OCEANO COMMUNITY SERVICES DISTRICT

CONSTRUCTION CONTRACT

2019 REPLACEMENT GENERATOR

PROJECT # 2019-01

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CONSTRUCTION CONTRACT

THIS CONSTRUCTION CONTRACT entered into on _____, 2019 ("Execution Date") by and between the OCEANO COMMUNITY SERVICES DISTRICT, a California community services district ("District"), and _____("Contractor"), is made with reference to the following:

R E C I T A L S:

A. District is a community services district duly organized and validly existing under the laws of the State of California with the power to carry on its business as it is now being conducted under the statutes of the State of California.

B. Contractor is a Corporation or company duly organized and in good standing in the State of _____, License Number _____. Contractor represents that it is duly licensed by the State of California and has the background, knowledge, experience and expertise to perform the obligations set forth in this Construction Contract.

C. On_____, District issued a Notice Inviting Bids to contractors for _____ Project. A copy of District's Notice Inviting Bids is attached hereto as Exhibit "A" and incorporated by reference. In response to District's Notice Inviting Bids, Contractor submitted its Bid. A copy of Contractor's Bid is attached hereto as Exhibit "B" and incorporated herein by reference. Also attached hereto and incorporated by reference are the following:

- Exhibit C – General Conditions.
- Exhibit D – Special Provisions and/or Technical Specifications.
- Exhibit E – Payment and Performance Bonds.
- Exhibit F – Insurance Requirements.
- Exhibit G – Rules Governing Bid Protests
- Exhibit H – Other Contract Documents

D. District and Contractor desire to enter into this Construction Contract for the 2019 Replacement Generator Project, and other services as identified in the Bid Documents for the upon the following terms and conditions.

NOW THEREFORE, in consideration of the mutual promises and undertakings hereinafter set forth and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, it is mutually agreed by and between the undersigned parties as follows:

SECTION 1 INCORPORATION OF RECITALS AND DEFINITIONS.

1.1 Recitals.
All of the recitals are incorporated herein by reference.

1.2 Definitions.
Capitalized terms shall have the meanings set forth in this Construction Contract and/or in the General Conditions. If there is a conflict between the definitions in this Construction Contract and in the General Conditions, the definitions in this Construction Contract shall prevail.

SECTION 2 **THE PROJECT.**

The Project is the construction of the 2019 Replacement Generator (''Project").

SECTION 3 **THE CONTRACT DOCUMENTS.**

The Contract Documents consist of the following collection of documents:

(i) Executed Construction Contract between District and Contractor.
(ii) Notice Inviting Bids.
(iii) Instructions to Bidders.
(iv) Bidding Addenda.
(v) Contractor's Bid.
(vi) General Conditions.
(vii) Special Provisions and Technical Specifications.
(viii) Performance and Payment Bonds.
(ix) Insurance Forms.
(x) Plans and Drawings.
(xi) Reports listed in the Bidding Documents.
(xii) Supplements, Attachments, and Exhibits attached to the above items.
(xiii) Modifications.
(xiv) Change Orders.
(xv) Field Orders.
(xvi) Other documents as so designated by written agreement of the Parties.

SECTION 4 **THE WORK.**

The Work includes all labor, materials, equipment, services, permits, licenses and taxes, and all other things necessary for Contractor to perform its obligations and complete the Project, including, without limitation, any Changes requested by District, in accordance with the Contract Documents and all Applicable Code Requirements.

SECTION 5 **PROJECT TEAM.**

In addition to Contractor, District has retained, or may retain, consultants and contractors to provide professional and technical consultation for the design and construction of the Project. The Project requires that Contractor operate efficiently, effectively and cooperatively with District as well as all other members of the Project Team.

SECTION 6 TIME OF COMPLETION.

6.1 Time Is of the Essence.

Time is of the essence with respect to all time limits set forth in the Contract Documents.

6.2 Commencement of Work.

Contractor shall commence the Work on the date specified in District's Notice to Proceed.

6.3 Contract Time.

Contractor shall diligently prosecute the Work to Substantial Completion within 80 Calendar Days after the date specified in District's Notice to Proceed.

6.4 Liquidated Damages.

6.4.1 Entitlement.

District and Contractor acknowledge and agree that if Contractor fails to fully and satisfactorily complete the Work within the Contract Time, District will suffer, as a result of Contractor's failure, substantial damages which are both extremely difficult and impracticable to ascertain. Such damages may include, but are not limited to:

(i) Loss of public confidence in District and its contractors and consultants.
(ii) Loss of public use of public facilities.
(iii) Extended disruption to public.

6.4.2 Daily Amount.

District and Contractor have reasonably endeavored, but failed, to ascertain the precise amount in relation to the actual damage that District will incur if Contractor fails to achieve Substantial Completion of the entire Work within the Contract Time. Therefore, the parties agree that in addition to all other damages to which District may be entitled, in the event Contractor shall fail to achieve Substantial Completion of the entire Work within the Contract Time, Contractor shall pay District as liquidated damages the amount of $250.00 per day for each Day occurring after the expiration of the Contract Time until Contractor achieves Substantial Completion of the entire Work. The liquidated damages amount is not a penalty but considered to be a reasonable estimate of the amount of damages District will suffer.

6.4.3 Apportionment.

Such liquidated damages shall be subject to apportionment for delays to Substantial Completion for which Contractor is entitled to receive an extension of time under the Contract Documents. Such apportionment shall not be affected by the fact that liquidated damages may not be capable of apportionment for other periods of time during which there have occurred delays concurrently caused by both District and Contractor. It being the Contractor's obligation to have the entire Work Substantially Completed within the Contract Time, it is agreed that such liquidated damages shall not be apportioned for portions of the Work completed prior to expiration of the Contract Time.

6.4.4 Damages upon Abandonment.
In the event that Contractor either abandons the Work or is terminated for default in accordance with the provisions of Section 15 of this Construction Contract, District shall have the right to liquidated damages pursuant to Paragraph 6.4 in addition to all actual Losses proximately resulting from Contractor's failure to complete the Work within the Contract Time.

6.4.5 Other Remedies.
The parties further acknowledge and agree that District is entitled to any and all available legal and equitable remedies District may have where District's Losses are caused by any reason other than Contractor's failure to achieve Substantial Completion of the entire Work within the Contract Time.

6.5 Adjustments to Contract Time.
The Contract Time may only be adjusted for time extensions approved by District and agreed to by Change Order executed by District and Contractor in accordance with the requirements of the Contract Documents.

6.6 Additional Compensation to Contractor.
The Contract Sum shall be increased by the amount of $250.00 for each day of extension to the Contract Time that is permitted under the terms of the General Conditions solely due to Compensable Delay occurring prior to Substantial Completion, but only to the extent that such Compensable Delay is not concurrent with a Non-Compensable Delay.

Regardless of the cause of the Delay (including, without limitation, acts or omissions of District or its consultants, errors, conflicts or omissions in the Contract Documents, or Changes to the Work), Contractor agrees to accept the compensation provided for in this Paragraph as its sole and exclusive right, remedy and recovery arising from or related to any Delay, interruption, hindrance, compression, acceleration, disruption or the impact or ripple effect of Delays on the Work, that may occur in connection with Contractor's performance of Work on the Project and for any resulting foreseen or unforeseen:

(i) Overhead expenses such as, but not limited to, additional supervision, administration, extended or extraordinary overhead (direct or home office), insurance or bond costs; and
(ii) Productivity expenses such as additional loss of productivity, inefficiency, and escalation of costs of labor, wage, material or equipment.

SECTION 7 COMPENSATION TO CONTRACTOR.

7.1 Contract Sum.
Contractor shall be compensated for satisfactory completion of the Work in compliance with the Contract Documents the Contract Sum of _____ Dollars ($_____).

7.2 Full Compensation.
The Contract Sum shall be full compensation for all Work provided by Contractor and, except as otherwise expressly permitted by the terms of the Contract Documents, shall cover all Losses arising out of the nature of the Work or from the acts of the elements or

any unforeseen difficulties or obstructions which may arise or be encountered in performance of the Work until its Acceptance by District, all risks connected with the Work, and any and all expenses incurred due to suspension or discontinuance of the Work. The Contract Sum may only be adjusted for Change Orders issued, executed and satisfactorily performed in accordance with the requirements of the Contract Documents.

7.3 Compensation for Extra or Deleted Work.

The Contract Sum shall be adjusted (either by addition or credit) for Changes in the Work involving Extra Work or Deleted Work on the basis of both of the following:

(i) The sum of Allowable Costs as defined in Paragraph 7.2.5 of the General Conditions to be added (for Extra Work) or credited (for Deleted Work); and

(ii) An additional sum (for Extra Work) or deductive credit (for Deleted Work) based on Contractor Markup and Subcontractor/Sub-subcontractor Markups allowable pursuant to this Section 7.3.

Contractor Markup and Subcontractor/Sub-subcontractor Markups set forth herein are the full amount of compensation to be added for Extra Work or to be subtracted for Deleted Work that is attributable to overhead (direct and indirect) and profit of Contractor and of its Subcontractors and Sub-subcontractors, of every Tier. Contractor Markup and Subcontractor/Sub-subcontractor Markups, which shall not be compounded, shall be computed as follows:

7.3.1 Self-Performed Work.

Fifteen percent (15%) of the Allowable Costs for that portion of the Extra Work or Deleted Work to be performed by Contractor with its own forces.

7.3.2 Subcontractors.

15% of the Allowable Costs for that portion of the Extra Work or Deleted Work to be performed by a first Tier Subcontractor with its own forces, plus 2.5% thereon for Contractor Markup.

7.3.3 Sub-subcontractors.

15% of the Allowable Costs of that portion of the Work to be performed by Sub-subcontractors of the second and lower Tier with their own forces, plus 2.5% thereon for the Subcontractor, plus 2.5% on the combined total thereof for Contractor Markup.

SECTION 8 STANDARD OF CARE.

Contractor agrees that the Work shall be performed by qualified, experienced and well-supervised personnel. All services performed in connection with this Construction Contract shall be performed in a manner consistent with the standard of care under California law applicable to those who specialize in providing such services for projects of the type, scope and complexity of the Project.

SECTION 9 INDEMNIFICATION.

9.1 Hold Harmless.

To the fullest extent allowed by law, Contractor hereby agrees to defend, indemnify, and

hold harmless District, its District Board of Directors, officers, agents, employees, representatives and volunteers (hereinafter collectively referred to as "Indemnitees"), through legal counsel acceptable to District, from and against any and all Losses, claims, causes of action arising directly or indirectly from, or in any manner relating to any of, the following:

(i) Performance or nonperformance of the Work by Contractor or its Subcontractors or Sub-subcontractors, of any Tier;

(ii) Performance or nonperformance by Contractor or its Subcontractors or Sub-subcontractors, of any Tier, of any of the obligations under the Contract Documents;

(iii) The construction activities of Contractor or its Subcontractors or Sub-subcontractors, of any Tier, either on the Site or on other properties;

(iv) The payment or nonpayment by Contractor of any of its Subcontractors or Sub-subcontractors, of any Tier, for Work performed on or off the Site for the Project; and

(v) Any personal injury, including but not limited to bodily injury or death, arising out of or relating the performance or non-performance of the Work.

(vi) Any injury, property damage or economic loss to third parties associated with the performance or nonperformance by Contractor or its Subcontractors or Sub-subcontractors, of any Tier, of the Work.

However, nothing contained herein shall be construed as obligating Contractor to indemnify any Indemnitee for Losses resulting from the sole or active negligence or willful misconduct of the Indemnitee. Contractor shall pay District for any costs incurred in enforcing this provision. Nothing in the Contract Documents shall be construed to give rise to any implied right of indemnity in favor of Contractor against District or any other Indemnitee.

9.2 Survival.

The provisions of Section 9 shall survive the termination of this Construction Contract.

SECTION 10 COMPLIANCE WITH APPLICABLE CODE REQUIREMENTS.

This Project constitutes "public works" within the meaning of California Labor Code section 1720 and is subject to the prevailing wage laws. Contractor agrees to be subject to and comply with all applicable federal, state and municipal laws, codes, ordinances and regulations governing the Work, including, but not limited to applicable provisions of the California Labor Code.

SECTION 11 INSURANCE AND BONDS.

Prior to the commencement of any Work, Contractor shall provide District with evidence that it has obtained insurance and Performance and Payment Bonds satisfying all requirements in Article 11 of the General Conditions. Failure to do so shall be deemed a material breach of this Construction Contract.

SECTION 12 PROHIBITION AGAINST TRANSFERS.

District is entering into this Construction Contract based upon the stated experience and qualifications set forth in Contractor's Bid. Accordingly, Contractor shall not assign, hypothecate or transfer this Construction Contract or any interest therein directly or indirectly, by operation of

law or otherwise without the prior written consent of District. Any assignment, hypothecation or transfer without said consent shall be null and void.

For purposes of applying the provisions of this Section, the sale, assignment, transfer or other disposition of any of the issued and outstanding capital stock of Contractor or of any general partner or joint venture or syndicate member of Contractor, if a partnership or joint venture or syndicate or co-tenancy exists, which shall result in changing the control of Contractor, shall be construed as an assignment of this Construction Contract. Control means more than fifty percent (50%) of the voting power of the corporation or other entity.

SECTION 13 NOTICES.

13.1 Method of Notice.

Except as provided in Section 13.2 below, all notices, demands, requests or approvals to be given under this Construction Contract shall be given in writing and conclusively shall be deemed served on the earlier of the following:

(i) On the date delivered, if delivered personally;
(ii) On the third business day after the deposit thereof in the United States mail, postage prepaid, and addressed as hereinafter provided;
(iii) On the date sent, if sent by facsimile transmission; or
(iv) On the date it is accepted or rejected, if sent by certified mail.

13.2 Notice Recipients.

All notices, demands or requests (including, without limitation, Claims) from Contractor to District at:

Oceano Community Services District
1655 Front Street
Oceano, CA 93455
Attn: General Manager

In addition, copies of all Claims by Contractor under this Construction Contract shall be provided to the following:

Jeffery A. Minnery
P.O. Box 3835
San Luis Obispo, CA 93403-3835

All Claims shall be delivered personally or sent by certified mail.

All notices, demands, requests or approvals from District to Contractor shall be addressed to:

_____.
Re: _____, _____ (CCS)

13.3 Change of Address.
In the event of any change of address, the moving party is obligated to notify the other party of the change of address in writing. Each party may, by written notice only, add, delete or replace any listed individuals.

SECTION 14 DISPUTE RESOLUTION.

14.1 Resolution of Contract Disputes.
Contractor Claims (as defined by Public Contract Code Section 9204(c)) and General Conditions Section 1.1.18 shall be resolved by the parties in accordance with General Conditions Section 4.2 and applicable law. The procedures set forth in General Conditions Section 4.2 shall be the exclusive recourse of Contractor for such claims.

14.2 Resolution of Other Disputes.

14.2.1 Other Disputes.
The definition of Contractor Claims shall not include any of the following:

(i) Penalties or forfeitures prescribed by statute or regulation imposed by a governmental agency (other than relief from damages or penalties for delay assessed by a public entity under a contract for a public works project);

(ii) Third party tort claims for personal injury, property damage or death relating to any Work performed by Contractor or its Subcontractors or Sub-subcontractors of any Tier;

(iii) False claims liability under California Government Code Section 12650, et. seq.;

(iv) Defects in the Work first discovered by District after Final Payment by District to Contractor; or

(vi) The right of District to specific performance or injunctive relief to compel performance of any provision of the Contract Documents or for other District claims against the Contractor.

14.2.2 Litigation, District Election.
Matters that do not constitute Contractor Claims shall be resolved by way of an action filed in the Superior Court of the State of California, County of San Luis Obispo, and shall not be subject to the Contract Dispute Resolution Process. However, the District reserves the right, in its sole and absolute discretion, to treat such disputes as Contract Disputes.

Upon written notice by District of its election as provided in the preceding sentence, such dispute shall be submitted by the parties and finally decided pursuant to the Contract Dispute Resolution Process in the manner as required for Contract Disputes, including, without limitation, District's right under Paragraph 14.4.2 to defer resolution and final determination until after Final Completion of the Work.

14.3 Submission of Contractor Claim.

14.3.1 By Contractor.
Contractor shall submit a written Contractor Claim in accordance with Section 4.2

of the General Conditions.

14.3.2 By District.

District's right to commence the Contract Dispute Resolution Process shall arise at any time following District's actual discovery of the circumstances giving rise to the Contract Dispute. Nothing contained herein shall preclude District from asserting Contract Disputes in response to a Claim asserted by Contractor. A Statement of Contract Dispute submitted by District shall state the events or circumstances giving rise to the Contract Dispute, the dates of their occurrence and the damages or other relief claimed by District as a result of such events.

14.4 Contract Dispute Resolution Process.

The parties shall utilize each of the following steps in the Contract Dispute Resolution Process in the sequence they appear below. Each party shall participate fully and in good faith in each step in the Contract Dispute Resolution Process, which good faith effort shall be a condition precedent to the right of each party to proceed to the next step in the process.

14.4.1 Response by District.

The time periods for the District's response are set forth in General Conditions Section 4.2.6; however, any failure to respond shall be governed by General Condition Section 4.2.9.

14.4.2 Meet and Confer Conference.

If the claimant disputes the District's written response, or if the District fails to respond to a claim issued within the time prescribed in General Conditions Section 4.2, the claimant may demand in writing an informal conference to meet and confer for settlement of the issue in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the District shall schedule a meet and confer conference within 30 days for settlement of the dispute.

14.4.3 Mediation.

(i) Within ten (10) business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the District shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within sixty (60) days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the District and the claimant sharing the associated costs equally.

The District and the claimant shall mutually agree to a mediator within ten (10) business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

(ii) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

(iii) Unless otherwise agreed to by the District and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Public Contract Code Section 20104.4 to mediate after litigation has been commenced.

14.4.4 Binding Arbitration.

If the Contract Dispute is not resolved by mediation, then the party wishing to further pursue resolution or determination of the Contract Dispute shall submit the Contract Dispute for final and binding arbitration pursuant to the provisions of California Public Contract Code Sections 10240, et seq. The award of the arbitrator therein shall be final and may be entered as a judgment by any court of competent jurisdiction. Such arbitration shall be conducted in accordance with the following:

.1 **Arbitration Initiation.** The arbitration shall be initiated by filing a complaint in arbitration in accordance with the regulations promulgated pursuant to California Public Contract Code Section 10240.5.

.2 **Qualifications of the Arbitrator.** The arbitrator shall be selected based by mutual agreement of the parties. The arbitrator shall be a retired judge or an attorney with at least five (5) years of experience with public works construction contract law and in arbitrating public works construction disputes. In addition, the arbitrator shall have at least twenty (20) hours of formal training in arbitration skills. In the event the parties cannot agree upon a mutually acceptable arbitrator, then the provisions of California Public Contract Code Section 10240.3 shall be followed in selecting an arbitrator possessing the qualifications required herein.

.3 **Hearing Days and Location.** Arbitration hearings shall be held at the offices of District and shall, except for good cause shown to and determined by the arbitrator, be conducted on consecutive business days, without interruption or continuance.

.4 **Hearing Delays.** Arbitration hearings shall not be delayed except upon good cause shown.

.5 **Recording Hearings.** All hearings to receive evidence shall be recorded by a certified stenographic reporter, with the costs thereof borne equally by District and Contractor and allocated by the arbitrator in the final award.

.6 **Limitation of Depositions.** Discovery shall be permitted in accordance with the provisions of section 10240.11 of the Public Contract Code; provided, however, that depositions shall be limited to both of the following:
(i) Ten (10) percipient witnesses for District and ten (10)

percipient witnesses for Contractor; and

(ii) Expert witnesses.

Upon a showing of good cause, the arbitrator may increase the number of permitted depositions. An individual who is both percipient and expert shall, for purposes of applying the foregoing numerical limitation only, be deemed an expert. Expert reports shall be exchanged prior to receipt of evidence, in accordance with the direction of the arbitrator, and expert reports (including initial and rebuttal reports) not so submitted shall not be admissible as evidence

.7 Authority of the Arbitrator. The arbitrator shall have the authority to hear dispositive motions and issue interim orders and interim or executory awards.

.8 Waiver of Jury Trial. Contractor and District each voluntarily waives its right to a jury trial with respect to any Contract Dispute that is subject to binding arbitration in accordance with the provisions of this Paragraph 14.4.4. Contractor shall include this provision for waiver of jury trial, waiving the right to jury trial in any action involving District as a party in its contracts with its Subcontractors who provide any portion of the Work.

14.5 Non-Waiver.

There shall be no waiver of the rights granted pursuant to the Dispute Resolution Process, unless specifically set forth in Public Contract Code Section 9204((f)(1) or (2). Specifically, participation in the Contract Dispute Resolution Process shall not constitute a waiver, release or compromise of any defense of District, including, without limitation, any defense based on the assertion that the rights or Claims of Contractor that are the basis of a Contract Dispute were previously waived by Contractor due to failure to comply with the Contract Documents, including, without limitation, Contractor's failure to comply with any time periods for providing notice of requests for adjustments of the Contract Sum or Contract Time or for submission of Claims or supporting documentation of Claims.

SECTION 15 DEFAULT.

15.1 Notice of Default.

In the event that District determines, in its sole discretion, that Contractor has failed or refused to perform any of the obligations set forth in the Contract Documents, or is in breach of any provision of the Contract Documents, District may give written notice of default to Contractor in the manner specified for the giving of notices in the Construction Contract.

15.2 Opportunity to Cure Default.

Except for emergencies, Contractor shall cure any default in performance of its obligations under the Contract Documents within two (2) Days after receipt of written notice. However, if the breach cannot be reasonably cured within such time, Contractor will commence to cure the breach within two (2) Days and will diligently and continuously prosecute such cure to completion within a reasonable time, which shall in no event be later than ten (10) Days after receipt of such written notice.

SECTION 16 DISTRICT'S RIGHTS AND REMEDIES.

16.1 Remedies Upon Default.

In the event that Contractor fails to cure any default of this Construction Contract within the time period set forth above in Section 15, then District may pursue any remedies available under law or equity, including, without limitation, the following:

16.1.1 Delete Certain Services.

District may, without terminating the Construction Contract, delete certain portions of the Work, reserving to itself all rights to Losses related thereto.

16.1.2 Perform and Withhold.

District may, without terminating the Construction Contract, engage others to perform the Work or portion of the Work that has not been performed by Contractor and withhold the cost thereof to District from future payments to Contractor, reserving to itself all rights to Losses related thereto.

16.1.3 Suspend the Construction Contract.

District may, without terminating the Construction Contract and reserving to itself all rights to Losses related thereto, suspend all or any portion of this Construction Contract for as long a period of time as District determines, in its sole discretion, appropriate, in which event District shall have no obligation to adjust the Contract Sum or Contract Time, and shall have no liability to Contractor for damages if District directs Contractor to resume Work.

16.1.4 Terminate the Construction Contract for Default.

District may terminate all or any part of this Construction Contract for default in accordance with Paragraph 16.4 below, reserving to itself all rights to Losses related thereto and any other damages proximately caused or resulting from the Default.

16.1.5 Invoke the Performance Bond.

District may, with or without terminating the Construction Contract and reserving to itself all rights to Losses related thereto, exercise its rights under the Performance Bond.

16.1.6 Additional Provisions.

All of District's rights and remedies under this Construction Contract are cumulative, and shall be in addition to those rights and remedies available in law or in equity. Designation in the Contract Documents of certain breaches as material shall not be construed as implying that other breaches not so designated are not material nor shall such designations be construed as limiting District's right to terminate the Construction Contract, or the exercise of its other rights or remedies for default, to only material breaches. District's determination of whether there has been noncompliance with the Construction Contract so as to warrant exercise by District of its rights and remedies for default under the Construction Contract, shall be binding on all parties. No termination or action taken by District after such termination shall prejudice any other rights or remedies of District provided by law or equity or by the Contract Documents upon such termination; and District may proceed against Contractor to recover all

liquidated damages and Losses suffered by District.

16.2 Delays by Sureties.

Without limitation to any of District's other rights or remedies under the law, District has the right to suspend the performance by Contractor's sureties in the event of any of the following:

(i) Failure of the sureties to begin Work within a reasonable time in such manner as to insure full compliance with the Construction Contract within the Contract Time;
(ii) Abandonment of the Work;
(iii) If at any time District is of the opinion the Work is unnecessarily or unreasonably delayed;
(iv) Willful violation of any terms of the Construction Contract;
(v) Failure to perform according to the Contract Documents; or
(vi) Failure to follow instructions of District for its completion within the Contract Time.

District will serve notice of such failure upon the sureties and in the event the sureties neglect or refuse to cure the breach within the time specified in such notice, District shall have the power to suspend the performance or any part thereof of the sureties.

16.3 Damages to District.

16.3.1 For Contractor's Default.

District will be entitled to recovery of all Losses under law or equity in the event of Contractor's default under the Contract Documents.

16.3.2 Compensation for Losses.

In the event that District's Losses arise from Contractor's default under the Contract Documents, District shall be entitled to withhold monies otherwise payable to Contractor until Final Completion of the Project. If District incurs Losses due to Contractor's default, then the amount of Losses shall be deducted from the amounts withheld. Should the amount withheld exceed the amount deducted, the balance will be paid to Contractor or its designee upon Final Completion of the Project. If the Losses incurred by District exceed the amount withheld, Contractor shall be liable to District for the difference and shall promptly remit same to District.

16.4 Termination of the Construction Contract for Default.

Without limitation to any of District's other rights or remedies at law or in equity, and reserving to itself all rights to Losses related thereto, District shall have the right to terminate this Construction Contract, in whole or in part, upon the failure of Contractor to promptly cure any default as required by Section 15. District's election to terminate the Construction Contract for default shall be communicated by giving Contractor a written notice of termination in the manner specified for the giving of notices in the Construction Contract. Any notice of termination given to Contractor by District shall be effective immediately, unless otherwise provided therein.

16.5 Suspension by District for Convenience.

District may, at any time and from time to time, without cause, order Contractor, in writing, to suspend, delay, or interrupt the Work in whole or in part for such period of time, up to an aggregate of fifty percent (50%) of the Contract Time, as District may determine, with such period of suspension to be computed from the date of the written order. Such order shall be specifically identified as a Suspension Order by District. Upon receipt of

a Suspension Order, Contractor shall, at District's expense, comply with its terms and take all reasonable steps to minimize costs allocable to the Work covered by the Suspension Order during the period of Work stoppage. Within the period of the above noted aggregate time, or such extension to that period as is agreed upon by Contractor and District, District shall either cancel the Suspension Order or delete the Work covered by such Suspension Order by issuing a Change Order. If a Suspension Order is canceled or expires, Contractor shall resume and continue with the Work. A Change Order will be issued to cover any adjustments of the Contract Sum or the Contract Time necessarily caused by such suspension. The provisions of this Paragraph 16.5 shall not apply if a Suspension Order is not issued by District. A Suspension Order shall not be required to stop the Work as permitted or required under any other provision of the Contract Documents.

16.6 Termination Without Cause.

District shall have the option, at its sole discretion and without cause, of terminating this Construction Contract in part or in whole by giving thirty (30) Days written notice to Contractor. Contractor agrees to accept such sums as allowed under this Paragraph 16.6 as its sole and exclusive compensation and waives any claim for other compensation or Losses, including, but not limited to, loss of anticipated profits, loss of revenue, lost opportunity, or other consequential, direct, indirect or incidental damages of any kind.

16.6.1 Compensation.

Following such termination and within forty-five (45) Days after receipt of a billing from Contractor seeking payment of sums authorized by this Paragraph 16.6, District shall pay to Contractor as its sole compensation for performance of the Work the following:

.1 **For Work Performed.** The amount of the Contract Sum allocable to the portion of the Work properly performed by Contractor as of the date of termination, less sums previously paid to Contractor.

.2 **For Close-out Costs.** Reasonable costs of Contractor and its Subcontractors and Sub-subcontractors for:

(i) Demobilizing and

(ii) Administering the close-out of its participation in the Project (including, without limitation, all billing and accounting functions, not including attorney or expert fees) for a period of no longer than thirty (30) Days after receipt of the notice of termination in an amount not to exceed the daily sum payable to Contractor for Compensable Delays in Paragraph 6.6 of this Construction Contract.

.3 **For Fabricated Items.** Previously unpaid cost of any items delivered to the Project Site which were fabricated for subsequent incorporation in the Work.

16.6.2 Subcontractors.

Contractor shall include provisions in all of its subcontracts, purchase orders and other contracts permitting termination for convenience by Contractor on terms that are consistent with this Construction Contract and that afford no greater rights of recovery against Contractor than are afforded to Contractor under this Section 16.6.

16.7 Contractor's Duties Upon Termination.

Upon receipt of a notice of termination for default or for convenience, Contractor shall, unless the notice directs otherwise, do the following:

(i) Immediately discontinue the Work to the extent specified in the notice;

(ii) Place no further orders or subcontracts for materials, equipment, services or facilities, except as may be necessary for completion of such portion of the Work as is not discontinued;

(iii) Provide to District a description, in writing no later than fifteen (15) days after receipt of the notice of termination, of all subcontracts, purchase orders and contracts that are outstanding, including, without limitation, the terms of the original price, any changes, payments, balance owing, the status of the portion of the Work covered and a copy of the subcontract, purchase order or contract and any written changes, amendments or modifications thereto, together with such other information as District may determine necessary in order to decide whether to accept assignment of or request Contractor to terminate the subcontract, purchase order or contract;

(iv) Promptly assign to District those subcontracts, purchase orders or contracts, or portions thereof, that District elects to accept by assignment and cancel, on the most favorable terms reasonably possible, all subcontracts, purchase orders or contracts, or portions thereof, that District does not elect to accept by assignment; and

(v) Thereafter do only such Work as may be necessary to preserve and protect Work already in progress and to protect materials, plants, and equipment on the Project Site or in transit thereto.

SECTION 17 CONTRACTOR'S RIGHTS AND REMEDIES.

17.1 Contractor's Remedies.

Contractor may terminate this Construction Contract for cause only upon the occurrence of one of the following:

17.1.1 For Work Stoppage.

The Work is stopped for sixty (60) consecutive Days, through no act or fault of Contractor, any Subcontractor, or any employee or agent of Contractor or any Subcontractor, due to issuance of an order of a court or other public authority other than District having jurisdiction or due to an act of government, such as a declaration of a national emergency making material unavailable.

17.1.2 For District's Non-Payment.

If District does not make payment, of sums that are not in good faith disputed by District, and does not cure such default within ninety (90) Days after receipt of notice from Contractor, then upon an additional thirty (30) Days' notice to District, Contractor may terminate the Construction Contract.

17.2 Damages to Contractor.

In the event of termination for cause by Contractor, District shall pay Contractor the sums provided for in Paragraph 16.6 above. Contractor agrees to accept such sums as its sole and exclusive compensation and agrees to waive any claim for other compensation or Losses, including, but not limited to, loss of anticipated profits, loss

of revenue, lost opportunity, or other consequential, direct, indirect and incidental damages, of any kind.

SECTION 18 ACCOUNTING RECORDS.

18.1 Financial Management and District Access.
Contractor shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management under this Construction Contract in accordance with generally accepted accounting principles and practices consistently applied. District and District's accountants shall be afforded access at all times during normal business hours, to inspect, audit and copy Contractor's records, books, estimates, take- offs, cost reports, ledgers, schedules, correspondence, instructions, drawings, receipts, subcontracts, purchase orders, vouchers, memoranda and other data relating to this Project, and Contractor shall preserve these for a period of three (3) years after the later of (i) final payment or (ii) final resolution of all Contract Disputes and other disputes or for such longer period as may be required by law.

18.2 Compliance with District Requests.
Contractor's compliance with any request by District pursuant to this Section 18 shall be a condition precedent to filing or maintenance of any legal action or proceeding by Contractor against District and to Contractor's right to receive further payments under the Contract Documents. Any failure by Contractor to provide access to its business records for inspection or copying by District shall be specifically enforceable by issuance of a writ or a provisional or permanent mandatory injunction by a court of competent jurisdiction based on affidavits submitted to such court, without the necessity of oral testimony.

SECTION 19 INDEPENDENT PARTIES.

Both parties to this Construction Contract will be acting in an independent capacity and not as agents, employees, partners, or joint venturers of one another. District, its officers or employees shall have no control over the conduct of Contractor or its respective agents, employees, subconsultants, or subcontractors, except as herein set forth.

SECTION 20 NUISANCE.

Contractor shall not maintain, commit, nor permit the maintenance or commission of any nuisance in connection with the performance of services under this Construction Contract.

SECTION 21 PERMITS AND LICENSES.

Contractor, at its sole expense, shall obtain and maintain during the term of this Construction Contract, all appropriate permits, licenses, and certificates that may be required in connection with the performance of services hereunder.

SECTION 22 WAIVER.

A waiver by District of any breach of any term, covenant, or condition contained herein shall not be deemed to be a waiver of any subsequent breach of the same or any other term, covenant, or condition contained herein, whether of the same or a different character.

SECTION 23 CONFLICTS WITH THE CONSTRUCTION CONTRACT.

District and Contractor agree that if there is any conflict between the terms of this Construction Contract and the other Contract Documents, this Construction Contract shall control.

SECTION 24 GOVERNING LAW AND VENUE.

This Construction Contract shall be construed in accordance with and governed by the laws of the State of California. Any and all legal proceedings, including but not limited to mediations, arbitrations, and/or Civil Actions shall be commenced and maintained in the County of San Luis Obispo.

SECTION 25 COMPLETE AGREEMENT.

This Construction Contract represents the full and complete understanding of every kind or nature between the parties with respect to the services set forth in this Construction Contract, and all preliminary negotiations and contracts of whatever kind or nature are merged herein. No verbal agreed or implied covenant shall be held to vary the provisions of this Construction Contract. Any modification of this Construction Contract will be effective only upon written execution signed by both District and Contractor and approved as to form by District Legal Counsel.

SECTION 26 SURVIVAL OF CONTRACT.

The provisions of the Construction Contract which by their nature survive termination of the Construction Contract or Final Completion, including, without limitation, all warranties, indemnities, payment obligations, and District's right to audit Contractor's books and records, shall remain in full force and effect after Final Completion or any termination of the Construction Contract.

SECTION 27 ADDITIONAL CONTRACT REQUIREMENTS.

This contract (☐ does or ☒ does not) have special fund(s) involved requiring additional contract requirements, therefore this section (☐ does or ☒ does not) apply.

This Contract includes the following source of fund(s) or the District intends to apply to the following source of fund(s) for reimbursement of the expenses associated with the work set forth in this Contract:

N/A

This contract (☒ does or ☐ does not) have permit(s) obtained by the District, or which the contractor must obtain, requiring additional contract requirements, therefore this section (☒ does or ☐ does not) apply.

This Contract includes the following permits that that the contractor must comply with and/or obtain:

- County of San Luis Obispo Construction Permit PMTC2018-00004
- County of San Luis Obispo Air Pollution Control District Authority to Construct (ATC) 6697

District shall require Contractor to comply with the special requirements (Exhibit "G"), as they may be amended from time to time, in addition to all other requirements imposed by District.

SECTION 28 PUBLIC WORKS CONTRACTOR REGISTRATION PROGAM- SB 854

In accordance with State of California Senate Bill No. 854 (SB 854):

- No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under 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.
- This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

As of April 1, 2015, contractors and subcontractors must furnish electronic certified payroll records to the Labor Commissioner (State of California, Division of Labor Standards Enforcement).

Please see the DIR website for complete details and actions. It is the responsibility of the contractor to ensure all DIR requirements and regulations are met and stay current. For more information on Senate Bill No. 854, see http://www.dir.ca.gov/Public-Works/SB854.html.

SECTION 29 GOVERNMENTAL POWERS.

Nothing in this Agreement shall be deemed directly or indirectly to restrict or to impair in any manner or respect whatsoever any of District's governmental powers or rights or the exercise thereof by District, with respect to the Work or Project.

SECTION 30 SEVERABILITY.

In case a provision of this Construction Contract is held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not be affected.

SECTION 31 EXHIBITS.

Exhibit A – Notice Inviting Bids.
Exhibit B – Contractor's Bid.
Exhibit C – General Conditions.

Exhibit D – Plans and Specifications.
Exhibit E – Payment and Performance Bonds.
Exhibit F – Insurance Requirements.
Exhibit G – Rules Governing Bid Protests

IN WITNESS WHEREOF, the parties have caused this Construction Contract to be executed the date and year first above written.

OCEANO COMMUNITY SERVICES DISTRICT

BY: _____ DATE: ____/_____/ 2019__

OCSD President

Approved as to FORM:

BY: _____ DATE: ____/_____/ 2019__

OCSD Legal Counsel

_____**, INC. (Contractor)**

BY: _____ DATE: ____/_____/ 2019__

OCEANO COMMUNITY SERVICES DISTRICT

EMERGENCY GENERATOR REPLACEMENT PROJECT

OCEANO, CA
CONTRACT NO. 2019-01

EXHIBIT "C"

GENERAL CONDITIONS

OCEANO COMMUNITY SERVICES DISTRICT

CONSTRUCTION CONTRACT

2019 REPLACEMENT GENERATOR

PROJECT # 2019-01

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CONSTRUCTION CONTRACT

THIS CONSTRUCTION CONTRACT entered into on _____, 2019 ("Execution Date") by and between the OCEANO COMMUNITY SERVICES DISTRICT, a California community services district ("District"), and _____("Contractor"), is made with reference to the following:

R E C I T A L S:

A. District is a community services district duly organized and validly existing under the laws of the State of California with the power to carry on its business as it is now being conducted under the statutes of the State of California.

B. Contractor is a Corporation or company duly organized and in good standing in the State of _____, License Number _____. Contractor represents that it is duly licensed by the State of California and has the background, knowledge, experience and expertise to perform the obligations set forth in this Construction Contract.

C. On_____, District issued a Notice Inviting Bids to contractors for _____ Project. A copy of District's Notice Inviting Bids is attached hereto as Exhibit "A" and incorporated by reference. In response to District's Notice Inviting Bids, Contractor submitted its Bid. A copy of Contractor's Bid is attached hereto as Exhibit "B" and incorporated herein by reference. Also attached hereto and incorporated by reference are the following:

- Exhibit C – General Conditions.
- Exhibit D – Special Provisions and/or Technical Specifications.
- Exhibit E – Payment and Performance Bonds.
- Exhibit F – Insurance Requirements.
- Exhibit G – Rules Governing Bid Protests
- Exhibit H – Other Contract Documents

D. District and Contractor desire to enter into this Construction Contract for the 2019 Replacement Generator Project, and other services as identified in the Bid Documents for the upon the following terms and conditions.

NOW THEREFORE, in consideration of the mutual promises and undertakings hereinafter set forth and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, it is mutually agreed by and between the undersigned parties as follows:

SECTION 1 INCORPORATION OF RECITALS AND DEFINITIONS.

1.1 Recitals.
All of the recitals are incorporated herein by reference.

1.2 Definitions.
Capitalized terms shall have the meanings set forth in this Construction Contract and/or in the General Conditions. If there is a conflict between the definitions in this Construction Contract and in the General Conditions, the definitions in this Construction Contract shall prevail.

SECTION 2 **THE PROJECT.**

The Project is the construction of the 2019 Replacement Generator (''Project").

SECTION 3 **THE CONTRACT DOCUMENTS.**

The Contract Documents consist of the following collection of documents:

(i) Executed Construction Contract between District and Contractor.
(ii) Notice Inviting Bids.
(iii) Instructions to Bidders.
(iv) Bidding Addenda.
(v) Contractor's Bid.
(vi) General Conditions.
(vii) Special Provisions and Technical Specifications.
(viii) Performance and Payment Bonds.
(ix) Insurance Forms.
(x) Plans and Drawings.
(xi) Reports listed in the Bidding Documents.
(xii) Supplements, Attachments, and Exhibits attached to the above items.
(xiii) Modifications.
(xiv) Change Orders.
(xv) Field Orders.
(xvi) Other documents as so designated by written agreement of the Parties.

SECTION 4 **THE WORK.**

The Work includes all labor, materials, equipment, services, permits, licenses and taxes, and all other things necessary for Contractor to perform its obligations and complete the Project, including, without limitation, any Changes requested by District, in accordance with the Contract Documents and all Applicable Code Requirements.

SECTION 5 **PROJECT TEAM.**

In addition to Contractor, District has retained, or may retain, consultants and contractors to provide professional and technical consultation for the design and construction of the Project. The Project requires that Contractor operate efficiently, effectively and cooperatively with District as well as all other members of the Project Team.

SECTION 6 TIME OF COMPLETION.

6.1 Time Is of the Essence.

Time is of the essence with respect to all time limits set forth in the Contract Documents.

6.2 Commencement of Work.

Contractor shall commence the Work on the date specified in District's Notice to Proceed.

6.3 Contract Time.

Contractor shall diligently prosecute the Work to Substantial Completion within 80 Calendar Days after the date specified in District's Notice to Proceed.

6.4 Liquidated Damages.

6.4.1 Entitlement.

District and Contractor acknowledge and agree that if Contractor fails to fully and satisfactorily complete the Work within the Contract Time, District will suffer, as a result of Contractor's failure, substantial damages which are both extremely difficult and impracticable to ascertain. Such damages may include, but are not limited to:

(i) Loss of public confidence in District and its contractors and consultants.
(ii) Loss of public use of public facilities.
(iii) Extended disruption to public.

6.4.2 Daily Amount.

District and Contractor have reasonably endeavored, but failed, to ascertain the precise amount in relation to the actual damage that District will incur if Contractor fails to achieve Substantial Completion of the entire Work within the Contract Time. Therefore, the parties agree that in addition to all other damages to which District may be entitled, in the event Contractor shall fail to achieve Substantial Completion of the entire Work within the Contract Time, Contractor shall pay District as liquidated damages the amount of $250.00 per day for each Day occurring after the expiration of the Contract Time until Contractor achieves Substantial Completion of the entire Work. The liquidated damages amount is not a penalty but considered to be a reasonable estimate of the amount of damages District will suffer.

6.4.3 Apportionment.

Such liquidated damages shall be subject to apportionment for delays to Substantial Completion for which Contractor is entitled to receive an extension of time under the Contract Documents. Such apportionment shall not be affected by the fact that liquidated damages may not be capable of apportionment for other periods of time during which there have occurred delays concurrently caused by both District and Contractor. It being the Contractor's obligation to have the entire Work Substantially Completed within the Contract Time, it is agreed that such liquidated damages shall not be apportioned for portions of the Work completed prior to expiration of the Contract Time.

6.4.4 Damages upon Abandonment.
In the event that Contractor either abandons the Work or is terminated for default in accordance with the provisions of Section 15 of this Construction Contract, District shall have the right to liquidated damages pursuant to Paragraph 6.4 in addition to all actual Losses proximately resulting from Contractor's failure to complete the Work within the Contract Time.

6.4.5 Other Remedies.
The parties further acknowledge and agree that District is entitled to any and all available legal and equitable remedies District may have where District's Losses are caused by any reason other than Contractor's failure to achieve Substantial Completion of the entire Work within the Contract Time.

6.5 Adjustments to Contract Time.
The Contract Time may only be adjusted for time extensions approved by District and agreed to by Change Order executed by District and Contractor in accordance with the requirements of the Contract Documents.

6.6 Additional Compensation to Contractor.
The Contract Sum shall be increased by the amount of $250.00 for each day of extension to the Contract Time that is permitted under the terms of the General Conditions solely due to Compensable Delay occurring prior to Substantial Completion, but only to the extent that such Compensable Delay is not concurrent with a Non-Compensable Delay.

Regardless of the cause of the Delay (including, without limitation, acts or omissions of District or its consultants, errors, conflicts or omissions in the Contract Documents, or Changes to the Work), Contractor agrees to accept the compensation provided for in this Paragraph as its sole and exclusive right, remedy and recovery arising from or related to any Delay, interruption, hindrance, compression, acceleration, disruption or the impact or ripple effect of Delays on the Work, that may occur in connection with Contractor's performance of Work on the Project and for any resulting foreseen or unforeseen:

(i) Overhead expenses such as, but not limited to, additional supervision, administration, extended or extraordinary overhead (direct or home office), insurance or bond costs; and
(ii) Productivity expenses such as additional loss of productivity, inefficiency, and escalation of costs of labor, wage, material or equipment.

SECTION 7 COMPENSATION TO CONTRACTOR.

7.1 Contract Sum.
Contractor shall be compensated for satisfactory completion of the Work in compliance with the Contract Documents the Contract Sum of _____ Dollars ($_____).

7.2 Full Compensation.
The Contract Sum shall be full compensation for all Work provided by Contractor and, except as otherwise expressly permitted by the terms of the Contract Documents, shall cover all Losses arising out of the nature of the Work or from the acts of the elements or

any unforeseen difficulties or obstructions which may arise or be encountered in performance of the Work until its Acceptance by District, all risks connected with the Work, and any and all expenses incurred due to suspension or discontinuance of the Work. The Contract Sum may only be adjusted for Change Orders issued, executed and satisfactorily performed in accordance with the requirements of the Contract Documents.

7.3 Compensation for Extra or Deleted Work.

The Contract Sum shall be adjusted (either by addition or credit) for Changes in the Work involving Extra Work or Deleted Work on the basis of both of the following:

(i) The sum of Allowable Costs as defined in Paragraph 7.2.5 of the General Conditions to be added (for Extra Work) or credited (for Deleted Work); and

(ii) An additional sum (for Extra Work) or deductive credit (for Deleted Work) based on Contractor Markup and Subcontractor/Sub-subcontractor Markups allowable pursuant to this Section 7.3.

Contractor Markup and Subcontractor/Sub-subcontractor Markups set forth herein are the full amount of compensation to be added for Extra Work or to be subtracted for Deleted Work that is attributable to overhead (direct and indirect) and profit of Contractor and of its Subcontractors and Sub-subcontractors, of every Tier. Contractor Markup and Subcontractor/Sub-subcontractor Markups, which shall not be compounded, shall be computed as follows:

7.3.1 Self-Performed Work.

Fifteen percent (15%) of the Allowable Costs for that portion of the Extra Work or Deleted Work to be performed by Contractor with its own forces.

7.3.2 Subcontractors.

15% of the Allowable Costs for that portion of the Extra Work or Deleted Work to be performed by a first Tier Subcontractor with its own forces, plus 2.5% thereon for Contractor Markup.

7.3.3 Sub-subcontractors.

15% of the Allowable Costs of that portion of the Work to be performed by Sub-subcontractors of the second and lower Tier with their own forces, plus 2.5% thereon for the Subcontractor, plus 2.5% on the combined total thereof for Contractor Markup.

SECTION 8 STANDARD OF CARE.

Contractor agrees that the Work shall be performed by qualified, experienced and well-supervised personnel. All services performed in connection with this Construction Contract shall be performed in a manner consistent with the standard of care under California law applicable to those who specialize in providing such services for projects of the type, scope and complexity of the Project.

SECTION 9 INDEMNIFICATION.

9.1 Hold Harmless.

To the fullest extent allowed by law, Contractor hereby agrees to defend, indemnify, and

hold harmless District, its District Board of Directors, officers, agents, employees, representatives and volunteers (hereinafter collectively referred to as "Indemnitees"), through legal counsel acceptable to District, from and against any and all Losses, claims, causes of action arising directly or indirectly from, or in any manner relating to any of, the following:

(i) Performance or nonperformance of the Work by Contractor or its Subcontractors or Sub-subcontractors, of any Tier;

(ii) Performance or nonperformance by Contractor or its Subcontractors or Sub-subcontractors, of any Tier, of any of the obligations under the Contract Documents;

(iii) The construction activities of Contractor or its Subcontractors or Sub-subcontractors, of any Tier, either on the Site or on other properties;

(iv) The payment or nonpayment by Contractor of any of its Subcontractors or Sub-subcontractors, of any Tier, for Work performed on or off the Site for the Project; and

(v) Any personal injury, including but not limited to bodily injury or death, arising out of or relating the performance or non-performance of the Work.

(vi) Any injury, property damage or economic loss to third parties associated with the performance or nonperformance by Contractor or its Subcontractors or Sub-subcontractors, of any Tier, of the Work.

However, nothing contained herein shall be construed as obligating Contractor to indemnify any Indemnitee for Losses resulting from the sole or active negligence or willful misconduct of the Indemnitee. Contractor shall pay District for any costs incurred in enforcing this provision. Nothing in the Contract Documents shall be construed to give rise to any implied right of indemnity in favor of Contractor against District or any other Indemnitee.

9.2 Survival.

The provisions of Section 9 shall survive the termination of this Construction Contract.

SECTION 10 COMPLIANCE WITH APPLICABLE CODE REQUIREMENTS.

This Project constitutes "public works" within the meaning of California Labor Code section 1720 and is subject to the prevailing wage laws. Contractor agrees to be subject to and comply with all applicable federal, state and municipal laws, codes, ordinances and regulations governing the Work, including, but not limited to applicable provisions of the California Labor Code.

SECTION 11 INSURANCE AND BONDS.

Prior to the commencement of any Work, Contractor shall provide District with evidence that it has obtained insurance and Performance and Payment Bonds satisfying all requirements in Article 11 of the General Conditions. Failure to do so shall be deemed a material breach of this Construction Contract.

SECTION 12 PROHIBITION AGAINST TRANSFERS.

District is entering into this Construction Contract based upon the stated experience and qualifications set forth in Contractor's Bid. Accordingly, Contractor shall not assign, hypothecate or transfer this Construction Contract or any interest therein directly or indirectly, by operation of

law or otherwise without the prior written consent of District. Any assignment, hypothecation or transfer without said consent shall be null and void.

For purposes of applying the provisions of this Section, the sale, assignment, transfer or other disposition of any of the issued and outstanding capital stock of Contractor or of any general partner or joint venture or syndicate member of Contractor, if a partnership or joint venture or syndicate or co-tenancy exists, which shall result in changing the control of Contractor, shall be construed as an assignment of this Construction Contract. Control means more than fifty percent (50%) of the voting power of the corporation or other entity.

SECTION 13 NOTICES.

13.1 Method of Notice.

Except as provided in Section 13.2 below, all notices, demands, requests or approvals to be given under this Construction Contract shall be given in writing and conclusively shall be deemed served on the earlier of the following:

(i) On the date delivered, if delivered personally;
(ii) On the third business day after the deposit thereof in the United States mail, postage prepaid, and addressed as hereinafter provided;
(iii) On the date sent, if sent by facsimile transmission; or
(iv) On the date it is accepted or rejected, if sent by certified mail.

13.2 Notice Recipients.

All notices, demands or requests (including, without limitation, Claims) from Contractor to District at:

Oceano Community Services District
1655 Front Street
Oceano, CA 93455
Attn: General Manager

In addition, copies of all Claims by Contractor under this Construction Contract shall be provided to the following:

Jeffery A. Minnery
P.O. Box 3835
San Luis Obispo, CA 93403-3835

All Claims shall be delivered personally or sent by certified mail.

All notices, demands, requests or approvals from District to Contractor shall be addressed to:

_____.
Re: _____, _____ (CCS)

13.3 Change of Address.
In the event of any change of address, the moving party is obligated to notify the other party of the change of address in writing. Each party may, by written notice only, add, delete or replace any listed individuals.

SECTION 14 DISPUTE RESOLUTION.

14.1 Resolution of Contract Disputes.
Contractor Claims (as defined by Public Contract Code Section 9204(c)) and General Conditions Section 1.1.18 shall be resolved by the parties in accordance with General Conditions Section 4.2 and applicable law. The procedures set forth in General Conditions Section 4.2 shall be the exclusive recourse of Contractor for such claims.

14.2 Resolution of Other Disputes.

14.2.1 Other Disputes.
The definition of Contractor Claims shall not include any of the following:

(i) Penalties or forfeitures prescribed by statute or regulation imposed by a governmental agency (other than relief from damages or penalties for delay assessed by a public entity under a contract for a public works project);

(ii) Third party tort claims for personal injury, property damage or death relating to any Work performed by Contractor or its Subcontractors or Sub-subcontractors of any Tier;

(iii) False claims liability under California Government Code Section 12650, et. seq.;

(iv) Defects in the Work first discovered by District after Final Payment by District to Contractor; or

(vi) The right of District to specific performance or injunctive relief to compel performance of any provision of the Contract Documents or for other District claims against the Contractor.

14.2.2 Litigation, District Election.
Matters that do not constitute Contractor Claims shall be resolved by way of an action filed in the Superior Court of the State of California, County of San Luis Obispo, and shall not be subject to the Contract Dispute Resolution Process. However, the District reserves the right, in its sole and absolute discretion, to treat such disputes as Contract Disputes.

Upon written notice by District of its election as provided in the preceding sentence, such dispute shall be submitted by the parties and finally decided pursuant to the Contract Dispute Resolution Process in the manner as required for Contract Disputes, including, without limitation, District's right under Paragraph 14.4.2 to defer resolution and final determination until after Final Completion of the Work.

14.3 Submission of Contractor Claim.

14.3.1 By Contractor.
Contractor shall submit a written Contractor Claim in accordance with Section 4.2

of the General Conditions.

14.3.2 By District.

District's right to commence the Contract Dispute Resolution Process shall arise at any time following District's actual discovery of the circumstances giving rise to the Contract Dispute. Nothing contained herein shall preclude District from asserting Contract Disputes in response to a Claim asserted by Contractor. A Statement of Contract Dispute submitted by District shall state the events or circumstances giving rise to the Contract Dispute, the dates of their occurrence and the damages or other relief claimed by District as a result of such events.

14.4 Contract Dispute Resolution Process.

The parties shall utilize each of the following steps in the Contract Dispute Resolution Process in the sequence they appear below. Each party shall participate fully and in good faith in each step in the Contract Dispute Resolution Process, which good faith effort shall be a condition precedent to the right of each party to proceed to the next step in the process.

14.4.1 Response by District.

The time periods for the District's response are set forth in General Conditions Section 4.2.6; however, any failure to respond shall be governed by General Condition Section 4.2.9.

14.4.2 Meet and Confer Conference.

If the claimant disputes the District's written response, or if the District fails to respond to a claim issued within the time prescribed in General Conditions Section 4.2, the claimant may demand in writing an informal conference to meet and confer for settlement of the issue in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the District shall schedule a meet and confer conference within 30 days for settlement of the dispute.

14.4.3 Mediation.

(i) Within ten (10) business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the District shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within sixty (60) days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the District and the claimant sharing the associated costs equally.

The District and the claimant shall mutually agree to a mediator within ten (10) business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

(ii) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

(iii) Unless otherwise agreed to by the District and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Public Contract Code Section 20104.4 to mediate after litigation has been commenced.

14.4.4 Binding Arbitration.

If the Contract Dispute is not resolved by mediation, then the party wishing to further pursue resolution or determination of the Contract Dispute shall submit the Contract Dispute for final and binding arbitration pursuant to the provisions of California Public Contract Code Sections 10240, et seq. The award of the arbitrator therein shall be final and may be entered as a judgment by any court of competent jurisdiction. Such arbitration shall be conducted in accordance with the following:

.1 **Arbitration Initiation.** The arbitration shall be initiated by filing a complaint in arbitration in accordance with the regulations promulgated pursuant to California Public Contract Code Section 10240.5.

.2 **Qualifications of the Arbitrator.** The arbitrator shall be selected based by mutual agreement of the parties. The arbitrator shall be a retired judge or an attorney with at least five (5) years of experience with public works construction contract law and in arbitrating public works construction disputes. In addition, the arbitrator shall have at least twenty (20) hours of formal training in arbitration skills. In the event the parties cannot agree upon a mutually acceptable arbitrator, then the provisions of California Public Contract Code Section 10240.3 shall be followed in selecting an arbitrator possessing the qualifications required herein.

.3 **Hearing Days and Location.** Arbitration hearings shall be held at the offices of District and shall, except for good cause shown to and determined by the arbitrator, be conducted on consecutive business days, without interruption or continuance.

.4 **Hearing Delays.** Arbitration hearings shall not be delayed except upon good cause shown.

.5 **Recording Hearings.** All hearings to receive evidence shall be recorded by a certified stenographic reporter, with the costs thereof borne equally by District and Contractor and allocated by the arbitrator in the final award.

.6 **Limitation of Depositions.** Discovery shall be permitted in accordance with the provisions of section 10240.11 of the Public Contract Code; provided, however, that depositions shall be limited to both of the following:
(i) Ten (10) percipient witnesses for District and ten (10)

percipient witnesses for Contractor; and

(ii) Expert witnesses.

Upon a showing of good cause, the arbitrator may increase the number of permitted depositions. An individual who is both percipient and expert shall, for purposes of applying the foregoing numerical limitation only, be deemed an expert. Expert reports shall be exchanged prior to receipt of evidence, in accordance with the direction of the arbitrator, and expert reports (including initial and rebuttal reports) not so submitted shall not be admissible as evidence

.7 Authority of the Arbitrator. The arbitrator shall have the authority to hear dispositive motions and issue interim orders and interim or executory awards.

.8 Waiver of Jury Trial. Contractor and District each voluntarily waives its right to a jury trial with respect to any Contract Dispute that is subject to binding arbitration in accordance with the provisions of this Paragraph 14.4.4. Contractor shall include this provision for waiver of jury trial, waiving the right to jury trial in any action involving District as a party in its contracts with its Subcontractors who provide any portion of the Work.

14.5 Non-Waiver.

There shall be no waiver of the rights granted pursuant to the Dispute Resolution Process, unless specifically set forth in Public Contract Code Section 9204((f)(1) or (2). Specifically, participation in the Contract Dispute Resolution Process shall not constitute a waiver, release or compromise of any defense of District, including, without limitation, any defense based on the assertion that the rights or Claims of Contractor that are the basis of a Contract Dispute were previously waived by Contractor due to failure to comply with the Contract Documents, including, without limitation, Contractor's failure to comply with any time periods for providing notice of requests for adjustments of the Contract Sum or Contract Time or for submission of Claims or supporting documentation of Claims.

SECTION 15 DEFAULT.

15.1 Notice of Default.

In the event that District determines, in its sole discretion, that Contractor has failed or refused to perform any of the obligations set forth in the Contract Documents, or is in breach of any provision of the Contract Documents, District may give written notice of default to Contractor in the manner specified for the giving of notices in the Construction Contract.

15.2 Opportunity to Cure Default.

Except for emergencies, Contractor shall cure any default in performance of its obligations under the Contract Documents within two (2) Days after receipt of written notice. However, if the breach cannot be reasonably cured within such time, Contractor will commence to cure the breach within two (2) Days and will diligently and continuously prosecute such cure to completion within a reasonable time, which shall in no event be later than ten (10) Days after receipt of such written notice.

SECTION 16 DISTRICT'S RIGHTS AND REMEDIES.

16.1 Remedies Upon Default.

In the event that Contractor fails to cure any default of this Construction Contract within the time period set forth above in Section 15, then District may pursue any remedies available under law or equity, including, without limitation, the following:

16.1.1 Delete Certain Services.

District may, without terminating the Construction Contract, delete certain portions of the Work, reserving to itself all rights to Losses related thereto.

16.1.2 Perform and Withhold.

District may, without terminating the Construction Contract, engage others to perform the Work or portion of the Work that has not been performed by Contractor and withhold the cost thereof to District from future payments to Contractor, reserving to itself all rights to Losses related thereto.

16.1.3 Suspend the Construction Contract.

District may, without terminating the Construction Contract and reserving to itself all rights to Losses related thereto, suspend all or any portion of this Construction Contract for as long a period of time as District determines, in its sole discretion, appropriate, in which event District shall have no obligation to adjust the Contract Sum or Contract Time, and shall have no liability to Contractor for damages if District directs Contractor to resume Work.

16.1.4 Terminate the Construction Contract for Default.

District may terminate all or any part of this Construction Contract for default in accordance with Paragraph 16.4 below, reserving to itself all rights to Losses related thereto and any other damages proximately caused or resulting from the Default.

16.1.5 Invoke the Performance Bond.

District may, with or without terminating the Construction Contract and reserving to itself all rights to Losses related thereto, exercise its rights under the Performance Bond.

16.1.6 Additional Provisions.

All of District's rights and remedies under this Construction Contract are cumulative, and shall be in addition to those rights and remedies available in law or in equity. Designation in the Contract Documents of certain breaches as material shall not be construed as implying that other breaches not so designated are not material nor shall such designations be construed as limiting District's right to terminate the Construction Contract, or the exercise of its other rights or remedies for default, to only material breaches. District's determination of whether there has been noncompliance with the Construction Contract so as to warrant exercise by District of its rights and remedies for default under the Construction Contract, shall be binding on all parties. No termination or action taken by District after such termination shall prejudice any other rights or remedies of District provided by law or equity or by the Contract Documents upon such termination; and District may proceed against Contractor to recover all

liquidated damages and Losses suffered by District.

16.2 Delays by Sureties.

Without limitation to any of District's other rights or remedies under the law, District has the right to suspend the performance by Contractor's sureties in the event of any of the following:

(i) Failure of the sureties to begin Work within a reasonable time in such manner as to insure full compliance with the Construction Contract within the Contract Time;
(ii) Abandonment of the Work;
(iii) If at any time District is of the opinion the Work is unnecessarily or unreasonably delayed;
(iv) Willful violation of any terms of the Construction Contract;
(v) Failure to perform according to the Contract Documents; or
(vi) Failure to follow instructions of District for its completion within the Contract Time.

District will serve notice of such failure upon the sureties and in the event the sureties neglect or refuse to cure the breach within the time specified in such notice, District shall have the power to suspend the performance or any part thereof of the sureties.

16.3 Damages to District.

16.3.1 For Contractor's Default.

District will be entitled to recovery of all Losses under law or equity in the event of Contractor's default under the Contract Documents.

16.3.2 Compensation for Losses.

In the event that District's Losses arise from Contractor's default under the Contract Documents, District shall be entitled to withhold monies otherwise payable to Contractor until Final Completion of the Project. If District incurs Losses due to Contractor's default, then the amount of Losses shall be deducted from the amounts withheld. Should the amount withheld exceed the amount deducted, the balance will be paid to Contractor or its designee upon Final Completion of the Project. If the Losses incurred by District exceed the amount withheld, Contractor shall be liable to District for the difference and shall promptly remit same to District.

16.4 Termination of the Construction Contract for Default.

Without limitation to any of District's other rights or remedies at law or in equity, and reserving to itself all rights to Losses related thereto, District shall have the right to terminate this Construction Contract, in whole or in part, upon the failure of Contractor to promptly cure any default as required by Section 15. District's election to terminate the Construction Contract for default shall be communicated by giving Contractor a written notice of termination in the manner specified for the giving of notices in the Construction Contract. Any notice of termination given to Contractor by District shall be effective immediately, unless otherwise provided therein.

16.5 Suspension by District for Convenience.

District may, at any time and from time to time, without cause, order Contractor, in writing, to suspend, delay, or interrupt the Work in whole or in part for such period of time, up to an aggregate of fifty percent (50%) of the Contract Time, as District may determine, with such period of suspension to be computed from the date of the written order. Such order shall be specifically identified as a Suspension Order by District. Upon receipt of

a Suspension Order, Contractor shall, at District's expense, comply with its terms and take all reasonable steps to minimize costs allocable to the Work covered by the Suspension Order during the period of Work stoppage. Within the period of the above noted aggregate time, or such extension to that period as is agreed upon by Contractor and District, District shall either cancel the Suspension Order or delete the Work covered by such Suspension Order by issuing a Change Order. If a Suspension Order is canceled or expires, Contractor shall resume and continue with the Work. A Change Order will be issued to cover any adjustments of the Contract Sum or the Contract Time necessarily caused by such suspension. The provisions of this Paragraph 16.5 shall not apply if a Suspension Order is not issued by District. A Suspension Order shall not be required to stop the Work as permitted or required under any other provision of the Contract Documents.

16.6 Termination Without Cause.

District shall have the option, at its sole discretion and without cause, of terminating this Construction Contract in part or in whole by giving thirty (30) Days written notice to Contractor. Contractor agrees to accept such sums as allowed under this Paragraph 16.6 as its sole and exclusive compensation and waives any claim for other compensation or Losses, including, but not limited to, loss of anticipated profits, loss of revenue, lost opportunity, or other consequential, direct, indirect or incidental damages of any kind.

16.6.1 Compensation.

Following such termination and within forty-five (45) Days after receipt of a billing from Contractor seeking payment of sums authorized by this Paragraph 16.6, District shall pay to Contractor as its sole compensation for performance of the Work the following:

.1 **For Work Performed.** The amount of the Contract Sum allocable to the portion of the Work properly performed by Contractor as of the date of termination, less sums previously paid to Contractor.

.2 **For Close-out Costs.** Reasonable costs of Contractor and its Subcontractors and Sub-subcontractors for:

(i) Demobilizing and

(ii) Administering the close-out of its participation in the Project (including, without limitation, all billing and accounting functions, not including attorney or expert fees) for a period of no longer than thirty (30) Days after receipt of the notice of termination in an amount not to exceed the daily sum payable to Contractor for Compensable Delays in Paragraph 6.6 of this Construction Contract.

.3 **For Fabricated Items.** Previously unpaid cost of any items delivered to the Project Site which were fabricated for subsequent incorporation in the Work.

16.6.2 Subcontractors.

Contractor shall include provisions in all of its subcontracts, purchase orders and other contracts permitting termination for convenience by Contractor on terms that are consistent with this Construction Contract and that afford no greater rights of recovery against Contractor than are afforded to Contractor under this Section 16.6.

16.7 Contractor's Duties Upon Termination.

Upon receipt of a notice of termination for default or for convenience, Contractor shall, unless the notice directs otherwise, do the following:

(i) Immediately discontinue the Work to the extent specified in the notice;

(ii) Place no further orders or subcontracts for materials, equipment, services or facilities, except as may be necessary for completion of such portion of the Work as is not discontinued;

(iii) Provide to District a description, in writing no later than fifteen (15) days after receipt of the notice of termination, of all subcontracts, purchase orders and contracts that are outstanding, including, without limitation, the terms of the original price, any changes, payments, balance owing, the status of the portion of the Work covered and a copy of the subcontract, purchase order or contract and any written changes, amendments or modifications thereto, together with such other information as District may determine necessary in order to decide whether to accept assignment of or request Contractor to terminate the subcontract, purchase order or contract;

(iv) Promptly assign to District those subcontracts, purchase orders or contracts, or portions thereof, that District elects to accept by assignment and cancel, on the most favorable terms reasonably possible, all subcontracts, purchase orders or contracts, or portions thereof, that District does not elect to accept by assignment; and

(v) Thereafter do only such Work as may be necessary to preserve and protect Work already in progress and to protect materials, plants, and equipment on the Project Site or in transit thereto.

SECTION 17 CONTRACTOR'S RIGHTS AND REMEDIES.

17.1 Contractor's Remedies.

Contractor may terminate this Construction Contract for cause only upon the occurrence of one of the following:

17.1.1 For Work Stoppage.

The Work is stopped for sixty (60) consecutive Days, through no act or fault of Contractor, any Subcontractor, or any employee or agent of Contractor or any Subcontractor, due to issuance of an order of a court or other public authority other than District having jurisdiction or due to an act of government, such as a declaration of a national emergency making material unavailable.

17.1.2 For District's Non-Payment.

If District does not make payment, of sums that are not in good faith disputed by District, and does not cure such default within ninety (90) Days after receipt of notice from Contractor, then upon an additional thirty (30) Days' notice to District, Contractor may terminate the Construction Contract.

17.2 Damages to Contractor.

In the event of termination for cause by Contractor, District shall pay Contractor the sums provided for in Paragraph 16.6 above. Contractor agrees to accept such sums as its sole and exclusive compensation and agrees to waive any claim for other compensation or Losses, including, but not limited to, loss of anticipated profits, loss

of revenue, lost opportunity, or other consequential, direct, indirect and incidental damages, of any kind.

SECTION 18 ACCOUNTING RECORDS.

18.1 Financial Management and District Access.

Contractor shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management under this Construction Contract in accordance with generally accepted accounting principles and practices consistently applied. District and District's accountants shall be afforded access at all times during normal business hours, to inspect, audit and copy Contractor's records, books, estimates, take- offs, cost reports, ledgers, schedules, correspondence, instructions, drawings, receipts, subcontracts, purchase orders, vouchers, memoranda and other data relating to this Project, and Contractor shall preserve these for a period of three (3) years after the later of (i) final payment or (ii) final resolution of all Contract Disputes and other disputes or for such longer period as may be required by law.

18.2 Compliance with District Requests.

Contractor's compliance with any request by District pursuant to this Section 18 shall be a condition precedent to filing or maintenance of any legal action or proceeding by Contractor against District and to Contractor's right to receive further payments under the Contract Documents. Any failure by Contractor to provide access to its business records for inspection or copying by District shall be specifically enforceable by issuance of a writ or a provisional or permanent mandatory injunction by a court of competent jurisdiction based on affidavits submitted to such court, without the necessity of oral testimony.

SECTION 19 INDEPENDENT PARTIES.

Both parties to this Construction Contract will be acting in an independent capacity and not as agents, employees, partners, or joint venturers of one another. District, its officers or employees shall have no control over the conduct of Contractor or its respective agents, employees, subconsultants, or subcontractors, except as herein set forth.

SECTION 20 NUISANCE.

Contractor shall not maintain, commit, nor permit the maintenance or commission of any nuisance in connection with the performance of services under this Construction Contract.

SECTION 21 PERMITS AND LICENSES.

Contractor, at its sole expense, shall obtain and maintain during the term of this Construction Contract, all appropriate permits, licenses, and certificates that may be required in connection with the performance of services hereunder.

SECTION 22 WAIVER.

A waiver by District of any breach of any term, covenant, or condition contained herein shall not be deemed to be a waiver of any subsequent breach of the same or any other term, covenant, or condition contained herein, whether of the same or a different character.

SECTION 23 CONFLICTS WITH THE CONSTRUCTION CONTRACT.

District and Contractor agree that if there is any conflict between the terms of this Construction Contract and the other Contract Documents, this Construction Contract shall control.

SECTION 24 GOVERNING LAW AND VENUE.

This Construction Contract shall be construed in accordance with and governed by the laws of the State of California. Any and all legal proceedings, including but not limited to mediations, arbitrations, and/or Civil Actions shall be commenced and maintained in the County of San Luis Obispo.

SECTION 25 COMPLETE AGREEMENT.

This Construction Contract represents the full and complete understanding of every kind or nature between the parties with respect to the services set forth in this Construction Contract, and all preliminary negotiations and contracts of whatever kind or nature are merged herein. No verbal agreed or implied covenant shall be held to vary the provisions of this Construction Contract. Any modification of this Construction Contract will be effective only upon written execution signed by both District and Contractor and approved as to form by District Legal Counsel.

SECTION 26 SURVIVAL OF CONTRACT.

The provisions of the Construction Contract which by their nature survive termination of the Construction Contract or Final Completion, including, without limitation, all warranties, indemnities, payment obligations, and District's right to audit Contractor's books and records, shall remain in full force and effect after Final Completion or any termination of the Construction Contract.

SECTION 27 ADDITIONAL CONTRACT REQUIREMENTS.

This contract (☐ does or ☒ does not) have special fund(s) involved requiring additional contract requirements, therefore this section (☐ does or ☒ does not) apply.

This Contract includes the following source of fund(s) or the District intends to apply to the following source of fund(s) for reimbursement of the expenses associated with the work set forth in this Contract:

N/A

This contract (☒ does or ☐ does not) have permit(s) obtained by the District, or which the contractor must obtain, requiring additional contract requirements, therefore this section (☒ does or ☐ does not) apply.

This Contract includes the following permits that that the contractor must comply with and/or obtain:

- County of San Luis Obispo Construction Permit PMTC2018-00004
- County of San Luis Obispo Air Pollution Control District Authority to Construct (ATC) 6697

District shall require Contractor to comply with the special requirements (Exhibit "G"), as they may be amended from time to time, in addition to all other requirements imposed by District.

SECTION 28 PUBLIC WORKS CONTRACTOR REGISTRATION PROGAM- SB 854

In accordance with State of California Senate Bill No. 854 (SB 854):

- No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under 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.
- This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

As of April 1, 2015, contractors and subcontractors must furnish electronic certified payroll records to the Labor Commissioner (State of California, Division of Labor Standards Enforcement).

Please see the DIR website for complete details and actions. It is the responsibility of the contractor to ensure all DIR requirements and regulations are met and stay current. For more information on Senate Bill No. 854, see http://www.dir.ca.gov/Public-Works/SB854.html.

SECTION 29 GOVERNMENTAL POWERS.

Nothing in this Agreement shall be deemed directly or indirectly to restrict or to impair in any manner or respect whatsoever any of District's governmental powers or rights or the exercise thereof by District, with respect to the Work or Project.

SECTION 30 SEVERABILITY.

In case a provision of this Construction Contract is held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not be affected.

SECTION 31 EXHIBITS.

Exhibit A – Notice Inviting Bids.
Exhibit B – Contractor's Bid.
Exhibit C – General Conditions.

Exhibit D – Plans and Specifications.
Exhibit E – Payment and Performance Bonds.
Exhibit F – Insurance Requirements.
Exhibit G – Rules Governing Bid Protests

IN WITNESS WHEREOF, the parties have caused this Construction Contract to be executed the date and year first above written.

OCEANO COMMUNITY SERVICES DISTRICT

BY: _____ DATE: ____/_____/ 2019__

OCSD President

Approved as to FORM:

BY: _____ DATE: ____/_____/ 2019__

OCSD Legal Counsel

_____**, INC. (Contractor)**

BY: _____ DATE: ____/_____/ 2019__

OCEANO COMMUNITY SERVICES DISTRICT

EMERGENCY GENERATOR REPLACEMENT PROJECT

OCEANO, CA
CONTRACT NO. 2019-01

EXHIBIT "D"

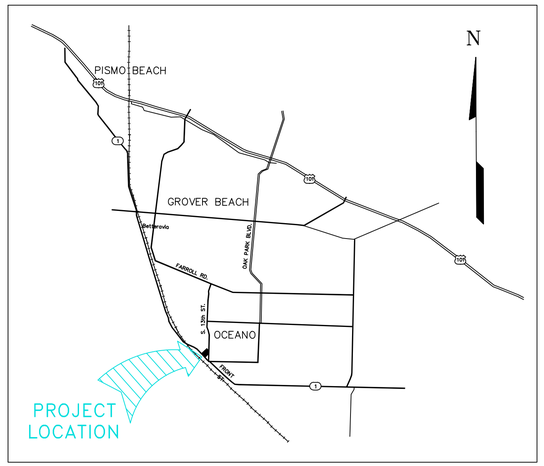
PLANS AND SPECIFICATIONS

OCEANO COMMUNITY SERVICES DISTRICT
REPLACEMENT STANDBY GENERATOR

OCEANO, CA

APN: 062-271-026

SHEET INDEX			
SHEET NO.	REV	DRAWING NO.	DESCRIPTION
1	1	E-171001-01	TITLE SHEET
2	1	E-171001-02	NOTES SHEET
3	1	E-171001-03	SITE PLAN
4	1	E-171001-04	SINGLE LINE DIAGRAM
5	1	E-171001-05	ELEVATION PLAN
S-1	0	N.A.	STRUCTURAL NOTES
S-2	0	N.A.	FOUNDATION AND ANCHOR PLAN



VICINITY MAP

SAN LUIS OBISPO COUNTY, CA.
SCALE : NONE

SITE LOCATION:

1687 FRONT STREET
OCEANO, CA 93445

OWNER:

OCEANO COMMUNITY SERVICES DISTRICT
ATTN: PAAVO OGREN
1655 FRONT STREET
OCEANO, CA 93445
TEL: (805) 481-6730

ENGINEER OF RECORD:

WILSON ENGINEERING
GARY D. WILSON, P.E.
771 MERCED ST.
PISMO BEACH, CA 93449
TEL. (805) 748-6209
GaryW@wilsonengineering.net

PROJECT DESCRIPTION:

REPLACE EXISTING EMERGENCY STANBY GENERATOR WITH A NEW EMERGENCY STANDBY GENERATOR ON A NEW CONCRETE PAD. INSTALL NEW CONDUCTORS IN EXISTING CONDUIT FROM THE NEW STANBY GENERATOR TO TWO LOCATIONS: THE SHERIFF SUBSTATION AND THE COMBINED OCEANO COMMUNITY SERVICES DISTRICT FIRE STATION AND OFFICE. INSTALL TWO NEW AUTOMATIC TRANSFER SWITCHES, ONE AT AT THE SHERIFF SUBSTATION AND ONE AT THE COMBINED OCEANO COMMUNITY SERVICES DISTRICT FIRE STATION AND OFFICE.

GENERATOR DESCRIPTION:

THE GENERATOR SHALL BE A CUMMINS C60 D6C DIESEL GENSET, 60 HZ, 60 kW- STANDBY RATING. THE GENERATOR SET SHALL INCLUDE A DOUBLE-WALLED FUEL TANK SUB BASE WITH AUTOMATIC LEAK DETECTION, CUMMINS MODEL AO53L911, 48 HR MINIMUM. THE GENERATOR SET SHALL HAVE IBC SEISMIC CERTIFICATION AND THE ENGINE SHALL BE APPROVED BY THE SAN LUIS OBISPO AIR POLLUTION CONTROL DISTRICT. THE GENERATOR SET SHALL INCLUDE A CUMMINS F217-2 SOUND ATTENUATION LEVEL 2 CONFIGURATION.

SPECIAL INSPECTORS:

ELECTRICAL AND CIVIL:
GARY WILSON, P.E.
WILSON ENGINEERING
771 MERCED STREET
PISMO BEACH, CA 93449
(805) 748-6209
GaryW@wilsonengineering.net
CALIFORNIA P.E. LICENSES: ELECTRICAL E-19856
CIVIL C-70607

GEOTECHNICAL:
KYLE MARTINEZ, P.E.
EARTH SYSTEMS
4378 OLD SANTA FE ROAD
SAN LUIS OBISPO, CA 93401
(805) 544-3276
kmartinez@earthsystems.com
CALIFORNIA P.E. LICENSES: CIVIL C-80666

811
TWO WORKING DAYS BEFORE YOU DIG

NOTES:

CODE COMPLIANCE: ALL WORK SHALL CONFORM TO AND BE PERFORMED IN ACCORDANCE WITH THE 2016 CALIFORNIA ELECTRIC CODE.

REGISTERED PROFESSIONAL ENGINEER GARY D. WILSON NO. 19856 EXP. 3-31-20 ELECTRICAL STATE OF CALIFORNIA

WILSON ENGINEERING
E 19856 C 70607
Gary D. Wilson, P.E.
gmwilson888@sbcglobal.net
771 Merced St.
Pismo Beach, CA 93449
(805) 748-6209

REV.	DATE	REVISION	REV. BY	CKD. BY
A	1/10/18	ISSUED FOR REVIEW	GW	
0	2/16/18	ISSUED FOR SUBMITTAL FOR PERMIT	GW	
1	5/7/18	CORRECTIONS FOR PLAN CHECK COMMENTS DATED 3/16/2018	GW	

OCEANO COMMUNITY SERVICES DISTRICT
NEW EMERGENCY GENERATOR
TITLE SHEET
1655 FRONT ST., OCEANO, CA 9345

DRAWING NO. E-171001-01	DRAWN BY GW	FACILITY: OFFICE	REV. 1
PROJECT NUMBER 171001	CHECKED BY GW		
	SCALE AS SHOWN		
	DATE 1/3/2018	SHEET 1 OF 5	

NOTES SHEET

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO AND BE PERFORMED IN ACCORDANCE WITH CODES, STANDARDS, AND ORDINANCES AS SET FORTH BY THE AUTHORITIES HAVING JURISDICTION AND THEIR LATEST ADOPTED EDITIONS (IN EFFECT AT TIME OF BUILDING PERMIT APPLICATION) OF THE FOLLOWING PUBLICATIONS:
   A. CALIFORNIA CODE OF REGULATIONS TITLE 24: INCLUDES NATIONAL ELECTRICAL CODE AND INTERNATIONAL FIRE CODE, INTERNATIONAL BUILDING CODE, ETC. WITH CALIFORNIA AND OTHER LOCAL AMENDMENTS AS APPLICABLE.
   B. AMERICANS WITH DISABILITIES ACT (ADA).
2. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL EQUIPMENT IN A SAFE AND RESPONSIBLE MANNER. KEEP DEAD FRONT EQUIPMENT IN PLACE WHILE EQUIPMENT IS ENERGIZED. CONDUCT ALL CONSTRUCTION OPERATIONS IN A SAFE MANNER FOR EMPLOYEES AS WELL AS OTHER WORKPERSONS OR ANYONE VISITING THE JOB SITE. PROVIDE BARRIERS, FLAGS, TAPE, ETC. AS REQUIRED FOR SAFETY. THE CONTRACTOR SHALL HOLD ALL PARTIES HARMLESS OF NEGLIGENT SAFETY PRACTICES, WHICH MAY CAUSE INJURY TO OTHERS ON OR NEAR THE JOB SITE.
3. FIRE RATED ASSEMBLIES SHALL MAINTAIN RATINGS AS SPECIFIED IN THE CALIFORNIA BUILDING CODE CHAPTER 7. CONTRACTOR SHALL PROVIDE AND INSTALL PHYSICAL ENCLOSURE AROUND FIXTURES, PANELS, ETC. AS REQUIRED. ALL ASSEMBLIES TO BE PENETRATED SHALL BE INSTALLED WITH APPLICABLE THROUGH-PENETRATION FIRESTOP SYSTEM AS DETERMINED BY UL CLASSIFICATION. BEFORE CONSTRUCTION, VERIFY AND COMPLY WITH REQUIREMENTS OF LOCAL AUTHORITY HAVING JURISDICTION.
4. BEFORE ROUGH-IN, VERIFY ALL MOUNTING HEIGHTS AND EXACT LOCATIONS FOR ALL EQUIPMENT, ELECTRICAL CONNECTIONS, STUB-UPS, RECEPTACLES, ETC. WITH OWNER.
5. LABEL PANELS, CABINETS, BACKBOARDS, MAIN DEVICES, SAFETY SWITCHES, CONTACTORS AND OTHER SPECIFICALLY DESIGNATED EQUIPMENT SHOWN ON PLANS. USE ENGRAVED LAMINATED PLASTIC NAMEPLATES ATTACHED BY SCREWS OR RIVETS. FOR FEEDERS, NEATLY AND INDELIBLY LABEL CONDUIT DESTINATIONS ON BOTH VISIBLE ENDS OF CONDUIT RUNS WHERE CONDUITS TERMINATE AT DESIGNATED ENCLOSURES, STRUCTURES OR EQUIPMENT (INCLUDING PULL AND SPLICE BOXES).
6. ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE ANCHORED OR BRACED TO MEET THE HORIZONTAL AND VERTICAL FORCES PRESCRIBED IN THE 2007 CBC, SECTION 1614A.1.13 AND ASCE 7-05 SECTIONS 13.3, 13.4 AND 13.6.
7. ANY DEMOLITION WORK SHOWN WAS PREPARED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER DOES NOT REPRESENT THAT ALL ITEMS WHICH REQUIRE DEMOLITION HAVE BEEN SHOWN.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE SITE AND THE CONTRACT DOCUMENTS AND TO PERFORM ALL DEMOLITION AND RECONSTRUCTION WHICH MAY BE REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.
9. INFORMATION FOR EXISTING CONDITIONS WAS PRIMARILY GAINED FROM DRAWINGS BY OTHERS AND/OR LIMITED FIELD INVESTIGATION. BEFORE BID, VISIT SITE TO VERIFY EXISTING CONDITIONS AND MAKE ALLOWANCE FOR VARIATIONS FROM THAT SHOWN.
10. CLOSELY COORDINATE OUTAGE AND FACILITY DISRUPTION TIME WITH THE OWNER. MINIMUM 72-HOUR NOTICE IS REQUIRED BEFORE ANY CIRCUIT SHUTDOWN OR DISRUPTION OF FACILITY PERSONNEL FUNCTIONING.

EXISTING CONDITIONS NOTES

1. ANY INFORMATION SHOWN ON THE PLANS FOR EXISTING CONDITIONS WAS PRIMARILY GAINED FROM "AS BUILT" DRAWINGS AND/OR LIMITED FIELD INVESTIGATION. BEFORE CONSTRUCTION, THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND MAKE ALLOWANCE FOR VARIATIONS FROM THAT SHOWN. CONTRACTOR SHALL ALSO FIELD VERIFY AND TAKE ALL DUE PRECAUTIONARY MEANS TO PROTECT ALL UNDERGROUND LINES, WIRING AND STRUCTURES REGARDLESS IF SHOWN OR NOT ON THE DRAWINGS.
2. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL POTHOLE AND VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF THE DISCOVERY OF ANY UTILITY OR ANY UNDERGROUND LINES, WIRING AND STRUCTURES THAT WAS OMITTED FROM THE PLANS, INCORRECTLY SHOWN OR NOT PROPERLY MARKED. IF THE UTILITY DOES NOT PROVIDE LOCATION INFORMATION OR MARKING SERVICES IN THE FIELD, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
4. OVERHEAD UTILITIES ARE NOT SHOWN IN ALL INSTANCES. CONTRACTOR SHALL USE DUE CARE WHEN WORKING NEAR OR UNDER SAID UTILITIES AND SHALL PROTECT THEM IN PLACE.
5. THE CONTRACTOR SHALL NOT INTERRUPT THE SERVICE FUNCTION OF ANY UTILITY OR FIELD PRODUTION EQUIPMENT, DISTURB THE SUPPORT BASE, OR MODIFY ANY FACILITY WITHOUT AUTHORITY FROM THE UTILITY OWNER AND/OR PCEC MANAGEMENT.
6. EXISTING PIPELINES/UTILITIES THAT CROSS NEW SYSTEM PIPING OR SIMILAR EXCAVATIONS REQUIRED TO CONSTRUCT THE PIPING, SHALL BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED. ALL EXISTING PIPELINES/UTILITIES SHALL BE SUPPORTED ACROSS THE EXCAVATION DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY OWNER AND OCEANO COMMUNITY SERVICES DISTRICT MANAGEMENT IF ANY UTILITY OR UNDERGROUND LINES, WIRING AND STRUCTURES IS DISTURBED OR DAMAGED DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL BEAR THE COSTS OF REPAIR OR REPLACEMENT OF ANY MARKED UTILITY WHERE DAMAGE WAS CAUSED BY THE CONTRACTOR'S ACTIVITIES.

GROUNDING NOTES

1. ALL DIRECT BURIAL GROUNDING CONDUCTORS SHALL BE INSTALLED A MINIMUM 30 INCHES BELOW FINISHED GRADE UNLESS OTHERWISE NOTED.
2. EQUIPMENT GROUND CONDUCTOR SHALL BE MN. #6 COPPER AND TAP TO EQUIPMENT SHALL BE MIN. #6 COPPER OR AS SHOWN.
3. UNDERGROUND CONNECTION SHALL BE "CADWELD", BURNDY HYPRESS OR APRROVED EQUAL.
4. FRAMES OF ALL MOTORS SHALL BE BONDED TO THE GROUND GRID.
5. ABOVE-GROUND GROUND WIRE TO BE PROTECTED FROM MECHANICAL DAMAGE.
6. A SUPPLEMENTAL ELECTRODE SHALL BE REQUIRED NOT LESS THAN 6 FT. APART UNLESS A SINGLE ROD, PIPE, OR PLATE GROUNDING ELECTRODE HAS A RESISTANCE TO EARTH OF 25 OHMS OR LESS. A MEASURE OF RESISTANCE IS REQUIRED TO DETERMINE GROUND RESISTANCE FOR SINGLE ELECTRODE INSTALLATIONS TO VERIFY A RESISTANCE TO EARTH OF 25 OHMS OR LESS.
7. ALL MEASURE OF RESISTANCE SHALL BE DOCUMENTED IN A WRITTEN REPORT AND SIGNED AND STAMPED BY A REGISTERED ELECTRICAL ENGINEER AND BE AVAILABLE FOR THE INSPECTOR AT THE TIME OF INSPECTION.

⚠ WARNING

Arc Flash Hazard.
Appropriate PPE Required.
Failure To Comply Can Result in
Death or Injury.
Refer to NFPA 70 E.

NOTE:
IN ACCORDANCE WITH CEC 110.16, PROVIDE ARC FLASH PROTECTION WARNING LABELS ON ELECTRICAL EQUIPMENT SUCH AS SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS, METER SOCKET ENCLOSURES, AND MOTOR CONTROL CENTERS THAT ARE LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE WHILE ENERGIZED. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF EQUIPMENT.

ARC FLASH SIGNAGE
NTS

SHORT CIRCUIT CURRENT

THE SHORT CIRCUIT CURRENT AVAILABLE FROM A TYPICAL 75 KVA, 480V GENERATOR IS:

Isc = FLA/X" (FULL LOAD AMP/0.16)

FLA = (KVA*1000)/480V = 75,000/480 = 156A

THEREFORE, Isc = 156/0.16 = 976 AMPS.

LOAD ANALYSIS

METER DATA PROVIDED BY PG&E FOR THE FIRE STATION AND SHERIFF SUBSTATIONSHOWS A PEAK KW DEMAND OVER THE PAST 18 MONTHS AS FOLLOWS:
FIRE STATION 11 KW (NOVEMBER 2016)
SHERIFF SUBSTATION 20 KW (NOVEMBER 2016 AND SEPTEMBER 2017)
PER CEC 220.87, THE FEEDER LOAD IS 125% OF THE MAXIMUM DEMAND (ASSUME 0.8 POWER FACTOR):
FIRE STATION ((11 KW*1000)/(480V*0.8PF))*1.25=35.8A
SHERIFF SUBSTATION ((20 KW*1000)/(480V*0.8PF))*1.25=65.1A

VOLTAGE DROP CALCULATION

THE VOLAGE DROP FOR THE FEEDER FROM THE GENERATOR TO THE FIRE STATION IS CALCULATED BASED ON A DISTANCE OF 350 FT. FOR #2 COPPER CONDUCTORS, SINGLE PHASE, 480V, WITH A CURRENT OF 35.8 AMPS:

VOLTAGE DROP: 3.92V
VOLTAGE DROP PERCENT: 0.82%

THE VOLAGE DROP FOR THE FEEDER FROM THE GENERATOR TO THE SHERIFF SUBSTATION IS CALCULATED BASED ON A DISTANCE OF 175 FT. FOR #2 COPPER CONDUCTORS, SINGLE PHASE, 480V, WITH A CURRENT OF 65.1 AMPS:

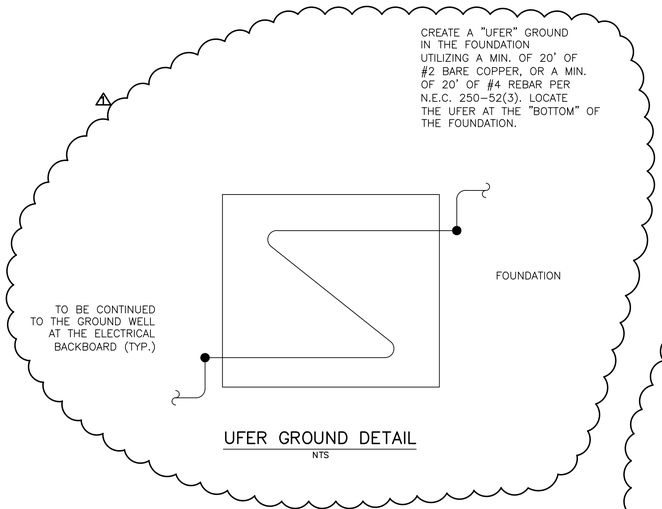
VOLTAGE DROP: 3.56V
VOLTAGE DROP PERCENT: 0.74%

CONCRETE WASTE MANAGEMENT WM-8

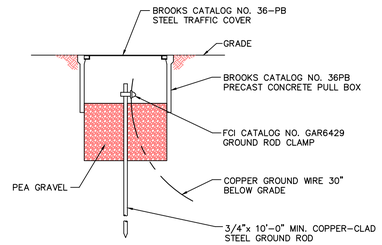
A CONCRETE WASHOUT BASIN SHALL BE CONSTRUCTED PER THE CALIFORNIA STORMWATER BMP HANDBOOK SECTION WM-8 PUBLISHED ON JULY 2012 BY THE CALIFORNIA STORMWATER QUALITY ASSOCIATION (CASQA).

THE WASHOUT SITE SHALL BE AT LEAST 50 FT. AWAY FROM STORM DRAINS, OPEN DITCHES, OR WATER BODIES. DO NOT ALLOW RUNOFF FROM THIS AREA BY CONSTRUCTION A TEMPORARY PIT OR BERMED AREA LARGE ENOUGH FOR THE LIQUID AND SOLID WASTE. REFER TO PAGE 6 OF THE PUBLICATION FOR BASIN CONSTRUCTION DETAILS.

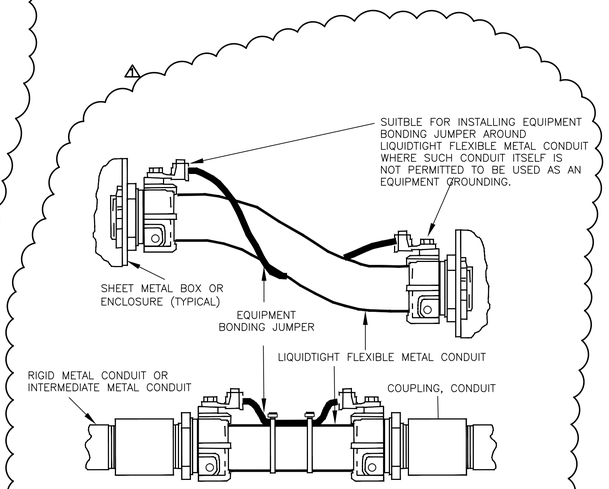
USE 10 MIL PLASTIC FOR THE LINING OF THE TEMPORARY BASIN AND INSTALL A CONCRETE WASHOUT SIGN WITHIN 30 FT. OF THE BASIN.



UFER GROUND DETAIL
NTS



GROUND ROD DETAIL
NTS



NOTES:

1. WHERE SPECIFICATIONS REQUIRE INSTALLATION OF AN EXTERNAL BONDING JUMPER AROUND LIQUIDTIGHT METAL CONDUIT, TERMINATING FITTINGS INSTALLED SHALL BE LISTED AS ECTERNAL BOINDING LIQUIDTIGHT METAL CONDUIT CONNECTORS. EXAMPLE: THOMAS & BETTS SERIES 5331GR, 5341GR, 5351GR OR 5271GR.
2. GROUNDING LIQUIDTIGHT FLEXIBLE METAL CONDUIT FITTINGS INSTALLED SHALL BE OF RUGGED CONSTRUCTION WITH THE CAPABILITY FOR MOUNTING THE EQUIPMENT BONDING JUMPER IN SEVERAL POSITIONS. MECHANICAL OR COMPRESSION TYPE LUGS SHALL BE USED TO INSTALL BONDING JUMPER.
3. EQUIPMENT BONDING JUMPER SHALL BE ROUTED WITH RACEWAY AND WHERE NECESSARY HELD IN PLACE BY CABLE TIES.

BONDING LIQUITTIGHT FLEXIBLE METAL CONDUIT DETAIL
NTS

RACEWAY AND EQUIPMENT GROUND FROM NEC TABLE 250.122

RATING OR SETTING OF OVERCURRENT PROTECTIVE DEVICE	MINIMUM EQUIPMENT GROUND SIZE, COPPER
15	14
20	12
30	10
40	10
60	10
100	8
200	6
300	4
400	3
500	2
600	1
800	1/0

ALLOWABLE AMPACITY 0-2000V FROM NEC TABLE 310.16

CONDUCTOR SIZE	COPPER THHW/THHN, 60°C	COPPER THHW/THHN, 75°C
14	20	20
12	25	25
10	30	35
8	40	50
6	55	65
4	70	85
3	85	100
2	95	115
1	110	130
1/0	125	150
2/0		175
3/0		200
4/0		230
250		255
300		285
350		310
400		335
500		380

NOTE: PER NEC 240.3 (B); THE NEXT HIGHER STANDARD OVERCURRENT DEVICE RATING (ABOVE THE AMPACITY OF THE CONDUCTORS BEING PROTECTED) SHALL BE PERMITTED, PROVIDED ALL OF CONDITIONS (1), (2) AND (3) OF THIS ARTICLE HAVE BEEN MET.

NOTES:

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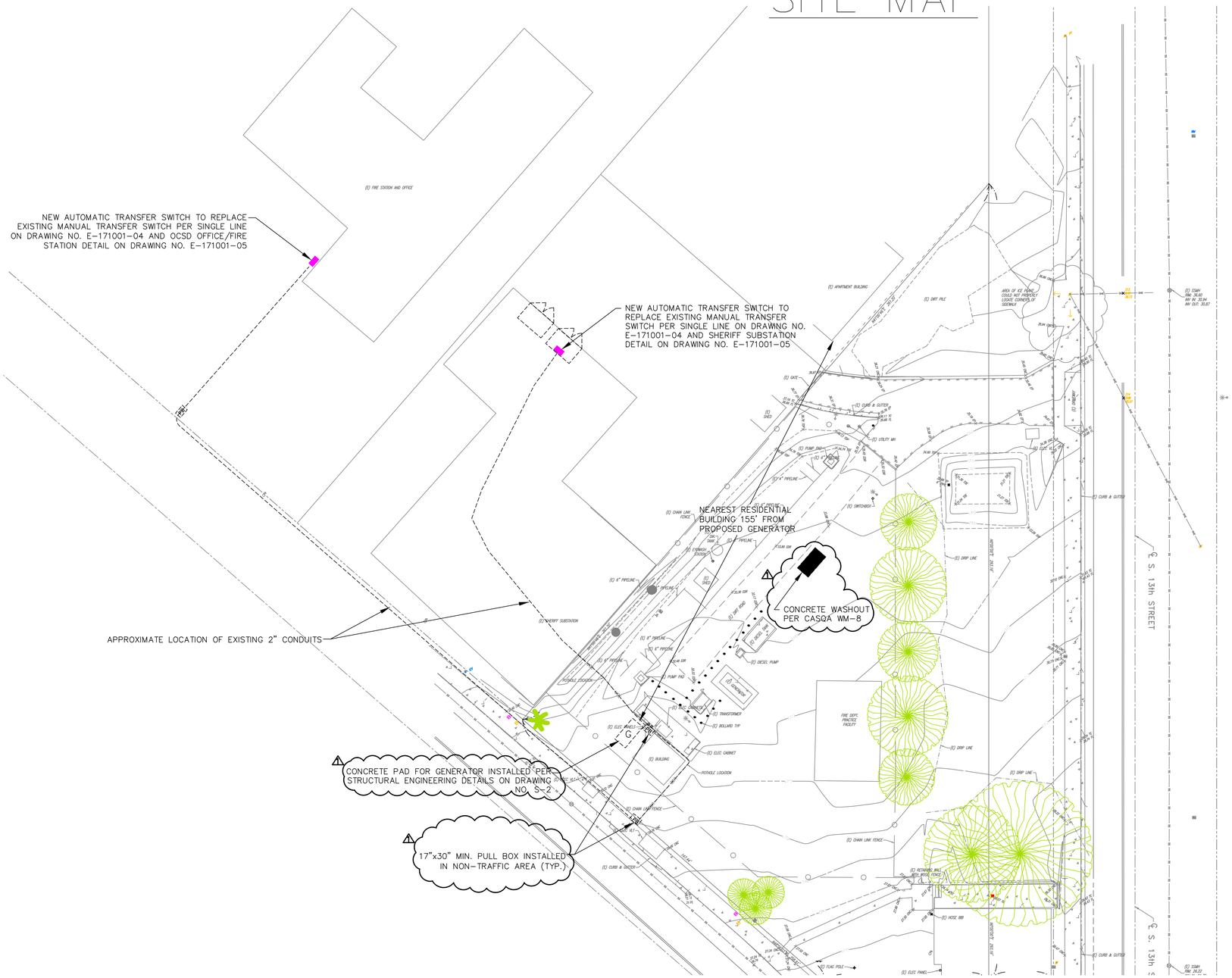
REV.	DATE	REVISION	REV. BY	CK'D. BY
A	1/10/18	ISSUED FOR REVIEW	GW	
0	2/16/18	ISSUED FOR SUBMITTAL FOR PERMIT	GW	
1	5/7/18	CORRECTIONS FOR PLAN CHECK COMMENTS DATED 3/16/2018	GW	

OCEANO COMMUNITY SERVICES DISTRICT
NEW EMERGENCY GENERATOR
NOTES SHEET
1655 FRONT ST., OCEANO, CA 9345

DRAWING NO. E-171001-02
PROJECT NUMBER 171001
DRAWN BY GW
CHECKED BY GW
SCALE AS SHOWN
DATE 1/3/2018
FACILITY: OFFICE
REV. 1
SHEET 2 OF 5

SITE MAP



LEGEND

EXISTING 480V UNDERGROUND CONDUT

PROPOSED AUTOMATIC TRANSFER SWITCH

PROPOSED CONCRETE PAD FOR GENERATOR (G)

PROPOSED PULL BOX, 17"x30" MIN. (PB)

NOTES:

TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO VERIFY LOCATION AND DISTANCES.

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OCEANO COMMUNITY SERVICES 1981 DISTRICT

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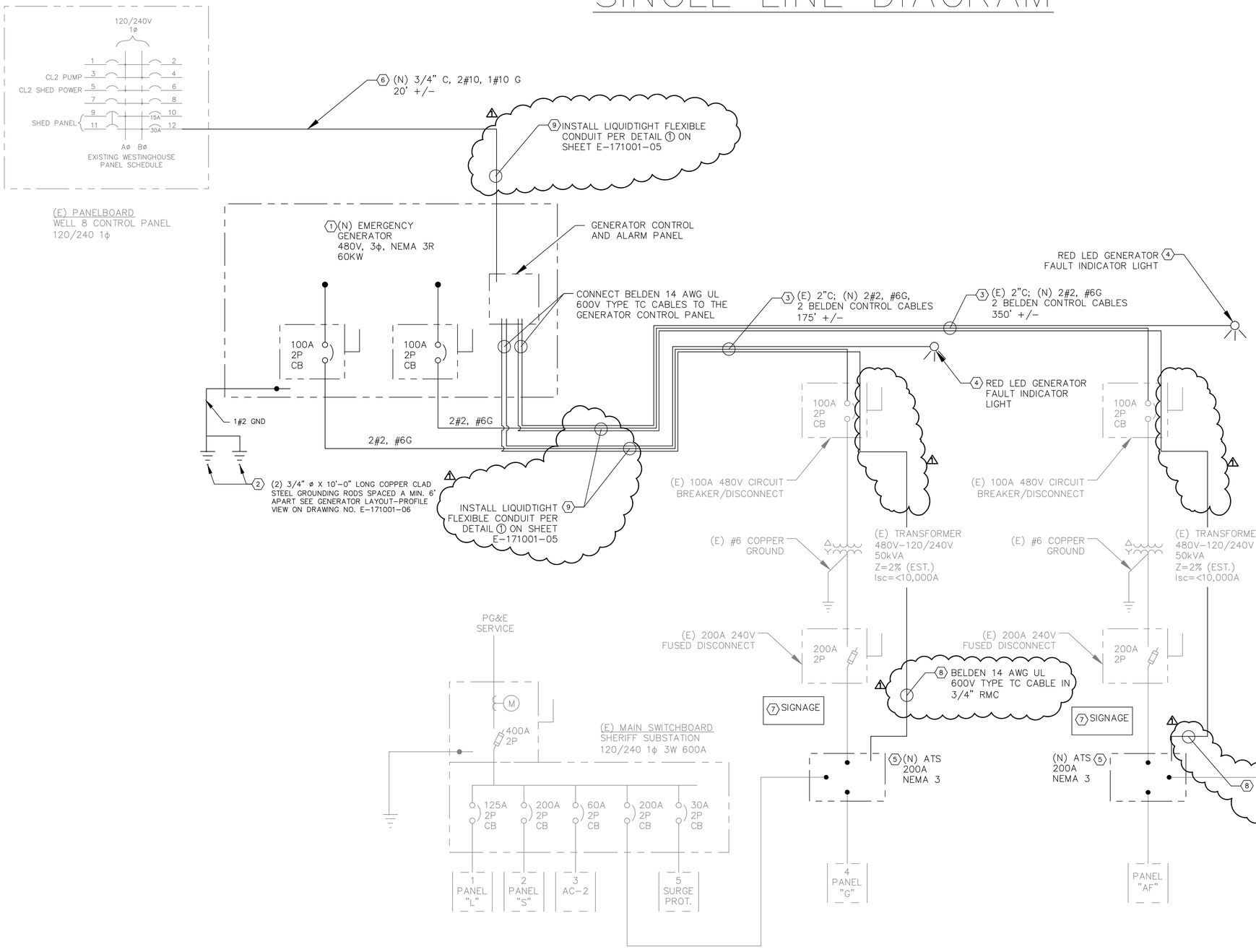
1	5/7/18	CORRECTIONS FOR PLAN CHECK COMMENTS DATED 3/16/2018	GW	

OCEANO COMMUNITY SERVICES DISTRICT
NEW EMERGENCY GENERATOR
SITE MAP
1655 FRONT ST., OCEANO, CA 9345

DRAWING NO. E-171001-03	DRAWN BY GW CHECKED BY GW SCALE AS SHOWN DATE 1/3/2018	FACILITY: OFFICE	REV. 1
PROJECT NUMBER 171001		SHEET 3 OF 5	

SINGLE LINE DIAGRAM



GENERAL NOTES:

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST EDITION OF THE CEC.
2. ALL CONDUCTORS SHALL BE RATED FOR 600V.
3. ALL SINGLE CONDUCTORS SHALL BE COPPER WITH TYPE THHN/THWN INSULATION UNLESS OTHERWISE NOTED.
4. ALL SWITCHES, CIRCUIT BREAKERS AND OTHER EQUIPMENT, AS SPECIFIED, SHALL HAVE TERMINATION PROVISIONS LISTED AND IDENTIFIED FOR USE WITH 75°C CONDUCTORS, AND ALL FEEDER CONDUCTORS, AND CONDUITS, ARE SIZED BASED ON USE OF 75°C COPPER WIRES TYPE THHN/THWN.
5. ALL EQUIPMENT SHALL HAVE AN APPROVED TESTING LABORATORY LABEL ATTACHED [UL, CSA, ETC.] (CEC 110-2) AND HAVE A SHORT CIRCUIT (Isc) RATING OF 10,000 AMPS OR GREATER.
6. BEFORE ROUGH-IN, VERIFY ALL MOUNTING HEIGHTS AND EXACT LOCATIONS FOR ALL EQUIPMENT, ELECTRICAL CONNECTIONS, STUB-UPS, RECEPTACLES, ETC. WITH OWNER.
7. PROVIDE GROUND WIRE IN ALL CONDUITS CONTAINING POWER OR LIGHTING CIRCUITS.
8. ALL NEW ABOVE GROUND CONDUIT SHALL BE THREADED RIGID METAL CONDUIT EXCEPT AS SHOWN.
9. ALL CONDUIT SHALL BE MINIMUM 3/4" UNLESS NOTED OTHERWISE.
10. ASSURE ALL FLEX FITTINGS ARE PROPERLY TIGHTENED.

CONSTRUCTION NOTES

1. INSTALL 60 KW, 480V, 3 PHASE GENERATOR PER MANUFACTURERS INSTRUCTIONS. GENERATOR MANUFACTURER TO SUPPLY TWO (2) 100A, 480V, 2 PHASE FUSED OR CIRCUIT BREAKER DISCONNECTS ON THE GENERATOR. MOUNT GENERATOR ON CONCRETE PAD PER DETAILS ON DRAWING NO. E-171001-06.
2. INSTALL 2 GROUND RODS A MINIMUM 6' APART PER DETAIL ON DRAWING NO. E-171001-06. GROUND RODS SHALL BE COPPER-CLAD STEEL WITH MINIMUM DIMENSIONS OF 3/4"ø X 10'-0" LONG. BOND GROUNDING RODS TOGETHER WITH #2 AWG BARE COPPER WIRE AND BOND TO GENERATOR WITH #2 AWG BARE COPPER WIRE. PROTECT GROUND WIRE FROM MECHANICAL DAMAGE WHEN ABOVE GROUND.
3. INSTALL TWO (2) #2 THHN/THWN COPPER CONDUCTORS, ONE (1) #6 THHN/THWN COPPER GROUND IN EXISTING 2" CONDUIT FROM GENERATOR TO NEW AUTOMATIC TRANSFER SWITCH. AT THE SAME TIME INSTALL TWO (2) BELDEN PART NUMBER 27081AS 14 GAGE 3 CONDUCTOR 600V TYPE TC CABLES WITH THE ABOVE CONDUCTORS IN THE EXISTING 2" CONDUIT.
4. INSTALL RED LED WARNING LIGHT, GRANGER ITEM #2ERP4, OR EQUAL.
5. REPLACE EXISTING MANUAL TRANSFER SWITCH WITH AN ASCO SERIES 300 AUTOMATIC POWER TRANSFER SWITCH, 200 AMP 240V/60HZ, NEMA 3R RATED ENCLOSURE, OR EQUAL.
6. INSTALL (2) #10 THHN/THWN CONDUCTORS AND (1) #10 GROUND FROM THE EXISTING 120V 30A BREAKER THAT WAS USED TO PROVIDE POWER TO THE EXISTING GENERATOR ON EXISTING 120/240V PANELBOARD TO GENERATOR CONTROL PANEL TO PROVIDE POWER FOR GENERATOR HEATER BLOCK, SPACE HEATER AND BATERY CHARGER.
7. PROVIDE SIGNAGE AT EACH SERVICE "CAUTION STANDBY GENERATOR AUTOMATIALLY STARTS DURING POWER OUTAGE" AND PROVIDE PARTIAL SITE MAP SHOWING APPROXIMATE LOCATION OF GENERATOR.
8. INSTALL BELDEN CABLE IN 3/4" RIGID METAL CONDUIT (RMC) FROM THE EXISTING 100A DISCONNECT ENCLOSURE TO THE NEW AUTOMATIC TRANSFER SWITCH (ATS).
9. INSTALL LIQUIDTIGHT FLEXIBLE METAL CONDUIT FROM THE GENERATOR TO THE RIGID METAL CONDUIT ON THE OUTSIDE OF THE CONCRETE PAD PER FIGURE 1 ON SHEET E-171001-05. PROVIDE SLACK IN THE CONDUIT TO ALLOW FOR 6" OF SETTLING OF THE CONCRETE SLAB DUE TO POTENTIAL LIQUIFACTION.

ELECTRICAL ABBREVIATIONS

A	AMPHERE
BC	BARE COPPER
CB	CIRCUIT BREAKER
C	CONDUIT
CEC	CALIFORNIA ELECTRIC CODE
(E)	EXISTING EQUIPMENT
G	GROUND
KCML	1000 CIRCULAR MILS (AREA)
KV	KILOVOLT
KVA	KILOVOLT AMPHERE
M	METER
(N)	NEW EQUIPMENT
NEC	NATIONAL ELECTRIC CODE
RMC	RIGID METAL CONDUIT
V	VOLTAGE
XFMR	TRANSFORMER

NOTES:

EXISTING EQUIPMENT SHOWN ON THIS PLAN IS SHADED LIGHT AND WAS BASED ON VISUAL EVIDENCE, IF POSSIBLE, OR FROM INFORMATION BY OTHERS. CONTRACTOR TO VERIFY ALL EXISTING EQUIPMENT AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

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OCEANO COMMUNITY SERVICES 1981 DISTRICT

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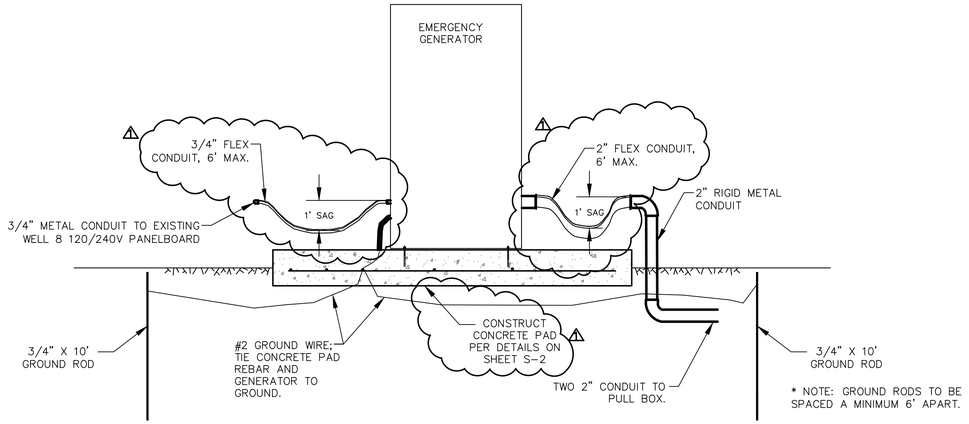
OCEANO COMMUNITY SERVICES DISTRICT
NEW EMERGENCY GENERATOR
SINIGLE LINE DIAGRAM
1655 FRONT ST., OCEANO, CA 9345

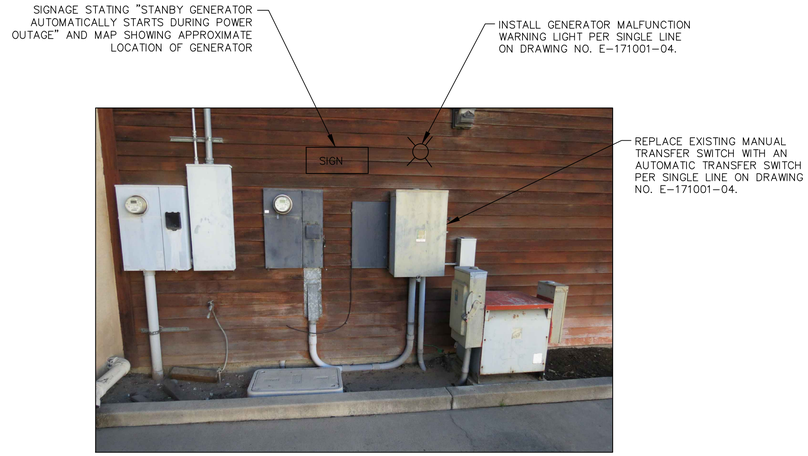
DRAWING NO. E-171001-04	DRAWN BY GW CHECKED BY GW SCALE AS SHOWN DATE 1/3/2018	FACILITY: OFFICE	REV. 1
PROJECT NUMBER 171001		SHEET 4 OF 5	

ELEVATION PLAN



1 GENERATOR LAYOUT – PROFILE VIEW

SCALE: N.T.S.



2 OCSD OFFICE/FIRESTATION AUTOMATIC TRANSFER SWITCH

SCALE: N.T.S.

3 SHERIFF SUBSTATION AUTOMATIC TRANSFER SWITCH

SCALE: N.T.S.

NOTES:

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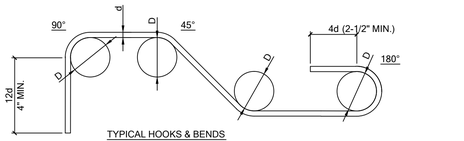
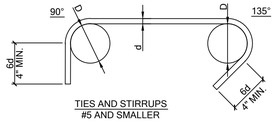
OCEANO COMMUNITY SERVICES DISTRICT
NEW EMERGENCY GENERATOR
ELEVATION PLAN
1655 FRONT ST., OCEANO, CA 9345

DRAWING NO. E-171001- 05
PROJECT NUMBER 171001
DRAWN BY GW
CHECKED BY GW
SCALE AS SHOWN
DATE 1/3/2018
FACILITY: OFFICE
REV. 1
SHEET 5 OF 5



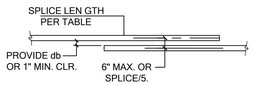
TYPICAL HOOKS & BENDS



TIES AND STIRRUPS
#5 AND SMALLER

INSIDE BEND DIAMETERS

BAR SIZE	D
#3 TO #8	6d
#9, #10, #11	8d
#14, #18	10d



TYPICAL SPLICE

BAR SIZE	SPLICE LEN GTH (IN.)	
	BOT. BARS	TOP BARS
#3	24	31
#4	32	41
#5	39	51
#6	47	61
#7	69	87
#8	78	102
#9	88	115
#10	100	124
#11	110	143

NOTE:
1. ALL BARS BENT COLD.
2. NO FIELD BENDING ALLOWED EXCEPT WHERE SPECIFICALLY SHOWN ON DRAWINGS.
3. SPLICES ARE SHOWN IN INCHES AND SHALL CONFORM TO CLASS "B" SPLICES AS PER ACI 318-11, FOR 3,000 psi CONCRETE.
4. SPLICE LENGTHS ASSUME THE MODIFICATION FACTORS OF ACI 318 SECTIONS 12.2 ARE 1.0. FOR OTHER CONDITIONS PROVIDE SPLICE LENGTHS IN ACCORDANCE WITH ACI 318-11.
5. USE THE SPLICE LENGTH GIVEN FOR TOP BARS WHEN MORE THAN 12" OF CONC. IS CAST BELOW HORIZ. BARS IN THE MEMBER. USE THE SPLICE LENGTH GIVEN FOR BOTTOM BARS FOR ALL OTHER CONDITIONS

1 S-1 TYP. REINFORCEMENT BEND & SPLICE DETAILS
NTS

CONCRETE

1. ALL PHASES OF WORK PERTAINING TO THE CONCRETE CONSTRUCTION SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318, AND THE SPECIFICATIONS FOR "STRUCTURAL CONCRETE FOR BUILDINGS", ACI 301 , LATEST EDITIONS, WITH MODIFICATIONS AS NOTED ON THE DESIGN DRAWINGS OR SPECIFICATIONS.
2. REINFORCED CONCRETE DESIGN IS BY THE ULTIMATE STRENGTH DESIGN METHOD.
3. CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY AND SHALL BEAR THE WET SEAL OF A CIVIL ENGINEER LICENSED IN THE STATE OF CALIFORNIA, SUBMIT A COPY OF THE MIX DESIGN FOR REVIEW BY THE STRUCTURAL ENGINEER PRIOR TO ORDERING, THE MIX DESIGNS SHALL STATE THE PROJECT NAME AND THE INTENDED USAGE OF THE CONCRETE.
4. SCHEDULE OF STRUCTURAL CONCRETE 28-DAY STRENGTHS & TYPES:

LOCATIONS IN STRUCTURE	STRENGTH (PSI)	TYPE
FOOTINGS	4,500	HARD ROCK (0.45 MAX W/C RATIO)

5. PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE V IN CONTACT WITH SOIL AND TYPE II ELSEWHERE, CONCRETE EXPOSED TO SOILS CONTAINING SULFATES SHALL COMPLY WITH ACI 318 TABLE 4.3.1.
6. CONCRETE MIXES SHALL CONTAIN FLY ASH, THE FLY ASH SHALL CONFORM TO ASTM C618 CLASS F AND THE LOSS OF IGNITION SHALL BE LIMITED TO 2%, THE ADDITION RATE SHALL NOT EXCEED 20% OF THE CEMENT WEIGHT. THE CONTRACTOR SHALL SUBMIT ALL CERTIFICATES SHOWING THE FLY ASH CONFORMS TO THE ABOVE CRITERIA.
7. AGGREGATE FOR HARD ROCK CONCRETE SHALL CONFORM TO ALL REQUIREMENTS AND TESTS OF ASTM C33 AND PROJECT SPECIFICATIONS, EXCEPTIONS MAY BE USED ONLY WITH PERMISSION OF THE STRUCTURAL ENGINEER.
8. AGGREGATE FOR LIGHTWEIGHT CONCRETE SHALL CONFORM TO ASTM C330 AND PROJECT SPECIFICATIONS, LIGHTWEIGHT CONCRETE MIX DESIGNS SHALL BE TESTED, PRIOR TO APPROVAL, FOR SHRINKAGE IN ACCORDANCE WITH ASTM C157, SHRINKAGE SHALL NOT EXCEED 0.0005 INCHES/INCH.
9. FORMS FOR CONCRETE SHALL BE LAID OUT AND CONSTRUCTED TO PROVIDE THE SPECIFIED CAMBERS SHOWN ON THE DRAWINGS.
10. DRY PACK OR GROUT UNDER BASE PLATES, SILL PLATES, ETC., SHALL BE NON-SHRINK w/ 8000psi MINIMUM COMPRESSIVE STRENGTH.
11. CONCRETE MIXING OPERATIONS, ETC. SHALL CONFORM TO ASTM C94.
12. PLACEMENT OF CONCRETE SHALL CONFORM TO ACI STANDARD 304 AND PROJECT SPECIFICATIONS, SANDBLAST ALL CONCRETE SURFACES AGAINST WHICH CONCRETE IS TO BE PLACED.
13. IF COLUMNS AND WALLS ARE PLACED WITH A FLOOR, TWO HOURS MUST ELAPSE BETWEEN END OF COLUMN OR WALL POUR AND BEGINNING OF THE FLOOR POUR.
14. CLEAR COVERAGE OF CONCRETE OVER REINFORCING BARS SHALL BE AS FOLLOWS: MINIMUM COVER, INCHES
    a. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
    b. CONCRETE EXPOSED TO EARTH OR WEATHER: NO. 6 THROUGH NO. 18 BAR 2"
       NO. 5 BAR AND SMALLER 1-1/2"
    c. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND, UNO:
       SLABS, WALLS, JOISTS; NO. 14 AND NO. 18 BAR 1-1/2"
       NO. 11 BAR AND SMALLER 3/4"
       BEAMS, COLUMNS, SHEARWALLS, PRIMARY REINF. TIES, STIRRUPS, SPIRALS 1-1/2"
    d. SLAB ON GRADE, (CLEAR FROM TOP) 2"
15. ALL REINFORCING BARS, ANCHOR BOLTS AND OTHER CONCRETE INSERTS AND EMBEDDED ITEMS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE AND PRIOR TO CALLING FOR INSPECTION OR OBSERVATION. 'WET STABBING' AND ADJUSTING BOLTS AFTER CONCRETE PLACEMENT IS NOT ALLOWED.
16. MECHANICAL PIPES AND ELECTRICAL CONDUITS WHICH PASS THROUGH SLAB ON GRADE, CONCRETE ON STEEL DECK, FRAMED CONCRETE FLOORS AND WALLS DO NOT REQUIRE SLEEVES, UNLESS OTHERWISE INDICATED IN THE PROJECT SPECIFICATIONS, MECHANICAL OR ELECTRICAL DRAWINGS, IF SLEEVES ARE REQUIRED, INSTALL SLEEVES BEFORE PLACING CONCRETE, DO NOT CUT ANY REINFORCING WHICH MAY INTERFERE WITH SLEEVE PLACEMENT, CORING OPENINGS IN CONCRETE IS NOT PERMITTED, NOTIFY THE STRUCTURAL ENGINEER IN ADVANCE OF CONDITIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS, NO PIPES OR ELECTRICAL CONDUIT SHALL PASS THROUGH CONCRETE BEAMS OR COLUMNS UNLESS SPECIFICALLY DETAILED.
17. EXCEPT FOR SLABS ON GRADE AND CONCRETE ON STEEL DECK, EMBEDDED ELECTRICAL CONDUITS OR MECHANICAL PIPES (OTHER THAN THOSE PASSING THROUGH) OUTSIDE DIAMETER SHALL NOT EXCEED 30 PERCENT OF THE SLAB THICKNESS AND SHALL BE PLACED BETWEEN THE TOP AND BOTTOM REINFORCING, UNLESS SPECIFICALLY DETAILED OTHERWISE CONCENTRATIONS OF ELECTRICAL CONDUITS OR MECHANICAL PIPES SHALL BE AVOIDED EXCEPT WHERE DETAILED OPENINGS ARE PROVIDED, FOR SLABS ON GRADE, UNLESS OTHERWISE DETAILED, NO PIPES OR CONDUITS SHALL BE PLACED WITHIN THE INDICATED CONCRETE SLAB THICKNESS AND SHALL BE LOCATED BELOW THE SLAB.
18. CURING COMPOUNDS USED ON CONCRETE THAT IS TO RECEIVE A RESILIENT TILE FINISH SHALL BE APPROVED BY THE FINISH APPLICATOR BEFORE USE.
19. MODULUS OF ELASTICITY OF CONCRETE, WHEN TESTED IN ACCORDANCE WITH ASTM C469, SHALL BE AT LEAST THE VALUE GIVEN BY THE EQUATIONS IN SECTION 8.5.1 OF ACI 318 FOR THE SPECIFIED CONCRETE 28-DAY STRENGTH.

DESIGN CRITERIA

SEISMIC DESIGN:
A. SEISMIC DESIGN FACTORS
SITE LOCATION; LAT 35.1019, LONG -120.6164
SEISMIC DESIGN CATEGORY; D
SITE CLASS; D
Fa = 1.007
Fv = 1.551
S_{MS} = 1.241 g
S_{M1} = 0.697 g
S_{DS} = 0.827 g
S_{D1} = 0.465 g
OCCUPANCY CATEGORY = IV
SEISMIC IMPORTANCE FACTOR; I = 1.5

B. ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE NON-BUILDING STRUCTURES

FOUNDATION

1. FOUNDATION DESIGN IS BASED ON CBC MINIMUM VALUES FROM TABLE 1806.2 ASSUMING "CLASS OF MATERIALS, 5. CLAY, SILTY CLAY,...ETC. :
   ALLOWABLE BEARING PRESSURE:
   DL+LL = 1,500 psf
   DL+LL+EQ = 1,500 psf
   COEFFICIENT OF FRICTION: 0.25
   LATERAL PRESSURES:
   PASSIVE PRESSURE: 150 pcf
2. FOUNDATIONS SHALL BEAR ON FIRM FOUNDATION SOIL STRATA, AS APPROVED BY THE GEOTECHNICAL ENGINEER.
3. CONTRACTOR SHALL PROVIDE FOR PROPER DEWATERING OF EXCAVATIONS FROM SURFACE WATER, GROUND WATER, SEEPAGE, ETC.
4. CONTRACTOR SHALL PROVIDE FOR THE DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATHING AND SHORING REQUIRED TO SAFELY AND ADEQUATELY RETAIN THE EARTH BANKS AND ANY EXISTING STRUCTURE.
5. EXCAVATIONS FOR FOOTINGS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING THE CONCRETE AND REINFORCING. THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER WHEN THE EXCAVATIONS ARE READY FOR INSPECTION. THE GEOTECHNICAL ENGINEER SHALL SUBMIT A LETTER OF COMPLIANCE TO THE OWNER AND SEOR.
6. ALL EXCAVATIONS SHALL BE PROPERLY BACKFILLED. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS BEFORE CONCRETE OR MASONRY HAS ATTAINED FULL DESIGN STRENGTH.
7. FOOTINGS SHALL BE PLACED AND ESTIMATED ACCORDING TO DEPTHS SHOWN ON THE DRAWINGS. SHOULD SOIL ENCOUNTERED AT THESE DEPTHS NOT BE APPROVED BY THE GEOTECHNICAL ENGINEER.
8. FOOTING BACKFILL AND UTILITY TRENCH BACKFILL WITHIN THE STRUCTURE PERIMETER SHALL BE MECHANICALLY COMPACTED IN LAYERS, TO THE APPROVAL OF THE GEOTECHNICAL ENGINEER. FLOODING WILL NOT BE PERMITTED.
9. ALL ABANDONED FOOTINGS, UTILITIES, ETC., THAT INTERFERE WITH THE NEW CONSTRUCTION SHALL BE REMOVED.
11. ALL FOOTINGS SHALL BEAR ON LEVEL SURFACES.
12. FOOTING PENETRATIONS AND TRENCHING UNDER AND NEAR FOOTINGS SHOULD BE AVOIDED.
13. ALL STEEL (INCLUDING ANCHOR BOLTS, BASE PLATES, COLUMNS, EMBED. PLATES, ETC) SHALL BE PROTECTED FROM SOILS WITH A MINIMUM OF 3" OF CONCRETE COVER.

REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH THE 'BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE' (ACI 318) AND 'THE MANUAL OF STANDARD PRACTICE FOR REINFORCED CONCRETE CONSTRUCTION' BY CRSI AND WCRSI, AS MODIFIED BY THE PROJECT DRAWINGS AND SPECIFICATIONS.
2. DEFORMED REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60, EXCEPT TIES, STIRRUPS AND REINFORCING BARS IN NON-STRUCTURAL CONCRETE SUCH AS SLABS ON GRADE, WHICH MAY BE GRADE 40, UNLESS NOTED OTHERWISE.
3. WELDING OF REINFORCING SHALL BE WITH LOW HYDROGEN ELECTRODES IN CONFORMANCE WITH 'RECOMMENDED PRACTICES FOR WELDING REINFORCING STEEL', ETC., AMERICAN WELDING SOCIETY, AWS D1.4. REINFORCING STEEL SHALL NOT BE WELDED UNLESS SPECIFICALLY NOTED ON THE DRAWINGS.
4. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
5. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
6. MINIMUM LAP OF WELDED WIRE FABRIC SHALL BE 12 INCHES OR TWO MODULES, WHICH EVER IS GREATER.
7. SPLICES SHALL BE MADE ONLY AS AND WHERE INDICATED ON THE STRUCTURAL DRAWINGS.
8. DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE, SPACING AND NUMBER AS THE SPECIFIED VERTICAL REINFORCING, UNO.
9. ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN-PLACE OBSERVATION OR INSPECTION OCCURS.
10. PROVIDE WELDING PROCEDURE AND MILL TEST REPORTS FOR ALL REINFORCEMENT TO BE WELDED. SEOR SHALL APPROVE WELDING PROCEDURE, WELDER QUALIFICATIONS, AND MILL TEST REPORTS PRIOR TO EXECUTION OF WELDING. PROVIDE INSPECTION PER CBC.

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. THE ARCHITECT AND SEOR SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
2. DO NOT SCALE THESE DRAWINGS.
3. IF A DISCREPANCY OCCURS; THE MORE STRINGENT REQUIREMENT SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES, THE TYPICAL DETAILS, AND THE NOTES AND DETAILS ON THE DRAWINGS. NOTIFY SEOR IF A QUESTION ARISES.
4. ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING CODES: THE 2016 CALIFORNIA BUILDING CODE TITLE 24, AND OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK, AND THOSE CODES AND STANDARDS LISTED IN THESE NOTES AND/OR IN THE PROJECT SPECIFICATIONS.
5. SEE MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR THE FOLLOWING:
   - PIPES, SLEEVES, HANGERS, TRENCHES, WALL FLOOR AND ROOF OPENINGS, DUCT PENETRATION ETC., EXCEPT AS SHOWN OR NOTED.
   - ELECTRICAL CONDUIT RUNS, BOXES, OUTLETS IN WALLS AND SLABS. CONCRETE INSERTS FOR ELECTRICAL MECHANICAL OR PLUMBING FIXTURES. SIZE AND LOCATION OF MACHINE OR EQUIPMENT BASES, ANCHOR BOLTS FOR MOUNTS.
7. THE CONTRACT STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.
8. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND BE SOLELY RESPONSIBLE FOR ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT ARE NOT BE LIMITED TO BRACING AND SHORING FOR LOADS DUE TO HYDROSTATIC, EARTH, WIND AND SEISMIC FORCES, CONSTRUCTION EQUIPMENT, ETC. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO TO NORMAL WORKING HOURS. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OR OBSERVATION OF THE ABOVE ITEMS.
9. NOTIFY THE STRUCTURAL ENGINEER WHEN DRAWINGS BY OTHERS SHOW OPENINGS, POCKETS, ETC., NOT SHOWN ON THE STRUCTURAL DRAWINGS, BUT WHICH AFFECT THE STRUCTURAL MEMBERS.
10. ALL SPECIFICATIONS AND CODES NOTED SHALL BE THE LATEST APPROVED EDITIONS INCLUDING ALL REVISIONS BY THE GOVERNMENTAL AGENCY HAVING JURISDICTION OVER THIS PROJECT.
11. CONTRACTOR SHALL INVESTIGATE THE SITE DURING CLEARING AND EARTH WORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, UTILITIES, ETC. IF ANY SUCH STRUCTURES ARE FOUND, THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IN WRITING IMMEDIATELY.
12. SHOP DRAWINGS SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW SHALL CONSIST OF ONE REPRODUCIBLE COPY, ONE WET SEALED COPY FOR THE STRUCTURAL ENGINEER OF RECORD'S FILE, AND ADDITIONAL COPIES AS IS NECESSARY FOR THE BUILDING DEPARTMENT.

TESTS & SPECIAL INSPECTIONS

1. SPECIAL INSPECTION SHALL BE REQUIRED FOR THE FOLLOWING TYPES OF WORK AND SHALL BE IN COMPLIANCE WITH CBC SECTIONS 1704 THRU 1705. INSPECTIONS SHALL BE PERIODICAL OR CONTINUOUS AS REQ'D BY THE CBC AS NOTED THUS (P) OR (C).
   - (P) FOUNDATIONS: SIZE & LOCATION OF REBAR, EMBEDS, AND ANCHOR BOLTS.
   - (C) CONCRETE WORK WITH STRENGTHS GREATER THAN 2500psi, EXCEPT FOR NONSTRUCTURAL CONCRETE SUCH AS SLAB ON GRADE. SEE CBC 1705.3.
   - (C) SOIL OVER-EXCAVATION AND RECOMPACTION. SEE CBC 1705.6 AND TABLE 1705.6
   - (P) SOILS: VERIFY BEARING MATERIAL PRIOR TO PLACING REINFORCING. SEE CBC 1705.6 AND TABLE 1705.6
   - (P) PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS.
   - (P) PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUB-GRADE AND VERIFY THAT SITE HAS BEEN PROPERLY PREPARED.
   - (P) VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.
   - (C) EPOXY ANCHOR INSTALLATION
2. THE OWNER SHALL EMPLOY A QUALIFIED TESTING AGENCY TO PROVIDE A QUALITY ASSURANCE AND TESTING PROGRAM AS NOTED IN SECTIONS 1704 AND 1705 OF THE CBC. THE TESTING AGENCY SHALL WORK WITH THE ENGINEER OF RECORD IN DEVELOPING A QUALITY ASSURANCE PLAN.
   - SOIL COMPACTION TESTING BY GEOTECHNICAL ENGINEER.
   - INSTALLATION OF EPOXY ANCHORS.
   - CONCRETE:
     1) ONE SET OF CYLINDERS FOR EVERY 50 YARDS. BREAK ONE AT 7 DAYS,TWO AT 28 DAYS, AND HOLD ONE. CURE AND TEST PER ASTM C31 AND C39.
     2) SLUMP TEST PER ASTM C143 AT EA. CYLINDER TEST AND WHEN CONSISTENCY CHANGES. (ONE MINIMUM PER DAY).
     3) AIR CONTENT PER ASTM C231. ONE PER DAY MINIMUM AND AT EA. CYLINDER SET.
3. THE TESTING AGENCY SHALL SUBMIT A COPY OF ALL TESTING REPORTS TO SEOR, PER CBC 1704.2.4.

NOTES:

REGISTERED PROFESSIONAL ENGINEER JOSHUA E. MOODY No. S4525 STRUCTURAL STATE OF CALIFORNIA

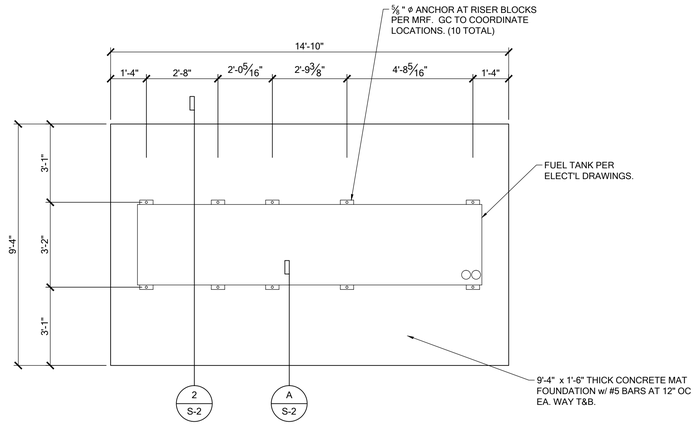
JOSHUA MOODY
STRUCTURAL ENGINEER
3107 Johnson Avenue, San Luis Obispo, CA 93401
805.540.8343 • www.MoodySE.com

WILSON ENGINEERING
E 19856 C 70607
Gary D. Wilson, P.E.
gmwilson888@sbcglobal.net
771 Merced St. (805) 748-6209
Pismo Beach, CA 93449

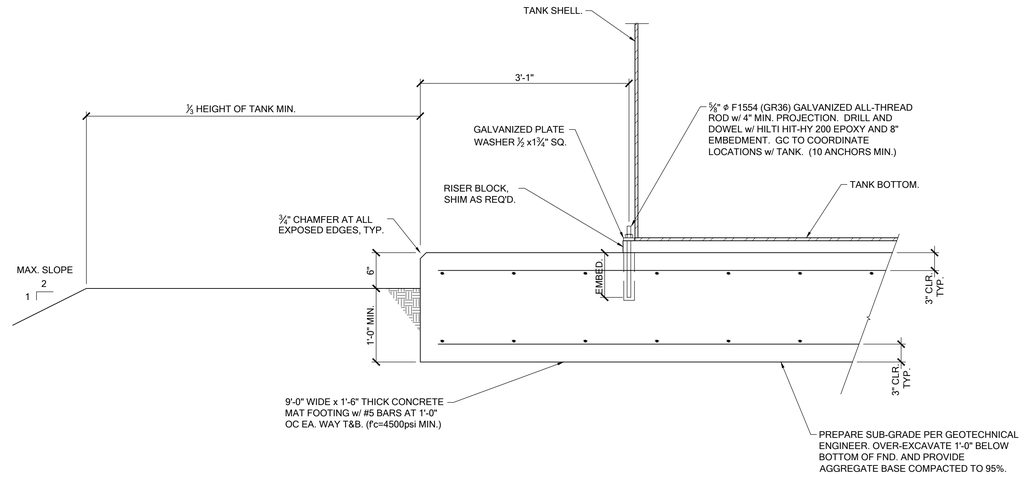
REV.	DATE	REVISION	REV. BY	CKD. BY

OCEANO COMMUNITY SERVICES DISTRICT
NEW EMERGENCY GENERATOR
1655 FRONT ST., OCEANO, CA 9345

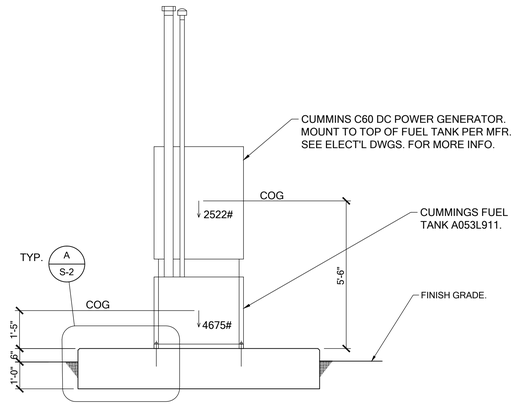
DRAWING NO. S-1
PROJECT NUMBER 180403
DRAWN BY jem
CHECKED BY jem
SCALE AS SHOWN
DATE 5/17/2018
FACILITY:
REV. 0
SHEET OF 5



1 S-2 GENERATOR FOUNDATION PLAN
SCALE: 3/8" = 1'-0"



A S-2 TANK ANCHOR SECTION
SCALE: 1" = 1'-0"



2 S-2 GENERATOR FOUNDATION SECTION
SCALE: 3/8" = 1'-0"

NOTES:

REGISTERED PROFESSIONAL ENGINEER JOSHUA E. MOODY No. S4525 STRUCTURAL STATE OF CALIFORNIA

JOSHUA MOODY SE
STRUCTURAL ENGINEER
3107 Johnson Avenue, San Luis Obispo, CA 93401
805.540.8343 • www.MoodySE.com

WILSON ENGINEERING
E 19856 C 70607
Gary D. Wilson, P.E.
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771 Merced St.
Pismo Beach, CA 93449
(805) 748-6209

REV.	DATE	REVISION	REV. BY	CKD. BY
—				

OCEANO COMMUNITY SERVICES DISTRICT
NEW EMERGENCY GENERATOR

1655 FRONT ST., OCEANO, CA 9345

DRAWING NO. S-2
PROJECT NUMBER 180403
DRAWN BY jem
CHECKED BY jem
SCALE AS SHOWN
DATE 5/17/2018
FACILITY:
REV. 0
SHEET OF 5

OCEANO COMMUNITY SERVICES DISTRICT

EMERGENCY GENERATOR REPLACEMENT PROJECT

OCEANO, CA
CONTRACT NO. 2019-01

EXHIBIT "E"

PERFORMANCE AND PAYMENT BOND FORMS

PERFORMANCE BOND

CONTRACTOR (*Name and Address*): SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):
Oceano Community Services District
1655 Front Street
Oceano, CA 93445
Attention: General Manager

CONSTRUCTION CONTRACT
Effective Date of Agreement:
Amount:
Description: Emergency Generator Replacement Project, Oceano, Ca, Contract No. 2019-01

BOND
Bond Number:
Date (*Not earlier than Effective Date of Agreement of the Construction Contract*):
Amount:
Modifications to this Bond Form: ○ None ○ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL	**SURETY**
_____ (Seal)	_____ (Seal)
Contractor's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	By: _____
Signature	Signature (Attach Power of Attorney)
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	Attest: _____
Signature	Signature
_____	_____
Title	Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers, (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

   3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

   3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

   3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

   5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

   5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

   5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

   5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

      5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

      5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the

Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment, or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

   7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

   7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

   7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Definitions

   14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

   14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

17. The effective date of this Bond shall be the same date as the Effective Date of the Construction Contract.

END OF SECTION

PAYMENT BOND

CONTRACTOR (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):
Oceano Community Services District
1655 Front Street
Oceano, CA 93445
Attention: General Manager

CONSTRUCTION CONTRACT
Effective Date of Agreement:
Amount:
Description: Emergency Generator Replacement Project, Oceano, Ca, Contract No. 2019-01

BOND
Bond Number:
Date (*Not earlier than Effective Date of Agreement of the Construction Contract*):
Amount:
Modifications to this Bond Form: ○ None ○ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL	**SURETY**
_____ (Seal)	_____ (Seal)
Contractor's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	By: _____
Signature	Signature (Attach Power of Attorney)
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	Attest: _____
Signature	Signature
_____	_____
Title	Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers, (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.

4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.

5. The Surety's obligations to a Claimant under this Bond shall arise after the following:

   5.1 Claimants who do not have a direct contract with the Contractor,

   5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

   5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).

   5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).

6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.

7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

   7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

   7.2 Pay or arrange for payment of any undisputed amounts.

   7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the

performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.

11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. Definitions

    16.1 Claim: A written statement by the Claimant including at a minimum:
    1. The name of the Claimant;
    2. The name of the person for whom the labor was done, or materials or equipment furnished;
    3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
    4. A brief description of the labor, materials, or equipment furnished;
    5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
    6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
    7. The total amount of previous payments received by the Claimant; and
    8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

16.2 Claimant: An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

16.3 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

16.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

16.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows:

19. The effective date of this Bond shall be the same date as the Effective Date of the Construction Contract.

END OF SECTION

OCEANO COMMUNITY SERVICES DISTRICT

EMERGENCY GENERATOR REPLACEMENT PROJECT

OCEANO, CA
CONTRACT NO. 2019-01

EXHIBIT "F"

INSURANCE REQUIREMENTS

INSURANCE REQUIREMENTS

INDEMNIFICATION

To the fullest extent permitted by law, CONTRACTOR shall indemnify, defend and hold harmless the District and its officers, agents, employees, and volunteers from and against all claims, demands, damages, liabilities, loss, costs, and expense (including attorney's fees and costs of litigation) of every nature arising out of or in connection with Contractor's performance or attempted performance of work hereunder or its failure to comply with any of its obligations contained in the agreement, except such loss or damage which was caused by sole negligence or willful misconduct of the District.

INSURANCE COVERAGE

Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, its agents, representatives, or employees.

MINIMUM SCOPE AND LIMIT OF INSURANCE

Coverage shall be at least as broad as:

1. Commercial General Liability (CGL); Insurance Services Office (ISO) Form CG 0001 covering CGL on an "occurrence" basis for bodily injury and property damage, including products-completed, operations, personal injury and advertising injury, with limits no less than $1,000,000 per occurrence. If a general aggregate limit applies either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: ISO Form Number CA 0001 covering, Code 1 (any auto), or if Contractor has no owned autos, Code 8 (hired) and 9 (non-owned), with limit no less than $1,000,000 per accident for bodily injury and property damages.
3. Worker Compensation insurance as required by the State of California, with Statutory Limits, and Employer's Liability insurance with limit of no less than $1,000,000 per accident for bodily injury or disease. If Contractor will provide leased employees, or is an employee leasing or temporary staffing firm or a professional employer organization (PEO), coverage shall also include an Alternate Employer Endorsement (providing scope of coverage equivalent to ISO policy form WC 00 03 O1 A) naming the District as the Alternate Employer, and the endorsement form shall be modified to provide that District will receive not less than thirty (30) days advance written notice of cancellation of this coverage provision. If applicable to Contractor's operations, coverage also shall be arranged to satisfy the requirements of any federal workers or workmen's compensation law or any federal occupational disease law.
   (Not required if Contractor provides written verification it has no employees)

If the contractor maintains higher limits that the minimums shown above, the District requires and shall be entitled to coverage for the higher limits maintained by the contractor.

OTHER INSURANCE PROVISIONS

The insurance policies are to contain, or be endorsed to contain, the following provisions:

Additional Insured Status:

The District, its officers, officials, employees, and volunteers are to be covered as insureds on the auto policy with respect to liability arising out of automobiles owned, leased, hired or borrowed by, or on behalf of the Contractor; and on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10, 11 85 or both CG 20 10 and CG 23 37 forms if later revisions used).

Primary Coverage

For any claims related to this contract, the Contractor's insurance coverage shall be primary insurance as respects the District, its officers, officials, employees, and volunteers. Any insurance of self-insurance maintained by the District, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

Notice of Cancellation

Each insurance policy required above shall state that coverage shall not be canceled, except after thirty (30) days prior written notice (10 days for non-payment) has been given to the District.

Failure to Maintain Insurance

Contractor's failure to maintain or to provide acceptable evidence that it maintains the required insurance shall constitute a material breach of the Contract upon which the District immediately may withhold payments due to Contractor, and/or suspend or terminate this Contract. The District, at its sole discretion, may obtain damages from Contractor resulting from said breach.

Waiver of Subrogation

Contractor hereby grants to District a waiver of any right to subrogation which any insurer of said Contractor may acquire against the District by virtue of the payment of any loss under such insurance. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not the District has received a waiver of subrogation endorsement from the insurer.

Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the District. The District may require the Contractor to provide proof of ability to pay losses and related investigation, claim administration, and defense expenses within the retention.

Acceptability of Insurers

Insurance is to be placed with insurers with a current A.A. Best's rating of no less than A:VII, unless otherwise acceptable to the District.

Claims Made Policies
If any of the required policies provide coverage on a claims-made basis:

1. The Retroactive Date must be shown and must be before the date of the contract or the beginning of contract work;
2. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the contract of work;
3. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a Retroactive date prior to the contract effective date, the Contractor must purchase "extended reporting" coverage for a minimum of five (5) years.

Separation of Insured's
All liability policies shall provide cross-liability coverage as would be afforded by the standard ISO (Insurance Services Office, Inc.) separate of insured's provision with no insured versus insured exclusions or limitation.

Verification of Coverage
Contractor shall furnish the District with original certificates and mandatory endorsements or copies of the applicable policy language effecting coverage required by this clause. All certificates and endorsements are to be received and approved by the District before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. The District reserves the right to required complete, certified copies of all required insurance policies, including endorsements required by these specifications, at any time.

Certificates and copies of any required endorsements shall be sent to:

Oceano Community Services District
P.O. Box 599
Oceano, CA 93475-0599

Subcontractors
Contractor shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein.

Special Risks or Circumstances
District reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

OCEANO COMMUNITY SERVICES DISTRICT

EMERGENCY GENERATOR REPLACEMENT PROJECT

OCEANO, CA
CONTRACT NO. 2019-01

EXHIBIT "G"

RULES GOVERNING BID PROTESTS

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OCEANO
COMMUNITY SERVICES DISTRICT

Rules Governing Bid Protests And Other Challenges to Awards of Construction Contracts

The requirements set forth in these "Rules Governing Bid Protests And Other Challenges to Awards of Construction Contracts" ("Rules") are mandatory and are a Bidder's sole and exclusive remedy in the event a Bidder desires to challenge, protest or contest the award of any Construction Contract. A Bidder's failure to comply with these requirements shall constitute a waiver of any right to challenge, protest or contest the award of a Construction Contract in any subsequent proceeding, including but not limited to, the filing of a court action.

A Bidder may not rely upon another Bidder's compliance with the requirements of these Rules. Any Bidder that does not independently comply with the requirements set forth herein shall be deemed to have waived any right to challenge, protest or contest the award of a Construction Contract.

Nothing in these Rules affects the right of the District to reject all bids at any time prior to the award of a Construction Contract, or for the District to self-perform as provided by Public Contract Code 22038, all of which shall not constitute grounds for a bid protest.

1.1 Definitions

1.1.1 Bidder - The contractor submitting a bid in response to a District solicitation for bids on a Construction Contract.

1.1.2 Protestor - A Bidder who files a Protest in accordance with the provisions of these Rules.

1.1.3 Board – Board of Directors of the Oceano Community Services District (hereinafter, also "District")

1.1.4 Construction Contract - Any Construction Contract which is formally or informally advertised for bids in which the District, or will be, a party.

1.1.5 Protest – Any challenge, objection, or protest to the award of a Construction Contract to any Bidder.

1.1.6 Response – Any response to a Protest that is filed by an Interested

Party in accordance with the provisions of these Rules.

General Manager - The person designated by the Board to assume the powers, duties, and responsibilities conferred under these Rules.

1.1.7 Initial Determination – A written notice by the General Manager that notifies a Bidder of the reasons why the General Manager believes that a bid is nonresponsive, or that a Bidder is not a responsible Bidder.

1.1.8 Interested Parties - For the purpose of these Rules, Interested Parties are defined as:

1.1.8.1 The District.

1.1.8.2 Any Bidder that filed a Protest or whose bid is the subject of an Initial Determination.

1.1.8.3 Any Bidder whose eligibility for having the Construction Contract awarded to it as a responsible Bidder with the lowest responsive bid would be affected by the outcome of a Protest or Initial Determination.

1.2 General Manager's Independent Authority to Determine Bid Responsiveness and Bidder Responsibility.

1.2.1 Regardless of whether a Protest is submitted under these Rules, the General Manager is authorized to determine whether any bid is a responsive bid and whether any Bidder is a responsible Bidder. In the event the General Manager issues an Initial Determination, the General Manager shall provide the Interested Parties with written notice of the Initial Determination at least five (5) business days before the General Manager renders a final decision addressing the grounds stated in the Initial Determination A final decision of the General Manager under this section 1.2 shall be the final decision of the District with no provision for reconsideration or appeal to the Board.

1.2.2 The General Manager need not issue an Initial Determination in order to make a final decision on whether a bid is a responsive bid or a Bidder is a responsible Bidder. A final decision can also be issued by the General Manager through the processing of a Protest pursuant to the procedures set forth in these Rules.

1.2.3 The General Manager reserves the right to amend or withdraw an Initial Determination at any time before the General Manager renders a final decision addressing the grounds stated in the Initial Determination. When an Initial Determination is withdrawn, it shall have the same effect as if the Initial Determination had never been made.

1.3 Basis for Protest

1.3.1 Grounds for Protest – The grounds for a Protest may include any grounds a Protestor may have for contesting or challenging the award of a Construction Contract to any Bidder, including but not limited to the following grounds:

1.3.1.1 A Protestor objects to a Construction Contract being awarded to another Bidder on the grounds that the other Bidder's bid is nonresponsive.

1.3.1.2 A Protestor objects to a Construction Contract being awarded to another Bidder on the grounds that the other Bidder is not a responsible Bidder.

1.3.1.3 A Protestor objects to a Construction Contract being awarded to the Protestor on the grounds that the Protestor made a mistake in its bid that entitles the Protestor to be relieved of its bid under Public Contract Code Sections 5100 et seq

1.3.1.4 A Protestor objects to a General Manager's Initial Determination issued under section 1.2.1 above.

1.3.2 Required Form of Protest - All Protests shall be made in writing, containing the information listed below, and shall be filed with the General Manager. Protests shall contain the following information:

1.3.2.1 The name, address, telephone, facsimile numbers, and email address of the Protestor.

1.3.2.2 The signature of the Protestor or its representative.

1.3.2.3 The bid, solicitation and/or contract number.

1.3.2.4 The Protest must contain a complete statement of all grounds for the Protest, and must refer to the specific portion of the bid documents that are the basis of the Protest. The Protest must set forth all supporting facts and documentation. If Protester believes there are some facts relevant to its Protest that Protester cannot adequately present in writing, Protester must describe such facts in its Protest under the heading "Facts Requiring Oral Presentation", and state therein the reasons why the Bid Protester believes it cannot adequately present those facts through documentation.

1.3.2.5 All information establishing that the Protestor is a Bidder for the purpose of filing a Protest.

1.3.2.6 The form of relief requested.

1.4 Protest Requirements and Procedure

1.4.1 Standing to Protest - Protests shall be filed only by a Bidder.

1.4.2 Time for Filing a Protest

1.4.2.1 Except as provided in sections 1.4.2.2 and 1.4.2.3 below, all Protests must be submitted in writing to the General Manager before 5 p.m. PST of the sixth (6) business day following the date upon which the bids on the Construction Contract were opened.

1.4.2.2 When a Protestor objects to a Construction Contract being awarded to the Protester on the grounds that the Protestor made a mistake in its bid that entitles the Protestor to be relieved of its bid under Public Contract Code Sections 5100 et seq, the Protest must be submitted in writing to the General Manager before 5 p.m. PST of the fifth (5) business day following the date upon

which the bids on the Construction Contract were opened pursuant to Public Contract Code Section 5103.

1.4.2.3 When the Protestor objects to an Initial Determination made by the General Manager under section 1.2.1 above, the Protest must be submitted in writing to the General Manager before 5 p.m. PST of the fifth (5) business day following the date upon which the Initial Determination was first delivered to Protestor (either electronically or otherwise).

1.4.3 Written Responses of Interested Parties - If any Interested Party desires to respond to the Protest, the Response must be submitted in writing to the General Manager within five (5) business days of the date the Protest was first delivered to the Interested Party (either electronically or otherwise). If an Interested Party believes there are some facts relevant to its Response that the Interested Party cannot adequately present in writing, the Interested Party must describe such facts in its Response under the heading "Facts Requiring Oral Presentation", and state therein the reasons why the Interested Party believes it cannot adequately present those facts through documentation.

1.4.4 Proof of Transmittal - All Protests, Responses, and Replies shall include documentation evidencing that all Interested Parties were concurrently sent a complete copy of the respective Protest, Response or Reply in a manner that would provide all Interested Parties with a complete copy of the respective Protest, Response or Reply no later than one (1) business day after it was sent to the General Manager. The means of transmission chosen must also provide the sending party a means of verifying the date and time the copy was received by each Interested Party. Transmission by email may be an acceptable means of transmittal.

1.4.5 No Ex Parte or Unilateral Communications on the Merits of a Protest - No Bidder shall have any written communications regarding the merits of a Protest with the General Manager that are not concurrently sent to all of the other Interested Parties. No Bidder shall have any oral communications regarding the merits of a Protest with the General Manager other than during an oral presentation properly noticed by the General Manager under these Rules.

1.4.6 Suspension of Process for Proposed Rejection of all Bids - At any time during the processing of a Protest, the General Manager may elect to indefinitely suspend any further processing of the Protest by providing written notice to all Interested Parties that the General Manager intends to recommend to the Board that all bids be rejected. All time deadlines provided in these Rules shall be tolled during any such suspension period. If the Board decides to not reject all bids, or if the General Manager otherwise decides to lift the suspension, the requirements of these Rules shall be reactivated upon the General Manager providing all Interested Parties with written notice thereof.

1.5 Summary Dismissal of Protest

The General Manager may summarily dismiss a protest, or specific protest allegations, at any time that the General Manager determines that the Protest is untimely, frivolous, or without merit; is not submitted in the required form of Protest, as set forth above in section 1.3.2., "Required Form of Protest;" or is submitted by a non-Bidder. In such cases, a notice of summary dismissal will be furnished to the Interested Parties. Such a summary dismissal shall be the final decision of the District with no provision for reconsideration or appeal to the Board.

1.6 Decision by the General Manager Based on Written Submissions Only

In reaching a decision on the merits of a Protest, the General Manager may consider relevant documentation submitted by the Protestor and any other Interested Party. If the General Manager wishes to have additional information submitted that was not included in the Protest or in any documentation from other Interested Parties, the General Manager may make a request specifying the information sought and time for submittal. Submissions of additional information that have not been specifically requested by the General Manager may not be considered at the General Manager's sole discretion. If the General Manager does not provide an opportunity for an oral presentation under section 1.7 below, the General Manager will issue a written decision without any oral presentation. . The General Manager's decision shall be the final decision of the District with no provision for reconsideration or appeal to the Board.

1.7 Decision by the General Manager Following Oral Presentation

1.7.1 The General Manager may, at his or her discretion, elect to provide an opportunity for the Protestor and other Interested Parties to make an oral presentation to the General Manager regarding the Protest. In such event. oral presentations shall be conducted in accordance with the following procedure:

1.7.1.1 Notice of Oral Presentation - The General Manager will set a date, time, and place for an oral presentation. Written notice will be sent to Interested Parties not less than five (5) business days in advance of the oral presentation unless it is agreeable to all parties that an earlier date be established. Continuances may be granted by the General Manager for good cause.

1.7.1.2 Guidelines for Oral Presentation - Oral presentations are informal in nature and shall be made by the Protestor or its authorized representative. Technical rules of evidence shall not apply. The General Manager will determine how the oral presentations will be conducted and may set time limits for the presentation. The General Manager may question Interested Parties or provide an opportunity for Interested Parties to make an oral presentation. The General Manager may request additional documentation or information prior to, during or after the oral presentation. Unless

requested by the General Manager, additional documentation or information may not be accepted.

1.7.1.3 Record of Oral Presentation - Any Interested Party may request, and in the General Manager's sole discretion, the General Manager may allow recording of the presentation. If the General Manager allows the presentation to be recorded, the Interested Party requesting that the presentation be recorded must pay the cost of recording, including the costs to make and distribute copies of the recording to the General Manager and other Interested Parties. There shall be no cost to the District.

1.7.1.4 Decisions - The General Manager will issue a written decision within 30 calendar days of the oral presentation; however, the time for issuing the written decision may be extended by the General Manager. A copy of the decision will be furnished to the Interested Parties. The decision shall be the final decision of the District with no provision for reconsideration or appeal to the Board.

1.8 Effect on Contracts

The failure of a District employee or department to comply with the provisions stated in these Rules shall in no way affect the validity of any Construction Contract entered into by the District.

1.9 General Manager Decisions on Protests Seeking Relief from a Bidder's Mistake under Public Contract Code Section 5103.

When a Protestor objects to a Construction Contract being awarded to the Bid Protester on the grounds that the Protestor made a mistake in its bid that entitles the Protestor to be relieved of its bid under Public Contract Code Sections 5100 et seq, a final decision of the General Manager that relieves the Protestor of its bid on the grounds of mistake must be approved by the Board before it can become a final decision of the District. Any other final decision of the General Manager regarding a Protestor's request to be relieved of its bid on the grounds of mistake under Public Contract Code Sections 5100 et seq, shall be the final decision of the District with no provision for reconsideration or appeal to the Board.

OCEANO COMMUNITY SERVICES DISTRICT

EMERGENCY GENERATOR REPLACEMENT PROJECT

OCEANO, CA
CONTRACT NO. 2019-01

EXHIBIT "H"

DISTRICT SUPPLIED EQUIPMENT

CUMMINS INC
4601 E. Brundage Lane
Bakersfield, CA 93307
661 326-4003

December 6, 2018

Submittal for:
Oceano CSD

Cummins Inc. Project No. 30852
PO No.: 2018-19-17

Customer Requested Delivery Date:_____

Customer Requested Equipment Delivery Address:_____

_____

Contact Person & Phone # for Deliveries:_____

Please provide the manufacturer, model, and rating of the breaker directly upstream of the transfer switch:_____

Provide available fault current at the breaker directly upstream of the transfer switch per single line:_____

Prepared for:
Nicole Miller
Oceano CSD
PO BOX 599
Oceano CA, 93475-0599
Phone No.: 805 481-6730
Fax No. : 805 481-6836
Email : nicole@oceanocsd.org

Customer Approval

□ Revise and Resubmit

□ Approved as Noted/Release for Production

□ Released for Production

By: _____ Dated:_____

Important:
1. By signing this submittal you're approving it as submitted unless noted.
2. Any change to the scope of supply may impact the current shipping schedule and the contract price, as such, Cummins Inc. can NOT accept any changes to the scope of supply within 60 Calendar days before shipment.
3. **Our Company policy states that "We can NOT order any materials or proceed with production without an approved and release submittal that includes a required ship date".**

Prepared by: Dan Goetz
Office Number: 661-326-4003
Mobile Number:
Fax Number: 661 861-8719
Email address: daniel.p.goetz@cummins.com

December 6, 2018
Project Name: **Oceano CSD**
Project Number: **30852**

Dear: Nicole Miller

Thank you for your order. The next step in the process is the submittals phase.
Attached please find the submittal, prepared by Dan Goetz the Project Engineer assigned to your Project. Please review the submittal and return it to him as soon as possible along with your approval and/or changes clearly indicated so we can continue to process your order.

Our company policy states we cannot order any materials or proceed with any production without an approved Submittal returned from you along with requested delivery date, and data for the circuit breaker being used upstream of our transfer switch(s).

Current lead time is approximately **12-16 weeks** Split shipments and drop shipments on equipment that do not need local upfit are possible, but requirements must be advised at the time of release.

Note: Requested delivery date is not a guarantee of delivery date. Leadtimes at time of release can vary due to market conditions and manufacturing production capacities. We will advise you of our closest delivery target to match your request within 1-2 weeks.

A Cummins Project Team has now been assigned to your project. Their names and contacts are listed below.
For all technical issues, your Project Engineer, Dan Goetz, will best be able to assist you at this stage of the project
Feel free to contact anyone on your Project Team directly.

Name	Title	Function	Phone	email
Jeff Thompson	Territory Manager	Sales	661 326-4002	jeffrey.e.thompson@cummins.com
Dan Goetz	Project Manager Bakersfield	Prepares Submittals, handles all Technical issues	661-326-4003	daniel.p.goetz@cummins.com
Michelle Garza	PC	Project Coordinator	(510) 347-6679	michelle.e.garza@cummins.com
John McWilliams	Senior Application Engineer	Technical Resource for all projects	510-347-6673	john.l.mcwilliams@cummins.com
Dennis Long	Start up Coordinator	Schedules pre-inspect and S&T	510-347-6651	Dennis.d.long@cummins.com
Tom S Golnick	GM - PowerGen Sales South	Sales Management	619-219-5044	tom.g.golnick@cummins.com

Best regards,

Jeff Thompson
Cummins Inc.

December 6, 2018

Notice to End User or Contractor

***

Please be advised that without a permit to construct or operate from AQMD, we will not be able to start and commission this generator, it is therefore suggested that an AQMD permit be filed at the same time you issue an approval for this submittal.

***

Please make sure you've reviewed our Automatic Transfer Switch Withstand and Closing Rating Chart for compliance with our list of acceptable breakers being used upstream of the ATS.

***

This order is provided with one set of owners and installation manual meant for the installing contractor. Additional copies may require a change order while electronic copies can be provided free of charge.

***

Approval Drawings

This Approval Drawing Package is submitted as our interpretation of the contract drawings and/or the specifications for this job.

It is the obligation of the electrical contractor and reviewing engineer to determine that the item quantities and accuracy of this submittal is correct as required for the job. Any inccuracies or deviations must be addressed with Cummins Inc. before release to manufacturing. Any releases of material to manufacturing by the above parties constitute an acceptance of the accuracy of the submittal. Any changes after release will be viewed as a change order, subject to pricing changes.

Please take the time to review this package for accuracy to prevent any after-shipment problems. This will allow the job to be shipped correctly and prevent any delay in energization.

***

Cummins Power Generation provides a large amount of technical information on it's products, as well as specific technical topics aimed at clarifying our position on topical issues. Below you'll find links to valuable information that would help you with our recommendations for installation on different topics.

Technical Manuals

T-011 Application Manual - Transfer Switches
T-016 Application Manual - Paralleling

T-030 Application Manual - Liquid Cooled Generator Sets

T-034 Application Manual - Networking

Automatic Transfer Switch Withstand and Closing Rating: OT-B (150A - 260A)

Cummins Pacific

Cummins Transfer Switch Product	Transfer Switch Frame Size	Number of Poles	Transfer Switch Rating (Amps)	Max Breaker Amp Rating
OT	B	3 / 4	150/225/260	400A

Specific Circuit Breaker Ratings

Max Voltage	Circuit Breaker Manufacturer	Circuit Breaker Type or Class	Withstand/Closing Rating (WCR) *kA RMS Symmetrical Amps*	Cummins Drawing Part Number
240VAC	GE	TEYD, TEYH, TEYL, THJK, TJJ, TJK	30	A048E949
		SEL, SFL, SGL, TEC, TECL, TEL, TEML, TFL	100	A048J539
		AKRU, AKU, FB, FC, FE, FG, SEP, SFP, SGP, THLC1, THLC2, THLC4	200	
	Schneider	HD, JD, LD	25	A048J539
		DG, HG, JG, LG, NSE100N, NSF150N, NSF250N, NSJ400N, NSJ600N	65	
		DJ, HJ, JJ, LJ, NSF150H, NSF250H, NSJ400H, NSJ600H	100	
		DL, HL, JL, LL	125	
		CE106L, CF250L, CJ400L, CK1000L, NSJ400L, NSJ600L	150	
		FI, KI, LI, HR, JR, LR	200	
	Eaton	BAB, CHKD[1], CKD[1], DK, ED, EDB, EDC, EDH, EDS, EGB[2], EGE[2], EGH[2], EGS[2], EHD, FD, FDB, FDE, GBHS, GD, GHB, GHBGFEP, GHBS, GHC, GHCGFEP, HFD6, HJD, HKD, HQP, JD, JDB, JGE, JGH, JGS, KD, KDB, QBGF, QBGFEP, QBH, QBHGF, QBHGFEP, QBHW, QC, QCF, QCGF, QCGFEP, QCHGF, QCHGFEP, QCHW, QCR, QHCW, QHCX, QHPW, QHPX, QPGF, QPGFEP, QPHGF, QPHGFEP, QPHW	30	A048E949
		DSL, LA, NB, FDC, JDC, EGC, JGU, JGX, KDC, LDC, JGC, LGC, LCL, LGU, LGX	200	A048J539
	Siemens	BQCH, BQD, CC, CQD, ED2, ED4, ED6, FD6, FD6A, FXD6, FXD6A, HDGA, HED4, HED6, HFD6, HFGA, HFXD6, HHFD6, HHFXD6, HHJD6, HHJXD6, HJD6, HJGA, HJXD6, HLGA, HLGB, HQJ2, JD6, JXD2, JXD6, LDGA, LFGA, LJGA, LLGA, LLGB, NFGA, NGB, NDGA, NGG, NJGA, NLGA, NLGB, QJ2, QJ2H, QJH2	30	A048E949
		CED6, CFD6, CJD6, CLD6, SCJD6, SCLD6	200	A048J539
480VAC	GE	~~TEYD, TEYH, TEYL, THJK, TJJ, TJK~~	~~30~~	~~A048E949~~
		SEL, SFL, SGL, TEL, TEML, TFL	65	A048J539
		SEP, SFP, SGP, TEC, TECL	100	
		FB, FC, FE, FG	150	
		AKRU, AKU, THLC1, THLC2, THLC4	200	
	Schneider	HD, JD, LD, NSE100N	18	A048J539
		DG, HG, JG, LG, NSF150N, NSF250N, NSJ400N, NSJ600N	35	
		CK1000L	50	
		DJ, HL, JJ, LJ, NSF150H, NSF250H, NSJ400H, NSJ600H	65	
		CE106L, DL, HL, JL, LL, NSJ400L, NSJ600L	100	
		CF250L, CJ400L	150	
		FI, KI, LI, HR, JR, LR	200	
	Eaton	BAB, CHKD[1], CKD[1], DK, ED, EDB, EDC, EDH, EDS, EGB[2], EGE[2], EGH[2], EGS[2], EHD, FD, FDB, FDE, GBHS, GD, GHB, GHBGFEP, GHBS, GHC, GHCGFEP, HFD6, HJD, HKD, HQP, JD, JDB, JGE, JGH, JGS, KD, KDB, QBGF, QBGFEP, QBH, QBHGF, QBHGFEP, QBHW, QC, QCF, QCGF, QCGFEP, QCHGF, QCHGFEP, QCHW, QCR, QHCW, QHCX, QHPW, QHPX, QPGF, QPGFEP, QPHGF, QPHGFEP, QPHW	30	A048E949
		FDC, JDC, EGC, KDC, LDC, JGC, LGC	100	A048J539
		JGU, LGU	150	
		DSL, LA, NB, JGX, LCL, LGX	200	
	Siemens	BQCH, BQD, CC, CQD, ED2, ED4, ED6, FD6, FD6A, FXD6, FXD6A, HDGA, HED4, HED6, HFD6, HFGA, HFXD6, HHFD6, HHFXD6, HJGA, HLGA, HLGB, HQJ2, JXD2, LDGA, LFGA, LJGA, LLGA, LLGB, NFGA, NGB, NDGA, NGG, NJGA, NLGA, NLGB, QJ2, QJ2H, QJH2	30	A048E949
		CJD6, CLD6, SCJD6, SCLD6	150	A048J539
		CED6, CFD6	200	
600VAC	GE	SEL, SFL, SEP, SFP, TEL, TEML, TFL	25	A048J539
		TEYD, TEYH, TEYL, THJK, TJJ, TJK	30	A048E949
		FB, FC	42	A048J539
		THLC1, THLC2, THLC4	50	
		FG, SGL, SGP	65	
		TEC, TECL	100	
		AKRU, AKU	200	
	Schneider	HD, JD, LD	14	A048J539
		DG, HG, JG, LG, NSF150N, NSF250N, NSJ400N, NSJ600N	18	
		DJ, HL, JJ, LJ, DL, NSF150H, NSF250H, NSJ400H, NSJ600H, NSJ400L, NSJ600L	25	
		CE106L, CK1000L	42	
		HL, JL, LL	50	
		CF250L, CJ400L	65	
		FI, KI, LI, HR, JR, LR	100	
	Eaton	BAB, CHKD[1], CKD[1], DK, ED, EDB, EDC, EDH, EDS, EGB[2], EGE[2], EGH[2], EGS[2], EHD, FD, FDB, FDE, GBHS, GD, GHB, GHBGFEP, GHBS, GHC, GHCGFEP, HFD6, HJD, HKD, HQP, JD, JDB, JGE, JGH, JGS, KD, KDB, QBGF, QBGFEP, QBH, QBHGF, QBHGFEP, QBHW, QC, QCF, QCGF, QCGFEP, QCHGF, QCHGFEP, QCHW, QCR, QHCW, QHCX, QHPW, QHPX, QPGF, QPGFEP, QPHGF, QPHGFEP, QPHW	30	A048E949
		FDC, JDC, EGC, JGX	35	A048J539
		JGU, KDC, LDC, JGC, LGC	50	
		LGU, LGX	65	
		LCL	100	
		DSL, LA, NB	200	
	Siemens	BQCH, BQD, CC, CQD, ED2, ED4, ED6, FD6, FD6A, FXD6, FXD6A, HDGA, HED4, HED6, HFD6, HFGA, HFXD6, HHFD6, HHFXD6, HJGA, HLGA, HLGB, HQJ2, JXD2, LDGA, LFGA, LJGA, LLGA, LLGB, NFGA, NGB, NDGA, NGG, NJGA, NLGA, NLGB, QJ2, QJ2H, QJH2	30	A048E949
		CED6, CFD6, CJD6, CLD6, SCJD6, SCLD6	100	A048J539

Note 1: 310 trip unit only
Note 2: Limited to 70A maximum

Sales and Service

December 6, 2018
Project Name: **Oceano CSD**
Project Number: **30852**
PO Number: **2018-19-17**

Summary Sheet

(Not for Construction, please refer to specific materials within submittal or call Cummins Inc. to double check values.)

Project Engineer Dan Goetz 661-326-4003

Major Equipment Shipping Weights and Dimensions

Equipment	Length (in)	Width (in)	Height (in)	Weight (lbs)	Color	Sources Drawing Number
Genset	97.7	38	51.7	2,217	Green	A054Y897
Housing	136.06	40	58.3	290	Green	A051P365
Fuel Tank (Dry)	154	40	24	1,388	Black	A029V774
Diesel Fuel Gallonage						
274				2,055		
Total Genset Package	**154**	**40**	**82**	**5,950**		
ATS	30.35	14.75	39.85	190		0310-0454

Generator Set - Lug Information

Max. Breaker Amps	Wire (Cooper)	
	Quantity	Size
100	1	#14-3/0 AWG
100	1	#14-3/0 AWG

Automatic Transfer Switch - Lug Information

Amperage	Cable/Phase	Cable Size
225	1	#6 AWG - 300 MCM

AC Power Supplies needed for Genset Accessories

Accessories	No. phases	Voltage	Wattage
Coolant heater*	1	120VAC	1000
Battery Charger (Cummins)	1	120/208 - 240	6 Amp

General Wiring Guidelines

Interconnection Wiring To Be # 14 AWG Stranded Wire Minimum. Ac and Dc Control Wires to Be Run In Separate Conduits

Battery Charger to Battery to Be Sized For Charger Output And length of run.

For AC Connections Use # 14 AWG or larger for lengths up to 40 Feet.

Use # 12 AWG or larger for lengths up to 50 Feet.

Use # 10 AWG or larger for lengths up to 100 Feet.

For DC Connections Use # 14 AWG or larger for lengths up to 100 Feet.

Paralleling load share cable to be 18 AWG 4 - conductor twisted shielded cable.
Modbus and PCCnet cable to be Belden model 9729 twisted shielded pair.
Echelon Lontalk network cable to be stranded CAT5.
We recommend running additional 20% spare wires for each circuit.
****REFER TO WIRING DIAGRAMS SUPPLIED WITH SUBMITTAL FOR SPECIFIC INFORMATION****

Special Requirements / Submittal Review Notes

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BILL OF MATERIAL

Items listed in this section are unit mounted

Qty.	Description	Model/Order Designation
1 (One)	Diesel powered generator set, standby power rated at 60 KW, 75 KVA, 277/480 volts, 3 ⌀, Wye, 4 wire, 60 HZ at 1800 RPM, with standard equipment per bulletin #NAS-6211-EN and the following accessories:	C60D6C
	• Duty Rating-Stanby Power	A331
	• Listing-UL 2200	L090
	• NFPA 110 Type 10 Level 1 Capable	L193
	• IBC Seismic Certification	L224
	• EmissionCert,EPA,Tier 3,NSPS CI Stationary Emergency,	L169
	• Enclosure-Aluminum,Sound Att, Level 2, w/Exh System	F217
	• Voltage-277/480,3 Phase Wye, 4 Wire	R002
	• Alternator-60Hz,12L,480/277V, 120C,40C amb	B943
	• Genset Control-PowerCommand 2.3	H703
	• Exciter/Regulator – Torque Match	B240
	• Engine Governor-Electronic, Isochronous Only	A366
	• Display Language-English	H536
	• Gauge-Oil Pressure	H012
	• AmpSentry TM Protective Relay	H720
	• Stop Switch-Emergency	K796
	• Control Mounting-Left Facing	H609
	• Load Connection-Dual	KV04
	• CB,Loc A,100A,3P,LSI,600VAC,80%,UL	KV40
	• CB,Loc B,100A,3P,LSI,600VAC,80%,UL	KV90
	• Enclosure Color-Green, Aluminum Enclosure	P176
	• Enclosure-Wind Load 180 MPH,ASCE7-10	F252
	• Fuel Tank-Regional, 2 Wall, Sub Base,24Hr Minimum	C301
	• Separator-Fuel/Water	C127
	• Mechanical Fuel Gauge	C312
	• Extensions Kit-Fuel tank Vents, 12Ft	C315
	• Risers-Fuel Tank, 2 Inches	C317
	• Box-Spill Containment, 5 Gal, Lockable	C314
	• Switch-High, 90% Fuel	C308
	• Switch-Low, 40% Fuel	C310
	• Skidbase-Housing Ready	F179
	• Engine Starter-12 VDC Motor	A422

- Battery Charging Alternator-Normal Output A333
- Battery Charger-6 Amp, Regulated BB89
- Engine Cooling-High Ambient Air Temperature E125
- Extension-Engine Coolant Drain E089
- Engine Coolant-50% Antifreeze, 50% Water Mixture H669
- Coolant Heater, Cold Ambient E153
- Engine Air Cleaner-Normal Duty D041
- Engine Oil H706
- Test Rcord-Certified L026
- Literature English L050
- Packing-Slid, Poly Bag A322
- Ship Loose-Green SL2 Baffle L260
- Ship Loose-Vent Kit A L261
- Ship Loose-Tank Riser B L264
- Rack-Larger Battery F253
- Extension-Oil Drain H268
- Ship Loose-Flex Fuel Connection

BILL OF MATERIAL

The following items are supplied loose, and are to be field-installed by others

Qty.	Description	Model/Order Designatio
2(Two)	Automatic transfer switch, 225Amp, 240 volts, 1 ∅, 2 or 3 wire, 3 pole, NEMA 3R enclosed with standard equipment per bulletin # S-1464 plus the following optional equipment:	OTEC
	• Poles-3	A028
	• Listing-UL 1008/CSA Certification	A046
	• Frequency060 Hertz	A044
	• System-Single Phase, 2 or 3 Wire	A041
	• Voltage-240 Vac	R023
	• Cabinet-Type 3R	B002
	• Genset Starting Battery-12VDC	M033
	• Cover-Switch Control, Security	C027
1	Extension Kit, Fuel Tank Vents, 1 Normal, 2 Emergency, 12Ft	A048C543
1	Sound Level 2 Baffle (Shipped Loose)	A052M018
1	Kit, Fuel Ststem, Tank Risers (shipped Loose)	A054H766
	Genset Warranty-Base	L028
	Transfer switch Warranty- 1 Year Comprehensive	G009

This quote was based on written specification. “Specification for a 60Kw, 60Hz, 3 Phase standby power system”. Rev.February 26,2018.

SECTION I

DATA SHEETS

Specification sheet

Diesel generator set

QSB5 series engine
50-125 kW @ 60 Hz
EPA Tier 3 emissions

Description

Cummins® generator sets are fully integrated power generation systems providing optimum performance, reliability and versatility for stationary Standby applications.

Features

Heavy duty engine - Rugged 4-cycle industrial diesel delivers reliable power and fast response to load changes.

Alternator - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings, low waveform distortion with non-linear loads and fault clearing short-circuit capability.

Control system - The PowerCommand® 2.3 electronic control is standard equipment and provides total generator set system integration including automatic remote starting/stopping, precise frequency and voltage regulation, alarm and status message display, output metering, auto-shutdown at fault detection and NFPA 110 Level 1 compliance.

Cooling system - Standard cooling package provides reliable running at up to 50 ℃ (122 ℉) ambient temperature.

Enclosures - The aesthetically appealing enclosure incorporates special designs that deliver one of the quietest generators of its kind. Aluminium material plus durable powder coat paint provides the best anti-corrosion performance. The generator set enclosure has been evaluated to withstand 180 MPH wind loads in accordance with ASCE7 -10. The design has hinged doors to provide easy access for service and maintenance.

Fuel tanks - Dual wall sub-base fuel tanks are offered as optional features, providing economical and flexible solutions to meet extensive code requirements on diesel fuel tanks.

NFPA - The generator set accepts full rated load in a single step in accordance with NFPA 110 for Level 1 systems.

Warranty and service - Backed by a comprehensive warranty and worldwide distributor network.

	Standby 60 Hz		Prime 60 Hz		
Model	**kW**	**kVA**	**kW**	**kVA**	**Data sheets**
C50D6C	50	63	45	56	NAD-6212-EN
C60D6C	60	75	54	68	NAD-6213-EN
C80D6C	80	100	72	90	NAD-6214-EN
C100D6C	100	125	90	113	NAD-6215-EN
C125D6C	125	156	112.5	141	NAD-6216-EN

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Generator set specifications

Governor regulation class	ISO8528 Part 1 Class G3
Voltage regulation, no load to full load	± 1.0%
Random voltage variation	± 1.0%
Frequency regulation	Isochronous
Random frequency variation	± 0.50%
Radio frequency emissions compliance	FCC code title 47 part 15 class A and B

Engine specifications

Design	Turbocharged and charge air cooled
Bore	107 mm (4.21 in.)
Stroke	124 mm (4.88 in.)
Displacement	4.5 L (272 in^3)
Cylinder block	Cast iron, in-line 4 cylinder
Battery capacity	850 amps per battery at ambient temperature of 0 ℃ (32 ℉)
Battery charging alternator	100 amps
Starting voltage	2 x 12 volt in parallel, negative ground
Lube oil filter type(s)	Spin-on with relief valve
Standard cooling system	High ambient radiator
Rated speed	1800 rpm

Alternator specifications

Design	Brushless, 4 pole, drip proof, revolving field
Stator	2/3 pitch
Rotor	Direct coupled, flexible disc
Insulation system	Class H per NEMA MG1-1.65
Standard temperature rise	120 ºC (248 ℉) Standby
Exciter type	Torque match (shunt) with PMG as option
Alternator cooling	Direct drive centrifugal blower
AC waveform Total Harmonic Distortion (THDV)	< 5% no load to full linear load, < 3% for any single harmonic
Telephone Influence Factor (TIF)	< 50 per NEMA MG1-22.43
Telephone Harmonic Factor (THF)	< 3%

Available voltages

1-phase			3-phase		
• 120/240	• 120/208	• 120/240	• 277/480	• 347/600	• 127/220

Generator set options

Fuel system
- Basic fuel tanks
- Regional fuel tanks

Engine
- Engine air cleaner – normal or heavy duty
- Shut down – low oil pressure
- Extension – oil drain
- Engine oil heater

Alternator
- 120 ℃ temperature rise alternator
- 105 ℃ temperature rise alternator
- PMG excitation
- Alternator heater, 120 V
- Reconnectable full 1 phase output alternator

Control
- AC output analog meters
- Stop switch – emergency
- Auxiliary output relays (2)
- Auxiliary configurable signal inputs (8) and relay outputs (8)

Electrical
- One, two or three circuit breaker configurations
- 80% rated circuit breakers
- 80% or 100% rated LSI circuit breakers
- Battery charger

Enclosure
- Aluminium enclosure Sound Level 1 or Level 2, sandstone or green color
- Aluminium weather protective enclosure with muffler installed, green color

Cooling system
- Shutdown – low coolant level
- Warning – low coolant level
- Extension – coolant drain
- Coolant heater options:
  - <4 ℃ (40 ℉) – cold weather
  - <-18 ℃ (0 ℉) – extreme cold

Exhaust system
- Exhaust connector NPT
- Exhaust muffler mounted

Generator set application
- Base barrier – elevated genset
- Radiator outlet duct adapter

Warranty
- Base warranty – 2 year/1000 hours, Standby
- Base warranty – 1 year/unlimited hours, Prime
- 3 year Standby warranty options
- 5 year Standby warranty options

Generator set accessories

- Coolant heater
- Battery heater kit
- Engine oil heater
- Remote control displays
- Auxiliary output relays (2)
- Auxiliary configurable signal inputs (8) and relay outputs (8)
- Annunciator – RS485
- Audible alarm
- Remote monitoring device – PowerCommand 500/550
- Battery charger – stand-alone, 12 V
- Circuit breakers
- Enclosure Sound Level 1 to Sound Level 2 upgrade kit
- Base barrier – elevated generator set
- Mufflers – industrial, residential or critical
- Alternator PMG excitation
- Alternator heater

Control system PowerCommand 2.3

PowerCommand 2.3 control - An integrated generator set control system providing voltage regulation, engine protection and operator interface.

Control - Provides battery monitoring and testing features and smart-starting control system.

InPower™ - PC-based service tool available for detailed diagnostics.

PCCNet RS485 - Network interface (standard) to devices such as remote annunciator for NFPA 110 applications.

Control boards - Potted for environmental protection.

Ambient operation - Suitable for operation in ambient temperatures from -40°C to +70°C and altitudes to 13,000 feet (5,000 meters).

AC protection

- AmpSentry™ protective relay
- Over current warning and shutdown
- Over and under voltage shutdown
- Over and under frequency shutdown
- Over excitation (loss of sensing) fault
- Field overload
- Overload warning
- Reverse kW shutdown
- Reverse Var shutdown
- Short circuit protection

Engine protection

- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- High, low and weak battery voltage warning
- Fail to start (overcrank) shutdown
- Fail to crank shutdown
- Redundant start disconnect
- Cranking lockout
- Sensor failure indication
- Low fuel level warning or shutdown
- Emergency stop
- Fuel-in-rupture-basin warning or shutdown

Operator/display panel

- Manual off switch
- 320 x 240 Pixels graphic LED backlight LCD with push button access for viewing engine and alternator data and providing setup, controls, and adjustments (English, Spanish, or French).
- LED lamps indicating genset running, not in auto, common warning, common shutdown, manual run mode and remote start.
- Suitable for operation in ambient temperatures from -20°C to +70°C

Alternator data

- Line-to-Line and Line-to-Neutral AC volts
- 3-phase AC current
- Frequency
- kVa, kW, power factor

Engine data

- DC voltage
- Lube oil pressure
- Coolant temperature

Other data

- Generator set model data
- Start attempts, starts, running hours
- Fault history
- RS485 Modbus® interface
- Data logging and fault simulation (requires InPower service tool)

Digital voltage regulation

- Integrated digital electronic voltage regulator
- 3-phase Line-to-Line sensing
- Configurable torque matching
- Fault current regulation under single or three phase fault conditions

Control functions

- Time delay start and cooldown
- Cycle cranking
- PCCNet interface
- (2) Configurable inputs
- (2) Configurable outputs
- Remote emergency stop
- Automatic Transfer Switch (ATS) control
- Generator set exercise, field adjustable

Options

- Auxiliary output relays (2)
- Remote annunciator with (3) configurable inputs and (4) configurable outputs
- PMG alternator excitation
- PowerCommand 500/550 for remote monitoring and alarm notification (accessory)
- Auxiliary, configurable signal inputs (8) and configurable relay outputs (8)
- AC output analog meters (bargraph)
  - Color-coded graphical display of:
    - 3-phase AC voltage
    - 3-phase current
    - Frequency
    - kVa
- Remote operator panel

Ratings definitions

Emergency Standby Power (ESP):

Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Limited-Time Running Power (LTP):

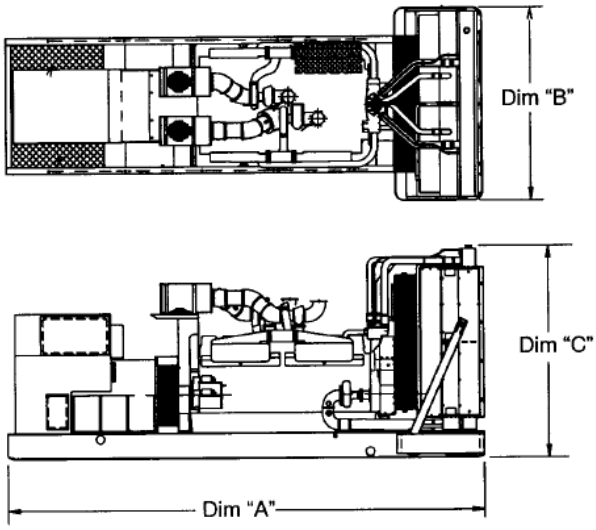
Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.

Prime Power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Base Load (Continuous) Power (COP):

Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.



This outline drawing is for reference only. See respective model data sheet for specific model outline drawing number.

Do not use for installation design

Model	Dim “A” mm (in.)	Dim “B” mm (in.)	Dim “C” mm (in.)	Set weight*wet kg (lbs.)
Open set				
C50D6C	2482 (98)	965 (38)	1321 (52)	958 (2113)
C60D6C	2482 (98)	965 (38)	1321 (52)	1006 (2217)
C80D6C	2482 (98)	965 (38)	1321 (52)	1054 (2324)
C100D6C	2482 (98)	965 (38)	1321 (52)	1106 (2439)
C125D6C	2482 (98)	965 (38)	1321 (52)	1173 (2586)
Weather protective enclosure				
C50D6C	2482 (98)	1016 (40)	1473 (58)	1039 (2290)
C60D6C	2482 (98)	1016 (40)	1473 (58)	1087 (2396)
C80D6C	2482 (98)	1016 (40)	1473 (58)	1135 (2503)
C100D6C	2482 (98)	1016 (40)	1473 (58)	1187 (2618)
C125D6C	2482 (98)	1016 (40)	1473 (58)	1254 (2765)
Sound attenuated enclosure Level 1				
C50D6C	3016 (119)	1016 (40)	1473 (58)	1221 (2693)
C60D6C	3016 (119)	1016 (40)	1473 (58)	1137 (2507)
C80D6C	3016 (119)	1016 (40)	1473 (58)	1185 (2614)
C100D6C	3016 (119)	1016 (40)	1473 (58)	1237 (2729)
C125D6C	3016 (119)	1016 (40)	1473 (58)	1304 (2876)
Sound attenuated enclosure Level 2				
C50D6C	3456 (136)	1016 (40)	1473 (58)	1228 (2708)
C60D6C	3456 (136)	1016 (40)	1473 (58)	1144 (2522)
C80D6C	3456 (136)	1016 (40)	1473 (58)	1192 (2629)
C100D6C	3456 (136)	1016 (40)	1473 (58)	1244 (2744)
C125D6C	3456 (136)	1016 (40)	1473 (58)	1311 (2891)

* Weights above are average. Actual weight varies with product configuration.

Codes and standards

Codes or standards compliance may not be available with all model configurations – consult factory for availability.

	This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.		The generator set is available Listed to UL 2200, Stationary Engine Generator Assemblies.
	The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design. Cummins products bearing the PTS symbol meet the prototype test requirements of NFPA 110 for Level 1 systems.	**U.S. EPA**	Engine certified to U.S. EPA SI Stationary Emission Regulation 40 CFR, Part 60.
	All low voltage models are CSA certified to product class 4215-01.	**International Building Code**	The generator set is certified to International Building Code (IBC) 2012.

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

For more information contact your local Cummins distributor or visit power.cummins.com

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NAS-6211-EN (02/18) A055Y560

Generator set data sheet

Model:	C60D6C
Frequency:	60 Hz
Fuel type:	Diesel
KW rating:	60 standby
	54 prime
Emissions level:	EPA Tier 3, Stationary emergency

Exhaust emission data sheet:	EDS-2027
Exhaust emission compliance sheet:	EPA-3034
Sound performance data sheet:	MSP-1301
Cooling performance data sheet:	MCP-1401
Prototype test summary data sheet:	PTS-450

Fuel consumption

	Standby				Prime			
	kW (kVA)				kW (kVA)			
Ratings	60 (75)				54 (68)			
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
US gph	2.20	3.30	4.60	6.10	2.1	3.00	4.20	5.50
L/hr	8.33	12.49	17.41	23.09	7.95	11.36	15.90	20.82

Engine

	Standby rating	Prime rating
Engine manufacturer	Cummins Inc.	
Engine model	QSB5-G13	
Configuration	Cast iron, in-line, 4 cylinder	
Aspiration	Turbocharged and charge air cooled	
Gross engine power output, kWm (bhp)	129 (173)	113 (152)
BMEP at set rated load, kPa (psi)	1205 (174.7)	1083 (157.1)
Bore, mm (in)	107 (4.21)	
Stroke, mm (in)	124 (4.88)	
Rated speed, rpm	1800	
Piston speed, m/s (ft/min)	7.44 (1464)	
Compression ratio	17.3:1	
Lube oil capacity, L (qt)	12.2 (12.9)	
Overspeed limit, rpm	2250	

Fuel flow

Maximum fuel flow, L/hr (US gph)	133 (35.0)
Maximum fuel inlet restriction with clean filter, mm Hg (in Hg)	127 (5.0)

Air

	Standby rating	Prime rating
Combustion air, m3/min (scfm)	9.63 (340)	9.34 (330)
Maximum air cleaner restriction with clean filter, kPa (in H2O)	1.25 (5)	

Exhaust

Exhaust flow at set rated load, m^3/min (cfm)	20 (696)	18.52 (654)
Exhaust temperature, °C (°F)	370 (697)	341 (645)
Maximum back pressure, kPa (in H_2O)	10 (40.18)	10(40.18)
Available exhaust back pressure with CPG sound level 2 enclosure muffler, kPa (in H_2O)	3.5 (14.1)	4.5 (18.1)
Available exhaust back pressure with CPG weather enclosure muffler, kPa (in H_2O)	4.5 (18.1)	5 (20.1)

Standard set-mounted radiator cooling

Ambient design, ° C (° F)	50 (122)	
Fan load, kW_m (HP)	5.22 (7)	
Coolant capacity (with radiator), L (US Gal)	16 (4.2)	
Cooling system air flow, m^3/min (scfm)	218.04 (7700)	
Total heat rejection, MJ/min (Btu/min)	8.96 (8491)	8.38 (7943)
Maximum cooling air flow static restriction, kPa (in H_2O)	0.12 (0.5)	

Weight[2]

Unit wet weight kgs (lbs)	1006 (2217)

Notes:
[1] For non-standard remote installations contact your local Cummins Power Generation representative.
[2] Weights represent a set with standard features. See outline drawing for weights of other configurations.

Derating factors

Standby	Engine power available to 3581 m (11750 ft) and ambient temperatures up to 40° C (104° F). Above these conditions, derate at 2.2% per 300 m (1000 ft) and 16.1% per 10° C (18° F)
Prime	Engine power available to 4343 m (14250 ft) and ambient temperatures up to 40° C (104° F). Above these conditions, derate at 2.3% per 300 m (1000 ft) and 18.8% per 10° C (18° F)

Ratings definitions

Emergency standby power (ESP):	Limited-time running power (LTP):	Prime power (PRP):	Base load (continuous) power (COP):
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

Alternator data

Standard Alternators	Single phase[2]		Three phase[1]				
Maximum temperature rise above 40 °C ambient	120 °C	120 °C	120 °C	120 °C	120 °C	120 °C	120 °C
Feature code	BB88-2[3]	BB90-2	B946-2	B986-2	B943-2	B952-2	BB86-2
Alternator data sheet number	ADS-205	ADS-204	ADS-204	ADS-204	ADS-204	ADS-202	ADS-204
Voltage ranges	120/240	120/240	120/208	120/240	277/480	347/600	127/220
Voltage feature code	R104-2	R104-2	R098-2	R106-2	R002-2	R114-2	R020-2
Surge kW	69.3	71.0	73.3	73.3	73.9	72.6	73.5
Motor starting kVA (at 90% sustained voltage) Shunt			231	231	231	188	231
Motor starting kVA (at 90% sustained voltage) PMG			272	272	272	221	272
Full load current amps at standby rating	250	250	208	181	90	72	197

Alternator data

Standard Alternators	Single phase[2]		Three phase[1]				
Maximum temperature rise above 40 °C ambient	105 °C	105 °C	105 °C	105 °C	105 °C	105 °C	105 °C
Feature code	BB87-2[3]	BB91-2	BB93-2	BB94-2	BB95-2	BB92-2	BB85-2
Alternator data sheet number	ADS-207	ADS-205	ADS-204	ADS-204	ADS-204	ADS-204	ADS-204
Voltage ranges	120/240	120/240	120/208	120/240	277/480	347/600	127/220
Voltage feature code	R104-2	R104-2	R098-2	R106-2	R002-2	R114-2	R020-2
Surge kW	70.2	71.7	73.3	73.3	73.9	73.9	73.5
Motor starting kVA (at 90% sustained voltage) Shunt			231	231	231	231	231
Motor starting kVA (at 90% sustained voltage) PMG			272	272	272	272	272
Full load current amps at standby rating	250	250	208	181	90	72	197

Notes:
[1] Single phase power can be taken from a three phase generator set at up to 2/3 set rated 3-phase kW at 1.0 power factor
[2] Full single phase output up to full set rated 3-phase kW at 1.0 power factor
[3] Reconnectable option

Formulas for calculating full load currents:

Three phase output

$$\frac{kW \times 1000}{Voltage \times 1.73 \times 0.8}$$

Single phase output

$$\frac{kW \times SinglePhaseFactor \times 1000}{Voltage}$$

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NAD-6334-EN (03/18) A059X434

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Alternator data sheet

Frame size: UC2F

Characteristics

Weights:	Wound stator assembly:	243 lb	110 kg
	Rotor assembly:	247 lb	112 kg
	Complete alternator:	732 lb	332 kg
Maximum speed:		2250 rpm	
Excitation current:	Full load:	2 Amps	
	No load:	0.5 Amps	
Insulation system:	Class H throughout		

1 Ø Ratings (1.0 power factor)		60 Hz			50 Hz	
(Based on specific temperature rise at 40 °C ambient temperature)		Double delta	4 lead		Double delta	
		120/240	120/240		110-120 220-240	
125 °C rise ratings	kW/kVA	56/56	60/60		49/49	
105 °C rise ratings	kW/kVA	50/50	54/54		44/44	

3 Ø Ratings (0.8 power factor)		Upper broad range		LBR*	347/600	Broad range		
(Based on specified temperature rise at 40 °C ambient temperature)		120/208 240/416	139/240 277/480	190-208 380-416	347/600	110/190 220/380	120/208 240/415	127/220 254/440
150 °C Rise ratings	kW	71	79	72	79	62	62	59
	kVA	89	99	89	99	77	77	74
125 °C Rise ratings	kW	67	75	68	75	58	58	56
	kVA	84	94	85	94	73	73	70
105 °C Rise ratings	kW	60	66	60	66	52	52	50
	kVA	75	83	75	83	65	65	62
80 °C Rise ratings	kW	52	57	52	57	45	45	43
	kVA	65	72	65	72	56	56	53
3 Ø Reactances (per unit, ± 10%)								
(Based on full load at 105 °C rise rating)								
Synchronous		2.27	1.87	1.95	1.63	2.04	1.71	1.45
Transient		0.17	0.14	0.15	0.13	0.16	0.14	0.12
Subtransient		0.13	0.11	0.11	0.11	0.11	0.09	0.08
Negative sequence		0.13	0.11	0.11	0.11	0.12	0.10	0.09
Zero sequence		0.09	0.07	0.07	0.07	0.09	0.07	0.06

3 Ø Motor starting						
Maximum kVA	(Shunt)	231	231	231	156	
(90% sustained voltage)	(PMG)	272	272	272	194	

Time constants (Sec)					
Transient	0.030	0.030	0.030	0.030	
Subtransient	0.008	0.008	0.008	0.008	
Open circuit	0.750	0.750	0.750	0.750	
DC	0.007	0.007	0.007	0.007	

Alternator data sheet

Frame size: UC2F

Windings	(@ 20° C)				
Stator resistance	(Line to Line, Ohms)	0.1300	0.0960	0.2040	0.1300
Rotor resistance	(Ohms)	0.8000	0.8000	0.8000	0.8000
Number of leads		12	12	6	12

* Lower broad range 110/190 thru 120/208, 220/380 thru 240/416.

Specification sheet

PowerCommand®
2.3 control system

Control system description

The PowerCommand control system is a microprocessor-based generator set monitoring, metering and control system designed to meet the demands of today's engine driven generator sets. The integration of all control functions into a single control system provides enhanced reliability and performance, compared to conventional generator set control systems. These control systems have been designed and tested to meet the harsh environment in which gensets are typically applied.

Features

- 320 x 240 pixels graphic LED backlight LCD.
- Multiple language support.
- AmpSentry™ protective relay - true alternator overcurrent protection.
- Real time clock for fault and event time stamping.
- Exerciser clock and time of day start/stop.
- Digital voltage regulation. Three phase full wave FET type regulator compatible with either shunt or PMG systems.
- Generator set monitoring and protection.
- 12 and 24 VDC battery operation.
- Modbus® interface for interconnecting to customer equipment.
- Warranty and service. Backed by a comprehensive warranty and worldwide distributor service network.
- Certifications - suitable for use on generator sets that are designed, manufactured, tested and certified to relevant UL, NFPA, ISO, IEC, Mil Std., CE and CSA standards.

PowerCommand digital genset control PCC 2300

Description

The PowerCommand generator set control is suitable for use on a wide range of generator sets in non-paralleling applications. The PowerCommand control is compatible with shunt or PMG excitation style. It is suitable for use with reconnectable or non-reconnectable generators, and it can be configured for any frequency, voltage and power connection from 120-600 VAC Line-to-Line.

Power for this control system is derived from the generator set starting batteries. The control functions over a voltage range from 8 VDC to 30 VDC.

Features

- 12 and 24 VDC battery operation.
- Digital voltage regulation - Three phase full wave FET type regulator compatible with either shunt or PMG systems. Sensing is three phase.
- Full authority engine communications (where applicable) - Provides communication and control with the Engine Control Module (ECM).
- AmpSentry protection - for true alternator overcurrent protection.
- Common harnessing - with higher feature Cummins controls. Allows for easy field upgrades.
- Generator set monitoring - Monitors status of all critical engine and alternator functions.
- Digital genset metering (AC and DC).
- Genset battery monitoring system to sense and warn against a weak battery condition.
- Configurable for single or three phase AC metering.
- Engine starting - Includes relay drivers for starter, Fuel Shut Off (FSO), glow plug/spark ignition power and switch B+ applications.
- Generator set protection – Protects engine and alternator.
- Real time clock for fault and event time stamping.
- Exerciser clock and time of day start/stop.
- Advanced serviceability - using InPower™, a PC-based software service tool.
- Environmental protection - The control system is designed for reliable operation in harsh environments. The main control board is a fully encapsulated module that is protected from the elements.
- Modbus interface for interconnecting to customer equipment.
- Configurable inputs and outputs - Four discrete inputs and four dry contact relay outputs.
- Warranty and service - Backed by a comprehensive warranty and worldwide distributor service network.
- Certifications - Suitable for use on generator sets that are designed, manufactured, tested and certified to relevant UL, NFPA, ISO, IEC, Mil Std., CE and CSA standards.

Base control functions

HMI capability

Operator adjustments - The HMI includes provisions for many set up and adjustment functions.

Generator set hardware data - Access to the control and software part number, generator set rating in kVA and generator set model number is provided from the HMI or InPower.

Data logs - Includes engine run time, controller on time, number of start attempts, total kWh, and load profile (control logs data indicating the operating hours at percent of rated kW load, in 5% increments. The data is presented on the operation panel based on total operating hours on the generator.)

Fault history - Provides a record of the most recent fault conditions with control date and time stamp. Up to 32 events are stored in the control non-volatile memory.

Alternator data

- Voltage (single or three phase Line-to-Line and Line-to-Neutral)
- Current (single or three phase)
- kW, kVar, power factor, kVA (three phase and total)
- Frequency

Engine data

- Starting battery voltage
- Engine speed
- Engine temperature
- Engine oil pressure
- Engine oil temperature
- Intake manifold temperature
- Comprehensive Full Authority Engine (FAE) data (where applicable)

Service adjustments - The HMI includes provisions for adjustment and calibration of generator set control functions. Adjustments are protected by a password. Functions include:

Service adjustments (continued)

- Engine speed governor adjustments
- Voltage regulation adjustments
- Cycle cranking
- Configurable fault set up
- Configurable output set up
- Meter calibration
- Display language and units of measurement

Engine control

SAE-J1939 CAN interface to full authority ECMs (where applicable). Provides data swapping between genset and engine controller for control, metering and diagnostics.

12 VDC/24 VDC battery operations - PowerCommand will operate either on 12 VDC or 24 VDC batteries.

Temperature dependent governing dynamics (with electronic governing) - modifies the engine governing control parameters as a function of engine temperature. This allows the engine to be more responsive when warm and more stable when operating at lower temperature levels.

Isochronous governing - (where applicable) Capable of controlling engine speed within +/-0.25% for any steady state load from no load to full load. Frequency drift will not exceed +/-0.5% for a 33 °C (60 °F) change in ambient temperature over an 8 hour period.

Droop electronic speed governing - Control can be adjusted to droop from 0 to 10% from no load to full load.

Remote start mode - It accepts a ground signal from remote devices to automatically start the generator set and immediately accelerate to rated speed and voltage. The remote start signal will also wake up the control from sleep mode. The control can incorporate a time delay start and stop.

Remote and local emergency stop - The control accepts a ground signal from a local (genset mounted) or remote (facility mounted) emergency stop switch to cause the generator set to immediately shut down. The generator set is prevented from running or cranking with the switch engaged. If in sleep mode, activation of either emergency stop switch will wakeup the control.

Sleep mode - The control includes a configurable low current draw state to minimize starting battery current draw when the genset is not operating. The control can also be configured to go into a low current state while in auto for prime applications or applications without a battery charger.

Engine starting - The control system supports automatic engine starting. Primary and backup start disconnects are achieved by one of two methods: magnetic pickup or main alternator output frequency. The control also supports configurable glow plug control when applicable.

Cycle cranking - Is configurable for the number of starting cycles (1 to 7) and duration of crank and rest periods. Control includes starter protection algorithms to prevent the operator from specifying a starting sequence that might be damaging.

Time delay start and stop (cooldown) - Configurable for time delay of 0-300 seconds prior to starting after receiving a remote start signal and for time delay of 0-600 seconds prior to shut down after signal to stop in normal operation modes. Default for both time delay periods is 0 seconds.

Alternator control

The control includes an integrated three phase Line-to-Line sensing voltage regulation system that is compatible with shunt or PMG excitation systems. The voltage regulation system is a three phase full wave rectified and has an FET output for good motor starting capability.

Major system features include:

Digital output voltage regulation - Capable of regulating output voltage to within +/-1.0% for any loads between no load and full load. Voltage drift will not exceed +/- 1.5% for a 40 ºC (104 ºF) change in temperature in an eight hour period. On engine starting or sudden load acceptance, voltage is controlled to a maximum of 5% overshoot over nominal level. The automatic voltage regulator feature can be disabled to allow the use of an external voltage regulator.

Droop voltage regulation - Control can be adjusted to droop from 0-10% from no load to full load.

Torque-matched V/Hz overload control - The voltage roll-off set point and rate of decay (i.e. the slope of the V/Hz curve) is adjustable in the control.

Fault current regulation - PowerCommand will regulate the output current on any phase to a maximum of three times rated current under fault conditions for both single phase and three phase faults. In conjunction with a permanent magnet generator, it will provide three times rated current on all phases for motor starting and short circuit coordination purpose.

Protective functions

On operation of a protective function the control will indicate a fault by illuminating the appropriate status LED on the HMI, as well as display the fault code and fault description on the LCD. The nature of the fault and time of occurrence are logged in the control. The service manual and InPower service tool provide service keys and procedures based on the service codes provided.

Protective functions include:

Battle short mode

When enabled and the *battle short* switch is active, the control will allow some shutdown faults to be bypassed. If a bypassed shutdown fault occurs, the fault code and description will still be annunciated, but the genset will not shutdown. This will be followed by a *fail to shutdown* fault. Emergency stop shutdowns and others that are critical for proper operation are not bypassed. Please refer to the control application guide or manual for list of these faults.

Derate

The derate function reduces output power of the genset in response to a fault condition. If a derate command occurs while operating on an isolated bus, the control will issue commands to reduce the load on the genset via contact closures or modbus.

Configurable alarm and status inputs

The control accepts up to four alarm or status inputs (configurable contact closed to ground or open) to indicate a configurable (customer-specified) condition.

The control is programmable for warning, shutdown or status indication and for labeling the input.

Emergency stop

Annunciated whenever either emergency stop signal is received from external switch.

Full authority electronic engine protection

Engine fault detection is handled inside the engine ECM. Fault information is communicated via the SAE-J1939 data link for annunciation in the HMI.

General engine protection

Low and high battery voltage warning - Indicates status of battery charging system (failure) by continuously monitoring battery voltage.

Weak battery warning - The control system will test the battery each time the generator set is signaled to start and indicate a warning if the battery indicates impending failure.

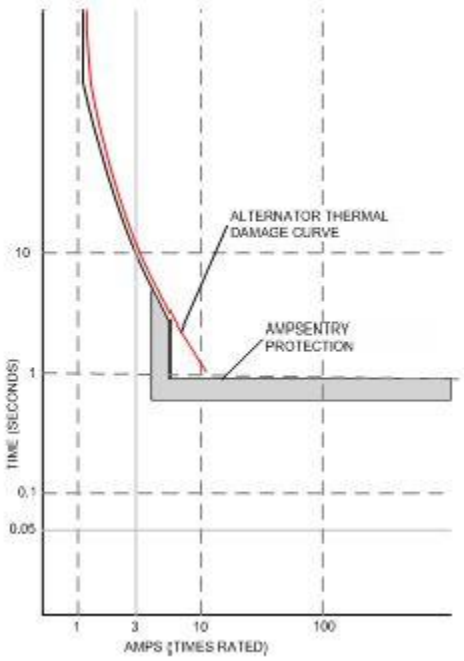
Fail to start (overcrank) shutdown - The control system will indicate a fault if the generator set fails to start by the completion of the engine crack sequence.

Fail to crank shutdown - Control has signaled starter to crank engine but engine does not rotate.

Cranking lockout - The control will not allow the starter to attempt to engage or to crank the engine when the engine is rotating.

Alternator protection

AmpSentry protective relay - A comprehensive monitoring and control system integral to the PowerCommand Control System that guards the electrical integrity of the alternator and power system by providing protection against a wide array of fault conditions in the generator set or in the load. It also provides single and three phase fault current regulation so that downstream protective devices have the maximum current available to quickly clear fault conditions without subjecting the alternator to potentially catastrophic failure conditions. See document R1053 for a full size time over current curve.



High AC voltage shutdown (59) - Output voltage on any phase exceeds preset values. Time to trip is inversely proportional to amount above threshold. Values adjustable from 105-125% of nominal voltage, with time delay adjustable from 0.1-10 seconds. Default value is 110% for 10 seconds.

Low AC voltage shutdown (27) - Voltage on any phase has dropped below a preset value. Adjustable over a range of 50-95% of reference voltage, time delay 2-20 seconds. Default value is 85% for 10 seconds. Function tracks reference voltage. Control does not nuisance trip when voltage varies due to the control directing voltage to drop, such as during a V/Hz roll-off during synchronizing.

Under frequency shutdown (81 u) - Generator set output frequency cannot be maintained. Settings are adjustable from 2-10 Hz below reference governor set point, for a 5- 20 second time delay. Default: 6 Hz, 10 seconds.

Under frequency protection is disabled when excitation is switched off, such as when engine is operating in idle speed mode.

Over frequency shutdown/warning (81 o) - Generator set is operating at a potentially damaging frequency level. Settings are adjustable from 2-10 Hz above nominal governor set point for a 1-20 second time delay. Default: 6 Hz, 20 seconds, disabled.

Overcurrent warning/shutdown - Thresholds and time delays are configurable. Implementation of the thermal damage curve with instantaneous trip level calculated based on current transformer ratio and application power rating.

Loss of sensing voltage shutdown - Shutdown of generator set will occur on loss of voltage sensing inputs to the control.

Field overload shutdown - Monitors field voltage to shutdown generator set when a field overload condition occurs.

Over load (kW) warning - Provides a warning indication when engine is operating at a load level over a set point.

Adjustment range: 80-140% of application rated kW, 0-120 second delay. Defaults: 105%, 60 seconds.

Reverse power shutdown (32) - Adjustment range: 5-20% of standby kW rating, delay 1-15 seconds. Default: 10%, 3 seconds.

Reverse Var shutdown - Shutdown level is adjustable: 15-50% of rated Var output, delay 10-60 seconds. Default: 20%, 10 seconds.

Short circuit protection - Output current on any phase is more than 175% of rating and approaching the thermal damage point of the alternator. Control includes algorithms to protect alternator from repeated over current conditions over a short period of time.

Field control interface

Input signals to the PowerCommand control include:

- Coolant level (where applicable)
- Fuel level (where applicable)
- Remote emergency stop
- Remote fault reset
- Remote start
- Battleshort
- Rupture basin
- Start type signal
- Configurable inputs - Control includes (4) input signals from customer discrete devices that are configurable for warning, shutdown or status indication, as well as message displayed

Output signals from the PowerCommand control include:

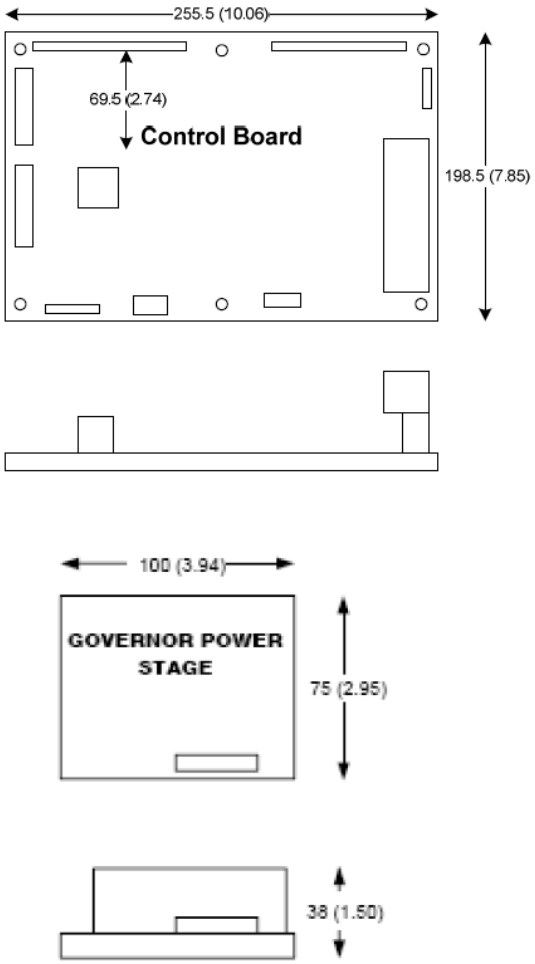
- Load dump signal: Operates when the generator set is in an overload condition.
- Delayed off signal: Time delay based output which will continue to remain active after the control has removed the run command. Adjustment range: 0 – 120 seconds. Default: 0 seconds.
- Configurable relay outputs: Control includes (4) relay output contacts (3 A, 30 VDC). These outputs can be configured to activate on any control warning or shutdown fault as well as ready to load, not in auto, common alarm, common warning and common shutdown.
- Ready to load (generator set running) signal: Operates when the generator set has reached 90% of rated speed and voltage and latches until generator set is switched to off or idle mode.

Communications connections include:

- PC tool interface: This RS-485 communication port allows the control to communicate with a personal computer running InPower software.
- Modbus RS-485 port: Allows the control to communicate with external devices such as PLCs using Modbus protocol.

  Note - An RS-232 or USB to RS-485 converter is required for communication between PC and control.
- Networking: This RS-485 communication port allows connection from the control to the other Cummins products.

Mechanical drawings



PowerCommand Human Machine Interface HMI320

Description

This control system includes an intuitive operator interface panel that allows for complete genset control as well as system metering, fault annunciation, configuration and diagnostics. The interface includes five genset status LED lamps with both internationally accepted symbols and English text to comply with customer's needs. The interface also includes an LED backlit LCD display with tactile feel soft-switches for easy operation and screen navigation. It is configurable for units of measurement and has adjustable screen contrast and brightness.

The *run/off/auto* switch function is integrated into the interface panel.

All data on the control can be viewed by scrolling through screens with the navigation keys. The control displays the current active fault and a time-ordered history of the five previous faults.

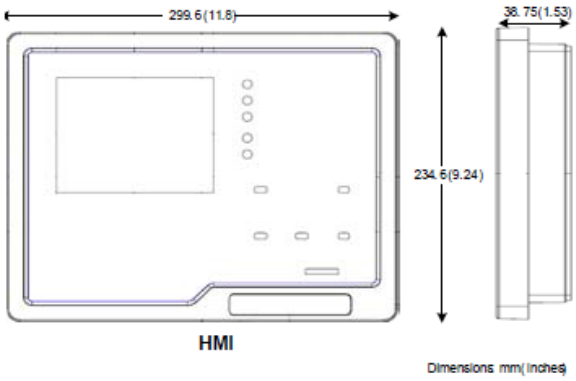
Features

- LED indicating lamps:
  - Genset running
  - Remote start
  - Not in auto
  - Shutdown
  - Warning
  - Auto
  - Manual and stop
- 320 x 240 pixels graphic LED backlight LCD.
- Four tactile feel membrane switches for LCD defined operation. The functions of these switches are defined dynamically on the LCD.
- Seven tactile feel membrane switches dedicated screen navigation buttons for up, down, left, right, ok, home and cancel.
- Six tactile feel membrane switches dedicated to control for auto, stop, manual, manual start, fault reset and lamp test/panel lamps.
- Two tactile feel membrane switches dedicated to control of circuit breaker (where applicable).
- Allows for complete genset control setup.
- Certifications: Suitable for use on generator sets that are designed, manufactured, tested and certified to relevant UL, NFPA, ISO, IEC, Mil Std., CE and CSA standards.
- LCD languages supported: English, Spanish, French, German, Italian, Greek, Dutch, Portuguese, Finnish, Norwegian, Danish, Russian and Chinese Characters.

Communications connections include:

- PC tool interface - This RS-485 communication port allows the HMI to communicate with a personal computer running InPower.
- This RS-485 communication port allows the HMI to communicate with the main control board.

Mechanical drawing



Software

InPower (beyond 6.5 version) is a PC-based software service tool that is designed to directly communicate to PowerCommand generator sets and transfer switches, to facilitate service and monitoring of these products.

Environment

The control is designed for proper operation without recalibration in ambient temperatures from -40 ºC to +70º C (-40 ºF to 158 ºF) and for storage from -55 ºC to +80 ºC (-67 ºF to 176 ºF). Control will operate with humidity up to 95%, non-condensing.

The HMI is designed for proper operation in ambient temperatures from -20 ºC to +70 ºC (-4 ºF to 158 ºF) and for storage from -30 ºC to +80 ºC (-22 ºF to 176 ºF).

The control board is fully encapsulated to provide superior resistance to dust and moisture. Display panel has a single membrane surface, which is impervious to effects of dust, moisture, oil and exhaust fumes. This panel uses a sealed membrane to provide long reliable service life in harsh environments.

The control system is specifically designed and tested for resistance to RFI/EMI and to resist effects of vibration to provide a long reliable life when mounted on a generator set. The control includes transient voltage surge suppression to provide compliance to referenced standards.

Certifications

PowerCommand meets or exceeds the requirements of the following codes and standards:

- NFPA 110 for level 1 and 2 systems.
- ISO 8528-4: 1993 compliance, controls and switchgear.
- CE marking: The control system is suitable for use on generator sets to be CE-marked.
- EN50081-1,2 residential/light industrial emissions or industrial emissions.
- EN50082-1,2 residential/light industrial or industrial susceptibility.
- ISO 7637-2, level 2; DC supply surge voltage test.
- Mil Std 202C, Method 101 and ASTM B117: Salt fog test.
- UL 508 recognized or Listed and suitable for use on UL 2200 Listed generator sets.
- CSA C282-M1999 compliance
- CSA 22.2 No. 14 M91 industrial controls.
- PowerCommand control systems and generator sets are designed and manufactured in ISO 9001 certified facilities.

Warranty

All components and subsystems are covered by an express limited one year warranty. Other optional and extended factory warranties and local distributor maintenance agreements are available.

PCCNet COMPATIBLE

Sound Pressure Level @ 7 meters, dB(A)

See notes 2,5,7-11 listed below

Configuration	Exhaust system	Position (Note 1)								8 Position Average
		1	2	3	4	5	6	7	8	
Standard – Unhoused	Infinite Exhaust	81.2	80.8	81.2	80.8	81.2	80.8	81.2	80.8	81.2
F216-2 Weather Protective Aluminium	Mounted	78.6	79.9	78.6	81.8	80.5	80.9	79.7	79.4	80.1
F231-2 Sound Attenuated Level 1, Aluminium	Mounted	78.4	75.2	70.7	72.8	72.5	72.9	72	74.9	74.3
F217-2 Sound Attenuated Level 2, Aluminium	Mounted	71.3	71	68.4	70.3	70.2	70.6	70.3	71.1	70.5

Sound Power Level, dB(A)

See notes 2-4, 7 and 8 listed below

Configuration		Octave Band Center Frequency (Hz)										Overall Sound Power Level
		31.5	63	125	250	500	1000	2000	4000	8000	16000	
Standard – Unhoused	Infinite Exhaust	53.8	79.2	87.9	92.3	100.4	102.0	101.1	97.2	93.1	88.0	107.0
F216-2 Weather Protective Aluminium	Mounted	55.2	86.0	94.5	96.0	100.5	101.9	100.1	96.9	92.1	82.6	107.0
F231-2 Sound Attenuated Level 1, Aluminium	Mounted	59.6	84.6	88.0	90.1	95.6	96.7	94.9	91.9	87.5	79.6	101.9
F217-2 Sound Attenuated Level 2, Aluminium	Mounted	57.1	84.8	87.7	88.4	92.6	91.7	89.6	87.1	82.9	72.4	98.2

Exhaust Sound Power Level, dB(A)

See notes 4,6 and 9 listed below

Open Exhaust (No Muffler) @ Rated Load	Octave Band Center Frequency (Hz)									Overall Sound Power Level
	31.5	63	125	250	500	1000	2000	4000	8000	
	56	82	96	102	108	111	112	111	109	118

Note:

1. Sound pressure levels at 1 meter are measured per the requirements of ISO 3744, ISO 8528-10, ANSI S1.13, ANSI S12.1 and European Communities Directive 2000/14/EC as applicable. The microphone measurement locations are 1 meter from a reference parallelepiped just enclosing the generator set (enclosed or unenclosed).
2. Seven-meter measurement location 1 is 7 meters (23 feet) from the generator (alternator) end of the generator set, and the locations proceed counter clockwise around the generator set at 45° angles at a height of 1.2 meters (48 inches) above the ground surface.
3. Sound Power Levels are calculated according to ISO 3744, ISO 8528-10, and or CE (European Union) requirements.
4. Exhaust Sound Levels are measured and calculated per ISO 6798, Annex A.
5. Reference Sound Pressure Level is 20 µPa.
6. Reference Sound Power Level is 1 pW (10-12 Watt).
7. Sound data for remote-cooled generator sets are based on rated loads without cooling fan noise.
8. Sound data for the generator set with infinite exhaust do not include the exhaust noise contribution.
9. Sound levels are subject to instrumentation, measurement, installation, and manufacturing variability

10. Unhoused/Open configuration generator sets refers to generator sets with no sound enclosures of any kind
11. Housed/Enclosed/Closed/Canopy configuration generator sets refer to generator sets that have noise reduction sound enclosuresinstalled over the generator set and usually integrally attached to the skid base/base frame/fuel container base of the generator set.

Prototype Test Support (PTS)
60 Hz test summary

Generator set models

C50D6C
C60D6C
C80D6C
C100D6C

Representative prototype

Model: C100D6C
Alternator: UC27 D
Engine: QSB5-G5

The following summarizes prototype testing conducted on the designated representative prototype of the specified models. This testing is conducted to verify the complete generator set electrical and mechanical design integrity. Prototype testing is conducted only on generator sets not sold as new equipment.

Maximum surge power: 117.5 kW

The generator set was evaluated to determine the stated maximum surge power.

Maximum motor starting: 146.3 kVA

The generator set was tested to simulate motor starting by applying the specified kVA load at low lagging power factor (0.4 or lower). With this load applied, the generator set recovered to a minimum of 90% rated voltage.

Alternator temperature rise:

The highest rated temperature rise (120 °C) test results are reported as follows to verify that worst case temperature rises do not exceed allowable NEMA MG1 limits for class H insulation. Tests were conducted per IEEE 115, rise by resistance and embedded detector, with the rated voltages. Only the highest temperatures are reported.

Location	Maximum rise (ºC)
Alternator stator	N/A
Alternator rotor	N/A
Exciter stator	N/A
Exciter rotor	N/A

Torsional analysis and testing:

The generator set was tested to verify that the design is not subjected to harmful torsional stresses. A spectrum analysis of the transducer output was conducted.

Cooling system: 50 °C ambient
0.5 in. H_2O restriction

The cooling system was tested to determine ambient temperature and static restriction capabilities. The test was performed at full rated load in elevated ambient temperature under static restriction conditions.

Durability:

The C100D6C generator set was subjected to a minimum 500 hour endurance test operating at variable load up to the Standby rating based upon MIL-STD-705 to verify structural soundness and durability of the design.

Electrical and mechanical strength:

The generator set was tested to several single phase and three phase faults to verify that the generator can safely withstand the forces associated with short circuit conditions. The generator set was capable of producing full rated output at the conclusion of the testing.

Steady state performance:

The generator set was tested to verify if the steady state operating performance was within the specified maximum limits.

Voltage regulation:	± 1%
Random voltage variation:	± 1%
Frequency regulation:	± Isochronous
Random frequency variation:	± 0.5%

Transient performance:

The generator set was tested to verify single step loading capability as required by NFPA 110 and verify acceptable voltage and frequency response on load addition or rejection. The following results were recorded at 1.0 power factor:

Full load acceptance:

Voltage dip:	28%
Recovery time:	1.3 seconds
Frequency dip:	9.1%
Recovery time:	2.6 seconds

Full load rejection:

Voltage rise:	20.2%
Recovery time:	0.6 seconds
Frequency rise:	7.0%
Recovery time:	1.7 seconds

Harmonic analysis:

(per MIL-STD-705B, method 601.4)

	Line to Line		Line to Neutral	
Harmonic	No load	Full load	No load	Full load
3	0.04	0.15	0.15	0.15
5	0.2	0.2	0.2	0.2
7	0.6	0.6	0.6	0.6
9	0.02	0.04	0.04	0.04
11	0.52	0.52	0.52	0.52
13	0.26	0.26	0.26	0.26
15	0.0	0.0	0.0	0.0

High ambient air temperature radiator cooling system

	Fuel type	Duty	Rating (kW)	Max cooling @ air flow static restriction, unhoused (inches water/mm water)					Housed in free air, no air discharge restriction		
				0.0/0.0	0.25/6.4	0.5/12.7	0.75/19.1	1.0/25.4	F231	F217	F216
				Maximum allowable ambient temperature, degree C							
60 Hz	Diesel	Standby	60	50	50	50	50	N/A	50	50	50
		Prime	54	50	50	50	50	N/A	50	50	50

Notes:

1. Data shown are anticipated cooling performance for typical generator set.
2. Cooling data is based on 1000 ft (305 m) site test location.
3. Generator set power output may need to be reduced at high ambient conditions. Refer generator set data sheet for derate schedules.
4. Cooling performance may be reduced due to several factors including but not limited to: Incorrect installation, improper operation, fouling of the cooling system, and other site installation variables.

2018 EPA Tier 3 Exhaust Emission Compliance Statement C60D6C Stationary Emergency

60 Hz Diesel Generator Set

Compliance Information:

The engine used in this generator set complies with Tier 3 emissions limit of U.S. EPA New Source Performance Standards for stationary emergency engines under the provisions of 40 CFR 60 Subpart IIII.

Engine Manufacturer:	Cummins Inc.
EPA Certificate Number:	JCEXL0275AAK-030
Effective Date:	11/01/2017
Date Issued:	11/01/2017
EPA Engine Family (Cummins Emissions Family):	JCEXL0275AAK

Engine Information:

Model:	QSB5-G13	Bore:	4.21 in. (106.9 mm)
Engine Nameplate HP:	173	Stroke:	4.88 in. (123.9 mm)
Type:	4 cycle, in-line, 4 cylinder	Displacement:	272 cu. in. (4.45 liters)
Diesel Aspiration:	Turbocharged	Compression Ratio:	17.3:1
Emission Control Device:		Exhaust Stack Diameter:	4 in. (102 mm)

Diesel Fuel Emission Limits

D2 Cycle Exhaust Emissions

	Grams per BHP-hr			Grams per kWm-hr		
	NO_x + NMHC	CO	PM	NO_x + NMHC	CO	PM
Test Results – Diesel Fuel (300-4000 ppm Sulphur)	2.79	0.66	0.10	3.80	0.90	0.15
EPA Emissions Limit	2.98	2.61	0.15	4.00	3.50	0.20

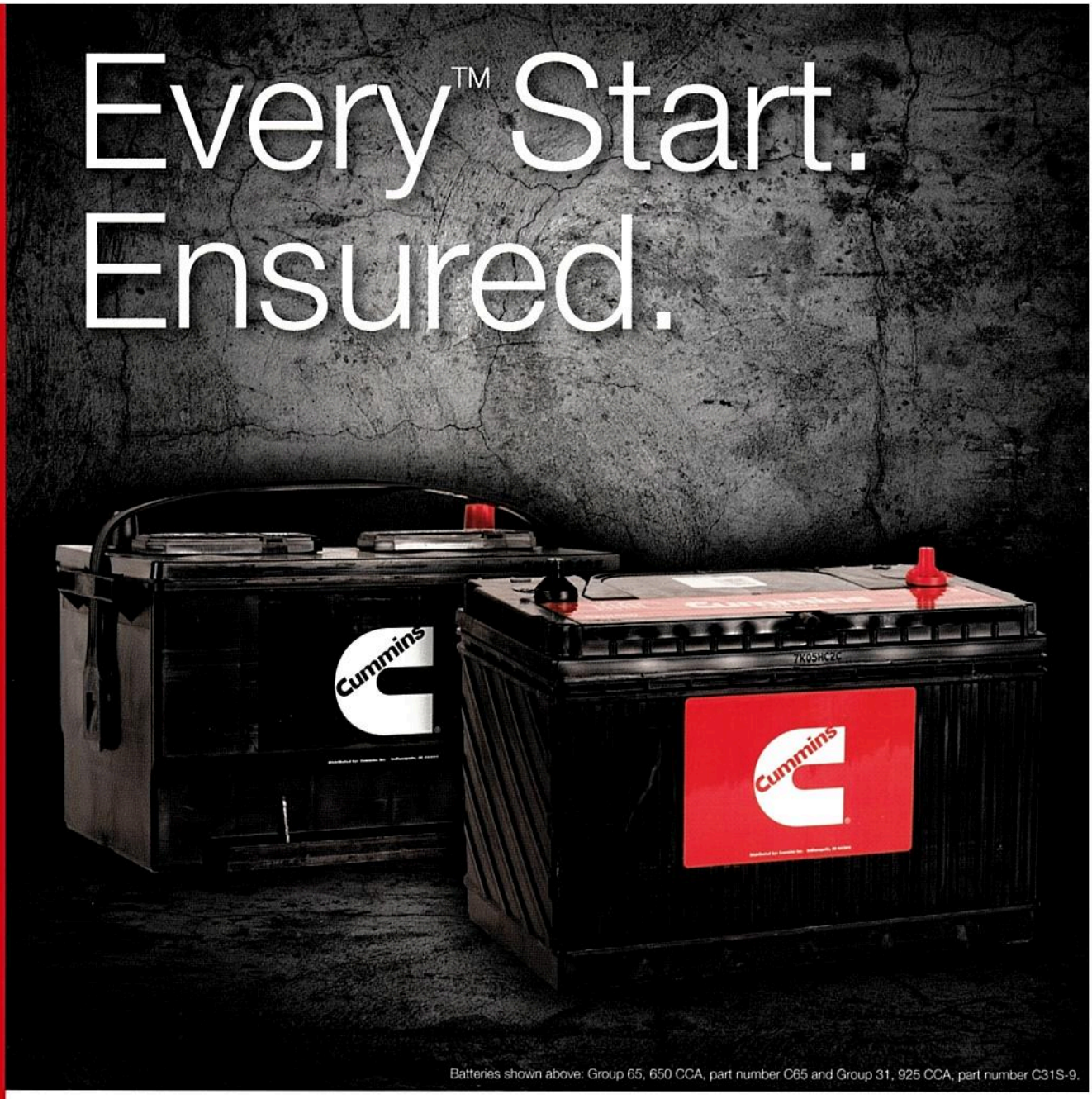
Test methods: EPA nonroad emissions recorded per 40 CFR 89 (ref. ISO8178-1) and weighted at load points prescribed in Subpart E, Appendix A for constant speed engines (ref. ISO8178-4, D2)

Diesel fuel specifications: 40-48 Cetane number, Reference: ASTM D975 No. 2-D, <15 ppm Sulphur

Reference conditions: Air Inlet Temperature: 25 °C (77 °F), Fuel Inlet Temperature: 40 °C (104 °F). Barometric Pressure: 100 kPa (29.53 in Hg), Humidity: 10.7 g/kg (75 grains H2O/lb) of dry air; required for NOx correction, Restrictions: Intake Restriction set to a maximum allowable limit for clean filter; Exhaust Back Pressure set to a maximum allowable limit.

Tests conducted using alternate test methods, instrumentation, fuel or reference conditions can yield different results.Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.

Every™ Start. Ensured.



Batteries shown above: Group 65, 650 CCA, part number C65 and Group 31, 925 CCA, part number C31S-9.

Cummins lead acid batteries are designed for many applications giving you coverage in automotive, power generation, marine and recreational.

- Access to the largest and most capable parts and service network in North America with Cummins
- Extended free replacement warranty
- Offers performance and reliability

Ask us about our start up power batteries.

Every™ Start. Ensured.

Cummins start up batteries are designed to provide the cranking power needed to get you going and keep you going.

Technical Specifications of Cummins Popular Battery Lineup

CUMMINS PREMIUM 31 SERIES							
Cummins Part #	CCA	RC	Voltage	Length	Width	Height	Warranty (Free Replacement)
CHCL31A	700	190	12	13	6 13/16	9 7/16	18
CHCL31S	700	190	12	13	6 13/16	9 7/16	18
C31AHD	750	180	12	13	6 13/16	9 7/16	18
C31SHD	750	180	12	13	6 13/16	9 7/16	18
C31AXHD	950	195	12	13	6 13/16	9 7/16	18
C31SXHD	950	195	12	13	6 13/16	9 7/16	18

CUMMINS 31 VALUE LINE							
Cummins Part #	CCA	RC	Voltage	Length	Width	Height	Warranty (Free Replacement)
C31S-7	750	165	12	13	6 13/16	9 7/16	18
C31S-9	925	175	12	13	6 13/16	9 7/16	18

CUMMINS 31 AGM (Absorbed Glass Mat) SERIES							
Cummins Part #	CCA	RC	Voltage	Length	Width	Height	Warranty (Free Replacement)
CAGM31SHD	925	190	12	13	6 13/16	9 7/16	18
CAGM31S	800	180	12	13	6 13/16	9 7/16	18

CUMMINS HEAVY DUTY COMMERCIAL							
Cummins Part #	CCA	RC	Voltage	Length	Width	Height	Warranty (Free Replacement)
C4D	1000	290	12	20 3/4	8 3/4	9 13/16	18
C8DXH	1400	450	12	20 3/4	11 1/8	9 13/16	18
C8D	1155	380	12	20 3/4	11 1/8	9 13/16	18

CUMMINS LTV (Light Truck & Van)							
Cummins Part #	CCA	RC	Voltage	Length	Width	Height	Warranty (Free Replacement)
C24-HC	700	120	12	10 1/4	6 13/16	8 7/8	36
C24F-HC	700	120	12	10 3/4	6 13/16	9	36
C27-HC	750	120	12	12 1/16	6 13/16	8 7/8	36
C27F-HC	710	120	12	12 1/2	6 13/16	8 7/8	36
C34-HC	800	110	12	10 1/4	6 13/16	7 7/8	36
C65-HC	850	150	12	12 1/16	7 9/16	7 9/16	36

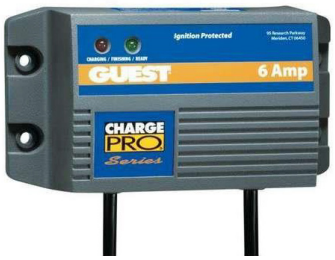
CUMMINS GOLF/RV							
Cummins Part #	AH	RC	Voltage	Length	Width	Height	Warranty (Free Replacement)
CGC2000P	200	395	6	10 3/8	7 3/16	10 7/8	18
CGC2200P	220	445	6	10 3/8	7 3/16	10 7/8	18

Specification sheet

Power Generation

Battery charger-6 amp

A045D925 60Hz/50Hz



Description

Cummins Power Generation fully automatic battery chargers are designed to both recharge your batteries, and extend your battery's life in applications where it is stored for long periods of time. This charger can handle poor power quality, exposure to extreme weather and rough handling.

To maximize battery life, a 3-stage charging cycle is implemented. The three charging stages are bulk stage, absorption stage and maintenance stage. During the bulk stage, the charger uses its full amp output to do the heaviest charging, quickly bringing your battery to about 75% of capacity. In the absorption stage, the current slows, adjusting for maximum charging efficiency while it gently tops off the battery to about 98% of capacity.

During the maintenance stage, a lower, closely-regulated, constant voltage is applied to maintain full charge and prevent discharge.

Unlike some "trickle chargers," the float charger won't apply more current than necessary to maintain full charge. Batteries can be connected indefinitely, without harm; in fact, the float charge extends battery life.

Features

Protection – Surge protected to IEEE and EN standards. All models include single pole cartridge type fuses mounted on the printed circuit board to protect against input or output overcurrent.

Lightweight and silent – Lighter than transformer types, completely silent but still provides full output when overloaded outlets drop AC voltage below the normal 115V.

Monitoring – Status LED indicators are provided to show the condition or charging status of the battery. When the red LED is on, it indicates that the battery is discharged and is recharging at the 'BULK' rate. When both the red and green LEDs are on, the battery is charging at the 'midrange' rate. When the green LED is on, the battery is 90% charged and ready for use.

Construction – Made using epoxy-potted cases making it the ultimate in durability, completely waterproof and able to withstand numerous caustic chemicals and gases, as well as being shockproof.

Fault Indication – The charger senses and indicates the following fault conditions: Defective or damaged cells, under-voltage at the battery, battery drawing more current than charger can replace, loss of power or extremely low AC voltage at the charger, other battery fault conditions and charger failure.

Compatibility – Works with Sealed Lead Acid (SLA), Absorbed Glass Mat (AGM) and Gel type batteries.

Low Electromagnetic and Radio Frequency Interference – This product meets FCC class B for conducted and radiated emissions.

Listed – This product is UL listed according to the UL 1236 Standard.

Warranty – This product has a two year warranty

Specifications

Performance and physical characteristics

Output:	Nominal voltage	12 VDC
	Float voltage – 12 V batteries	13.0-13.6 VDC at 0-2 amps
	Maximum output current	6 A @ 12 VDC nom
Input:	Voltage AC	115, 208, 240 ±10%, 90-135
	Frequency	60 Hz ±5%
Battery:	Maximum battery size	150 Amp Hours
	Maximum recharge time	20 hours
Approximate net weight:		4 lbs. (1.81 Kg)
Approximate dimensions: height x width x depth-in(mm)		2.25 x 6.4 x 3.5 (57 x 162 x 89)
Ambient temperature operation: At full rated output		- 40°F to 158 °F (-40 °C to 70 °C)

Americas
1400 73rd Avenue N.E.
Minneapolis, MN 55432 USA
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Fax: 763 574 5298

Europe, CIS, Middle East and Africa
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Manston Ramsgate
Kent CT 12 5BF United Kingdom
Phone 44 1843 255000
Fax 44 1843 255902

Asia Pacific
10 Toh Guan Road #07-01
TT International Tradepark
Singapore 608838
Phone 65 6417 2388
Fax 65 6417 2399

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect generator sets to any building electrical system except through an approved device or after building main switch is open.

Warning: For professional use only. Must be installed by a qualified service technician. Improper installation presents hazards of electrical shock and improper operation, resulting in severe personal injury and/or property damage.

THE VMC GROUP
The Power of Together™

CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Certification No.

VMA-51071-01C (REVISION 04)

Expiration Date: 06/30/2021

Certification Parameters:

The nonstructural products (mechanical and/or electrical components) listed on this certificate are CERTIFIED[1] FOR SEISMIC APPLICATIONS in accordance with the following building code[2] releases.

IBC 2012, 2015, 2018

The following model designations, options, and accessories are included in this certification. Reference report number **VMA-51071-01** as issued by The VMC Group for a complete list of certified models, included accessories/options, and certified installation methods.

Cummins Power Generation, Incorporated; Diesel Gensets
Commercial Series; 10 kW – 125 kW

The above referenced equipment is **APPROVED** for seismic application when properly installed[3], used as intended, and contains a Seismic Certification Label referencing this Certificate of Compliance[4]. As limited by the tabulated values, below grade, grade, and roof-level installations, installations in essential facilities, for life safety applications, and/or of equipment containing hazardous contents are permitted and included in this certification with an Equipment Importance Factor assigned as I_P=1.5. The equipment is qualified by successful seismic shake table testing at the nationally recognized Dynamic Certification Laboratories under the review of the ISO Accredited Product Certification Agency, The VMC Group.

Certified Seismic Design Levels[8]			
Certified **IBC**	**Importance $I_P \le 1.5$** Soil Classes A-E Risk Categories I-IV Design Categories A-F	**$S_{DS} \le 2.500$ g**	**$S_{DS} \le 2.000$ g**
		z/h = 0.0	**z/h ≤ 1.0**
		Horizontal Design[10] $\frac{F_p}{W_p} = 0.4 S_{DS} I_p \frac{a_p}{R_p}\left(1 + 2\frac{z}{h}\right) \le$ **2.400 g**	
Test Datum **AC156**	ISO 17025 Laboratory Pre/Post-Shake Functionality Tri-axial, 5% Damping SRS	**$A_{FLEX\text{-}H} \le 3.200$ g**	**$A_{FLEX\text{-}V} \le 1.667$ g**
		$A_{RIG\text{-}H} \le 2.400$ g	**$A_{RIG\text{-}V} \le 0.667$ g**
		$ZPA_H \le 2.160$ g	**$ZPA_V \le 0.600$ g**

Certified Seismic Installation Methods
Rigid mounting from unit base to rigid structure

THE VMC GROUP
The Power of Together™

CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Certified Product Table:

Model	Power Rating	RPM	Maximum Dimensions (in.)			Max Weight with Enclosure (lbs.)	Certified Fuel Tank Capacities (gal.)	SDS (g)	
			Length	Width	Height			z/h = 0.0	z/h = 1.0
C10 D6	10 kW	1800	98	34	88	4,300	46, 74, 91, 132, 195, 263	2.500	2.000
C15 D6	15 kW					4,400			
C20 D6	20 kW					4,470			
C25 D6	25 kW		131			5,890	74, 132, 195, 263, 389		
C30 D6	30 kW					5,930			
C35 D6	35 kW					5,960			
C40 D6	40 kW					6,140			
C50 D6	50 kW					6,260			
C60 D6	60 kW					6,260			
C50 D6C	50 kW		170	40	104	8,943	250, 425, 625		2.500
C60 D6C	60 kW					8,990			
C80 D6C	80 kW					9,040			
C100 D6C	100 kW					9,216			
C125 D6C	125 kW					9,300			

This certification **includes** the open generator set and the enclosed generator set when installed with or without the sub-base tank. This certification also includes the sub-base tank as a stand-alone accessory. The generator set and included options shall be a catalogue design and factory supplied. The generator set and applicable options shall be installed and attached to the building structure per the manufacturer supplied seismic installation instructions. This certification **excludes** all non-factory supplied accessories, including but not limited to mufflers, isolation/restraint devices, remote control panels, remote radiators, pumps and other electrical/mechanical components.

IBC CERTIFIED THE VMC GROUP

VMA-51071-01C (Revision 04)
Issue Date: July 3, 2015
Revision Date: June 6, 2018
Expiration Date: June 30, 2021

THE VMC GROUP
The Power of Together™

CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Notes and Comments:

1. All equipment listed herein successfully passed the seismic acceptance criteria for shake testing non-structural components and systems as set forth in the ICC AC-156. The Test Response Spectrum (TRS) enveloped the Required Response Spectrum (RRS) for all units tested. The units cited in this certification were representative sample(s) of a contingent of models and all remained captive and structurally sound after the seismic shake simulation. The units also remained functionally operational after the simulation testing as functional testing was completed by the equipment manufacturer before and after the seismic simulations. Although a seismic qualified unit inherently contains some wind resisting capacity, that capacity is undetermined and is excluded from this certification. Snow/Ice loads have been neglected and thus limit the unit to be installed both indoors (covered by an independent protective structure) and out of doors (exposed to accumulating snow/ice) for ground snow loads no greater than 30 psf for all applications.

2. The following building codes are addressed under this certification:
   IBC 2012 – referencing ASCE7-10 and ICC AC-156
   IBC 2015 – referencing ASCE7-10 and ICC AC-156
   IBC 2018 – referencing ASCE7-16 and ICC AC-156

3. Refer to the manufacturer supplied installation drawings for anchor requirements and mounting considerations for seismic applications. Required anchor locations, size, style, and load capacities (tension and shear) may be specified on the installation drawings or specified by a 3rd party. Mounting requirement details such as anchor brand, type, embedment depth, edge spacing, anchor-to-anchor spacing, concrete strength, special inspection, wall design, and attachment to non-building structures must be outlined and approved by the Engineer of Record for the project or building. Structural walls, structural floors, and housekeeping pads must also be seismically designed and approved by the project or building Structural Engineer of Record to withstand the seismic anchor loads as defined on the installation drawings. The installing contractor is responsible for observing the installation detailed in the seismic installation drawings and the proper installation of all anchors and mounting hardware.

4. For this certificate and certification to remain valid, this certificate must correspond to the "Seismic Certification Label" found affixed to the unit by the factory. The label ensures the manufacturer built the unit in conformance to the IBC seismic design criteria set forth by the Certified Seismic Qualification Agency, The VMC Group, and meets the seismic design levels claimed by this certificate.

5. Mechanical, Electrical, and Plumbing connections to the equipment must be flexibly attached as to not transfer load through the connection. The structural integrity of any conduit, cable trays, piping, ductwork and/or flexible connections is the responsibility of others. This certification does not guarantee the equipment will remain compliant to NEMA, IP, UL, or CSA standards after a seismic event.

6. This certificate applies to units manufactured at:
   1400 73rd Ave NE, OF 143, Minneapolis, MN 55432

7. This project follows The VMC Group's ISO-17065 Scheme for Product Certification of Nonstructural Components.

8. The qualified seismic design level stated is the lowest for all series this certificate covers, for more detailed ranges of qualified seismic design levels, see the certified product tables.

John P. Giuliano, PE
President, The VMC Group

VMA-51071-01C (Revision 04)
Issue Date: July 3, 2015
Revision Date: June 6, 2018
Expiration Date: June 30, 2021

IBC CERTIFIED THE VMC GROUP

Specification sheet

Dual wall sub-base diesel fuel tanks -

10-200 kW generator sets

Description

Cummins® offers two series of fuel tanks (basic series and regional series) for the 10~125 kW diesel generator sets. The “basic” series of fuel tanks provide economical solutions for areas with no or minimal local/regional code requirements on diesel fuel tanks. The footprint of “basic” tanks matches the generator set’s footprint. The “regional” series of fuel tanks provide flexible and upgradable solutions for areas with extensive local/regional code requirements on diesel fuel tanks. The footprint of the “regional” series of fuel tanks extends beyond the generator set to allow room for installation of optional features at factory or accessories in the field for meeting local/regional code requirements or customer specification on diesel fuel tanks. All fuel tanks and optional features are compatible with factory installed enclosures.

These tanks are constructed of heavy gauge steel and include an internally reinforced baffle structure for supporting the generator set. The fuel tank design features fewer seams and welds for better corrosion resistance performance.

These tanks are pre-treated with a conversion coating and then finished with a textured powder paint. The paint has superior UV and chemical resistance with best-in-class adhesion, flexibility, and durability to resist chipping and substrate corrosion. Both interior compartments are treated with a rust preventative for extended corrosion protection.

These tanks are UL and ULC Listed as secondary containment generator base tanks. Inner and outer containments are leak checked per UL and ULC testing procedures to ensure their integrity.

These fuel tanks are offered in various sizes to satisfy different fuel capacities requirements.

Compatible generator set model

Engine	D1703M	V2203M	4BT3.3-G5	4BTAA3.3-G7	QSB5-G5	QSB7-G5
Generator set model names	C10D6	C20D6	C25D6	C50D6	C50D6C	C125D6D
	C15D6		C30D6	C60D6	C60D6C	C150D6D
			C35D6		C80D6C	C175D6D
			C40D6		C100D6C	C200D6D
					C125D6C	

Regional fuel tanks

Standard features:

UL 142 and ULC-S601 listed - Minimum 110% secondary IBC 2012 and 2015 certified - All optional features are seismically certified with this range of tanks and generator sets. Requires factory-installed 2 ft vent extensions or higher.

UL 142 & ULC-S601 listed - Minimum 125% secondary containment capacity.

NFPA & IFC - Capable of meeting NFPA 30, NFPA 110, and IFC codes with available factory-installed optional features.

Emergency pressure relief vents - Ensure adequate ventilation of the primary and secondary tank compartments under extreme temperature and emergency conditions.

Normal atmospheric vent - "Mushroom" style vent ensures adequate venting of the primary tank during fill, generator set running, and temperature variations. Raised above fuel fill.

Raised fuel fill - Includes lockable sealed fuel cap.

Lifting eyes - Allow lifting of fuel tank with generator set installed.

Optional features:

Secondary containment basin switch (rupture switch) - Activates a warning in the event of a primary tank leak. Side Mounted.

Low fuel level switch - Activates a warning when 40% of the fuel is left in the tank.

Fuel level gauge - Provides direct reading of fuel level. Top mounted.

Electric fuel level sender with gauge - Allows remote electrical monitoring of fuel tank level. Flying leads for customer connection.

Tank to foundation clearance - 2-inch bolt-thru risers allow visual inspection under tank including rodent barrier.

Spill containment box for fuel fill - 5 gallon capacity with integral drain (to tank). Lockable lid.

Overfill prevention valve - Shuts off fuel flow during filling at approximately 95% full*. Includes fill down tube, as needed, to terminate within 6" of the bottom of the fuel tank. Uses a 2 inch type "F" cam lock adapter for filling.

High fuel switch - Activates at 90% of full fuel level. Flying leads for customer connection.

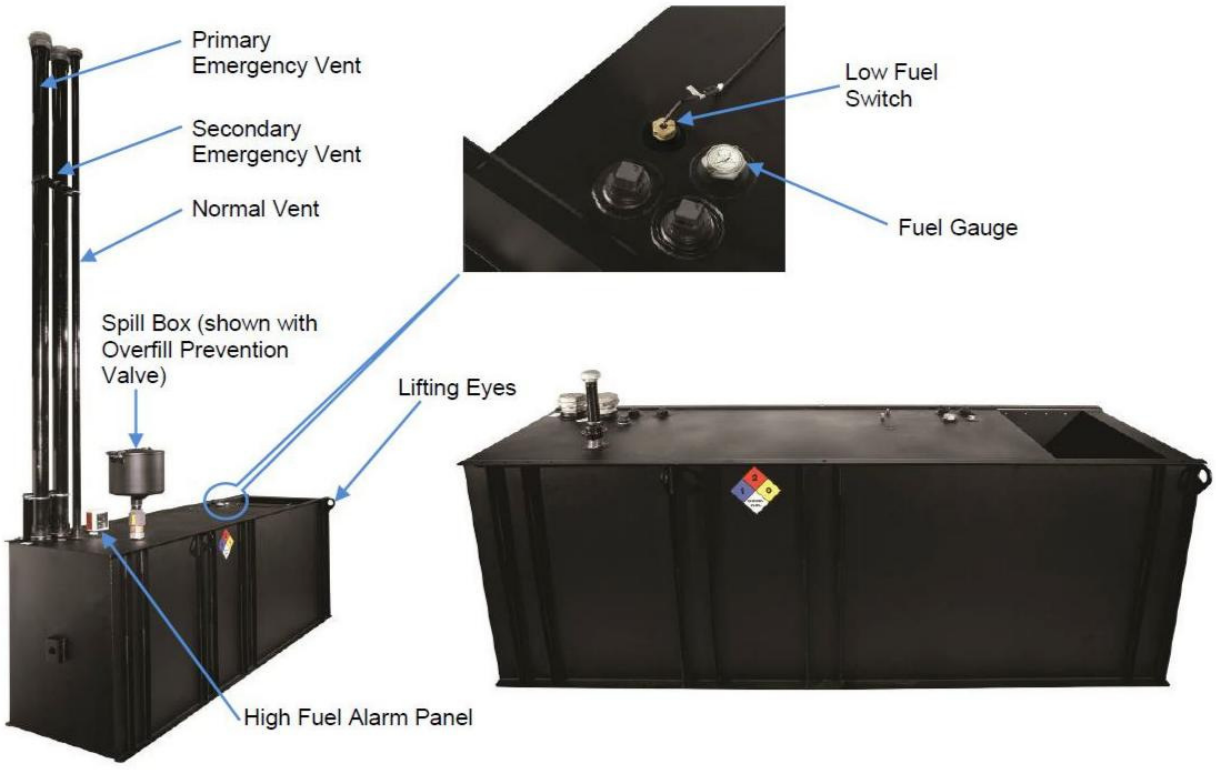
High fuel alarm panel - Provides audible & visual alarm when fuel level reaches 90% of full fuel level.

Fill drop tube - Terminates fuel fill location within 6" of the bottom of the fuel tank.

Vent extensions - Terminate normal and emergency vents (both primary and secondary) a minimum of 12 ft above the bottom of tank.

Seismic vent extensions - 2 ft normal and emergency (both primary & secondary) extensions to meet IBC/OSHPD seismic requirements.

* The OFPV inherently shuts off fuel at approximately 2" below the top of the fuel tank. Some tanks will shut off below this 95% fill level.



*Picture is for reference only. See outline drawing for tank specific information by model.

Regional tanks

Generator set Standby power output	Generator set model	Engine model	Fuel consumption (100% load, Standby)	Tank feature code	Minimum run time feature	Tank dimensions (L x W x H)	Nominal dry weight*	Tank usable volume	Actual run time w/o OFPV	Actual run time w/OFPV
kW			gal/hr		hr	inch	lbs	gal	hr	hr
10	C10 D6	D1703M	1.12	C301-2	24	87.6 x 34 x 15	510	74	66	56
				C303-2	48	87.6 x 34 x 15	510	74	66	56
				C305-2	72	87.6 x 34 x 23	723	132	118	107
				C307-2	96	87.6 x 34 x 23	723	132	118	107
15	C15 D6	D1703M	1.38	C301-2	24	87.6 x 34 x 15	510	74	53	45
				C303-2	48	87.6 x 34 x 15	510	74	53	45
				C305-2	72	87.6 x 34 x 23	723	132	95	86
				C307-2	96	87.6 x 34 x 32	962	195	141	132
20	C20 D6	V2203M	1.81	C301-2	24	87.6 x 34 x 15	510	74	41	35
				C303-2	48	87.6 x 34 x 23	723	132	73	66
				C305-2	72	87.6 x 34 x 32	962	195	108	101
				C307-2	96	87.6 x 34 x 32	962	195	108	101
25	C25 D6	4BT3.3-G5	2.42	C301-2	24	121 x 34 x 10.5	514	74	31	25
				C303-2	48	121 x 34 x 16.2	686	132	54	47
				C305-2	72	121 x 34 x 22.1	879	195	80	73
				C307-2	96	121 x 34 x 29.5	1120	263	109	101
30	C30 D6	4BT3.3-G5	2.81	C301-2	24	121 x 34 x 10.5	514	74	26	21
				C303-2	48	121 x 34 x 22.1	879	195	69	63
				C305-2	72	121 x 34 x 29.5	1120	263	94	87
				C307-2	96	121 x 34 x 42.0	1461	389	138	132
35	C35 D6	4BT3.3-G5	3.16	C301-2	24	121 x 34 x 16.2	686	132	42	36
				C303-2	48	121 x 34 x 22.1	879	195	62	56
				C305-2	72	121 x 34 x 29.5	1120	263	83	77
				C307-2	96	121 x 34 x 42.0	1461	389	123	117
40	C40 D6	4BT3.3-G5	3.66	C301-2	24	121 x 34 x 16.2	686	132	36	31
				C303-2	48	121 x 34 x 22.1	879	195	53	48
				C305-2	72	121 x 34 x 42.0	1461	389	106	101
				C307-2	96	121 x 34 x 42.0	1461	389	106	101
50	C50 D6	4BTAA3.3-G7	4.25	C301-2	24	121 x 34 x 16.2	686	132	31	27
				C303-2	48	121 x 34 x 29.5	1120	263	62	58
				C305-2	72	121 x 34 x 42.0	1461	389	92	87
60	C60 D6	4BTAA3.3-G7	5.04	C301-2	24	121 x 34 x 16.2	686	132	26	23
				C303-2	48	121 x 34 x 29.5	1120	263	52	49
				C305-2	72	121 x 34 x 42.0	1461	389	77	73
50	C50D6C	QSB5-G5	5.30	C301-2	24	154 x 40 x 22	1388	250	47	45
				C303-2	48	154 x 40 x 32	1657	425	80	76
				C305-2	72	154 x 40 x 32	1657	425	80	76
				C307-2	96	154 x 40 x 46	2096	625	118	112
60	C60D6C	QSB5-G5	6.10	C301-2	24	154 x 40 x 22	1388	250	41	39
				C303-2	48	154 x 40 x 32	1657	425	70	66
				C305-2	72	154 x 40 x 46	2096	625	102	97
				C307-2	96	154 x 40 x 46	2096	625	102	97
80	C80D6C	QSB5-G5	7.30	C301-2	24	154 x 40 x 22	1388	250	34	33
				C303-2	48	154 x 40 x 32	1657	425	58	55
				C305-2	72	154 x 40 x 46	2096	625	85	81
100	C100D6C	QSB5-G5	8.90	C301-2	24	154 x 40 x 22	1388	250	28	27
				C303-2	48	154 x 40 x 32	1657	425	48	45
				C305-2	72	154 x 40 x 46	2096	625	70	66
125	C125D6C	QSB5-G6	10.30	C301-2	24	154 x 40 x 22	1388	250	24	23
				C303-2	48	154 x 40 x 46	2096	625	60	58

* All weights are approximate.

Regional tanks

Generator set Standby power output	Generator set model	Engine model	Fuel consumption (100% load, Standby)	Tank feature code	Minimum run time feature	Tank dimensions (L x W x H)	Nominal dry weight*	Tank usable volume	Actual run time w/o OFPV	Actual run time w/OFPV
kW			gal/hr		hr	inch	lbs	gal	hr	hr
125	C125D6D	QSB7-G5	10.1	C301-2	24	180x40x21	1477	351	34	30
				C303-2	48	180x40x42	2302	737	72	69
				C305-2	72	180x40x42	2302	737	72	69
				C307-2	96	180x65.5x35.3	3552	1055	104	98
150	C150D6D		11.7	C301-2	24	180x40x21	1477	351	30	26
				C303-2	48	180x40x42	2302	737	63	59
				C305-2	72	180x65.5x35.3	3552	1055	90	84
175	C175D6D		13.3	C301-2	24	180x40x21	1477	351	26	23
				C303-2	48	180x40x42	2302	737	55	52
				C305-2	72	180x65.5x35.3	3552	1055	79	74
200	C200D6D		14.9	C301-2	24	180x40x21	1477	351	24	21
				C303-2	48	180x40x42	2302	737	49	47
				C305-2	72	180x65.5x35.3	3552	1055	72	66

Certifications/standards/codes

UL 142 Listed - Cummins dual wall sub-base tanks are UL Listed and constructed in accordance with Underwriters Laboratories Standard UL 142 “steel aboveground tanks for flammable and combustible liquids,” as a “secondary containment generator base tank”

NFPA - Cummins tanks are built in accordance with all applicable NFPA codes:

- NFPA 30 - Flammable and Combustible Liquids code
- NFPA 37 - Standard for Installation and use of Stationary Combustible Engine and Gas Turbines
- NFPA 110 - Standard for Emergency and Standby Power Systems

ISO9001 - This product was designed and manufactured in facilities certified to ISO9001.

ULC - Cummins tanks are built in accordance with all applicable ULC codes

For more information contact your local Cummins distributor or visit power.cummins.com

Our energy working for you.™

NAAC-5868-EN (02/18)

Data sheet

Circuit breakers

Description

This data sheet provides circuit breaker manufacturer part numbers and specifications. The circuit breaker box description is the rating of that breaker box installation on a Cummins generator. Please refer to the website of the circuit breaker manufacturer for breaker specific ratings and technical information.

Applicable models

Engine	Models					
Kubota	C10D6	C15D6	C20D6			
QSJ2.4	C20N6	C25N6	C30N6	C30N6H	C36N6	C36N6H
	C40N6	C40N6H	C50N6H	C60N6H		
B3.3	C25D6	C30D6	C35D6	C40D6	C50D6	C60D6
QSJ5.9G	C45N6	C50N6	C60N6	C70N6	C80N6	C100N6
QSJ8.9G	C125N6	C150N6				
QSB5	DSFAC	DSFAD	DSFAE	C50D6C	C60D6C	C80D6C
	C100D6C	C125D6C				
QSB7	DSGAA	DSGAB	DSGAC	DSGAD	DSGAE	
		C125D6D	C150D6D	C175D6D	C200D6D	
QSL9	DSHAD	DQDAA	DQDAB	DQDAC		
QSM11	DQHAB					
QSX15	DFEJ	DFEK				

Instructions

1. Locate the circuit breaker feature code or part number and use the charts below to find the corresponding manufacturer circuit breaker catalog number.

2. Use the first letter of the circuit breaker catalog number to determine the "frame" of the breaker. If the first letter is an “N”, use the second letter. Then follow the corresponding website link from the table below to find the breaker catalog number description.

Please refer to the catalog numbering systems page, which is given in the chart, to understand the nomenclature of the catalog number.

Frame	Catalog name*	Catalog number description page(s)
P	0612CT0101 http://www.schneider-electric.us/en/download/document/0612CT0101/	16-17
H, J, and L	0611CT1001 http://www.schneider-electric.us/en/download/document/0611CT1001/	8-9
Q	0734CT0201 http://www.schneider-electric.us/en/download/document/0734CT0201/	4

*The following link may also be used to search specifically by the breaker part number or for the catalog name listed above. http://products.schneider-electric.us/technical-library/

3. Search the catalog by using the first 3 letters of the breaker catalog number and the first 5 numbers to find information such as trip curves, accessories, and dimensional details regarding the circuit breaker.

*If the catalog number starts with “N”, skip the N and begin your search with the second letter.

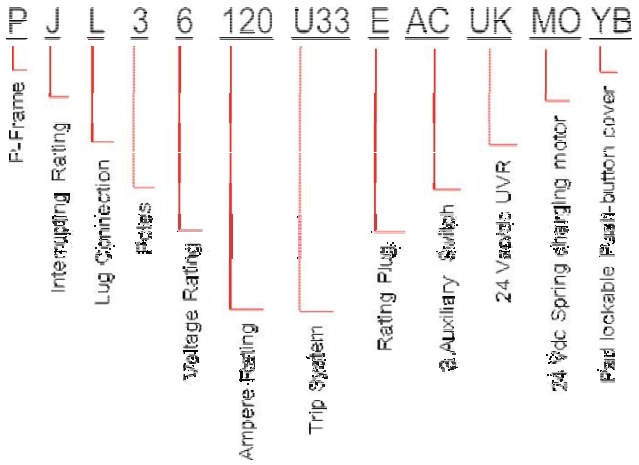
*If the first 3 letters are “PJP,” the search will not work. You will need to start with just “PJ” and use the description pages to obtain the information you are looking for on the “PJP.”

Example

After finding your circuit breaker catalog number to be "PJL36120U33EACUKMOYB," navigate to the P-frame catalog by using the link provided.

Look at pages 16-17 of the pdf catalog to find the nomenclature of the breaker.

Search the P-frame spec sheet using the search "PJL36120.”



Feature Code	Breaker Box Description	Cummins Part #	Manufacturer	Breaker Catalog Number	Trip Unit	Plug Type
KV35-2	CB,Loc A,50A,3P,600VAC,80%,UL	A043L461	Schneider Electric	HDL36050	Thermal Magnetic	N/A
KV36-2	CB,Loc A,60A,3P,600VAC,80%,UL	A043L459	Schneider Electric	HDL36060	Thermal Magnetic	N/A
KV37-2	CB,Loc A,70A,3P,600VAC,80%,UL	A043L451	Schneider Electric	HDL36070	Thermal Magnetic	N/A
KV38-2	CB,Loc A,80A,3P,600VAC,80%,UL	A043L012	Schneider Electric	HDL36080	Thermal Magnetic	N/A
KV39-2	CB,Loc A,90A,3P,600VAC,80%,UL	A043K997	Schneider Electric	HDL36090	Thermal Magnetic	N/A
KV40-2	CB,Loc A,100A,3P,600VAC,80%,UL	A043L024	Schneider Electric	HDL36100	Thermal Magnetic	N/A
KV41-2	CB,Loc A,125A,3P,600VAC,80%,UL	A043K994	Schneider Electric	HDL36125	Thermal Magnetic	N/A
KV42-2	CB,Loc A,150A,3P,600VAC,80%,UL	A043K991	Schneider Electric	HDL36150	Thermal Magnetic	N/A
KV43-2	CB,Loc A,175A,3P,600VAC,80%,UL	A043L619	Schneider Electric	JDL36175	Thermal Magnetic	N/A
KV44-2	CB,Loc A,200A,3P,600VAC,80%,UL	A043L520	Schneider Electric	JDL36200	Thermal Magnetic	N/A
KV45-2	CB,Loc A,225A,3P,600VAC,80%,UL	A043L517	Schneider Electric	JDL36225	Thermal Magnetic	N/A
KV46-2	CB,Loc A,250A,3P,600VAC,80%,UL	A043L510	Schneider Electric	JDL36250	Thermal Magnetic	N/A
KV47-2	CB,Loc A,250A,3P,600VAC,100%,UL	A044C640	Schneider Electric	JDL36250U31XLC	MicroLogic 3.2S	N/A
KV55-2	CB,Loc B,15A,2P,600VAC,80%,UL	A043E189	Schneider Electric	HDL26015	Thermal Magnetic	N/A
KV57-2	CB,Loc B,25A,2P,600VAC,80%,UL	A043E191	Schneider Electric	HDL26025	Thermal Magnetic	N/A
KV58-2	CB,Loc B,30A,2P,600VAC,80%,UL	A043E185	Schneider Electric	HDL26030	Thermal Magnetic	N/A
KV59-2	CB,Loc B,40A,2P,600VAC,80%,UL	A043E183	Schneider Electric	HDL26040	Thermal Magnetic	N/A

Feature Code	Breaker Box Description	Cummins Part #	Manufacturer	Breaker Catalog Number	Trip Unit	Plug Type
KV85-2	CB,Loc B,50A,3P,600VAC,80%,UL	A043L461	Schneider Electric	HDL36050	Thermal Magnetic	N/A
KV86-2	CB,Loc B,60A,3P,600VAC,80%,UL	A043L459	Schneider Electric	HDL36060	Thermal Magnetic	N/A
KV87-2	CB,Loc B,70A,3P,600VAC,80%,UL	A043L451	Schneider Electric	HDL36070	Thermal Magnetic	N/A
KV88-2	CB,Loc B,80A,3P,600VAC,80%,UL	A043L012	Schneider Electric	HDL36080	Thermal Magnetic	N/A
KV89-2	CB,Loc B,90A,3P,600VAC,80%,UL	A043K997	Schneider Electric	HDL36090	Thermal Magnetic	N/A
KV90-2	CB,Loc B,100A,3P,600VAC,80%,UL	A043L024	Schneider Electric	HDL36100	Thermal Magnetic	N/A
KV91-2	CB,Loc B,125A,3P,600VAC,80%,UL	A043K994	Schneider Electric	HDL36125	Thermal Magnetic	N/A
KV92-2	CB,Loc B,150A,3P,600VAC,80%,UL	A043K991	Schneider Electric	HDL36150	Thermal Magnetic	N/A
KV93-2	CB,Loc B,175A,3P,600VAC,80%,UL	A043L619	Schneider Electric	JDL36175	Thermal Magnetic	N/A
KV94-2	CB,Loc B,200A,3P,600VAC,80%,UL	A043L520	Schneider Electric	JDL36200	Thermal Magnetic	N/A
KV95-2	CB,Loc B,225A,3P,600VAC,80%,UL	A043L517	Schneider Electric	JDL36225	Thermal Magnetic	N/A
KV96-2	CB,Loc B,250A,3P,600VAC,80%,UL	A043L510	Schneider Electric	JDL36250	Thermal Magnetic	N/A
KX09-2	Circuit Breaker-250A,Right CB on Right side,3-Pole,UL 600,IEC 690 100%	A045U091	Schneider Electric	NLGL36250U33X-250A	MicroLogic 3.3S	N/A
KX14-2	CirBrkr-250A,Left,3P,600/690V,SS RMS,80%,UL/IEC	A045U091	Schneider Electric	NLGL36250U33X-250A	MicroLogic 3.3S	N/A
KX15-2	CirBrkr-250A,Right,3P,600/690V,SS RMS,80%,UL/IEC	A045U091	Schneider Electric	NLGL36250U33X-250A	MicroLogic 3.3S	N/A
KX22-2	Circuit Breaker-250A,Left CB on Right side,3-Pole, UL 600,IEC 690 100%	A045U091	Schneider Electric	NLGL36250U33X-250A	MicroLogic 3.3S	N/A
KX26-2	CB,Loc A,70A-250A,3P,LSI,600VAC,100%,UL	A050J727	Schneider Electric	JDL36250CU33X	MicroLogic 3.2S	N/A

Specification sheet

OTEC Transfer Switch Open Transition

40 – 1200 amp

Description

OTEC transfer switches are designed for operation and switching of electrical loads between primary power and Standby generator sets. They are suitable for use in emergency, legally required, and optional Standby applications. The switches monitor both power sources, signal generator set startup, automatically transfer power, and return the load to the primary power source once a stable utility is available. The fully integrated controller is designed for practical functionality, with LED indicators and digital pushbuttons for ease of operator use.

Features

Microprocessor control - Easy-to-use, standard control. LEDs display transfer switch status; pushbuttons allow operator to activate control test, exercise timing and transfer mode.

Programmed transition – Open transition timing can be adjusted to completely disconnect the load from both sources for a programmed time period, as recommended by NEMA MG-1 for transfer of inductive loads.

Advanced transfer switch mechanism – Unique bi-directional linear actuator provides virtually frictionfree, constant force, straight-line transfer switch action during automatic operation.

Manual operation - Manual operating handles, shielded termination, and over-center contact mechanisms allow effective manual operation under deenergized conditions.

Positive interlocking - Mechanical and electrical interlocking prevent source-to-source connection through the power or control wiring.

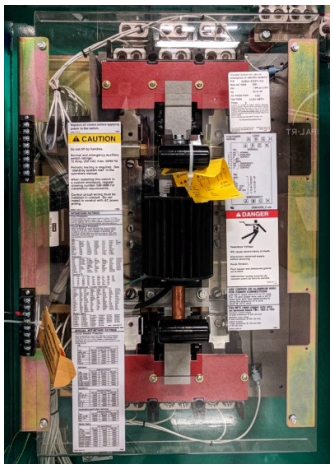
Main contacts - Heavy-duty silver alloy contacts and multi-leaf arc chutes are rated for motor loads or total system load transfer. They require no routine contact maintenance. Continuous load current not to exceed 100% of switch rating and Tungsten loads not to exceed 30% of switch rating.

Easy service/access - Single-plug harness connection and compatible terminal markings simplify servicing. Access space is ample. Door-mounted controls are field-programmable; no tool is required.

Complete product line - Cummins offers a wide range of equipment, accessories and services to suit virtually any backup power application.

Warranty and service - Products are backed by a comprehensive warranty and a worldwide network of distributors with factory-trained service technicians.

Transfer switch mechanism



- Transfer switch mechanism is electrically operated and mechanically held in the Source 1 and Source 2 positions. The transfer switch incorporates electrical and mechanical interlocks to prevent inadvertent interconnection of the sources.
- Independent break-before-make action is used for both 3-pole and 4-pole/switched neutral switches. This design allows use of sync check operation when required, or control of the operating speed of the transfer switch for proper transfer of motor and rectifier-based loads (programmed transition feature).
- True 4-pole switching allows for proper ground (earth) fault sensing and consistent, reliable operation for the life of the transfer switch. The neutral poles of the transfer switch have the same ratings as the phase poles and are operated by a common crossbar mechanism, eliminating the possibility of incorrect neutral operation at any point in the operating cycle, or due to failure of a neutral operator.
- Electrical interlocks prevent simultaneous closing signals to normal and emergency contacts and interconnection of normal and emergency sources through the control wiring
- High pressure silver alloy contacts resist burning and pitting. Separate arcing surfaces further protect the main contacts. Contact wear is reduced by multiple leaf arc chutes that cool and quench the arcs. Barriers separate the phases to prevent interphase flashover. A transparent protective cover allows visual inspection while inhibiting inadvertent contact with energized components.
- Switch mechanism, including contact assemblies, is third-party certified to verify suitability for applications requiring high endurance switching capability for the life of the transfer switch. Withstand and closing ratings are validated using the same set of contacts, further demonstrating the robust nature of the design.

Specifications

Voltage rating	Transfer switches rated from 40 A through 1200 A are rated up to 600 VAC, 50 or 60 Hz.
Arc interruption	Multiple leaf arc chutes cool and quench the arcs. Barriers prevent interphase flashover.
Neutral bar	A full current-rated neutral bar with lugs is standard on enclosed 3-pole transfer switches.
Auxiliary contacts	Two contacts (one for each source) are provided for customer use. Wired to terminal block for easy access. Rated at 10A Continuous and 250 VAC maximum.
Operating temperature	-22 ˚F (-30 ˚C) to 140 ˚F (60 ˚C)
Storage temperature	-40 ˚F (-40 ˚C) to 140 ˚F (60 ˚C)
Humidity	Up to 95% relative, non-condensing
Altitude	Up to 10,000 ft (3,000 m) without derating
Total transfer time (source-to-source)	Will not exceed 6 cycles at 60 Hz with normal voltage applied to the actuator and without delayed transition enabled.
Manual operation handles	Transfer switches are equipped with permanently attached operating handles and quickbreak, quick-make contact mechanisms suitable for manual operation under de-energized conditions.

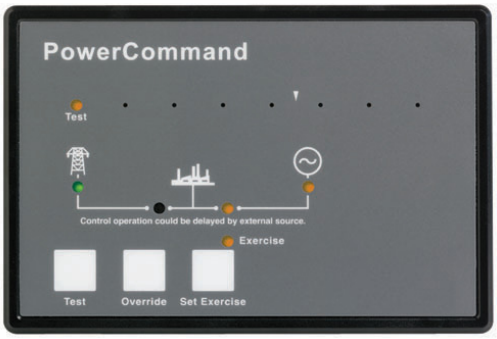
Transition Modes

Open transition/programmed – Controls the time required for the device to switch from source to source, so that the load-generated voltages decay to a safe level before connecting to an energized source. Recommended by NEMA MG-1 to prevent nuisance tripping breakers and load damage. Adjustable 0-10 seconds, default 0 seconds.

Open transition/in-phase – Initiates open transition transfer when in-phase monitor senses both sources are in phase. Operates in a break-before-make sequence. Includes ability to enable programmed transition as a backup. If sources are not in phase within 120 seconds, the system will transfer using programmed transition.

Microprocessor control

- Simple, easy-to-use control provides transfer switch information and operator controls
- LED lamps for source availability and source connected indication, exercise mode, and test mode. LED status lamps also provided for control set-up and configuration.
- Pushbutton controls for initiating test, overriding time delays and setting exercise time.
- Field-configurable for in-phase open or programmed open transition.
- Integral exerciser clock
- Control is prototype-tested to withstand voltage surges per EN60947-6-1.
- Gold-flashed generator start contacts



Control functions

Voltage sensing: All phases on the normal source and single phase on generator source. Normal Source Pickup: adjustable 90-95%, Dropout: adjustable 70-90% of nominal voltage; Generator Source Pickup: 90%, dropout: 75% of nominal voltage.

Frequency sensing: Generator Source Pickup: 90% of nominal frequency; Dropout: 75% of nominal frequency.

Exerciser clock: Switch is furnished with an integral engine exerciser configurable for operation on a 7, 14, 21, or 28-day cycle with a fixed exercise period duration of 20 minutes. A 12-hr exerciser time offset allows for the convenient setting of exercise time without the need to activate the timer at the exact time that you need to schedule the generator exercise for. Software selectable capability allows for the exercising of the generator with or without load.

Time-delay functions

Engine start: Prevents nuisance genset starts due to momentary power system variation or loss. Adjustable: 0-10 seconds; default: 3 seconds

Transfer normal to emergency: Allows genset to stabilize before application of load. Prevents power interruption if normal source variation or loss is momentary. Allows staggered transfer of loads in multiple transfer switch systems. Adjustable 0-300 seconds, default 5 seconds.

Retransfer emergency to normal: Allows the utility to stabilize before retransfer of load. Prevents needless power interruption if return of normal source is momentary. Allows staggered transfer of loads in multiple transfer switch systems. Adjustable 0-30 minutes, default 10 minutes.

Genset stop: Maintains availability of the genset for immediate reconnection in the event that the normal source fails shortly after transfer. Allows gradual genset cool down by running unloaded. Adjustable 0-30 minutes, default 10 minutes.

Delayed (programmed) transition: Controls the speed of operation of the transfer switch power contacts to allow load generated voltages from inductive devices to decay prior to connecting a live source. Adjustable 0-10 seconds, default 0 seconds.

Elevator signal: Provides a relay output contact for the elevator signal relay (load disconnect). The signal can also be configured to provide a post transfer delay of the same duration. Adjustable: 0-300 seconds (requires optional elevator signal relay for use).

Options

Elevator signal relay: Provides a relay output contact for the signal relay function

Programmable exerciser clock: Provides a fully-programmable 7-day clock to provide greater flexibility in scheduling exercise periods than standard integral exerciser. Time-of-day setting feature operates generator during periods of high utility rates.

UL withstand and closing ratings

The transfer switches listed below must be protected by circuit breakers or fuses. Referenced drawings include detailed listings of specific breakers or fuse types that must be used with the respective transfer switches. Consult with your distributor/dealer to obtain the necessary drawings. Withstand and Closing Ratings (WCR) are stated in symmetrical RMS amperes..

Transfer switch ampere	MCCB protection			Special circuit breaker protection		
	WCR @ volts max with specific manufacturers MCCBs	Max MCCB ratings	Drawing reference	With specific current limiting breakers (CLB)	Max CLB rating	Drawing reference
40, 70, 125 3-pole	14,000 at 600	225 A	A050J441	200,000 @ 600	225 A	A048J566
40, 70, 125 4-pole	30,000 at 600	400 A	A048E949	200,000 @ 600	400 A	A051D533
150, 225, 260	30,000 at 600	400 A	A048E949	200,000 @ 600	400 A	A051D533
300, 400, 600	65,000 at 600	1200 A	A056M829	200,000 @ 600	1200 A	A048J564
800, 1000	65,000 @ 480 50,000 @ 600	1400 A	A056M821	200,000 @ 600	1400 A	A048J562
1200	85,000 @ 480 65,000 @ 600	1600 A	A056M825	200,000 @ 600	1600 A	A048P186

Fuse Protection

Transfer switch ampere	WCR @ volts max. with current limiting fuses	Max fuse, size and type	Drawing reference
40, 70, 125 3- and 4-pole	200,000 at 600	200 A Class, J, RK1, RK5, T	A050J441
150, 225, 260	200,000 at 600	1200 A Class L or T, or 600 A class J, RK1, RK5	A048E949
300, 400, 600	200,000 at 600	1200 A Class L or T, or 600 A Class, J, RK1, RK5	A056M829
800, 1000	200,000 at 600	2000 A Class L or 1200 A class T or 600 A class J, RK1, RK5	A056M821
1200	200,000 at 600	2000 A Class L or 1200 A class T or 600 A class J, RK1, RK5	A056M825

3-cycle ratings

Transfer switch ampere	WCR @ volts max 3 cycle rating	Max MCCB rating	Drawing reference
300, 400, 600	25,000 at 600	1200 A	A056M829
800, 1000	35,000 at 600	1400 A	A056M821
1200	42,000 at 600 50,000 at 480	1600 A	A056M825

Enclosures

The transfer switch and control are wall-mounted in a key-locking enclosure. Wire bend space complies with 2008 NEC.

Dimensions - transfer switch in UL type 1 enclosure

Amp rating	Height		Width		Depth				Weight		Outline drawing
					Door closed		Door open				
	in	mm	in	mm	in	mm	in	mm	lb	kg	
40, 70, 125 3-pole	27.0	686	20.5	521	12.0	305	31.5	800	82	37	0310-0544
40, 70, 125 4-pole	35.5	902	26.0	660	16.0	406	41.0	1042	165	75	0500-4896
150, 225	35.5	902	26.0	660	16.0	406	41.0	1042	165	75	0310-0414
260	43.5	1105	28.5	724	16.0	406	43.0	1093	170	77	0310-0540
300, 400, 600	54.0	1372	25.5	648	18.0	457	42.0	1067	225	102	0310-1307
800, 1000	68.0	1727	30.0	762	19.5	495	48.5	1232	360	163	0310-0417
1200	90.0	2286	39.0	991	27.0	698	63.0	1600	730	331	A030L411

Dimensions - transfer switch in UL type 3R, 4, 4x, or 12 enclosure

Amp rating	Height		Width		Depth				Weight		Cabinet type	Outline drawing
					Door closed		Door open					
	in	mm	in	mm	in	mm	in	mm	lb	kg		
40, 70, 125 3-pole	34.0	864	26.5	673	12.5	318	36.5	927	125	57	3R, 12	0310-0453
											4	0310-0445
	46.0	1168	32.0	813	16.0	406	46.0	1168	255	102	4X	0500-4184
40, 70, 125 4-pole	42.5	1080	30.5	775	16.0	406	44.0	1118	215	97	3R, 12	0500-4896
											4	0500-4896
	46.0	1168	32.0	813	16.0	406	46.0	1168	215	102	4X	0500-4184
150, 225	42.5	1080	30.5	775	16.0	406	44.0	1118	215	97	3R, 12	310-0454
											4	0310-0446
	46.0	1168	32.0	813	16.0	406	46.	1168	255	102	4X	0500-4184
260	46.0	1168	32.0	813	16.0	406	46.0	1168	255	102	3R, 12	0310-0455
											4	0310-0447
											4X	0500-4184
300, 400, 600	59.0	1499	27.5	699	16.5	419	41.5	1054	275	125	3R, 12	0310-1315
											4	0310-1316
	73.5	1867	32.5	826	19.5	495	49.5	1257	410	186	4X	0500-4185
800, 1000	73.5	1867	32.5	826	19.5	495	49.5	1257	410	186	3R, 12	0310-0457
											4	0310-0449
											4X	0500-4185
1200	90.0	2286	39.0	991	27.0	698	63.0	1600	730	331	3R, 12	A030L411
											4, 4X	A041N370

Transfer switch lug capacities

All lugs 90˚C rated and accept copper or aluminum wire unless indicated otherwise.

Transfer switch ampere	Cables per phase	Size
40, 70, 125 3-pole	1	#12 AWG-2/0
40 4-pole	1	#12 AWG-2/0
70, 125 4-pole	1	#6 AWG - 300 MCM
150, 225	1	#6 AWG - 300 MCM
260	1	#6 AWG - 400 MCM
300, 400	2	One accepts 3/0 AWG - 600 MCM and One #4 AWG - 250 MCM
600	2	250 - 500 MCM
800, 1000	4	250 - 500 MCM
1200	4	#2 AWG to 600 MCM standard (feature N045) 1/0 AWG to 750 MCM optional (feature N066) Compression Lug Adapter optional (feature N032)

Certification

All switches are UL 1008 Listed with UL Type Rated cabinets and UL Listed CU-AL terminals.

All switches comply with NEMA ICS 10.

All switches are certified to CSA 282 Emergency Electrical Power Supply for Buildings, up to 600 VAC.

All switches comply with IEEE 446 Recommended Practice for Emergency and Standby Power Systems.

Suitable for use in emergency, legally required and Standby applications per NEC 700, 701 and 702.

This transfer switch is designed and manufactured in facilities certified to ISO9001.

All switches comply with NFPA 70, 99 and 110 (Level 1).

Submittal detail

Amperage ratings

- 40
- 70
- 125
- 150
- 225
- 260
- 300
- 400
- 600
- 800
- 1000
- 1200

Voltage ratings

- R020 120
- R038 190
- R021 208
- R022 220
- R023 240
- R024 380
- R025 416
- R035 440
- R026 480
- R027 600

Pole configuration

- A028 Poles - 3 (solid neutral)
- A029 Poles - 4 (switched neutral)

Frequency

- A044 60 Hertz
- A045 50 Hertz

Application

- A035 Utility-to-genset

System options

- A041 Single phase, 2-wire or 3-wire
- A042 Three phase, 3-wire or 4-wire

Enclosure

- B001 Type 1: general purpose indoor (similar to IEC
- Type IP30)
- B002 Type 3R: intended for outdoor use, provides some protection from dirt, rain and snow (similar to IEC Type IP34)
- B003 Type 4: indoor or outdoor use, provides some protection from wind-blown dust and water spray (similar to IEC Type IP65)
- B010 Type 12: indoor use, some protection from dust (similar to IEC Type IP61)
- B025 Type 4X: stainless steel, indoor or outdoor use, provides some protection from corrosion (similar to IEC Type IP65)

Standards

- A046 UL 1008/CSA certification
- A080 Seismic certification

Control voltage

- M033 12V, Genset starting voltage
- M034 24V, Genset starting voltage

Control options

- J030 External exercise clock
- M032 Elevator signal relay

Battery chargers

- K001 2 Amps, 12/24 Volts
- KB59 15 Amps, 12 Volts
- KB60 12 Amps, 24 Volts

Auxiliary relays

Relays are UL Listed and factory installed. All relays provide (2) normally closed isolated contacts rated 10A @ 600 VAC. Relay terminals accept (1) 18 gauge to (2) 12 gauge wires per terminal.

- L101 24 VDC coil - installed, not wired (for customer use).
- L102 24 VDC coil - emergency position – relay energized when switch is in source 2 (emergency) position.
- L103 24 VDC coil - normal position - relay energized when switch is in source 1 (normal) position
- L201 12 VDC coil installed, not wired (for customer use)
- L202 12 VDC coil - emergency position – relay energized when switch is in source 2 (emergency) position
- L203 12 VDC coil - normal position - relay energized when switch is in source 1 (normal) position

Miscellaneous options

- C027 Cover - guard
- M003 Terminal block - 30 points (not wired)

Optional lug kits

- N032 Lug adapters, compression, ½ stab (1200A only)
- N045 Cable lugs, mechanical, 600 MCM, 4 per pole (1200A only)
- N066 Cable lugs, mechanical, 750 MCM, 4 per pole (1200A only)

Warranty

- G009 1 year comprehensive
- G004 2 year comprehensive
- G006 5 year basic
- G007 5 year comprehensive
- G008 10 year major components

Shipping

- A051 Packing – export box (800-1000 A)

Accessories

- AC-170 Accessories specifications sheet

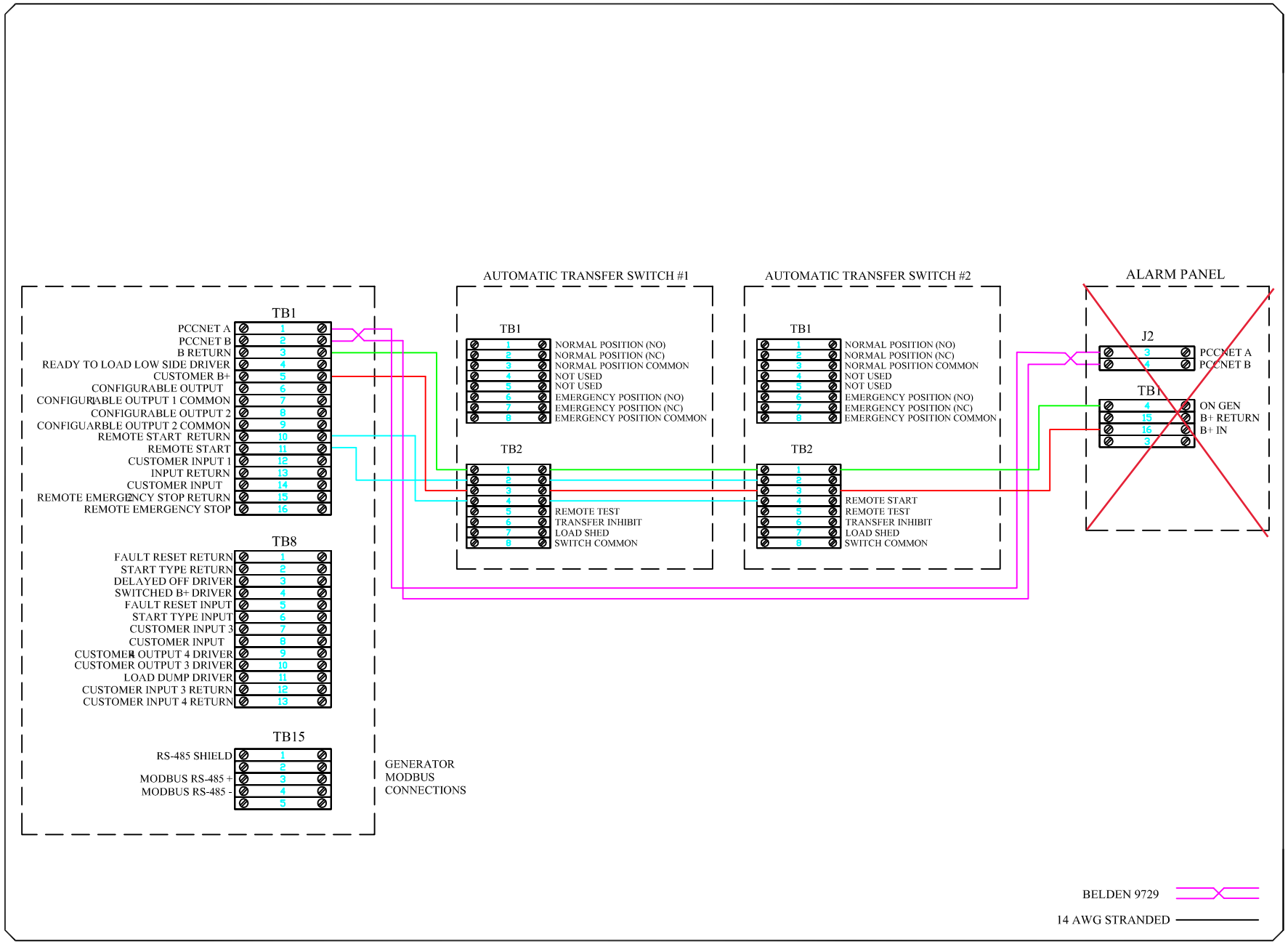
Specifications are subject to change without notice.

For more information contact your local Cummins distributor or visit power.cummins.com

Our energy working for you.™

SECTION II

DRAWINGS



CUMMINS POWER GENERATION 2300 CONTROL
INTERCONNECTION DIAGRAM

Cummins Pacific, LLC
1939 Deere Avenue
Irvine, CA 92606

John McWilliams
Direct: 510-347-6673
Cell: 510-693-0910
john.l.mcwilliams@cummins.com

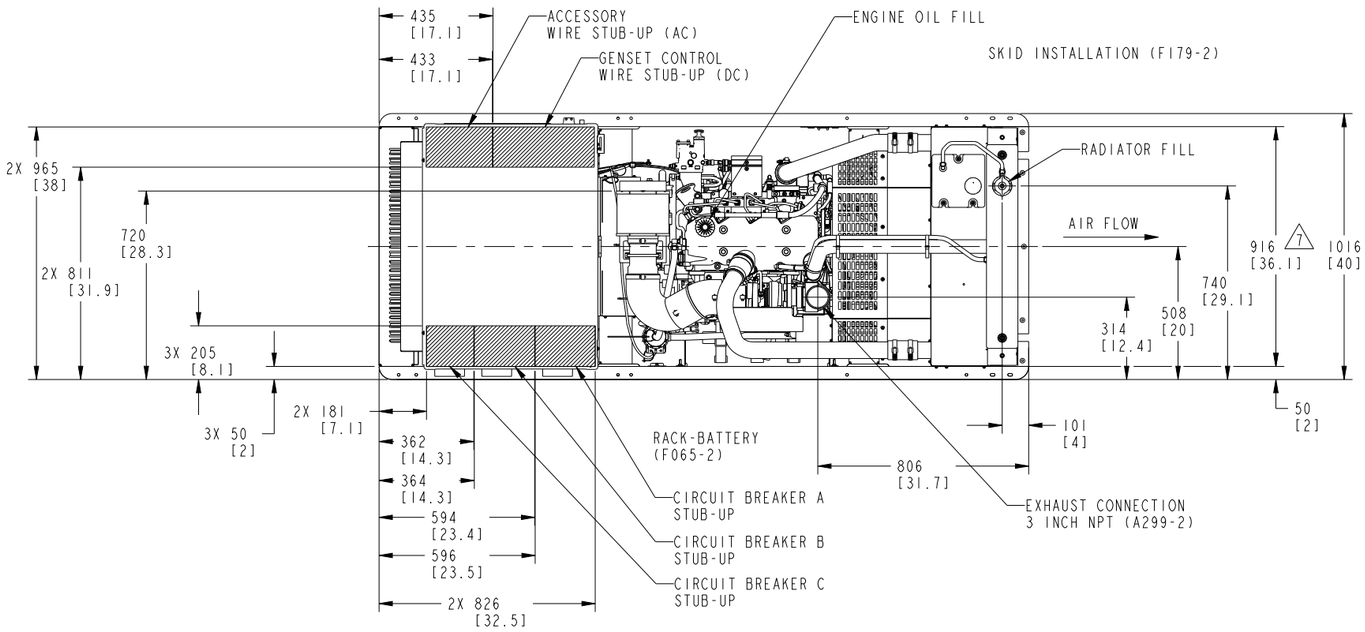
NO.	DATE	REVISION	BY

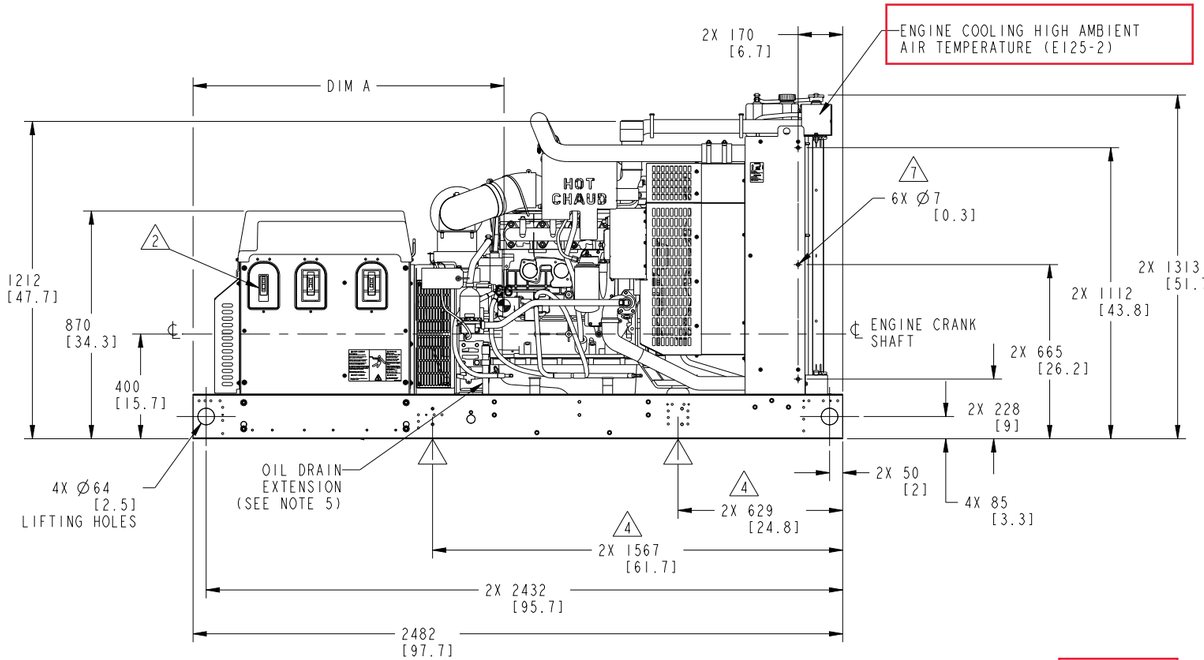
DRAWN BY JMAC	CHECKED BY JMAC
JOB NO	DRAWN BY JMAC
SCALE NO SCALE	DATE 12/13/10
DWG NO	
SHEET NO	

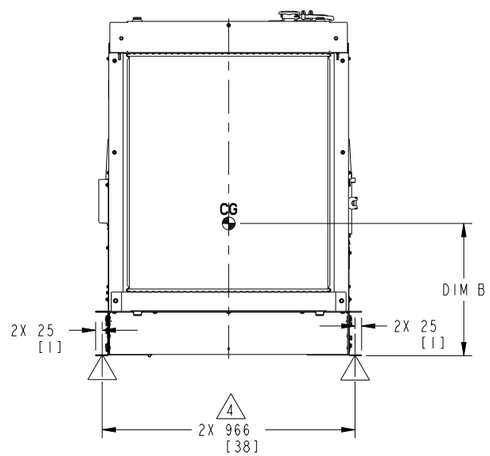
Exhibit H1 - District Supplied Equipment

PTC® Creo® Parametric

REL NO	REV	NO	REVISION	DWN	CKD	APVD	DATE
ECO-179354	B	1	NOTE 9.1: 5/16" WAS 1/4"	CJF	FE	M FRITSCHE	07AUG18
		2	SEE SHEET 2	CJF	FE	M FRITSCHE	07AUG18







NOTES:

1. DIMENSIONS SHOWN IN [ ] ARE IN INCHES.
2. REFER TO CIRCUIT BREAKER OUTLINE DRAWING FOR ELECTRICAL STUB-UP AREA FOR SPECIFIC BREAKERS.
3. CONTROL INTERFACE CONNECTION SHOULD BE MADE WITH FLEXIBLE CONNECTIONS.
4. Ø21 [0.8] HOLES MARKED BY △ FOR SECURING TO MOUNTING SURFACE.
5. OIL DRAIN EXTENSION: 5/8 INCH HOSE ID.
6. FOR IBC SEISMIC CERTIFIED INSTALLATION, SEE GENSET IBC SEISMIC INSTALLATION REQUIREMENT DRAWING.
7. Ø7.3 HOLES FOR OPTIONAL COOLING EXHAUST AIR DUCT ADAPTER.
8. REFER TO GENSET FOUNDATION OUTLINE FOR ELECTRICAL AND OTHER FOUNDATION SPECIFICS.
9. GENSET SUPPLIED WITH FLEXIBLE FUEL LINE(S) THAT CAN BE CONNECTED TO GENSET INTERFACE POINT(S).

   9.1 FUEL SUPPLY LINE: 686 [27.0] LONG WITH 5/16" JIC MALE TERMINATION.

TABULATION

ALT DATA SHEET #	DIM A	DIM B	GENSET WET WEIGHT KG	GENSET WET WEIGHT LB
ADS-202	1092	456	1090	2403
ADS-203	1207	495	986	2173
ADS-204	1184	492	1006	2217
ADS-205	1125	486	1054	2324
ADS-206	1086	482	1082	2386
ADS-207	1060	480	1106	2439
ADS-208	998	473	1173	2586
ADS-209	958	469	1211	2670

C50 D6C, C60 D6C, C80 D6C, C100 D6C, C125 D6C

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS

DIM		HOLE	
X	± 1		0.00- 4.99 +0.15/-0.08
.X	± 0.8		5.00- 9.99 +0.20/-0.10
.XX	± 0.38		10.00-17.49 +0.25/-0.13
			17.50-24.99 +0.30/-0.13

ANG TOL ± 1.0° | SCALE 3:32

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SIM TO .

DO NOT SCALE PRINT

FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5-2009

DWN	D HOFMEISTER
CKD	D HOFMEISTER
APVD	M JAWALE
DATE	17MAR16
FIRST USED ON	ARROW

CUMMINS POWER GENERATION

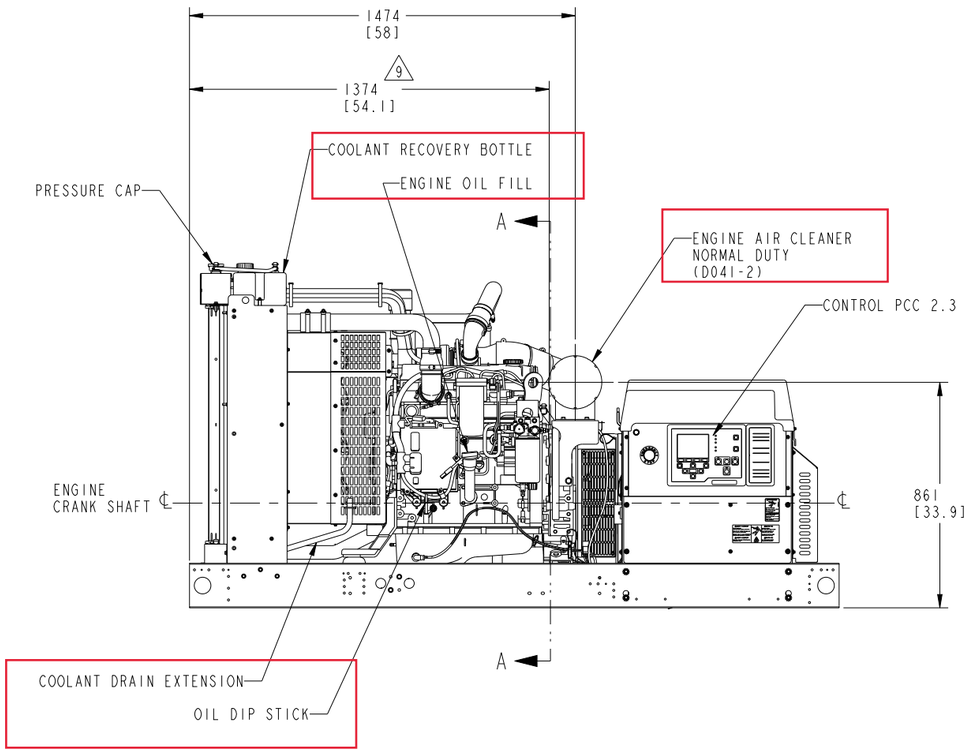
OUTLINE, GENSET

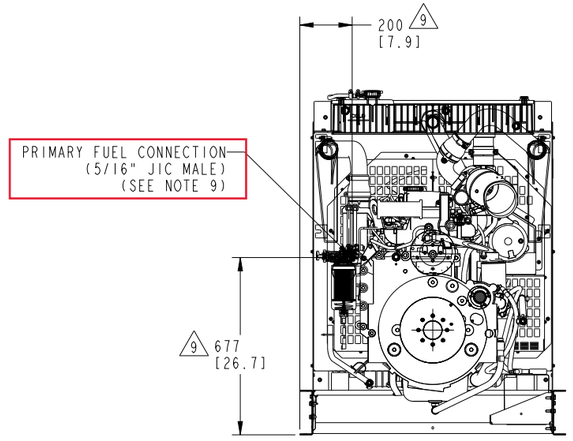
SITE CODE: PGF

DWG SIZE: D | A054Y897 | CAD SHEET 1 of 2

PTC® Creo® Parametric

REL NO	REV	NO	REVISION	DWN	CKD	APVD	DATE
ECO-179354	B	2	ZONE C-3: 5/16" WAS 1/4"	CJF	FE	M FRITSCHE	07AUG18





SECTION A-A

C50 D6C, C60 D6C, C80 D6C,
C100 D6C, C125 D6C

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS
DIM: X ±1 | .X ±0.8 | .XX± 0.38
HOLE: 0.00- 4.99 +0.15/-0.08 | 5.00- 9.99 +0.20/-0.10 | 10.00-17.49 +0.25/-0.13 | 17.50-24.99 +0.30/-0.13
ANG TOL ± 1.0°
SCALE 3:32
SIM TO .
DO NOT SCALE PRINT
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DWN D HOFMEISTER
CKD D HOFMEISTER
APVD M JAWALE
DATE 17MAR16
FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5-2009
FIRST USED ON ARROW

CUMMINS POWER GENERATION
SITE CODE PGF
OUTLINE,GENSET
DWG SIZE D
A054Y897
CAD SHEET 2 OF 2

PTC® Creo® Parametric

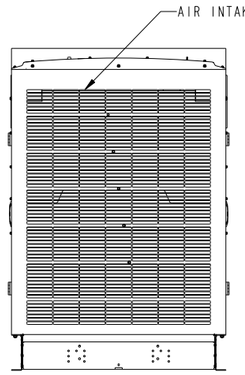
REL NO	LTR	NO	REVISION	DRN	CKD	APVD	DATE
ECO-152551	A	1	PRODUCTION_RELEASE	CG	NK	M_WICKMANN	14MAY15

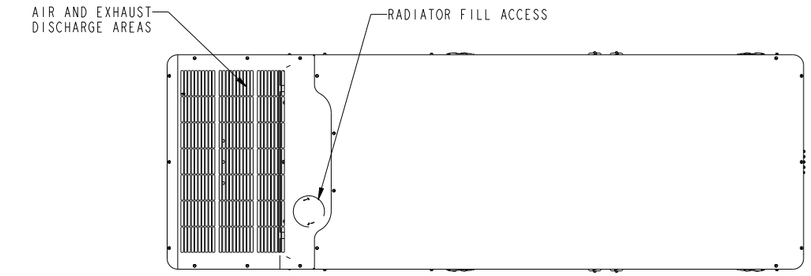
NOTES:

1. DIM [] IN INCHES

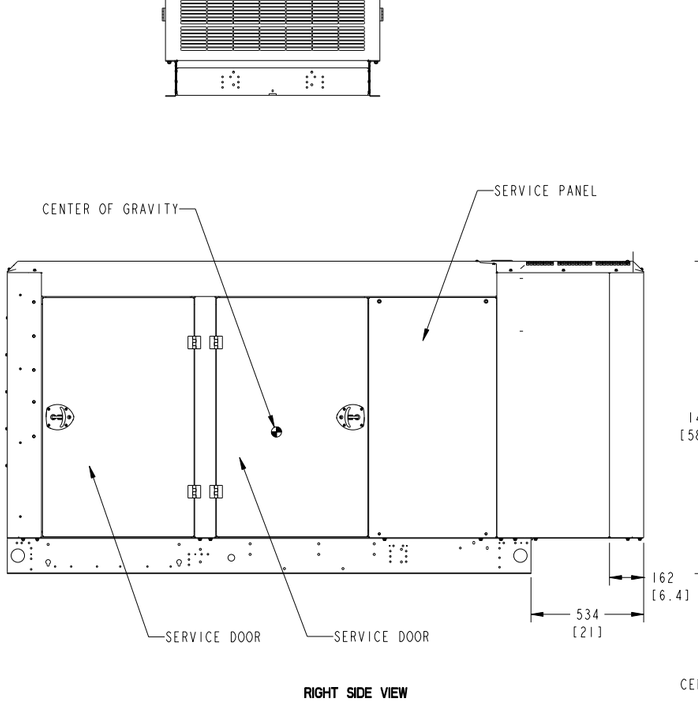
2. WHEN THE HOUSING INSTALLED ON AN OPEN GENERATOR SET, THE TOTAL WEIGHT WILL INCREASE BY 131.5 KG (290 LBS). THIS INCLUDES THE MUFFLER.

3. THE CENTER OF GRAVITY(CG) OF THE GENERATOR SET WHEN EQUIPPED WITH THIS HOUSING SHIFTS APPROXIMATELY 65mm (2.55 inch) TOWARDS THE AIR DISCHARGE END OF THE HOUSING AND 42MM (1.66 INCH) HIGHER FROM THE GROUND. COMPARED TO THE EQUIVALENT NON-HOUSED PRODUCT WITH THE F179 SKID. SEE HOUSING READY SKID BASE OUTLINE DRAWING FOR CG LOCATION OF NON HOUSED PRODUCT.

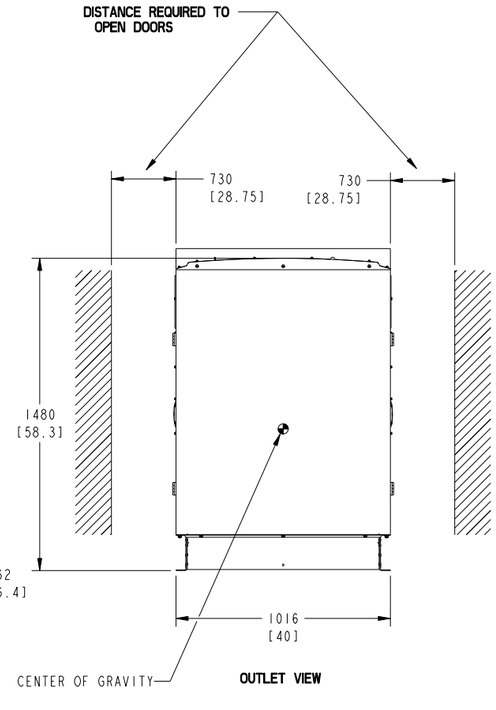




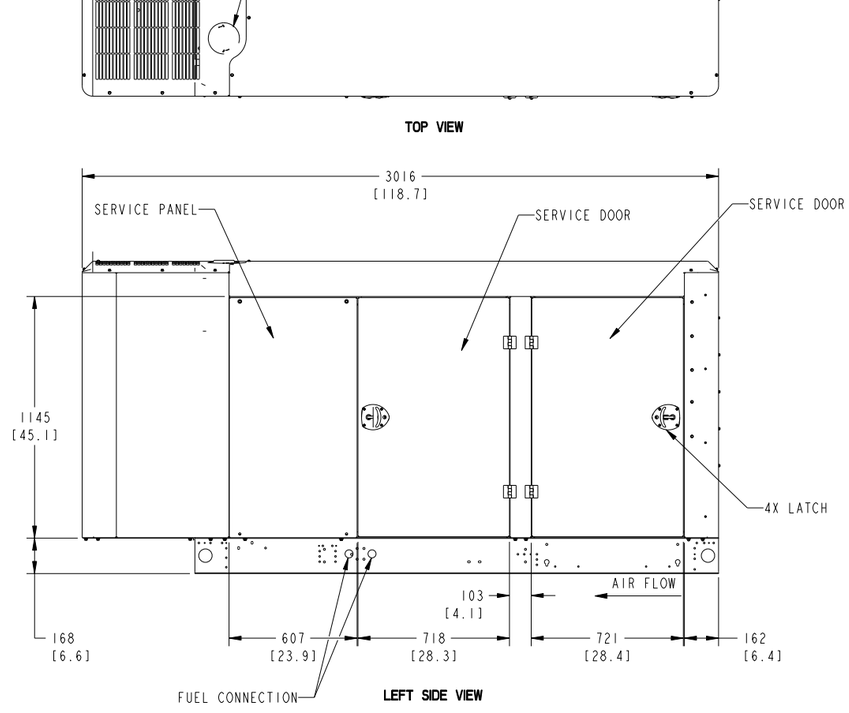
TOP VIEW



RIGHT SIDE VIEW



OUTLET VIEW



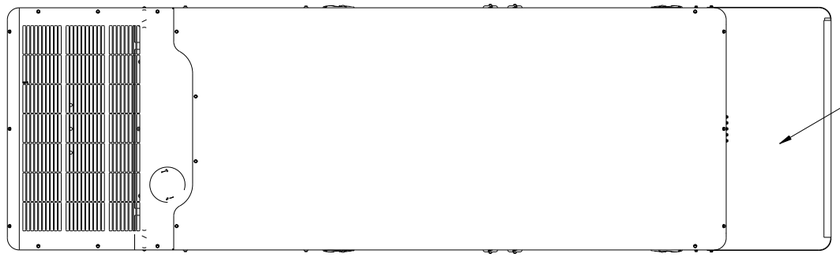
LEFT SIDE VIEW

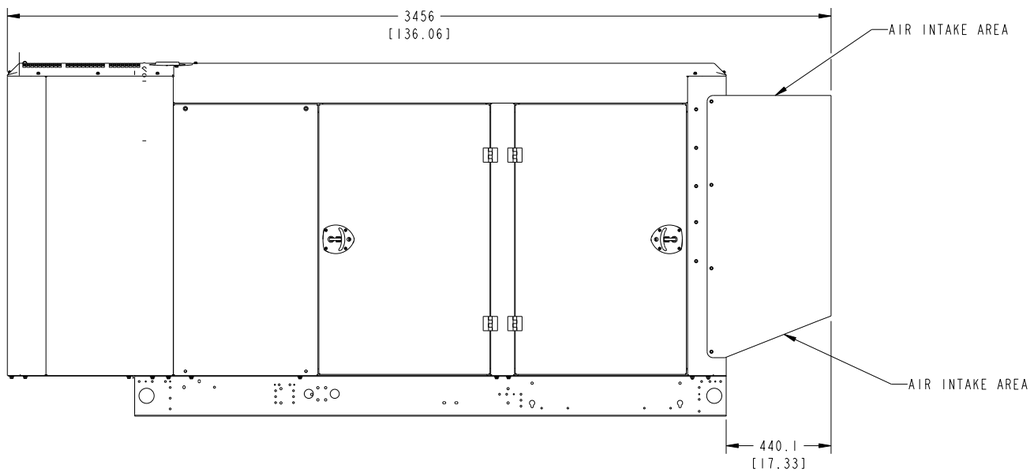
F231-2 ENCLOSURE CONFIGURATION

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS	SIM TO NONE	DRN C_GADE		CUMMINS POWER GENERATION	
DIM: X ± 1, .X ± 0.8, .XX± 0.38 — HOLE: 0.00- 4.99 +0.15/-0.08; 5.00- 9.99 +0.20/-0.10; 10.00-17.49 +0.25/-0.13; 17.50-24.99 +0.30/-0.13	DO NOT SCALE PRINT	CKD N_KASIBHOTLA		OUTLINE,ENCLOSURE	
ANG TOL: ± 1.0°	SCALE: ~3/32	APVD M_WICKMANN	SITE CODE		
	- CONFIDENTIAL - PROPERTY OF CUMMINS POWER GENERATION GROUP	DATE 14MAY15	PGF	DWG SIZE D — A051P365	SHEET 1 OF 2 — DWG REV A
		FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5M-1994 — FIRST USED ON ARROW			

PTC® Creo® Parametric

REL NO	LTR	NO	REVISION	DWN	CKD	APVD	DATE
ECO-152551	A	1	PRODUCTION_RELEASE	CG	NK	M_WICKMANN	14MAY15





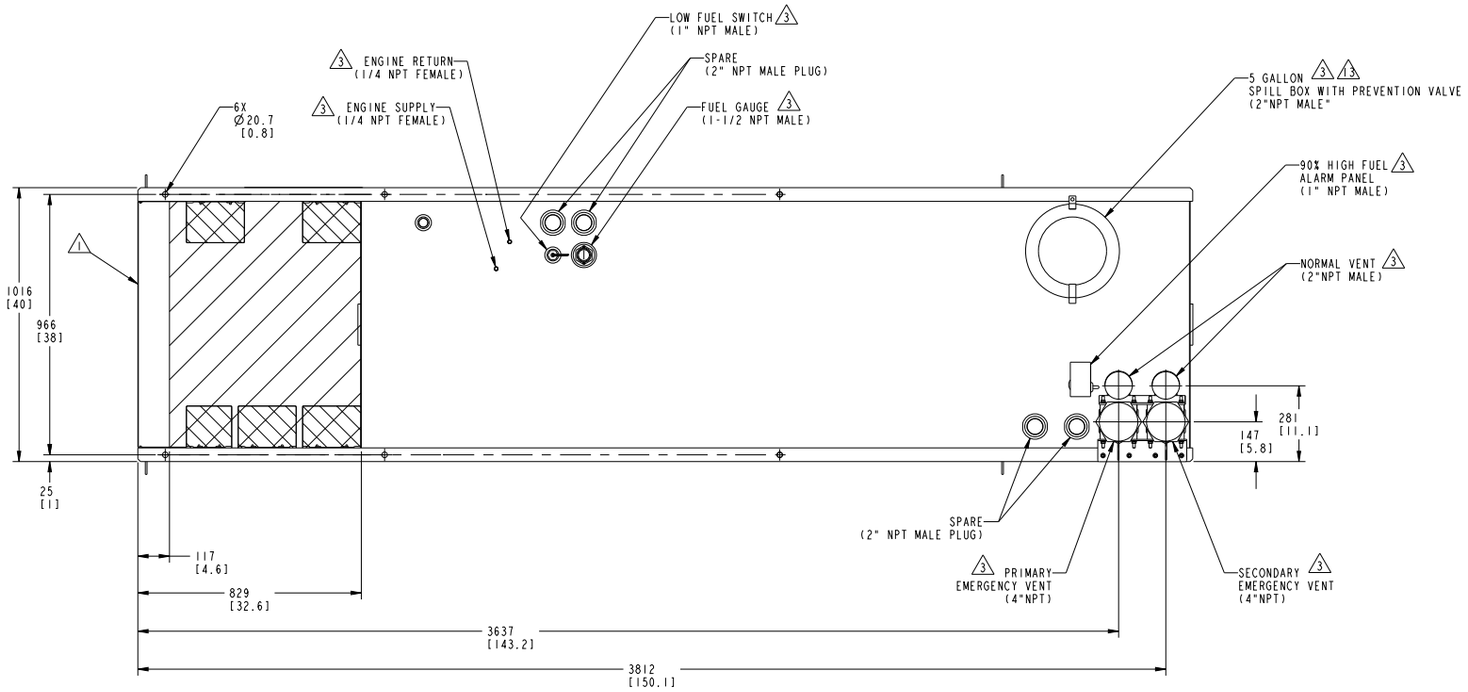
F217-2 ENCLOSURE CONFIGURATION

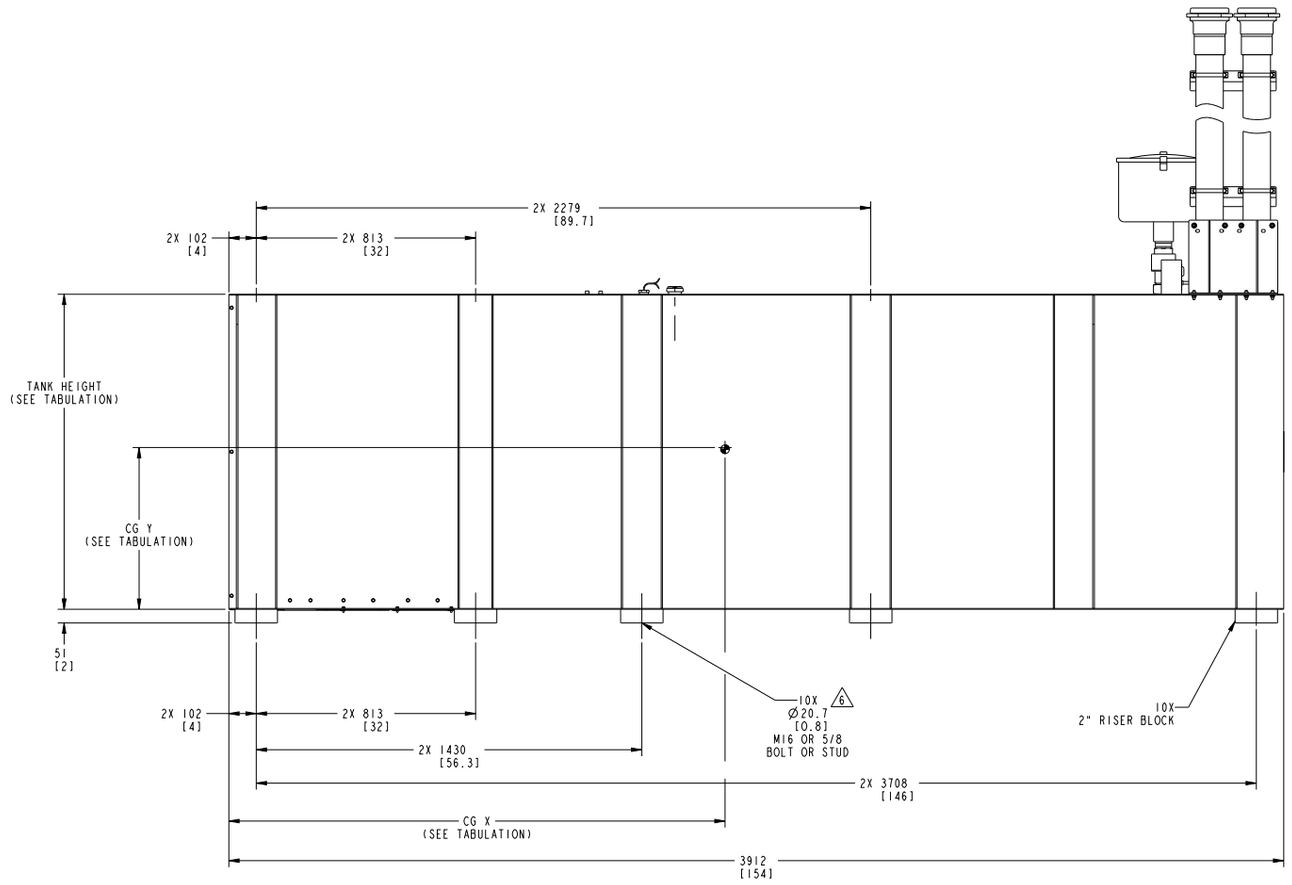
REFER TO PAGE 1 (F231-2 ENCLOSURE FOR OTHER F217-2 ENCLOSURE DIMENSIONS.

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS	SIM TO NONE	DWN C_GADE	CUMMINS POWER GENERATION		
DIM: X ± 1, .X ± 0.8, .XX± 0.38 — HOLE: 0.00- 4.99 +0.15/-0.08, 5.00- 9.99 +0.20/-0.10, 10.00-17.49 +0.25/-0.13, 17.50-24.99 +0.30/-0.13	DO NOT SCALE PRINT	CKD N_KASIBHOTLA	OUTLINE,ENCLOSURE		
ANG TOL: ± 1.0°	SCALE: ~3/32	APVD M_WICKMANN	SITE CODE: PGF	DWG SIZE: D	A051P365 — SHEET 2 OF 2 — DWG REV: A
- CONFIDENTIAL - PROPERTY OF CUMMINS POWER GENERATION GROUP		DATE 14MAY15			
		FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5M-1994 — FIRST USED ON ARROW			

PTC® Creo® Parametric

REL NO	REV	NO	REVISION	DRN	CKD	APVD	DATE
ECO-173968	C	1	ADD SHEET 4	CJF	MF	M WINGFIELD	06DEC17
		2	ZONE A-2: 558.8 [22] WAS 457 [18]	CJF	MF	M WINGFIELD	06DEC17
		3	ZONE A-2: 812.8 [32] WAS 762 [30]	CJF	MF	M WINGFIELD	06DEC17
		4	ADD FLAG NOTE 14	CJF	MF	M WINGFIELD	06DEC17
		5	SEE SHEET 2	CJF	MF	M WINGFIELD	06DEC17
		6	SEE SHEET 2	CJF	MF	M WINGFIELD	06DEC17





NOTES:

1. TANKS ARE UL142 LISTED. SECONDARY CONTAINMENT FUEL TANK. REFER TO TANK LABELS AND LOCAL CODE TO DETERMINE VENTING REQUIREMENTS FOR BOTH COMPARTMENTS.
2. SUBBASE FUEL TANK MOUNTING. EXCESSIVE TWISTING OF THE FUEL TANK, MAY RESULT IN STRUCTURAL FAILURE OF THE TANK. TO ENSURE THE INSTALLATION DOES NOT EXCESSIVELY TWIST THE FUEL TANK, THE FOLLOWING PROCEDURE MUST BE OBSERVED:
   - 2.1 REFER TO APPLICATION MANUAL T030 FOR GENERAL SET MOUNTING GUIDELINES.
   - 2.2 AFTER PLACING SET ON FOUNDATION, VERIFY ALL SIX MOUNTING PADS CONTACT FOUNDATION.
   - 2.3 THERE ARE SHIMS ATTACHED TO EACH FUEL TANK. THESE ARE INTENDED TO FILL ANY GAP BETWEEN THE MOUNTING PADS AND FOUNDATION.
   - 2.4 INSERT THE MAXIMUM HEIGHT STACK OF SHIMS THAT WILL SLIDE INTO THE GAP.
   - 2.5 TIGHTEN TANK HOLD DOWN MOUNTING FASTENERS.
3. INDICATES PIPE SIZE OF FEATURE OR OPTION INDICATED.
4. DIMENSIONS IN [ ] ARE IN INCHES.
5. FOR IBC SEISMIC CERTIFIED INSTALLATIONS, SEE GENSET IBC SEISMIC INSTALLATION REQUIREMENTS DRAWING.
6. FUEL TANK HAS A FLANGE THICKNESS OF UP TO 10 mm [0.394 in], ALLOW EXTRA LENGTH ON HARDWARE FOR UNEVENESS OF MOUNTING SURFACE. RISER FEATURE WILL ADD ADDITIONAL 51 mm [2 in].
7. FUEL TANK PERIMETER IS SHOWN. FOUNDATION SHOULD BE EXTENDED BEYOND THIS PERIMETER. SEE (T030) APPLICATION MANUAL - (SEE SHEET 4).
8. INSTALLATION & REMOVAL LIFTING AND SERVICE ACCESS CLEARANCE (SUGGESTED MINIMUM) - (SEE SHEET 4).
9. REMOVABLE STUB-UP ACCESS PANEL.
10. ELECTRICAL STUB-UP AREA WITH FUEL TANK RISER FEATURE INSTALLED - (SEE SHEET 4).
11. MAINTAIN MIN 51 mm [2 in] CLEARANCE ABOVE E-VENT - (SEE SHEET 2).
12. WEIGHT AND CENTER OF GRAVITY INFORMATION IS ESTIMATED AND CHANGES WITH TANK FEATURE INSTALLATION.
13. FILL CAP LOCATED HERE IF OVERFILL PREVENSTION VALVE IS NOT INSTALLED.
14. EMERGENCY VENT EXTENSIONS ON SHEET 2 COME WITH OPTIONAL FEATURE C315-2 OR WITH FEATURE L196-2 (CSA), L224-2 (IBC), OR L225-2 (OSHPD).

GENSET MODEL APPLICATION	TANK FEATURE CODE/RUN TIME			
	C301-2	C303-2	C305-2	C307-2
	24 HR	48 HR	72 HR	96 HR
C50 D6C	A053L909	A053L911	A053L911	A053L912
C60 D6C	A053L909	A053L911	A053L912	A053L912
C80 D6C	A053L909	A053L911	A053L912	-
C100 D6C	A053L909	A053L911	A053L912	-
C125 D6C	A053L909	A053L912	-	-

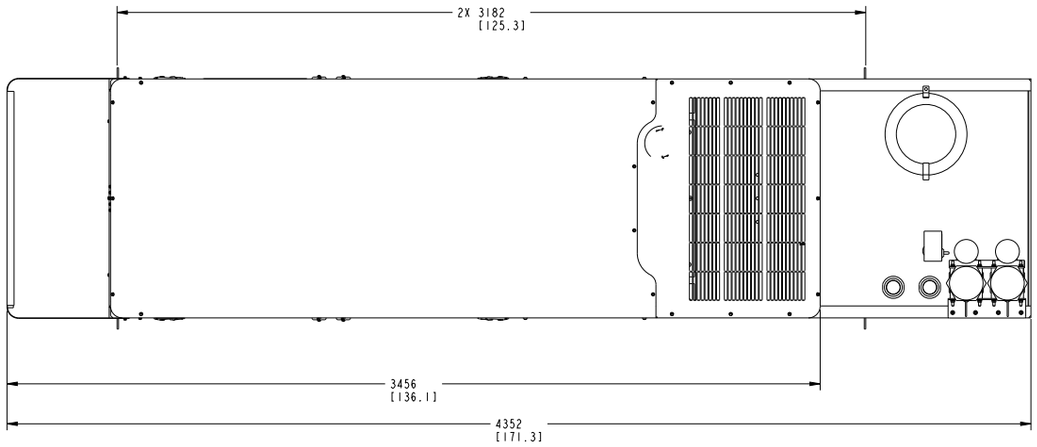
TABULATION										
TANK NUMBER	TANK HEIGHT	VENT EXTN. HEIGHT	TANK VOLUME-LITER [GAL]		WEIGHT - kg [lb]		CG_X		CG_Y	
			TOTAL (EST)	USABLE	MIN	MAX	MIN	MAX	MIN	MAX
A053L909	558.8 [22]	3082 [121]	1038 [274]	948 [250]	607 [1388]	1413 [3113]	2170 [85]	2284 [90]	283 [11.2]	252 [9.9]
A053L911	812.8 [32]	3082 [121]	1618 [427]	1611 [425]	752 [1657]	2122 [4675]	2170 [85]	2284 [90]	411 [16.2]	392 [15.4]
A053L912	1168 [46]	3082 [121]	2422 [639]	2369 [625]	952 [2096]	2966 [6534]	2170 [85]	2284 [90]	588 [23.1]	585 [23.0]

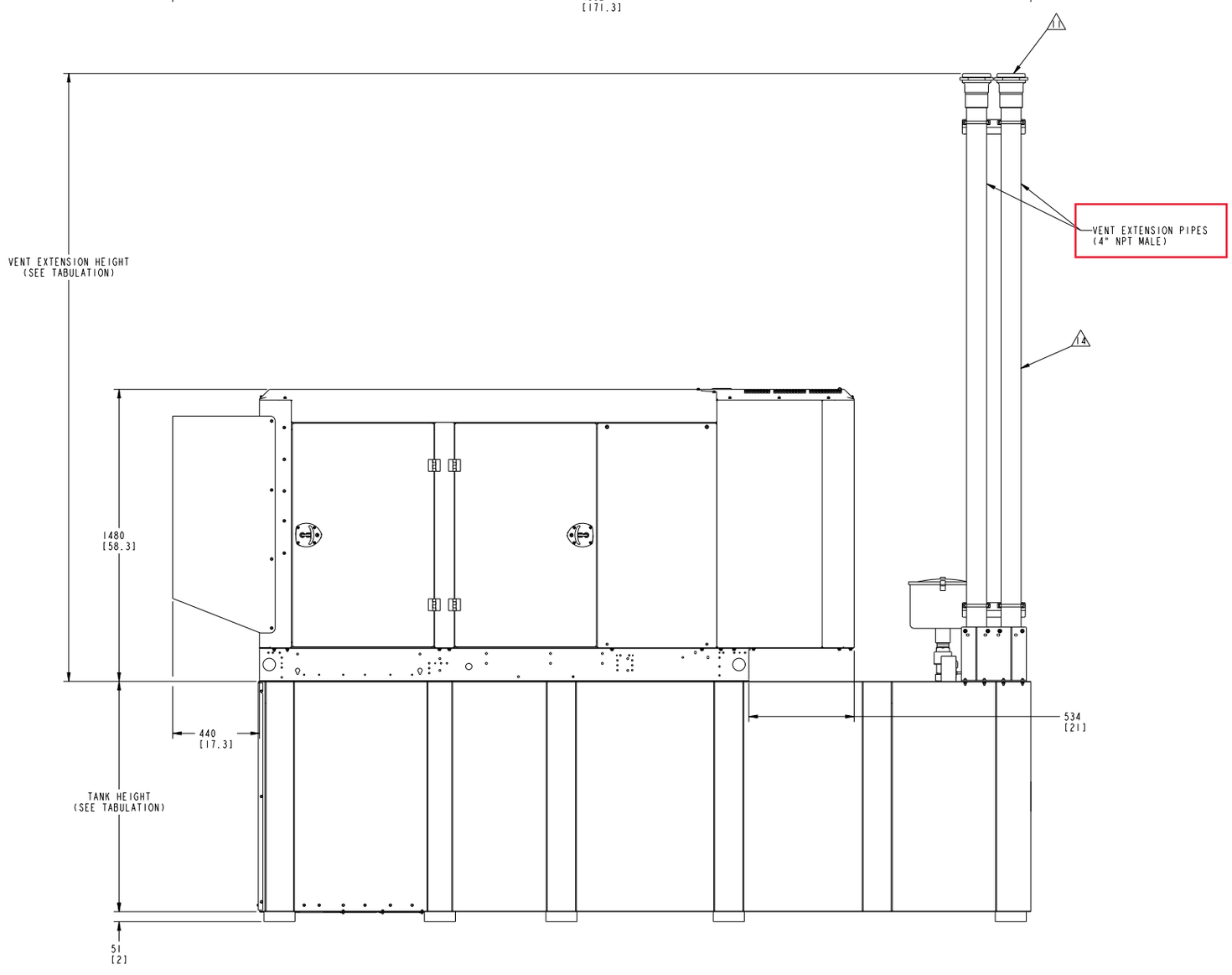
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS
DIM: X ±1, .X ± 0.8, .XX± 0.38; ANG TOL ± 1.0°
SCALE: 1:8
DO NOT SCALE PRINT
DRN D HOFMEISTER
CKD D HOFMEISTER
APVD M JAWALE
DATE 01FEB16
FIRST USED ON ARROW
CUMMINS POWER GENERATION
SITE CODE PGF
SIZE E
OUTLINE, TANK
REGIONAL
A054B564
CAD SHEET 1 of 4

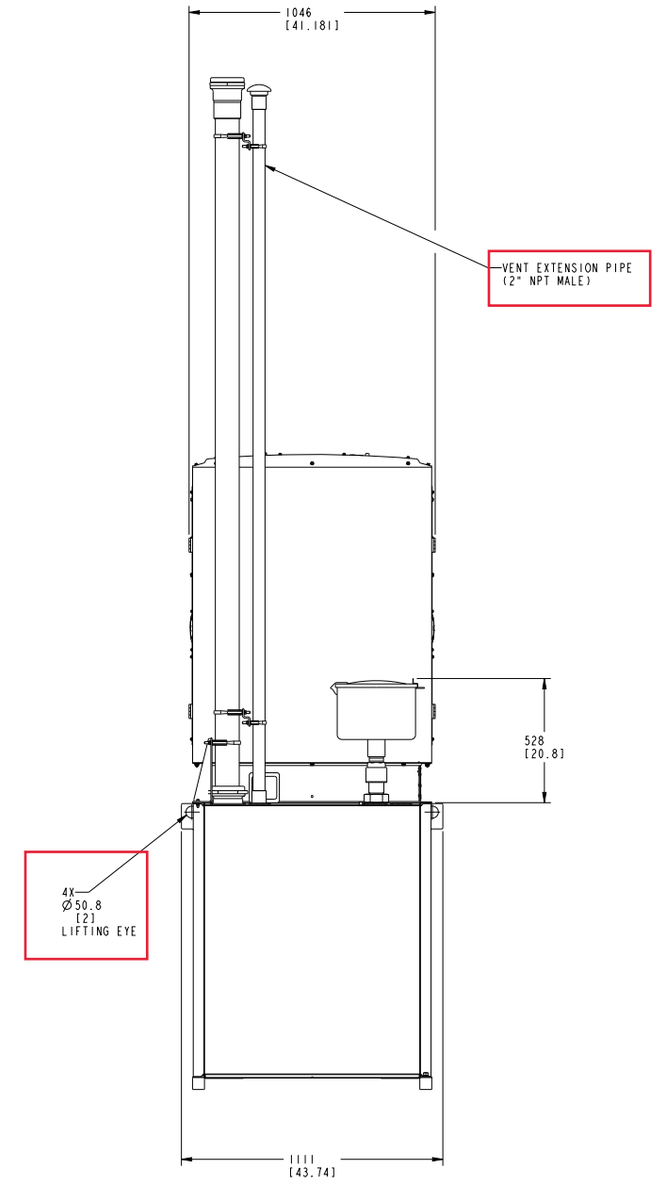
Drawing Name: A054B565 Revision: C
Part Name: A054B564 Revision: C
ECO-173968 Sheet 1 of 5
Exhibit H1 - District Supplied Equipment

PTC® Creo® Parametric

REL NO	REV	NO	REVISION	DRN	CKD	APVD	DATE
ECO-173968	C	5	ZONE C-2: ADD FLAG NOTE 14 CALL OUT	CJF	MF	M WINGFIELD	06DEC17
		6	ZONE A-3: ADD NOTE "(WITH---EXTENSIONS)"	CJF	MF	M WINGFIELD	06DEC17





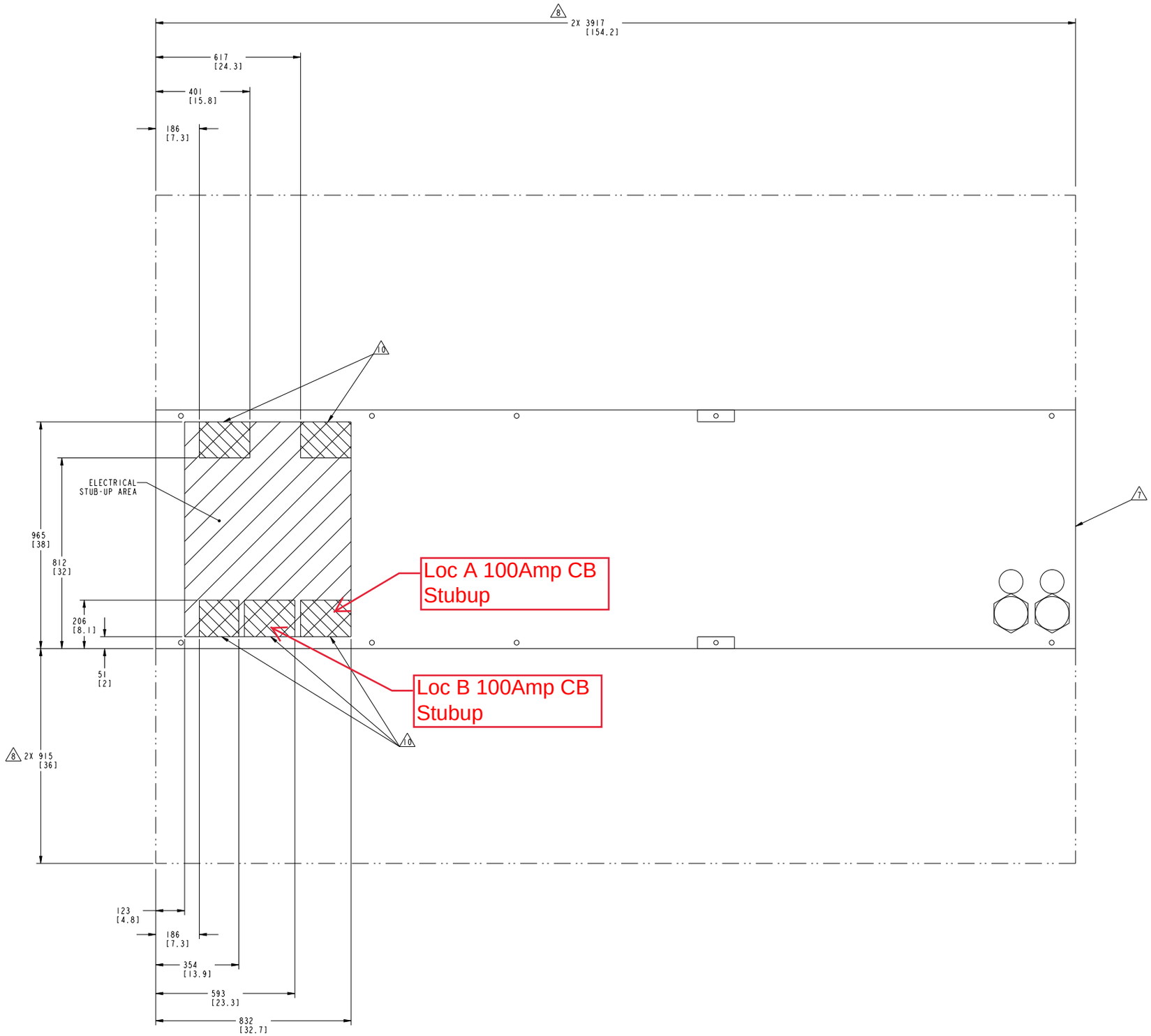


(WITH VENT EXTENSIONS)

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS
DIM: X ±1 | .X ±0.8 | .XX± 0.38
SCALE: 0.00- 4.99 +0.15/-0.08 | 5.00- 9.99 +0.20/-0.10 | 10.00-17.49 +0.25/-0.13 | 17.50-24.99 +0.30/-0.13
ANG TOL ± 1.0° | SCALE 1:8
Sim to .
DO NOT SCALE PRINT
THIS DOCUMENT AND THE INFORMATION SHOWN THEREON IS CONFIDENTIAL AND PROPRIETARY TO CUMMINS INC. AND IS NOT TO BE DISCLOSED TO OTHERS OR REPRODUCED, STORED IN A RETRIEVAL SYSTEM OR USED FOR ANY PURPOSE WITHOUT WRITTEN CONSENT OF CUMMINS INC.
DRN D HOFMEISTER
CKD D HOFMEISTER
APVD M JAWALE
DATE 01FEB16
FIRST USED ON ARROW
CUMMINS POWER GENERATION
SITE CODE REGIONAL
OUTLINE, TANK
PGF | DWG E | A054B564 | CAD SHEET 2 of 4

PTC® Creo® Parametric

REL NO	REV	NO	REVISION	DRN	CKD	APVD	DATE
ECO-173968	C	--	-----	CJF	MF	M WINGFIELD	06DEC17



UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS

DIM: X ±1 | .X ±0.8 | .XX± 0.38

ROLL: 0.00- 4.99 +0.15/-0.08 | 5.00- 9.99 +0.20/-0.10 | 10.00-17.49 +0.25/-0.13 | 17.50-24.99 +0.30/-0.13

DO NOT SCALE PRINT

ANG TOL ± 1.0° | SCALE 1:8

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FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, USE ASME Y14.5-2009

DRN	D HOFMEISTER
CKD	D HOFMEISTER
APVD	M JAWALE
DATE	01FEB16
THIRD ANGLE PROJECTION	ARROW

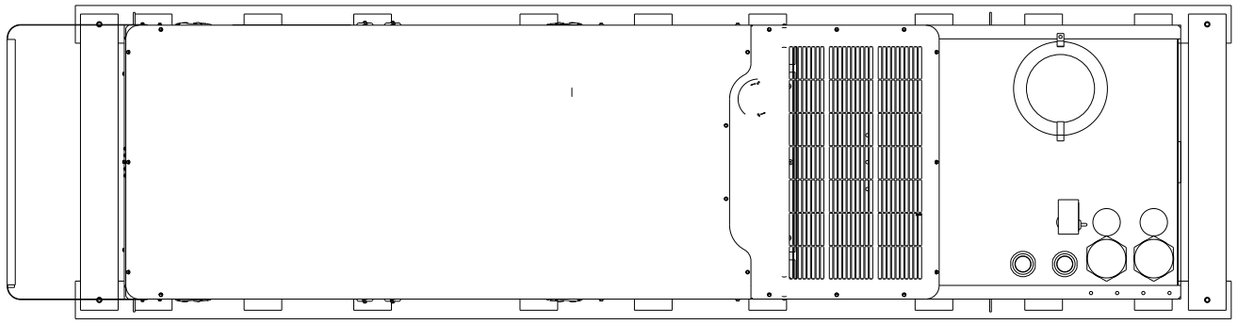
CUMMINS POWER GENERATION

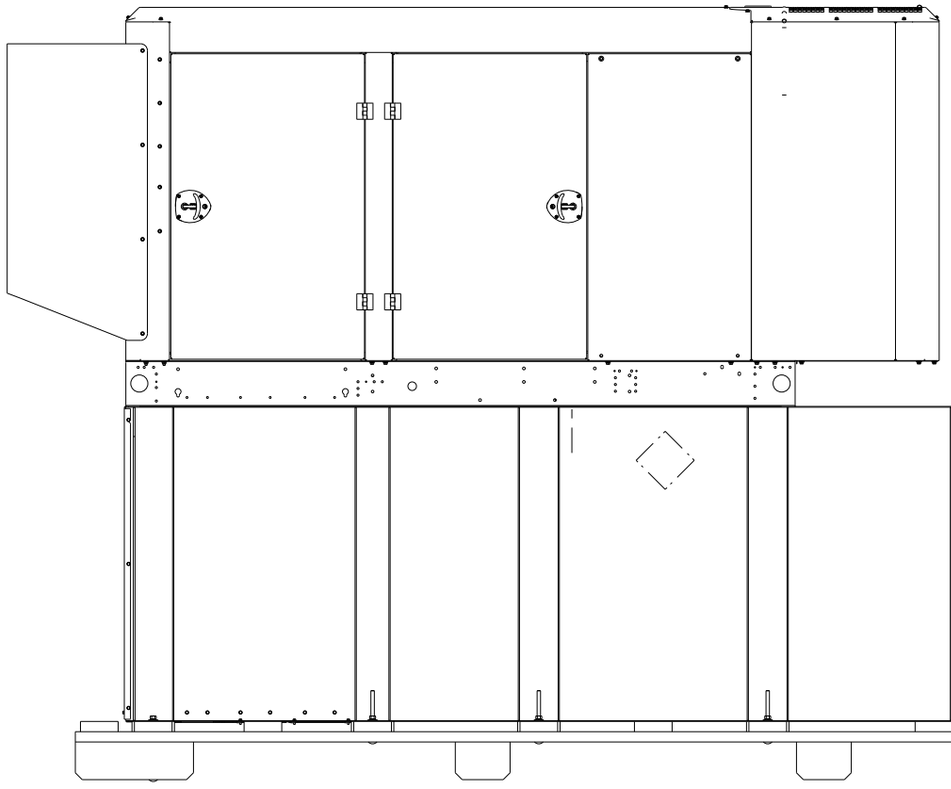
OUTLINE, TANK REGIONAL

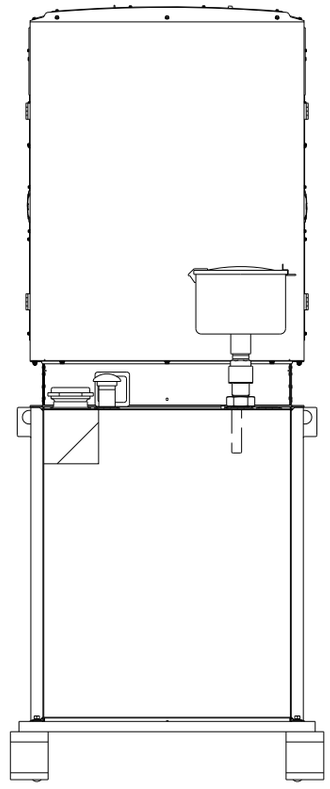
SITE CODE: PGF | SIZE: E | DWG NO: A054B564 | CAD SHEET: 3 of 4

PTC® Creo® Parametric

REL NO	REV	NO	REVISION	DRN	CKD	APVD	DATE
ECO-173968	C	1	ADD SHEET 4	CJF	MF	M WINGFIELD	06DEC17







(WITHOUT VENT EXTENSIONS)

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS			DRN D HOFMEISTER	CUMMINS POWER GENERATION
DIM: X ± 1; .X ± 0.8; .XX± 0.38	ROUT: 0.00- 4.99 +0.15/-0.08; 5.00- 9.99 +0.20/-0.10; 10.00-17.49 +0.25/-0.13; 17.50-24.99 +0.30/-0.13	DO NOT SCALE PRINT	CKD D HOFMEISTER	OUTLINE, TANK
			APVD M JAWALE	REGIONAL
			DATE 01FEB16	SITE CODE: PGF
ANG TOL: ± 1.0°	SCALE: 1:8	THIS DOCUMENT AND THE INFORMATION SHOWN THEREON IS CONFIDENTIAL AND PROPRIETARY TO CUMMINS INC. AND IS LOANED SUBJECT TO AGREEMENT AND SHALL NOT BE REPRODUCED, DISCLOSED OR OTHERWISE USED FOR ANY PURPOSE WITHOUT WRITTEN CONSENT OF CUMMINS INC.	FOR INTERPRETATION OF DIMENSIONS AND TOLERANCES SEE ASME Y14.5-2009	FIRST USED ON: ARROW	DWG SIZE: E	A054B564	CAD SHEET: 4 of 4

PTC® Creo® Parametric

REL NO	LTR	NO	REVISION	DWN	CKD	APVD	DATE
ECO-159499	A	1	PRODUCTION RELEASE	DAH	DAH	JAWALE	11FEB16

SEISMIC INSTALLATIONS NOTES:

1. THE DESIGN OF POST-INSTALLED ANCHORS IN CONCRETE USED FOR THE COMPONENT ANCHORAGE IS PRE-QUALIFIED FOR SEISMIC APPLICATIONS IN ACCORDANCE WITH "ACI 355.2-07" AND DOCUMENTED IN A REPORT BY A REPUTABLE TESTING AGENCY. (EX. THE EVALUATION SERVICE REPORT ISSUED BY THE INTERNATIONAL CODE COUNCIL)

2. ANCHORS MUST BE INSTALLED TO AN EMBEDMENT DEPTH AS RECOMMENDED IN THE PRE-QUALIFICATION TEST REPORT AS DEFINED IN NOTE 1. FOR "CBC 2013" APPLICATIONS.

3. ANCHORS MUST BE INSTALLED IN MINIMUM 3000 PSI COMPRESSIVE STRENGTH NORMAL WEIGHT STRUCTURAL CONCRETE. CONCRETE AGGREGATE MUST COMPLY WITH "ASTM C33".

4. ANCHORS MUST BE INSTALLED TO THE TORQUE SPECIFICATION AS RECOMMENDED BY THE ANCHOR MANUFACTURER.

5. ANCHORS MUST BE INSTALLED IN LOCATIONS SPECIFIED ON THIS INSTALLATION DRAWING.

6. WASHERS MUST BE INSTALLED AT EACH ANCHOR LOCATION BETWEEN THE ANCHOR HEAD AND EQUIPMENT FOR TENSION LOAD DISTRIBUTION. WASHERS MUST BE TYPE A OR B PLAIN WASHERS MEETING ASME B18.21.1-2009. WASHER SIZE TO MATCH ANCHOR DIAMETER.

7. CONCRETE FLOOR SLAB AND CONCRETE HOUSEKEEPING PADS MUST BE DESIGNED FOR SEISMIC APPLICATIONS IN ACCORDANCE WITH "ACI 318-11".

8. ALL HOUSEKEEPING PAD THICKNESSES MUST BE DESIGNED IN ACCORDANCE WITH THE PRE-QUALIFICATION TEST REPORT AS DEFINED IN NOTE 1 OR A MINIMUM OF 1.5X THE ANCHOR EMBEDMENT DEPTH, WHICHEVER IS LARGEST (UNLESS NOTED OTHERWISE).

9. ALL HOUSEKEEPING PADS MUST BE DOWELLED OR CAST INTO THE BUILDING STRUCTURAL FLOOR SLAB AND DESIGNED FOR SEISMIC APPLICATION PER "ACI 318-11" AND AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

10. FLOOR MOUNTED EQUIPMENT (WITH OR WITHOUT A HOUSEKEEPING PAD) MUST BE INSTALLED TO A STEEL REINFORCED STRUCTURAL CONCRETE FLOOR THAT IS SEISMICALLY DESIGNED AND APPROVED BY THE ENGINEER OF RECORD TO RESIST ALL LOADS FROM EQUIPMENT BEING ANCHORED TO THE FLOOR.

11. COORDINATE REINFORCEMENT OF SUPPORT STRUCTURE WITH EQUIPMENT ANCHOR LOCATIONS.

12. ATTACHING SEISMIC CERTIFIED EQUIPMENT TO FLOOR OTHER THAN THOSE DESIGNED TO ACCEPT THE SEISMIC LOADS FROM CERTIFIED EQUIPMENT BY THE STRUCTURAL ENGINEER OF RECORD IS PROHIBITED.

13. INSTALLATION ONTO A STEEL ROOF STRUCTURE OR MANUFACTURED STEEL CURB SHALL BE COORDINATED WITH THE STRUCTURAL ENGINEER OF RECORD.

14. CONNECTIONS TO THE EQUIPMENT, INCLUDING BUT NOT LIMITED TO CONDUIT, WIRING FROM CABLE TRAYS, OTHER ELECTRICAL SERVICES OR OTHER CONNECTIONS, ARE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND BEYOND THE SCOPE OF THIS DOCUMENT. FLEXIBLE ATTACHMENTS MUST BE USED FOR SEISMIC CONNECTIONS TO ISOLATED COMPONENTS OR ISOLATED EQUIPMENT. THE FLEXIBLE ATTACHMENT MUST PROVIDE FOR ENOUGH RELATIVE DISPLACEMENT TO REMAIN CONNECTED TO THE EQUIPMENT AND FUNCTIONAL DURING AND AFTER A SEISMIC EVENT.

15. REFER TO GENSET OUTLINE DRAWINGS FOR WEIGHT, CG AND CONFIGURATION SPECIFICS.

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS
DIM: X ±1 | .X ±0.8 | .XX±0.38
HOLE: 0.00-4.99 +0.15/-0.08 | 5.00-9.99 +0.20/-0.10 | 10.00-17.49 +0.25/-0.13 | 17.50-24.99 +0.30/-0.13
ANG TOL: ± 1.0° | SCALE: 1/1

SIM TO A051N157
DO NOT SCALE PRINT
- CONFIDENTIAL - PROPERTY OF CUMMINS POWER GENERATION GROUP

DWN D HOFMEISTER
CKD D HOFMEISTER
APVD M. JAWALE
DATE 11FEB16
FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5M-1994
FIRST USED ON ARROW

SITE CODE PGF

CUMMINS POWER GENERATION
INSTALLATION, GENSET
SEISMIC REQUIREMENTS
DWG SIZE D | A054T597 | SHEET 1 of 5 | DWG REV A

PTC® Creo® Parametric

REL NO	LTR	NO	REVISION	DWN	CKD	APVD	DATE
ECO-159499	A	1	PRODUCTION RELEASE.	DAH	DAH	JAWALE	11FEB16

GRADE MOUNTED GENERATOR SETS

CUMMINS GENSET MODEL	CONFIGURATION	ATTACHMENT TO CONCRETE					
		EVALUATION PARAMETERS	CONCRETE ANCHORS	ANCHOR EMBEDMENT	ANCHOR SPACING	DISTANCE TO NEAREST EDGE	CONCRETE SLAB THICKNESS
C50 D6C C60 D6C C80 D6C C100 D6C C125 D6C	GENERATOR SET WITH OR WITHOUT ENCLOSURE	CBC 2013/IBC 2012 Sds <= 2.5 Ip <= 1.5 ap/Rp <= 2.5/2.0 z/h = 1.0 Ω = 2.5	SEE NOTE				

NOTE: TYPE OF ANCHOR, ANCHOR ATTACHMENT SPECIFICS AND MINIMUM SLAB THICKNESS TO BE DESIGNED BY ENGINEER OF RECORD.

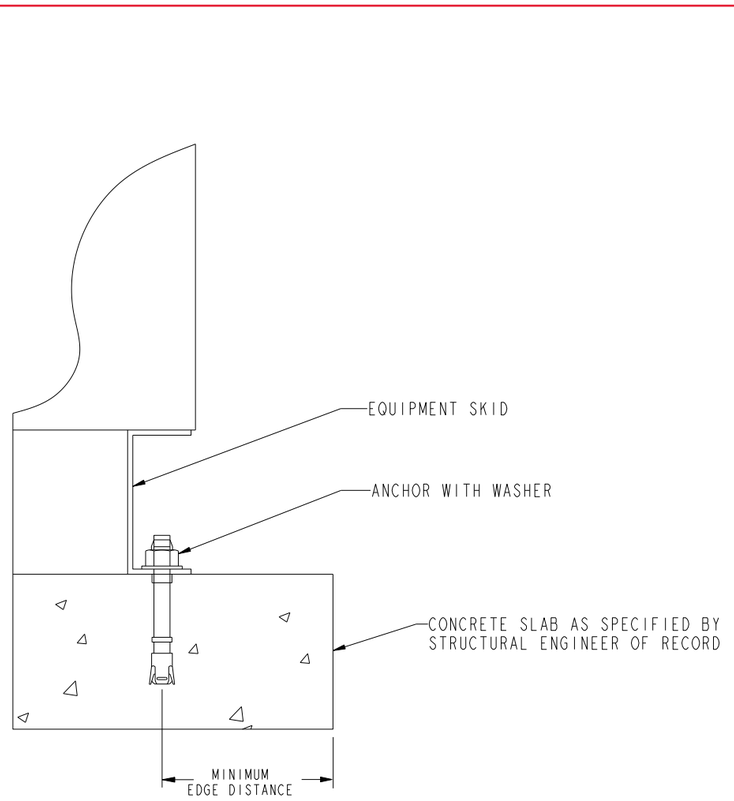
GRADE/ROOF MOUNTED GENERATOR SETS

CUMMINS GENSET MODEL	CONFIGURATION	ATTACHMENT TO STEEL	
		EVALUATION PARAMETERS	STEEL BOLTS
C50 D6C C60 D6C C80 D6C C100 D6C C125 D6C	GENERATOR SET WITH OR WITHOUT ENCLOSURE	CBC 2013/IBC 2012 Sds <= 2.5 Ip <= 1.5 ap/Rp <= 2.5/2.0 z/h <= 1.0	(QTY 4) 5/8" DIAMETER ASTM A325N OR A490 BOLTS WITH WASHERS THROUGH THE BASE RAIL MOUNTING HOLES.

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS
DIM: X ±1, .X ±0.8, .XX±0.38
HOLE: 0.00- 4.99 +0.15/-0.08; 5.00- 9.99 +0.20/-0.10; 10.00-17.49 +0.25/-0.13; 17.50-24.99 +0.30/-0.13
ANG TOL: ± 1.0° SCALE: 1/1
SIM TO A051N157
DO NOT SCALE PRINT
- CONFIDENTIAL - PROPERTY OF CUMMINS POWER GENERATION GROUP
DWN D HOFMEISTER
CKD D HOFMEISTER
APVD M. JAWALE
DATE 11FEB16
FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5M-1994
FIRST USED ON ARROW
SITE CODE PGF
CUMMINS POWER GENERATION
INSTALLATION, GENSET
SEISMIC REQUIREMENTS
DWG SIZE D | A054T597 | SHEET 2 of 5 | DWG REV A

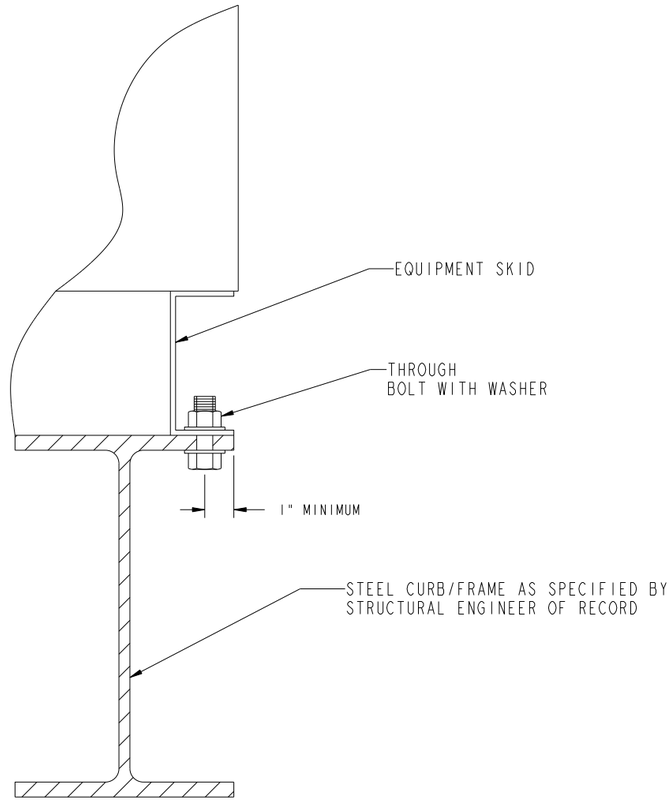
PTC® Creo® Parametric

REL NO	LTR	NO	REVISION	DWN	CKD	APVD	DATE
ECO-159499	A	1	PRODUCTION RELEASE	DAH	DAH	JAWALE	11FEB16



TO BE DESIGNED BY ENGINEER OF RECORD

CONCRETE CONNECTION



STEEL CONNECTION

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS

DIM: X ± 1; .X ± 0.8; .XX ± 0.38

HOLE: 0.00- 4.99 +0.15/-0.08; 5.00- 9.99 +0.20/-0.10; 10.00-17.49 +0.25/-0.13; 17.50-24.99 +0.30/-0.13

ANG TOL: ± 1.0° SCALE: 1/1

SIM TO A051N157

DO NOT SCALE PRINT

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DWN D HOFMEISTER
CKD D HOFMEISTER
APVD M. JAWALE
DATE 11FEB16

FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5M-1994 — FIRST USED ON ARROW

SITE CODE PGF

CUMMINS POWER GENERATION

INSTALLATION, GENSET SEISMIC REQUIREMENTS

SIZE D — A054T597 — SHEET 4 of 5 — DWG REV A

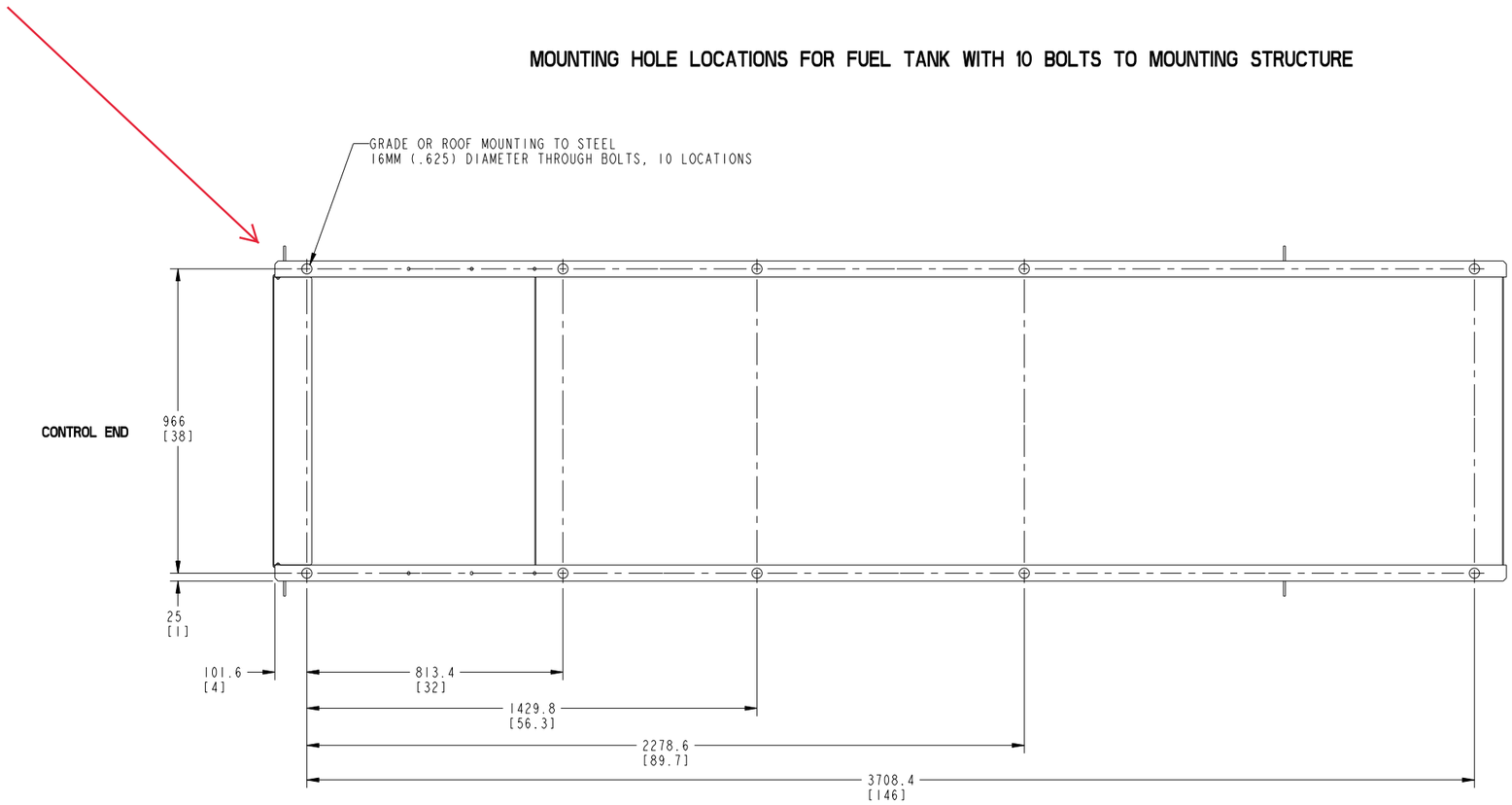
Regulatory Review and Approval is required prior to changing this item per PGG 1-01-01-116. This item impacts compliance with these External Regulations: IBC,OSHPD

Drawing Name: A054T598 Revision: A
Part Name: A054T597 Revision: A
ECO-159499 Sheet 4 of 6

PTC® Creo® Parametric

REL NO	LTR	NO	REVISION	DWN	CKD	APVD	DATE
ECO-159499	A	1	PRODUCTION RELEASE	DAH	DAH	JAWALE	11FEB16

MOUNTING HOLE LOCATIONS FOR FUEL TANK WITH 10 BOLTS TO MOUNTING STRUCTURE



C50 D6C, C60 D6C, C80 D6C, C100 D6C, C125 D6C: FUEL TANKS WITH 10 HOLE ATTACHMENTS

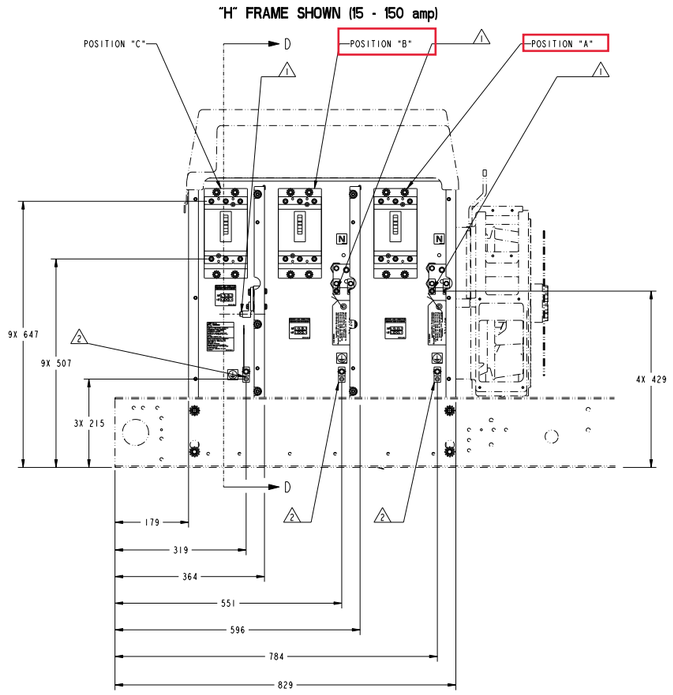
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS				SIM TO A051N157	DWN D HOFMEISTER		CUMMINS POWER GENERATION	
DIM: X ± 1; .X ± 0.8; .XX ± 0.38	HOLE: 0.00-4.99 +0.15/-0.08; 5.00-9.99 +0.20/-0.10; 10.00-17.49 +0.25/-0.13; 17.50-24.99 +0.30/-0.13			DO NOT SCALE PRINT	CKD D HOFMEISTER		INSTALLATION, GENSET SEISMIC REQUIREMENTS	
ANG TOL: ± 1.0°	SCALE: 1/1			- CONFIDENTIAL - PROPERTY OF CUMMINS POWER GENERATION GROUP	APVD M. JAWALE		SITE CODE	SIZE / DWG NO / SHEET / DWG REV
					DATE 11FEB16		PGF	D A054T597 5 of 5 A
					FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5M-1994	FIRST USED ON ARROW		

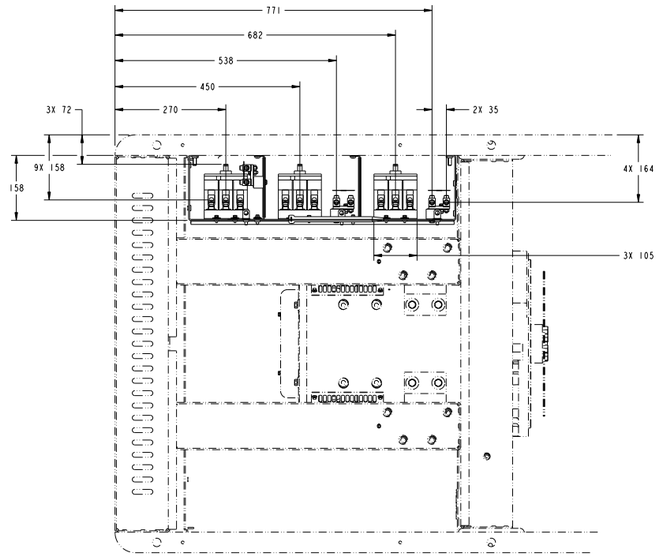
Regulatory Review and Approval is required prior to changing this item per PGG 1-01-01-116. This item impacts compliance with these External Regulations: IBC,OSHPD

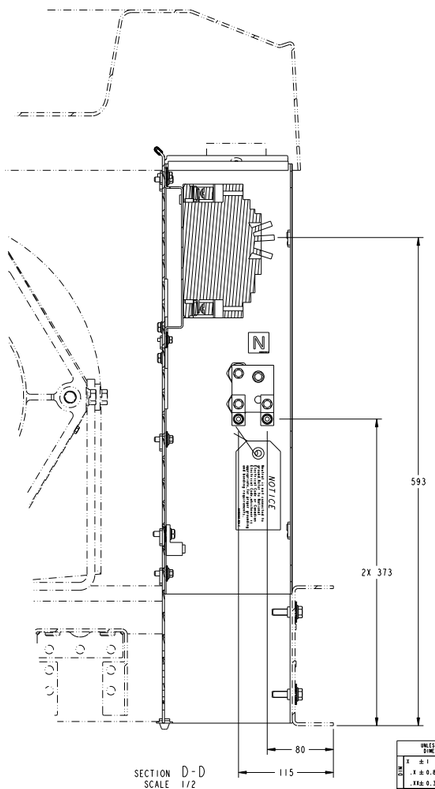
PTC® Creo® Parametric

REL NO	LTR	NO	REVISION	BY	CHD	APVD	DATE
ECO-151815	B	1	PRODUCTION RELEASE	KD	PL	P.LARSON	20APR15
		2	DRAWING HAS BEEN PICTORIALLY UPDATED	KD	PL	P.LARSON	20APR15
		3	RMV C11 LABEL	KD	PL	P.LARSON	20APR15
		4	UPDATE NOTES & TAB - SEE ECO	KD	PL	P.LARSON	20APR15
		5	SEE SHEET 2	KD	PL	P.LARSON	20APR15
		6	SEE SHEET 3	KD	PL	P.LARSON	20APR15

"H" FRAME SHOWN (15 - 150 amp)







SECTION D-D
SCALE 1/2

NOTES:

1. NEUTRAL LUG (1) #14-2/0
2. GROUND LUG (1) #14-1/0
3. NEUTRAL LUG (1) #6-350 kcmil.
4. NEUTRAL LUG (2) #2-600 kcmil OR (4) 1/0-250 kcmil.

FRAME	LUG	LUG WIRE RANGE	WIRE STRIP LENGTH	CB LUG TORQUE
H-FRAME THERMAL-MAGNETIC 15-150 AMP 80% RATED	AL150HD	(1) AL #14 - 3/0 AWG (1) CU #14 - 3/0 AWG	0.65 inch	#14 - #10 50 lb-in (6.0 Nm) #8 - 3/0 120 lb-in (14.0 Nm)
J-FRAME THERMAL-MAGNETIC 175 AMP 80% RATED	AL175HD	(1) AL #4 - 4/0 AWG (1) CU #4 - 4/0 AWG	1.00 inch	225 lb-in (26.0 Nm)
J-FRAME THERMAL-MAGNETIC 200-250 AMP 80% RATED	AL250JD	(1) AL 3/0 - 350 kcmil (1) CU 3/0 - 350 kcmil	1.00 inch	225 lb-in (26.0 Nm)
J-FRAME LSI ELECTRONIC TRIP ADJUSTABLE TRIP 70-250 AMP 100% RATED, COPPER CONDUCTORS ONLY	CU250JD	(1) CU 1/0 - 300 kcmil	1.00 inch	250 lb-in (28.0 Nm)
L-FRAME (400) LSI ELECTRONIC TRIP ADJUSTABLE TRIP 125-400 AMP 80% RATED	AL400LG1K3	(1) AL #2 - 500 kcmil (1) CU #2 - 600 kcmil	1.20 inch	442 lb-in (50 Nm)
L-FRAME (400) LSI ELECTRONIC TRIP ADJUSTABLE TRIP 125-400 AMP 100% RATED, COPPER CONDUCTORS ONLY	AL600LS52K3	(2) CU 2/0 - 500 kcmil	(1) 1.20 inch (1) 2.40 inch	442 lb-in (50 Nm)
L-FRAME (600) LSI ELECTRONIC TRIP ADJUSTABLE TRIP 200-600 AMP 80% RATED	AL600LS52K3	(2) AL 2/0 - 500 kcmil (2) CU 2/0 - 500 kcmil	(1) 1.20 inch (1) 2.40 inch	442 lb-in (50 Nm)

CIRCUIT BREAKER ACCESSORIES	
1	SHUNT TRIP (MX) P/N A043X760 12 VDC COIL BURDEN < 5 WATTS 10 AMP IN-RUSH
2	AUXILIARY CONTACTS P/N A043X785 OPEN/CLOSED (OF) TRIP INDICATION (SD) FORM C CONTACTS RATING: 6 AMPS AT 24 VAC, 48 VAC, 110 VAC 6 AMPS AT 24 VDC, 2.5 AMPS AT 48 VDC 0.6 AMPS AT 110 VDC H & J FRAME, MAXIMUM OF 4 CONTACTS PER CIRCUIT BREAKER L FRAME, MAXIMUM OF 5 CONTACTS PER CIRCUIT BREAKER

UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN MILLIMETERS

DIM	TOL	RANGE
X	±1	0.00 - 4.99 +0.15/-0.00
.X	±0.8	5.00 - 9.99 +0.20/-0.10
.XX	±0.38	10.00-17.49 +0.25/-0.13
		17.50-24.99 +0.30/-0.13

ANG TOL: ± 1.0°

SCALE: 1/4

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NEXT ASSY

USED ON: ARROW

DRN K.DEIVASIGAMANI
CHD P.LARSON
APVD P.LARSON
DATE 21JAN15

SITE CODE: PGF

CUMMINS POWER GENERATION

OUTLINE, CIRCUIT BREAKER

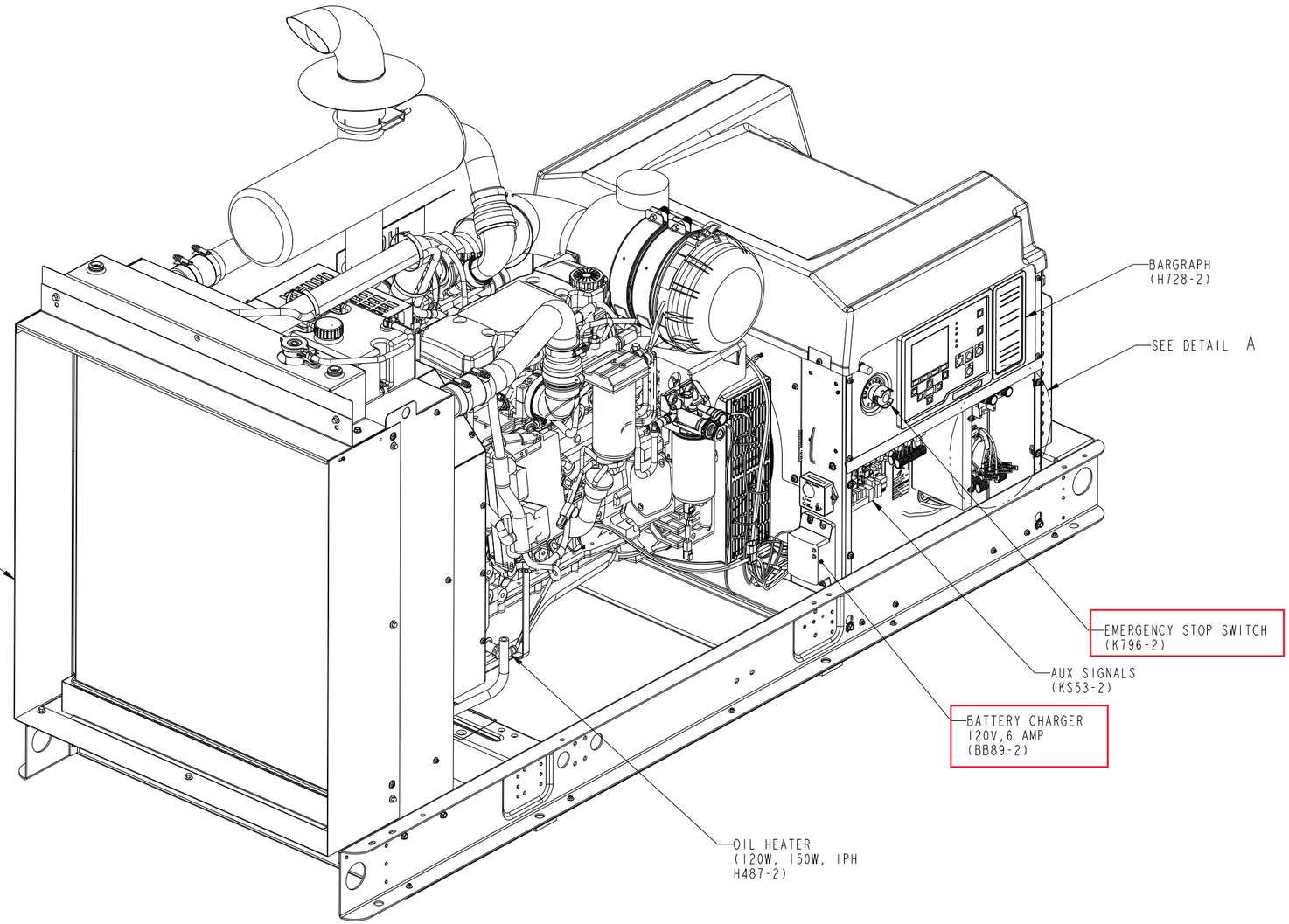
SIZE: E | DWG NO: A049J918 | SHEET: 1 OF 3 | REV: B

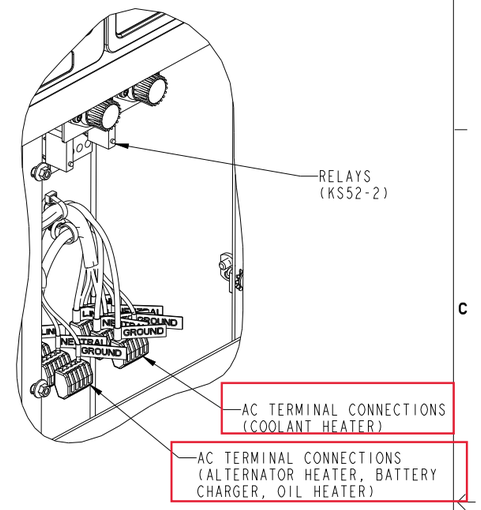
PTC® Creo® Parametric

REL NO	REV	NO	REVISION	DWN	CKD	APVD	DATE
ECO-168286	B	1	ADD NOTE 1	AGJ	AGJ	JAWALE	27FEB16
		2	ADD SHEET 3	AGJ	AGJ	JAWALE	27FEB16

NOTES:

1. DIMENSIONS SHOWN IN [ ] ARE IN INCHES.





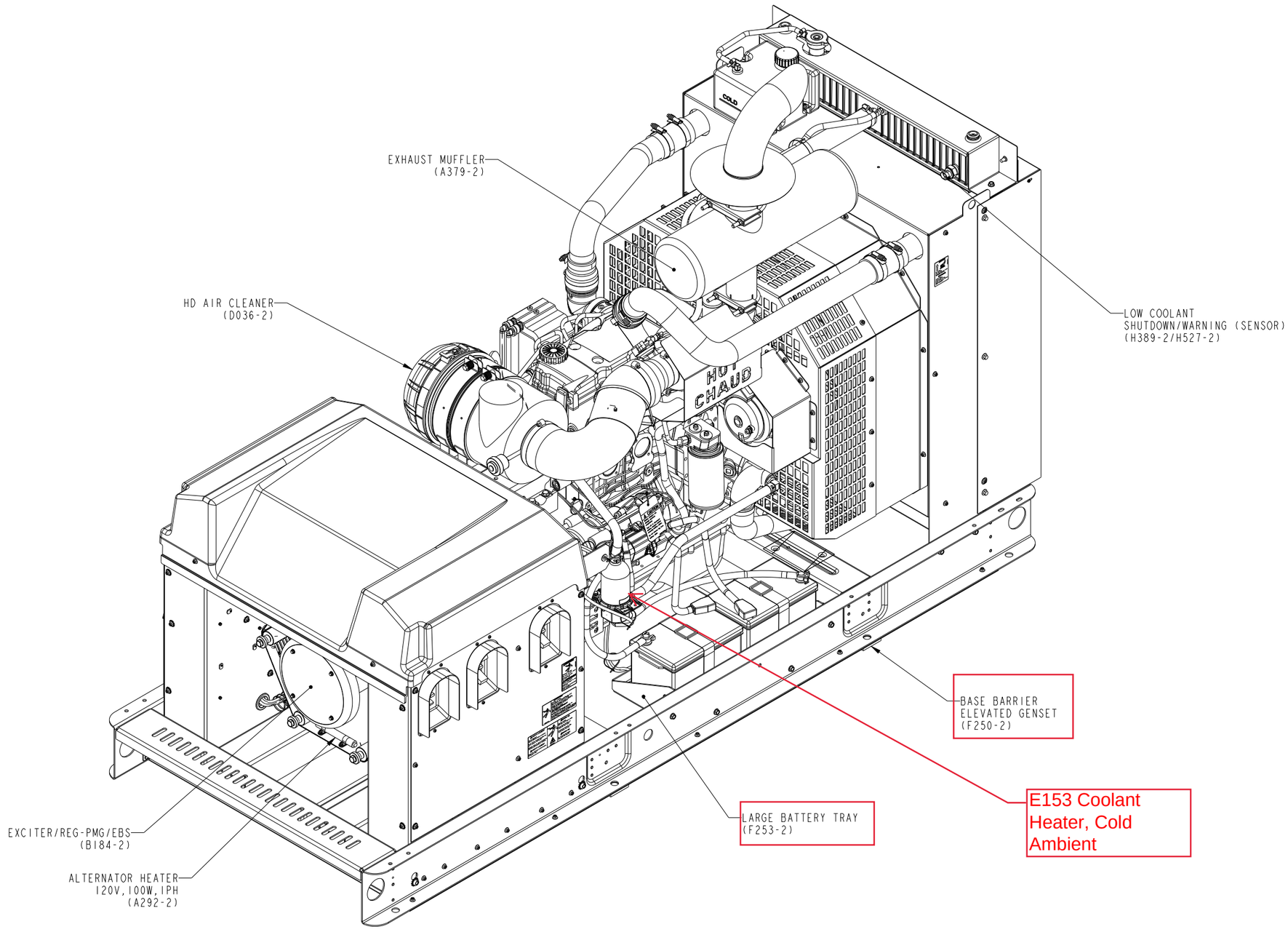
DETAIL A
SCALE 1:2

C50 D6C, C60 D6C, C80 D6C,
C100 D6C, C125 D6C

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS			SIM TO	DWN D HOFMEISTER	CUMMINS POWER GENERATION
DIM: X ±1; .X ±0.8; .XX± 0.38 — HOLE: 0.00- 4.99 +0.15/-0.08; 5.00- 9.99 +0.20/-0.10; 10.00-17.49 +0.25/-0.13; 17.50-24.99 +0.30/-0.13			DO NOT SCALE PRINT	CKD D HOFMEISTER	OUTLINE,GENSET OPTIONS
ANG TOL ± 1.0°	SCALE 3:16	THIS DOCUMENT (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE DISCLOSED TO OTHERS IN HARD COPY OR ELECTRONIC FORM, REPRODUCED BY ANY MEANS, OR USED FOR ANY PURPOSE WITHOUT WRITTEN CONSENT OF CUMMINS INC.		APVD M JAWALE	
				DATE 17MAR16	
				FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5-2009	FIRST USED ON ARROW
				SITE CODE PGF	DWG SIZE D A054Y899 CAD SHEET 1 of 3

PTC® Creo® Parametric

REL NO	REV	NO	REVISION	DWN	CKD	APVD	DATE
ECO-168286	B	-	-----	AGJ	AGJ	JAWALE	27FEB16

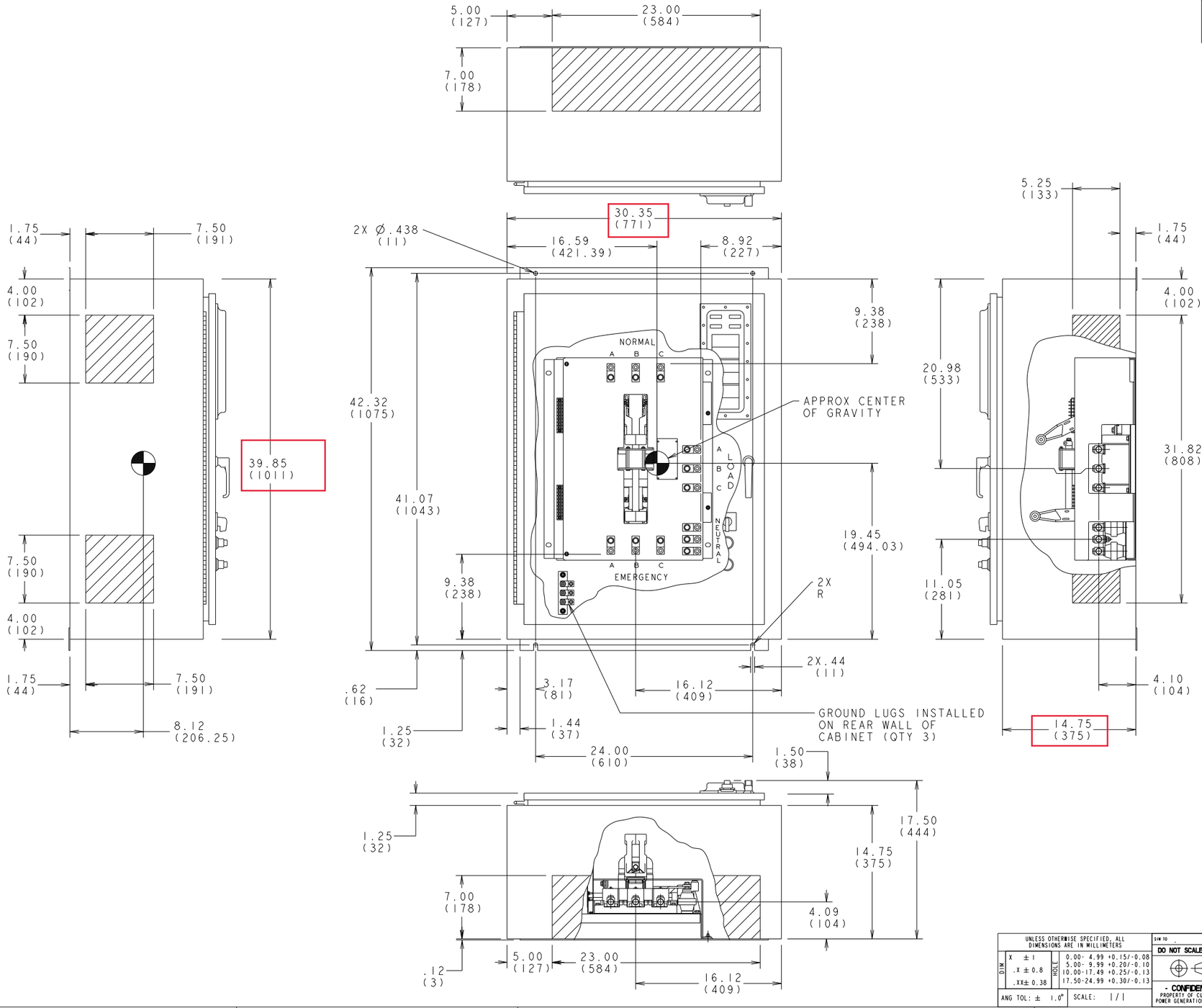


C50 D6C, C60 D6C, C80 D6C,
C100 D6C, C125 D6C

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS			SIM TO .	DWN D HOFMEISTER	CUMMINS POWER GENERATION
DIM: X ± 1, .X ± 0.8, .XX ± 0.38	HOLE: 0.00- 4.99 +0.15/-0.08; 5.00- 9.99 +0.20/-0.10; 10.00-17.49 +0.25/-0.13; 17.50-24.99 +0.30/-0.13		DO NOT SCALE PRINT	CKD D HOFMEISTER	OUTLINE, GENSET OPTIONS
				APVD M JAWALE	
				DATE 17MAR16	SITE CODE
ANG TOL ± 1.0°	SCALE 3:16	THIS DOCUMENT (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE DISCLOSED TO OTHERS IN HARD COPY OR ELECTRONIC FORM, REPRODUCED BY ANY MEANS, OR USED FOR ANY PURPOSE WITHOUT WRITTEN CONSENT OF CUMMINS INC.	FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5-2009	FIRST USED ON ARROW	PGF
					DWG SIZE D — A054Y899 — CAD SHEET 2 of 3

Pro/ENGINEER

REL NO	LTR	NO	REVISION	DWN	CKD	APVD	DATE
ECO-103287	H	1	REDRAWN IN PRO/E; REVISED NOTES PER ECO	AWG	JM	SCHOTTLER	29JAN09



NOTES:

1. U.L. CABINET:
   TYPE 3R, OUTDOOR RAINPROOF
   TYPE 12, INDOOR DUSTTIGHT, DRIPTIGHT
   (EQUIVALENT TO NEMA 3R AND 12)
2. APPROX WEIGHT: 190 lbs
   MASS: 86 kg
3. DIMENSIONS IN () ARE MILLIMETERS.
4. LUG CAPACITY:
   (QTY 1 WIRE) 6-300 (16-150) MCM CU-AL.
   GND LUG CAPACITY:
   (1 WIRE) WIRE RANGE #14-1/0 (2.5-50)
   CU-AL.
5. USE SEPARATE CONDUITS FOR CONTROL WIRING & POWER WIRING. DO NOT COMBINE.
6. SHADED AREA INDICATES WIRING & CABLE ENTRANCE AREA. DO NOT INSTALL OUTSIDE OF SHADED AREA.
7. WIRE BENDING SPACE CONFORMS TO NATIONAL ELECTRIC CODE (NFPA70).
8. REFER TO THE NATIONAL ELECTRIC CODE FOR MINIMUM CLEAR SPACE IN FRONT OF THIS ENCLOSURE.

3 POLE

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS
DIM: X ± 1, .X ± 0.8, .XX± 0.38
HOLE: 0.00- 4.99 +0.15/-0.08; 5.00- 9.99 +0.20/-0.10; 10.00-17.49 +0.25/-0.13; 17.50-24.99 +0.30/-0.13
ANG TOL: ± 1.0° SCALE: 1/1

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DWN A.GOETZ
CKD J.MORLEY
APVD N.SCHOTTLER
DATE 29JAN09

FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5M-1994

FIRST USED ON 150-225A

SITE CODE PGF

CUMMINS POWER GENERATION

OUTLINE, CONTROL BOX

DWG SIZE D | 0310_0454 | SHEET 1 of 2 | DWG REV H

Our energy working for you.™

Cummins Power Generation

Limited Warranty

Commercial Generating Set

This limited warranty applies to all Cummins Power Generation® branded commercial generating sets and associated accessories (hereinafter referred to as "Product").

This warranty covers any failures of the Product, under normal use and service, which result from a defect in material or factory workmanship.

Warranty Period:

The warranty start date† is the date of initial start up, first rental, demonstration or 18 months after factory ship date, whichever is sooner. See table for details.

Continuous Power (COP) is defined as being the maximum power which the generating set is capable of delivering continuously whilst supplying a constant electrical load when operated for an unlimited number of hours per year. No overload capability is available for this rating.

Prime Power (PRP) is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year. The permissible average power output over 24 hours of operation shall not exceed 70% of the PRP. For applications requiring permissible average output higher than stated, a COP rating should be used.

Limited-Time Running Power (LTP) is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 hours of operation per year.

Emergency Standby Power (ESP) is defined as the maximum power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 500 hours of operation per year. The permissible average power output over 24 hours of operation shall not exceed 70% of the ESP.

Environmental Protection Agency – Stationary Emergency (EPA-SE) is defined as being the maximum power available during a variable electrical power sequence, under the stated operating conditions, for which a generator set is capable of delivering in the event of a utility power outage or under test conditions and used in strict accordance with the EPA NSPS for stationary engines, 40 CFR part 60, subparts IIII and JJJJ, where a reliable utility must be present. The permissible average power output over 24 hours of operation shall not exceed 70% of the EPA-SE.

Data Center Continuous (DCC) is defined as the maximum power which the generator is capable of delivering continuously to a constant or varying electrical load for unlimited hours in a data center application.

Base Warranty Coverage Duration
(Whichever occurs first)

Rating	Months	Max. Hours
COP	12	Unlimited
PRP	12	Unlimited
LTP	12	500 hrs
ESP	24	1000 hrs
EPA-SE	24	Unlimited
DCC	24	Unlimited

† Warranty start date for designated rental and oil and gas model Products is determined to be date of receipt of Product by the end customer.

Cummins Power Generation® Responsibilities:

In the event of a failure of the Product during the warranty period due to defects in material or workmanship, Cummins Power Generation® will only be responsible for the following costs:

- All parts and labor required to repair the Product.
- Reasonable travel expenses to and from the Product site location.
- Maintenance items that are contaminated or damaged by a warrantable failure.

Owner Responsibilities:

The owner will be responsible for the following:

- Notifying Cummins Power Generation® distributor or dealer within 30 days of the discovery of failure.
- Installing, operating, commissioning and maintaining the Product in accordance with Cummins Power Generation®'s published policies and guidelines.
- Providing evidence for date of commissioning.
- Providing sufficient access to and reasonable ability to remove the Product from the installation in the event of a warrantable failure.
- Incremental costs and expenses associated with Product removal and reinstallation resulting from non-standard installations.
- Costs associated with rental of generating sets used to replace the Product being repaired.
- Costs associated with labor overtime and premium shipping requested by the owner.
- All downtime expenses, fines, all applicable taxes, and other losses resulting from a warrantable failure.

Limitations:

This limited warranty does not cover Product failures resulting from:

- Inappropriate use relative to designated power rating.
- Inappropriate use relative to application guidelines.
- Inappropriate use of an EPA-SE application generator set relative to EPA's standards.
- Normal wear and tear.
- Improper and/or unauthorized installation.
- Negligence, accidents or misuse.
- Lack of maintenance or unauthorized repair.
- Noncompliance with any Cummins Power Generation® published guideline or policy.
- Use of improper or contaminated fuels, coolants or lubricants.
- Improper storage before and after commissioning.
- Owner's delay in making Product available after notification of potential Product problem.
- Replacement parts and accessories not authorized by Cummins Power Generation®.
- Use of Battle Short Mode.
- Owner or operator abuse or neglect such as: operation without adequate coolant or lubricants; overfueling; overspeeding; lack of maintenance to lubricating, cooling or air intake systems; late servicing and maintenance; improper storage, starting, warm-up, run-in or shutdown practices, or for progressive damage resulting from a defective shutdown or warning device.
- Damage to parts, fixtures, housings, attachments and accessory items that are not part of the generating set.

This limited warranty does not cover costs resulting from:

- Difficulty in gaining access to the Product.
- Damage to customer property.

A "Data center" is defined as a dedicated facility that house computers and associated equipment for data storage and data handling.

Reliable utility is defined as utility power without routine or regularly scheduled black-outs.

Please contact your local Cummins Power Generation® Distributor for clarification concerning these limitations.

CUMMINS POWER GENERATION® RIGHT TO FAILED COMPONENTS:

Failed components claimed under warranty remain the property of Cummins Power Generation®. Cummins Power Generation® has the right to reclaim any failed component that has been replaced under warranty.

Extended Warranty:

Cummins Power Generation® offers several levels of Extended Warranty Coverage. Please contact your local Cummins Power Generation ® Distributor for details.
www.power.cummins.com

THE WARRANTIES SET FORTH HEREIN ARE THE SOLE WARRANTIES MADE BY CUMMINS POWER GENERATION ® IN REGARD TO THE PRODUCT. CUMMINS POWER GENERATION® MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OR OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT IS CUMMINS POWER GENERATION® LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

This limited warranty shall be enforced to the maximum extent permitted by applicable law. This limited warranty gives the owner specific rights that may vary from state to state or from jurisdiction to jurisdiction.

Product Model Number:_____
Product Serial Number:_____
Date in Service:_____

Cummins Pacific

Our energy working for you.™

Cummins Power Generation

Limited Warranty

Transfer Switch and Paralleling Systems

This limited warranty applies to all Cummins Power Generation® branded Transfer Switches, Paralleling Systems and associated accessories (hereinafter referred to as "Product").

This warranty covers any failures of the Product, under normal use and service, which result from a defect in material or factory workmanship.

Warranty Period:

The warranty start date is the date of commissioning†, demonstration or 18 months after factory ship date, whichever is sooner.

† Date of commissioning not to exceed date of Generator Set initial start-up.

Transfer Switch Coverage Duration:

The warranty coverage duration for Transfer Switches is defined in the table below for the different product families:

Product Family	Duration
GTEC, LT, LC, RSS, RST, OTEC	▪ 1 Year: Parts, Labor & Travel
PLTO, PLTH, PLTS, PLTE	▪ 2 Years: Parts, Labor & Travel
Other Power Transfer Devices††	▪ 2 Years: Parts, Labor & Travel
OT, OTPC, BTPC, OHPC, CHPC	▪ Years 0-2: Parts, Labor &Travel ▪ Years 3-5: Parts Only ▪ Years 6-10: Main Contacts Only

†† Devices manufactured by Cummins Power Generation that allow power transfer between two power sources.

Paralleling Systems Coverage Duration:

The warranty coverage duration for Paralleling Systems is for a period of 2 Years from the warranty start date.

Cummins Power Generation® Responsibilities:

In the event of a failure of the Product during the warranty period due to defects in material or workmanship, Cummins Power Generation® will only be responsible for the following costs:

- All parts and labor required to repair the Product†††.
- Reasonable travel expenses to and from the Product site location†††.

††† Years 0-2 only for OT, OTPC, BTPC, OHPC & CHPC family of Transfer Switches.

Owner Responsibilities:

The owner will be responsible for the following:

- Notifying Cummins Power Generation® distributor or dealer within 30 days of the discovery of failure.
- Installing, operating, commissioning and maintaining the Product in accordance with Cummins Power Generation®'s published policies and guidelines.
- Providing evidence for date of commissioning.
- Providing sufficient access to and reasonable ability to remove the Product from the installation in the event of a warrantable failure.

In addition, the owner will be responsible for:

- Incremental costs and expenses associated with Product removal and reinstallation resulting from non-standard installations.
- Costs associated with rental of power generating equipment used to replace the Product being repaired.
- Costs associated with labor overtime and premium shipping requested by the owner.
- All downtime expenses, fines, all applicable taxes, and other losses resulting from a warrantable failure.

Limitations:

This limited warranty does not cover Product failures resulting from:

- Inappropriate use relative to designated power rating.
- Inappropriate use relative to application guidelines.
- Non-conformance to applicable industry standards for installation
- Normal wear and tear.
- Improper and/or unauthorized installation.
- Negligence, accidents or misuse.
- Lack of maintenance or unauthorized repair.
- Noncompliance with any Cummins Power Generation® published guideline or policy.
- Improper storage before and after commissioning.
- Owner's delay in making Product available after notification of potential Product problem.
- Use of steel enclosures within 60 miles of the coast of salt water when aluminum or an alternate non-corrosive material enclosure option is available.
- Replacement parts and accessories not authorized by Cummins Power Generation®.
- Owner or operator abuse or neglect such as: late servicing and maintenance and improper storage.
- Damage to parts, fixtures, housings, attachments and accessory items that are not part of the transfer switch or paralleling system.

This limited warranty does not cover costs resulting from:

- Difficulty in gaining access to the Product.
- Repair of cosmetic damage to enclosures.

Please contact your local Cummins Power Generation® Distributor for clarification concerning these limitations.

CUMMINS POWER GENERATION® RIGHT TO FAILED COMPONENTS:

Failed components claimed under warranty remain the property of Cummins Power Generation®. Cummins Power Generation® has the right to reclaim any failed component that has been replaced under warranty.

Extended Warranty:

Cummins Power Generation® offers several levels of Extended Warranty Coverage. Please contact your local Cummins Power Generation ® Distributor for details.

www.cumminspower.com

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IN NO EVENT IS CUMMINS POWER GENERATION® LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

This limited warranty shall be enforced to the maximum extent permitted by applicable law. This limited warranty gives the owner specific rights that may vary from state to state or from jurisdiction to jurisdiction.

Product Model Number:_____

Product Serial Number:_____

Date in Service:_____

START- UP AND TESTING

Upon completion of the installation by others, Cummins Sales & Service personnel will perform an installation review to include the following:

- Check all of the installing contractor terminations on the generator set and the transfer switch (es).
- Check all of the mounting hardware and anchors associated with the generator set, its accessories, and the automatic transfer switch (es).
- Check the phase rotation of the generator set and utility.
- Cummins Sales & Service is not responsible for compliance with unpublished regulations or requirements not included in specification.

All of the pertinent data will be recorded on Cummins Sales & Service form TDR01.

Cummins Sales & Service personnel will then fill the engine generator with oil and antifreeze and install the batteries as recommended by the manufacturer.

(Fuel is not included and is to be provided by others.)

- Operate for .5 hour (s) at Building load (Only)
- Conduct a site load test to demonstrate motor starting capabilities using the actual motor loads (if applicable).

All of the pertinent data will be recorded, i.e., voltage, frequency, kilowatts, power factor, current, oil pressure, water temperature and ambient temperature. Recordings will be made every 30 minutes for the duration of the field tests on Cummins Sales & Service form TDR-01.

Cummins Sales & Service personnel will demonstrate all of the alarms and safety shutdowns. The battery charger, jacket water heaters, and all other accessories provided by Cummins Pacific LLC will be demonstrated at this time.

The test results will be forwarded to the contractor within 10 days.

SEP 14 REC'D

SLO COUNTY apcd | Air Pollution Control District
San Luis Obispo County

September 12, 2018

Mr. Tony Marraccino
Oceano Community Services District
P.O. Box 599
Oceano, CA 93475

SUBJECT: Issuance of an Air Pollution Control District Authority to Construct Modification for Backup Power at 1655 Front St., Oceano (Site # 4359)

Dear Mr. Marraccino:

Enclosed, you will find an Air Pollution Control District Authority to Construct for the modification of your existing ATC. ATC 6697 replaces the previous ATC which may be recycled. This action is being taken in response to your application number 6697 received by us on July 11, 2018. You will note that certain conditions have been placed upon your Authority to Construct.

Pursuant to Rule 202 of the District's Rules and Regulations, this Authority to Construct shall expire and the application shall be canceled one (1) year from the date of issuance, if unused. As per District Rule 208, appeals to District actions on permits may be made in writing to the Hearing Board within thirty (30) days of receipt of the permit. Contact this office at the completion of construction so that an engineering inspection of your facility may be scheduled.

Also enclosed, is an Authority to Construct fee invoice in the amount of $500.00. Please make your check payable to the San Luis Obispo County Air Pollution Control District or visit paydirect.link2gov.com/SLOAPCDWEB to pay online with a credit card (service fees apply). Please pay this amount within thirty (30) calendar days of the invoice date to keep your Authority to Construct valid. If you have any questions, feel free to contact David Whitney at this office at (805) 781-5912.

Very truly yours,

GARY E. WILLEY
Air Pollution Control Officer

Enclosures

h:\permits\ac\letters\6697acl.docx

SLO COUNTY apcd | Air Pollution Control District
San Luis Obispo County

AUTHORITY TO CONSTRUCT

AN AUTHORITY TO CONSTRUCT IS GRANTED AS OF: **September 12, 2018**

THIS AUTHORIZATION DOES NOT IMPLY APPROVAL FROM ANY OTHER PUBLIC AGENCY

TO: **Legal Owner** **or Operator**	Oceano Community Services District P.O. Box 599 Oceano, CA 93475
FOR:	Diesel fueled emergency generator set for a government center consisting of: a. (1) 2018, 176 hp Cummins Model QSB5-G13 diesel engine, EPA Family Number JCEXL0275AAK, Tier 3, S/N TBD, driving a 60 kW electrical generator.
Location:	Oceano CSD - Water Yard (standby generator) - 1665 Front St., Oceano

Conditions:

1. The APCO shall be notified of the completion of construction within three days. This Authority to Construct will then serve as a temporary Permit to Operate for a period of time not to exceed 90 days.

2. Non-Emergency Operation

   a. Non-emergency operation shall be limited to maintenance and performance testing only and shall not exceed thirty (30) hours per engine per calendar year. Operation for emissions testing required by the District shall not be limited by this condition.

   b. The Air Pollution Control Officer (APCO) shall be notified in writing within seven (7) days of exceeding the yearly non-emergency operation limit.

   c. An emergency is defined as failure of normal electrical power service that is beyond the control of the permit holder and does not include voluntarily disconnecting from utility grid power.

CONDITIONS *(continued)*:

3. Only diesel fuel that meets the California Air Resources Board's specifications for on-road use shall be used to fuel the engine(s) unless otherwise approved by the APCO. Records of the fuel purchases shall be maintained and include a fuel specification sheet that shows compliance with this condition.

4. Visible emissions from the engine shall not exceed Ringlemann No. ½ or ten percent (10%) opacity for periods aggregating more than three (3) minutes in any hour.

5. A non-resettable hour meter for each engine shall be installed and maintained unless an APCO approved alternative tracking procedure is approved.

6. The engine exhaust shall discharge vertically free of obstructions.

7. An operating log for the current calendar year shall be maintained for each engine on a monthly basis. Entries shall also be made for any day that the engine is operated and for any day that the engine receives fuel. The logs shall be retained for at least three (3) years and shall include the following data:

    a. Operating mode: emergency, maintenance, or District required testing
    b. Engine hour meter reading at start-up,
    c. Engine hour reading at shutdown,
    d. Operating hours for the calendar day,
    e. Running total calendar year to date operating hours,
    f. Running total calendar year to date operating hours in maintenance mode,
    g. Running total calendar year to date operating hours in emergency mode,
    h. Estimated fuel use for the day in gallons,
    i. Running total calendar year to date fuel use in gallons,
    j. Fuel purchased in gallons, and
    k. Total costs of any engine repair or reconstruction, excluding consumable items associated with standard maintenance activities.

8. Within fourteen (14) days of a request, the following information shall be submitted to the APCO for the previous calendar year:

    a. maintenance operating hours,
    b. emergency operating hours,
    c. District required testing operating hours,
    d. total engine operating hours,
    e. total fuel usage,
    f. copies of all fuel purchase records, and
    g. total cost of engine repairs to date for each engine.

9. The APCO shall be notified prior to the repair or reconstruction of any diesel engine under permit. Consumable items used for regular maintenance, such as filters, hoses, belts, fluids, and glow plugs, are not considered repairs. In addition, replacement parts costing less than

CONDITIONS *(continued):*

$1,000.00 can be omitted from this requirement. This condition is a result of a state regulation on rebuilds or repairs. Extensive repairs could trigger lower allowable emission rates. If lower emission rates apply, they may not be achievable with a simple rebuild.

10. Temporary Engine Replacement: Any engine subject to this permit may be temporarily replaced with another engine if all the requirements listed in sections a. through e. below are satisfied:

    a. The APCO shall be notified in writing or by fax at (805) 781-1002 within seventy-two (72) hours of a permitted engine being replaced with a qualified temporary engine. The notification shall include the replacement engines make, model, rated horsepower, engine family number, current engine hour meter reading, manufacturer's particulate matter and oxides of nitrogen (NOx) emission rates in grams per horsepower-hour (g/hp-hr) and the reason for the replacement.

    b. The permitted engine is in need of routine repair or maintenance and is returned to its original service within 180 days of installation of the temporary engine.

    c. The temporary replacement engine has the same or lower manufacturer rated horsepower and same or lower potential to emit of particulate matter and Oxides of Nitrogen (NOx) as the permitted engine that is being temporarily replaced. Upon written request, the APCO may approve a replacement engine with a larger rated horsepower than the permitted engine if the proposed temporary engine has manufacturer guaranteed emissions less than or equal to the permitted engine or if the engine meets current permitting requirements.

    d. The temporary replacement engine shall comply with all conditions of this permit, including but not limited to, engine operating hour limits, recordkeeping and reporting requirements.

    e. The APCO shall be notified in writing or by fax at (805) 781-1002 within 14 days of removal of the temporary engine.

11. This equipment shall be operated and maintained in accordance with the manufacturer's recommendations and the information presented in the application under which this permit was issued.

12. If the APCO determines that the operation of this equipment is causing a public nuisance, the owner/operator shall take immediate action and eliminate the nuisance.

13. The APCO shall be notified in writing before any changes are made to operating procedures, equipment, or materials used which have the potential to increase the emission of any air contaminant.

14. This permit is not transferable to a new owner or location without the APCO's approval. A

CONDITIONS *(continued)*:

change of ownership application shall be submitted to the APCO at least ten (10) working days prior to any change in the person or agency that is responsible for the operation of the equipment described above. An authority to construct application must be submitted and approved by the APCO prior to moving the permitted equipment to a new location.

This Authority to Construct is not a Permit to Operate. Approval or denial of the application for Permit to Operate the above equipment will be made after an inspection to determine if the equipment has been constructed in accordance with the approved plans and specifications and if the equipment can be operated in compliance with all Rules and Regulations of the San Luis Obispo County Air Pollution Control District.

*Please notify **David Whitney** at (805) 781-5912 or at the letterhead address when construction of equipment is complete. This Authority to Construct will expire one (1) year from the date shown, if unused.*

GARY E. WILLEY
Air Pollution Control Officer

Application Number: 6697

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GEOTECHNICAL ENGINEERING REPORT
OCEANO COMMUNITY SERVICES DISTRICT
REPLACEMENT STANDBY GNERATOR
1687 FRONT STREET
OCEANO, CALIFORNIA

July 26, 2018

Prepared for

Oceano Community Services District

Prepared by

Earth Systems Pacific
4378 Old Santa Fe Road
San Luis Obispo, CA 93401

Earth Systems
4378 Old Santa Fe Road | San Luis Obispo, CA 93401 | Ph: 805.544.3276 | www.earthsystems.com

July 26, 2018

FILE NO.: 302307-001

Mr. Paavo Ogren
Oceano Community Services District
P.O. Box 599
Oceano, CA 93475-6730

PROJECT: OCEANO COMMUNITY SERVICES DISTRICT
REPLACEMENT STANDBY GENERATOR
1687 FRONT STREET
OCEANO, CALIFORNIA

SUBJECT: Geotechnical Engineering Report

CONTRACT
REF: Purchase Order #2018-19-02, by Oceano Community Services District, dated July 5, 2018

Dear Mr. Ogren:

As per your authorization of the above referenced purchase order, this geotechnical engineering report has been prepared for use in the development of plans and specifications for the proposed standby generator replacement at 1687 Front Street in Oceano, California. Preliminary geotechnical engineering recommendations for site preparation, grading, utility trenches, foundations, drainage and maintenance, and observation and testing are presented herein. One electronic copy (.pdf format) of this report has been provided to you. Additional electronic copies have been forwarded as indicated below.

We appreciate the opportunity to have provided professional services for this project and look forward to working with you again in the future. If there are any questions concerning this report, please do not hesitate to contact the undersigned.

Sincerely,
Earth Systems Pacific

REGISTERED PROFESSIONAL ENGINEER
KYLE J. MARTINEZ
No. 80666
Exp. _____
CIVIL
STATE OF CALIFORNIA

Kyle Martinez, PE
Project Engineer
7/26/18

REGISTERED PROFESSIONAL ENGINEER
FREDERICK J. POTTHAST
No. GE 2369
Exp. 03/31/20
GEOTECHNICAL
STATE OF CALIFORNIA

Fred J. Potthast, RCE, GEAL
Sr. Vice President/Managing Principal
7/26/18

Copy to: Wilson Engineering, Attn.: Mr. Gary Wilson
Mr. Joshua Moody

Doc. No.: 1807-085.SER/cr

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1.0 INTRODUCTION AND SITE SETTING

The project addressed herein involves the removal and replacement of the existing emergency standby generator at 1687 Front Street in Oceano, California. The generator will be supported by a mat slab foundation. No grading, other than for preparation of the generator pad, and no retaining walls or other improvements are planned as part of the project. The approximate project location is indicated on Figure 1 – Site Vicinity Map, in Appendix A. The new generator will be located behind the existing fire station practice facility at the northwest corner of Front and 13th Streets. The site is relatively flat and is currently occupied by existing utilities, an equipment shed, the existing generator, fuel tank, transformer, and other equipment. The locations and dispositions of existing utility lines on the site are unknown. It is our understand that this project is considered to be an essential facility.

2.0 SCOPE OF SERVICES

The authorized scope of work included a general site reconnaissance, field exploration, laboratory testing, geotechnical analysis of the data gathered, and preparation of this report. The analysis and subsequent recommendations were based on verbal information provided by Mr. Gary Wilson of Wilson Engineering.

This report and recommendations are intended to comply with the considerations of Sections 1803A.1 through 1803A.7, and J104.3, as applicable, of the 2016 California Building Code (CBC) and common geotechnical engineering practice in this area under similar conditions at this time. The test procedures were accomplished in general conformance with the standards noted, as modified by common geotechnical engineering practice in this area under similar conditions at this time.

Preliminary geotechnical recommendations for site preparation, grading, utility trenches, foundations, drainage and maintenance, and observation and testing are presented to guide the development of project plans and specifications. As there may be geotechnical issues yet to be resolved, the geotechnical engineer should be retained to provide consultation as the design progresses, and to review project plans as they near completion to assist in verifying that pertinent geotechnical issues have been addressed and to aid in conformance with the intent of this report.

It is our intent that this report be used exclusively by the client to form the geotechnical basis of the design of the project and in the preparation of plans and specifications. Application beyond this intent is strictly at the user's risk.

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, dewatering, temporary slope angles, construction means and methods, etc. Analyses of aerial or site geology, or of the soil for corrosivity, radioisotopes, asbestos (either naturally occurring or in man-made products), lead or mold potential, hydrocarbons, or other chemical properties is beyond the scope of this report. Any ancillary features such as flag or light poles, and nonstructural fills are not within our scope and are also not addressed.

In the event that there are any changes in the nature, design, or location of improvements, or if any assumptions used in the preparation of this report prove to be incorrect, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report modified or verified by the geotechnical engineer in writing. The criteria presented in this report are considered preliminary until such time as any peer review or review by any jurisdiction has been completed, conditions have been observed by the geotechnical engineer in the field during construction, and the recommendations have been verified as appropriate, or modified by the geotechnical engineer in writing.

3.0 FIELD INVESTIGATION AND LABORATORY ANALYSIS

On July 13, 2018, two exploratory borings were drilled within the planned vicinity of the standby generator to a maximum depth of 7 feet below the existing ground surface (bgs). Due to limited access with truck mounted drilling equipment, the borings were drilled with hand augering equipment. As the exploratory borings were drilled, ring-lined barrel soil samples were obtained, along with bulk soil samples from the auger cuttings. The approximate locations of the borings are shown on Figure 2 - Exploration Location Map, in Appendix A.

The soils were classified in general accordance with the Unified Soil Classification System and ASTM D 2488-17. The logs of the borings are presented in Appendix A, along with the Boring Log Legend. In reviewing the boring logs and legend, the reader should recognize that the legend is intended as a guideline only, and there are a number of conditions that may influence the characteristics observed during drilling. These include, but are not limited to, the presence of cobbles or boulders, cementation, variations in soil moisture, presence of groundwater, and other factors. Consequently, the logger must exercise judgment in interpreting soil characteristics, possibly resulting in soil descriptions that vary from the legend.

One bulk sample was tested for maximum density and optimum moisture content (ASTM D 1557-12). All ring samples were tested for bulk density (ASTM D 2937-17, modified for rings) and moisture (ASTM D 2216-10). The results of the laboratory tests are presented in Appendix B.

4.0 GENERAL SUBSURFACE PROFILE

In the areas explored, the site was surfaced with approximately 1 foot of poorly graded sand fill. The fill was logged as being loose, and containing trace amounts of gravel and debris. Below the fill, medium dense poorly graded Dune Sand was found. The soil was logged during drilling as being slightly moist. Free subsurface water was not encountered in the borings to the maximum depth explored of 7 feet bgs.

5.0 CONCLUSIONS

In our opinion, the site is suitable, from a geotechnical engineering standpoint, for the proposed standby generator, provided the recommendations contained herein are implemented in the design and construction. From a geotechnical engineering standpoint, the primary concerns at the site are the presence of loose fill and the potential for excessive static settlement, the potential for strong ground shaking during a seismic event, the potential for liquefaction and dry sand settlement, and the erodible nature of the site soils.

Static Settlement

Approximately 1 foot of fill material was found in each boring. To our knowledge, there are no records documenting the proper placement or compaction of the fill during its original placement. Therefore, the fill is considered to be "undocumented" and should not be relied upon, in its current state, for support of foundations. As excessive total and differential settlement could occur. The fill was also logged as being loose. Loose soils are also prone to excessive amounts of static total and differential settlement when subjected to additional loads, such as those imposed by new foundations. This can stress and damage foundations and slabs, often resulting in severe cracks and displacement. To reduce the potential for excessive static settlement, it is recommended that the mat slab bear in recompacted soil, as described in the "Grading" Section of this report.

Strong Ground Shaking

The site is in a region of high seismic activity, with the potential for large seismic events that could generate strong ground shaking. A seismic analysis was undertaken to provide seismic acceleration design parameters. The 2010 ASCE 7 method with 2013 updates, available on the

United States Geological Survey Earthquake Hazards Program website (USGS 2018), was used. The project was considered to be an "essential" facility from the perspective of risk category as described by ASCE 7. Site coordinates of 35.1020 degrees north and 120.6165 degrees west as taken from the Google Earth website (Google 2018) were used in the analysis. Based upon the subsurface conditions encountered during our investigation and two previous investigations performed within a 0.2-mile radius, a Site Class D (Stiff soil) was used. The results of the seismic hazard analysis are presented in the "Foundations" section of this report.

Liquefaction and Dry Sand Settlement

The term "liquefaction" refers to a phenomenon that tends to occur in saturated soils of low density that have grain sizes within a certain range, usually fine to medium-grained poorly graded sands, silty sands, and silts. A sufficiently strong earthquake is also required to cause liquefaction. During liquefaction, the energy from the earthquake causes the water pressure within the pores of the soil to increase. The increase in water pressure decreases the friction between the soil grains, allowing the soil grains to move relative to one another. During this state, the soil will behave as a viscous liquid, temporarily losing its ability to fully support foundations and other improvements. The high pressure water will flow through the soil along the path of least resistance. As the pressure is released, the soils typically settle in a process called "dynamic settlement." Dynamic settlement can cause damage to structures and other surface and subsurface improvements.

Settlement of dry sand soil is a phenomenon that can also occur during an earthquake on sites with loose sandy soils. It essentially occurs due to the sand grains being rearranged to a denser condition as the site shakes, and results in additional dynamic settlement. However, as the name implies, free water is not necessary for dry sand settlement to occur.

Between March 2016 and January 2017, we assessed the potential for dynamic settlement (liquefaction and dry sand settlement) at three different sites; one located approximately 0.5 miles from this project site, and two others about 0.2 miles away. Of the three, the site located 0.5 miles away was determined to have the highest potential for dynamic settlement calculated at 13.5 inches. This site is in close proximity to Arroyo Grande Creek, and free subsurface water was recorded at 3 feet bgs at the time of the investigation. The two sites located 0.2 miles away were assessed as having the potential for 0.75 to 1.75 inches of dynamic settlement. Free subsurface water at these sites ranged from 19.5 to 21.5 feet bgs. Our firm performed a fourth subsurface investigation in January 2013, approximately 280 linear feet from the proposed

generator site; however, an assessment of dynamic settlement was not performed. Free subsurface water was recorded at 14 feet bgs during that investigation.

Based upon the location of this site relative to those previously assessed, we are of the opinion that there is a potential for dynamic settlement to affect this site, along with any existing improvements. Based upon our review and interpretation of the results of the previous sites assessed, we are further of the opinion that total and differential dynamic settlement at this site may be on the order of 6 inches and 3 inches, respectively.

To reduce the effects of dynamic settlement (total and differential), it is recommended that the mat slab supporting the generator be designed with sufficient rigidity, and the site soils be recompacted. Additionally, utilities should be constructed with flexible or articulating connections.

Erosion Potential

The soils are considered *highly* erodible. Caution should be exercised to protect the soil from erosion during and following construction.

6.0 PRELIMINARY GEOTECHNICAL RECOMMENDATIONS

These recommendations are applicable for the proposed guesthouse, and other improvements as described in the "Introduction and Site Setting" section of this report. If improvements not previously mentioned are included, the geotechnical engineer should be contacted for revised recommendations.

Unless otherwise noted, the following definitions are used in these recommendations presented below. Where terms are not defined, definitions commonly used in the construction industry are intended.

- **Foundation Area:** The area within the footprint of the mat slab foundation.
- **Grading Area:** The entire area to be graded, including the foundation area, and any areas where surface improvements will be constructed.
- **Moisture Conditioned:** Soil moisture content adjusted to optimum moisture content, or just above, prior to application of compactive effort.
- **Compacted / Recompacted:** Soils placed in level lifts not exceeding 8 inches in loose thickness and compacted to a minimum of 90 percent of maximum dry density, unless specified otherwise. The standard tests used to establish

maximum dry density and field density should be ASTM D 1557-12 and ASTM D 6938-17a, respectively, or other methods acceptable to the geotechnical engineer and jurisdiction.

Site Preparation

1. The ground surface in the grading area should be prepared for construction by removing the existing generator, foundation, concrete, fill, debris, and other deleterious materials. Any existing utility lines that will not remain in service should be either removed or abandoned. The appropriate method of utility abandonment will depend upon the type and depth of the utility. Recommendations for abandonment can be made as necessary.

2. Voids created by the removal of materials or utilities described above should be called to the attention of the geotechnical engineer. No fill should be placed unless the underlying soil has been observed by the geotechnical engineer.

Grading

1. Following site preparation, the soil in the foundation area should be excavated to a level plane a minimum of 1 foot below planned bottom-of-mat slab elevation. The resulting soil surface should then be moisture conditioned, and recompacted to a *minimum of 95 percent of the maximum dry density*.

2. The excavation should then be backfilled with Class 2 Aggregate Base, conforming to the requirements of Section 26 of the Standard Specifications (Caltrans 2015). The aggregate base should be placed in moisture conditioned lifts and compacted to a *minimum of 95 percent of the maximum dry density*.

3. In the remainder of the grading area, the existing soil should be scarified, moisture conditioned, and recompacted prior to the placement of any fill or construction of any improvements.

4. Voids created by dislodging rocks and/or debris during excavation should be backfilled and compacted, and the dislodged materials should be removed from the work area.

5. All materials used as fill should be cleaned of all debris and any rocks larger than 3 inches in maximum dimension. When fill material includes rocks, the rocks should be placed in

a sufficient soil matrix to ensure that voids caused by nesting of the rocks will not occur and that the fill can be properly compacted.

6. If the soils are overly moist so that they become unstable, or if the recommended compaction cannot be readily achieved, drying the soil to optimum moisture content, or just above, may be necessary. Placement of gravel layers or geotextiles may also be necessary to help stabilize unstable soils. Soils that are disturbed in any manner should be removed, moisture conditioned, and recompacted.

Utility Trenches

1. Unless otherwise recommended, utility trenches adjacent to foundations should not be excavated within the zone of foundation influence, as shown in Typical Detail A in Appendix C.

2. Utilities that must pass beneath a foundation should be placed with properly compacted utility trench backfill and the foundation should be designed to span the trench.

3. A select, noncorrosive, granular, sand material should be used as bedding and shading immediately around utilities. The site soil may be used for trench backfill above the select material beyond the foundation area. Class 2 Aggregate Base should be utilized as trench backfill within the foundation area.

4. In general, trench backfill should be compacted to a minimum of 90 percent of maximum dry density; however, trench backfill within the foundation area should be compacted to a *minimum of 95 percent of maximum dry density*.

5. Trench backfill should be placed in level lifts, moisture conditioned, and compacted to the minimums noted above.

6. Compaction of trench backfill by jetting or flooding is not recommended except under extraordinary circumstances. However, to aid in *encasing* utility conduits, particularly corrugated drain pipes, and multiple, closely spaced conduits in a single trench, jetting or flooding may be useful. Flooding or jetting should only be attempted with extreme caution, and any jetting operation should be subject to review by the geotechnical engineer.

7. The recommendations of this section are minimums only, and may be superseded by the requirements of the architect/engineer, the recommendations of pipe manufacturers or utility companies, or the requirements of the governing jurisdiction based upon soil corrosivity or other factors.

8. Due to the potential for dynamic settlement at the site, utilities should be constructed with flexible or articulating connections.

Foundations

1. A mat slab foundation may be used for support of the planned generator. The mat may be designed as a "waffle slab foundation", or a uniform thickness mat foundation. The decision to design the mat to be of uniform thickness or as a "waffle mat slab foundation" is left to the discretion of the architect/engineer.

2. The mat should be constructed on a pad that has been graded in accordance with the recommendations presented in the "Grading" Section above. The mat should be embedded a minimum of 12 inches below lowest adjacent grade around the perimeter of the foundation. The mat foundation should be reinforced per the requirements of the engineer. The mat slab should contain a minimum rebar meeting the criteria of ACI 318, Section 24.4 (ACI 2014).

3. The mat foundation should be designed using maximum allowable bearing capacity of 1,800 psf dead loads plus live loads. A modulus of subgrade reaction (K_{12}) of 200 pci (psi/in) may also be used in the design of the mat foundation.

4. The allowable capacity may be increased by one-third when transient loads such as wind or seismicity are included. Foundations may be designed using the following 2016 CBC seismic parameters:

SEISMIC PARAMETERS

Mapped Spectral Response Acceleration for Site Class B		Site Coefficients for Site Class D		Adjusted MCE Spectral Response Accelerations for Site Class D		Design Spectral Response Accelerations for Site Class D	
Seismic Parameter	Value (g)	Site Coefficient	Value	Seismic Parameter	Value (g)	Seismic Parameter	Value (g)
S_S	1.232	F_a	1.007	S_{MS}	1.241	S_{DS}	0.827

S_1	0.449	F_v	1.551	S_{M1}	0.697	S_{D1}	0.465
Peak Mean Ground Acceleration (PGA_m) : 0.515 g							
Seismic Design Category = D							

5. Assuming the mat foundation is sufficiently rigid and using the above design parameters, maximum settlement and differential settlement under *static conditions* are expected to be on the order of 1/2-inch and 3/8-inch, respectively. Maximum settlement and differential settlement under *seismic conditions* may be on the order of 6 inches and 3 inches, respectively.

6. In calculating resistance to lateral loads, a passive equivalent fluid pressure of 250 pcf and a coefficient of friction of 0.45 may be utilized in the design. Lateral capacity is based on the assumption that the soil adjacent to the foundation is undisturbed. Passive and friction resistance components of resistance may be combined in the analysis without reduction to either value.

7. The foundation excavation should be observed by the geotechnical engineer during excavation and prior to placement of formwork, reinforcing steel or concrete. Soil in foundation excavation should be lightly moistened and no desiccation cracks should be present prior to concrete placement.

Drainage and Maintenance

1. Unpaved ground surfaces should be graded during construction, and per Section 1804A.4 of the 2016 CBC, should be finish graded to direct surface runoff away from foundations and other improvements at a minimum 5 percent grade for a minimum distance of 10 feet. If this is not practicable due to the terrain, proximity of property lines, etc., swales with improved surfaces, area drains, or other drainage features should be provided to divert drainage away from these areas.

2. Finished surfaces should be sloped to freely drain toward appropriate drainage facilities. Water should not be allowed to stand or pond on or adjacent to foundations or improvements.

3. The on-site soils are *highly* erodible. Stabilization of surface soils, particularly those disturbed during construction, by vegetation or other means *during and following construction* is essential to protect the site from erosion damage. Care should be taken to establish and maintain vegetation.

4. Site improvements, particularly drainage improvements, should be inspected and maintained on a regular basis.

5. To reduce the potential for undermining of foundations and other improvements, all rodent activity should be aggressively controlled and kept to an absolute minimum.

Observation and Testing

1. It must be recognized that the recommendations contained in this report are based on a limited number of borings at the site and rely on continuity of the subsurface conditions encountered.

2. At a minimum, the geotechnical engineer should be retained to provide:
    - Review of grading and foundation plans as they near completion
    - Professional observation during grading
    - Oversight of compaction testing during grading and backfill
    - Oversight of soil special inspection during grading and foundation construction

3. Special inspection of grading should be provided as per Section 1705A.6 and Table 1705A.6 of the 2016 CBC; the special inspector should be under the direction of the geotechnical engineer. Special inspection of the following should be provided by the special inspector:
    - Utility trench backfill
    - Verification of proper overexcavation depth
    - Fill quality, placement, moisture conditioning, and compaction
    - Foundation excavation

4. A program of quality control should be developed prior to the beginning of the project. The contractor or project manager should determine any additional inspection items required by the architect/engineer or the governing jurisdiction.

5. Locations and frequency of compaction tests should be as per the recommendation of the geotechnical engineer at the time of construction. The recommended test locations and frequency may be subject to modification by the geotechnical engineer, based upon soil and moisture conditions encountered, size and type of equipment used by the contractor, the general trend of the results of compaction tests, or other factors.

6. A preconstruction site meeting among the district, the geotechnical engineer, the soil special inspector, the architect/engineer, and contractors is recommended to discuss planned construction procedures and quality control requirements.

7. The geotechnical engineer should be notified at least 48 hours prior to beginning construction operations.

7.0 CLOSURE

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 and 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.

This report is valid for conditions as they exist at this time for the type of project described herein. The conclusions and recommendations contained in this report could be rendered invalid, either in whole or in part, due to changes in building codes, regulations, standards of geotechnical or construction practice, changes in physical conditions, or the broadening of knowledge. 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.

If changes with respect to project type or location become necessary, if items not addressed in this report are incorporated into plans, or if any of the assumptions used in the preparation of 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 CBC and the requirements of the governing jurisdiction.

The preliminary recommendations of this geotechnical report are based upon the geotechnical conditions encountered at the site 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.

Thank you for this opportunity to have been of service. If you have any questions, please feel free to contact this office at your convenience.

End of Text.

TECHNICAL REFERENCE LIST

ACI (American Concrete Institute). 2014. "Building Code Requirements for Structural Concrete." *Document 318-14*.

ASCE (American Society of Civil Engineers). 2013. *Minimum Design Loads for Buildings and other Structures (7-10, third printing), Standards ASCE/SEI 7-10.*

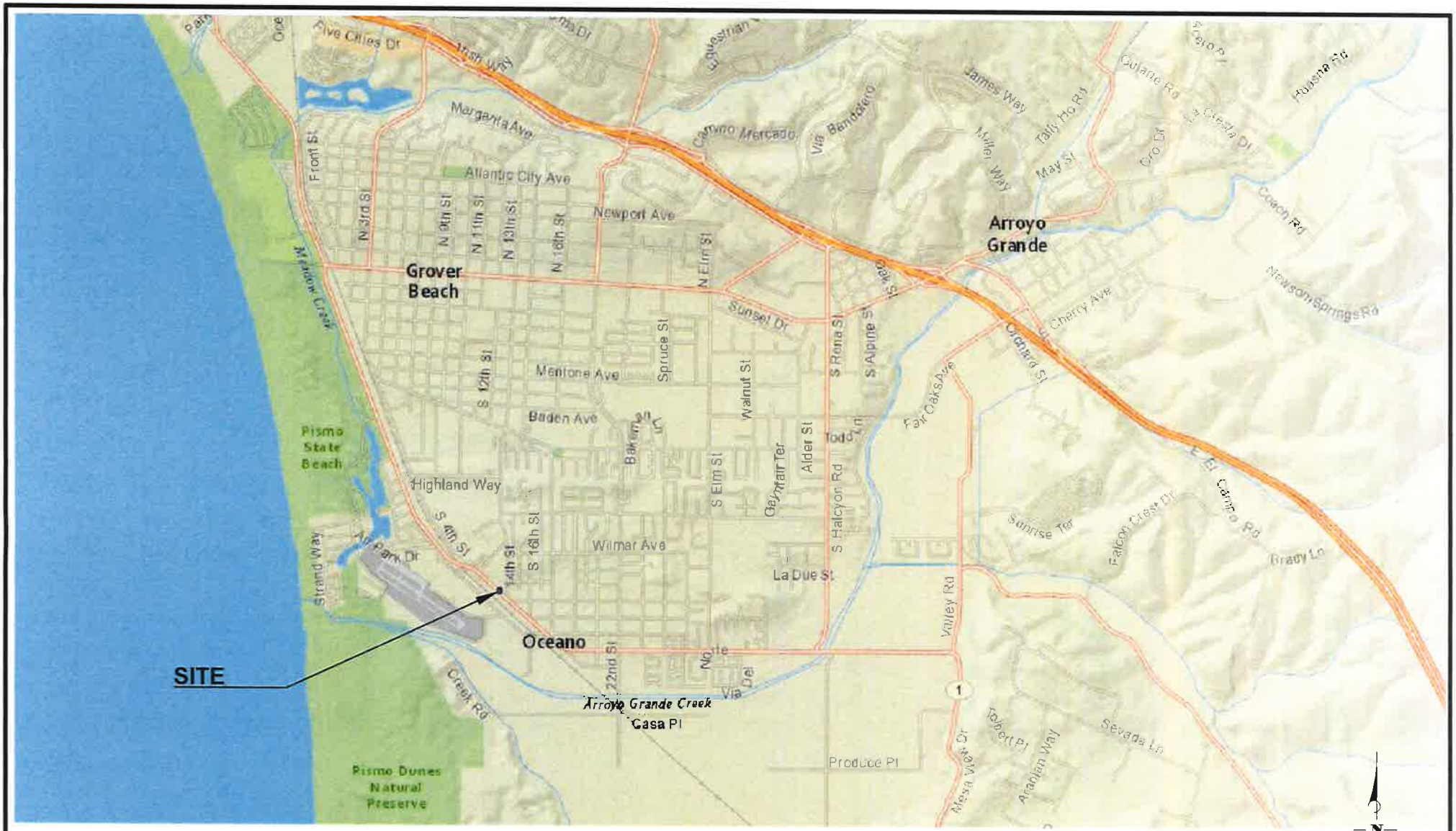
Caltrans (California Department of Transportation). 2015. "Standard Specifications."

Google Earth. 2018. Google Earth [website], retrieved from: http://www.google.com/earth/index.html

USGS (United States Geological Survey). 2018. Earthquake Hazards Program, retrieved from: http://earthquake.usgs.gov/hazards/designmaps/

APPENDIX A

Figure 1 – Site Vicinity Map
Figure 2 - Exploration Location Map
Boring Log Legend
Boring Logs



NOT TO SCALE

Earth Systems Pacific
4378 Old Santa Fe Road, San Luis Obispo, CA 93401
www.earthsystems.com
(805) 544-3276 • Fax (805) 544-1786

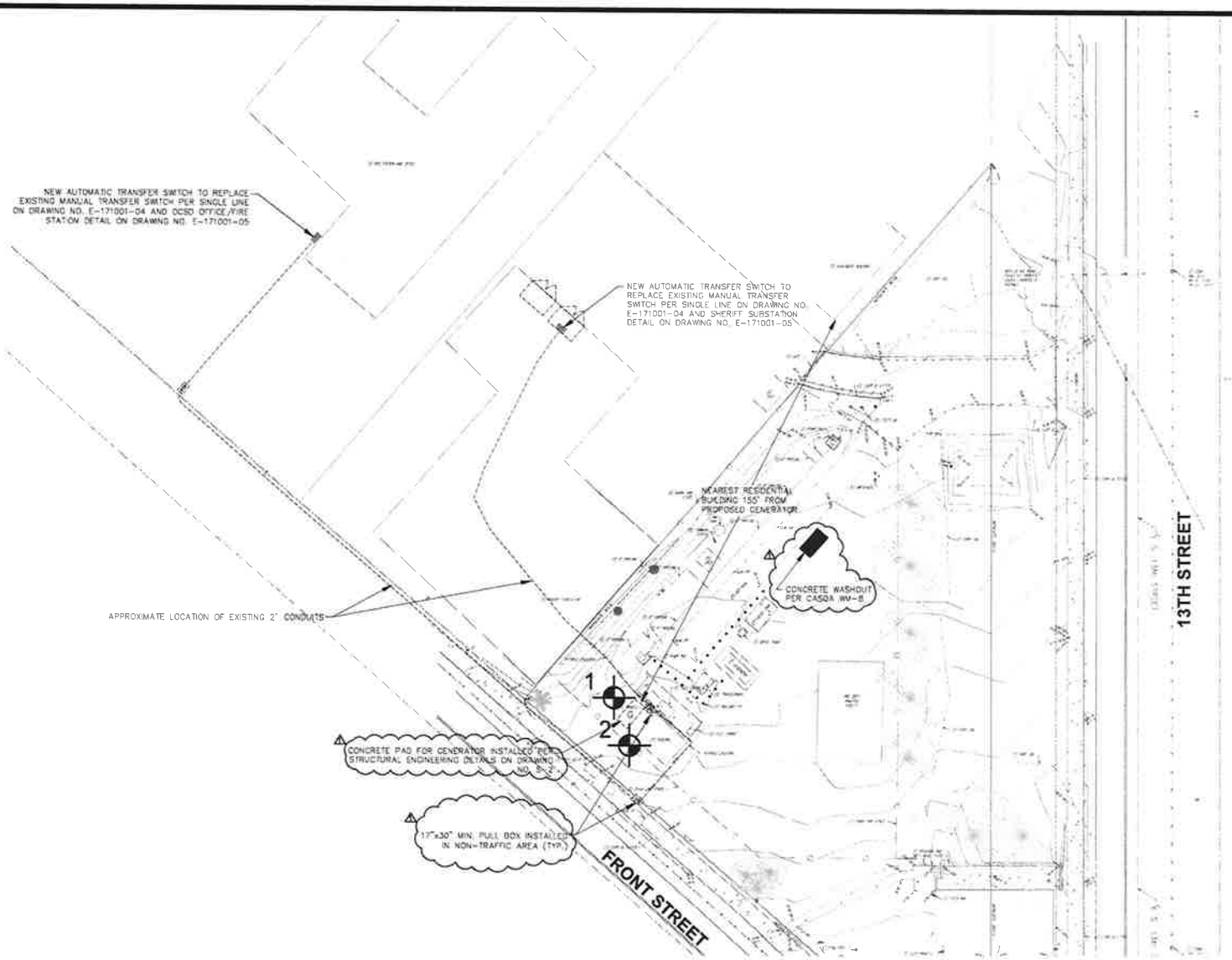
SITE VICINITY MAP

Oceano Community Services District
Replacement Standby Generator
1687 Front Street
Oceano, California

Date
July 2018

Project No.
302307-001

Figure 1



LEGEND

2 Boring Location (Approx.)

BASE MAP PROVIDED BY: WILSON ENGINEERING

N

NOT TO SCALE

Earth Systems Pacific
4378 Old Santa Fe Road, San Luis Obispo, CA 93401
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EXPLORATION LOCATION MAP

Oceano Community Services District
Replacement Standby Generator
1687 Front Street
Oceano, California

Date
July 2018

Project No.
302307-001

Figure 2

Earth Systems Pacific

BORING LOG LEGEND

SAMPLE / SUBSURFACE WATER SYMBOLS	GRAPH. SYMBOL
CALIFORNIA MODIFIED	■
STANDARD PENETRATION TEST (SPT)	●
SHELBY TUBE	□
BULK	○
SUBSURFACE WATER DURING DRILLING	▼
SUBSURFACE WATER AFTER DRILLING	▽

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487)

MAJOR DIVISIONS	GROUP SYMBOL	TYPICAL DESCRIPTIONS	GRAPH. SYMBOL
COARSE GRAINED SOILS (MORE THAN HALF OF MATERIAL IS LARGER THAN #200 SIEVE SIZE)	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	
	GP	POORLY GRADED GRAVELS, OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	
	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES, NON-PLASTIC FINES	
	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES, PLASTIC FINES	
	SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES	
	SP	POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES	
	SM	SILTY SANDS, SAND-SILT MIXTURES, NON-PLASTIC FINES	
	SC	CLAYEY SANDS, SAND-CLAY MIXTURES, PLASTIC FINES	
FINE GRAINED SOILS (HALF OR MORE OF MATERIAL IS SMALLER THAN #200 SIEVE SIZE)	ML	INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY	
	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS	
	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	
	OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS	
	PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	

OBSERVED MOISTURE CONDITION

DRY	SLIGHTLY MOIST	MOIST	VERY MOIST	WET (SATURATED)

CONSISTENCY

COARSE GRAINED SOILS

BLOWS/FOOT SPT	BLOWS/FOOT CA SAMPLER	DESCRIPTIVE TERM
0-10	0-16	LOOSE
11-30	17-50	MEDIUM DENSE
31-50	51-83	DENSE
OVER 50	OVER 83	VERY DENSE

FINE GRAINED SOILS

BLOWS/FOOT SPT	BLOWS/FOOT CA SAMPLER	DESCRIPTIVE TERM
0-2	0-3	VERY SOFT
3-4	4-7	SOFT
5-8	8-13	MEDIUM STIFF
9-15	14-25	STIFF
16-30	26-50	VERY STIFF
OVER 30	OVER 50	HARD

GRAIN SIZES

U.S. STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENING		
# 200	# 40	# 10	# 4	3/4"	3"	12"

SILT & CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

TYPICAL BEDROCK HARDNESS

MAJOR DIVISIONS	TYPICAL DESCRIPTIONS
EXTREMELY HARD	CORE, FRAGMENT, OR EXPOSURE CANNOT BE SCRATCHED WITH KNIFE OR SHARP PICK; CAN ONLY BE CHIPPED WITH REPEATED HEAVY HAMMER BLOWS
VERY HARD	CANNOT BE SCRATCHED WITH KNIFE OR SHARP PICK; CORE OR FRAGMENT BREAKS WITH REPEATED HEAVY HAMMER BLOWS
HARD	CAN BE SCRATCHED WITH KNIFE OR SHARP PICK WITH DIFFICULTY (HEAVY PRESSURE); HEAVY HAMMER BLOW REQUIRED TO BREAK SPECIMEN
MODERATELY HARD	CAN BE GROOVED 1/16 INCH DEEP BY KNIFE OR SHARP PICK WITH MODERATE OR HEAVY PRESSURE; CORE OR FRAGMENT BREAKS WITH LIGHT HAMMER BLOW OR HEAVY MANUAL PRESSURE
SOFT	CAN BE GROOVED OR GOUGED EASILY BY KNIFE OR SHARP PICK WITH LIGHT PRESSURE, CAN BE SCRATCHED WITH FINGERNAIL; BREAKS WITH LIGHT TO MODERATE MANUAL PRESSURE
VERY SOFT	CAN BE READILY INDENTED, GROOVED OR GOUGED WITH FINGERNAIL, OR CARVED WITH KNIFE; BREAKS WITH LIGHT MANUAL PRESSURE

TYPICAL BEDROCK WEATHERING

MAJOR DIVISIONS	TYPICAL DESCRIPTIONS
FRESH	NO DISCOLORATION, NOT OXIDIZED
SLIGHTLY WEATHERED	DISCOLORATION OR OXIDATION IS LIMITED TO SURFACE OF, OR SHORT DISTANCE FROM, FRACTURES; SOME FELDSPAR CRYSTALS ARE DULL
MODERATELY WEATHERED	DISCOLORATION OR OXIDATION EXTENDS FROM FRACTURES, USUALLY THROUGHOUT; Fe-Mg MINERALS ARE "RUSTY", FELDSPAR CRYSTALS ARE "CLOUDY"
INTENSELY WEATHERED	DISCOLORATION OR OXIDATION THROUGHOUT; FELDSPAR AND Fe-Mg MINERALS ARE ALTERED TO CLAY TO SOME EXTENT, OR CHEMICAL ALTERATION PRODUCES IN SITU DISAGGREGATION
DECOMPOSED	DISCOLORATION OR OXIDATION THROUGHOUT, BUT RESISTANT MINERALS SUCH AS QUARTZ MAY BE UNALTERED; FELDSPAR AND Fe-Mg MINERALS ARE COMPLETELY ALTERED TO CLAY

drafting/masters/Boring Log Legend121714.dwg

Earth Systems Pacific

Boring No. 1
PAGE 1 OF 1

LOGGED BY: R. Wagner
DRILL RIG: Hand Auger
AUGER TYPE: 3" Solid Stem Auger

JOB NO.: 302307-001
DATE: 7/13/18

OCEANO COMMUNITY SERVICES DISTRICT
REPLACEMENT STANDBY GENERATOR
1687 Front Street
Oceano, California

DEPTH (feet)	USCS CLASS	SYMBOL	SOIL DESCRIPTION	SAMPLE DATA: INTERVAL (feet)	SAMPLE TYPE	DRY DENSITY (pcf)	MOISTURE (%)	BLOWS PER 6 IN.
0	SP		POORLY GRADED SAND: light brown, loose, slightly moist, trace gravel and debris (Fill)	1.0 - 5.0	○			
2	SP		POORLY GRADED SAND: yellow brown, medium dense, slightly moist (Dune Sand)	2.0 - 2.5	■	94.7	3.7	
5				5.0 - 5.5	■	93.5	4.6	
7			End of Boring @ 7.0' No subsurface water encountered					

LEGEND: ■ Ring Sample ○ Grab Sample ▭ Shelby Tube Sample ● SPT

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: R. Wagner
DRILL RIG: Hand Auger
AUGER TYPE: 3" Solid Stem Auger

JOB NO.: 302307-001
DATE: 7/13/18

OCEANO COMMUNITY SERVICES DISTRICT
REPLACEMENT STANDBY GENERATOR
1687 Front Street
Oceano, California

DEPTH (feet)	USCS CLASS	SYMBOL	SOIL DESCRIPTION	SAMPLE DATA: INTERVAL (feet)	SAMPLE TYPE	DRY DENSITY (pcf)	MOISTURE (%)	BLOWS PER 6 IN.
0	SP		POORLY GRADED SAND: light brown, loose, slightly moist, trace gravel and debris (Fill)					
1	SP		POORLY GRADED SAND: yellow brown, medium dense, slightly moist (Dune Sand)	1.5 - 2.0	■	97.2	4.3	
2								
3								
4				4.5 - 5.0	■	93.0	5.0	
5			End of Boring @ 5.0'					
6			No subsurface water encountered					
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								

LEGEND: ■ Ring Sample ○ Grab Sample ▭ Shelby Tube Sample ● SPT

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.

APPENDIX B

Laboratory Test Results

Oceano Community Services District
Replacement Standby Generator

302307-001

BULK DENSITY TEST RESULTS

ASTM D 2937-17 (modified for ring liners)

July 19, 2018

BORING NO.	DEPTH feet	MOISTURE CONTENT, %	WET DENSITY, pcf	DRY DENSITY, pcf
1	2.0 - 2.5	3.7	98.2	94.7
1	5.0 - 5.5	4.6	97.8	93.5
1	1.5 - 2.0	4.3	101.4	97.2
2	4.5 - 5.0	5.0	97.6	93.0

Oceano Community Services District
Replacement Standby Generator

302307-001

MOISTURE-DENSITY COMPACTION TEST

ASTM D 1557-12 (Modified)

PROCEDURE USED: B

PREPARATION METHOD: Moist

RAMMER TYPE: Mechanical

SPECIFIC GRAVITY: 2.65 (assumed)

July 19, 2018

Boring #1 @ 1.0 - 5.0'

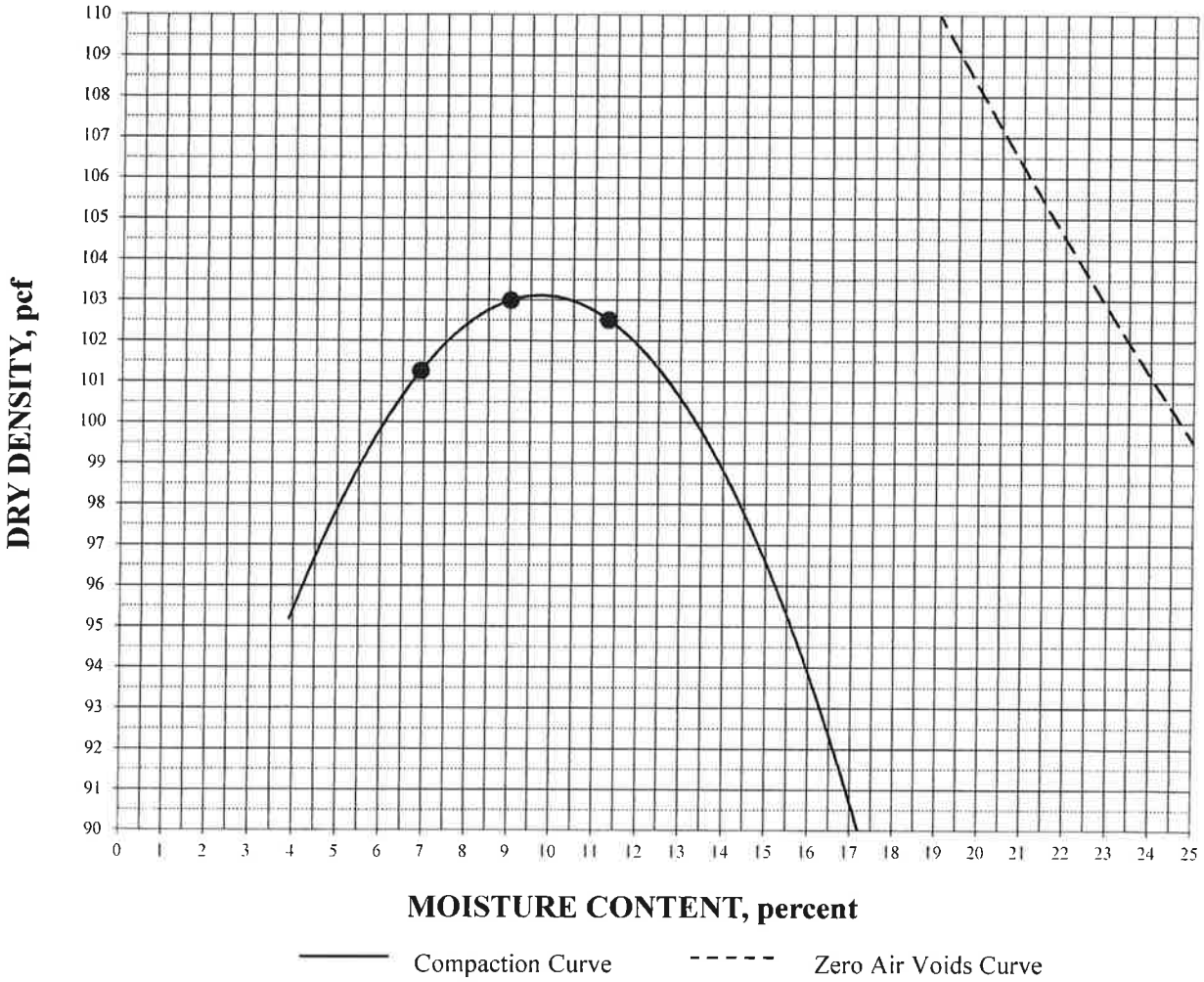
Light Brown Poorly Graded Sand (SP)

SIEVE DATA:

Sieve Size	% Retained (Cumulative)
3/4"	0
3/8"	2
#4	2

MAXIMUM DRY DENSITY: 103.1 pcf

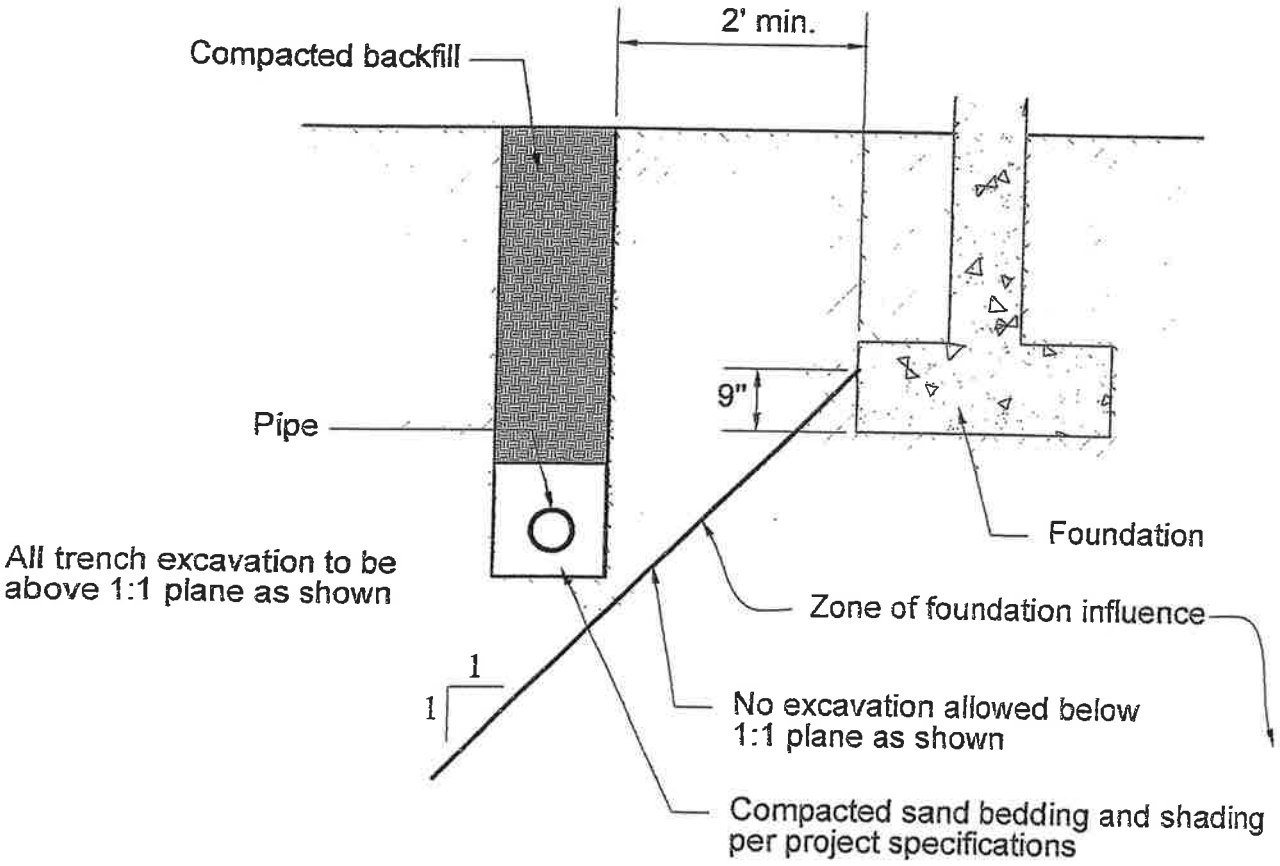
OPTIMUM MOISTURE: 9.7%



APPENDIX C

Typical Detail A: Pipe Placed Parallel to Foundations

TYPICAL DETAIL A
PIPE PLACED PARALLEL TO FOUNDATIONS



SCHEMATIC ONLY
NOT TO SCALE

Earth Systems Pacific

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August 2, 2018

Mr. Paavo Ogren
Oceano Community Services District
P.O. Box 599
Oceano, CA 93475-6730

FILE NO.: 302307-002

PROJECT: OCEANO COMMUNITY SERVICES DISTRICT
REPLACEMENT STANDBY GENERATOR
1687 FRONT STREET
OCEANO, CALIFORNIA

SUBJECT: Review of Project Plans and Details

REF:
1) Plans and Details, Oceano Community Services District, Replacement Standby Generator, APN: 062-271-026, Oceano, California, by Wilson Engineering, revised May 17, 2018
2) Geotechnical Engineering Report, Oceano Community Services District, Replacement Standby Generator, 1687 Front Street, Oceano, California, by Earth Systems Pacific, Doc. No. 1807-085.SER, dated July 26, 2018

Dear Mr. Ogren:

Per the request of Mr. Gary Wilson of Wilson Engineering, the project plans and details (Ref. No. 1) for the proposed generator replacement project have been reviewed for conformance with the geotechnical factors discussed in the referenced geotechnical engineering report (Ref. No. 2). Factors related to civil or structural engineering, architecture, drafting, and other disciplines are beyond the scope of this review. In performing this review, we attempted to verify that the concepts and recommendations presented in the referenced geotechnical report were generally incorporated into the plans and details.

In accordance with this level of review, the project plans and details were found to be in substantial conformance with the concepts and recommendations presented in the referenced geotechnical engineering report.

We appreciate the opportunity to have provided geotechnical services for this project. If there are any questions concerning this letter, please do not hesitate to contact the undersigned.

Sincerely,

Earth Systems Pacific

REGISTERED PROFESSIONAL ENGINEER
KYLE J. MARTINEZ
No. 80666
Exp. _____
CIVIL
STATE OF CALIFORNIA

Kyle Martinez, PE
Project Engineer
8/2/18

Copy to: Wilson Engineering, Attn.: Mr. Gary Wilson
Doc. No.: 1808-006.LTR/pm