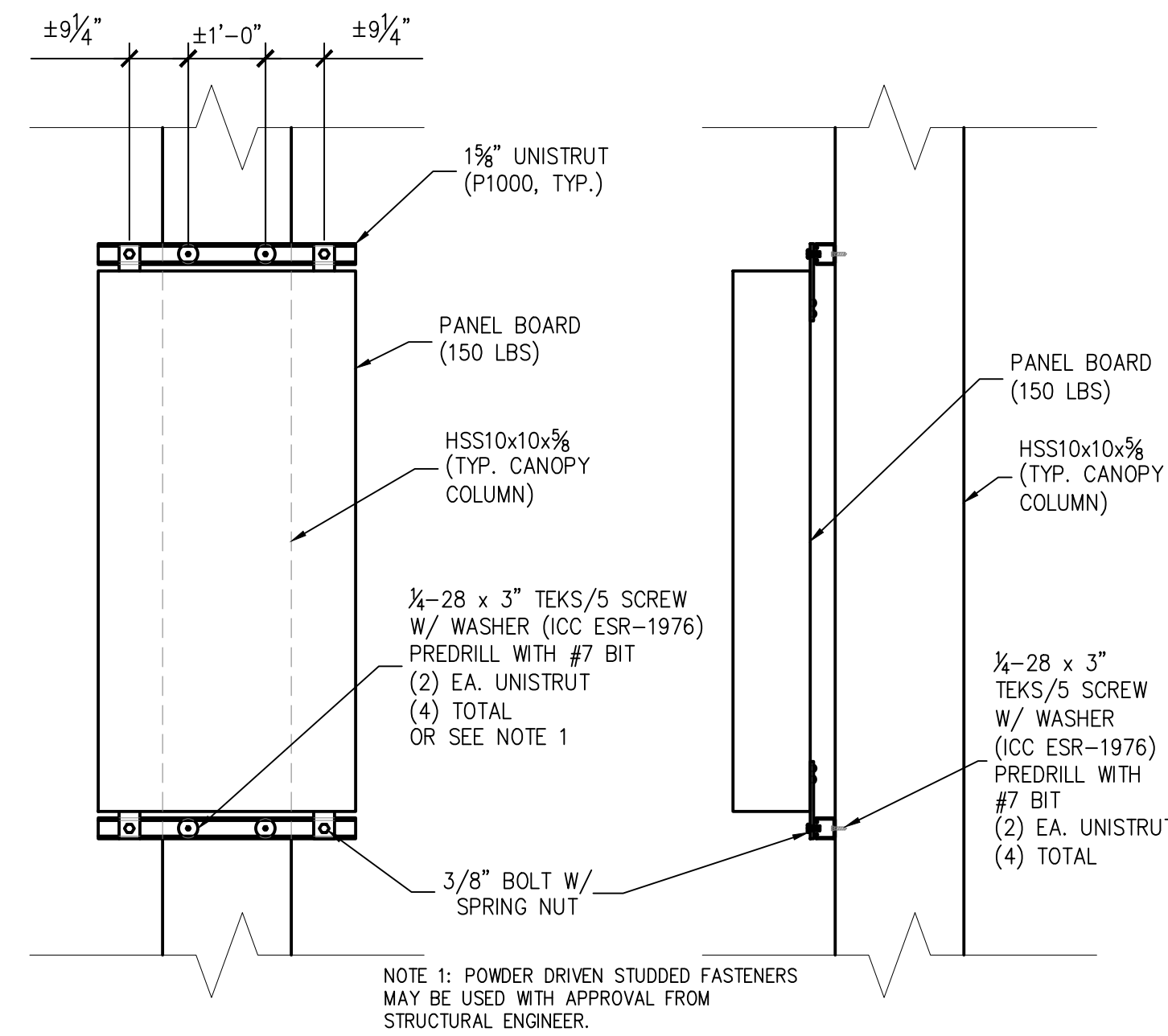


NOTE: ALL ANCHORS SHALL BE ICC APPROVED

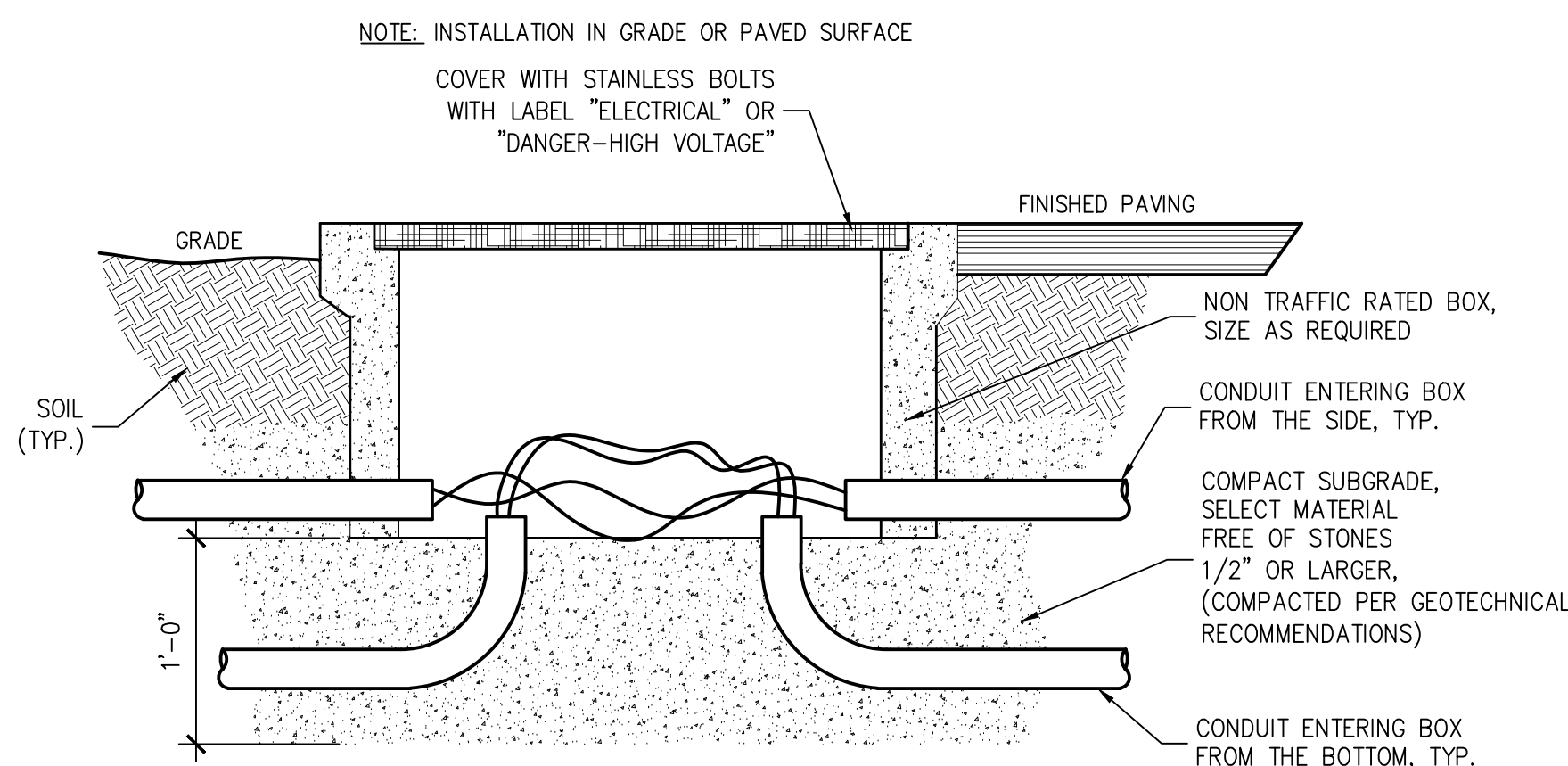
6 CONDUIT ATTACHMENT
E-7.1 SCALE: NTS



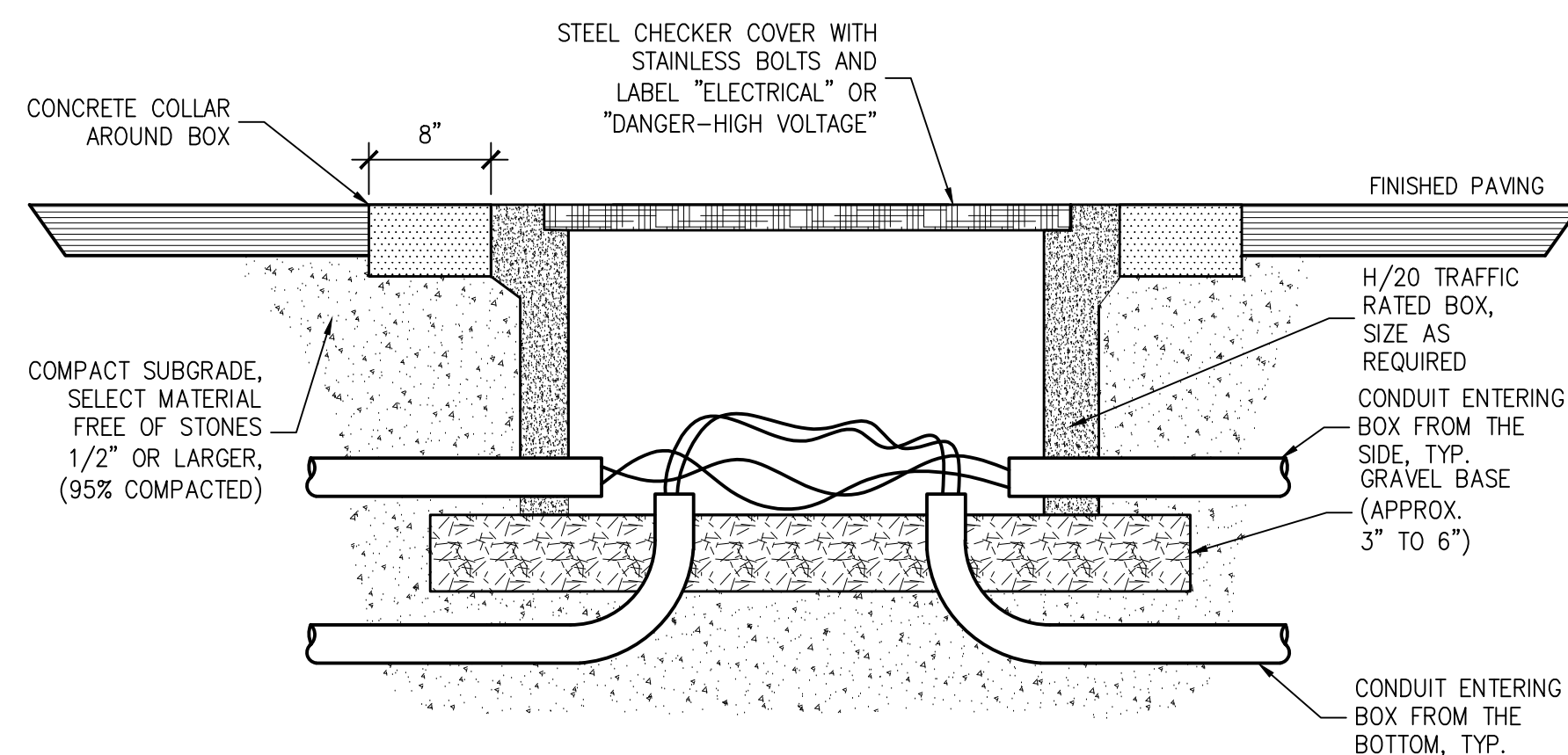
3 PANEL INTERCONNECTION
E-7.1 SCALE: NTS



4 PANEL BOARD ATTACHMENT, TYP.
E-7.1 SCALE: NTS



9 NON-TRAFFIC RATED PULLBOX
E-7.1 SCALE: NTS

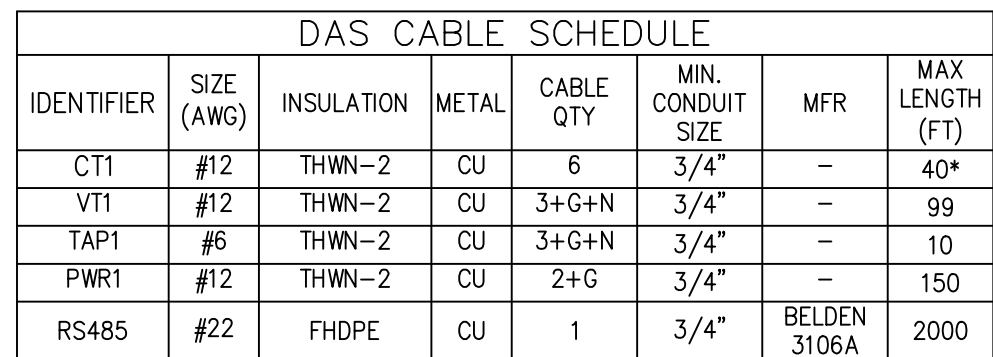
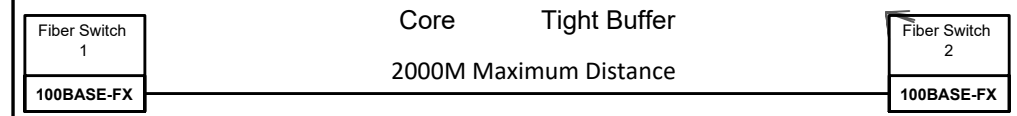
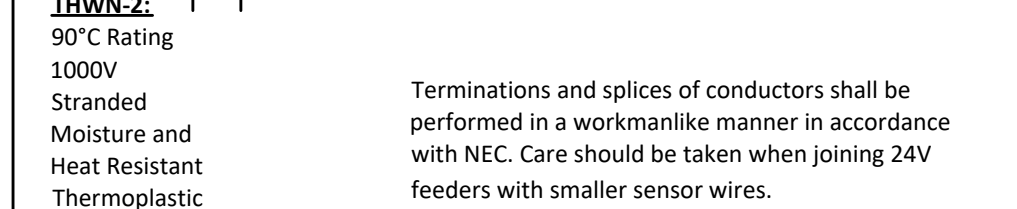
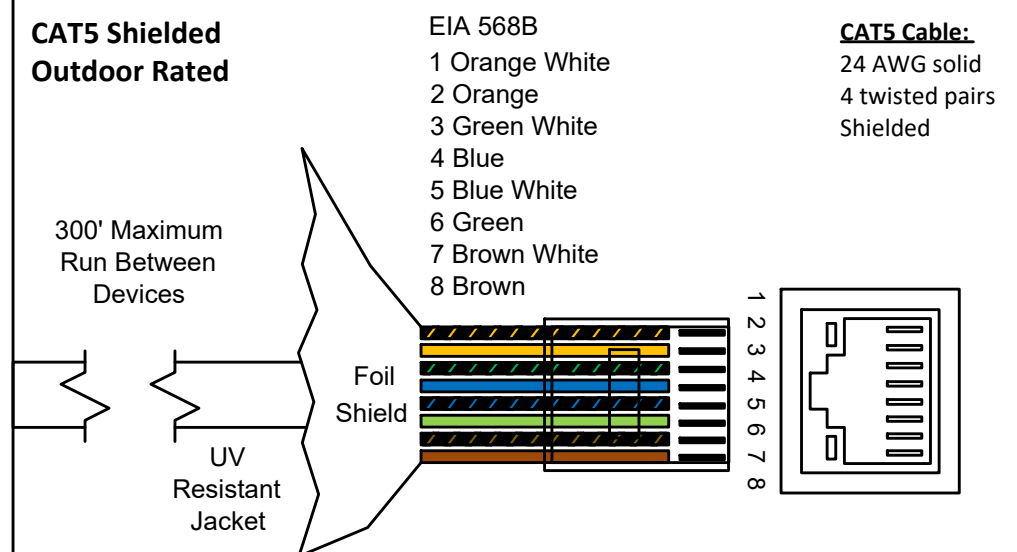


10 TRAFFIC RATED PULLBOX
E-7.1 SCALE: NTS

FOR BID

NOT ALL WIRING SHOWN MAY BE REQUIRED FOR THIS
INSTALLATION, SEE DAS LINE DIAGRAM.

NOT ALL WIRING SHOWN MAY BE REQUIRED FOR THIS
INSTALLATION, SEE DAS LINE DIAGRAM.



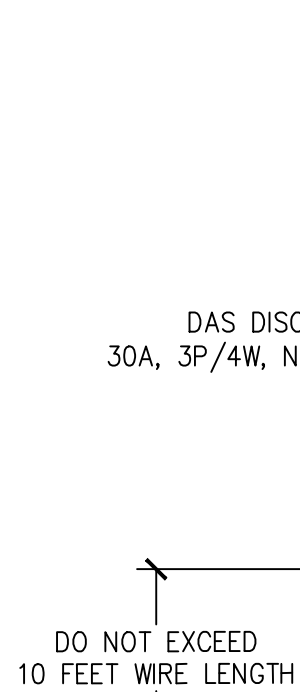
* MAX CT LEAD LENGTH PER CONDUCTOR SIZE: IF LENGTH IS > 99', METER MUST BE RELOCATED CLOSER TO CTs.	
LENGTH (FT)	SIZE
<40	AWG #12
40 – 62	AWG #10
62 – 99	AWG #8

* MAX CT LEAD LENGTH
PER CONDUCTOR SIZE:
IF LENGTH IS > 99', METER
MUST BE RELOCATED
CLOSER TO CTs.

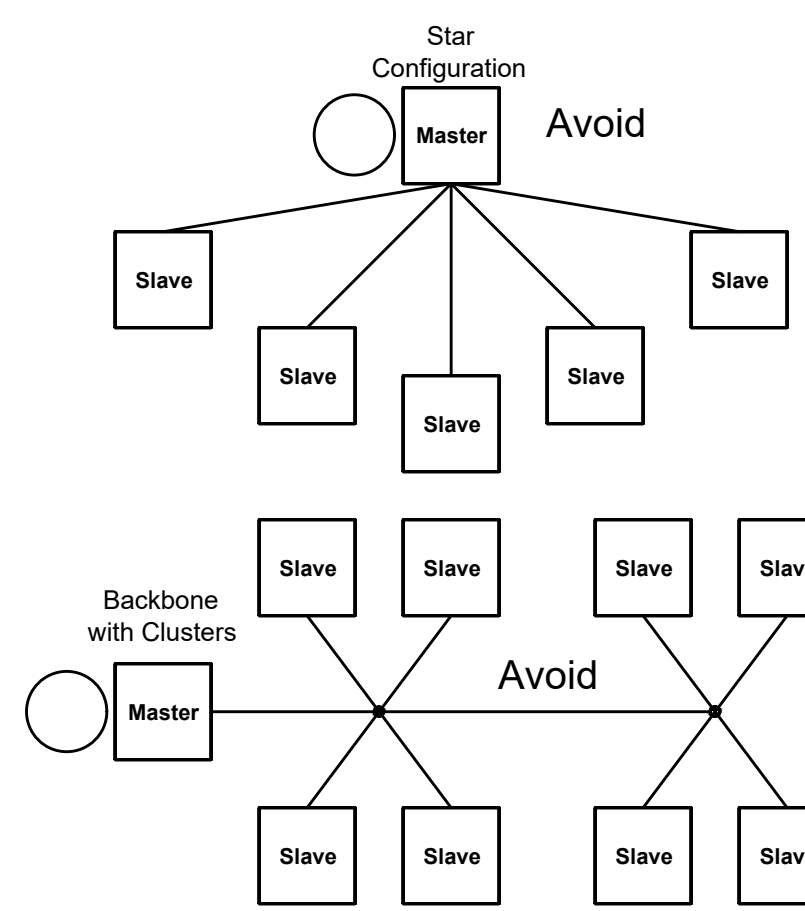
1. DETAILS ON THIS SHEET SHOW TYPICAL DATA ACQUISITION SYSTEM ARRANGEMENT AND INSTALLATION, AND ARE PROVIDED FOR INSTALLER REFERENCE ONLY. REFER TO FINAL MANUFACTURER'S INSTALLATION DRAWINGS AND DOCUMENTS FOR ACTUAL INSTALLATION OF THE DATA ACQUISITION SYSTEM.
2. REFER TO E-2.X, E-3.X, AND E-4.X SERIES DRAWINGS FOR WIRE AND CONDUIT SIZES AND APPROXIMATE EQUIPMENT LOCATIONS.
3. ALL EQUIPMENT SHALL BE UL LISTED.
4. COMMUNICATION WIRING SHALL BE PROTECTED BY A RACEWAY BELOW GROUND UNLESS LISTED FOR DIRECT BURIAL, AND SHALL BE PROTECTED BY A RACEWAY ABOVE GROUND.
5. COMMUNICATION WIRING SHOULD NEVER BE INSTALLED IN THE SAME RACEWAY WITH POWER WIRING. CURRENT TRANSFORMER WIRING SHOULD NEVER BE INSTALLED IN THE SAME RACEWAY WITH POWER WIRING. COMMUNICATION AND POWER WIRING MAY ONLY SHARE PULL BOXES IF THE VOLTAGE RATING OF THE COMMUNICATION WIRING EXCEEDS THE HIGHEST NOMINAL OPERATING VOLTAGE OF THE POWER WIRING, OR IF A SUITABLY RATED DIVIDER SEPARATES THE TWO WIRE TYPES.
6. INSTALLATION SHALL BE IN ACCORDANCE WITH ELECTRICAL AND BUILDING CODES APPLICABLE TO THE CONSTRUCTION SITE. AHA HAS FINAL JURISDICTIONAL AUTHORITY ON CODE APPLICATION AND COMPLIANCE.
7. ALL WIRING AND GROUNDING METHODS SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDED PRACTICES.
8. EQUIPMENT SHALL BE LOCKABLE OR GUARDED AGAINST ACCESS BY UNQUALIFIED PERSONS. NEC WORKING CLEARANCE SHALL BE MAINTAINED SUFFICIENT TO MEET THE HIGHEST VOLTAGE PRESENT IN THE EQUIPMENT.
9. CONDUIT SHALL ENTER THE BOTTOM OF THE DAS ENCLOSURE TO ASSURE RAINTIGHTNESS.

1. LAYOUT AND WIRING OF SERIAL DEVICES MUST FOLLOW BEST PRACTICES OF THE RS-485 STANDARD TO ENSURE STABLE COMMUNICATION OF THE DEVICES. THE ENGINEER OF RECORD IS NOT RESPONSIBLE FOR ISSUES CAUSED BY NON-STANDARD LAYOUTS AND WIRING PRACTICES.
2. RS-485 IS AN ELECTRICAL-ONLY STANDARD. RS-485 DEFINES THE ELECTRICAL CHARACTERISTICS OF DRIVERS AND RECEIVERS THAT COULD BE USED TO IMPLEMENT A BALANCED MULTIPoint TRANSMISSION LINE.
3. THE RS-485 STANDARDS SUGGEST THAT ITS NODES BE NETWORKED IN A CABLE-BUS, IN THAT THE TRANSMITTERS, DRIVERS, RECEIVERS AND TRANSCEIVER CONNECT TO A MAIN CABLE TRUNK VIA SHORT NETWORK STUBS.
4. RS-485 APPLICATIONS BENEFIT FROM DIFFERENTIAL SIGNALING OVER TWISTED-PAIR CABLE, BECAUSE NOISE AND EXTERNAL SOURCES COUPLE EQUALLY INTO BOTH SIGNAL LINES AS COMMON-MODE NOISE.
5. INDUSTRIAL RS-485 CABLES ARE OF THE SHEATHED, TWISTED-PAIR TYPE, (UTP), WITH A CHARACTERISTIC IMPEDANCE OF 120 Ω AND 22-24 AWG.
6. DATA TRANSMISSION LINES SHOULD ALWAYS BE TERMINATED AND STUBS SHOULD BE AS SHORT AS POSSIBLE TO AVOID SIGNAL REFLECTIONS ON THE LINE. BECAUSE THE RS-485 STANDARD SPECIFIES A CABLE WITH 120- Ω , THE CABLE TRUNK IS COMMONLY TERMINATED WITH 120- Ω RESISTORS, ONE AT EACH CABLE END.

- 1 NEW DATA ACQUISITION SYSTEM. SEE FINAL MANUFACTURER SUBMITTAL FOR FINAL INSTALLATION REQUIREMENTS. REFER TO DAS CABLE SCHEDULE FOR ALL CABLE SPECIFICATIONS. CAREFULLY CHECK VOLTAGE REFERENCE AND CURRENT TRANSFORMER WIRING POLARITY TO VERIFY CORRECT WIRE WIRING.
- 2 TYPICAL 120VAC EXTERNAL POWER SOURCE SHOWN FOR DAS. DAS MAY DERIVE POWER FROM VOLTAGE REFERENCE CONDUCTORS, SEE DAS MANUFACTURER SUBMITTAL FOR ACTUAL POWER REQUIREMENTS.
- 3 PROVIDE FUSED MOVING DISCONNECT AS SHOWN, WITH MAX. 15A RK1 FUSES.
- 4 VOLTAGE REFERENCE TAPS SHALL BE INSTALLED AT MANUFACTURER APPROVED LOCATION USING A LISTED COUNTER, LOG, OR CIRCUIT BREAKER.
- 5 OBSERVE CORRECT SECONDARY WIRE POLARITY AND ORIENTATION OF CURRENT TRANSFORMERS. ORIENTATION DOT SHOULD FACE THE INVERTER POWER SOURCE. SECONDARY WIRE COLOR CODING CONVENTION VARIES BETWEEN MANUFACTURERS. VERIFY CORRECT X1 AND X2 COLOR WITH CT MANUFACTURER.
- 6 RUN CT WIRING IN SEPARATE CONDUIT AND AT LEAST 1" FROM ALL POWER CONDUCTORS. IF CT LEAD LENGTH EXCEEDS 40 FEET, INCREASE CT LEAD WIRE SIZE PER LENGTH AND SIZE CHART SHOWN BESIDE DAS CABLE SCHEDULE.
- 7 WEATHER STATION COMMUNICATION CABLE MAY BE RS-485 OR CAT5, AND MAY OR MAY NOT REQUIRE SEPARATE POWER WIRING IN ADDITION. CONSULT MANUFACTURER SUBMITTAL FOR CORRECT WIRING.
- 8 WEATHER STATION (IF REQUIRED).
- 9 ADHERE TO RS-485 NOTES AND RS-485 RECOMMENDED WIRING DETAIL, CORRECTLY GROUNDING AND TERMINATING SERIAL WIRING AS NEEDED. BELDEN 3106A IS RECOMMENDED AND MAY BE REQUIRED BY DAS MANUFACTURER, SEE MANUFACTURER SUBMITTAL.
- 10 VERIFY WIRE TEST SWITCHES OR CT SHORTING BLOCKS ARE PRESENT DURING INSTALLATION OF WETER. WHEN CURRENT TRANSFORMERS ARE UNDER LOAD, OPEN WETER TEST SWITCH OR CLOSE SHORTING BLOCKS BEFORE SERVING METER.

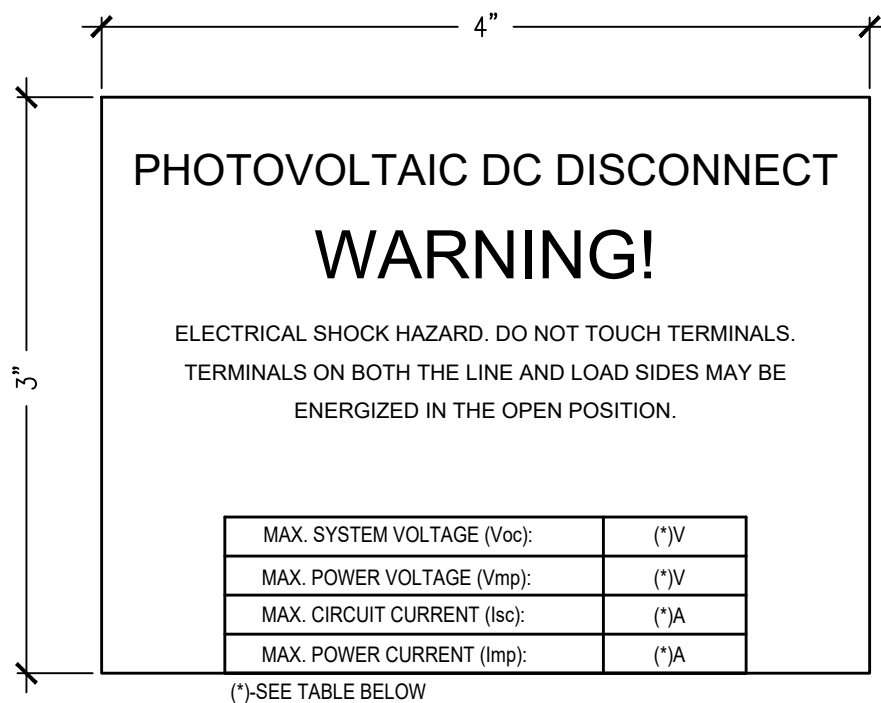


E-7.2 SCALE: NTS



E-7.2 SCALE: NTS

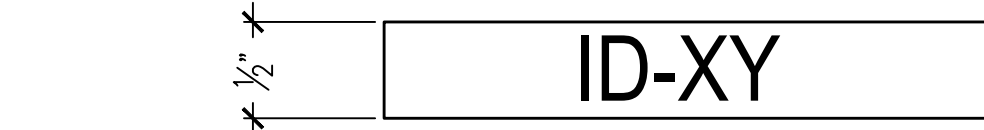
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DC SYSTEM VALUES		
NUMBER OF MODULES PER STRING	15	16
STRING OPEN CIRCUIT VOLTAGE (Voc)	708.0	755.2
STRING MAX POWER VOLTAGE (Vmp)	597.0	636.8

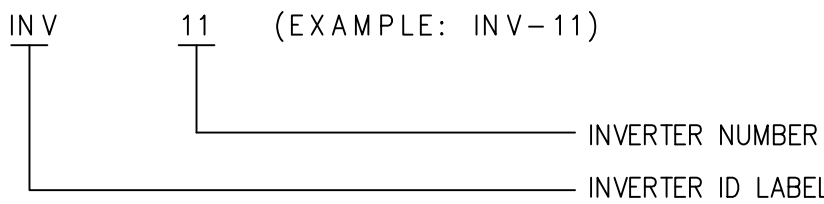
- NOTES:
1. PLACE SIGN ADJACENT TO COMBINER BOX DISCONNECT SWITCH.
 2. RED BACKGROUND, WHITE LETTERING
 3. TEXT: 0.16", .25", AND 0.08" HEIGHT, ALL CAPITAL LETTERS ARIAL OR SIMILAR FONT, NON-BOLD
 4. MATERIAL: TEXT PRINTED ON ALUMINUM BACKING WITH UV-RATED PLASTIC LAMINATE COATING AND OUTDOOR RATED ADHESIVE.
 5. MAXIMUM TOTAL OPERATING CURRENT, MAXIMUM TOTAL SHORT CIRCUIT CURRENT DIFFER BETWEEN COMBINER BOXES. REFER TO DC SYSTEM TABLE FOR EXACT VALUES.
 6. APPLICABLE NEC SECTIONS: 690.53, 690.14(C)(2), 690.17(4), AND 690.35(F)

1 PV SYSTEM SOURCE DC DISCONNECT
E-9.0 SCALE: NTS



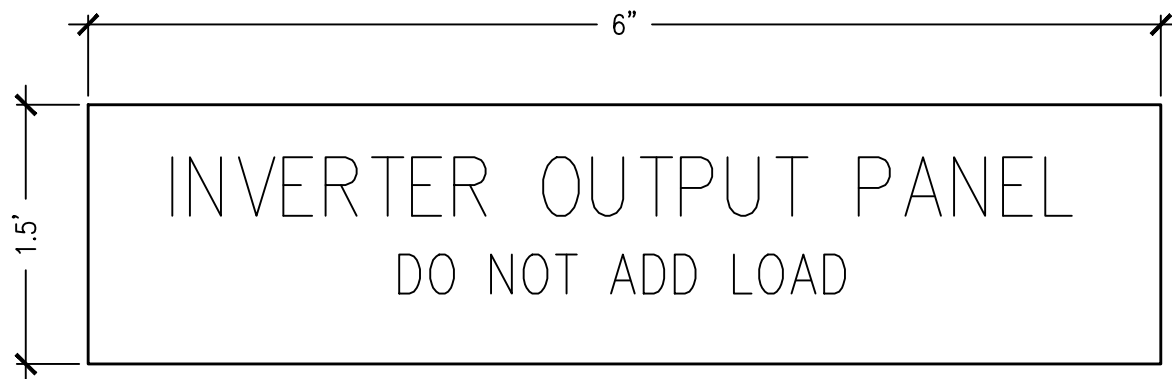
EQUIPMENT LABELS		
EQUIPMENT NAME	ID	NUMBER DESIGNATION (X-Y)
PANEL	PNL	X
INVERTER	INV	X

EQUIPMENT NUMBERING CONVENTION



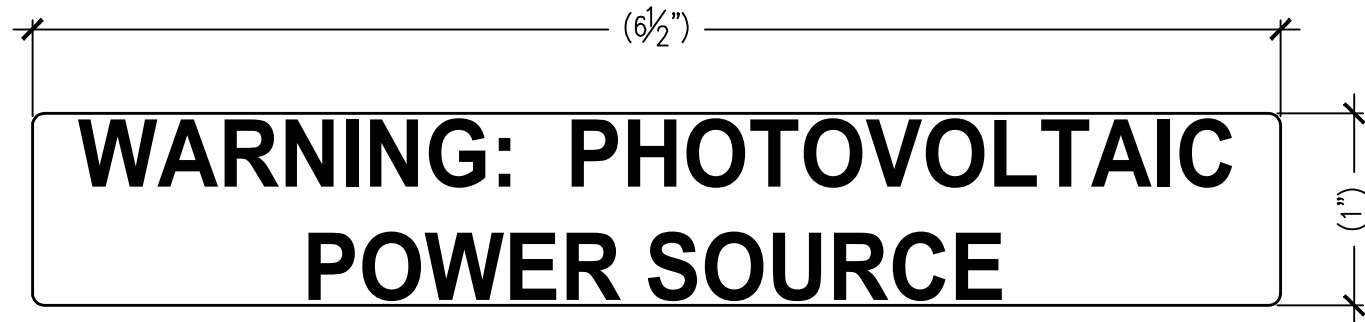
- NOTES:
1. PLACE LABEL ON FRONT OF EQUIPMENT, TYP.
 2. BLACK BACKGROUND, WHITE LETTERING
 3. TEXT HEIGHT: 0.34" HEIGHT, ALL CAPITAL LETTERS ARIAL OR SIMILAR FONT, NON-BOLD
 4. MATERIAL: ENGRAVED ON OUTDOOR-RATED PLASTIC LAMINATE WITH ADHESIVE BACKING SUITABLE FOR ENVIRONMENT

2 EQUIPMENT LABEL
E-9.0 SCALE: NTS



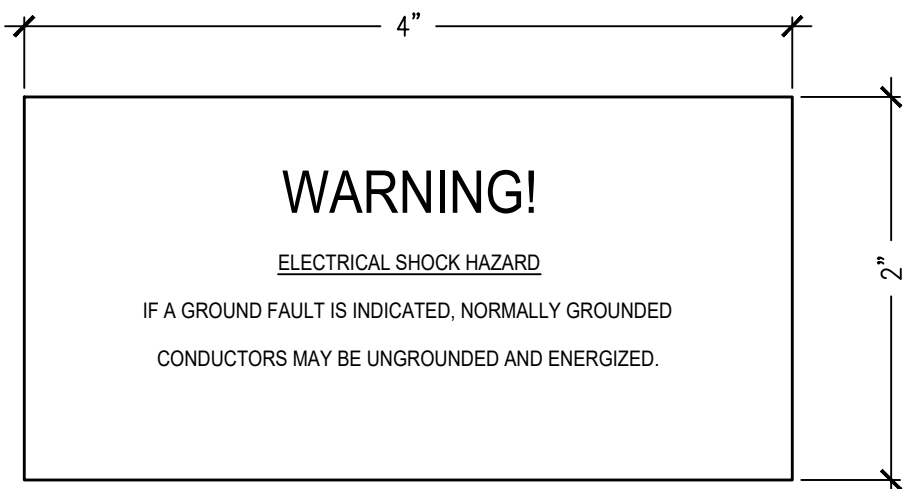
- NOTE:
1. INVERTER IDENTIFICATION LABEL
 2. BLACK BACKGROUND
 3. WHITE LETTERING
 4. MATERIAL NOTE: ENGRAVED ON OUTDOOR-RATED PLASTIC LAMINATE WITH ADHESIVE BACKING SUITABLE ENVIRONMENT.
 5. SHANNON OR SIMILAR FONT, NON-BOLD

3 INVERTER PANEL LABEL
E-9.0 SCALE: NTS



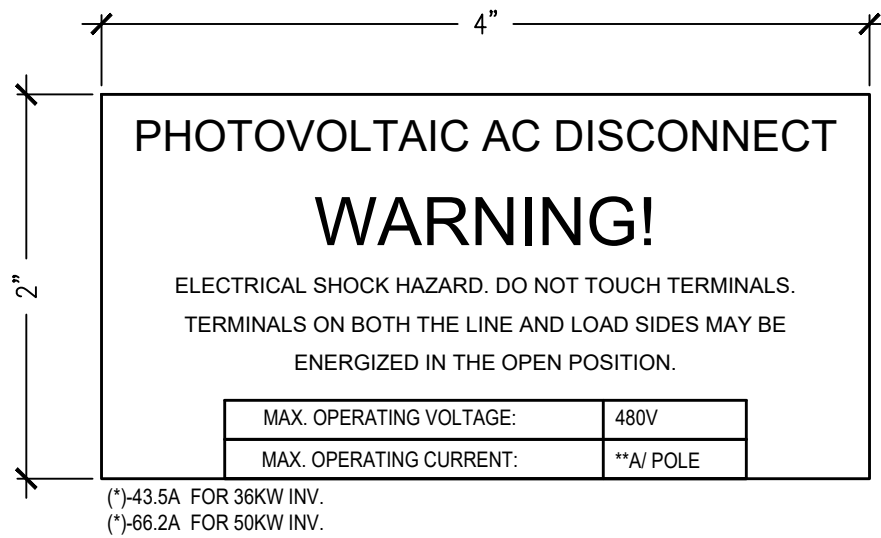
- NOTES:
1. PLACE LABEL ON: EXPOSED DC CONDUIT, RACEWAYS, CABLE TRAYS, AND OTHER WIRING METHODS, COVERS OR ENCLOSURES OF PULL BOXES AND JUNCTION BOXES. SPACING BETWEEN LABELS NOT TO EXCEED 10 FT.
 2. RED BACKGROUND, WHITE LETTERING
 3. TEXT: MIN. 3/8" HEIGHT, ALL CAPITAL LETTERS, ARIAL OR SIMILAR FONT, NON-BOLD
 4. MATERIAL: REFLECTIVE, WEATHER AND UV RESISTANT WITH DURABLE ADHESIVE SUITABLE FOR THE ENVIRONMENT.
 5. NEC 690.31(E)(3) AND (4)

4 PV SOURCE ENCLOSURE AND RACEWAY LABEL
E-9.0 SCALE: NTS



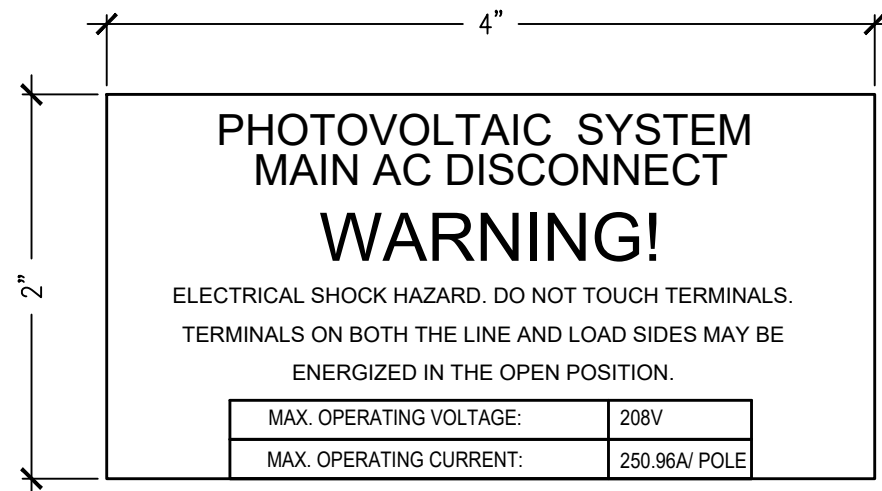
- NOTES:
1. PLACE LABEL NEAR GROUND FAULT INDICATOR IN A VISIBLE LOCATION.
 2. RED BACKGROUND, WHITE LETTERING
 3. TEXT: MIN. 0.22" AND 0.08" HEIGHT, ALL CAPITAL LETTERS ARIAL OR SIMILAR FONT, NON-BOLD
 4. MATERIAL: REFLECTIVE, WEATHER AND UV RESISTANT WITH DURABLE ADHESIVE SUITABLE FOR THE ENVIRONMENT.
 5. NEC 690.5(C)

5 INVERTER GROUND-FAULT WARNING
E-9.0 SCALE: NTS



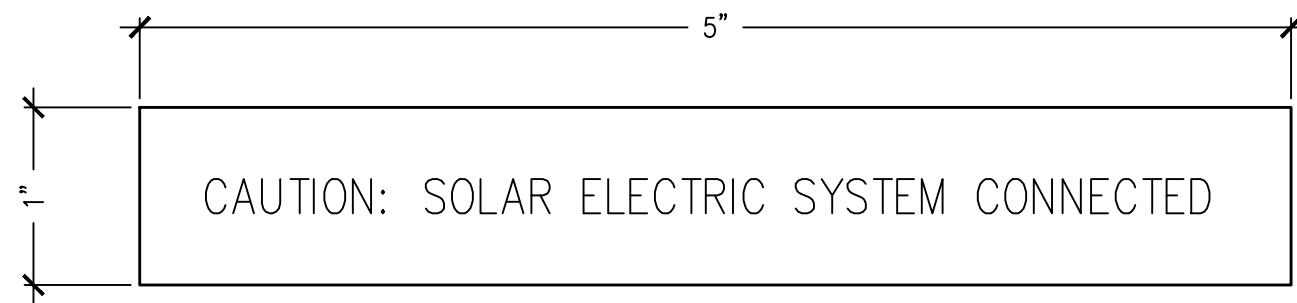
- NOTES:
1. PLACE SIGN ON OR ADJACENT TO INVERTER AC DISCONNECT.
 2. RED BACKGROUND, WHITE LETTERING
 3. TEXT: 0.25", 0.16", AND 0.08" HEIGHT, ALL CAPITAL LETTERS ARIAL OR SIMILAR FONT, NON-BOLD
 4. MATERIAL: TEXT PRINTED ON ALUMINUM BACKING WITH UV-RATED PLASTIC LAMINATE COATING AND OUTDOOR RATED ADHESIVE.
 5. NEC 690.54 AND 690.17(4)

6 INVERTER AC DISCONNECT
E-9.0 SCALE: NTS



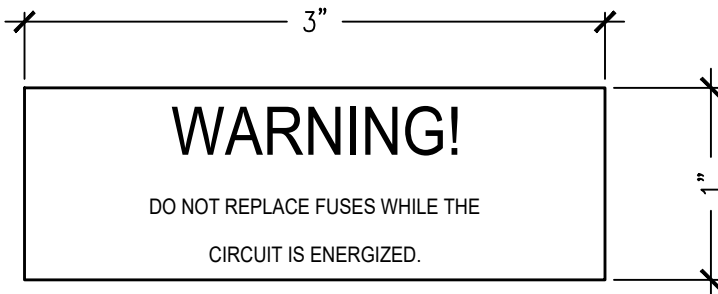
- NOTES:
1. PLACE SIGN ON OR ADJACENT TO UTILITY AC DISCONNECT.
 2. RED BACKGROUND, WHITE LETTERING
 3. TEXT: 0.25", 0.16", AND 0.08" HEIGHT, ALL CAPITAL LETTERS ARIAL OR SIMILAR FONT, NON-BOLD
 4. MATERIAL: TEXT PRINTED ON ALUMINUM BACKING WITH UV-RATED PLASTIC LAMINATE COATING AND OUTDOOR RATED ADHESIVE.
 5. NEC 690.54 AND 690.17(4)

7 PV SYSTEM UTILITY AC DISCONNECT
E-9.0 SCALE: NTS



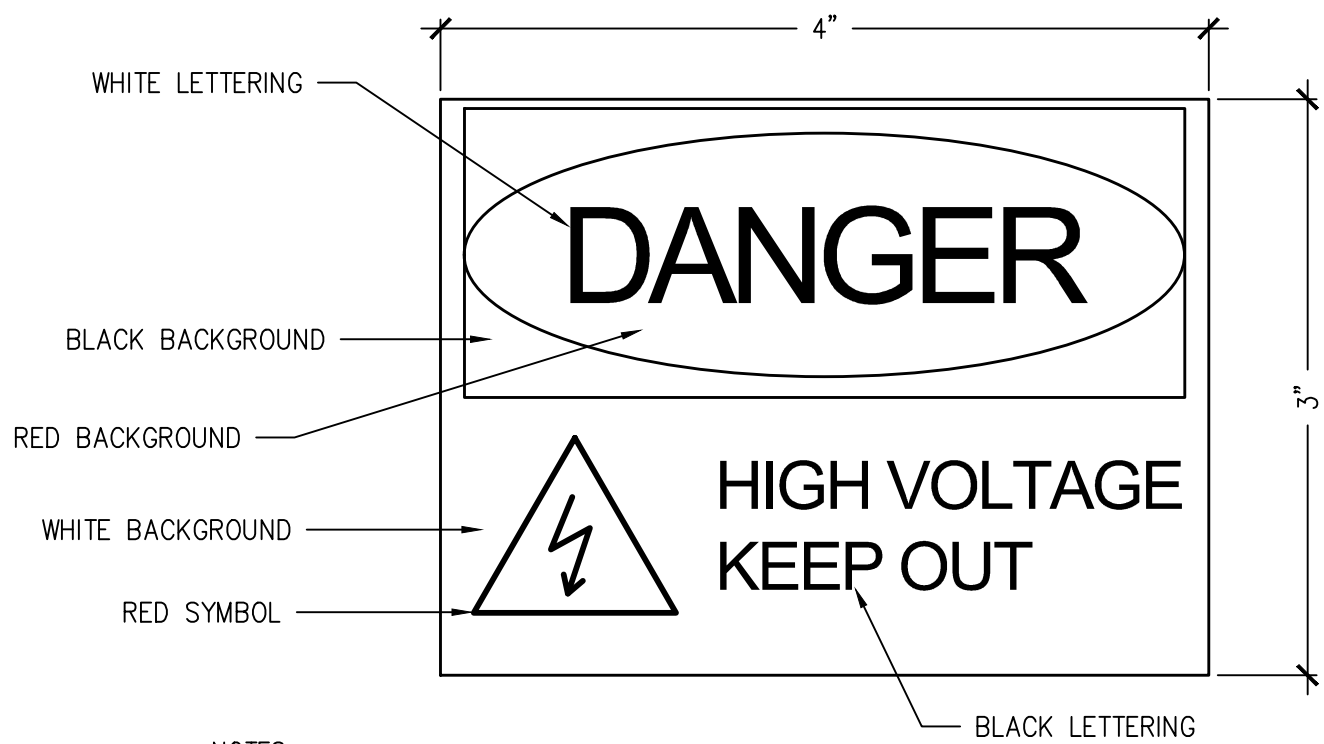
- NOTE:
1. RED BACKGROUND
 2. WHITE LETTERING
 3. MINIMUM 3/8" LETTER HEIGHT
 4. ALL CAPITAL LETTERS
 5. SHANNON OR SIMILAR FONT, NON-BOLD
 6. REFLECTIVE, WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT. (DURABLE ADHESIVE MATERIALS MAY MEET THIS REQUIREMENT)

8 MARKING FOR MAIN SERVICE / POI
E-9.0 SCALE: NTS



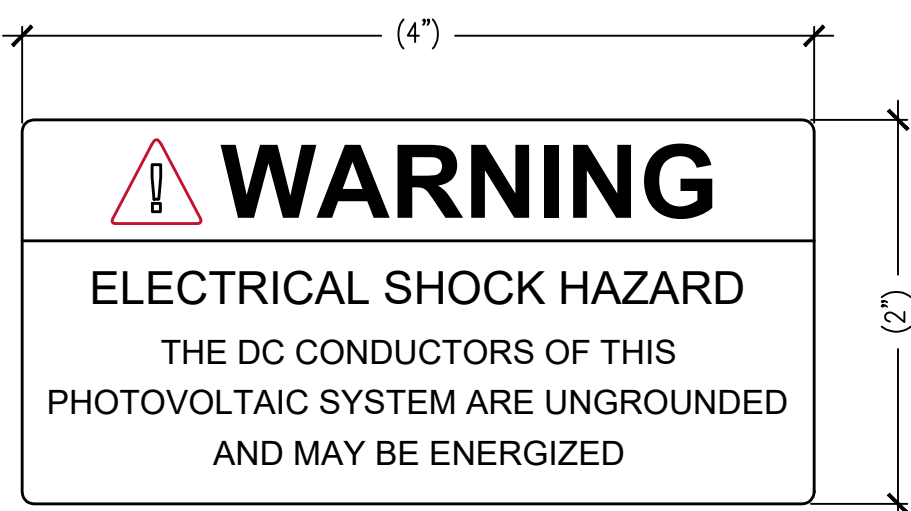
- NOTES:
1. PLACE LABEL ADJACENT TO INVERTER AND TRANSFORMER FUSES.
 2. RED BACKGROUND, WHITE LETTERING
 3. TEXT: MIN. 0.25" AND 0.08" HEIGHT, ALL CAPITAL LETTERS ARIAL OR SIMILAR FONT, NON-BOLD
 4. MATERIAL: REFLECTIVE, WEATHER AND UV RESISTANT WITH DURABLE ADHESIVE SUITABLE FOR THE ENVIRONMENT.
 5. NEC 225.70(A)(3)

9 MEDIUM VOLTAGE FUSE WARNING SIGN
E-9.0 SCALE: NTS



- NOTES:
1. PLACE WARNING SIGN ON COMBINER BOXES, COMBINER PV TIE BOXES, INVERTERS, AND TRANSFORMERS OPERATING OVER 600V.
 2. COLOR SCHEME AS NOTED.
 3. TEXT: MIN. 0.5" AND 0.25" HEIGHT, ALL CAPITAL LETTERS ARIAL OR SIMILAR FONT, NON-BOLD
 4. MATERIAL: REFLECTIVE, WEATHER AND UV RESISTANT WITH DURABLE ADHESIVE SUITABLE FOR THE ENVIRONMENT.
 5. NEC 110.34(C) and 225.70(A)(1)

10 MEDIUM VOLTAGE WARNING SIGN
E-9.0 SCALE: NTS

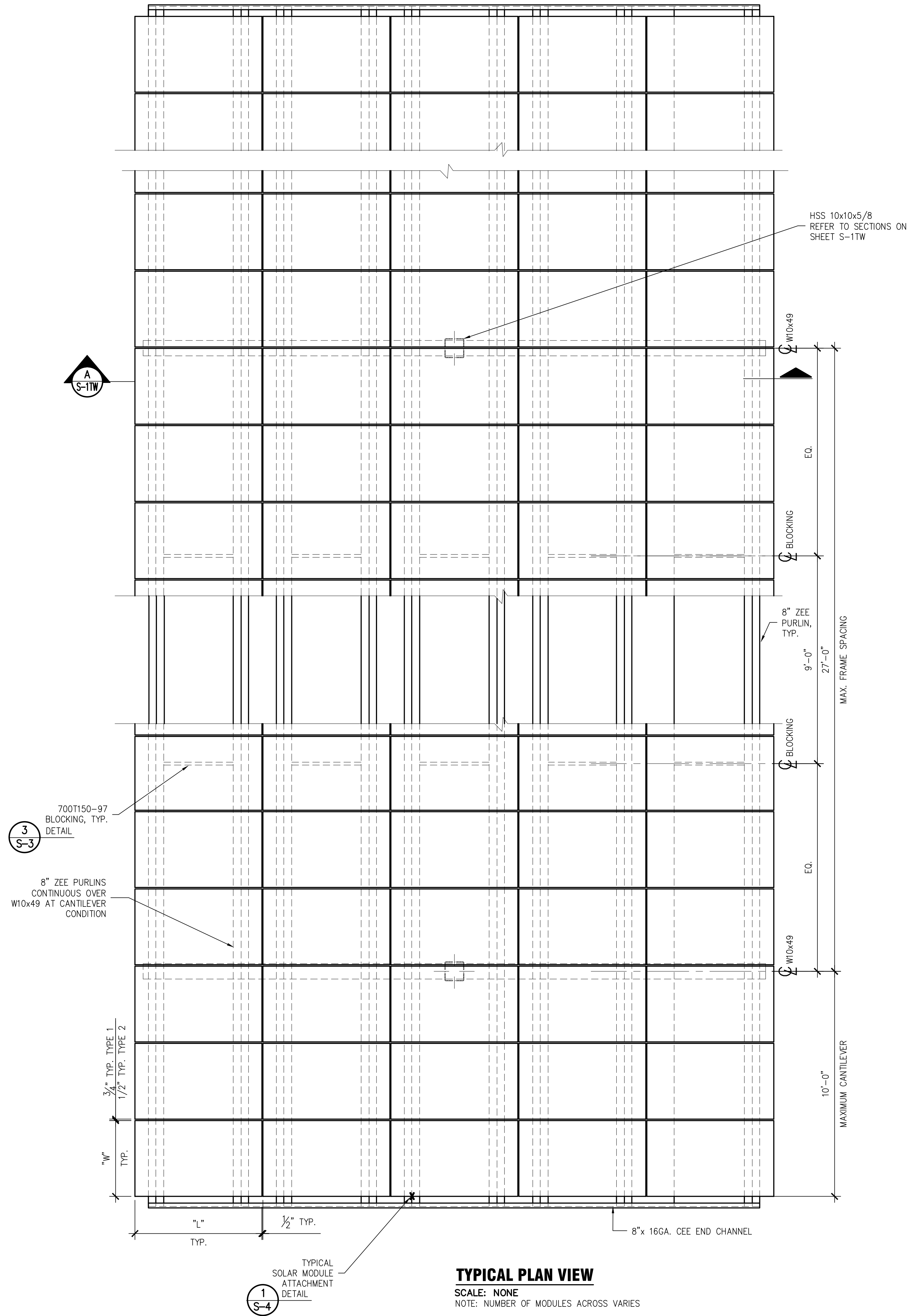


- NOTES:
1. RED BACKGROUND & WHITE LETTERING
 2. TEXT HEIGHT: 3/8", 1/8" & ALL CAPITAL LETTERS
 3. REFLECTIVE, WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT.
 4. MARKING FOR EACH JUNCTION BOX, COMBINER BOX, DISCONNECT PER NEC 690.35(F)

11 UNGROUNDED PV SOURCE MARKING
E-9.0 SCALE: NTS



REV #	DESCRIPTION	DATE
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SCALE: NONE
NOTE: NUMBER OF MODULES ACROSS VARIATIONS

SCALE: NONE
NOTE: NUMBER OF MODULES ACROSS VARIATIONS

1. REFER TO DRAWING S-4 FOR TYPICAL SOLAR MODULE AND ZEE DIMENSIONS "L", "W", "B", "A" AND "T".
2. ALL PERTINENT DIMENSIONS SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO FABRICATION AND INSTALLATION.
3. CHANGES FROM THE CONTRACT DRAWINGS SHALL BE MADE ONLY WITH THE APPROVAL OF THE ENGINEER AND AHJ.

1. CONSTRUCTION SHALL CONFORM TO 2016 C.B.C. AND LOCAL REQUIREMENTS.
2. ALL CONCRETE WORK SHALL COMPLY WITH ACI 301-2016 & 318-2014 EDITIONS.
3. CONCRETE SHALL BE:
 - 4. 3,000 psi @ 28 DAY COMPRESSIVE STRENGTH
 - 5. AGGREGATE GRADATION AND QUALITY SHALL BE IN ACCORDANCE WITH ACI 302-IR.
 - 6. REINFORCEMENT SHALL BE ASTM A615 GR60.
 - 7. MINIMUM CONCRETE COVER SHALL BE 3" TO EARTH, 2" TO SKY.
 - 8. GROUT BELOW BASE PLATES SHALL BE NON-SHRINK WITH 5,000 psi @ 28 DAY COMPRESSIVE STRENGTH. MIXING AND PLACEMENT PER MANUFACTURER'S RECOMMENDATIONS.
 - 9. THE SURFACE OF ALL HORIZONTAL CONSTRUCTION JOINTS SHALL BE CLEANED AND ROUGHENED BY EXPOSING CLEAN AGGREGATE SOLIDLY EMBEDDED IN MATRIX. IN THE EVENT THAT THE CONTACT SURFACE BECOMES COATED WITH EARTH, SAWDUST, ETC., AFTER BEING CLEANED, THE ENTIRE SURFACE SO COATED SHALL BE RECLEANED.

1. PLATES (UNLESS NOTED OTHERWISE) AND ANGLES: ASTM A36
2. PLATE (WHERE NOTED): ASTM A572, GRADE 50
3. STRUCTURAL TUBING (HSS): ASTM A500 GRADE B
4. WIDE FLANGE BEAMS: ASTM A992
5. ANCHOR BOLTS: ASTM F1554, GRADE 105 – USE HEAVY HEX NUTS (ASTM A563 DH) AROUND HARDENED STEEL WASHERS (ASTM F436). ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.
6. ALL STEEL FABRICATION SHALL COMPLY WITH 2010 AISC SPECIFICATIONS.
7. ALL WELDING SHALL COMPLY WITH LATEST AWS D1.1. USE E70XX ELECTRODES
8. CREDENTIALS FOR ONSITE WELDER AND SPECIAL INSPECTOR MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE BUILDING DEPT. BEFORE ANY ONSITE WELDING OCCURS. STRUCTURE SHALL BE GALVANIZED FOR COLUMN AND BEAM.
9. ZEE PURLINS, CEE END CHANNEL, CEE BLOCKING AND 12 GA PLATE: ASTM A563, GRADE 50 WITH 60 OR 80 KSI YIELD STRENGTH
10. ZEE C/P AND SOLAR WASHER: ASTM A563, HSLA GRADE 50 WITH G90 GALVANIZED.
11. SELF DRILLING SCREWS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS UTILIZING A DEPTH SENSITIVE OR TORQUE LIMITING NOSE PIECE. TO ENSURE THAT THE SCREW IS SEATED BUT NOT TENSIONED.
12. A325 BOLTS (USE LOAD INDICATOR WASHERS, TO BOLTS OR TIGHTEN USING TURN OF NUT METHOD). USE LOAD HARDENED STEEL WASHERS (ASTM F436) UNDER THE NUT (ASTM A563 DH). FAYETTE SURFACES OF SLIP CRITICAL CONNECTIONS SHALL BE COATED WITH ZINC RICH PRIMER MEETING CLASS B REQUIREMENTS. BOLT, NUT AND WASHER SHALL BE GALVANIZED.
13. NOTHING SHALL BE ATTACHED TO THE COLUMN IN THE PROTECTED ZONE (NO ERECTION AIDS, BOLTS, SCREWS OR SHOT-IN ATTACHMENTS).

1. CBC 11B-502.5 REQUIRES 98" VERTICAL CLEARANCE AT ALL ACCESSIBLE PARKING SPACES AND ROUTES LEADING THERETO.
2. CBC 11B-503.5 REQUIRES 114" VERTICAL CLEARANCE AT ALL LOADING AISLES OF ACCESSIBLE DROP-OFF AREAS AND ROUTES LEADING THERETO.
3. PROJECTIONS SHALL NOT ENCR OACH INTO THE REQUIRED VERTICAL CLEAR SPACE OF FIRE LANES.

1. DRILLED PIERS INSPECTION BY GEOTECHNICAL ENGINEER
2. CONCRETE PLACEMENT



BLYMYER
ENGINEERS
1101 MARINA VILLAGE PARKWAY #100
ALAMEDA, CA 94501 510.521.3777

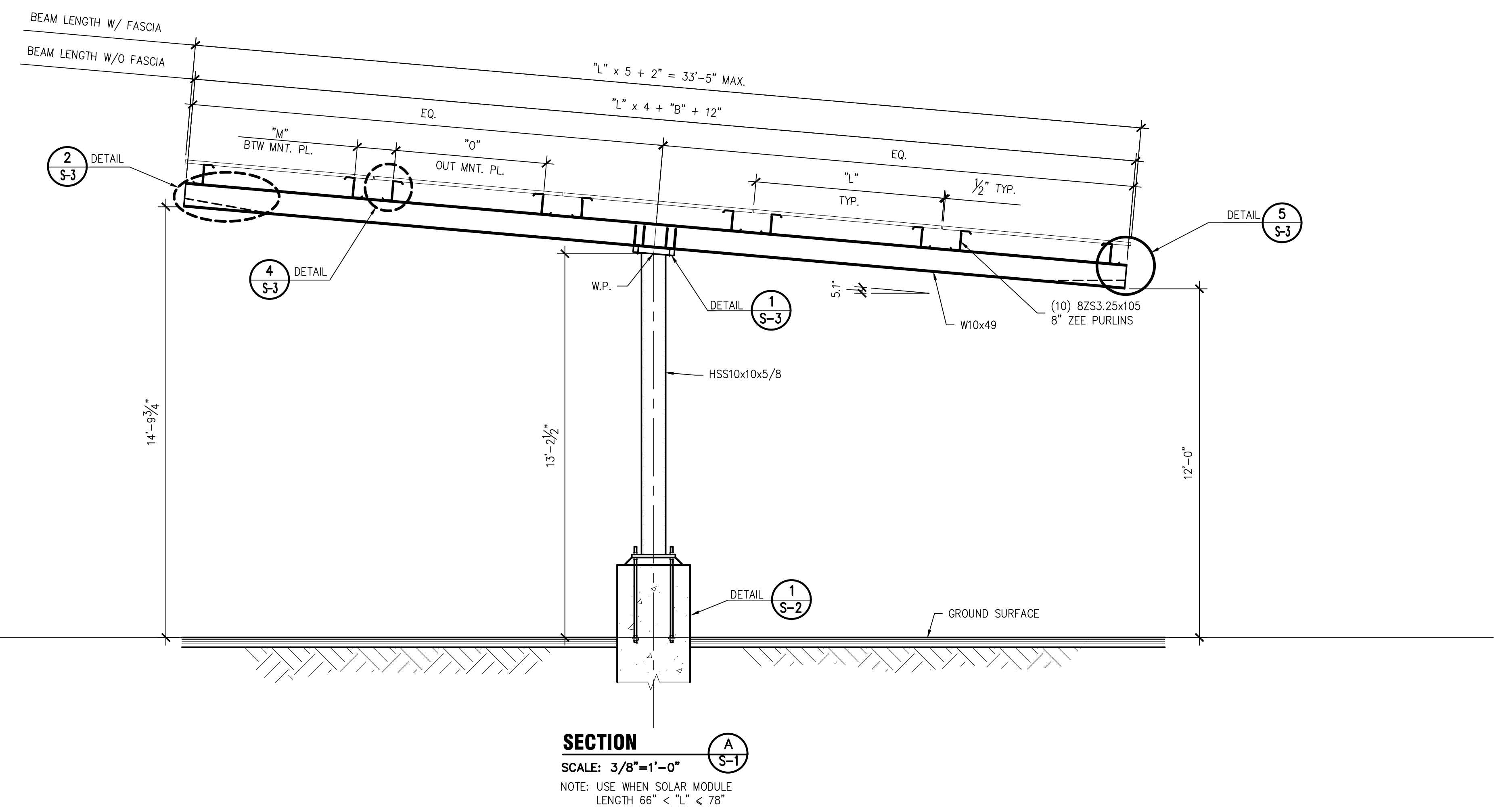
REGISTERED PROFESSIONAL ENGINEER
 STANISLAV GORBIS
 No. C81928
 CIVIL
 STATE OF CALIFORNIA

CITY OF SEASIDE CITY HALL
PHOTOVOLTAIC ARRAYS
440 HARCOURT AVE.
SEASIDE, CA

TYPICAL PHOTOVOLTAIC ARRAY "T" STRUCTURES

SHEET NUMBER**FOR BIDD**

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SOLAR MODULE ATTACHMENT SPACING	
"M" (DIMENSION BETWEEN INSIDE FACES OF PURLIN MOUNTING PLATES)	"O" (DIMENSION TO OUTSIDE FACES OF PURLIN MOUNTING PLATES)
"L" - "B" - 2 1/2"	"B" + 3"



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REV #	DESCRIPTION	DATE
0	ISSUED FOR BIDDING	07/18/2019

PROJECT TITLE:
CITY OF SEASIDE CITY HALL
PHOTOVOLTAIC ARRAYS
440 HARCOURT AVE.
SEASIDE, CA

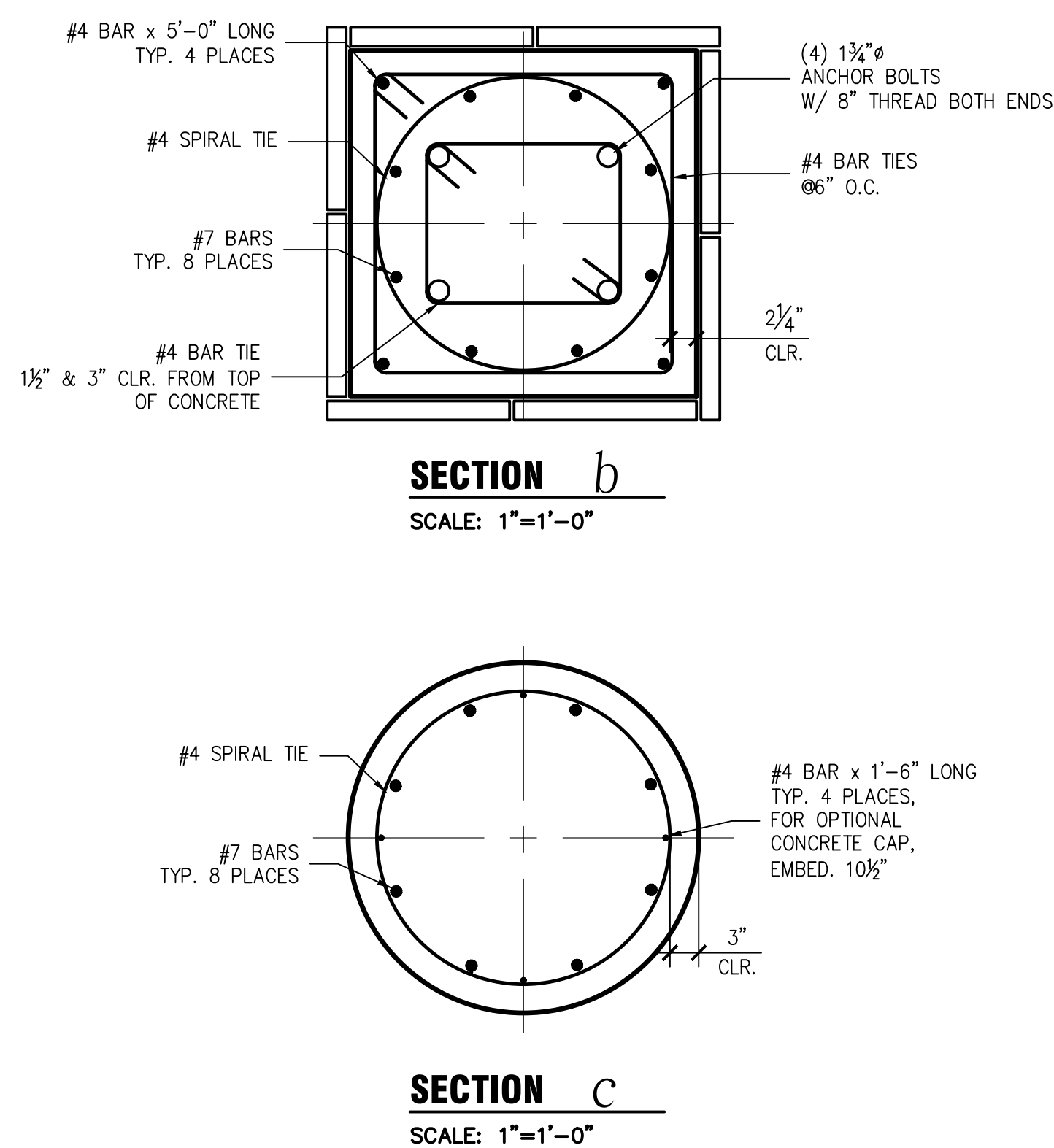
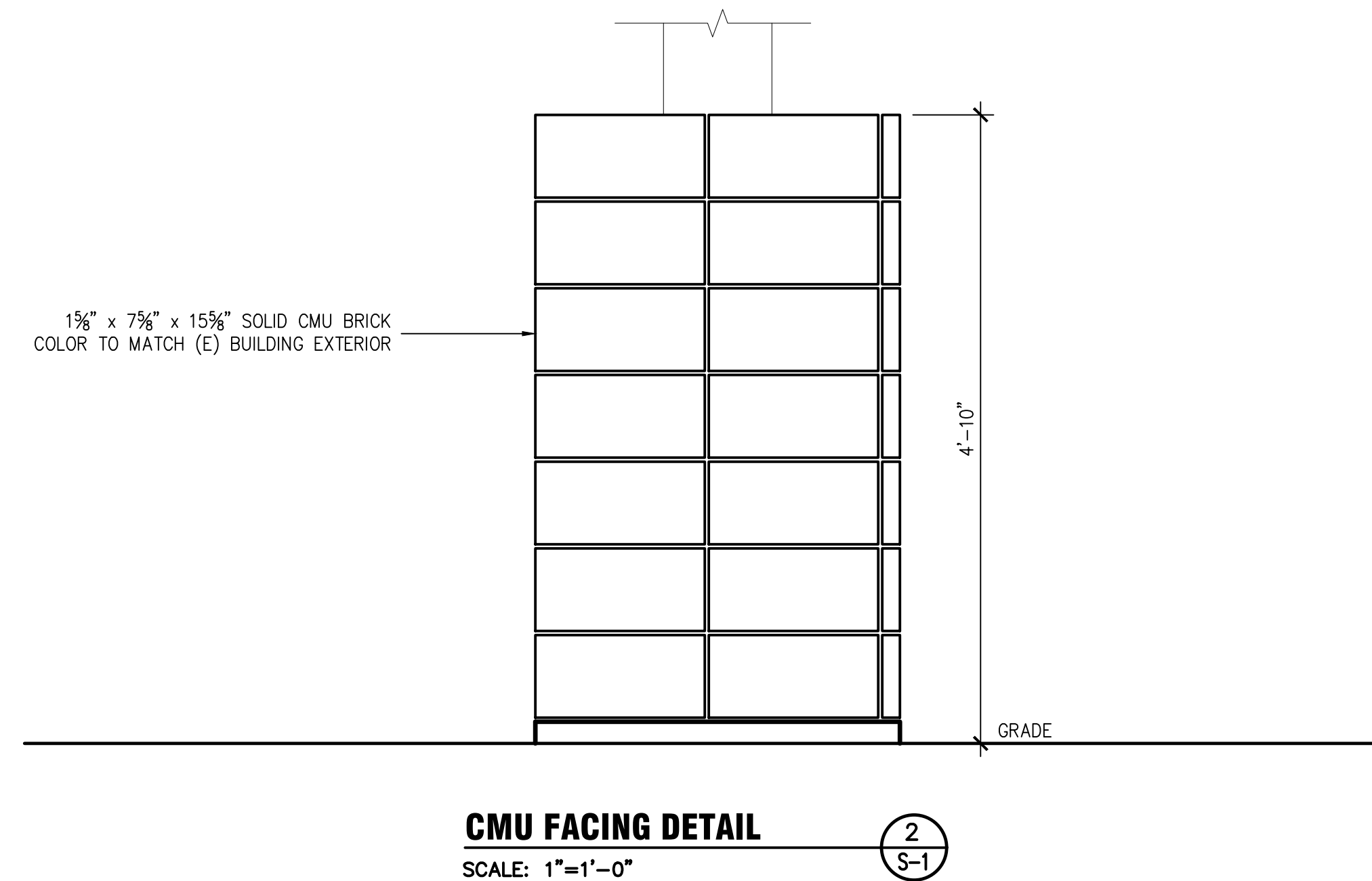
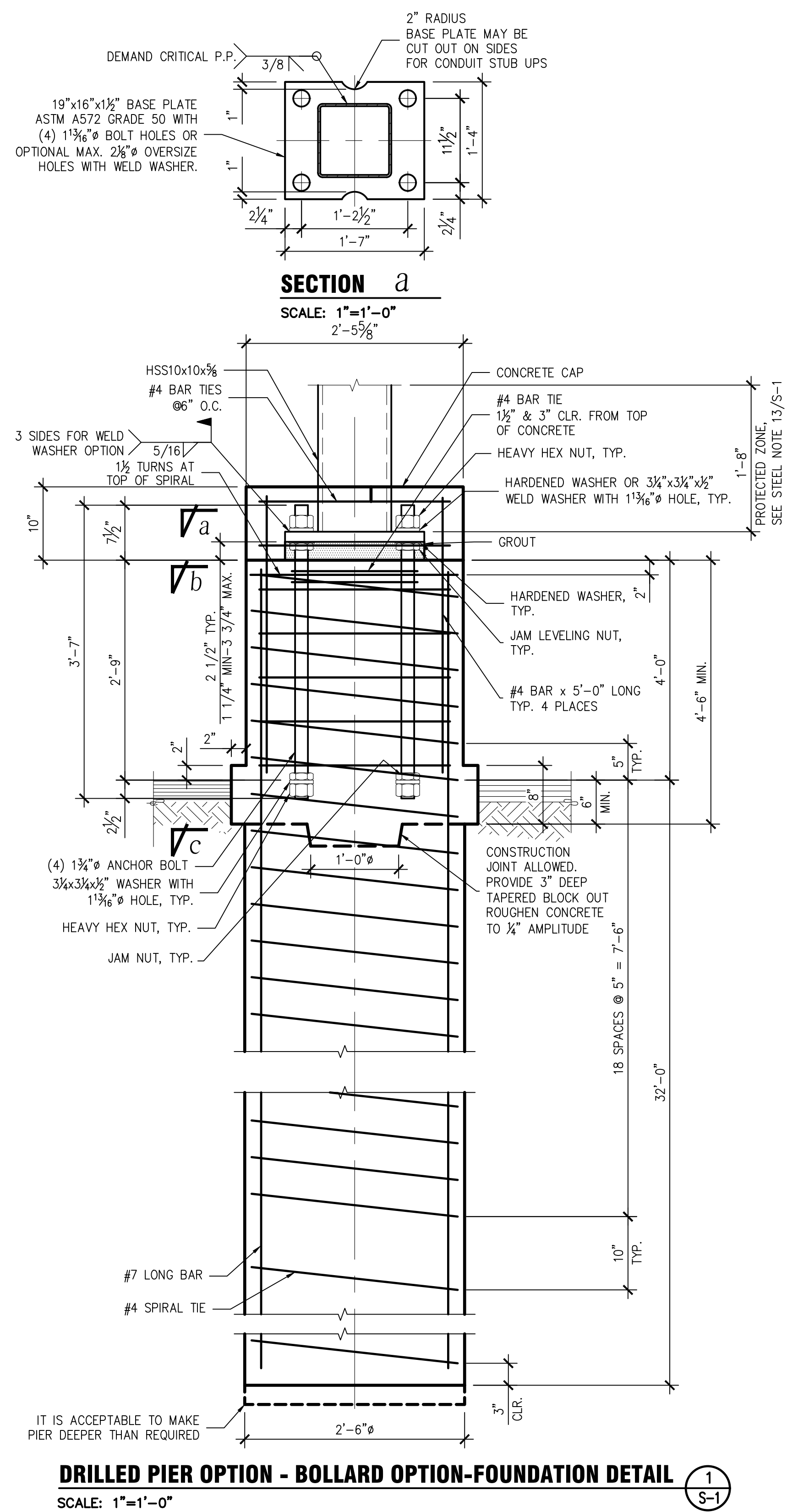
SHEET TITLE:

TYPICAL PHOTOVOLTAIC ARRAY
"T" STRUCTURES

JOB NO.: 218061	PROJECT MGR: SG
DRAWN: LW	SCALE: 3/8" = 1'-0"
SHEET NUMBER	

S-1TW

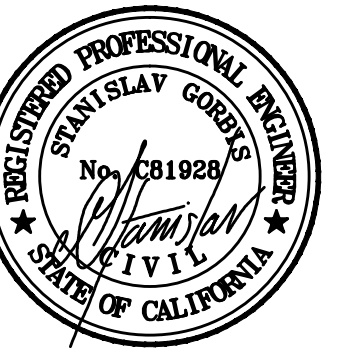
FOR BID



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PROJECT TITLE:

CITY OF SEASIDE CITY HALL
PHOTOVOLTAIC ARRAYS
440 HARCOURT AVE.
SEASIDE, CA

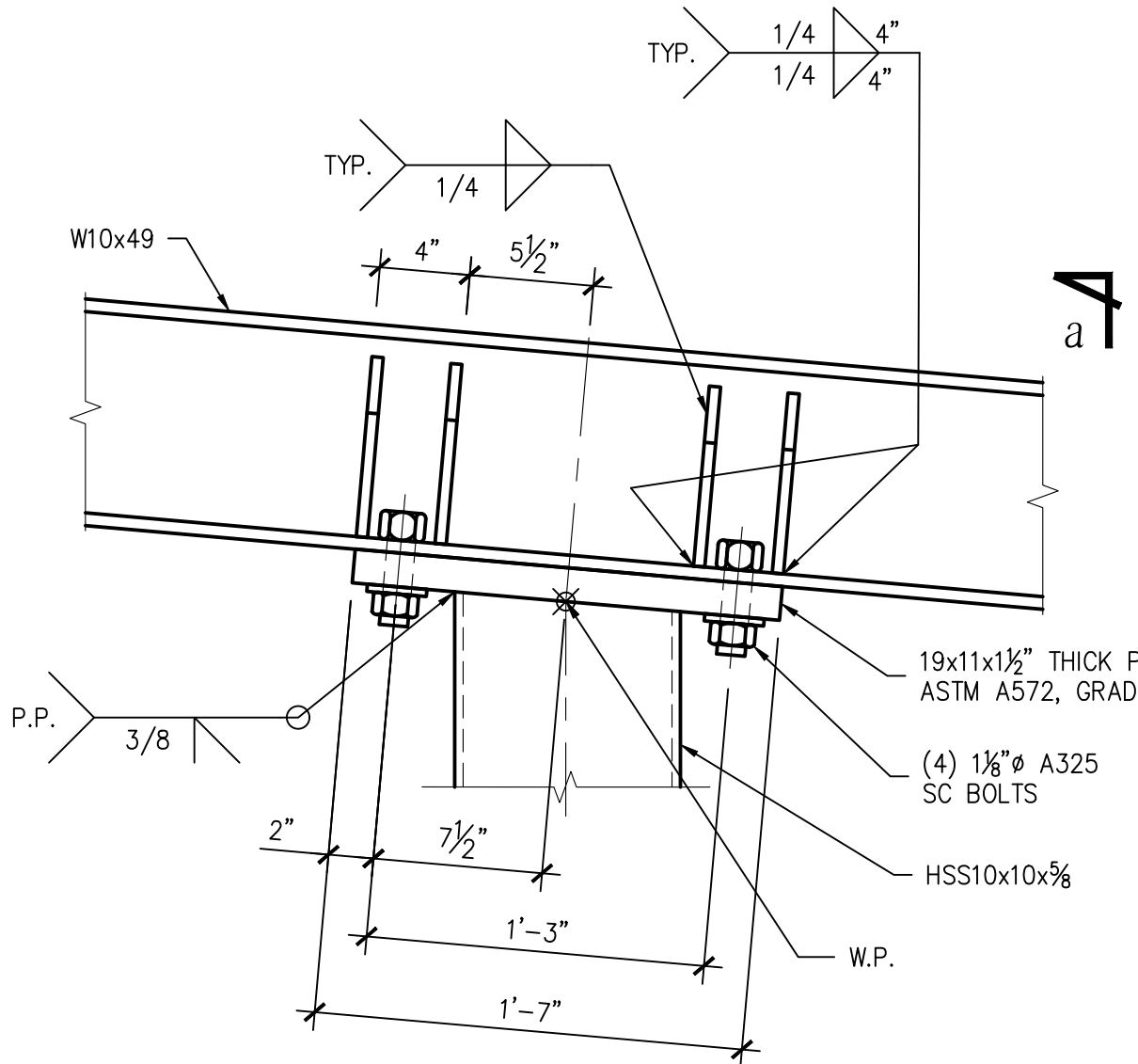
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FOUNDATION DETAILS

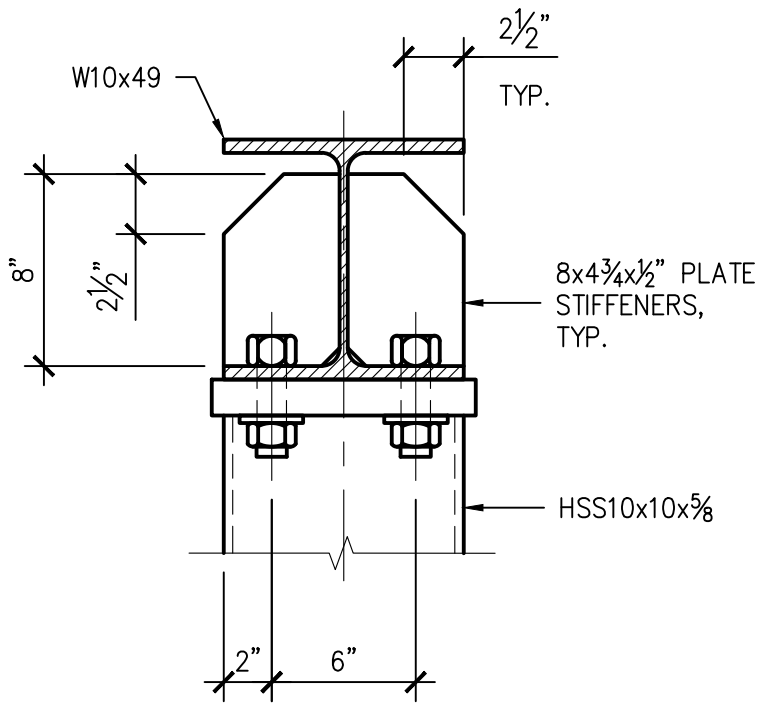
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DRAWN: LW	SCALE: 1" = 10'-0"
SHEET NUMBER	

S-2

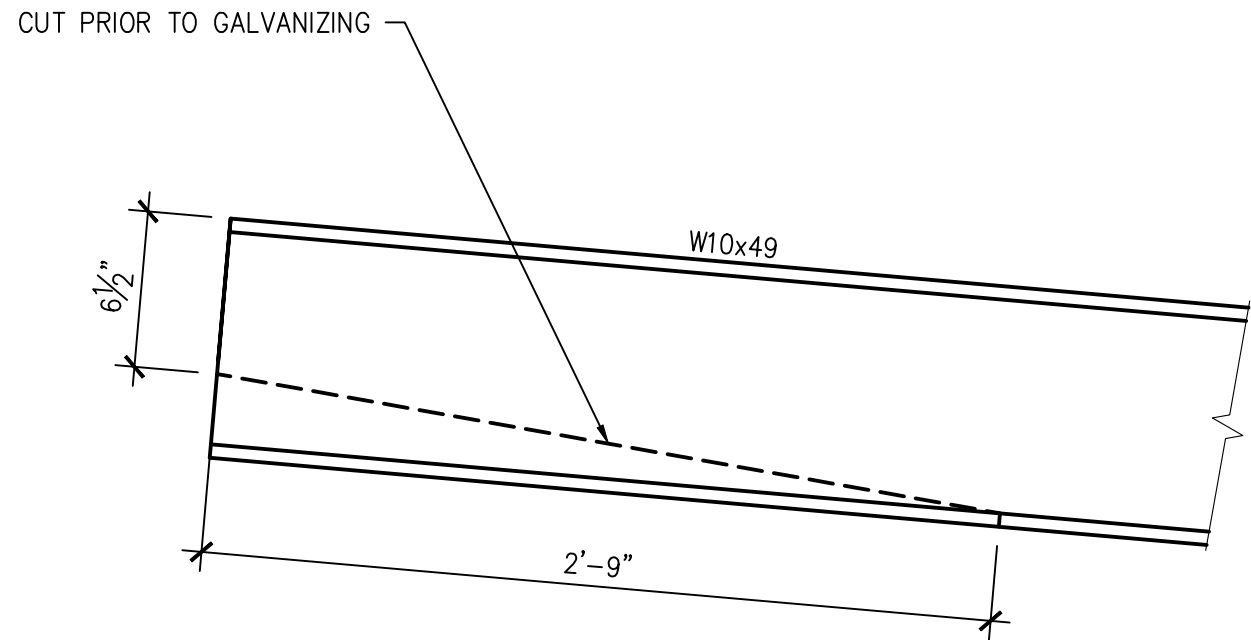
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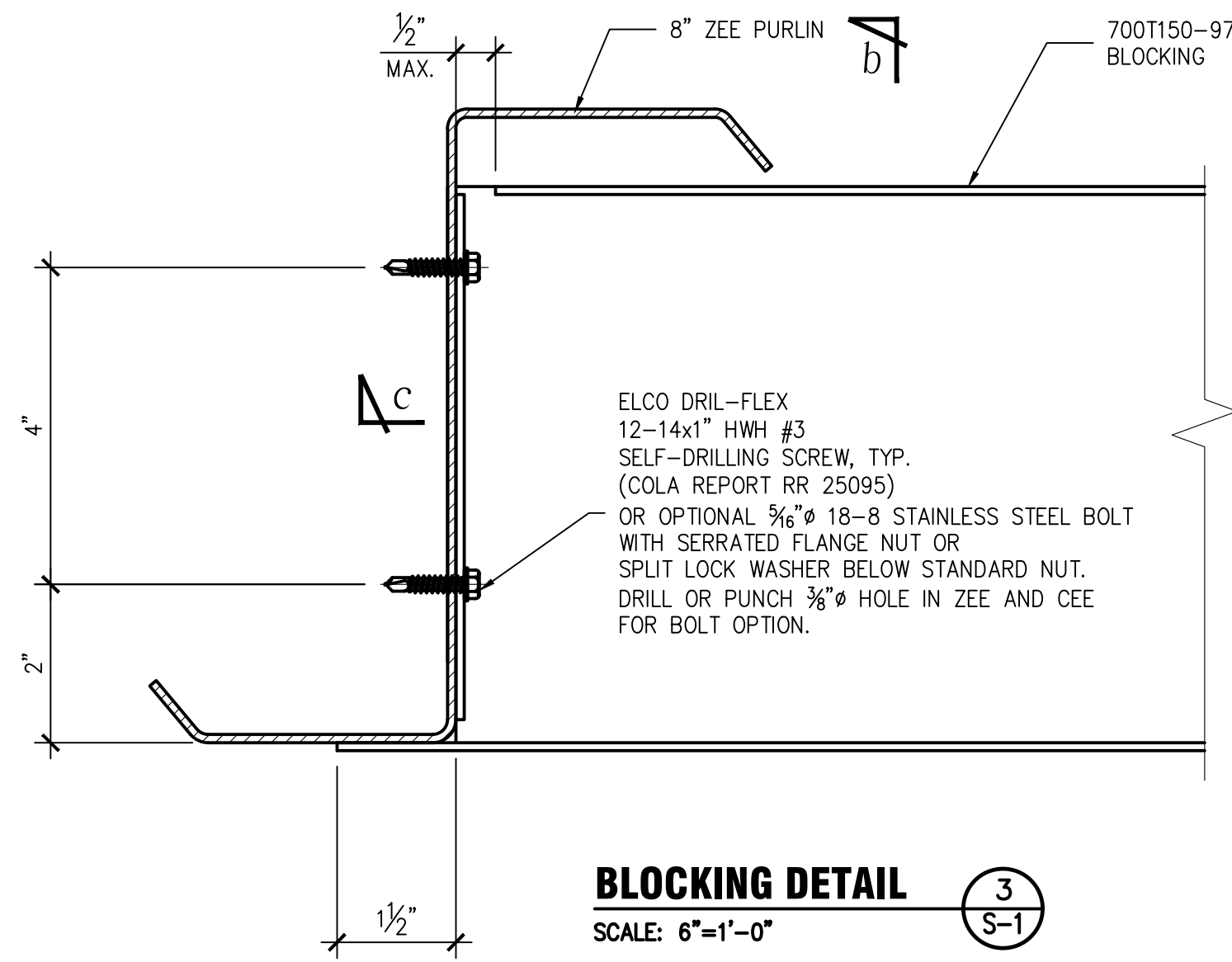
WF BEAM BOLTED OPTION - TOP CONNECTION DETAIL
SCALE: 1 1/2"=1'-0"



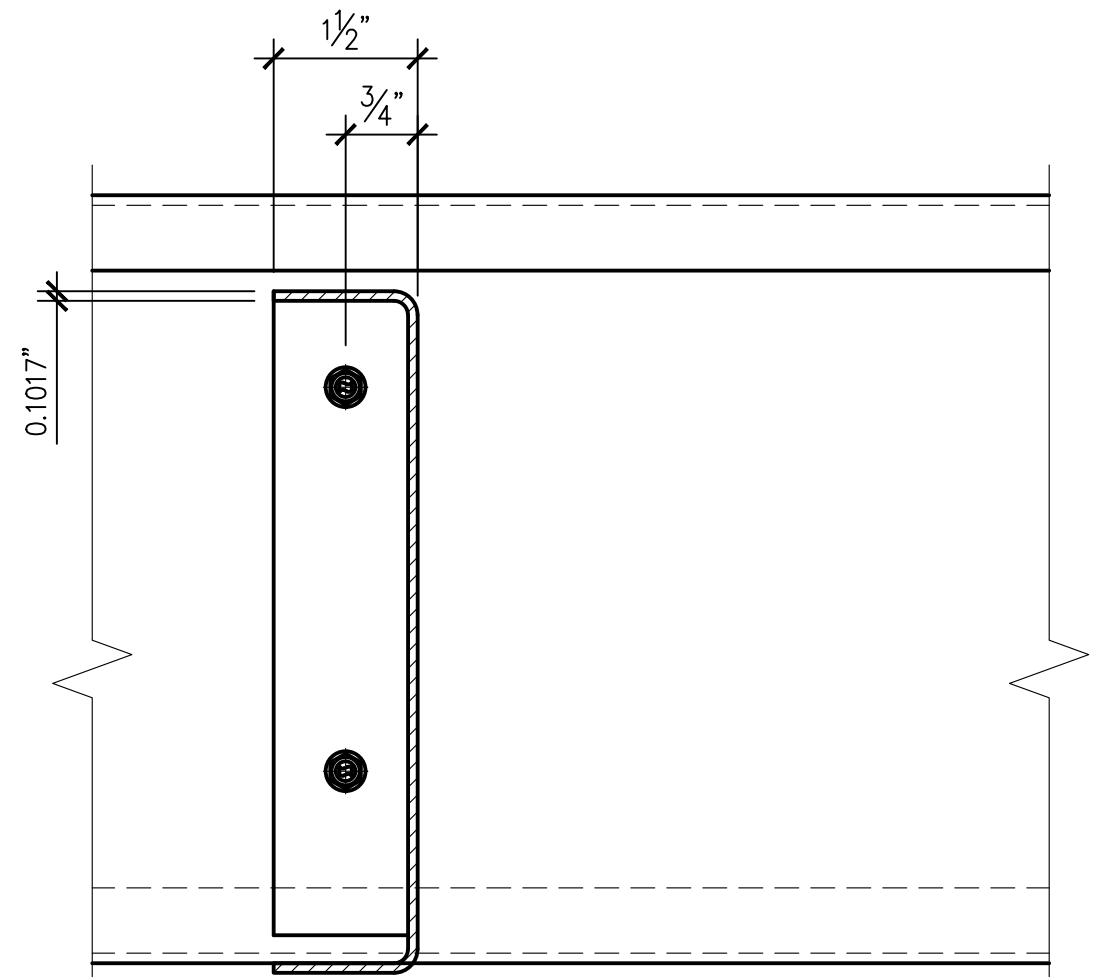
SECTION a
SCALE: 1 1/2"=1'-0"



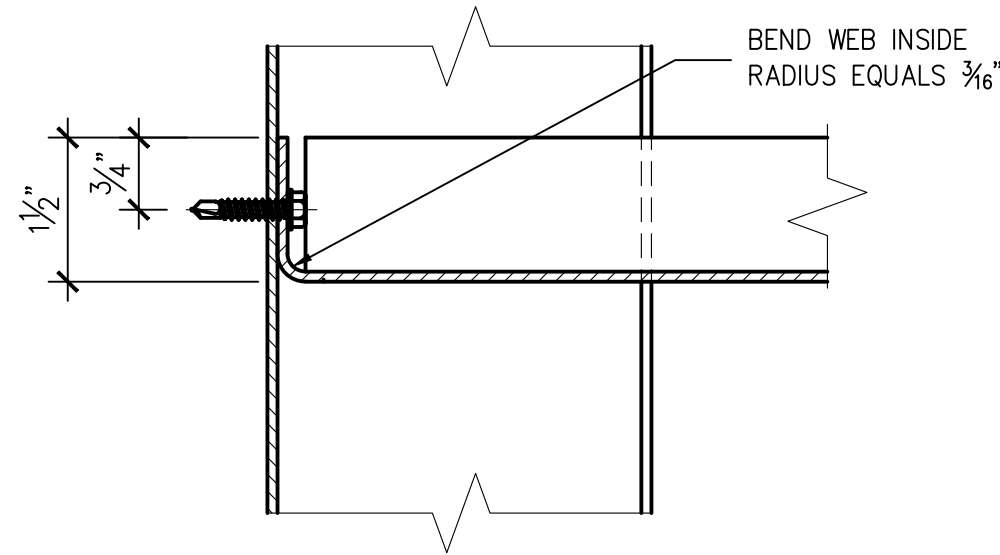
TAPERED END DETAIL
SCALE: 1 1/2"=1'-0"



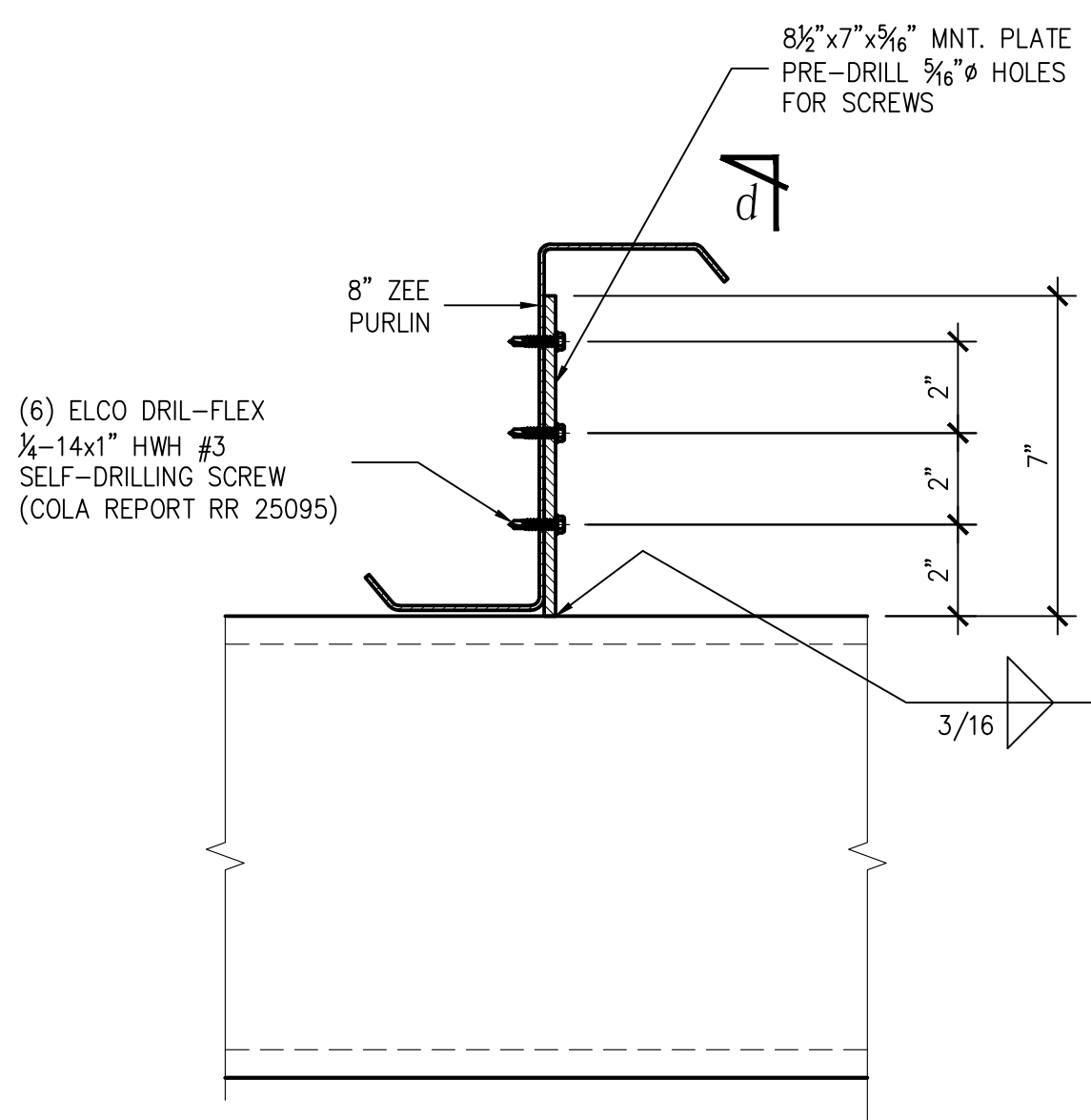
BLOCKING DETAIL
SCALE: 6"=1'-0"
NOTE: SOLAR MODULES NOT SHOWN FOR CLARITY



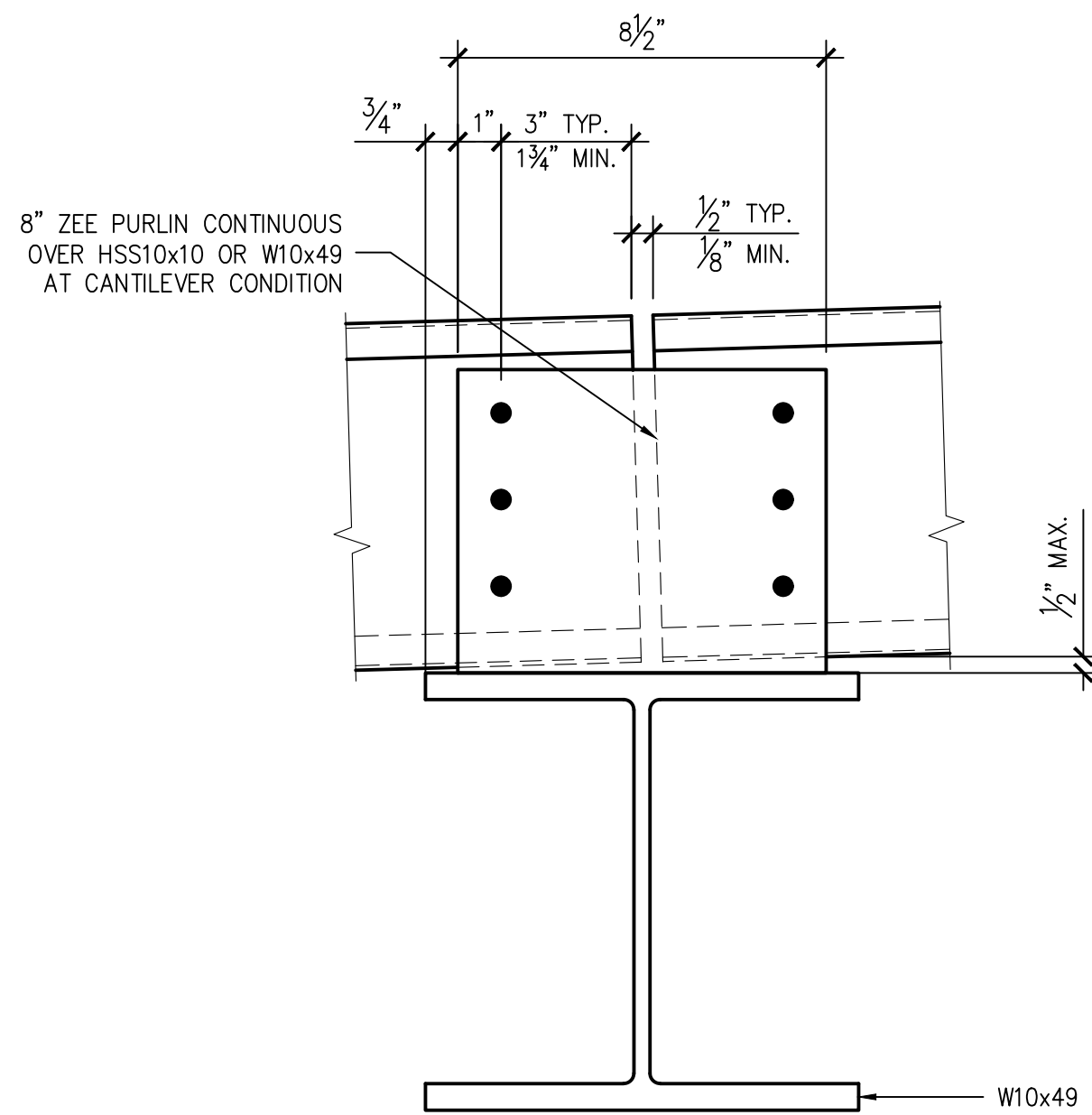
SECTION b
SCALE: 6"=1'-0"



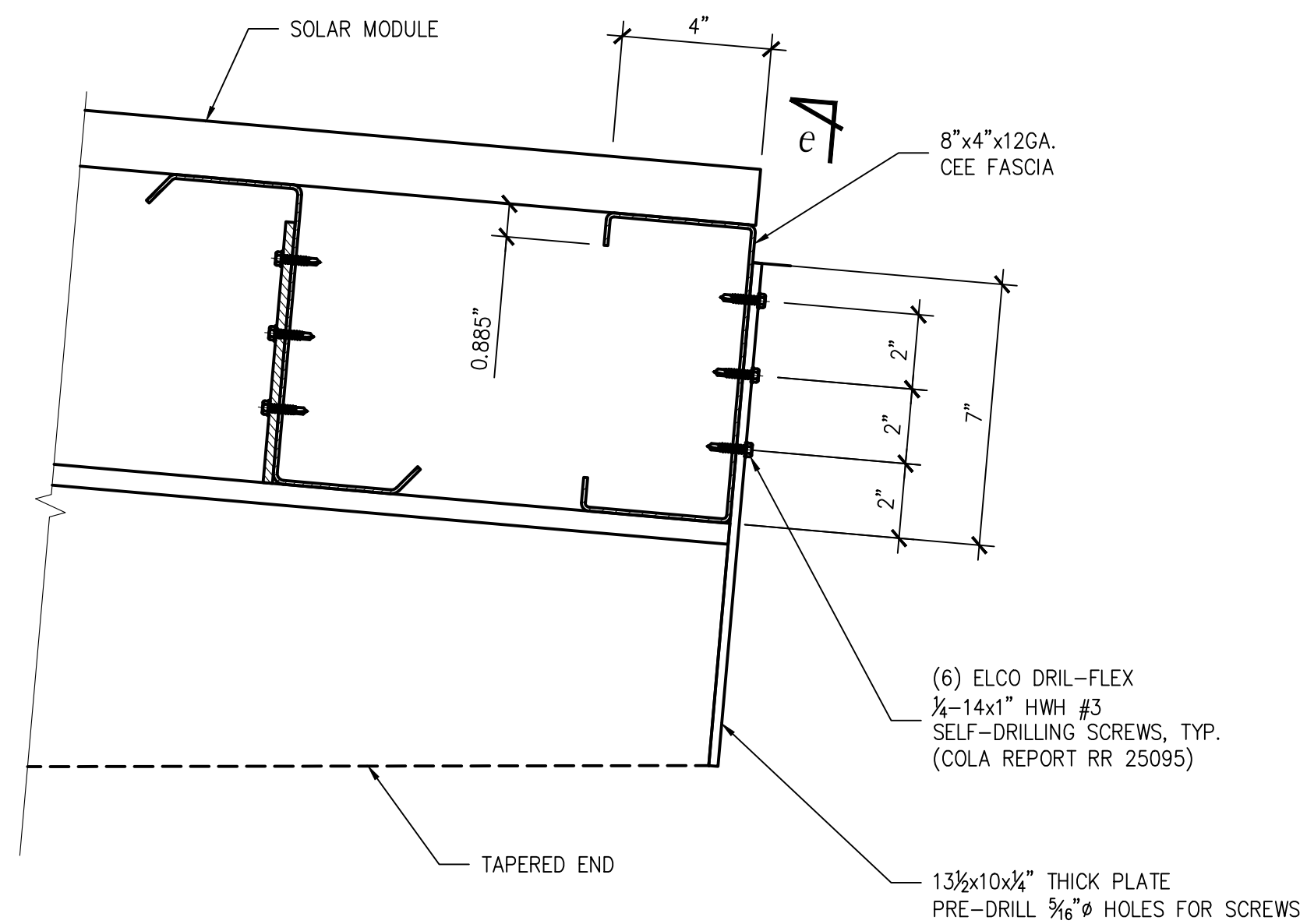
BLOCKING CLIP SECTION C
SCALE: 6"=1'-0"



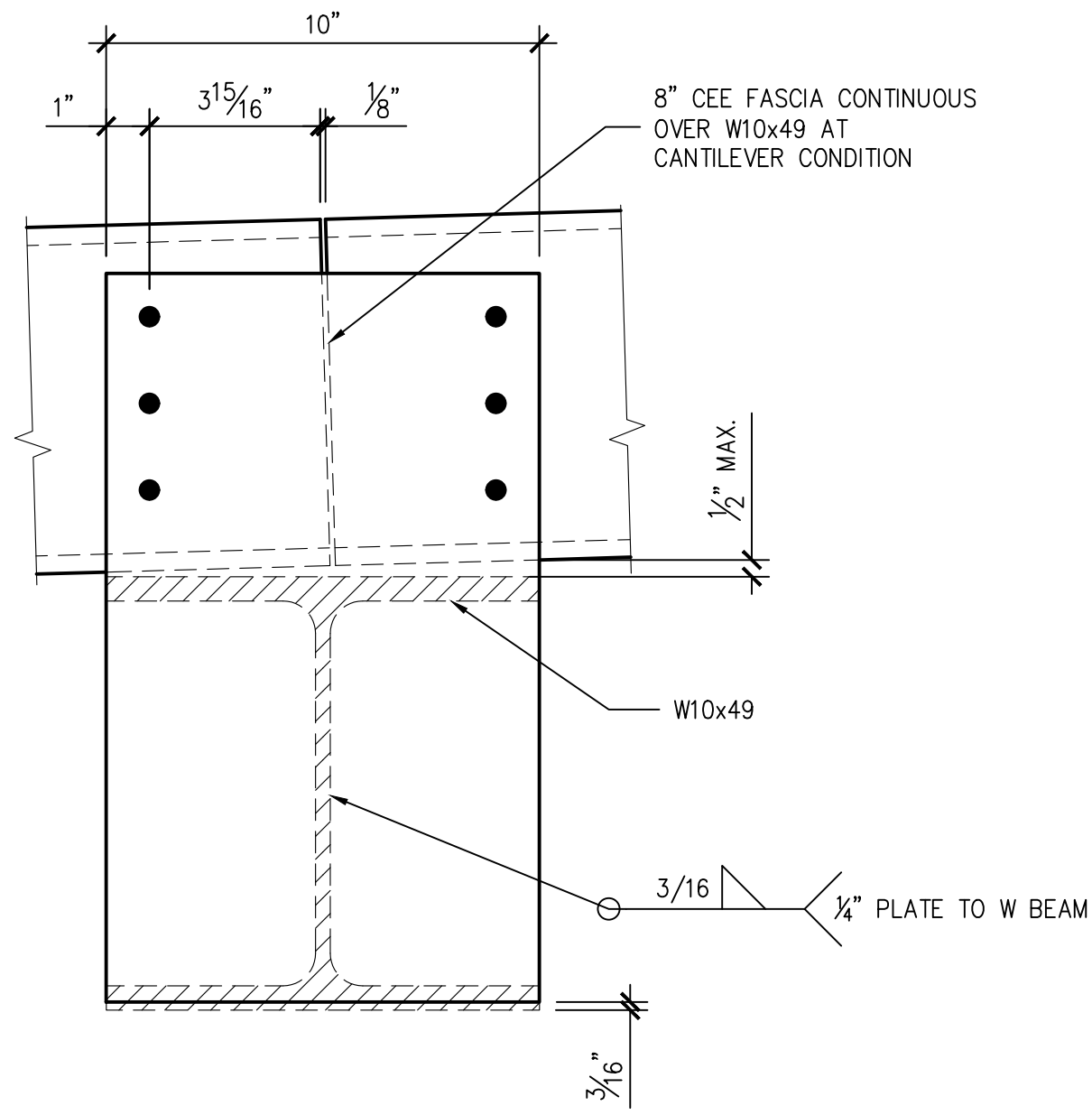
PURLIN CONNECTION DETAIL
SCALE: 3"=1'-0"
NOTE: SOLAR MODULES NOT SHOWN FOR CLARITY



SECTION d
SCALE: 3"=1'-0"



FASCIA DETAIL FOR WF
SCALE: 3"=1'-0"



SECTION e
SCALE: 3"=1'-0"



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REV #	DESCRIPTION	DATE
0	ISSUED FOR BIDDING	07/18/2019

PROJECT TITLE:
CITY OF SEASIDE CITY HALL
PHOTOVOLTAIC ARRAYS
440 HARCOURT AVE.
SEASIDE, CA

SHEET TITLE:

PURLIN CONNECTION, BLOCKING
AND TOP CONNECTIONS DETAILS

JOB NO.: 218061	PROJECT MGR: SG
DRAWN: LW	SCALE: AS NOTED
SHEET NUMBER	

S-3

FOR BID

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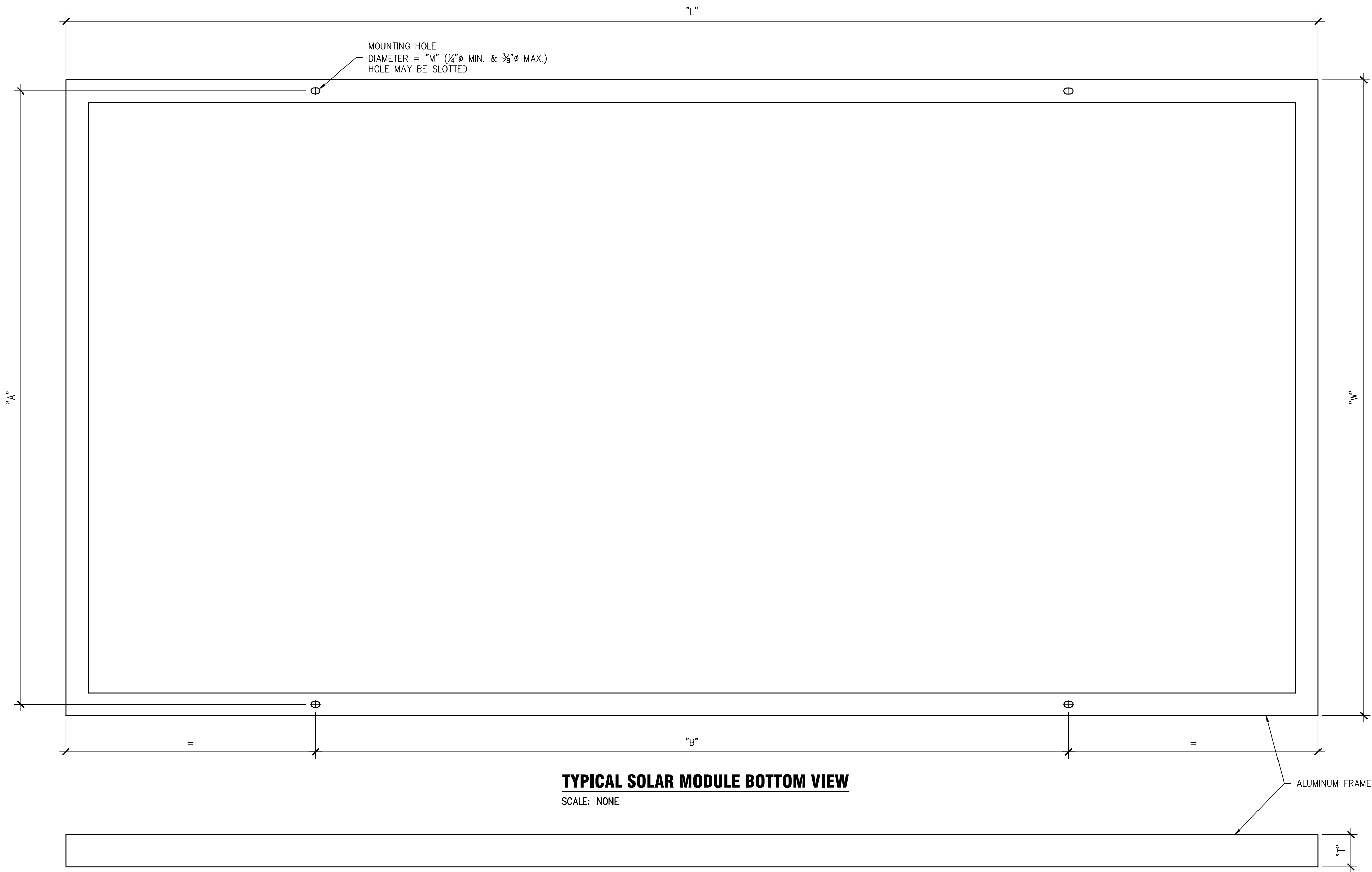
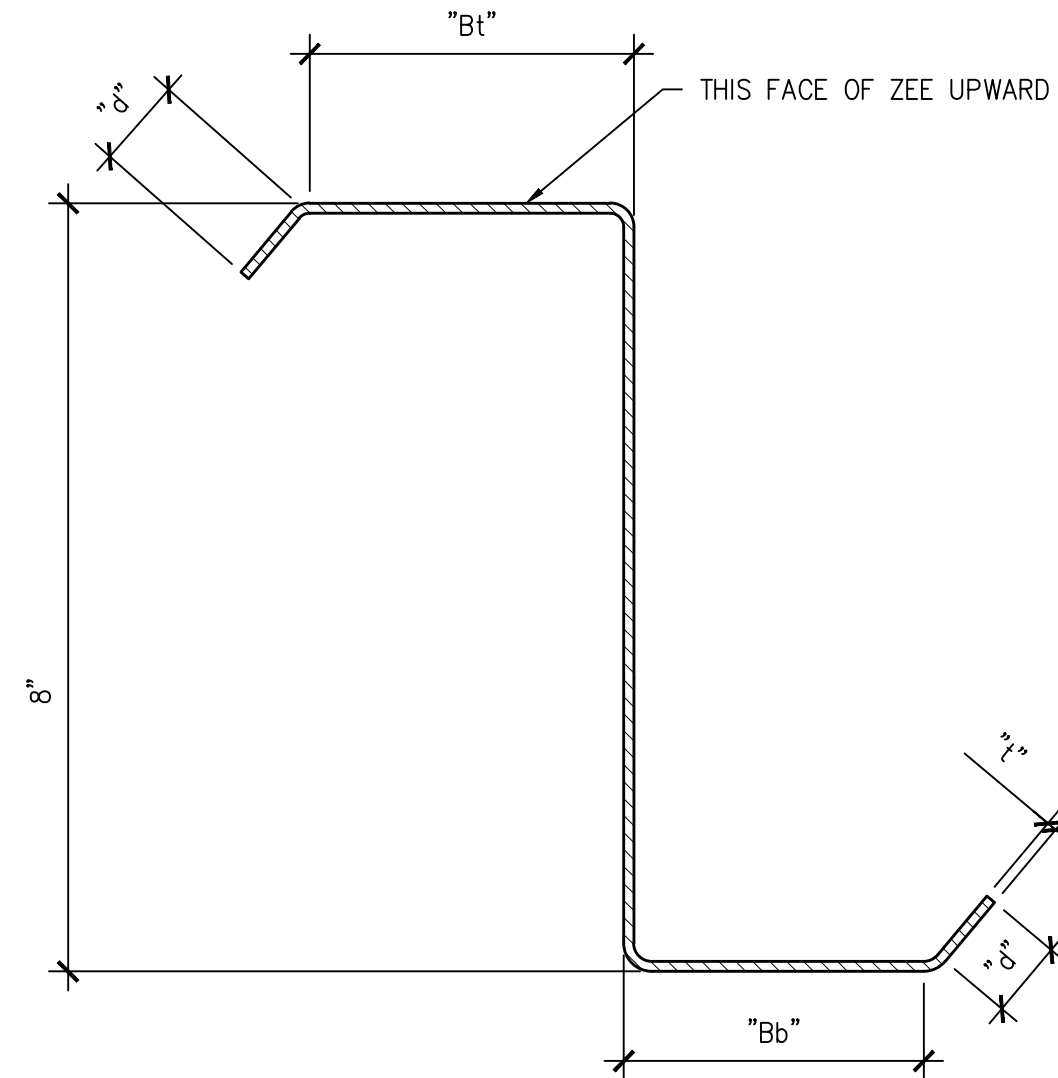
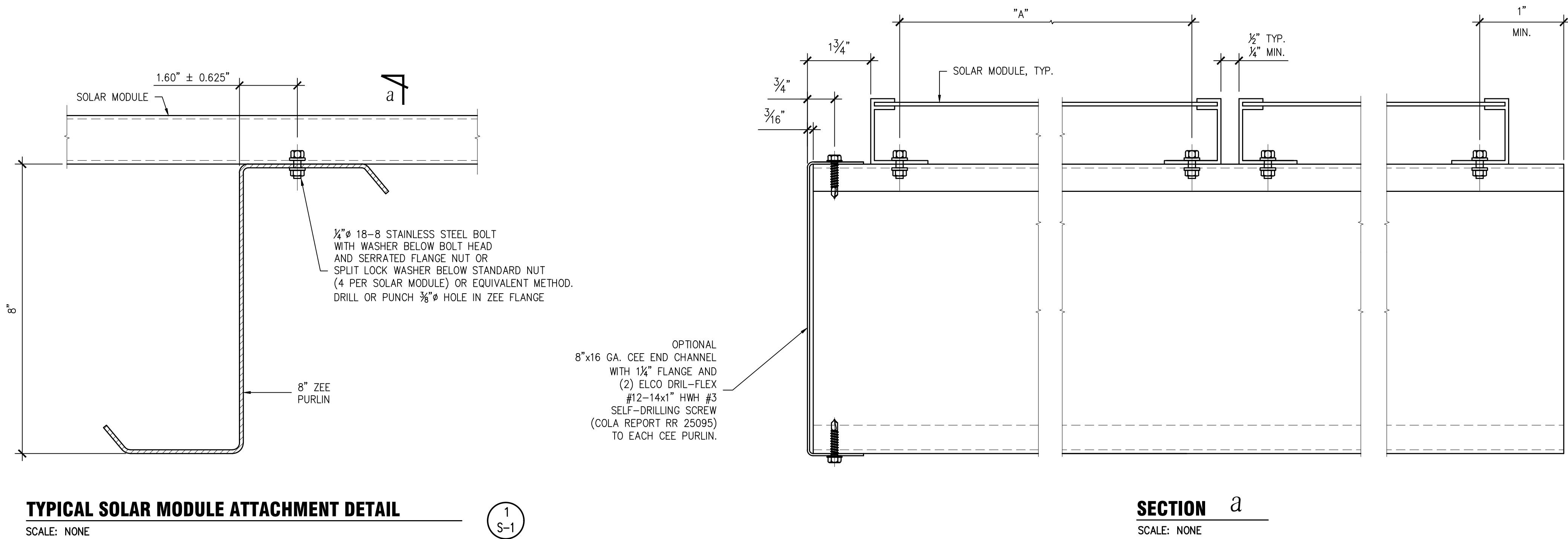


TABLE "S"

PURLIN TYPE	"Bt"	"Bb"	"d"	"t"	"C"	"E"	"F"	"N"	"G"	"H"	"J"	"K"
8ZS3.25x105	3.375"	3.125"	0.990"	0.105"	2 3/4"	2 7/8"	3.55"	3.31"	$\frac{"W"-"A"+0.69"}{2}$	$"G"+\frac{1}{2}"$	$"M"- \frac{1}{16}"$	$\frac{"W"-"A"+0.06"}{2}$



TYPICAL 8" ZEE PURLIN DETAIL



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CITY OF SEASIDE CITY HALL
PHOTOVOLTAIC ARRAYS
440 HARCOURT AVE.
SEASIDE, CA

SHEET TITLE:

TYPE 2 - TYPICAL SOLAR
MODULE ATTACHMENT, TYPICAL
SOLAR MODULE, AND ZEE DETAIL

JOB NO.: 218061	PROJECT MGR: SG
DRAWN: LW	SCALE: AS NOTED
SHEET NUMBER	

S-4

FOR BID



**CITY OF SEASIDE
STAFF REPORT**

Item No.: 8.L.

TO: City Council

FROM: Lesley Milton-Rerig, Assistant City Manager

BY: Rick Riedl, City Engineer
Scott Ottmar, Senior Engineer

DATE: October 3, 2019

SUBJECT: ADOPT A RESOLUTION TO AMEND THE PROFESSIONAL SERVICES AGREEMENT WITH SAGE RENEWABLES FOR CITY HALL SOLAR CANOPY PROJECT TO INCLUDE DESIGN AND INSPECTIONS SERVICES DURING CONSTRUCTION FOR AN AMOUNT NOT TO EXCEED \$75,700.

PURPOSE & RECOMMENDATION

Approve a resolution awarding a contract amendment to the City Hall Photovoltaic Design professional service agreement with Sage Renewables (Sage) to provide design and inspection support services during construction of the City Hall Solar Canopy project for an amount not to exceed \$75,700.

BACKGROUND

On February 16, 2018, the City issued a Request for Proposal (RFP) soliciting qualified firms to submit proposals to perform a feasibility study and develop plans and specifications for a photovoltaic (PV) system located at City Hall. On April 19, 2018, the City Council awarded a professional services agreement to Sage Renewables to perform a feasibility analysis and design of a photovoltaic project at City Hall. To control costs, staff limited the initial scope of work to just the feasibility study and design, with the intent of soliciting an amendment for design and inspection services during construction to be considered in conjunction with the associated construction project award. Awarding the professional services during construction at this time allows staff to control costs by reducing the unknowns and uncertainties within the

project as compared to the initial conceptual design levels at initial project creation.

On February 15, 2019, Sage submitted design plans to the city for construction of a Solar Project (Project). The Project includes construction of two parking canopies situated at the east end of the City Hall parking lot. The Board of Architectural Review received and approved the project construction drawings on March 6, 2019, and at its March 21, 2019 regular meeting, the City Council approved the design and authorized the Project for bid.

On September 19, 2019, at a public bid opening, the city received one bid in the amount of \$467,416 from Santa Cruz Westside Electric, dba Sandbar, for construction of the Project. A separate council item to consider authorization of the construction contract is on the agenda.

A photovoltaic project requires unique technical expertise to review submittals and perform inspections during construction. At the request of the Engineering Division, Sage submitted a proposal on August 28, 2019 for Construction Support of the City Hall Solar Canopy project in the amount of \$75,700. Staff reviewed the proposal and determined the scope and fee to be appropriate and recommends Council authorize the City manager to execute Amendment #3 to the Sage contract.

FISCAL IMPACT

The initial scope for feasibility study and design was for an amount of \$72,500, with a 10% contingency that resulted in a not to exceed contract total of \$79,800. Two amendments to the initial contract were authorized. Amendment #1 in the amount of \$6,000 was necessary for Sage to retain an architect to evaluate lighting options beneath the solar parking canopies, resulting in a contract value of \$78,500. The second amendment was a no cost amendment to extend the contract term and prevent the contract from expiring prior to completion of the Project.

The fiscal year 2019/2020 adopted budget authorizes \$658,000 (347-9539) for design and construction of a solar project at City Hall. Based upon the bid received from Sandbar, the budget to construct the project is \$537,050, resulting in an available balance of \$120,950.

Sage has received compensation of \$76,163, funded from the fiscal year 2017/2018 and 2018/2019 Project approved budgets. A 10% contingency is appropriate for a design and inspection support during construction contract for a project of this complexity. It is recommended the City Council authorize the City Manager, or designee, to execute up to an additional 10% contingency for written amendments to the professional services agreement with Sage such that the full value of contract amendment #3 may not exceed \$83,270.

ATTACHMENTS

1. Draft Resolution
 2. Contract Amendment #3
-

RESOLUTION NO. 19-____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SEASIDE

AWARDING CONTRACT AMENDMENT #3 TO SAGE RENEWABLES FOR DESIGN AND INSPECTION SUPPORT DURING CONSTRUCTION OF THE CITY HALL SOLAR CANOPY PROJECT FOR AN AMOUNT NOT TO EXCEED \$75,700.

WHEREAS, solar energy is an environmentally sustainable, renewable resource capable of providing an alternative source of power for City Hall; and

WHEREAS, on April 19, 2018, the Council awarded an initial contract to Sage Renewables (Sage) for feasibility analysis and design of a solar project at city hall for an amount of \$72,500 and included a 10% contingency such that the not to exceed value of the contract was \$79,800; and

WHEREAS, two amendments were issued to the initial contract resulting in a contract value of \$78,500;

WHEREAS, a photovoltaic project requires unique technical expertise to review submittals and perform inspections during construction, and

WHEREAS, in order to control costs, design support and inspection services during construction was not awarded with the initial contract with Sage; and

WHEREAS, Sage Renewables submitted a proposal dated August 28, 2019 in the amount of \$75,700 to provide design and inspections services during construction; and

WHEREAS, the fiscal year 2019/2020 adopted budget authorizes \$658,000 for the design and construction of a solar project at City Hall (347-9539); and

WHEREAS, staff determined that Sage Renewables is qualified to perform the design and inspection services during construction for the city hall solar project; and

WHEREAS, Public Resources Code (PRC) Section 21080.35 statutorily exempts from CEQA analysis the installation of solar energy systems on the roof of an existing building or at an existing parking lot.

"Equipment will be mounted to the carport structures. Other than the proposed structures, associated electrical equipment will be contained within the boundaries of the City Hall/Library parking lots and/or will be adjacent to existing buildings. Wiring from the photovoltaic structures will be routed underground to the main electrical service panel at the site". and

NOW, THEREFORE BE IT RESOLVED, City Council of the City of Seaside authorizes the City Manager to execute contract amendment #3 with Sage Renewables for design and inspections services during the construction of *City Hall Solar Canopy Project* for an amount not to exceed Seventy Five Thousand Seven Hundred Dollars (\$75,700); and

NOW, THEREFORE BE IT FURTHER RESOLVED, that the City of Seaside City Council authorize the City Manager, or his designee, to execute up to an additional 10% contingency for written amendments to amendment #3 outlined above such that the value of contract amendment #3 may not exceed Eighty Three Thousand Two Hundred Seventy Dollars (\$83,270).

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Seaside duly held on the 3rd day of October, 2019 by the following vote:

AYES:	COUNCILMEMBERS:
NOES:	COUNCILMEMBERS:
ABSENT:	COUNCILMEMBERS:
ABSTAIN:	COUNCILMEMBERS:

Ian N. Oglesby, Mayor

ATTEST:

Lesley Milton-Rerig, City Clerk

CONTRACT AMENDMENT #3
CONSTRUCTION SUPPORT
City Hall Photovoltaic Solar Project

Date: September 24, 2019

Change Requested by: X City Consultant

Contract Date

April 19, 2018

Project Name

City Hall Photovoltaic Solar Project AG 18-40

To (Consultant): Sage Renewable Energy Consulting, Inc.
1719 Fifth Avenue
San Rafael, CA 94901

You are directed to make the following changes to the Contract Documents or amend the following described work not included in the contract documents for this project.

The purpose of this addendum is to provide additional professional services related to the project. The contract terms and conditions shall not be modified except for as stated herein.

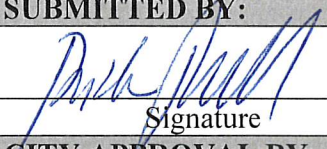
MODIFY the following text in **Section 2, "Services"**

Consultant shall perform the tasks described and set for in Exhibit A, B1, and B2, attached hereto and incorporated herein as though set forth in full. Consultant shall complete the tasks according to the schedule of performance which is also set forth in Exhibit A, B1, and B2.

MODIFY the following text in **Section 22, "Contents of Request for Proposal and Proposal."**

Consultant is bound by the contents of City's Request for Proposal, Exhibit "C" hereto and incorporated herein by this reference, and the contents of the proposal submitted by the Consultant, Exhibit B, B1 & Exhibit B2 hereto.

Original Contract Amount	Previous CCO Total (Not including this CCO)	This CCO Total	Revised Contract Amount
\$72,500.00	\$6,000	\$75,700	\$154,200.00
Original Contract Time	Original Completion Date	CCO Days To Date (Including This CCO)	Revised Completion Date (Including this CCO)
12	April 19, 2019	32 months	December 31, 2020

SUBMITTED BY:		
	Rick Riedl City Engineer / Public Works Director	9/26/2019
Signature	Name and Title	Date
CITY APPROVAL BY:		
	Craig Malin City Manager	
Signature	Name and Title	Date

CONSULTANT ACCEPTANCE BY:		
	Tom Williard Principal	
Signature	Name and Title	Date

Task Order City Hall Photovoltaic Solar Project

Task Order # Modification 2 – Construction Support

This Task Order Modification is pursuant to the Professional Services Agreement ("PSA") between Sage Renewable Energy Consulting, Inc. ("SAGE") and City of Seaside ("CLIENT") dated April 19, 2018.

This Task Order Modification must be mutually executed before work is commenced.

Project Name	City Hall Photovoltaic Solar Project
Client	City of Seaside
Physical Location	Location
Estimated Start Date	October 1, 2019
Estimated End Date	May 31, 2020
Estimated Fees	\$75,700 NTE

Project Contacts

SAGE	City of Seaside
Name: Dana Coe	Name: Rick Riedl
Title: Principal	Title: Public Works Director / City Engineer
Email: dana@sagerenew.com	Email: riedl@ci.seaside.ca.us
Phone: 415-663-9914	Phone: 831-899-6884
Address: 1719 Fifth Avenue San Rafael, CA 94901	Address: 440 Harcourt Avenue Seaside, CA 93955

Project Overview

City of Seaside intends to develop parking shade structures equipped with solar PV systems at Seaside City Hall. Sage, with partner Blymyer Engineers and subconsultant WRD Architects, has thus far assisted the City with feasibility analyses and design services for this project; and the City expects soon to engage a solar PV construction contractor (CC) to implement the project design.

Under this task order modification, Sage will provide owner's representative services during project construction. The scope of work includes assistance to the City during construction and commissioning of the project. Sage will subcontract with Blymyer Engineers, who will advise Sage as needed about design-related requests for information (RFI) or change orders. Sage assumes the City staff will undertake day-to-day Construction Management (CM) and City-permit related inspections,

with Sage and Blymyer providing technical support and other services as described herein (Tasks 1-3).

Scope of Work

Task 1 Construction Support

- 1.1 Coordinate and participate in a construction kickoff meeting (on site).
- 1.2 Participate in weekly project meetings by phone and attend in-person meetings as per City needs and project construction activities.
- 1.3 Perform monthly site inspections and produce an inspection report for each site visit.
- 1.4 Track construction contractor (CC) -maintained master schedule and look-aheads against milestones.
- 1.5 Review and respond to RFIs during construction.
- 1.6 Review pay-app requests and provide input to CLIENT.
- 1.7 Technical review/comments/support to CM, including comments on design changes and change orders and CC's work with regard to contract/industry standards for PV. Review CC submittals.
- 1.8 As-needed communications & coordination with CLIENT, CM and AHJ Inspector.

Site Visits: Up to 6, including construction kickoff meeting, four site visits during construction, and a closing punchwalk.

Task 2 Commissioning (Cx) Verification

- 2.1 Review Contractor's Cx protocol to ensure industry standard.
- 2.2 Inspection of systems, including:
 - System component and design conformance verification
 - Workmanship evaluation
 - Performance verification
- 2.3 Provide input to change order closeout and contract amendments.
- 2.4 Confirm CC achieves Utility PTO and closeout tasks/submittals.
- 2.5 Provide input to project closeout punch list; and verify completion of punch list in coordination with CM/AHJ inspectors or other stakeholders.
- 2.6 Produce summary report of Cx verification with electronic library of closeout documentation including as-built record drawings, permission to operate letters, inspections, punch list closeout, final contracts and amendments, etc.

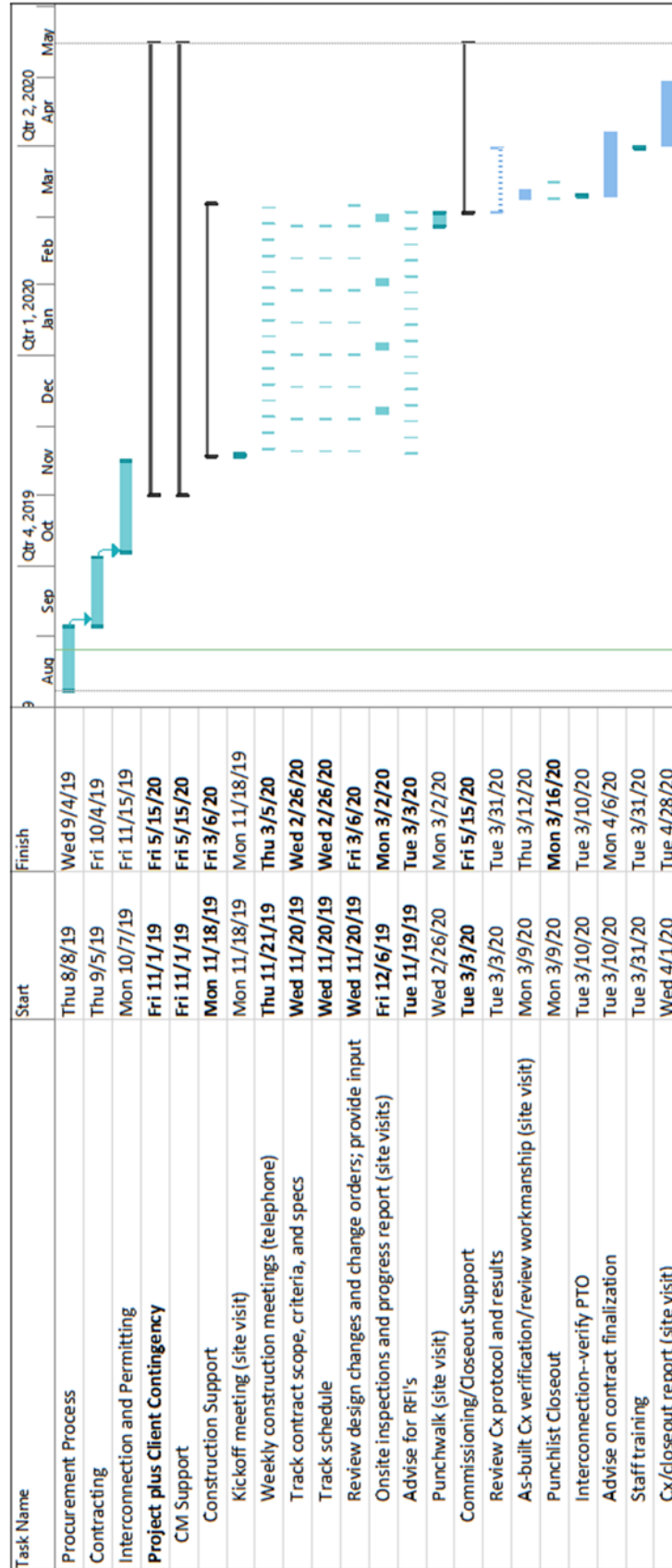
Site visits: Up to two site visits for inspections and verification.

Schedule and Deliverables

Project Schedule and Deliverables

Task	Anticipated Start Date	Anticipated End Date	Deliverables
Task 1. Construction Support	Nov 18, 2019	March 25, 2020	– Review & Comments for Submittals/RFIs/Change Orders/Pay Apps – Input to Punchlist based on inspections
Task 2. Commissioning Verification	January 27, 2020	May 15, 2020	– Commissioning Verification Report, , includes performance testing, inspection reports & electronic document closeout library

Project Schedule (Illustration)



Project Requirements and Assumptions

1. SAGE will travel to CLIENT sites per Site Visit assumptions outlined in Scope of Services. Project travel generally assumes one SAGE representative per visit unless otherwise noted. Additional project travel will be billed separately on a T&M basis and will require additional budget authorization by CLIENT.
2. Assumes schedule as shown in Scope of Work. Delays or extension of the assumed schedule will impact the budget.
3. All deliverables will be delivered in electronic format. Any Client-requested printed materials will be billed at cost, plus 10%.
4. CEQA documentation and process management to be provided by CLIENT in cooperation with CLIENT legal counsel. SAGE in coordination with CC will provide project details needed to prepare CEQA documentation.
5. Construction and commissioning of project will be performed by CC or others. SAGE will assist CLIENT by providing technical assistance during construction, and by providing review/oversight of CC's commissioning. This scope of work assumes CLIENT will self-perform or separately contract day-to-day construction management services and code inspection services.
6. SAGE initiated an interconnect application (IA) for the project. This scope of work assumes CC will assume responsibility for the interconnection process once under contract and will be responsible for interconnect with Utility. SAGE will advise as needed for CC's interconnection efforts.
7. Out-of-scope services will require additional budget authorization by CLIENT and will proceed only as authorized by CLIENT.

Fees and Payment Schedule

The total estimated Project fees listed in this section are indicative pricing based on a typical solar PV Project. Final contract pricing will be based upon final project scope.

Time and Materials Fee Structure

Sage and team partner for this project, Blymyer Engineers, propose to provide services on a time and materials (T&M) basis with not-to-exceed (NTE) limits shown in Table 1, billed at the hourly rates listed in Tables 3 and 4. Table 2 summarizes estimated levels of effort by task and by labor category. T&M travel time is billable at the full hourly rate. When working on a T&M basis, SAGE will notify CLIENT when 80% of a task's budget has been completed and will not exceed NTE limits without consent of CLIENT. The rates in effect at the time that work is performed will be used. A project set-up fee offsets administrative costs (maximum \$5000).

Table 1. Estimated NTE limits by task.

Task	NTE Limits
Project administrative/set-up fee	\$2,500
1 Construction Support	\$53,600
2 Commissioning Verification	\$19,600
Total	\$75,700

Table 2. Estimated levels of effort by task and labor category.

Task	Labor or Cost Category	Estimated Level of Effort (Hours)	Estimated Cost
Project administrative/set-up fee			\$2,500
1 Construction Support	Principal	23	\$5,405
	Project Manager / Project Admin	20	\$2,750
	Construction Manager	160.5	\$28,890
	ODCs and Subcontractors, including markup		\$16,525
Subtotals, Construction Support		203.5	\$53,570
2 Commissioning/ Closeout Support	Principal	13.5	\$3,173
	Project Manager / Project Admin	9	\$1,238
	Construction Manager	75.5	\$13,590
	ODCs and Subcontractors, including markup		\$1,600
Subtotals, Commissioning/Closeout Support		98	\$19,600
Totals		301.5	\$75,670

Hourly Fee Schedule

Table 3. Sage Renewables standard hourly billing rates.

Title	2019-2020	2021
Managing Principal	\$250	\$265
Principal	\$235	\$250
Associate Principal	\$225	\$235
Subject Matter Expert	\$320	\$335
Senior Project Manager	\$220	\$230
Project Manager	\$195	\$205
Senior Engineer	\$195	\$205
Engineer	\$165	\$175
Senior Data Scientist	\$195	\$205
Data Scientist	\$165	\$175
Construction Manager	\$180	\$190
Senior Analyst/Technician	\$170	\$180
Analyst/Technician	\$140	\$145
Program Support Specialist	\$100	\$105
Project Administrator	\$80	\$85
Energy Intern	\$105	\$110

Table 4. Blymyer Engineers standard hourly billing rates.

Title	2019
Principal	\$250
Engineer III	\$210
Engineer II	\$185
Engineer I	\$145
Project Manager III	\$210
Project Manager II	\$185
Designer III	\$165
Designer II	\$135
CAD Operator/Draftsperson	\$115
Engineering Assistant	\$105
Project Administrator	\$125
Administrative Assistant	\$85
Itemized expenses: Outside expenses will be charged at the actual cost plus 15% to cover Blymyer handling costs.	

Billing/Payment Structure

SAGE invoices on a monthly basis with terms of Net 30. SAGE will only bill for work that has been completed and does not bill for uncompleted tasks if the Project is terminated or suspended. If schedule is extended as a result of regulatory, District, or Design-Build Contractor actions, SAGE will consult with CLIENT on utilizing contingency funds or extending the budget as needed.

Sage Reimbursable Expenses

Estimated NTEs account for travel indicated in the Proposed Scope of Services. Fees assume all deliverable materials for the project will be provided digitally. Any Client-requested printed materials will be billed at cost, plus 10%. For time and materials fee structure projects, all reasonable and ordinary expenses are reimbursable at cost plus 5%.

Travel Costs

Personnel travel time from our office to project location is billable at the full hourly rate. Meals and lodging will be billed at cost. Vehicle driving mileage will be billed at the current IRS mileage rate. No air travel is expected for this project.

Subconsultant Fees

Subconsultant fees will be passed through at cost plus 15%.

Term of Fee Schedule

The Fee Schedule above is for project work completed through December 31, 2021.



**CITY OF SEASIDE
STAFF REPORT**

Item No.: 9.A.

TO: City Council

FROM: Lesley Milton-Rerig, Assistant City Manager

BY: Lesley Milton, Assistant City Manager

DATE: October 3, 2019

**SUBJECT: ADOPT AN ORDINANCE AMENDING SEASIDE MUNICIPAL
CODE CHAPTER 13.24 WATER ALLOCATION PROGRAM TO
INCORPORATE CHANGES REQUESTED AT THE AUGUST 1, 2019
MEETING INCLUDING ADDING ALLOCATIONS FOR
ACCESSORY DWELLING UNITS (SECOND READING, ROLL CALL
VOTE)**

PURPOSE & RECOMMENDATION

It is recommended that the City Council adopt the ordinance as presented.

BACKGROUND

The City's Water Allocation policies have been governed in accordance with Ordinance 892, adopted in 2001. This established criteria and priorities for categories of water allocation, the establishment of the Water Allocation Committee and how to prioritize and score applications received requesting water allocations based on a points system contained in the ordinance.

As written, this ordinance specifically prioritizes two categories for water allocation: commercial and institutional.

As of April 2019, the City's most recently published water balance is 38.831 acre feet (AF) of water. The quantities of allocations and categories of allocations are established by Council and were amended on August 1, 2019 allocating a total of 33.831 AF of water leaving 5 AF unrestricted with the intent to establish allocation requirements

making Accessory Dwelling Units (ADUs) a more viable option to increase dwelling units in the city, also emphasizing affordable housing.

Based on direction given at the August 1, 2019 meeting, the attached draft ordinance accomplishes the following two purposes:

- Incorporation of the water allocation program into the municipal code directly, and not by reference for easier access and user experience.
- Establishment of a new water allocation category for "Accessory Dwelling Units" (ADU).

Within this ADU category, it would further delineate the scoring system for applications based on affordability level of the unit, ranging from very low to moderate income, with market rate receiving the lowest priority. Below market rate ADUs units that receive priority water allocations must be deed restricted in accordance with the City's affordable housing regulations.

FISCAL IMPACT

None at this time outside of codification costs and legal noticing. Should the Council adopt the ordinance the fee would be established by Resolution at a future date.

RECOMMENDATION:

The City Council conducted a public hearing on September 19th, discussed the merits and accepted public testimony. It is recommended that the City Council adopt the draft ordinance as presented.

ATTACHMENTS

1. Draft Ordinance
-

ORDINANCE NO. XXX

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SEASIDE

AMENDING CHAPTER 13.24 OF THE SEASIDE MUNICIPAL CODE UPDATING WATER ALLOCATION PROGRAM LANGUAGE AND ESTABLISHING CRITERIA FOR ALLOCATING WATER FOR ACCESSORY DWELLING UNITS

The City Council of the City of Seaside, California does ordain as follows:

Section 1. FINDINGS AND PURPOSE.

- A. The City of Seaside has a limited water allocation total of 38.831 AF from all three water accounts of the Monterey Peninsula Water Management District as of April 2019; and
- B. The City Council has the discretion to re-allocate water as deemed necessary for the public health, safety and welfare of the community, and to enhance the fiscal stability of the City; and
- C. The City of Seaside currently allocates water only to commercial and institutional uses; and
- D. A recent California Senate Bill, No. 1069, (Senate Bill) has provided a land use approval path for Accessory Dwelling Units (ADUs), which are smaller habitable dwellings (up to 1,200 square feet) that may be attached or detached and accessory to a primary dwelling on residentially zoned properties; and
- E. ADUs are a critical form of infill development that can be affordable and offer important housing choices for property owners and within existing neighborhoods; and
- F. ADUs are powerful because they serve different populations ranging from students and young professionals to young families, people with disabilities and senior citizens and can augment a full and robust affordable housing program; and
- G. Local governments can encourage the development of ADUs which can improve access to jobs, education and services for residents in our community; and
- H. Water availability is a large hindrance for development and Seaside can further encourage private land owners to embrace and build ADUs if water is made available to them through allocations.

Section 2. AMENDMENT AND RESTATEMENT OF CHAPTER 13.24 WATER ALLOCATION PROGRAM

Municipal Code Sub-Section 13.24 related to definitions is hereby amended to read as follows:

Chapter 13.24

WATER ALLOCATION PROGRAM

Sections:

- 13.24.010 Findings and declaration of intent.**
- 13.24.020 Water allocation program.**
- 13.24.021 Objectives**
- 13.24.022 Administration**
- 13.24.023 Water Allocation Committee**
- 13.24.024 Applications and Scoring**
- 12.24.025 Water Allocation Categories**
- 13.24.030 Appeals.**

13.24.010 Findings and declaration of intent.

Monterey Peninsula Water Management District (MPWMD) regulations allow for an intensification of water use. As a result, certain commercial and institutional projects which will result in an increase of water use continue to be eligible for permits from the MPWMD. The water used will be deducted from the city of Seaside's current water allocation. All applications for permits must have written approval of the affected jurisdiction.

The potential for new water sources on the Monterey Peninsula are extremely limited and that demand for water in the city of Seaside may well exceed capacity within a very short period of time. As a result of the limited availability of water, the need for planned development, and the continuing number of applications for commercial and institutional projects, the city finds it necessary to develop criteria for evaluation of water allocation release requests for commercial and institutional properties. (Ord. 892 § 1, 2001)

13.24.020 Water allocation program.

Notwithstanding any other ordinance, rule, or policy of the city of Seaside, no application for a project which would result in an increase in water use shall be accepted, processed, acted upon, granted, or approved by any officer or employee of the city of Seaside except in conformance with this water allocation program. Approval of the water allocation does not imply recommendations for or approval of any other applications which may be required for the project by the city of Seaside or any other

governmental agency having jurisdiction over the project. Projects are required to obtain all other necessary approvals required by the city of Seaside and/or other governmental agencies. (Ord. 892 § 2, 2001)

13.24.021 Objectives

Due to the limited availability of water on the Monterey Peninsula, it is necessary to establish procedures for the allocation of water credits for residential, commercial and institutional projects. In order to allocate Seaside's remaining water allocation, this section establishes the process by which water is allocated for use. The intent of this program is to allocate water by category and by priorities set by the City Council.

13.24.022 Administration

The City Council shall have the discretion to re-allocate water as deemed necessary for the public health, safety and welfare of the community and to enhance the fiscal stability of the city. The City recognizes the importance of all categories of projects to the overall development of Seaside. The City also recognizes that as the city develops, and as water availability changes, allocation categories and priorities may change. The City Council shall allocate and re-allocate water to each category. The City Council may create, identify or modify sub-categories, such as specific commercial districts or areas, for water allocations dependent upon City priorities and needs deemed necessary to protect the public health, safety and welfare of the community.

13.24.023 Water Allocation Committee

The city's water allocation program will be administered by a three-member committee. The Committee will be comprised of one representative from the community development department, the public works department and the City Manager or his designee.

This committee will be charged with prioritizing applications for water allocations. Each project will be evaluated by using the criteria that applies to the specific project category. Projects that are prioritized and ranked highly will also be evaluated in terms of their total request for a specific amount of water. The committee will determine whether the project should be given all the water that has been required or whether the amount should be decreased due to the availability of water.

The committee will also have the responsivity of making policy recommendations and proposing changes to the water allocation program to the City Council. This committee will meet as needed and provide an annual update to the City Council.

Once the committee grants a water release permit for a commercial, industrial or residential use, the applicant must submit a complete application for the appropriate development permit associated with their project within sixty [60] days of the issuance of the water release permit. The applicant must complete all work within 12 months of the date of issuance of a building permit, or for those projects which do not require a

building permit, within 12 months of the date of issuance of a permit from the City or other governmental agency with permits the project commence construction. A request for a time extension, due to a delay in the completion of the project, shall be submitted to the committee in writing for consideration. Failure of an applicant to adhere within the prescribed time limits listed above may result in the water release permit being declared void. Water allocations for voided permits will be returned to the City's overall allocation, for redistribution to other applicants.

12.24.024 Applications and Scoring

The City will accept applications for water on all types of projects. These applications will be kept on file if the city does not have water available for these projects at the time of application, or if the policies of the water purveyors for the city prevent the city from providing water for a certain type of project. An applicant will be allowed to undertake a project that does not intensify water usage.

At the discretion of the committee, applications may be retained on file indefinitely if there is the possibility of water being granted for the project in the future. If the committee decides to remove an application from the file, a letter will be sent to the applicant indicating this and giving the reason for this action.

13.24.025 Water Allocation Categories

A. Commercial Projects

Water will be allocated for commercial projects until the water allocation established by resolution has been fully allocated, based upon the point system outlined below. The applicant is responsible for providing enough information and documentation for the committee members to determine the scoring as listed below.

1. Projects scoring 20 or more points will be allocated water, if water is available.
2. The committee will have the authority to determine whether a project should be given all water requested or should receive a lesser amount due to the projected availability of water.

Commercial Project Criteria	Determination	Points Received
Revenue Generation Up to \$5,000 = 1 point \$5,001-\$10,000 = 3 points \$10,001-\$15,000 = 5 points \$15,001 or more = 7 points	Total: \$ XX City's Share Property Tax Revenue 0.18% of \$XX = \$XX City's Share of Sales Tax Revenue 1% of XX \$= \$XX	
Jobs Creation		

1-9 part time = 1 point 10 or more part time = 3 points 1-9 full time = 5 points 10 or more full time = 7 points		
Projects on Major Thoroughfares All other commercial areas = 1 point Fremont, Broadway, Del Monte = 5 points		
Removal of Blight Occupied Bldg, remodel existing structure = 1 pt Vacant Bldg, remodel of existing structure = 3 pts Occupied Bldg, full demo & redevelopment = 5 pts Vacant Property, complete redevelopment = 7 pts		
Business Retention Seven (7) points will be awarded for projects which, if not approved, would result in the loss of an existing business, which generates revenue for the City and/or significant employment.		
Total		

B. Institutional

Institutional projects shall be projects submitted by nonprofit organizations, churches or religious institutions, educational institutions, public and quasi-public facilities. Allocation under this category shall be on a first-come, first-serve basis until the total amount of water allocation established by resolution has been allocated. Water allocation approval does not imply recommendations for or approval of the project or its merits. Projects are required to obtain all other necessary approvals as required by the City and any other governmental agency having jurisdiction over the project.

C. Residential Accessory Dwelling Units

Accessory Dwelling Units are a valuable form of additional housing. Accessory Dwelling Units are smaller habitable dwellings (up to 1,200 square feet) that may be attached or detached and accessory to a primary dwelling on residentially zoned properties. The City wishes to encourage the development of ADUs as they provide valuable opportunities for property owners and a source of affordable housing.

Water shall be allocated to the Residential ADU category for 1) Deed Restricted ADUs to Low and Very Low and 2) Unrestricted ADUs. Both categories shall be allocated on a first come first serve basis until the total amount of water allocation established by resolution has been allocated.

The Residential category shall be required to purchase water release permits at the market rate of water, unless the residential unit is deed restricted to provide for rental or use only to persons of moderate or lower income, inclusive of renters utilizing section 8 vouchers for a period of forty-five (45) years. The City will establish the water release permit purchase by resolution.

Water allocation approval alone does not imply project approval. Projects are required to obtain all other necessary approvals as required by the City and any other governmental agency having jurisdiction over the project.

If changes are made the existing structure do not not intensify the existing use pertaining to water, then no additional water determinations are necessary.

The total number of ADU units created, including the number of deed restricted affordable units, will be reported to California Department of Housing and Community Development as part of the required Housing Element annual progress report.

13.24.030 Appeals.

An applicant may appeal a determination of water usage or the denial of a water release permit by filing a written appeal within ten (10) days after notice of the determination or denial by the committee on a form prescribed for that purpose by the city of Seaside. All required plans, drawings, photos, reductions and other information shall be submitted to the planning division before the appeal form is accepted as complete. A list of required information shall be available in the planning division. The filing fee for an appeal is listed in the City's annual adopted fee schedule.

A complete appeal application shall be filed at least three weeks prior to the proposed date of public hearing. Upon filing a complete written appeal application and payment of fees, the community development director or his/her designee shall place said appeal on the agenda of the city of Seaside city council for hearing. Notice of said hearing shall be given to the applicant by mail at least ten days prior to the hearing date. No other notice need be given.

At the scheduled public hearing, the city council shall affirm, reverse or modify the decision being appealed. The city council may also remand the matter for reconsideration and further hearings because of a desire for additional information, or

due to the submission of new material or evidence not previously considered. (Ord. 892 § 4, 2001)

SECTION 7. SEVERABILITY.

A. If any provision of this Ordinance or the application thereof to any person or circumstance is held invalid, the remainder of the Ordinance, including the application of such part or provision to other persons or circumstances, shall not be affected thereby and shall continue in full force and effect. To this end, provisions of this Ordinance are severable.

B. The City Council hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, clause or phrase thereof irrespective of the fact that any one or more sections, subsections, subdivisions, paragraphs, sentences, clauses or phrases be held unconstitutional, invalid or unenforceable.

SECTION 9. The City Clerk shall certify to the passage and adoption of this Ordinance and shall cause the same or a summary thereof to be published and posted in the manner required by law.

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Seaside held on the 18th day of July 2019 by the following vote:

AYES:	5	COUNCIL MEMBERS	Kispersky, Campbell, Oglesby, Pacheco, Wizard
NOES:	0	COUNCIL MEMBERS	None
ABSENT:	0	COUNCIL MEMBERS	None
ABSTAIN:	0	COUNCIL MEMBERS	None

Ian N. Oglesby, Mayor

ATTEST:

Lesley Milton-Rerig, City Clerk



**CITY OF SEASIDE
STAFF REPORT**

Item No.: 9.B.

TO: City Council

FROM: Lesley Milton-Rerig, Assistant City Manager

BY: Dan Meewis, Recreation Director
Roberta Greathouse, Human Resources Director/Risk Manager

DATE: October 3, 2019

**SUBJECT: ADOPTION OF AN ORDINANCE AMENDING SEASIDE
MUNICIPAL CODE CHAPTER 9.08 ESTABLISHING
REGULATIONS FOR THE USE OF DESIGNATED
SKATEBOARDING AREAS (SECOND READING - ROLL CALL
VOTE)**

PURPOSE & RECOMMENDATION

Adopt the second reading of the draft ordinance amending Municipal Code Chapter 9.08 to establish regulations for the use of designated skateboarding areas.

BACKGROUND

Health and Safety Code Section 115800 requires local public agencies operating an unsupervised skatepark facility to adopt an ordinance requiring persons riding a skateboard or other wheeled recreational device at the facility to wear a helmet, elbow pads, and knee pads.

Furthermore, agencies are required to post signs at the facility that provide reasonable notice of the requirement to wear helmets, elbow pads, and knee pads and that a person failing to do so will be subject to citation pursuant to the ordinance.

The proposed revision to Chapter 9.08 of the Seaside Municipal Code satisfies the requirements of the Health and Safety Code and authorizes the Recreation Director and his/her designee to issue administrative citations in accordance with Chapter 2.56 of

the Municipal Code.

The Recreation Director, working with the Parks and Recreation Commission and other stakeholders, has established additional rules and regulations to govern the use of the skatepark. Those rules were shared with the public and City Council at the August 15, 2019, Council Meeting.

The City Council held a public hearing on September 5th and passed to print the draft ordinance.

FISCAL IMPACT

There is no fiscal impact associated with the adoption of an ordinance outlining skate park rules and regulations.

ATTACHMENTS

1. Ordinance
 2. Skate park rules
-

ORDINANCE NO. _____

**AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SEASIDE AMENDING
CHAPTER 9.08 OF THE SEASIDE MUNICIPAL CODE ESTABLISHING
REGULATIONS FOR THE USE OF DESIGNATED SKATEBOARDING AREAS.**

The City Council of the City of Seaside, California does ordain as follows:

Section 1. FINDINGS AND PURPOSE.

- A. The purpose of this Ordinance is to provide minor technical amendments, add new sections related to the designated use of skateboarding areas and restate portions of Chapter 9.08 of the Seaside Municipal Code.

Section 2. AMENDMENT AND RESTATEMENT OF CHAPTER 9.08.010

Municipal Code Sub-Section 9.08.010 related to definitions is hereby amended to read as follows:

9.08.010 Definitions.

For the purposes of this chapter, unless otherwise apparent from the context, certain words and phrases used in this chapter are defined as follows:

"Caretaker" means the person or persons who are responsible for the care and maintenance of the city park areas or facilities.

"Director" means the director of ~~community recreation~~ services.

"In-line skates/roller blades" means a form of skate with non-metallic skate wheels mounted to the bottom of each boot or shoe, one in front of the other running down the center of the boot or shoe.

"Other Wheeled Recreational Device" means non-motorized bicycles, scooters, in-line skates, roller skates, or wheelchairs.

"Park area" or "facility" means any public park, playground, recreational area, recreational facility or building, swimming pool, greenbelt, landscaped area around public building, or other area in the city owned or used by the city and devoted to active or passive recreation.

"Person" or "applicant" means any person, firm, partnership, association, corporation, company, league or organization of any kind who desires to use or uses any city park area or facility.

"Roller skates" means a form of skate with four non-metallic wheels affixed to the bottom of each boot or shoe with a wheel situated at the outer four corners of each boot or shoe.

"Scooter" means a vehicle that typically has one front and one rear wheel with a low footboard between, is steered by a handlebar, and is propelled by pushing one foot against the ground while resting the other on the footboard.

"Skate park" and "park" mean the cement surface that is designed and used for skating. The park area includes the bowl.

"Skate park facility" means the skate park together with the adjacent public parking, picnic and seating areas, if any.

"Skate park user" means a user of any wheeled recreational device allowed by Section 9.08.040.

"Skateboard" means a wheeled device for riding upon with an oblong rigid material mounted on non-metallic skate wheels and propelled by human power.

"Vehicle" means any wheeled conveyance, whether motor-powered, animal-drawn or self-propelled. "Vehicle" includes any trailer of any size, kind or description. An exception is made for vehicles in the services of the city.

Section 3. AMENDMENT AND RESTATEMENT OF CHAPTER 9.08.020

Municipal Code Sub-Section 9.08.020 -is hereby amended to update the name of the recreation department to read as follows:

9.08.020 Jurisdiction.

All park areas and facilities shall be under the administrative jurisdiction of the department of ~~community~~recreation services.

Section 4. ADDITION OF SECTION 9.08.045 SKATEBOARDING AREAS

A new section 9.08.040 related to Skateboarding Areas is added to Chapter 9.08 of the Municipal Code add the following section:

9.08.040 Skateboarding Areas.

- A. **Rules and Regulations.** Skate park users in violation of the facility rules and regulations shall be subject to administrative citation pursuant to Seaside Municipal Code:

1. All skate park users shall wear a helmet, knee pads and elbow pads at all times when using the facility. All safety equipment shall be in good condition and repair and must fit the skater properly.

2. Hours. It is unlawful for any person to use or be present upon the skate park facility at any time other than the approved hours of operation. Signs shall be posted about the Skate Park Facility indicating the hours of operation.

—3. In addition to the rules set forth in this section, the director may establish other reasonable rules and regulations to protect the skate park facility or the skate park and the persons using them from injury or damage.

B. Unsupervised venue - Assumption of Risk

The City of Seaside Skate Park is an unsupervised recreational venue. The director shall cause to be posted signs at the skate park, facing the interior and exterior of the skate park, stating, at a minimum:

- Use of skateboards and other wheeled recreational devices are hazardous activities.
- Use of the facility is at the user's own risk.
- Skate park hours.
- Helmets, kneepads, and elbow pads are required to be worn while using the designated skate park area.
- Failure to wear helmets, kneepads, and elbow pads in the designated skate park area will subject persons to citation (Municipal Code Section 9.08.070).

Section 5. AMENDMENT AND RESTATEMENT OF SECTION 9.08.060 (A)

Municipal Code Sub-Section 9.08.060(A) is hereby amended and restated as follows:

9.08.060 Prohibitions generally.

A. Dogs and Animals in Public Places.

1. Any supervised and on-leash dog is allowed at all city of Seaside parks, natural trail or path with the exception of Pachetti Dog Park which allows for supervised and off-leash dogs. When in public areas, all dogs must be on a leash that cannot exceed six feet in length.

2. No dogs are allowed on city athletic fields or in designated skate park facilities.

3. The city may, by regulation, prohibit dogs at designated community events for public safety reasons. The city shall promulgate regulations to ensure that use by persons with dogs is compatible with use of these areas by other persons.

4. No dog may be left unattended and/or attached, tied or chained to any object.

5. Dog owners or custodians are required to pick up their dogs' droppings.

Section 6. AMENDMENT AND RESTATEMENT OF SECTION 9.08.070

Municipal Code Sub-Section 9.08.070 is hereby amended to add the following section related to enforcement and administrative citations:

9.08.070 Enforcement.

A. The director of ~~community recreation~~ services, the chief of police, and their duly authorized employees shall enforce the provisions of this chapter, and shall have the authority to eject from park areas and facilities any person acting in violation of these rules and regulations, and to confiscate any property being used in such a manner so as to endanger persons or property.

B. Administrative citations, fines, parent/guardian responsibility and administrative hearing.

1. The director, and his/her designee, shall have authority to issue administrative citations and administrative fines in accordance with applicable provisions of Chapter 2.56 of the Seaside Municipal Code and this Chapter.

2. The parent or legal guardian having control or custody of an un-
emancipated minor whose conduct violate this chapter shall be jointly and severally
liable with the minor for the amount of any administrative fine imposed pursuant to this
section.

3. Administrative citations and fines issued under this section shall be subject
to the administrative hearing provisions of Chapter 2.56.

Section 7. SEVERABILITY.

A. If any provision of this Ordinance or the application thereof to any person or circumstance is held invalid, the remainder of the Ordinance, including the application of such part or provision to other persons or circumstances, shall not be affected thereby and shall continue in full force and effect. To this end, provisions of this Ordinance are severable.

B. The City Council hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, clause or phrase thereof irrespective of the fact that any one or more sections, subsections, subdivisions, paragraphs, sentences, clauses or phrases be held unconstitutional, invalid or unenforceable.

Section 8. EFFECTIVE DATE.

This Ordinance shall become effective thirty (30) days after its final passage and adoption.

INTRODUCED by the City Council of the City of Seaside this 15th day of August, 2019.

PASSED AND ADOPTED by the City Council of the City of Seaside this _____ day of _____, 2019, by the following roll call vote:

AYES: COUNCIL MEMBERS

NOES: COUNCIL MEMBERS

ABSENT: COUNCIL MEMBERS

ABSTAIN: COUNCIL MEMBERS

APPROVED:

Ian Oglesby, Mayor

ATTEST:

Lesley Milton-Rerig, City Clerk

WELCOME TO THE SEASIDE SKATE PARK

THIS IS A FAMILY FACILITY. FOR YOUR SAFETY AND ENJOYMENT, PLEASE FOLLOW THESE IMPORTANT RULES:

- THE SKATE PARK IS AN UNSUPERVISED FACILITY. **SKATE AT YOUR OWN RISK.**
- BY ENTERING THIS FACILITY YOU ASSUME ALL RISKS AND RESPONSIBILITIES THAT ARE INHERENT TO EXTREME SPORTS ACTIVITIES WHICH COULD RESULT IN HARM TO PROPERTY, YOURSELF, AND OTHERS.
- SKATE PARK HOURS ARE FROM 8AM – SUNSET UNLESS OTHERWISE NOTED. ENTERING AT ANY OTHER TIME IS TRESPASSING AND MAY RESULT IN A CITATION AND SEIZURE OF EQUIPMENT.
- USE OF SKATEBOARDS AND OTHER WHEELED RECREATIONAL DEVICES ARE HAZARDOUS ACTIVITIES.
- HELMET, KNEE PADS AND ELBOW PADS ARE REQUIRED TO BE WORN WHILE USING THE DESIGNATED SKATE PARK AREA.
- FAILURE TO WEAR HELMETS, KNEE PADS, AND ELBOW PADS IN THE DESIGNATED SKATE PARK AREA WILL SUBJECT PERSONS TO CITATION. **SEASIDE MUNICIPAL CODE – 9.08.070**
- THE SKATE PARK WILL BE CLOSED DURING RAIN OR IF THE SURFACE IS WET.
- DO NOT USE PARK FEATURES OUTSIDE OF YOUR SKILL OR ABILITY LEVEL.
- NO BIKES OR MOTORIZED VEHICLES OF ANY KIND IN THE SKATE PARK.
- SKATERS UNDER THE AGE OF 8 MUST BE ACCOMPANIED BY AN ADULT AT LEAST 18 YEARS OF AGE.
- NO GLASS IN OR AROUND THE SKATE PARK.
- NO FOOD OR DRINK ON THE SKATING SURFACE.
- NO SMOKING/VAPING/TOBACCO, ALCOHOL, OR DRUG USE OF ANY KIND.
- TAGGING, GRAFFITI, PLACING STICKERS, OR DEFACING THE SKATE PARK IN ANY MANNER IS A CRIME. **VANDALS WILL BE PROSECUTED**
- NO PROFANITY, RECKLESSNESS, FIGHTING, OR DISRUPTIVE AND AGGRESSIVE BEHAVIOR.
- ORGANIZED CONTESTS OR COMPETITIONS ARE PROHIBITED UNLESS PRE-APPROVED BY THE RECREATION DEPARTMENT DIRECTOR.
- ADDITIONAL OBSTACLES SUCH AS RAMPS, JUMPS OR RAILS ARE STRICTLY PROHIBITED.
- AMPLIFIED MUSIC THAT CAN BE HEARD FROM OUTSIDE THE PARK PERIMETER IS PROHIBITED.
- ANIMALS AND PETS ARE STRICTLY PROHIBITED ON THE SKATING SURFACE.
- VIOLATION OF THESE RULES MAY RESULT IN A CITATION AND/OR EXPULSION FROM THE SKATE PARK.

TO REPORT AN ISSUE OR CONCERN WITH THE SKATE PARK PLEASE CALL THE CITY OF SEASIDE RECREATION DEPARTMENT AT 831.899.6800. FOR EMERGENCIES CALL 911 AND FOR NON-EMERGENCY RELATED ISSUES CALL THE SEASIDE POLICE DEPARTMENT AT 831.394.6811



**CITY OF SEASIDE
STAFF REPORT**

Item No.: 10.A.

TO: City Council

FROM: Lesley Milton-Rerig, Assistant City Manager

BY: Gloria Stearns, Community Development Manager
Rick Medina, Senior Planner

DATE: October 3, 2019

SUBJECT: APPEALS OF USE PERMIT NO. UP-16-07 and UP-15-04: THE CITY COUNCIL WILL CONSIDER THE ADOPTION OF RESOLUTIONS FOR THE DENIAL OF AN APPEAL RELATED TO DENYING A USE PERMIT APPLICATION SUBMITTED BY TRICIA KNIGHT ON BEHALF OF VERIZON WIRELESS FOR A WIRELESS FACILITY AT 1460 HILBY AVENUE AND FOR THE APPROVAL OF AN APPEAL THAT WOULD DENY THE INSTALLATION OF FOUR SMALL CELL WIRELESS FACILITIES ON UTILITY POLES NEAR THE FOLLOWING LOCATIONS:

- **1101 BUENA STREET**
- **1108 SAN LUCAS STREET**
- **1431 WARING STREET**
- **1268 YOSEMITE STREET**

PURPOSE & RECOMMENDATION

City staff recommends that the City Council approve the draft Resolutions provided as Attachment 1 and Attachment 2 to staff report for the following actions per the direction provided to City Staff by the City Council:

1. Resolution for the denial of an appeal which uphold the Planning Commission denial of Use Permit Application No. UP-15-04 (Attachment 1); and
2. Resolution for the approval of an appeal which would serve to overturn the Planning Commission approval of Use Permit Application No. UP-16-07 and deny the proposed small cell wireless network facility (Attachment 2).

BACKGROUND

On September 19, 2019, the City Council conducted a noticed Public Hearing to consider an appeal by Verizon Wireless on Use Permit Application No. UP-15-04 that was continued from June 16, 2016, and an appeal by Walt Ferguson on Use Permit Application No. UP-16-07. In review of the public comments and evidence entered into the public record, the City Council provided direction to City staff to prepare Resolutions on each proposal as follows:

Resolution for the denial of an appeal filed by Verizon Wireless which would uphold the denial Use Permit Application No. UP-15-04 (Attachment 1); and

Resolution for the approval of an appeal filed by Walt Ferguson which would serve to overturn the Planning Commission approval of Use Permit Application No. UP-16-07 and deny the proposed small cell wireless network facility (Attachment 2).

FISCAL IMPACT

None associated with adopting the resolutions as presented.

ATTACHMENTS

1. Attachment 1-Resolution denying UP-15-04_1 FINAL
 2. Attachment 2-Resolution denying UP-16-07_1-sd revisions FINAL
-

RESOLUTION NO. 19-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SEASIDE

DENYING AN APPEAL AND UPHOLDING THE DENIAL OF USE PERMIT APPLICATION No. UP-15-04 BY THE PLANNING COMMISSION TO ESTABLISH A TELECOMMUNICATION FACILITY LOCATED AT 1460 HILBY AVENUE (APN 012-402-088).

WHEREAS, Verizon Wireless, Applicant, and Faith Lutheran Church, Property Owner, have applied for a Use Permit to establish a telecommunication facility located at 1460 Hilby Avenue, in the RS-8 (Single Family Residential) Zoning District; and

WHEREAS, the proposed project is a discretionary approval, and it is the responsibility of the Planning Commission to consider and weigh the merits of the application and public input in relation to the policies, standards and intent of the Seaside General Plan and Seaside Municipal Code; and

WHEREAS, the Seaside Planning Commission considered oral comments and written information concerning the proposed amendment at a duly noticed public hearing at public meeting held on July 22, 2015, August 24, 2015, and September 9, 2016 and

WHEREAS, on September 9, 2016 the Seaside Planning Commission acted to deny Use Permit Application No. UP-15-04 in accordance with the findings and evidence in Planning Commission Resolution No. 15-12; and

WHEREAS, on September 15, 2015, Verizon Wireless appealed the Planning Commission denial to the City Council prior to the expiration of the seven-day appeal period; and

WHEREAS, upon requests received from Verizon Wireless on November 17, 2015, January 19, 2016, February 25, 2016, May 18, 2016, and June 16, 2016, the appeal hearings have been mutually extended by the City of Seaside in order to work with Verizon Wireless to establish a location and design that would provide the least intrusive means to locate a wireless telecommunication facility on the project site or an alternative location elsewhere within the surrounding area; and

WHEREAS, the Seaside City Council considered oral comments and written information concerning the appeal and proposed project under Use Permit Application No. UP-15-04 at a duly noticed public hearing held on September 19, 2019 and

WHEREAS, it is the responsibility of the Seaside City Council to consider and weigh the merits of the appeal and application and public input in relation to the policies, standards and intent of the Seaside General Plan and Seaside Municipal Code as a *de novo* hearing; and

WHEREAS, the project is Categorically Exempt, Section 15303 from the California Environmental Quality Act (CEQA) Guidelines.

Evidence: Approval of the proposed project would be for the construction of a 37'-0" tall church cupola tower at the rear of the church which would contain an unmanned wireless personal telecommunication facility. The installation of the steeple and wireless telecommunication tower would consist of a minor addition to the existing church facility and would not result in any increased intensity of the existing land use.

NOW, THEREFORE, BE IT RESOLVED, that the City Council adopts the following findings and evidence to document its denial of the appeal and to uphold the decision of the Planning Commission on the denial of Use Permit Application No. 15-04:

1. The proposed use does not comply with all other applicable provisions of the Seaside Municipal Code ("SMC"). See SMC § 17.62.070(F)(1).

For the reasons stated more fully below, Verizon's proposed facility does not comply with all applicable provisions in the SMC and the 2004 Seaside General Plan.

2. The proposed use is inconsistent with the General Plan. See SMC § 17.62.070(F)(2).

The installation of a wireless telecommunication facility is classified as being permitted with the issuance of a use permit. Per the 2004 Seaside General Plan, Land Use Element Goal LU-4 and Policy LU-4.1 specify that the City seek to ensure that new development complements existing land uses and enhances the character of the community and neighborhoods. In review of the record for the application, the City Council found that the overall height of 37 feet for the proposed church steeple at the rear of the site would not blend with the surrounding low density, single family residential neighborhood or architectural aspects of the existing church building. The church steeple would be out of scale with the existing height of 20 feet for the church and would be readily apparent from the public right-of-way and adjoining residential parcels.

3. The design, location, size, and operating characteristics of the proposed activity are incompatible with the existing and planned future land uses in the vicinity. See SMC § 17.62.070(F)(3).

The City Council found that the overall height of the proposed church steeple would not blend with existing and planned future land uses in the vicinity because the surrounding area consists of low density, single family residential uses. The church steeple would be out of scale and visually obtrusive among the surrounding one-story residential structures that are several stories shorter than

the proposed steeple. These impacts are significant and directly related to the design of the facility, which Verizon elected not to remedy based on unsupported claims that lowering the height of the church steeple tower by splitting the antenna sectors would be technically infeasible.

4. Granting the permit would be detrimental to the public interest, convenience or welfare. *See SMC § 17.62.070(F)(5).*

The City Council found that granting the permit would be detrimental the public interest, convenience or welfare because the overall height of the facility would be incompatible with surrounding uses. Enforcing compliance with the General Plan and applicable provisions of the Seaside Municipal is necessary to protect and preserve the public interest, convenience or welfare.

5. The communication facility does not comply with all applicable requirements of SMC Chapter 17.54. *See SMC § 17.54.040(E)(1).*

SMC § 17.54.060(B)(3) requires the height of a communications facility comply with height allowed by the subject zoning district. The proposed facility would be located in a single family residential zone with a 24-foot zone height limit. The City Council found that the overall height of the modified proposed facility would be 37' above ground level, over 13 feet above the zone height limit. Accordingly, the proposed facility would not comply with all applicable requirements of SMC Chapter 17.54 because it would exceed the height allowed by the applicable zoning district and would not blend architecturally with the church building and/or the adjoining residential properties.

6. The communication facility will adversely impact the character and aesthetics of the public right-of-way. *See SMC § 17.54.040(E)(2).*

The City Council found that the proposed facility would adversely impact the character and aesthetics of the public right-of-way because the overall height of 37 feet would be inconsistent and out of scale with surrounding uses when viewed in context with the public right-of-way and adjoining residential dwellings. The church building directly abuts Hilby Avenue and the excessive height of the wireless facility would be readily apparent from each direction that would be incompatible with the architectural integrity of the existing church building.

PASSED AND ADOPTED at the regular meeting of the City Council of the City of Seaside, State of California, on the 3rd day of October 2019, by the following vote:

AYES:
NOES:

ABSENT:
ABSTAIN:

Ian N. Oglesby, Mayor

ATTEST:

Lesly Milton-Rerig, City Clerk

RESOLUTION NO. 19-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SEASIDE

APPROVING AN APPEAL BY WALTER FERGUSON AND DENYING AN APPEAL FROM SAC VERIZON WIRELESS FROM A DECISION OF THE PLANNING COMMISSION WHICH WILL RESULT IN THE DENIAL OF USE PERMIT APPLICATION No. UP-16-07 TO ESTABLISH A 3G/4G SMALL CELL WIRELESS TELECOMMUNICATION FACILITY NETWORK LOCATED ON UTILITY POLES IN THE PUBLIC RIGHT-OF-WAY.

WHEREAS, SAC Wireless on behalf of Verizon Wireless ("Applicant"), have applied for a Use Permit to establish a wireless telecommunication facility network located within the Public Right-Of-Way near the following locations:

1101 Buena Street
1108 San Lucas Street
1431 Waring Street
1268 Yosemite Street; and

WHEREAS, the proposed project is a discretionary approval, and it is the responsibility of the Planning Commission to consider and weigh the merits of the application and public input in relation to the policies, standards and intent of the Seaside General Plan and Seaside Municipal Code; and

WHEREAS, the Seaside Planning Commission considered oral comments and written information concerning the proposed project at a duly noticed public hearing held on July 24, 2019 and August 14, 2019 and acted to adopt Resolution No. 19-14 on August 14, 2019 approving Use Permit Application No. UP-16-07; and

WHEREAS, Walter Ferguson, filed an appeal of the Planning Commission action to the City Council within the required seven-day period of appeal of an action made by the Planning Commission, and

WHEREAS, Applicant, filed an appeal of a portion of the Planning Commission's conditions of approval to the City Council within the required seven-day period of appeal of an action made by the Planning Commission, and

WHEREAS, it is the responsibility of the Seaside City Council to consider and weigh the merits of the appeal and application and public input in relation to the policies, standards and intent of the Seaside General Plan and Seaside Municipal Code as a de novo hearing; and

WHEREAS, the Seaside City Council considered oral comments and written information concerning the appeal and proposed project under Use Permit Application No. UP-16-07 at a duly noticed public hearing held on September 19, 2019; and

WHEREAS, the project is Categorically Exempt, Section 15303(e) from the California Environmental Quality Act (CEQA) Guidelines.

Evidence: *Approval of the proposed project would allow for a small cell telecommunication facility on four separate utility poles each with a single omnidirectional cylindrical antenna within a fiberglass shroud attached to the top of each pole. The installation of the wireless telecommunication antenna and equipment would consist of a minor addition to the existing pole and would not result in any increased intensity of the existing land use in the public right-of-way that would hinder or impede the use of the public space beneath the pole or the City's ability to conduct maintenance on the surrounding streets.*

NOW, THEREFORE, BE IT RESOLVED, that the City Council adopts the following findings and evidence to document its approval of the Ferguson appeal and denial of the Applicant appeal and to reverse the decision of the Planning Commission on its approval of Use Permit Application No. 16-07:

1. The proposed use does not comply with all other applicable provisions of the Seaside Municipal Code ("SMC"). *See* SMC § 17.62.070(F)(1).

For the reasons stated more fully below, Verizon's proposed facility does not comply with all applicable provisions in the SMC and 2004 Seaside General Plan.

2. The proposed use is inconsistent with the General Plan. *See* SMC § 17.62.070(F)(2).

Land Use Element Policy LU-3.2 seeks to improve the physical appearance of residential neighborhoods. The City Council found that each proposed small cell would add more visual clutter on utility poles, which the City desires to eventually underground. The addition of new, bulky equipment on these poles would unreasonably exacerbate the existing unsightly appearance the above ground utility lines and poles that impact residential neighborhoods within the Buena Street, San Lucas Street, and Waring Street neighborhoods and would introduce to the Yosemite Street neighborhood in contravention of Policy LU-3.2. The failure to underground the equipment is also in conflict with the provisions of Chapter 17.54, which requires all non-antenna and non-support structure equipment to be placed underground.

Land Use Element Goal LU-4 and Policy LU-4.1 seek to ensure that new development complements existing land uses and enhances the character of the community and neighborhoods. The City Council found that the proposed facility on

Yosemite Street would not conform to this policy because it would add new aboveground infrastructure that detracts from the visual character of the surrounding community.

Urban Design Element Goal UD-3 seeks to provide and maintain a streetscape system that protects views and enhances visual quality and continuity within the community. Further, Policy UD-3.1 seeks to protect private views of significant natural features, such as the Monterey Bay, Roberts Lake, the Pacific Ocean, the surrounding mountains, and other important viewsheds. The City Council found that the new proposed utility pole at Yosemite Street would obstruct ocean views for Wanda Avenue residents, as well as hill views of Yosemite Street residents. Both the surrounding hills and ocean views are important viewsheds to the City of Seaside and its residents and new aboveground utility structures would negatively affect, rather than protect, those views. Furthermore, adding additional antennas, equipment cabinets, and wires onto existing poles would add to the intensification of existing cluttered views of the city's significant natural features from above ground utilities at the Buena Street, San Lucas Street, and Waring Street neighborhood, as well surrounding streets near these locations.

3. The site is not physical suitable for the type, density and intensity of use being proposed, including access, utilities and the absence of physical constraints. See SMC § 17.62.070(F)(4).

The City Council found that the site is not suitable for the use being proposed because the addition of a new pole along Yosemite Street increases the intensity and concentration of aboveground utility poles in the immediate area.

4. Granting the permit would be detrimental to the public interest, health or safety, or materially injurious to property in the vicinity and zone district in which the property is located. See SMC § 17.62.070(F)(5).

The City Council found that the public interest and identified goals and policies of the City's 2004 General Plan weighed against granting the permit. In addition, the City Council found that granting the permit would be detrimental to public health because Verizon provided no discernible evidence that the fasteners for pole-mounted equipment had been tested or approved for earthquake retrofitting standards. Granting the permit would be detrimental to public safety because Verizon did not provide sufficient evidence that an emergency shut-off switch would be adequate to protect against fire hazards in the event the equipment sparked or caught fire. Moreover, Verizon did not provide sufficient evidence that the proposed utility poles at the San Lucas Street and Waring Street sites had been fully inspected to ensure that the addition of equipment would not overload the pole in static conditions or in earthquake or high wind events. Taken together, granting the permit in light of these unresolved issues would be detrimental to public safety.

Lastly, with respect to material injuries to property, the City Council found that the new utility pole proposed on Yosemite Street would obstruct Yosemite Street residents' views of the hills and Wanda Avenue residents' views of the ocean to an extent that would lead to diminished property values and that the intensification of antennas, equipment cabinets and wires being added to existing poles on the Buena Street, San Lucas Street, and Waring Street neighborhoods would also have the potential to obstruct residents' views of the hills and ocean to an extent that would lead to diminished property values .

5. The communication facility does not comply with all applicable requirements of SMC Chapter 17.54. See SMC § 17.54.040(E)(1).

SMC § 17.54.060(A)(1)(d) requires a ground-mounted facility that is located within a front or side setback or within a public right-of-way to be underground so that the facility will not detract from the image or appearance of the City. The City Council found that the proposed Facility on Yosemite Street would add a new pole where none currently exists. In addition, to the extent the accessory radio equipment could not be installed in an underground vault, the additional above ground equipment would violate the City's undergrounding requirements.

6. The communication facility will adversely impact the character and aesthetics of the public right-of-way. See SMC § 17.54.040(E)(2).

The City Council found that the proposed small cell wireless facility would adversely impact the character and aesthetics of the public right-of-way because the proposed facility at Yosemite Street would require the addition of new pole and the existing above ground conditions of the utility poles on Buena Street, San Lucas Street, and Waring Street would be worsened by introducing new apparatus onto these existing pole locations. A new aboveground pole would negatively impact aesthetics and detract from the character of the surrounding community by adding more visual and physical obstructions in the public right-of-way. The area of the existing neighborhoods where the existing poles are being replaced would also negatively impact aesthetics and detract from the character of the surrounding community by adding more visual and physical obstructions in the public right-of-way. The City desires to underground existing utility infrastructure to enhance community aesthetics and the addition of new poles would contradict the City's goals.

PASSED AND ADOPTED at the regular meeting of the City Council of the City of Seaside, State of California, on the 3rd day of October 2019, by the following vote:

AYES:
NOES:
ABSENT:

ABSTAIN:

Ian N. Oglesby, Mayor

ATTEST:

Lesly Milton-Rerig, City Clerk



CITY OF SEASIDE STAFF REPORT

Item No.: 10.B.

TO: City Council

FROM: Lesley Milton-Rerig, Assistant City Manager

BY: Rick Riedl, City Engineer
Misty Bradshaw, Associate Engineer

DATE: October 3, 2019

**SUBJECT: CONSIDER APPROVAL OF THE TRAFFIC ADVISORY (TAC)
COMMITTEE RECOMMENDATIONS FOR PLUMAS AVENUE**

PURPOSE & RECOMMENDATION

The purpose of this item is to have the City Council review and consider approval of the Traffic Advisory Committee recommendation to maintain existing approved traffic calming measures on Plumas Avenue and removed additional unauthorized traffic control measures.

BACKGROUND

This item is a continuation of an application requesting channelizers as a solution to alleviate the on-going safety concerns of the neighborhood as described by the resident. On August 1, 2019, the City Council recommended that the TAC evaluate several alternative traffic calming improvements as outlined in this document.

From 2012 through 2015 staff performed traffic studies and roadway assessments on Plumas Ave. Staff proposed various traffic calming measures to be considered for installation in phases. With direction from the Traffic Advisory Committee (TAC) and approval by City Council, the improvements were implemented by April of 2015. Improvements included installation of centerline striping for roadway narrowing, additional signage, and installation of speed cushions on Plumas Ave. midblock between Waring St. and Noche Buena St. and between Plumas Ln. and Highland St.

Staff received a request in March of 2016 for delineators (channelizers) to be placed in the centerline on Plumas Avenue at various locations. The request cites reckless driving, aggressive acceleration, speeding, running stop signs, crossing over painted lines, and driving on the wrong side of the road as safety concerns. The applicant is requesting channelizers be placed in the center of Plumas Avenue at the speed cushions and at the stop signs at Highland Street and Noche Buena Street. This request was discussed at the July 19, 2016, August 16, 2016, March 13, 2019, and April 23, 2019 TAC Meetings.

In review of the minutes of the July 19, 2016 TAC meeting, the TAC continued item and directed staff to return with locations and determine spacing requirements for placement of Botts' Dots (a.k.a. pavement marker) on Plumas Avenue in lieu of channelizers.

Following the July 19, 2016 TAC meeting the channelizers were placed on the centerline of Plumas Ave at six locations on a trial basis. Staff received a request in the fall of 2018 to install, repair and replace the damaged channelizers. The channelizers installed in 2016 are damaged and/or no longer in place.

As noted above, staff documented the installation of 6 channelizers in accordance with the applicant's directions. This was accomplished over a period of time where the original request was for 3 channelizers installed in front of the applicant's house, and applicant suggested no more were needed. Then an additional request was received to add another 3 channelizers. All of these channelizers were guaranteed to be indestructible but none of them last more than 12 months - some as few as 6 months. This is because the channelizers are not designed to be repeatedly driven over. The applicant then started requesting that city staff replace the broken channelizers immediately.

In his correspondence with City Council and staff, the applicant has documented the existence of 8 channelizers installed on Plumas Ave. The City Engineer has no knowledge how the additional 2 channelizers came to be installed. The applicant at the April 23, 2019 Special TAC Meeting, requested an additional channelizer, making the total 9.

On July 9, 2019, at a Special Meeting of the TAC, Staff recommended to install Botts' Dots in lieu of channelizers. The Item was approved by TAC and was forwarded to the City Council for approval.

On Thursday, August 1, 2019 the City Council considered to approve the TAC recommendations to install Botts' Dots in lieu of channelizers at various locations as requested by the applicant. The City Engineer presented the item and summarized the data (as outlined in this report) on the roadway characteristics, speed survey, accident history, and traffic calming measures implemented to date. The item was discussed by the City Council and public comment was received. The Council asked whether additional traffic control measures are warranted to which the City Engineer responded that staff considers all resident complaints however in this case the data does not support the need for additional traffic control measures and the requested channelizers are not an effective traffic control measure to address the concern for vehicle speeding.

or reckless driving. The City Council discussed their opinions on the relative impacts of cost, noise, longevity, and visual blight for the alternative traffic control measures. The City Council unanimously agreed to return the item to the TAC for further consideration for recommended traffic calming measures, including assessing the feasibility of median planters in the center of Plumas Ave.

STAFF ANALYSIS

Plumas Avenue Roadway Characteristics:

Plumas Avenue is classified as a collector street and runs east west near the southern border of Seaside. The street width varies between 20 feet wide (from Highland Street to Mescal Street) to 40 feet wide (Wheeler Street to Tweed Avenue). Between Waring Street and Highland, the majority of Plumas Avenue is 32 feet wide. There is approximately 400 feet of Plumas Avenue's right of way measuring 40 feet wide beginning from Waring Street west towards Noche Buena. The eastbound travel lane remains constant at approximately 12 feet wide. The westbound travel lane varies in width, but generally maintains the width of approximately 12 feet. Parking is permitted on Plumas along the north side of the street and prohibited on the south side of the street. The posted speed limit is 25 miles per hour (mph). There are three speed limit signs on Plumas Avenue with additional signage indicating "Traffic Complaint Area, Speed Limits Strictly Enforced." A painted median was placed reducing the westbound lane width to 12 feet west and east of the intersection of Waring Street and Plumas Avenue. Plumas Avenue, from Noche Buena to Highland Street, has two sets of speed cushions: one between Noche Buena and Waring and the other between Waring and Highland, Attachment 1. Del Rey Woods Elementary School is located on the northwest corner of the intersection of Noche Buena Street and Plumas Avenue. Along the south side of Plumas Avenue, there is a tract of land approximately 35 feet wide owned by PG&E for their high voltage power lines. This tract of land has become an informal recreation trail.

Speed surveys were performed on Plumas Ave. in January of 2019. Speed surveys are performed at off peak hours per the requirements set for by the California Manual for Setting Speed Limits, prepared by the California Department of Transportation. Three separate off peak surveys were performed by trained City Staff with a Falcon HR radar gun and results were manually recorded, and the results are summarized in the table below. In addition, a peak weekend survey was conducted for more well-rounded observations and comparison. The location of the survey was performed where the vehicles were able to reach true free flow speeds, with minimal influence of intersections, stop signs, speed cushions, or high turning or cross movements.

OFF PEAK SPEED SURVEY		
Date	85th Percentile	10 mph pace speed
1/9/2019	24 mph	18-27 mph
1/16/2019	26 mph	18-27 mph
1/25/2019	25 mph	17-26 mph
PEAK WEEKEND SPEED SURVEY		

2/23/2019	22 mph	15-24 mph

Results display an average of 25 mph 85th percentile speed for the Off Peak Survey, with a 10 mph pace speed average of 17 – 26 mph. Ideal roadway conditions will have the 85th percentile within 5 mph of the posted speed limit, and the posted speed limit will be within the 10 mph pace speed. The data indicates there are no speeding concerns on this roadway to address.

A collision report was pulled for the vicinity of the project area and there were no reported collisions from July 2016 through March 1, 2019. Data indicates there are no safety concerns to address.

In order to facilitate further discussion on the merits of potential alternative traffic calming measures at this location, staff analyzed the traffic control devices discussed at the August 1, 2019 City Council meeting and an additional alternative, Chicanes. To wit, the attached table summarizes the effectiveness of the following alternatives;

- Do Nothing
- Install 6-Inch Bots' Dots
- Install Channelizers
- Install Median Planters
- Install Chicanes as Replacement for Existing Traffic Calming Measures

These alternatives are ranked with a score of 1 for low effectiveness up to 3 for high effectiveness for the following criteria;

- Reduce Potential to Cause Traffic Accidents – This criteria rates the potential for the traffic control device to effect the incidence of vehicle traffic accidents
- Reduce Speeding – This criteria rates the potential for the traffic control device to reduce vehicle speeding
- Reduce Lane Drift – This criteria rates the potential for the traffic control device to reduce vehicle lane drift
- Reduce Traffic Noise – This criteria rates the potential for the traffic control device to minimize increased vehicle noise
- Cost Effectiveness – This criteria rates the potential life cycle costs for the traffic control device
- Aesthetics – This criteria rates the perceived long term aesthetics for the traffic control device

The tabulated alternatives are discussed in further detail below.

Considerations for Alternative "Do Nothing"

Reduce Potential to Cause Traffic Accidents - The effectiveness rating for this alternative is high because traffic accidents are not a concern at this location. Therefore, an effective solution is to do nothing.

Reduce Speeding - The effectiveness rating for this alternative is low because do nothing by itself is not effective in reducing potential speeding. However, speeding is not a concern at this location because the speed cushions are an effective solution.

Reduce Lane Drift – The effectiveness rating for this alternative is low because doing

nothing will not reduce the potential to reduce vehicle lane drift.

Reduce Traffic Noise – The effectiveness rating for this alternative is high because do nothing will not increase vehicle noise. Therefore, an effective solution is to do nothing.

Cost Effectiveness – The effectiveness rating for this alternative is high because the life cycle costs for do nothing is very low. Therefore, a cost effective solution is to do nothing.

Aesthetics – The effectiveness rating for this alternative is high because the long term aesthetics for doing nothing is high. Therefore, an aesthetic solution is to do nothing.

Considerations for Alternative “6-Inch Bots’ Dots”

Reduce Potential to Cause Traffic Accidents - The effectiveness rating for this alternative is moderate because traffic accidents may increase as drivers adjust their driving habits to avoid or strike the dots.

Reduce Speeding -The effectiveness rating for this alternative is low because Bots’ dots by themselves are not effective in reducing potential speeding. However, speeding is not a concern at this location because the speed cushions are an effective solution.

Reduce Lane Drift – The effectiveness rating for this alternative is high because Bots’ dots will reduce vehicle lane drift for all vehicles. Therefore, Bots’ dots are an effective solution to reduce lane drift.

Reduce Traffic Noise – The effectiveness rating for this alternative is low because Bots’ dots have the potential to increase vehicle noise.

Cost Effectiveness – The effectiveness rating for this alternative is moderate because the life cycle costs for Bots’ dots is low.

Aesthetics – The effectiveness rating for this alternative is moderate because the raised dots may not be visually appealing to some people.

Considerations for Alternative “Channelizers”

Reduce Potential to Cause Traffic Accidents - The effectiveness rating for this alternative is moderate because traffic accidents may increase as drivers adjust their driving habits to avoid or strike the channelizers.

Reduce Speeding - The effectiveness rating for this alternative is low because channelizers by themselves are not effective in reducing potential speeding. However, speeding is not a concern at this location because the speed cushions are an effective solution.

Reduce Lane Drift – The effectiveness rating for this alternative is moderate because as attested by the applicant channelizers will not reduce vehicle lane drift for most vehicles. Therefore, channelizers are not an effective solution to reduce lane drift.

Reduce Traffic Noise – The effectiveness rating for this alternative is moderate because channelizers have the potential to increase vehicle noise.

Cost Effectiveness – The effectiveness rating for this alternative is low because the life

cycle costs for channelizers is high.

Aesthetics – The effectiveness rating for this alternative is low because the channelizers are not visually appealing to some people and the long term aesthetics could be affected because of the ongoing need for maintenance.

Considerations for Alternative “Median Planters”

Reduce Potential to Cause Traffic Accidents - The effectiveness rating for this alternative is low because traffic accidents may be caused by drivers failing to adjust their driving habits to avoid medians.

Reduce Speeding - The effectiveness rating for this alternative is low because the median by itself is not effective in reducing potential speeding. However, speeding is not a concern at this location because the speed cushions are an effective solution.

Reduce Lane Drift – The effectiveness rating for this alternative is low because the median(s) cannot be placed at the location where lane drift is currently taking place. Lane drift is taking place at the gaps in the speed cushions placed there to allow emergency vehicles to drift out of the lane.

Reduce Traffic Noise – The effectiveness rating for this alternative is high because a median would not increase vehicle noise.

Cost Effectiveness – The effectiveness rating for this alternative is low because the life cycle costs for installing and maintaining planted medians is high.

Aesthetics – The effectiveness rating for this alternative is high because the long term aesthetics of the planted medians is high. However, the long term aesthetics could be affected because of the ongoing need for maintenance.

Considerations for Alternative “Chicanes”

Reduce Potential to Cause Traffic Accidents - The effectiveness rating for this alternative is moderate because traffic accidents may be caused by drivers failing to adjust their driving habits to avoid the chicanes.

Reduce Speeding - The effectiveness rating for this alternative is high because chicanes have been shown to be effective in reducing potential speeding. However installation of chicanes would be in conflict with the existing traffic calming, so if chicanes alternative is selected, the existing traffic calming would need to be removed in order for it to be a potentially effective solution.

Reduce Lane Drift – The effectiveness rating for this alternative is moderate because chicanes will not reduce lane drift for most vehicles.

Reduce Traffic Noise – The effectiveness rating for this alternative is high because chicanes would not increase vehicle noise. Therefore, a potentially effective solution is to remove the existing traffic calming measures and install chicanes.

Cost Effectiveness – The effectiveness rating for this alternative is low because the life cycle costs for installing and maintaining planted chicanes is high.

Aesthetics – The effectiveness rating for this alternative is high because the long term aesthetics of the planted chicanes is high. Although, the long term aesthetics could be

affected because of the ongoing need for maintenance, a potentially effective solution is to remove the existing traffic calming measures and install chicanes.

The effectiveness for the alternatives outlined above was evaluated by the TAC at the September 17, 2019 TAC Meeting. Attachment #1 contains a table summarizing the engineering evaluation of the criteria outlined above for these alternatives that were used to facilitate the discussion. The TAC's recommendation to Council is to maintain existing approved traffic calming measures on Plumas Avenue, which includes the striping and speed cushions, and to remove all additional unauthorized traffic control measures, including the existing channelizers.

ENVIRONMENTAL COMPLIANCE

In accordance with Title 14, California Code of Regulations (CCR, Title 14), Chapter 3 "CEQA Guidelines," Article 20, Section 15378, the proposed action is not a project as defined by the California Environmental Quality Act (CEQA). In addition, CEQA Guidelines Section 15061 includes the general rule that CEQA applies only to activities which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. Because the proposed action and this matter have no potential to cause any effect on the environment, or because it falls within a category of activities excluded as projects.

FISCAL IMPACT

There is no fiscal impact associated with this item.

ATTACHMENTS

1. Summary Table of Alternatives
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Engineering Evaluation of Alternatives Plumas Traffic Calming

Proposed Option	Reduce Potential to Cause Traffic Accident	Effectiveness in Reducing Speeding	Effectiveness in Reducing Lane Drift	Effectiveness in Reducing Traffic Noise	Cost Effectiveness	Aesthetics
Do Nothing	3	1	1	3	3	3
Bots Dots 6-inch	2	1	3	1	2	2
Channelizers	2	1	2	2	1	1
Median Planters	1	1	1	3	1	3
Chicanes	2	3	2	3	1	3

Table Notes

1 = Low Effectiveness

2 = Medium Effectiveness

3 = High Effectiveness