



Construction Management and Inspection Services

CIP 699 Parking Structure Lot "C" Improvements

**REQUEST FOR PROPOSALS NO. 25-004
FOR
CONSTRUCTION MANAGEMENT AND INSPECTION SERVICES FOR
CIP 699 PARKING STRUCTURE LOT "C" IMPROVEMENTS
IN THE CITY OF HERMOSA BEACH, CALIFORNIA**



**CITY OF HERMOSA BEACH
Department of Public Works
1315 Valley Drive
Hermosa Beach, CA 90254**



Construction Management and Inspection Services

CIP 699 Parking Structure Lot "C" Improvements



CITY OF HERMOSA BEACH

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RFP NUMBER: **25-004**

RFP TITLE: **PROJECT MANAGEMENT AND INSPECTION SERVICES
CIP 699 PARKING STRUCTURE LOT "C" IMPROVEMENTS**

REQUESTING DEPARTMENT: Public Works – Engineering Division

RELEASE DATE: June 24, 2025

DUE DATE: **July 24, 2025 @ 2:00 p.m. (PST)**

Notice is hereby given that the Department of Public Works of the City of Hermosa Beach will receive proposals for:

**RFP# 25-004, PROJECT MANAGEMENT AND INSPECTION SERVICES
CIP 699 PARKING STRUCTURE LOT "C" IMPROVEMENTS**

Proposals must be submitted as PDF via the PlanetBids Portal (pbsystem.planetbids.com/portal/51313/portal-home) and will be received until **2:00 p.m. (PST), July 24, 2025**.

Proposals will not be opened at that time but will be submitted to the Public Works Department for verification and compliance with specifications and subsequent recommendation to City Council for award of a contract or rejection of the responses, as deemed appropriate. The City reserves the right to make no award.

All questions regarding the content of the RFP shall be submitted on the PlanetBids Portal by no later than 2:00 pm on **July 15, 2025**.

All responses to questions will be transmitted via the Planetbids Portal.



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1. Introduction

1.1 Invitation for Proposals

The City of Hermosa Beach (“City”) is seeking Proposals from qualified individuals or firms (“Consultant”) to provide **Construction Management and Inspection Services for CIP 699- Parking Structure Lot “C” Improvements**. The selected Consultant would assist the City’s Public Works Department by providing Construction Management and Inspection Services as related to the subject project. The scope of work includes repairs/rehabilitation of concrete work, waterproofing enhancement, installing new guardrails, new barrier cables, installation of new sump pumps and a new level transducer, power washing of the concrete surfaces, restriping, replacement of light fixtures and aesthetic repairs of the parking structure and other related work to complete the work per project’s plans and specifications. A copy of the plans and specifications has been included in this RFP.

1.2 RFP Timeline

RFP posted	June 24, 2025
Deadline to submit written questions	July 15, 2025 – 2 PM (PST)
Posting of responses to questions	July 17, 2025 – 2 PM (PST)
Deadline to submit proposals	July 24, 2025 - 2 PM (PST)
Interviews for selected firms if the City wishes to do so	TBD
Tentative award	August 26, 2025

1.3 Submittal Procedures

Respondents shall submit **one copy** of the proposal and **one copy** of the proposed fee in PDF format (separate files) on the PlanetBids Portal.

No responses will be accepted after the listed date and time. The format, content, and procedures for submitting a proposal are provided in further detail within the RFP (see **Section 3**).



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1.4 Contact

All questions regarding the content of the RFP shall be submitted on the PlanetBids Portal.

All responses to questions will be transmitted via the Planetbids Portal.

1.5 General RFP Conditions

The following instructions and conditions apply to this RFP:

Pre-Contractual Expenses

The City of Hermosa Beach shall not, in any event, be liable for any pre-contractual expenses incurred by any consultant. In addition, no consultant shall include any such expenses as part of the price proposed. Pre-contractual expenses are defined as expenses incurred by bidders in:

- Preparing a proposal in response to this RFP.
- Submitting that response to the City of Hermosa Beach.
- Negotiating with the City of Hermosa Beach any matter related to this RFP, proposal, and/or contractual agreement.
- Any other expenses incurred by the consultant prior to the date of an executed contract.

Authority to Withdraw RFP and/or Not Award Contract

The City of Hermosa Beach reserves the right to withdraw this RFP at any time for any reason without prior notice. Further, the City makes no representations that any agreement will be awarded to any consultant responding to this RFP. The City expressly reserves the right to reject any and all responses to this RFP without indicating any reasons for such rejection(s).

The release of this RFP does not obligate or compel the City to enter into a contract or agreement.

Authority to Revise RFP and Request Additional Information

The City reserves the rights to amend the RFP at any time, to determine the successful respondent(s), and to reject any or all responses or their components. Should it be necessary for the City to issue addendums to this RFP during the advertisement period, the City will post addendums to the PlanetBids Portal. It is the responsibility of all

prospective respondents to check PlanetBids regularly to see whether any addenda or supplemental materials have been issued. Proposals shall acknowledge that the consultant is aware of all addendums which have been issued and has incorporated their provisions in their response by completing the Certification of Qualifications Form.



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The City reserves the right to request additional information or clarifications from consultants where it may serve the City's best interest.

Other Conditions

- **ADDITIONAL SERVICES.** The Scope of Work describes the minimum work to be accomplished. Upon final selection of the firm(s), the Scope of Work may be modified and refined during negotiations with the City. Any proposer that provides additional services can include those services in the proposal and list them as additional services.
- **AUTHORIZED SIGNATURES.** Every proposal must be signed by the person or persons legally authorized to bind the consultant to a contract for the execution of the work. Upon request of the City, any agent submitting a proposal on behalf of a consultant shall provide a current power of attorney certifying the agent's authority to bind the consultant.
- **AWARD OF QUALIFICATIONS.** City reserves the right to negotiate final terms with the selected consultant, if any. Award may be made to the consultant offering the most advantageous proposal after consideration of all criteria.
- **COMPLIANCE WITH LAWS.** All proposals shall comply with current federal, state, and other laws relative thereto.
- **CONFLICT OF INTEREST.** By signing the Certification of Qualifications, the consultant declares and warrants that no elected or appointed official, officer or employee of the City has been or shall be compensated, directly or indirectly, in connection with this proposal or any work connected with this proposal. Should any agreement be approved in connection with this RFP, consultant declares and warrants that no elected or appointed official, officer or employee of the City, during the term of his/her service with the City shall have any direct interest in that agreement, or obtain any present, anticipated, or future material benefit arising therefrom.
- **DISQUALIFICATION OF PROPOSER.** If there is reason to believe that collusion exists among the consultants, the City may refuse to consider proposal from participants in such collusion. No person, firm, or corporation under the same or different name shall make, file, or be interested in more than one proposal for the same work unless alternate proposal are called for. Reasonable grounds for believing that any consultant is interested in more than one proposal for the same work will cause the rejection of all proposals for the work in which a consultant is interested. Consultants shall submit as part of their proposal documents the completed Non-Collusion Affidavit.
- **EXAMINATION OF DOCUMENTS.** It is the responsibility of the consultant to carefully and thoroughly examine and be familiar with these RFP documents, general conditions, all forms, specifications, drawings, plans, and addendums (if any). Consultants shall satisfy themselves as to the character, quantity, and quality of work to be performed and materials, labor, supervision necessary to perform the work as specified by these documents. The failure or neglect of the consultant to examine documents shall in no way relieve the consultant from any obligations with respect



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to the solicitation for and subsequent contract that may be awarded. The submission of a proposal shall constitute an acknowledgment upon which the City may rely that the consultant has thoroughly examined and is familiar with the RFP documents. The failure or neglect of a consultant to receive or examine any of the documents shall in no way relieve the consultant from any obligations with respect to the proposal. No claim will be allowed for additional compensation that is based upon a lack of knowledge of any solicitation document.

- **INTERPRETATION OF RFP DOCUMENTS.** The city reserves the right to make corrections or clarifications of the information provided in this RFP. If any person is in doubt as to the true meaning of any part of this RFP document, or finds discrepancies or omissions in the document, the person may submit to the City a written request for an interpretation or correction. Oral statements, interpretations or clarifications concerning meaning or intent of the contents of this RFP by any person are unauthorized and invalid. Modifications to the RFP, including, but not limited to the scope of work, can be made only by written addendum issued by the City. Proposers shall submit all questions in writing to the contact listed in the announcement or submitted on the PlanetBids Portal. Proposers may not contact any other staff members with questions. The requesting party is responsible for prompt delivery of any requests. When the City considers interpretations necessary, interpretations will be in the form of an addendum to the RFP documents, and when issued, they will be sent as promptly as is practical to all parties recorded by the City as having received RFP documents. All such addenda shall become a part of the RFP document. It is the responsibility of each consultant to ensure the City has their correct business name, mailing address and e-mail address on file through the PlanetBids online portal. Any prospective consultants who obtained a set of RFP documents from the PlanetBids online portal are responsible for checking PlanetBids to verify if any subsequent Addendums were issued.
- **IRREGULARITIES.** City reserves the right to waive non-material irregularities if such would be in the best interest of the City as determined by the City Manager.
- **NON-DISCRIMINATION.** Consultant represents and warrants that it does not and will not discriminate against any employee or applicant for employment because of race, religion, gender, color, national origin, sexual orientation, ancestry, marital status, physical condition, pregnancy or pregnancy-related condition, political affiliation or opinion, age or medical condition.
- **NON-EXCLUSIVE.** Should the City make an award, the successful consultant will enter into a NON-EXCLUSIVE professional services agreement and the City reserves the right to enter into agreements with other firms.
- **OFFERS OF MORE THAN ONE PRICE.** Consultants are NOT allowed to submit more than one rate schedule.



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- **OWNERSHIP.** All data, documents and other products used or developed during the RFP process become the property of the City upon submission. All documents submitted in response to this RFP shall become the property of the City and a matter of public record pursuant to Government Code sections 6250 et seq. Proposal should not be marked as confidential or proprietary, and City may refuse to consider a proposal so marked. All information contained within the proposal will become a matter of public record. It is the responsibility of each bidder to clearly identify any and all information contained within its proposal that it considers to be confidential and/or proprietary. To the extent that the City agrees with that designation, such information will be held in confidence whenever possible. All other information will be considered public.
- **PROFESSIONAL SERVICES AGREEMENT.** Prior to awarding any work, the selected Consultant will be required to execute a professional services agreement (sample attached) with the City. Any proposed change to the agreement shall be identified in the response to the RFP and shall be subject to the sole approval of the City. The City requires the Consultant to obtain and maintain a policy of professional liability and other insurance as indicated in the agreement.
- **NO PUBLIC OPENING/PUBLIC RECORDS ACT.** Proposal shall be opened and its contents secured by City staff to prevent disclosure during the evaluative process and the process of negotiating with competing consultants. Adequate precautions shall be taken to treat each consultant fairly and to insure that information gleaned from competing proposals is not disclosed to other Consultants. Prices and other information concerning the proposal shall not be disclosed until a recommendation for award is made to the awarding authority.
- **PUBLIC RECORD.** All proposals submitted in response to this RFP will become the property of the City upon submittal and a matter of public record when the City selects a proposer for recommendation to the City Council for its consideration pursuant to applicable law.
- **REPRESENTATIONS.** The consultant understands and acknowledges that the representations made in their submitted proposal are material and important, and will be relied on by the City in evaluation of the proposal. Consultant misrepresentation shall be treated as fraudulent concealment from the City of the facts relating to the proposal.
- **SEVERABILITY.** If any provisions or portion of any provisions, of this RFP are held invalid, illegal or unenforceable, they shall be severed from the RFP and the remaining provisions shall be valid and enforceable.
- **SUBCONTRACTOR INFORMATION.** If the proposal includes the use of subconsultants, the consultant must identify specific subconsultants and the specific requirements of this RFP for which each proposed subconsultant would perform services. All subconsultant for work services must follow all required provisions of the prime contract.
- **VALIDITY.** Proposal must be valid for a period of 90 days from the July 24, 2025.



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- **WITHDRAWAL Proposals.** Consultants' authorized representative may withdraw from the RFP process only by written request received by this RFP's contact person before the Submittal Deadline.
- **BUSINESS LICENSE.** The selected firm(s) must obtain a City of Hermosa Beach Business license and maintain a current certificate of insurance with the City for the duration of the Professional Service Agreement.



2. Scope of Services

2.1 City Location and Characteristics

The City of Hermosa Beach is located within the southwestern coastal portion of Los Angeles County in what is commonly referred to locally as the “South Bay” area. The City is bounded on the north by the City of Manhattan Beach, on the south by the City of Redondo Beach, on the east by the City of Redondo Beach and the City of Manhattan Beach, and on the west by the Pacific Ocean. The City limits for Hermosa Beach encompass a relatively small land area, approximately 1.4 square miles. Hermosa Beach is thriving, and engaged community, with some 20,000 residents and draws a high number of visitors to its beaches and downtown.

Governed by a five-member City Council with members elected at large, Hermosa Beach operates under the council/city manager form of government as a general law city. Like the community, the Council is informed, educated, and engaged. The programs and services provided by the City are accomplished through seven City departments: Administrative Services, City Clerk, City Manager, Community Development, Community Resources, Police, and Public Works.

2.2 Description

The Public Works Department is responsible for engineering and oversight of the City's Capital Improvement Program (“CIP”) and maintenance of City facilities. The City is seeking Proposals from qualified consultants, or team of consultants, (“Consultant”) to provide Construction Management and Inspection Services for CIP 699- Parking Structure Lot “C” Improvements” Project. The selected Consultant would assist the City’s Public Works Department to manage the subject project during its pre-construction, construction, post construction and close-out phases. Consultants must have the expertise, experience, and demonstrated resources available to perform the work described in this RFP.

Prospective firms should have significant experience, expertise, and familiarity in working with public agencies to provide the service(s) submitted in their Proposals in addition to specific services identified in this RFP.

The Scope of Work, as may be modified through negotiation and/or by written addendum issued by the City, will be made a part of the Agreement. The selected firm(s) will be expected to furnish all personnel to provide the following services.

2.3 General Scope of Work

The City of Hermosa Beach Public Works Department is requesting proposals for Construction Management, and Inspection services for CIP 699 -Parking Structure Lot “C” Improvements Project. This project has been awarded to a contractor. The City will issue a Notice to Proceed to the Contractor to start work on the project during the first week of



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October 2025. According to the Project's specifications, work shall be completed by the contractor within seventy- five (75) working days from the date of the Notice to Proceed.

The subject project is being funded through the City's Capital Improvement Project's fund. The value of the construction contract is \$1,750,000. Copies of the Project Plans and Specifications have been included in this RFP for reference.

This RFP is intended to establish the specifications, terms, and conditions governing the selection of the firm to provide Construction Management and Inspection Services to the City for the subject project.

The contract term is expected to be from September of 2025 for the duration of the subject project and until the subject project has been fully accepted by the City. A construction contract has been awarded with the anticipated construction start date of October 6, 2025.

The parking structure is utilized by the members of public however, several parking stalls are reserved for the exclusive use of the adjacent businesses, including a hotel and office buildings. *Therefore, effective communication with these stakeholders is crucial to the overall success of this project.*

General:

The City is interested in contracting with a consultant that will conduct and coordinate specified tasks related to advancing CIP 699- Parking Structure Lot "C" Improvements Project ("Project") through its pre- construction, construction and post-construction phases.

The Consultant shall comply with all insurance requirements of the City of Hermosa Beach, included in the sample contract in **Attachment 1**.

Services to be Provided:

The selected Consultant shall provide all services to complete Construction Management and Inspection services for the Project. The scope of services shall be fully outlined in the proposal including approach, personnel, and the cost and estimated time to perform the services. The scope of work may consist of the following items, but are not limited to the following:

- **Construction Management**– Consultant shall provide a Construction Manager (CM) for the duration of the Project. The proposal shall also include, but not limited to, labor compliance, and any other activities as deemed necessary by the Consultant to implement the improvement on this project.
- The CM shall provide expertise in construction management and contract administration required to successfully complete this project. The City will not expect the CM to serve as the Project Manager (PM). City staff perform the duties of the PM. The role of the CM is different than that of the PM in that the CM is responsible for management and observation of construction work whereas



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the PM only has an oversight role during construction and is responsible for the entire Project. The CM will be competent with all components of the Project and will be charged with successful completion of construction in compliance with the Project's documents. Required material testing will be provided by a third party.

- **Project Coordination**– The selected Consultant must provide an experienced CM who has successfully delivered services on similar projects with a minimum 5 years of experience. The CM must be able to perform the following:
 - o Management
 - Manage and coordinate all aspects of the project inclusive of services identified in the Request for Proposal (RFP).
 - Coordinate with City staff, regulatory agencies, and project stakeholders.
 - Prepare statements of working days and distribute them to the construction contractor on a weekly basis.
 - Coordinate design changes.
 - Participate in field meetings and document issues, findings, direction, changes, etc., and develop solutions.
 - Provide the necessary personnel, equipment and transportation to facilitate the performance of the intended construction management services.
 - Notify the City immediately if the proposed work schedule does not conform to the contract documents, including the plans, specifications, and permits, or that may require special inspection or testing, or work stoppage.
 - Identify the scope of work for potential contract change orders and notify the City.
 - Provide weekly progress reports to the City on the status of the Project, indicating major work activities, status of RFIs, submittals, change orders and other required information utilizing the City's adopted project management tool, Procore. Reports may be requested more frequently or in a separate format, as requested by the city.
 - Ensure that the construction contractor complies with all laws, rules, regulations, permits, and orders as provided by the contract.
 - Ensure compliance with approved Quality Assurance Program (QAP).
 - Other improvements/activities (e.g. optional items) as deemed necessary by the Consultant to implement the improvements on this Project. These optional items shall be included in the approach section of the proposal and shall also be included in the fee.
 - o Meetings
 - Conduct a pre-construction meeting and prepare agenda and minutes. Prior to the meeting, review PS&E and identify potential issues.
 - Conduct and lead weekly construction progress meetings and prepare minutes. Prepare and distribute meeting agendas and



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minutes.

o Schedule and Budget

- Deliver Project on time and within budget.
- Review Progress Schedule (Critical Path Method) by the construction contractor and recommend for approval.
- The CM shall review project-related invoices and progress payments; submit all invoices to the city's PM with a recommendation stating the proper amount for payment.
- Prepare change orders in the standard City format. Submit to City for review and approval.
- Maintain an accounting of construction costs including approved change orders.
- Review payment requests. Prepare monthly progress payments and recommend approval.
- Prepare independent cost estimates for any changes resulting from design revisions or change in field conditions.
- Evaluate the merit of any potential claims, or requests for equitable adjustment submitted by the construction contractor.

o Miscellaneous

- Review and coordinate approval of shop drawings with the design consultant.
- Review and approve material submittals.
- Log, track, and process submittals, Requests for Information (RFIs), Requests for Changes (RFCs), Contract Change Orders (CCOs), field directives, Notices of Potential Claim (NOPCs), Non-Conformance Reports (NCRs), construction schedule, and detailed traffic control plan. Consultant shall utilize the City's construction management software "Procore".
- Provide City with as-built and electronic set of drawings at Project completion.
- Monitor and review the construction contractor's as-built redlined drawings.
- Monitor materials documentation and testing results, as well as enforce corrections.
- Review and approve the construction contractor's safety program.
- Review and approve traffic control plans.
- Process all Project documentation per City and standard format.
- Maintain Project files per City guidelines.
- Other Project contract and construction management responsibilities as assigned.
- Advise the City of all complaints and inquiries from property owners, citizens, officials, or others and assist in the investigation and answering of such complaints and inquiries. Maintain a log showing disposition of each complaint and inquiry.
- The CM shall not authorize deviations from the construction contract documents without the City's consent.
- The CM shall not authorize change orders or extra work for the Project without the City's consent.
- The CM shall review the Contractor's videotape of preconstruction



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site conditions prior to any construction operation to confirm existing conditions within the limits of work, adjacent areas, and haul routes to document and clearly depict pre-existing conditions and prepare additional videotape and/or photographs to document site conditions as required to supplement the Contractor's videotape.

- The CM shall take and share construction documentation photographs on a regular basis; maintain a digital photographic library of all significant construction activities available for review on at least a weekly basis via project management software; provide unique file names for photos with date and location information included; take additional photographs to document differing site conditions, change order and claim items, and any special or unique conditions as they arise.
- The CM shall incorporate new software capabilities (Blue Beam, Procore, etc.) that allow photographs taken in the field to be linked to a PDF of the site plan/drawing/detail of the photographed location and provide a report of these photos linked to their location on a weekly basis, with photos uploaded to the approved project document management site regularly.
- The CM shall ensure that all relevant project communications are documented and promptly distributed to the city and applicable parties. All original project documents and final project reports shall be furnished to the city within 60 days following the city's determination of Substantial Completion.
- The CM shall maintain field memoranda, transmittals, updated schedules, logs of shop drawings and other submittals, logs of RFI's, change orders, progress payment requests, progress meeting reports, daily inspection reports, dates of utility service interruptions, and all other project
- The CM shall be responsible for assisting the PM with all aspects of Public Works contract compliance, change/claims negotiations and processing, and contract interpretations and enforcement.
- The CM shall coordinate testing and specialty services conducted by third parties, review daily inspection notes and identify and report nonconforming items.
- The CM shall notify the city of significant problems and discrepancies; assist the city with interpreting drawings, specifications and reference standards; monitor construction activities and schedules; assist the city with resolving constructability problems.
- Coordinate a final walk-through with all affected stakeholders, prepare punch list, certify completion of the Project, and recommend acceptance.
- Finalize record drawings, construction contract bid items, claims, and change orders and punch list items. Reconcile all accounting.
- Prepare all final reports, including report of completion for acceptance of the Project.
- Finalize and deliver all construction files to the city. All files shall be



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digitized and provided both in electronic and hardcopy format.

- **Construction Inspection**– The selected Consultant must provide an experienced Construction Inspector (Inspector) who has successfully provided inspection services for projects similar in scope of work with at least 5 years of relevant experience. The Inspector tasks will include, but are not limited to the following:
 - Review and inspection of the Contractor's work and operations regarding scope of work per Project's contract documents, safety, traffic control, quality and quantity of work. Ensures Contractor's adherence to the environmental and regulatory conditions of the contract.
 - Ensure Project construction is completed in accordance with approved plans, specifications, and estimate (PS&E) and referenced standards.
 - In coordination with the CM and the City, resolve conflicts between plans and specifications and actual site conditions.
 - Maintain complete and accurate daily contract records (including photographs). Records shall be in the format requested by the City. Also, records should document any significant discussions or occurrences that occur in the field. Responsible for quantity measurements and calculations for work performed.
 - Ensure that all materials incorporated into the work are acceptable and of good quality. Obtain Certificates of Compliance and/or completes field releases of material.
 - Assist in tracking approved changes for as-built records.
 - Daily communication with the CM and the City on project status.
 - The Inspector shall visit the project site daily for the life of the project.
 - Coordinate with City staff and other Project stakeholders.
 - Complete daily measurements of quantities of work with the construction contractor and daily diaries.
 - Prepare monthly quantity estimates for use in progress payments.
 - Provide daily diaries reports to City or its designee on a weekly basis.
 - Maintain a daily diary which shall describe in detail all work accomplished on a daily basis, weather conditions, number of personnel employed, and labor classification, at the site by the construction contractor, quantities of materials incorporated into the project, quantities of bid item work completed, construction equipment at the site, deliveries of construction materials, material shortages, tests, labor disputes, general observations, and any unusual occurrences.
 - Attend all Project meetings such as preconstruction, field, and progress meetings.
 - Provide complete and documented measurements and calculations to administer progress payments, change orders, extra work, etc.
 - Each working day, meet with the construction contractor to review proposed work plans, including specific details that may affect progress. Inform the CM and the City of any work which may result in a noteworthy impact to the city.
 - Closely monitor material, and other necessary testing results and require the construction contractor to provide corrective measures



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to achieve compliance.

- Maintain copies of all permits needed to construct the Project and enforce special requirements of each.
- Ensure compliance with applicable regulations controlling the work.
- Perform SWPPP/WPCP compliance inspections and related duties. Document and take appropriate action to correct SWPPP/WPCP and/or BMP deficiencies.
- Document all contractor delays, reasons for delay, length of time for delay, and phases of work.
- Document that the required posters and wage rates are displayed at the job site
- Other related and required tasks.

2.4 Relevant Plans, Policies, Programs, or Projects

Proposers should review the CIP 699 Parking Lot “C” Improvements plan and specifications (**Attachment 2**).



3. Submittal Instructions

3.1 Proposal Format

Proposers shall submit **one copy** of the proposal and **one copy** of the rate schedule in PDF format on the PlanetBids Portal.

3.2 Proposal Content

Proposals must be concise, but with sufficient detail to allow accurate evaluation and comparative analysis. Emphasis should be concentrated on conforming to the RFP instructions, responding to the RFP requirements, and on providing a complete and clear description of the offer. Proposals shall include the sections described in greater detail below. Do not include marketing brochures or other promotional material not connected with this RFP.

3.2.1 Cover Letter

Proposals must be accompanied by a short cover letter, signed by an individual authorized to bind the proposing entity to all commitments made in the submittal. An unsigned proposal is grounds for rejection. The cover letter shall include:

- Brief introduction of the firm (or team of firms);
- Contact information for the person authorized to enter into an agreement with the City.
- Contact information for the **contract manager** that will serve as the day-to-day contact with the City, serve as the source of information between any assigned staff and subconsultants; and ensure overall quality and responsiveness.
- Concise statement of understanding of the scope of work; and
- Acknowledgement of receipt of any addendums that were issued for this RFP.

3.2.2 Firm Profile

Proposers should provide a brief profile of the prime consultant and any subconsultants. Information should be included, but is not limited to the following information:

- Official name, address, email, and telephone number of the consultant's primary point of contact.
- Type of business entity of consultant (corporation, company, joint venture, etc.). Please enclose a copy of the Joint Venture Agreement if the entity is a joint venture.
- Federal Employer I.D. Number.



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- Indication whether firm is totally or partially owned by another business organization (parent company) or individual.
- Number of years consultant has been in business under the present business name.
- The number of years of experience the consultant has had in providing required, equivalent, or related services.
- Any failures or refusals to complete a contract, and explanation.

3.2.3 Project Understanding and Approach to Scope of Work

Proposers should include in this section a statement of project understanding, organizational chart, approach to work program and summary of deliverables, described in greater detail below.

Statement of Project Understanding

The consultant must include in this section its understanding of the project and understanding of the Scope of Services noted herein. The consultant should be able to articulate a thorough understanding of the State, County and Local requirements, and other industry standards applicable to the project or services to be provided.

Organizational Chart

The proposer shall include an organizational chart that reflects the titles of key staff assigned to provide services under this proposal for the prime consultant and all subconsultants. The organizational chart should clearly identify names, titles, and professional licenses/certifications.

It is the City's requirement to have the key personnel identified in the Organizational Chart remain with the individual project during its duration. After contract execution the Consultant shall not substitute key personnel (contract manager and others listed by name in the proposal) or subconsultants without prior written approval by the City.

Approach to Work Program (Required and Optional Tasks)

The City is seeking an effective, efficient and creative approach to preparing work products and meeting the City's goals and timelines. In this section, proposers should include their recommended approach to providing the requested professional services and tasks noted in the Scope of Services in the RFP. The approach to the work plan shall be of such detail to demonstrate the proposer's ability to accomplish project objectives. This section should also include proposed approaches and techniques to engagement of community and stakeholders. The proposer's approach should provide detail on both



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the required and optional tasks identified in the scope of work, as well as any additional tasks or services performed by

the proposer. The consultant shall provide the City with any additional services that the firm can provide. Consultant may itemize those services which are further beneficial but are not noted in this RFP as requirements.

Roles and Responsibilities for City Staff

The proposer should summarize any services NOT provided by their firm that are listed in the Scope of Work. Consultant shall also list any resources, City assistance or other items expected to be provided by City, "Work to be Performed or Provided by the City.

3.2.4 Project Management Plan

Key to a creative, effective, and efficient delivery of projects is close coordination and communication between the City, community, and the selected consultant and stakeholders. In this section, proposers should provide information on scheduling and describe the firm or project manager's approach to communications and Quality Assurance/Quality Control (QA/QC).

Communications Approach

Proposers should describe their recommended or preferred approach to project communications between the City and Consultant Team. This should include details on the frequency of project check-ins, progress updates, and meeting locations (i.e. phone, email, in-person). Communications protocols for coordinating with other City departments, agencies, and the community can be established during the project kick-off.

Quality Assurance/Quality Control Approach

Describe the firm's QA/QC processes that will be adhered to during the term of the agreement. Describe the Consultant's method of ensuring that the assigned personnel's quality of work is high.

3.2.5 Experience and QualificationsRelevant Experience and References

Proposers shall highlight their experience of providing similar services for other municipal clients. References for at least three (3) similar projects within the last five (5) years are required. Preference



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will be given to proposers who have completed construction management and inspection services for construction or repair/improvements of concrete parking structures. Please include the following information, at a minimum, for other similar projects:

- Year started and completed
- Contracting Agency and Department
- Project Description
- Key Personnel Assigned
- Contract Value
- Name, email, and phone number for agency project manager
- Contract Value

Experience and Qualifications of Key Personnel

The consultant shall provide resumes indicating the experience and qualifications for the key personnel identified in the organization chart. Consultant shall also include the number and type of additional support personnel who will be providing services. At a minimum, the resume for each team member should include:

- Name
- Position and Role for This Project
- Degrees and Certifications
- Professional Memberships/Registrations
- Summary of Experience
- Work on Representative Project Similar in Scope

If sub-consultants are to be used as part of this proposal, a resume of the sub-consultant and relevant experience is to be included in the same format.

Assignment of Key Staff

The key personnel identified in the Organizational Chart shall remain with the project during its duration. In this section, please indicate the availability of key



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personnel to pursue completion of projects.

After contract execution the Consultant should not substitute key personnel (project manager, construction manager, inspector) and others listed by name in the proposal) or sub-consultants without prior written approval from the City. The consultant must request and justify the need for the substitution and obtain approval from the City prior to use of a different sub- consultant on the contract. The proposed substituted person must be as qualified as the original, and at the same or lower cost.

In the event there are proposed changes in key personnel, including sub-consultants, during the term of the agreement that are outside of the consultant's control, the consultant shall prepare a transition plan that is presented to the City's project manager for review.



3.2.6 Required Forms

Consultant shall review, acknowledge and submit the following forms:

- **Certification of Qualifications.** Consultant is required to sign and submit the Certification of Qualifications including acknowledgement that they have received and considered any addendums issued by the City in connection with this RFP. (See Section 6.1)
- **Non-Collusion Affidavit.** Consultant is required to sign and submit the Non-Collusion Affidavit. (See Section 6.2)
- **Compliance with Insurance Requirements.** Consultant shall demonstrate the willingness and ability to submit proof of the required insurance coverage as set forth in the Sample Professional Services Agreement. (See Section 6.3)
- **Acknowledgement of Professional Services Agreement.** Consultant shall demonstrate willingness and ability to comply with the City's Sample Professional Services Agreement and/or indicate any exceptions to the Professional Services Agreement. (See Section 6.4)

3.2.7 Proposed Fee

Proposed fee shall be submitted through PlanetBids Portal as a separate file, labeled "Proposed Fee" and indicate the firm's name. The proposed fee shall detail each task, number of anticipated hours to complete each task, hourly rate(s) of personnel assigned to each task and total amount for each task and a grand total, not to exceed fee, for all tasks.

Rate schedule shall also detail any other direct costs, intended to be charged to the City (e.g., equipment, printing/materials).

4. Evaluation and Selection

4.1 Review Process

The City will evaluate all proposals received in accordance with the evaluation criteria. The City shall not be obligated to accept the lowest proposed fee, but the City may make award(s) in the best interests of the City after all factors are considered, including, but not limited to, the demonstrated competence, experience, and professional qualifications of the Proposer. Evaluation scores will not be released until after the award, if one is made.

Following the review of RFPs by the City's team, the City may, if it chooses to do so, invite short-listed consultants to be interviewed by a panel of City staff, which may include non-city personnel at the City's discretion. Discussions may, at the City's discretion, be conducted with the most qualified Proposer(s). Discussions may be for the purpose of clarification to assure full understanding of, and responsiveness to the solicitation requirements. Proposers shall be



accorded fair and equal treatment with respect to any opportunity for discussion and written revision of proposal. In conducting discussions, the City will not disclose information derived from proposal submitted by competing Proposers.

The City will verify references of short-listed consultants, which may include entities/persons not listed as references. The City will select a consultant to negotiate for the performance of work. In negotiating the contract, the City may request modifications to the proposed scope or to the technical team or other elements of the proposal. If negotiations fail, the City will commence negotiations with the next qualified candidate. Work will promptly commence following contract award and satisfaction with contract requirements.

Task orders resulting from this contract will be negotiated and executed between the City and the selected firm.

4.2 Evaluation Criteria

Proposals will be evaluated based on their response to all provisions of this RFP. The City of Hermosa Beach will use the following criteria in its evaluation of proposals and the criteria will be weighed as stated:

Approach and Methods (30%):

- Demonstration of the team's ability to be responsive to the City's needs and provide a high level of customer service.
- Evidence of the team's ability to successfully deliver project tasks and deliverables within the identified project budget and minimize cost overruns.
- Evidence of the team's ability to work collaboratively with other firms and stakeholders - in a dynamic working environment.
- Demonstration of the team's commitment to accurate and superior work products and services as detailed in the project management plan.
- A well thought-out and tailored approach to completing the work that responds to the City's particular issues and needs.
- Incorporation of innovative and/or creative approaches for providing the services that will maximize efficient, cost-effective operations or increased performance capabilities.

Relevant Experience and Expertise (50%):

- The consultant team's ability to dedicate a strong contract manager, knowledge with the needs of a Public Works Department, that will serve as a single point of contact for the duration of the project.
- Recent experience of providing similar services for other jurisdictions.

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- Familiarity and experience with applicable industry standards and any relevant federal, state, or local requirements.
- The depth and appropriateness of experience of individual members of the technical team as they relate to the specific technical tasks called for by the project.
- The team's experience and ability to clearly communicate technical concepts and terminology with the community.

Administration (20%):

- Proposed fee.
- The extent and nature of any proposed amendments to the City's Professional Services Agreement.

Interviews or verification of references may be required with the selected consultant(s).



5. Contract Expectations

5.1 Contract Period

The City anticipates the contract term would begin in September of 2025 with an anticipated duration of six (6) months.

5.2 Professional Services Agreement

The selected consultant will be expected to comply with and sign the City's Professional Services Agreement. Proposers should identify and/or indicate any exceptions to the Sample Professional Services Agreement included in Attachment 1. The City Attorney or their designee retains the discretion to accept or reject proposed exceptions or modifications to the City's Professional Services Agreement.

5.3 Standards of Work

In case of conflicts, ambiguities, discrepancies, errors, or omissions, Consultant shall submit the matter to City for clarification. Any work affected by such conflicts, ambiguities, discrepancies, errors or omissions which is performed by consultant prior to clarification by City shall be at Consultant's risk and expense.

5.4 Invoicing

Each invoice shall contain a progress report describing the work completed during the billing period and shall also include cost information by task regarding, previous work billed to date, work billed during the reporting period, percentage of task completed and amount remaining by task.

Invoices are to be submitted monthly and reference the assigned contract number and task order number. The invoices shall refer to the project title, and list charges by task, worker classification, hours, billing rate, and totals.

Each invoice shall contain a progress report describing the work completed during the billing period and the following summary information:

Contract Amount	Total Prior Contract Billings	Contract Work Performed this Period	Total Contract Amount Performed to Date	Contract Percent Complete	Total Amount Remaining for the Contract



6. Required Forms

6.1 Certification of Qualifications

RFP #: 25-004

The undersigned hereby submits its proposal and agrees to be bound by the terms and conditions of this Request for Qualifications ("RFP").

1. The proposer declares and warrants that no elected or appointed official, officer or employee of the City has been or shall be compensated, directly or indirectly, in connection with this proposal or any work connected with this proposal. Should any agreement be approved in connection with this RFP, Proposer declares and warrants that no elected or appointed official, officer or employee of the City, during the term of his/her service with the City shall have any direct interest in that agreement, or obtain any present, anticipated or future material benefit arising therefrom.
2. By submitting the response to this request, Proposer agrees, if selected to furnish services to the City in accordance with this RFP.
3. Proposer has carefully reviewed its proposal and understands and agrees that the City is not responsible for any errors or omissions on the part of the Proposer and that the Proposer is responsible for them.
4. It is understood and agreed that the City reserves the right to accept or reject any or all proposal and to waive any informality or irregularity in any proposal received by the City.
5. The Proposal response includes all of the commentary, figures and data required by the RFP.
6. The Proposal shall be valid for 90 days from the date of submittal.
7. The proposer acknowledges that the City may issue addendums related to this RFP and that the proposer has reviewed the following addendums which have been issued:

Addendum: _____

Addendum: _____

8. Proposer further acknowledges the provisions of any addendums issued have been incorporated into their proposal.

Signature of Authorized Representative:

Printed Name and Title:



6.2 Non-Collusion Affidavit
RFP #: 25-004

The undersigned declares states and certifies that:

1. This Proposal is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization or corporation.
2. This Proposal is genuine and not collusive or sham.
3. I have not directly or indirectly induced or solicited any other Proposer to put in a false or sham Proposal and I have not directly or indirectly colluded, conspired, connived, or agreed with any other Proposer or anyone else to put in a sham Proposal or to refrain from submitting to this RFP.
4. I have not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the rate schedule price or to fix any overhead, profit or cost element of the rate schedule price or to secure any advantage against the City of Hermosa Beach or of anyone interested in the proposed contract.
5. All statements contained in the Proposal and related documents are true.
6. I have not directly or indirectly submitted the rate schedule price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any person, corporation, partnership, company, association, organization, RFP depository, or to any member or agent thereof, to effectuate a collusive or sham proposal.
7. I have not entered into any arrangement or agreement with any City of Hermosa Beach public officer in connection with this Proposal.
8. I understand collusive bidding is a violation of State and Federal law and can result in fines, prison sentences, and civil damage awards.

Signature of Authorized Representative:

Printed Name and Title:

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**6.3 Compliance with Insurance Requirements****RFP #: 25-004**

The selected consultant will be expected to comply with the City's insurance requirements contained within this Request for Proposals ("RFP").

The undersigned declares states and certifies that:

1. The proposer agrees, acknowledges and is fully aware of the insurance requirements as specified in the RFP.
2. If selected, the proposer agrees to accept all conditions and requirements as contained therein.

Signature of Authorized Representative:

Printed Name and Title:

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**6.4 Acknowledgement of Professional Services Agreement**
RFP #: 25-004

The selected consultant will be expected to comply with and sign the City's Professional Services Agreement. Proposers shall identify and/or indicate any exceptions to the Sample Professional Services Agreement included as Attachment 1. The City Attorney or their designee retains the discretion to accept or reject proposed exceptions or modifications to the City's Professional Services Agreement.

1. The proposer agrees, acknowledges and is fully aware of the conditions specified in the City's Sample Professional Services Agreement.
2. The proposer agrees to accept all conditions and requirements as contained therein with exceptions noted as follows:

Signature of Authorized Representative:

Printed Name and Title:

ATTACHMENT 1

SAMPLE PROFESSIONAL SERVICES AGREEMENT



CONTRACT FOR PROFESSIONAL SERVICES TO

BETWEEN THE CITY OF HERMOSA BEACH AND _____

This AGREEMENT is entered into this _____ day of _____, 2025, by and between the CITY OF Hermosa Beach, a general law city a municipal corporation ("CITY") and _____, a limited liability company ("CONSULTANT").

RECITALS

- A. The City desires to _____.
- B. The City does not have the personnel able and/or available to perform the services required under this agreement and therefore, the City desires to contract for consulting services to accomplish this work.
- C. The Consultant warrants to the City that it has the qualifications, experience and facilities to perform properly and timely the services under this Agreement.
- D. The City desires to contract with the Consultant to perform the services as described in Exhibit A, Request for Qualifications, and Exhibit B, Proposal of this Agreement.

NOW, THEREFORE, based on the foregoing recitals, the City and the Consultant agree as follows:

- 1 CONSIDERATION AND COMPENSATION** As partial consideration, CONSULTANT agrees to perform the work listed in the SCOPE OF SERVICES, attached described in Exhibit A and Exhibit B.

As additional consideration, CONSULTANT and CITY agree to abide by the terms and conditions contained in this Agreement.

As additional consideration, CITY agrees to pay CONSULTANT a total of \$ _____, for CONSULTANT's services, unless otherwise specified by written amendment to this Agreement.

No additional compensation shall be paid for any other expenses incurred, unless first approved by the City Manager or his/her designee.

CONSULTANT shall submit to CITY, by not later than the 10th day of each month, its invoice for services itemizing the fees and costs incurred during the previous month. CITY shall pay CONSULTANT all uncontested amounts set forth in CONSULTANT's invoice within 30 days after it is received.

- 2 SCOPE OF SERVICES**. CONSULTANT will perform the services and activities set forth in the SCOPE OF SERVICE attached hereto as Exhibit A and Exhibit B and incorporated herein by this reference.



Except as herein otherwise expressly specified to be furnished by CITY, CONSULTANT will, in a professional manner, furnish all of the labor, technical, administrative, professional and other personnel, all supplies and materials, equipment, printing, vehicles, transportation, office space, and facilities necessary or proper to perform and complete the work and provide the professional services required of CONSULTANT by this Agreement.

- 3 PAYMENTS. For CITY to pay CONSULTANT as specified by this Agreement, CONSULTANT must submit an invoice to CITY which lists the reimbursable costs, the specific tasks performed, and, for work that includes deliverables, the percentage of the task completed during the billing period in accordance with the agreed upon method of payment and/or schedule of compensation incorporated in Exhibit A and Exhibit B.
- 4 TIME OF PERFORMANCE. The services of the CONSULTANT are to commence upon receipt of a notice to proceed from the CITY and shall continue until all authorized work is completed to the CITY's reasonable satisfaction, in accordance with the schedules incorporated in Exhibit A and Exhibit B, unless extended in writing by the CITY.
- 5 FAMILIARITY WITH WORK. By executing this Agreement, CONSULTANT represents that CONSULTANT has (a) thoroughly investigated and considered the scope of services to be performed; (b) carefully considered how the services should be performed; and (c) understands the facilities, difficulties, and restrictions attending performance of the services under this Agreement.
- 6 KEY PERSONNEL. CONSULTANT's key person assigned to perform work under this Agreement is _____. CONSULTANT shall not assign another person to be in charge of the work contemplated by this Agreement without the prior written authorization of the City.
- 7 TERM OF AGREEMENT. The term of this Agreement shall commence upon execution by both parties and shall expire on _____, 20____, unless earlier termination occurs under Section 11 of this Agreement, or this Agreement is extended in writing in advance by both parties.
- 8 CHANGES. CITY may order changes in the services within the general scope of this Agreement, consisting of additions, deletions, or other revisions, and the contract sum and the contract time will be adjusted accordingly. All such changes must be authorized in writing, executed by CONSULTANT and CITY. The cost or credit to CITY resulting from changes in the services will be determined in accordance with written agreement between the parties.
- 9 TAXPAYER IDENTIFICATION NUMBER. CONSULTANT will provide CITY with a Taxpayer Identification Number.
- 10 PERMITS AND LICENSES. CONSULTANT will obtain and maintain during the term of this Agreement all necessary permits, licenses, and certificates that may be required in connection with the performance of services under this Agreement.
- 11 TERMINATION. Except as otherwise provided, CITY may terminate this Agreement at any time with or without cause. Notice of termination shall be in writing.



CONSULTANT may terminate this Agreement. Notice will be in writing at least 30 days before the effective termination date.

In the event of such termination, the CONSULTANT shall cease services as of the date of termination, and all finished or unfinished documents, data, drawings, maps, and other materials prepared by CONSULTANT shall, at CITY's option, become CITY's property, and CONSULTANT will receive just and equitable compensation for any work satisfactorily completed up to the effective date of notice of termination.

Should the Agreement be terminated pursuant to this Section, CITY may procure on its own terms services similar to those terminated.

- 12 INDEMNIFICATION.** To the extent permitted by law, CONSULTANT shall indemnify, and hold harmless CITY, its officers, officials, employees and volunteers from and against all liability, loss, damage, expense, cost (including without limitation reasonable attorneys fees, expert fees and all other costs and fees of litigation) of every nature to the extent caused by CONSULTANT's negligence, recklessness or willful misconduct in the performance of work hereunder or its failure to comply with any of its obligations contained in this AGREEMENT. CONSULTANT shall promptly pay any final judgment rendered against CITY (and its officers, officials, employees and volunteers) with respect to claims determined by a trier of fact to have been the result of the CONSULTANT's negligence, recklessness or willful misconduct. CONSULTANT shall reimburse the CITY its costs of defense, including without limitation reasonable attorneys fees, expert fees and all other costs and fees of litigation to the extent such fees, costs and all other costs are determined by the court of competent jurisdiction to have been caused by the actual negligence, recklessness or willful misconduct of the Consultant. It is expressly understood and agreed that the foregoing provisions are intended to be as broad and inclusive as is permitted by the law of the State of California and will survive termination of this Agreement.

The requirements as to the types and limits of insurance coverage to be maintained by CONSULTANT as required by Section 17, and any approval of said insurance by CITY, are not intended to and will not in any manner limit or qualify the liabilities and obligations otherwise assumed by CONSULTANT pursuant to this Agreement, including, without limitation, to the provisions concerning indemnification.

- 13 ASSIGNABILITY.** This Agreement is for CONSULTANT's professional services. CONSULTANT's attempts to assign the benefits or burdens of this Agreement without CITY's written approval are prohibited and will be null and void.
- 14 INDEPENDENT CONSULTANT.** CITY and CONSULTANT agree that CONSULTANT will act as an independent contractor and will have control of all work and the manner in which it is performed. CONSULTANT will be free to contract for similar service to be performed for other employers while under contract with CITY. CONSULTANT is not an agent or employee of CITY and is not entitled to participate in any pension plan, insurance, bonus or similar benefits CITY provides for its employees. Any provision in this Agreement that may appear to give CITY the right to direct CONSULTANT as to the details of doing the work or to exercise a measure



of control over the work means that CONSULTANT will follow the direction of the CITY as to end results of the work only.

- 15 AUDIT OF RECORDS.** CONSULTANT agrees that CITY, or designee, has the right to review, obtain, and copy all records pertaining to the performance of this Agreement. CONSULTANT agrees to provide CITY, or designee, with any relevant information requested and will permit CITY, or designee, access to its premises, upon reasonable notice, during normal business hours for the purpose of interviewing employees and inspecting and copying such books, records, accounts, and other material that may be relevant to a matter under investigation for the purpose of determining compliance with this Agreement. CONSULTANT further agrees to maintain such records for a period of three (3) years following final payment under this Agreement.

CONSULTANT will keep all books, records, accounts and documents pertaining to this Agreement separate from other activities unrelated to this Agreement.

- 16 CORRECTIVE MEASURES.** CONSULTANT will promptly implement any corrective measures required by CITY regarding the requirements and obligations of this Agreement. CONSULTANT will be given a reasonable amount of time as determined by the City to implement said corrective measures. Failure of CONSULTANT to implement required corrective measures shall result in immediate termination of this Agreement.

17 INSURANCE REQUIREMENTS.

- A. The CONSULTANT, at the CONSULTANT's own cost and expense, shall procure and maintain, for the duration of the contract, the following insurance policies:
1. Workers Compensation Insurance as required by law. The Consultant shall require all subcontractors similarly to provide such compensation insurance for their respective employees. Any notice of cancellation or non-renewal of all Workers' Compensation policies must be received by the CITY at least thirty (30) days prior to such change. The insurer shall agree to waive all rights of subrogation against the CITY, its officers, agents, employees, and volunteers for losses arising from work performed by the CONSULTANT for City.
 2. General Liability Coverage. The CONSULTANT shall maintain commercial general liability insurance in an amount of not less than two million dollars (\$2,000,000) per occurrence for bodily injury, personal injury, and property damage. If a commercial general liability insurance form or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the work to be performed under this Agreement or the general aggregate limit shall be at least twice the required occurrence limit.
 3. Automobile Liability Coverage. The CONSULTANT shall maintain automobile liability insurance covering bodily injury and property damage for all activities of the CONSULTANT arising out of or in connection with the work to be performed under this Agreement, including coverage for owned, hired, and non-owned vehicles, in an amount of not less than one million dollars (\$1,000,000) combined single limit for each occurrence.



4. Professional Liability Coverage. The CONSULTANT shall maintain professional errors and omissions liability insurance for protection against claims alleging negligent acts, errors, or omissions which may arise from the CONSULTANT'S operations under this Agreement, whether such operations be by the CONSULTANT or by its employees, subcontractors, or subconsultants. The amount of this insurance shall not be less than one million dollars (\$1,000,000) on a claims-made annual aggregate basis, or a combined single-limit-per-occurrence basis. When coverage is provided on a "claims made basis," CONSULTANT will continue to renew the insurance for a period of three (3) years after this Agreement expires or is terminated. Such insurance will have the same coverage and limits as the policy that was in effect during the term of this Agreement, and will cover CONSULTANT for all claims made by CITY arising out of any errors or omissions of CONSULTANT, or its officers, employees or agents during the time this Agreement was in effect.
- B. Endorsements. Each general liability, automobile liability and professional liability insurance policy shall be issued by a financially responsible insurance company or companies admitted and authorized to do business in the State of California, or which is approved in writing by City, and shall be endorsed as follows. CONSULTANT also agrees to require all contractors, and subcontractors to do likewise.
1. "The CITY, its elected or appointed officers, officials, employees, agents, and volunteers are to be covered as additional insureds with respect to liability arising out of work performed by or on behalf of the CONSULTANT, including materials, parts, or equipment furnished in connection with such work or operations."
 2. This policy shall be considered primary insurance as respects the CITY, its elected or appointed officers, officials, employees, agents, and volunteers. Any insurance maintained by the CITY, including any self-insured retention the CITY may have, shall be considered excess insurance only and shall not contribute with this policy.
 3. This insurance shall act for each insured and additional insured as though a separate policy had been written for each, except with respect to the limits of liability of the insuring company.
 4. The insurer waives all rights of subrogation against the CITY, its elected or appointed officers, officials, employees, or agents.
 5. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the City, its elected or appointed officers, officials, employees, agents, or volunteers.
 6. The insurance provided by this policy shall not be suspended, voided, canceled, or reduced in coverage or in limits except after thirty (30) days written notice has been received by the CITY.
- C. CONSULTANT agrees to provide immediate notice to CITY of any claim or loss against CONSULTANT arising out of the work performed under this agreement. CITY assumes no obligation or liability by such notice, but has the right (but not the duty) to monitor the handling of any such claim or claims if they are likely to involve CITY.
- D. Any deductibles or self-insured retentions must be declared to and approved by the CITY. At the CITY's option, the CONSULTANT shall demonstrate financial capability for payment of such deductibles or self-insured retentions.



- E. The CONSULTANT shall provide certificates of insurance with original endorsements to the CITY as evidence of the insurance coverage required herein. Certificates of such insurance shall be filed with the CITY on or before commencement of performance of this Agreement. Current certification of insurance shall be kept on file with the CITY at all times during the term of this Agreement.
- F. Failure on the part of the CONSULTANT to procure or maintain required insurance shall constitute a material breach of contract under which the CITY may terminate this Agreement pursuant to Section 11 above.
- G. The commercial general and automobile liability policies required by this Agreement shall allow City, as additional insured, to satisfy the self-insured retention ("SIR") and/or deductible of the policy in lieu of the Consultant (as the named insured) should Consultant fail to pay the SIR or deductible requirements. The amount of the SIR or deductible shall be subject to the approval of the City Attorney and the Finance Director. Consultant understands and agrees that satisfaction of this requirement is an express condition precedent to the effectiveness of this Agreement. Failure by Consultant as primary insured to pay its SIR or deductible constitutes a material breach of this Agreement. Should City pay the SIR or deductible on Consultant's behalf upon the Consultant's failure or refusal to do so in order to secure defense and indemnification as an additional insured under the policy, City may include such amounts as damages in any action against Consultant for breach of this Agreement in addition to any other damages incurred by City due to the breach.
- 18 USE OF OTHER CONSULTANTS.** CONSULTANT must obtain CITY's prior written approval to use any subconsultants while performing any portion of this Agreement. Such approval must include approval of the proposed consultant and the terms of compensation.
- 19 FINAL PAYMENT ACCEPTANCE CONSTITUTES RELEASE.** The acceptance by the CONSULTANT of the final payment made under this Agreement shall operate as and be a release of the CITY from all claims and liabilities for compensation to the CONSULTANT for anything done, furnished or relating to the CONSULTANT'S work or services. Acceptance of payment shall be any negotiation of the CITY'S check or the failure to make a written extra compensation claim within ten (10) calendar days of the receipt of that check. However, approval or payment by the CITY shall not constitute, nor be deemed, a release of the responsibility and liability of the CONSULTANT, its employees, subconsultants and agents for the accuracy and competency of the information provided and/or work performed; nor shall such approval or payment be deemed to be an assumption of such responsibility or liability by the CITY for any defect or error in the work prepared by the Consultant, its employees, subconsultants and agents.
- 20 CORRECTIONS.** In addition to the above indemnification obligations, the CONSULTANT shall correct, at its expense, all errors in the work which may be disclosed during the City's review of the Consultant's report or plans. Should the Consultant fail to make such correction in a reasonably timely manner, such correction shall be made by the CITY, and the cost thereof shall be charged to the CONSULTANT. In addition to all other available remedies, the City may deduct the cost of such correction from any retention amount held by the City or may



withhold payment otherwise owed CONSULTANT under this Agreement up to the amount of the cost of correction.

21 NON-APPROPRIATION OF FUNDS. Payments to be made to CONSULTANT by CITY for services performed within the current fiscal year are within the current fiscal budget and within an available, unexhausted fund. In the event that CITY does not appropriate sufficient funds for payment of CONSULTANT'S services beyond the current fiscal year, the Agreement shall cover payment for CONSULTANT'S services only to the conclusion of the last fiscal year in which CITY appropriates sufficient funds and shall automatically terminate at the conclusion of such fiscal year.

22 NOTICES. All communications to either party by the other party will be deemed made when received by such party at its respective name and address as follows:

CITY	CONSULTANT
City of Hermosa Beach 1315 Valley Drive Hermosa Beach, CA 90254 ATTN:	 ATTN:

Any such written communications by mail will be conclusively deemed to have been received by the addressee upon deposit thereof in the United States Mail, postage prepaid and properly addressed as noted above. In all other instances, notices will be deemed given at the time of actual delivery. Changes may be made in the names or addresses of persons to whom notices are to be given by giving notice in the manner prescribed in this paragraph. Courtesy copies of notices may be sent via electronic mail, provided that the original notice is deposited in the U.S. mail or personally delivered as specified in this Section.

- A. SOLICITATION.** CONSULTANT maintains and warrants that it has not employed nor retained any company or person, other than CONSULTANT's bona fide employee, to solicit or secure this Agreement. Further, CONSULTANT warrants that it has not paid nor has it agreed to pay any company or person, other than CONSULTANT's bona fide employee, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. Should CONSULTANT breach or violate this warranty, CITY may rescind this Agreement without liability.
- B. THIRD PARTY BENEFICIARIES.** This Agreement and every provision herein is generally for the exclusive benefit of CONSULTANT and CITY and not for the benefit of any other party. There will be no incidental or other beneficiaries of any of CONSULTANT's or CITY's obligations under this Agreement.



- C. INTERPRETATION.** This Agreement was drafted in, and will be construed in accordance with the laws of the State of California, and exclusive venue for any action involving this agreement will be in Los Angeles County.
- D. ENTIRE AGREEMENT.** This Agreement, and its Attachments, sets forth the entire understanding of the parties. There are no other understandings, terms or other agreements expressed or implied, oral or written.
- E. RULES OF CONSTRUCTION.** Each Party had the opportunity to independently review this Agreement with legal counsel. Accordingly, this Agreement will be construed simply, as a whole, and in accordance with its fair meaning; it will not be interpreted strictly for or against either Party.
- F. AUTHORITY/MODIFICATION.** The Parties represent and warrant that all necessary action has been taken by the Parties to authorize the undersigned to execute this Agreement and to engage in the actions described herein. This Agreement may be modified by written amendment with signatures of all parties to this Agreement. CITY's city manager, or designee, may execute any such amendment on behalf of CITY.
- 23 ACCEPTANCE OF FACSIMILE OR ELECTRONIC SIGNATURES.** The Parties agree that this Contract, agreements ancillary to this Contract, and related documents to be entered into in connection with this Contract will be considered signed when the signature of a party is delivered by facsimile transmission or scanned and delivered via electronic mail. Such facsimile or electronic mail copies will be treated in all respects as having the same effect as an original signature.
- 24 FORCE MAJEURE.** Should performance of this Agreement be impossible due to fire, flood, explosion, war, embargo, government action, civil or military authority, the natural elements, or other similar causes beyond the Parties' control, then the Agreement will immediately terminate without obligation of either party to the other.
- 25 TIME IS OF ESSENCE.** Time is of the essence to comply with dates and schedules to be provided.
- 26 ATTORNEY'S FEES.** The parties hereto acknowledge and agree that each will bear his or its own costs, expenses and attorneys' fees arising out of and/or connected with the negotiation, drafting and execution of the Agreement, and all matters arising out of or connected therewith except that, in the event any action is brought by any party hereto to enforce this Agreement, the prevailing party in such action shall be entitled to reasonable attorneys' fees and costs in addition to all other relief to which that party or those parties may be entitled.
- 27 STATEMENT OF EXPERIENCE.** By executing this Agreement, CONSULTANT represents that it has demonstrated trustworthiness and possesses the quality, fitness and capacity to perform the Agreement in a manner satisfactory to CITY. CONSULTANT represents that its financial resources, surety and insurance experience, service experience, completion ability, personnel, current workload, experience in dealing with private consultants, and experience in dealing with public agencies all suggest that CONSULTANT is capable of performing the



proposed contract and has a demonstrated capacity to deal fairly and effectively with and to satisfy a public agency.

28 OWNERSHIP OF DOCUMENTS. It is understood and agreed that the City shall own all documents and other work product of the Consultant, except the Consultant's notes and workpapers, which pertain to the work performed under this Agreement. The City shall have the sole right to use such materials in its discretion and without further compensation to the Consultant, but any re-use of such documents by the City on any other project without prior written consent of the Consultant shall be at the sole risk of the City.

29 USE OF LOGO. The CITY grants the CONSULTANT permission to use its name, logo and/or trademark in deliverables produced by the CONSULTANT on the behalf of the CITY, such as written reports, presentation slides, press releases, social media graphics, and other public outreach materials. The CITY's prior review of artwork and written approval is required for any use of CITY logo. CITY will provide an electronic copy of the most current logo to the CONSULTANT for use in materials. The CONSULTANT will, in turn, only use the most current logo of the CITY.

30 DISCLOSURE REQUIRED. (City and Consultant initials required at one of the following paragraphs)

By their respective initials next to this paragraph, City and Consultant hereby acknowledge that Consultant is a "consultant" for the purposes of the California Political Reform Act because Consultant's duties would require him or her to make one or more of the governmental decisions set forth in Fair Political Practices Commission Regulation 18700.3(a) or otherwise serves in a staff capacity for which disclosure would otherwise be required were Consultant employed by the City. Consultant hereby acknowledges his or her assuming-office, annual, and leaving-office financial reporting obligations under the California Political Reform Act and the City's Conflict of Interest Code and agrees to comply with those obligations at his or her expense. Prior to consultant commencing services hereunder, the City's Manager shall prepare and deliver to consultant a memorandum detailing the extent of Consultant's disclosure obligations in accordance with the City's Conflict of Interest Code.

City Initials _____

Consultant Initials _____

OR

By their initials next to this paragraph, City and Consultant hereby acknowledge that Consultant is not a "consultant" for the purpose of the California Political Reform Act because Consultant's duties and responsibilities are not within the scope of the definition of consultant in Fair Political Practice Commission Regulation 18700.3(a) and is otherwise not serving in staff capacity in accordance with the City's Conflict of Interest Code.

City Initials _____

Consultant Initials _____

Construction Management and Inspection Services

CIP 699 Parking Structure Lot "C" Improvements



IN WITNESS WHEREOF the parties hereto have executed this contract the day and year first hereinabove written.

CITY OF HERMOSA BEACH

CONSULTANT

[MAYOR/CITY MANAGER]By:

NAME/TITLE

ATTEST:

Myra Maravilla, City Clerk

Taxpayer ID No.

APPROVED AS TO FORM:

Todd Leishman, Interim City Attorney

ATTACHMENT 2

CIP 699 Parking Structure Lot “C” Improvements Plans and Specifications

GENERAL NOTES:

GENERAL NOTES:

- CONSTRUCTION WORK HOURS ARE LIMITED TO 8:00AM TO 6:00 PM, MONDAY THROUGH FRIDAY. WORK IS PROHIBITED ON SATURDAYS, SUNDAYS, AND HOLIDAYS AS DEFINED IN THE SPECIAL PROVISIONS.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK"), CITY OF HERMOSA BEACH PUBLIC WORKS STANDARDS, AND ALL OTHER CONTRACTUAL REQUIREMENTS.
- ALL WORK DONE WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE DONE BY A LICENSED CONTRACTOR WITH A CLASS A LICENSE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL NECESSARY PERMITS FROM THE CITY AND ANY OTHER JURISDICTIONAL AGENCIES REQUIRED TO ACCOMPLISH ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY. NO WORK SHALL START UNTIL ALL NECESSARY PERMITS ARE OBTAINED.
- ALL WORK IS SUBJECT TO THE REQUIREMENTS OF THE PERMIT(S) OF THE CITY OF HERMOSA BEACH INCLUDING, BUT NOT LIMITED TO, BARRICADES, TRAFFIC CONTROL, BACKFILL COMPACTION, PAVEMENT REPAIRS, ETC.
- ALL CONTRACTORS WORKING ON PUBLIC WORKS PROJECTS MUST HAVE A CURRENT CITY OF HERMOSA BEACH BUSINESS LICENSE.
- THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE PUBLIC WORKS DEPARTMENT ON A CITY-PROVIDED PUBLIC NOTICE FORM FOR APPROVAL THEN, UPON APPROVAL, DISTRIBUTE THE NOTICE TO ALL AFFECTED PROPERTIES AT LEAST 72 HOURS IN ADVANCE OF START OF CONSTRUCTION. NOTICE SHALL INFORM THE PUBLIC OF ALL CONSTRUCTION OPERATIONS INCLUDING ANY STREET CLOSURE OR PARKING RESTRICTION.
- THE CONTRACTOR SHALL NOTIFY BUS COMPANIES OF ANY STREET CLOSURES AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF WORK. THE CONTRACTOR SHALL COORDINATE THE TEMPORARY RELOCATION OF ANY BUS STOP IMPACTED BY CONSTRUCTION; SEE AGENCY CONTACTS FOR CONTACT INFORMATION.
- THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE PLANS PRIOR TO COMMENCING WORK. SHOULD CONFLICTING INFORMATION BE FOUND ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH THE WORK IN QUESTION.
- PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD INCLUDING DIMENSIONS AND SOIL CONDITIONS. IF THE FIELD CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT BEGIN CONSTRUCTION UNTIL THE CHANGED CONDITIONS HAVE BEEN EVALUATED AND ADDRESSED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY APPLICABLE CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE AND AT NO EXPENSE TO THE CITY.
- NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE GIVEN CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.
- THE CONTRACTOR SHALL SUPPLY ALL EQUIPMENT, LABOR, AND MATERIALS NECESSARY TO PERFORM THE WORK SHOWN ON THE PLAN. THE CONTRACTOR SHALL USE ADEQUATE NUMBERS OF SKILLED WORKERS WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND THE METHODS REQUIRED PRIOR TO PERFORMANCE OF THE WORK.
- THE CONTRACTOR SHALL COORDINATE ALL WORK, INCLUDING SUBCONTRACTORS' WORK, SO AS TO ELIMINATE CONFLICTS AND WORK TOWARD THE GENERAL COMPLETION OF THE ENTIRE PROJECT WITHIN THE CONTRACT PERIOD.
- THE CONTRACTOR SHALL REPLACE ALL EXISTING IMPROVEMENTS (PAVEMENT, STRIPING, RAISED MARKERS, ETC.) DAMAGED DURING CONSTRUCTION IN KIND AND TO THE SAME OR BETTER CONDITION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OR EXCESSIVE WEAR AND TEAR TO ROADS, OR ADJACENT PUBLIC OR PRIVATE PROPERTY CAUSED BY CONSTRUCTION-RELATED WORK AND SHALL BE RESPONSIBLE TO IMPLEMENT MEASURES TO PREVENT SUCH DAMAGE.
- ANY ASPHALT OR CONCRETE PAVEMENT WITHIN THE PROPERTY LIMITS THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED TO MEET CURRENT CITY STANDARDS.
- ALL EXISTING SURFACE FEATURES SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES DURING CONSTRUCTION.
- ANY PUBLIC PROPERTY DAMAGED DURING CONSTRUCTION SHALL BE REPLACED IN KIND OR BETTER TO THE SATISFACTION OF THE PUBLIC WORKS INSPECTOR OR ENGINEER. THE CITY SHALL, AT ITS DISCRETION AND IN THE INTEREST OF PUBLIC SAFETY, MAKE ANY REPAIRS DEEMED NECESSARY; THE COST OF SUCH REPAIRS SHALL BE DEDUCTED FROM THE CONTRACT COST.
- GRAFFITI IN FRESHLY POURED CONCRETE SHALL BE REMOVED BY WHATEVER MEANS NECESSARY UP TO AND INCLUDING REMOVAL AND REPLACEMENT.
- UNLESS OTHERWISE NOTED, ALL TRAFFIC SIGNS SHALL BE PROTECTED IN PLACE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AN APPROVED COPY OF CONSTRUCTION PLANS AT THE PROJECT SITE DURING CONSTRUCTION. ALL DRAWINGS ARE CONSIDERED PART OF THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL MAKE AVAILABLE FOR THE INSPECTOR'S REVIEW, ON A DAILY BASIS, AS-BUILT DRAWINGS FOR WORK PERFORMED UP TO AND INCLUDING THE PREVIOUS DAY'S ACTIVITIES. WORK SHALL NOT BE CONSIDERED COMPLETE UNTIL AS-BUILT DRAWINGS ARE SUBMITTED AND ACCEPTED BY THE PUBLIC WORKS DIRECTOR.

UTILITIES:

- THE CONTRACTOR SHALL CALL IN A LOCATION REQUEST TO UNDERGROUND SERVICE ALERT (USA) AT (800-422-4133 AT LEAST 72 HOURS BEFORE PERFORMING ANY DIGGING. SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES THAT A DIGALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID. THE CONTRACTOR SHALL PROVIDE THE DIGALERT NUMBER TO THE CITY, AND UPON EXPOSING ANY UNDERGROUND FACILITY, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THAT UTILITY COMPANY.
- EXISTING UTILITIES AND STRUCTURES (UNDERGROUND, SURFACE, OR OVERHEAD) ARE INDICATED ONLY TO THE EXTENT THAT SUCH INFORMATION WAS KNOWN, MADE AVAILABLE TO, OR DISCOVERED BY THE DESIGNER IN PREPARING THE DRAWINGS. THE LOCATIONS, CONFIGURATIONS, AND PLAN VIEW ELEVATIONS OF SUBSURFACE FACILITIES ARE APPROXIMATE AND NOT ALL UTILITIES AND FACILITIES MAY BE INDICATED.
- THE CONTRACTOR SHALL DETERMINE THE LOCATIONS, DEPTH, MATERIAL, CONDITIONS, ROUNDNESS, AND SIZE OF ALL UTILITIES, AND SUBSTRUCTURES INCLUDING SERVICE CONNECTIONS AND LATERALS WITHIN THE ALIGNMENT AND WORK LIMITS OF THE PROPOSED IMPROVEMENTS.
- THE CONTRACTOR SHALL BEAR THE COST OF REPAIRING OR REPLACING ANY OF SAID STRUCTURES DAMAGED BY THEM DURING THE PROSECUTION OF THE WORK. ALL REPAIRS AND REPLACEMENTS SHALL BE DONE IN THE PRESENCE OF THE INSPECTOR. ALL LOCATIONS SHOWN ON THE PLANS FOR UTILITIES HAVE BEEN TAKEN FROM AVAILABLE RECORDS AND THEIR COMPLETENESS AND CORRECTNESS ARE IN NO WAY GUARANTEED.
- BEFORE CONSTRUCTION IS STARTED, CONTRACTOR SHALL COORDINATE WITH THE OWNER OF EACH UTILITY AND DEFINE THE REQUIREMENTS AND METHODS TO ACCOMMODATE THE PROTECTION, TEMPORARY SUPPORT, ADJUSTMENT, OR RELOCATION OF ANY UTILITIES AFFECTED BY THE PROPOSED WORK. THE CONTRACTOR SHALL EXERCISE CARE WHEN WORKING NEAR EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ALL DAMAGE, BREAKAGE, OR LEAKS CAUSED BY THEIR WORK.
- ALL EXISTING UTILITIES SHALL BE MAINTAINED AND PROTECTED IN PLACE BY THE CONTRACTOR UNLESS OTHERWISE NOTED. EXISTING UTILITIES AND/OR NEW IMPROVEMENTS SHALL BE SUPPORTED AS REQUIRED BY THE ENGINEER IN ACCORDANCE WITH SSPWC STANDARD PLAN 224-3.
- ALL FIRE HYDRANTS, WATER CONTROL VALVES, AND MAINTENANCE HOLES SHALL BE KEPT FREE FROM OBSTRUCTIONS AND AVAILABLE FOR USE.
- IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO ADJUST TO FINISHED GRADE EXISTING SEWER AND STORM DRAIN MAINTENANCE MANHOLES AND COVERS AND ALL OTHER UTILITY BOX AND VALVE COVERS. WHERE APPLICABLE, CONCRETE COLLARS SHALL BE INSTALLED TO MATCH FINISHED GRADE WHETHER INDICATED ON THE PLANS OR NOT.

CITY OF HERMOSA BEACH

PUBLIC WORKS DEPARTMENT

CIP 699 PARKING STRUCTURE LOT "C" IMPROVEMENTS

1301 Hermosa ave

GENERAL NOTES (cont.)

- SEPARATION OF SEWER AND WATER FACILITIES SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE STATE OF CALIFORNIA DEPT OF HEALTH SERVICES.
 - SEWER LATERALS SHALL BE CONNECTED TO THE SEWER MAIN WITH WYES.
 - SEWER LINES SHALL BE TESTED PRIOR TO MAKING PERMANENT SERVICE CONNECTIONS.
 - IN ADDITION TO ITEMS LISTED IN THESE PLANS, THE CONTRACTOR SHALL FURNISH ALL NECESSARY ADAPTORS, COUPLINGS, BOLTS, GASKETS, CAULKING MATERIALS, AND REPAVING MATERIALS AS REQUIRED TO COMPLETE THE WORK.
 - PIPES SHALL BE CONSTRUCTED SO AS TO PROVIDE THE FOLLOWING MINIMUM CLEARANCES TO EXISTING OR OTHER PROPOSED UNDERGROUND CONDUITS OR STRUCTURES (UNLESS OTHERWISE NOTED ON PLANS OR IN SPECS):
 - HORIZONTAL: 24-INCHES OUTSIDE DIAMETER TO OUTSIDE DIAMETER
 - VERTICAL: 12-INCHES OUTSIDE DIAMETER TO OUTSIDE DIAMETER
 - CONTRACTOR SHALL ADJUST SEWER MAIN ALIGNMENTS AS REQUIRED TO MAINTAIN MINIMUM CLEARANCE BETWEEN WATER MAIN AND OTHER EXISTING UTILITIES, VAULTS, MANHOLES, STRUCTURES, AND SUBSURFACE FACILITIES AT NO ADDITIONAL COST TO THE CITY. PIPELINE CONSTRUCTION IN THE VICINITY OF WATER MAINS SHALL, AT A MINIMUM, CONFORM TO THE LOS ANGELES COUNTY WATERWORKS DISTRICTS STD. PLAN W-50.
 - ALL CROSSING UTILITIES SHALL HAVE A MINIMUM 12-INCH CLEARANCE UNLESS OTHERWISE NOTED.
 - CONTRACTOR SHALL POTHOLE AND VERIFY DEPTH, LOCATION, AND DIMENSIONS OF EXISTING FACILITIES AND CONNECTION POINTS PRIOR TO CONSTRUCTION OF MAINS.
 - LOCATIONS OF EXISTING SEWER, GAS, AND WATER SERVICE LATERALS ARE NOT SHOWN ON THE PLANS. CONTRACTOR SHALL PROTECT IN PLACE ALL EXISTING SERVICES UNLESS OTHERWISE NOTED
 - BACKFILL OF TRENCHES SHALL BE DONE IN LIFTS OF NO MORE THAN 8-INCHES WITH WATER AND APPROPRIATE COMPACTION TOOLS USED BETWEEN EACH LIFT. ONE SACK SLURRY MIX CAN BE USED IN PLACE OF NATIVE SOIL. AFTER BACKFILLING THE TRENCH, A TEMPORARY ASPHALT PATCH SHALL BE PLACED OVER THE TRENCH AND REMAIN FOR NO MORE THAN TWO WEEKS. THE FINAL PATCH SHALL BE A MINIMUM OF 5" THICK OR 1" THICKER THAN THE EXISTING PAVEMENT. THE CONTRACTOR SHALL FOLLOW THE LATEST HERMOSA BEACH PUBLIC WORKS STANDARD DETAILS 115 - 117.
 - THE FINAL PATCH ON ASPHALT STREETS SHALL BE PER THE LATEST HERMOSA BEACH PUBLIC WORKS STANDARD PLANS 115 AND 116.
 - THE FINAL PATCH ON CONCRETE STREETS SHALL BE PER THE LATEST HERMOSA BEACH PUBLIC WORKS STANDARD PLAN 115.
- TRAFFIC CONTROL:
- THE CONTRACTOR MAY PROHIBIT PARKING WITHIN THE CONSTRUCTION LIMITS AND AS NECESSARY TO COMPLETE THE WORK, SUBJECT TO THE APPROVAL OF THE ENGINEER. ACCESS TO ALL RESIDENCES AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO POST "NO PARKING" SIGNS WITH SPECIFIC TIME FRAMES ON CITY-APPROVED SIGNS AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF WORK.
 - TRAFFIC CONTROL DEVICES AND METHODS SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (CAMUTCD), LATEST REVISION, AND WORK AREA TRAFFIC CONTROL HANDBOOK (WATCH MANUAL), LATEST EDITION.
 - ALL STREET CLOSURES REQUIRE A TRAFFIC CONTROL PLAN TO BE REVIEWED AND APPROVED BY THE CITY ENGINEER PRIOR TO CONSTRUCTION.

SITE CONTROL / SAFETY:

- THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL SOUND CONTROL AND NOISE LEVEL RULES, REGULATIONS, AND ORDINANCES WHICH APPLY TO ANY WORK PERFORMED PURSUANT TO THE CONTRACT.
- ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE REGULATIONS OF CAL-OSHA.
- ANY WALLS, FENCES, STRUCTURES, AND/OR APPURTENANCES ADJACENT TO THIS PROJECT EITHER IN THE PUBLIC RIGHT-OF-WAY OR ON PRIVATE PROPERTY SHALL BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED. IF THE CONTRACTOR'S ACTIVITIES DAMAGE OR ADVERSELY AFFECT SAID ITEMS IN ANY WAY, THE CONTRACTOR IS RESPONSIBLE FOR WORKING OUT AN ACCEPTABLE SOLUTION TO THE SATISFACTION OF THE AFFECTED PROPERTY OWNERS AT THE CONTRACTOR'S COST.
- THE CONTRACTOR SHALL BE RESPONSIBLE DURING ALL PHASES OF THE WORK FOR PROVIDING PUBLIC SAFETY AND CONVENIENCE.
- THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE COURSE OF CONSTRUCTION, AND UNTIL THE DATE OF THE NOTICE OF COMPLETION. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO WORKING HOURS DESCRIBED IN THE PROJECT SPECIFICATIONS.
- IN THE CASE OF SUSPENSION OF THE WORK FOR ANY CAUSE WHATSOEVER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIALS AND SHALL PROPERLY STORE THEM IF NECESSARY AND SHALL ERECT TEMPORARY STRUCTURE(S) WHERE NECESSARY. THE CITY WILL NOT BE HELD RESPONSIBLE FOR THE CARE OR PROTECTION OF ANY MATERIAL OR PARTS OF THE WORK PRIOR TO FINAL ACCEPTANCE, UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR IS RESPONSIBLE TO OBTAIN THEIR OWN STAGING AREA FOR ALL TOOLS, EQUIPMENT, MATERIAL, AND PARKING. AT THE END OF EACH DAY, THE CONTRACTOR SHALL REMOVE ALL MATERIALS, DEBRIS, FOREIGN MATERIAL, AND EQUIPMENT FROM THE JOB SITE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

GENERAL NOTES (cont.)

- THE PUBLIC RIGHT-OF-WAY SHALL NOT BE USED FOR A STAGING AREA AS DESCRIBED ABOVE UNLESS OTHERWISE AUTHORIZED BY THE CITY.
 - WATER SHALL BE PROVIDED ON SITE AND USED TO CONTROL DUST DURING CONSTRUCTION OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A HYDRANT METER FROM CAL WATER (CALL (310) 420-7730) AND PAY FOR CONSTRUCTION WATER.
 - AS REQUIRED BY THE ENGINEER, THE CONTACTOR SHALL FURNISH AND OPERATE A SELF-LOADING MOTOR SWEEPER WITH SPRAY NOZZLES AT LEAST TWICE EACH WORKING DAY TO KEEP PAVED AREAS ACCEPTABLY CLEAN WHEREVER CONSTRUCTION, INCLUDING RESTORATION, IS INCOMPLETE.
 - PROPER BARRICADES SHALL BE PLACED AROUND ANY CONSTRUCTION SITE WITHIN THE PUBLIC RIGHT-OF-WAY. THESE BARRICADES SHALL COMPLY WITH THE REQUIREMENTS OF THE WATCH MANUAL.
 - ALL VEHICLES THAT INTRUDE INTO A NORMAL TRAFFIC LANE MUST HAVE PROPER SIGNAGE AND BARRICADES AS REQUIRED BY THE WATCH MANUAL.
 - ALL WORK VEHICLES ARE SUBJECT TO ALL APPLICABLE PARKING RESTRICTIONS.
 - FLAGMEN ARE REQUIRED FOR ANY VEHICLES THAT BLOCK THE TRAVEL LANE AND REQUIRE TRAFFIC TO USE THE OPPOSING LANE TO PASS.
- SURVEY / LAYOUT:
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL SURVEY MONUMENTS INCLUDING PROPERTY CORNER MARKERS, UNLESS OTHERWISE NOTED ON THE PLANS. PRIOR TO COMMENCEMENT OF WORK ALL SURVEY MONUMENTS IN THE PROJECT AREA SHALL BE LOCATED AND TIED OUT. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REPLACING ANY SURVEY MONUMENTS THAT ARE DISTRIBUTED DURING CONSTRUCTION. PROPERTY CORNER MARKERS AND SURVEY MONUMENTS DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RE-ESTABLISHED BY A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF CALIFORNIA.
 - CONSTRUCTION STAKING FOR IMPROVEMENTS SHOWN ON THESE PLANS SHALL BE PERFORMED BY A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF CALIFORNIA.
 - ALL SURVEY POINTS AND MONUMENTS SHALL BE PROTECTED IN PLACE OR RESET AND RECORDED IF THEY ARE REMOVED OR DESTROYED DURING CONSTRUCTION.

LANDSCAPE:

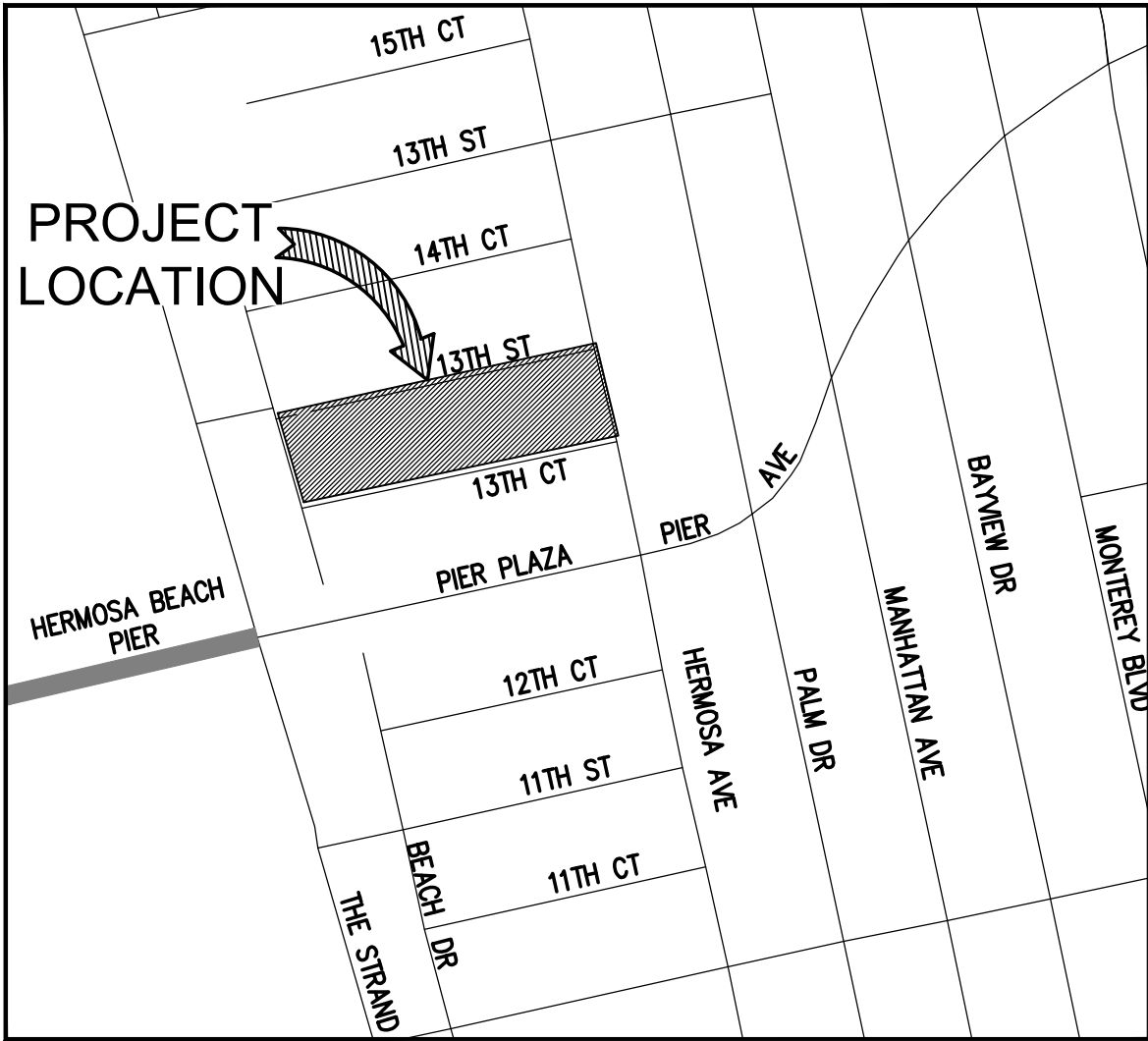
- TREES AND FOLIAGE (TO DRIP LINE), SIGNS, PARKING METERS, AND OTHER IMPROVEMENTS SHALL BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED, AND ANY DAMAGE TO EXISTING IMPROVEMENTS SHALL BE REPAIRED OR THE IMPROVEMENTS REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.
- TREES WITHIN THE PUBLIC RIGHT-OF-WAY MAY NOT BE REMOVED WITHOUT AUTHORIZATION FROM THE ENGINEER AND ARE TO BE PROTECTED FROM INJURY OR DAMAGE DURING CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT PRIOR TO ANY TRIMMING, REMOVING, OR RELOCATING OF AN EXISTING STREET TREE.
- FOR ANY TREE REMOVED DURING THE COURSE OF CONSTRUCTION, THE TREE SHALL BE REPLACED BY TWO IN KIND IN LOCATIONS DETERMINED BY THE ENGINEER.
- IF STREET TREES ARE REQUIRED IN THE PARKWAY, NEWLY INSTALLED TREES SHALL BE INSTALLED PER THE GREENBOOK TO THE SATISFACTION OF THE INSPECTOR OR ENGINEER. CONTACT THE PUBLIC WORKS DEPARTMENT FOR TYPE(S), SIZE(S), AND LOCATION(S) OF TREES.
- PLANTED AND IRRIGATED PARKWAY(S), IF REQUIRED, SHALL HAVE MATERIALS AND PLANTS APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

EROSION CONTROL:

- THE CONTRACTOR SHALL MAINTAIN AND CLEAN, IF NECESSARY, ALL EXISTING ON-SITE AND ADJACENT STORM DRAIN INLETS DURING THE COURSE OF CONSTRUCTION AND UNTIL THE WORK IS FORMALLY ACCEPTED BY THE CITY.
- ALL DEBRIS AND FOREIGN MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED DISPOSAL SITE. THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FOR THE TRANSPORTATION OF MATERIAL TO AND FROM THE SITE. THE REMOVAL AND DISPOSAL OF DEMOLITION ITEMS (TREES, PAVEMENT, SOIL, ETC.) SHALL BE AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR IS ADVISED THAT ALL MATERIAL AND DEBRIS CREATED BY REMOVAL OPERATIONS SHALL BECOME THE CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM THE JOB SITE IN A MANNER AND AT A LOCATION ACCEPTABLE TO ALL AGENCIES AFFECTED BY THE WORK UNLESS INSTRUCTED BY THE ENGINEER OTHERWISE. THE CITY SHALL HAVE RIGHT OF FIRST REFUSAL FOR SALVAGEABLE PARTS, AND IF INSTRUCTED BY THE ENGINEER THE CONTRACTOR SHALL DELIVER SUCH PARTS TO THE CITY YARD.
- THE CONTRACTOR SHALL PROTECT IN PLACE ALL EXISTING CURB DRAINS AND PARKWAY CULVERTS WHETHER SPECIFIED ON THE PLANS OR NOT. THE CONTRACTOR SHALL ENSURE DRAINS AND CULVERTS REMAIN FUNCTIONAL AT ALL TIMES.
- THE CONTRACTOR SHALL PROVIDE INLET PROTECTION FOR ALL INLETS DOWNSTREAM OF THE WORK AREA IN ACCORDANCE WITH CASQA BMP SE-10.
- PRIOR TO STORM EVENTS SOIL BINDER, STRAW WATTLE, OR OTHER EROSION CONTROL DEVICES MAY BE APPLIED AND SECURED TO DISTURBED OPEN AREAS DURING GRADING OPERATIONS IF DETERMINED NECESSARY BY THE CONTRACTOR OR ENGINEER.

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4	R-101	GROUND FLOOR PLAN
5	R-102	SECOND FLOOR PLAN
6	R-103	ROOF PLAN
7	R-501	REPAIR DETAILS
8	R-502	REPAIR DETAILS
9	R-503	REPAIR DETAILS
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17	E-7	THIRD FLOOR
18	E-8	THIRD FLOOR — PHOTOMETRICS



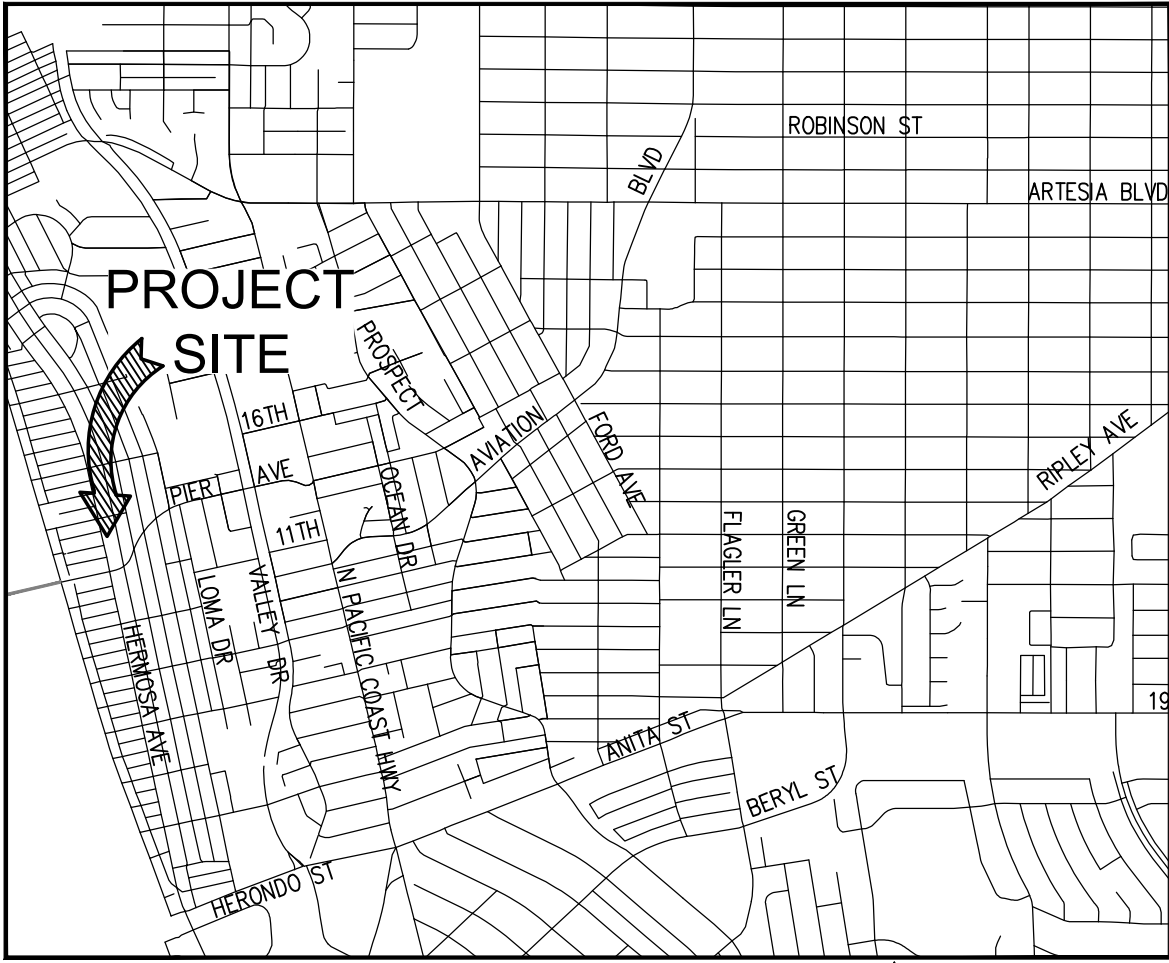
LOCATION MAP

SCALE: 1"=250'
THOMAS GUIDE: PG. 762, G2



LEGEND:

PROJECT LOCATION



VICINITY MAP

SCALE: 1"=2000'



PARKING STRUCTURE LOT C IMPROVEMENTS	FILE NUMBER CIP 699
TITLE SHEET PARKING STRUCTURE REPAIRS (C.I.P. No. 699)	T-1 SHT. 1 OF 1

NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.

Know what's below.
Call before you dig.
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS		
No.	DESCRIPTION	DATE
△		

PLANS PREPARED BY:

1561 E. ORANGETHORPE AVE.
SUITE 240
FULLERTON, CA 92831
(714) 526-7500
www.cwecorp.com

PUBLIC WORKS
1315 VALLEY DRIVE
HERMOSA BEACH, CA 90254
(310) 318-0214

DESIGNED BY: MN
DRAWN BY: WB
CHECKED BY: WY DATE: 12/30/2024

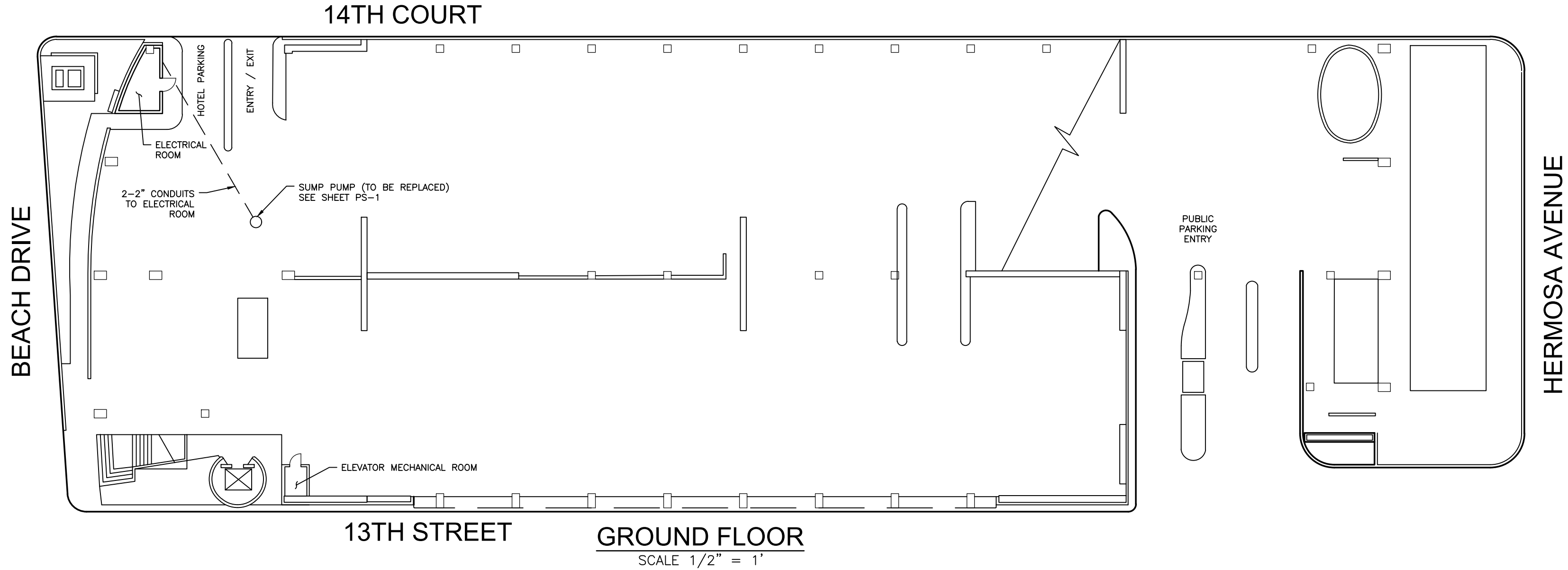
REVIEWED BY:
Jonathan Pascual
JONATHAN PASCUAL, ASSISTANT ENGINEER
1/9/2025

RECOMMENDED BY:
APPROVED BY:

JOHN OSKOU, P.E. INTERIM CITY ENGINEER
1/9/2025

GENERAL NOTES (cont.)

74. PRIOR TO STORM EVENTS SOIL BINDER, STRAW WATTLE, OR OTHER EROSION CONTROL DEVICES MAY BE APPLIED AND SECURED TO DISTURBED OPEN AREAS DURING GRADING OPERATIONS IF DETERMINED NECESSARY BY THE CONTRACTOR OR ENGINEER.
75. REASONABLE CARE SHALL BE TAKEN WHEN HAULING ANY EARTH, SAND, GRAVEL, STONE, DEBRIS, OR ANY HAZARDOUS SUBSTANCE OVER ANY PUBLIC STREET, ALLEY, OR OTHER PUBLIC PLACE. SHOULD ANY MATERIAL BLOW, SPILL, OR TRACK OVER AND UPON SAID PUBLIC PLACE OR ADJACENT PRIVATE PROPERTY, IMMEDIATE CLEAN UP SHALL OCCUR.
76. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY EROSION CONTROL MEASURES AS DIRECTED BY THE ENGINEER TO CONTROL DRAINAGE WHICH HAS BEEN AFFECTED BY GRADING AND/OR TRENCHING OPERATIONS.
- CONSTRUCTION / MATERIALS:
77. UNLESS OTHERWISE SPECIFICALLY MENTIONED ON THE PLANS, THE CONTRACTOR SHALL CONSTRUCT ALL SIDEWALKS, CURB RAMPS, AND STREET CROSSINGS IN COMPLIANCE WITH ADA STANDARDS AND REQUIREMENTS.
78. ALL FORMS AND COMPACTION SHALL BE INSPECTED PRIOR TO ANY CONCRETE POUR OR ASPHALT BEING PLACED.
79. ALL EXISTING PAVEMENT TO BE REMOVED SHALL BE SAW-CUT OR WHEEL-CUT AND REMOVED TO CLEAN STRAIGHT LINES WITH NO OVERCUT.
80. ALL CONCRETE CURB AND GUTTER FLOW LINES WITH LESS THAN 1% GRADE SHALL BE WATER TESTED PRIOR TO FINAL FINISHING TO ENSURE PROPER DRAINAGE WITHOUT UNACCEPTABLE HIGH OR LOW SPOTS.
81. AT ALL LOCATIONS WHERE NEW PAVEMENT JOINS EXISTING, THE EXISTING PAVEMENT SHALL BE COATED WITH AN ASPHALTIC EMULSION.
82. WHERE EXISTING PAVEMENT OR SUBGRADE IS FOUND TO BE UNSTABLE, THE CONTRACTOR SHALL REMOVE AND REPLACE A MINIMUM OF 1 FOOT OF SUBGRADE WITH CRUSHED MISCELLANEOUS BASE (CMB) AND COMPACT TO 95% OF MAXIMUM DRY DENSITY OBTAINABLE AS MEASURED BY ASTM D-1557. IF SHALLOW UTILITIES PREVENT REMOVAL OF SUBGRADE SOIL, A WOVEN GEOFABRIC SHALL BE USED TO PROVIDE STRENGTH TO THE SUBGRADE.
83. EXPANSION JOINTS PERPENDICULAR TO THE CURB SHALL BE INSTALLED IN COMBINED CURB AND GUTTER AT THE BCR, ECR, BC, EC, AND AT LOCATIONS WHERE THE CURB JOINS EXISTING STRUCTURES. LONGITUDINAL EXPANSION JOINTS SHALL BE INSTALLED WHERE THE CURB BUTTS AGAINST ANY EXISTING STRUCTURE.
84. THE EXACT LOCATIONS AND LIMITS FOR THE REMOVAL AND CONSTRUCTION OF SIDEWALKS AND CURB AND GUTTER SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
85. PRIOR TO FINAL ACCEPTANCE OF STREET IMPROVEMENTS, ALL PAVEMENT, STRIPING, AND STENCILING WITHIN THE PROJECT AREA SHALL BE RESTORED TO LIKE NEW CONDITION TO THE SATISFACTION OF THE ENGINEER. PAVEMENT MARKING MATERIAL FOR TRAFFIC STRIPING ON PUBLIC ROADS SHALL CONFORM TO SECTIONS 210 AND 214 OF THE LATEST VERSION OF THE GREENBOOK.
86. ALL TRAFFIC MARKING AND STRIPING, UNLESS OTHERWISE NOTED, SHALL CONFORM TO THE LATEST EDITION OF THE CAMUTCD, THE GREENBOOK, AND CALTRANS STANDARD PLANS.
87. AT LEAST 72 HOURS SHALL ELAPSE FROM THE TIME CONCRETE IS PLACED BEFORE VEHICULAR TRAFFIC IS PERMITTED TO TRAVEL ON IT, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
88. ALL UTILITY BOXES SHALL BE ADJUSTED TO THE NEW FINISHED GRADE. DAMAGED BOXES SHALL BE REPLACED. KEEP ALL UTILITY BOXES OUT OF DRAINAGE FLOW LINES, CURB RETURNS, DRIVEWAY APPROACHES, AND CURB RAMPS UNLESS APPROVED BY THE CITY ENGINEER.
89. ALL FILL SOILS OR SOILS DISTURBED OR OVER-EXCAVATED DURING CONSTRUCTION SHALL BE COMPACTED TO 95% MAXIMUM DENSITY AS DETERMINED BY ASTM SOIL COMPACTION TEST D-1557.
90. ALL PORTLAND CEMENT CONCRETE (PCC) AND ASPHALTIC CONCRETE (AC) SHALL BE REMOVED TO A SAWCUT, COLD JOINT, OR SCORE MARK. NO FLOATER SLABS LESS THAN THE MINIMUM INDICATED IN THE LATEST HERMOSA BEACH PUBLIC WORKS STANDARD PLANS 115 - 117. PCC AND AC REMOVALS SHALL BE SAWCUT A MINIMUM OF 2 INCHES IN THE NECESSARY WORK AREA. SAWCUT SLURRY SHALL BE REMOVED WITH THE VACUUM MACHINE AND DISPOSED OF PROPERLY. NO SLURRY SHALL BE ALLOWED TO ENTER THE STORM DRAIN SYSTEM.
91. SHOULD ANY LINEAR OR AREA TRENCH JOINT BE LOCATED WITHIN 2 FEET (AC PAVEMENT) OR 3 FEET (PCC PAVEMENT) OF AN EXISTING PAVEMENT PATCH AND/OR CURB AND GUTTER ALIGNMENT, THE ADJACENT PAVEMENT SECTION/PATCH SHALL BE REMOVED AND REPAVED ALONG WITH THE TRENCH PAVEMENT RESTORATION.
92. ALL DAMAGED AND/OR REMOVED DRIVEWAY APPROACH, PCC SIDEWALK, OR CURB AND GUTTER SHALL BE RECONSTRUCTED TO GREENBOOK STANDARDS.
93. RAMP ASPHALT AT EXISTING DRIVEWAYS, GUTTERS, ETC. FOLLOWING MILLING OPERATIONS TO PROVIDE ACCESS IF PAVING IS NOT SCHEDULED FOR THE SAME DAY.
94. ALL EXCAVATIONS SHALL BE APPROPRIATELY SHORED AND PLATED OR BACKFILLED AT THE END OF EACH WORKING DAY AND ROADS OPENED TO VEHICULAR TRAFFIC UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. PLATES SHALL BE TACK WELDED, PINNED, AND/OR SECURED IN PLACE BY ANOTHER METHOD APPROVED BY THE INSPECTOR OR ENGINEER.
95. TRAFFIC PLATES ON EXCAVATED AREAS SHALL BE SKID RESISTANT, WITH MINIMUM COEFFICIENT OF FRICTION EQUIVALENT TO 0.35 PER CALIFORNIA TEST METHOD 342. STEEL PLATES BRIDGING SHALL BE STEEL OF MINIMUM A36 GRADE FOR HS20 TRUCK LOADING PER CALTRANS BRIDGE DESIGN SPECIFICATION MANUAL.
96. TRAFFIC STRIPING, MARKINGS, AND RAISED PAVEMENT MARKERS DAMAGED DURING CONSTRUCTION SHALL BE REINSTALLED IN KIND OR AS DIRECTED BY THE ENGINEER AND NOTED IN THE SPECIAL PROVISIONS. ALL NEW STRIPING AND MARKINGS SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED AND APPROVED.



LEGEND & ABBREVIATIONS

SYMBOLS		SYMBOLS	
AC	 ASPHALT	IRR	 IRRIGATION CONTROL VALVE
BW	 BACK OF WALK	SDMH	 STORMDRAIN MANHOLE
C&G	 CURB AND GUTTER	SMH	 SEWER MANHOLE
CB	 CATCH BASIN	POST	 POST
C/L	 CENTERLINE	PP	 POWER POLE
CLF	 CHAIN LINK FENCE	P/L	 PROPERTY LINE
CONC	 CONCRETE PAVEMENT	R/W	 RIGHT OF WAY
CTRL	 CONTROL	S	 SLOPE
EG	 EDGE OF GUTTER	SD	 STORMDRAIN
EP	 EDGE OF PAVEMENT	SL	 STREET LIGHT
EL	 ELEVATION	SP	 SIGN POST
EX	 EXISTING	TC	 TOP OF CURB
FH	 FIRE HYDRANT	TG	 TOP OF GRATE
FL	 FLOW LINE	TR	 TREE
FS	 FINISHED SURFACE	TW	 TOP OF WALL
GM	 GAS METER	VL	 VAULT
GP	 GUY POLE	WM	 WATER METER
GV	 GAS VALVE	WV	 WATER VALVE
GW	 GUY WIRE	WALL	 BLOCK OR CONCRETE WALL

---	SD	STORM DRAIN
---	SS	SANITARY SEWER
---	OHE	OVERHEAD ELECTRIC
(50)		MAJOR CONTOUR
(49)		MINOR CONTOUR
X		STREET CENTERLINE
---		CHAIN LINK FENCE
---		R/W
---		BLOCK WALL

PROFESSIONAL ENGINEER'S NOTE:

THE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED BY CWE USING AVAILABLE RECORD PLANS AND MAPS AND BASED ON FIELD RECONNAISSANCE OF EXISTING CONDITIONS. KNOWN UTILITIES AND OWNERS OF OTHER STRUCTURES IN THE STREET RIGHT OF WAYS HAVE BEEN GIVEN WRITTEN NOTICE OF THE PROJECT. HOWEVER, THE CITY OF HERMOSA BEACH ARE NOT RESPONSIBLE FOR THE TOTAL ACCURACY AND/OR CORRECTNESS OF THE SHOWN INFORMATION. THE CONTRACTOR BY SIGNING THE CONSTRUCTION CONTRACT FOR THIS PROJECT ACCEPTS AND ASSUMES FULL RESPONSIBILITY FOR THE WORK AND ITS IMPACT ON THE EXISTING FACILITIES SHOWN OR NOT SHOWN ON THESE PLANS AND DESCRIBED IN THE SPECIFICATIONS.

THE CONTRACTOR IS RESPONSIBLE TO MAKE HIS OWN INVESTIGATION AND INSPECTION INCLUDING POT HOLING AND SUCH OTHER METHODS HE DEEMS NECESSARY TO ALLOW HIM TO PROCEED ON THE CONSTRUCTION OF THIS PROJECT IN COMPLIANCE WITH THE LAWS, ORDINANCES AND REGULATIONS APPLICABLE TO THE PROJECT, INCLUDING STATE SAFETY ORDERS AND PROCEDURES OF USA.

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ANY SURVEYS REQUIRED TO ESTABLISH HORIZONTAL AND VERTICAL CONTROLS PRIOR AND DURING CONSTRUCTION, AND TO REPLACE DISTURBED OR COVERED EXISTING STREET SURVEY MONUMENTS.

UNAUTHORIZED CHANGES AND USES:

CAUTION: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS.

NOTICE TO CONTRACTOR:

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN IN OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" THE U.S. DEPARTMENT OF LABOR, AND WITH THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS "CONSTRUCTION SAFETY ORDERS". THE CITY ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTOR OR SUBCONTRACTOR'S COMPLIANCE WITH SAID REGULATIONS AND ORDERS. CONTRACTOR FURTHER AGREES THAT HE SHALL ASSUME SOLE COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO THE NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER, THE CITY AND CITY ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

NO WORK SHALL BE DONE ON THIS SITE UNTIL THE BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE. 811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG	REVISIONS			PLANS PREPARED BY: CWE1561 E. ORANGETHORPE AVE. SUITE 240 FULLERTON, CA 92831 (714) 526-7500 www.cwecorp.com	CITY OF HERMOSA BEACH PUBLIC WORKS 1315 VALLEY DRIVE HERMOSA BEACH, CA 90254 (310) 318-0214	REVIEWED BY: Jonathan Pascual1/9/2025 JONATHAN PASCUAL, ASSISTANT ENGINEERDATE	RECOMMENDED BY: APPROVED BY: J. Oskoui1/9/2025 JOHN OSKOU, P.E. INTERIM CITY ENGINEERDATE	PARKING STRUCTURE LOT C IMPROVEMENTS		FILE NUMBER CIP 699
	No.	DESCRIPTION	DATE					GENERAL NOTES		
	△							(C.I.P. No. 699)		T-2
										SHT. 2 OF 18



A. CONSTRUCTION

- ## B. CONSTRUCTION DOCUMENTS

- ### C. DETAILS AND SYMBOLS

- #### D. SHORING AND BRACING

- ## E. EXISTING SERVICES AND UTILITIES

- ## CONSTRUCTION PHASING, SEQUENCING AND TRAFFIC MAINTENANCE

- #### G. GENERAL CONCRETE REQUIREMENTS

- H. CONCRETE PROTECTION FOR REINFORCEMENT:**

- Minimum Concrete Cover (inches)

- * Or 3X bar diameter, whichever is greater.

I. EPOXY COATING FOR REINFORCEMENT AND ANCHORS.

1. Epoxy coat all reinforcement exposed within repair areas, except welded wire reinforcement.

J. GENERAL P/T REPAIR NOTES:

1. Tendons are near the floor surface. The contractor shall exercise extreme caution during sawcutting and removals so as not to damage existing tendons or tendon sheaths. Tendons may break with explosive force during removals or when cut. Chipping with 15lb. hammers shall be used in lieu of sawcutting near shallow tendons.
2. Caution is required when performing concrete removals. Elevations of P-T tendons in beams vary. Coordinate inspection of exposed tendons following concrete removals.
3. Contractor is solely responsible for the following:
 - a. Training and monitoring his work force concerning the safety procedures that should be employed in the execution of this work.
 - b. Maintaining stability of the structure and elements within the structure, during repair work, including but not limited to the installation of shoring and bracing.

- c. Where required, Contractor shall submit sealed drawings and calculations from qualified professional engineer, legally registered in state of California to perform such calculation and drawings.
4. Contractor shall be responsible for reviewing available original drawings. Review original drawings and coordinate repair procedures prior to proceeding with the Work. Representative locations of existing P-T tendons and anchors are shown. Exact locations shall be verified in field by Contractor prior to concrete removals. Existing reinforcing steel is not shown on the repair details (JUNO). Do not cut any reinforcing, unless directed by Engineer in writing.
5. Maintain original tendon profiles within concrete removal areas. Do not remove concrete below tendons unless required for splicing repairs or to replace damaged sheathing.
6. Tendons may occur individually or banded.
7. Do not damage tendons in repair area. Contractor-caused damage to tendons shall be repaired as directed by Engineer at no cost to Owner.
8. All P-T repairs shall be reviewed by Engineer prior to reinforcing work related to the P-T repair.

K. POST-INSTALLED ANCHORS

1. Expansion Anchors - Hilti Kwik Bolt III, Unless noted.
2. Adhesive Anchors - Hilti HY-200, Unless noted.
3. Contractor shall located existing embedded reinforcement using non-destructive testing prior to fabrication of attachments or drilling of holes. Notify Engineer of obstructions that will prevent installation of anchors at design locations.
4. Post-installed Anchors must be installed using the spacing and edge distances given on the plans or details. If field conditions dictate that the anchor spacing or edge distance be modified, the Contractor shall submit a field sketch to the Engineer for review prior to making any modifications.
5. Post-installed anchor holes shall be drilled per manufacturer's written instructions.
6. Adhesive Anchors shall be installed by an ACI-CR3 Certified "Adhesive Anchor Installer"

Required Verification and Inspection	Cont.	Periodic
A. Concrete Construction		
1. Inspection of reinforcing steel, including prestressing tendons, and placement		X
2. Inspection of reinforcing steel welding:		
a. Shear reinforcement	x	
b. Other reinforcing steel		X
3. Inspection of bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased or where strength design is used.	x	
4. Inspection of anchors installed in hardened concrete.		X
5. Verifying use of required design mix.		X
6. Perform sampling and testing of concrete according to specifications	x	
7. Inspection for maintenance of specified curing temperature and techniques		X
8. Inspect formwork for shape, location and dimensions of concrete member being formed		X
B. Steel Construction		
1. Material verification of high-strength bolts, nuts, and washers:		
a. Identification markings to conform to ASTM standards specified in construction documents		X
b. Manufacturer's certificate of compliance required		X
2. Inspection of high-strength bolting:		
a. Bearing-type connections		X
b. Slip-critical connections (see IBC 1704.3.3)	x	X
3. Material verification of structural steel:		
a. Identification markings to conform to ASTM standards in approved construction documents		X
b. Manufacturer's certified mill test reports		X
4. Material verification of weld filler materials:		
a. Identification markings to conform to AWS specification in approved construction documents		X
b. Manufacturer's certificate of compliance required		X
5. Inspection of structural steel welding:		
a. Complete and partial penetration groove welds	x	
b. Single-pass fillet welds > 5/16"	x	
c. Single-pass fillet welds ≤ 5/16"		X
C. Miscellaneous Items		
1. Verify installation of expansion joints, traffic topping membranes, and joint sealants		X
2. Verify attachment and/or bracing of miscellaneous items such as pipes, equipment, signs, bollards, etc.		X

1.	APPROX	=	Approximately
2.	AGG	=	Aggregate
3.	BM	=	Beam
4.	BOT	=	Bottom
5.	CIP	=	Cast in Place
6.	CJ	=	Construction Joint/Control Joint
7.	CLR	=	Clearance
8.	COL	=	Column
9.	CONC	=	Concrete
10.	DET	=	Detail
11.	EA	=	Each
12.	E.E.	=	Each End
13.	E.S.	=	Each Side
14.	Embed	=	Embedment length
15.	EJ	=	Expansion Joint
16.	EXIST	=	Existing
17.	FIN	=	Finished
18.	FL	=	Floor
19.	IN	=	Inches
20.	INC	=	Incidental
21.	LF	=	Linear Foot
22.	LS	=	Lump Sum
23.	MAX	=	Maximum
24.	MIN	=	Minimum
25.	N/A	=	Not Applicable
26.	OC	=	On Center
27.	OH	=	Opposite Hand
28.	P/C	=	Precast
29.	REINF	=	Reinforcement
30.	REQ'D	=	Required
31.	SF	=	Square Foot
32.	SIM	=	Similar
33.	SOG	=	Slab on Ground
34.	SPEC	=	Specification
35.	SUPT	=	Supported
36.	T	=	Top
37.	TAR	=	Typical as Required
38.	TYP	=	Typical
39.	UNO	=	Unless Noted Otherwise
40.	WI	=	Work Item
41.	WWR	=	Welded Wire Reinforcement

WORK ITEM SCHEDULE			
Work Item	Description	Units	Total Quantity
1.1	Project Mobilization - General Conditions	LS	1
1.2	Concrete Formwork	Incidental	
1.3	Concrete Shores and Reshores	LS	1
1.4	Concrete Reinforcement	LS	1
1.5	Overhead Protection/ Temporary Signage / Traffic Control	LS	1
2.0 FLOOR SURFACE PREPARATION			
2.1	Floor Preparation - Scarification	SF	75,000
2.6	Floor Preparation - Traffic Topping /Membrane Removal	SF	2,700
3.0 CONCRETE FLOOR REPAIR			
3.1	Floor Repair - Partial Depth	SF	950
3.2	Floor Repair - Protect Exposed Tendon	EA	10
3.3	Floor Repair - Full Depth (Edge Repair)	SF	160
3.4	Floor Repair - Concrete Curb	LF	25
3.10	Floor Repair - Stair Nosing Repair	LF	15
3.11	Floor Repair - Slab-on-Grade	SF	6
4.0 CONCRETE CEILING REPAIR			
4.1	Ceiling Repair - Partial Depth /Shallow	SF	100
5.0 CONCRETE BEAM REPAIR			
5.1	Beam Repair - Partial Depth /Shallow	SF	60
5.2	Concrete Stair - Edge Spall	SF	4
6.0 CONCRETE COLUMN REPAIR			
6.1	Column Repair - Partial Depth /Shallow	SF	30
7.0 CONCRETE WALL REPAIR			
7.1	Wall Repair - Partial Depth /Shallow	SF	30
11.0 CRACK AND JOINT REPAIR			
11.1	Rout & Seal Cracks	LF	2800
11.2	Joint Sealant Repair	LF	800
11.3	Vertical Joint Sealant	LF	160
11.5	Epoxy Injection	LF	300
11.7	Cove Sealant	LF	3500
16.0 TRAFFIC TOPPING			
16.1	Traffic Topping - Vehicular	SF	75,000
21.0 P/T - REPAIR			
21.1	Inspect P/T Tendon Anchorage & Repair at Slab Edge	EA	168
21.2	Protect Exposed P/T Tendon	Incidental to Work Item 3.2	
25.0 MECHANICAL			
25.1	Mechanical Allowance	LS	1
30.0 ELECTRICAL - LIGHTING			
30.1	Electrical Allowance	LS	1
30.2	Remove and Replace Fire Extinguisher Cabinet	LS	1
40.0 CONNECTIONS/BEARINGS			
40.6	Remove Existing Guardrail	LF	160
40.7	Install New Barrier Cable	LF	1800
43.0 MISCELLANEOUS METALS			
43.2	Remove Salvage and Install Guardrail	LF	180
43.3	Install New Guardrail	Incidental to Work Item 43.2	
43.4	Repair Existing Barrier Cable	LF	360
43.5	Install New Bollard	EA	4
43.6	Install Stair #1 Canopy Corrugated Metal Cover	LS	1
43.7	South Entrance Impact Damage	LS	1
45.0 PAINTING			
45.1	Paint Traffic Markings	LS	1
45.6	Paint Structural Steel	LS	1
45.7	Clean and Paint Stair Railings	LS	1
49.0 CATHODIC PROTECTION			
49.1	Cathodic Protection - Discrete Anodes	EA	500

NOTES:

1. REPAIR QUANTITIES IN SCHEDULE ARE REPRESENTATIVE AT THE TIME OF SURVEY. CONTRACTOR IS RESPONSIBLE FOR DETERMINING ACTUAL EXTENT AND LOCATIONS OF REPAIR AREAS IN ACCORDANCE WITH THE SPECIFICATIONS. WORK ITEMS ARE SHOWN ONLY TO REPRESENT THE TYPES OF DETERIORATION.
2. OWNER RESERVES THE RIGHT TO INCREASE / DECREASE QUANTITIES AS NECESSARY.

SCOPE OF WORK

CONCRETE , WATERPROOFING AND MAINTENANCE REPAIRS OF THE PARKING STRUCTURE.

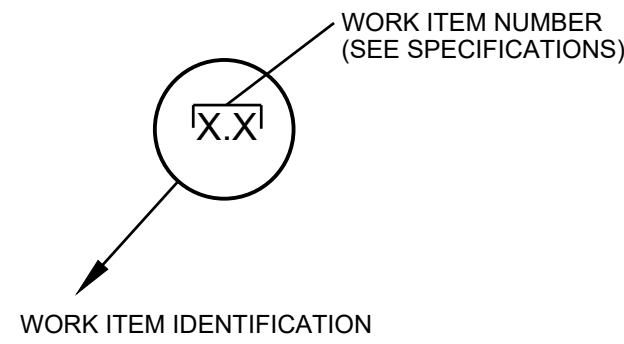
RESTORATION REPAIRS AND CONSTRUCTION PERFORMED ON THIS PROJECT DOES NOT ALTER THE ORIGINAL CODE DESIGNATED OCCUPANCY, TYPE OF CONSTRUCTION, OR FIRE RATING OF THE PARKING STRUCTURE.

SHEET INDEX

RESTORATION

[illegible]

25.1 Replace Pump (Pump, Motors, Slide Rails)	EA	2
25.1 Level Transducer	LS	1
➔ 30.11 Replace Light Fixtures	EA	143



NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.

811

Know what's below.
Call before you dig.
TWO WORKING DAYS BEFORE YOU DIG

REVISIONS		
No.	DESCRIPTION	DATE
	65% CD	02/04/22
	90% CD	04/01/22
	BID SET	12/20/24

REGISTERED PROFESSIONAL ENGINEER
NATHAN A. P. WALKER
No. C68929
Exp. 12/31/25
CIVIL
STATE OF CALIFORNIA

Date Signed: 12/20/2024

PLANS PREPARED BY:

WALKER CONSULTANTS

707 Wilshire Blvd
Suite 3650
Los Angeles, CA 90017
213.488.4911 Ph
www.walkerconsultants.com

DESIGNED BY: SH

DRAWN BY: AP

CHECKED BY: BA DATE: 12/20/2024

CITY OF HERMOSA BEACH

PUBLIC WORKS
1315 VALLEY DRIVE
HERMOSA BEACH, CA 90254
(310) 318-0214

REVIEWED BY:

Jonathan Pascual
1/9/2025
JONATHAN PASCUAL, ASSISTANT ENGINEER DATE

RECOMMENDED BY:

APPROVED BY:

J. Oskoui

1/9/2025

JOHN OSKOU, P.E., ACTING CITY ENGINEER DATE

PARKING STRUCTURE
LOT C IMPROVEMENTS

GENERAL NOTES –
STRUCTURE REPAIR

CIP 699

R-001

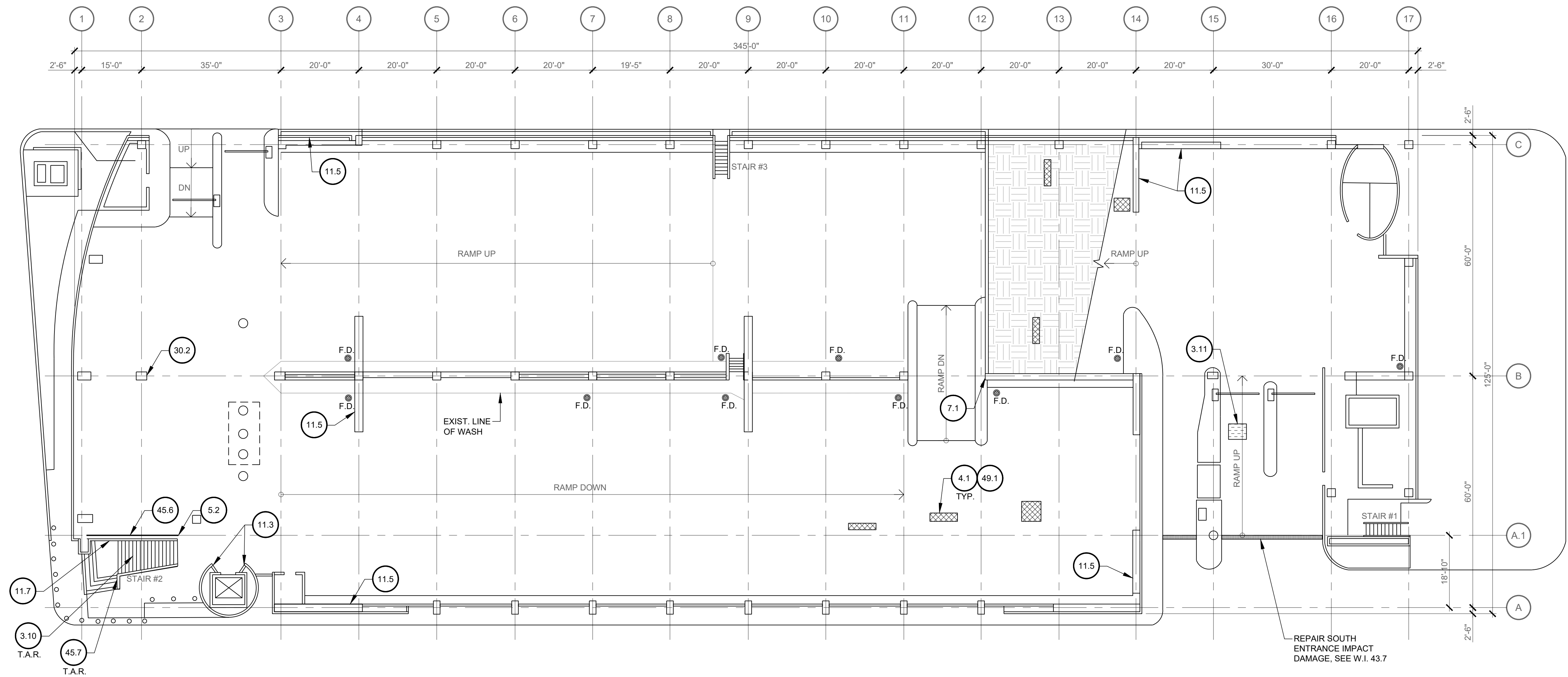
SHT. 3 OF 18

SHEET NOTES:

REFERENCES:
1. GENERAL NOTES AND WORK ITEM SCHEDULE R-001
2. FLOOR PLANS R-100 SERIES
3. REPAIR DETAILS R-500 SERIES

LEGEND

REFER TO WORK ITEM 3.11
REFER TO WORK ITEM 4.1



1 GROUND FLOOR PLAN

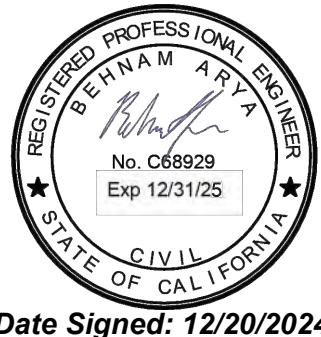


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90% CD		04/01/22
BID SET		12/20/24



Date Signed: 12/20/2024

PLANS PREPARED BY:

WALKER CONSULTANTS
707 Wilshire Blvd
Suite 3650
Los Angeles, CA 90017
213.488.4911 Ph
www.walkerconsultants.com

DESIGNED BY: SH

DRAWN BY: AP

CHECKED BY: BA DATE: 12/20/2024



PUBLIC WORKS
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HERMOSA BEACH, CA 90254
(310) 318-0214

REVIEWED BY:

Jonathan Pascual
JONATHAN PASCUAL, ASSISTANT ENGINEER
1/9/2025
DATE

RECOMMENDED BY:

APPROVED BY:
J. Oskoui
JOHN OSKUI, P.E., ACTING CITY ENGINEER
1/9/2025
DATE

PARKING STRUCTURE
LOT C IMPROVEMENTS

CIP 699

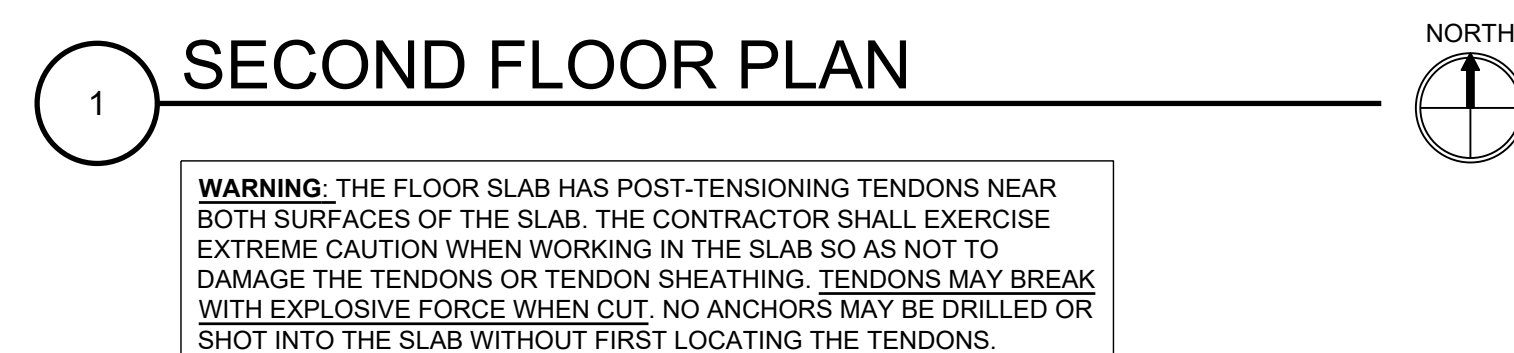
GROUND FLOOR PLAN

R-101
SHT. 4 OF 18

REFERENCES:

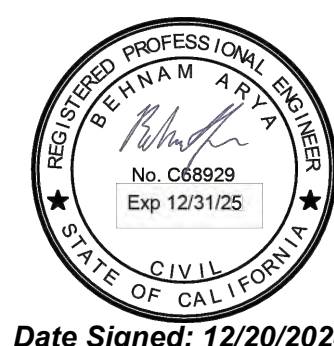
1. GENERAL NOTES AND WORK ITEM SCHEDULE	R-001
2. FLOOR PLANS	R-100 SERIES
3. REPAIR DETAILS	R-500 SERIES

	REFER TO WORK ITEM 3.1
	REFER TO WORK ITEMS 3.1 AND 21.2
	REFER TO WORK ITEM 4.1
	REFER TO WORK ITEM 16.1
	REFER TO WORK ITEMS 2.6 AND 16.1

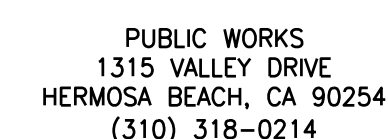


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	90% CD	04/01/22
	BID SET	12/20/24



CHECKED BY: BA DATE: 12/20/2024



DATE _____

JOHN OSKQUI, P.E., ACTING CITY ENGINEER

SECOND FLOOR PLAN

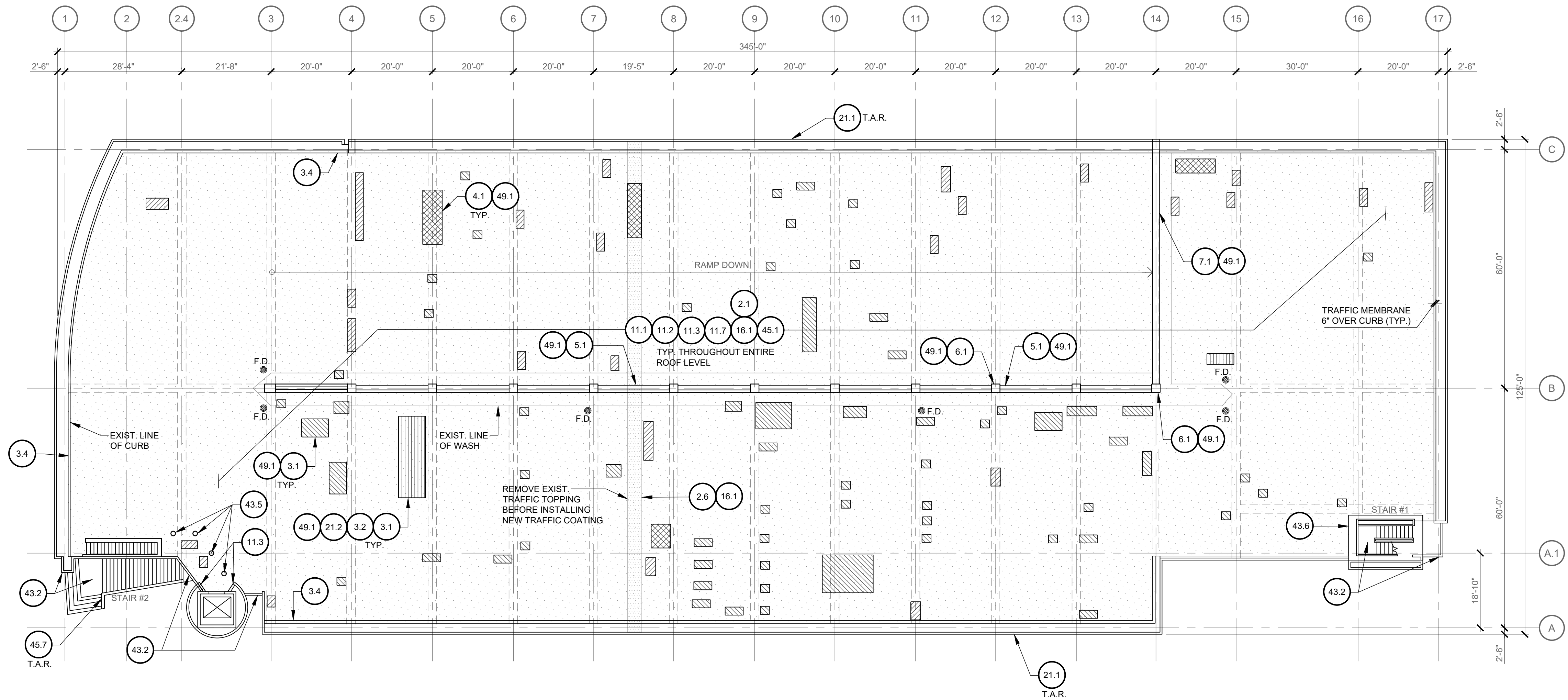
SHOT. 5 OF 18

SHEET NOTES:
REFERENCES:
1. GENERAL NOTES AND WORK ITEM SCHEDULE
2. FLOOR PLANS
3. REPAIR DETAILS

R-001
R-100 SERIES
R-500 SERIES

LEGEND

REFER TO WORK ITEM 3.1
REFER TO WORK ITEMS 3.1 AND 21.2
REFER TO WORK ITEM 4.1
REFER TO WORK ITEM 16.1
REFER TO WORK ITEMS 2.6 AND 16.1



1 ROOF PLAN



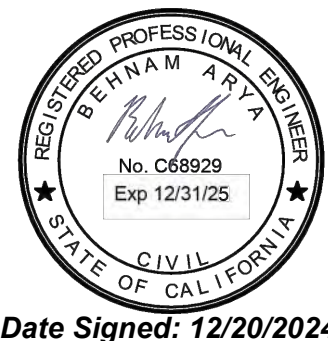
WARNING: THE FLOOR SLAB HAS POST-TENSIONING TENDONS NEAR BOTH SURFACES OF THE SLAB. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN THE SLAB SO AS NOT TO DAMAGE THE TENDONS OR TENDON SHEATHING. TENDONS MAY BREAK WITH EXPLOSIVE FORCE WHEN CUT. NO ANCHORS MAY BE DRILLED OR SHOT INTO THE SLAB WITHOUT FIRST LOCATING THE TENDONS.

NO WORK SHALL BE DONE ON THIS SITE
UNTIL BELOW AGENCY IS NOTIFIED OF
INTENTION TO GRADE OR EXCAVATE.



Know what's below.
Call before you dig.
TWO WORKING DAYS BEFORE
YOU DIG

REVISIONS		
No.	DESCRIPTION	DATE
65% CD		02/04/22
90% CD		04/01/22
BID SET		12/20/24



Date Signed: 12/20/2024

PLANS PREPARED BY:

WALKER CONSULTANTS
707 Wilshire Blvd
Suite 3650
Los Angeles, CA 90017
213.488.4911 Ph
www.walkerconsultants.com

DESIGNED BY: SH

DRAWN BY: AP

CHECKED BY: BA DATE: 12/20/2024



PUBLIC WORKS
1315 VALLEY DRIVE
HERMOSA BEACH, CA 90254
(310) 318-0214

REVIEWED BY:

Jonathan Pascual

1/9/2025

JONATHAN PASCUAL, ASSISTANT ENGINEER

DATE

RECOMMENDED BY:

ACCEPTED BY:

J. Oskoui

1/9/2025

JOHN OSKOU, P.E., ACTING CITY ENGINEER

DATE

PARKING STRUCTURE
LOT C IMPROVEMENTS

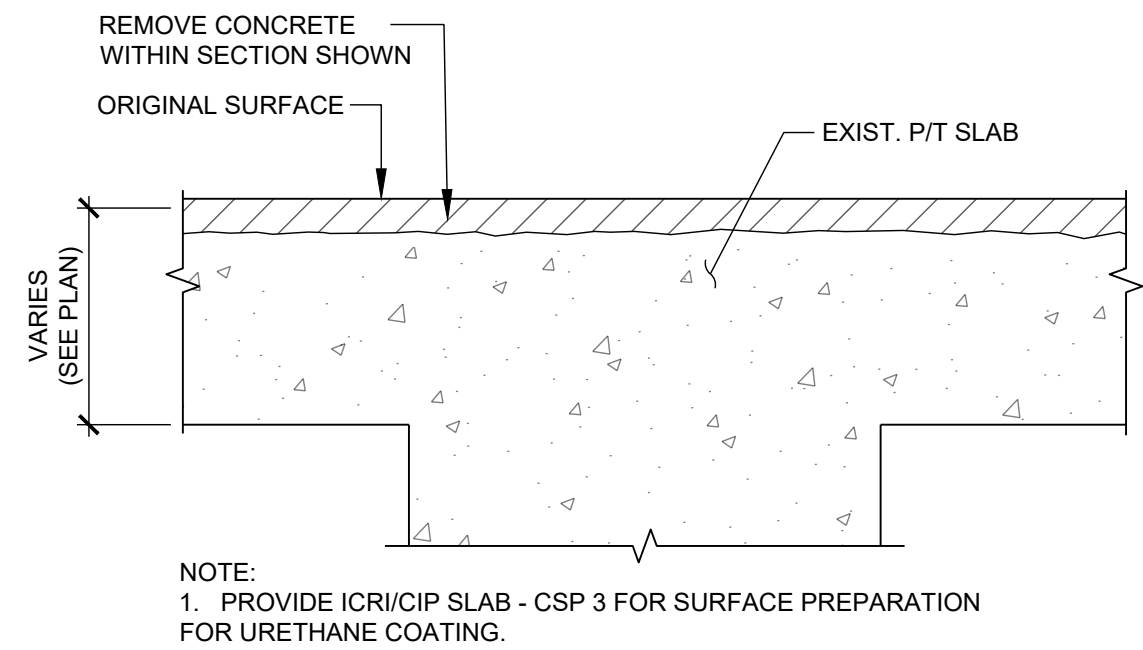
CIP 699

ROOF PLAN

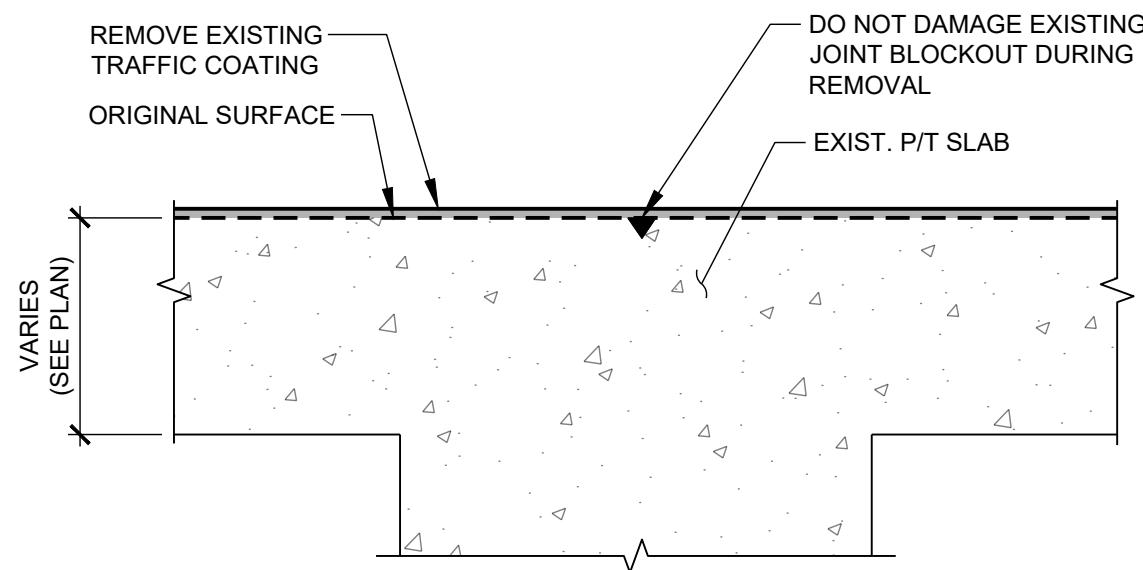
R-103

SHT. 6 OF 18

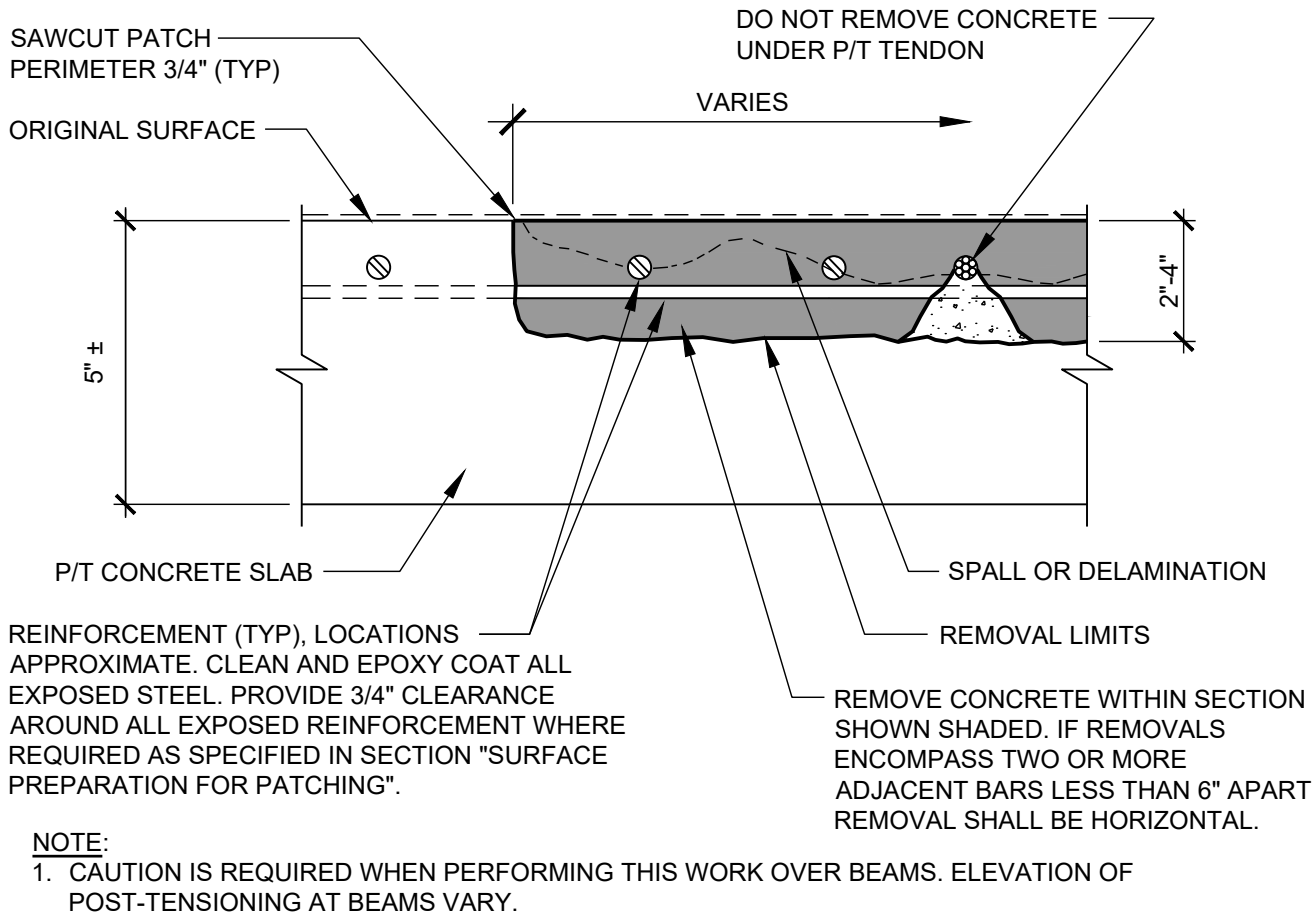
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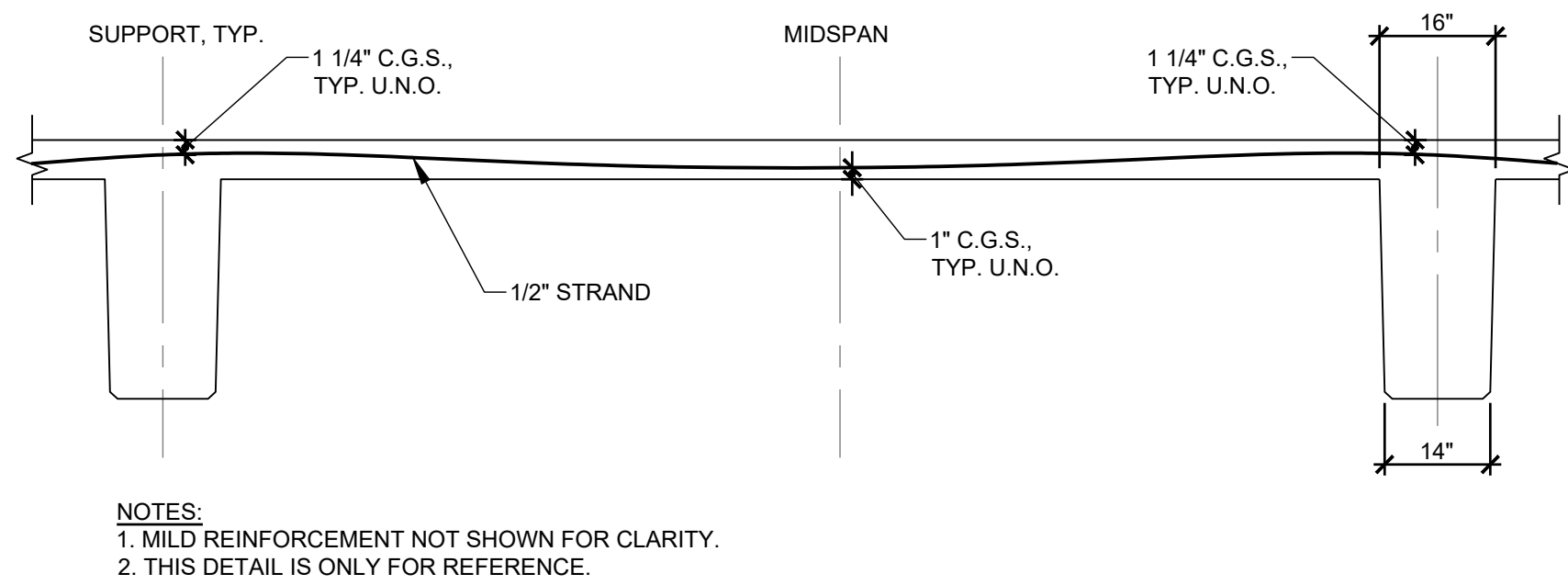
FLOOR PREPARATION - SCARIFICATION



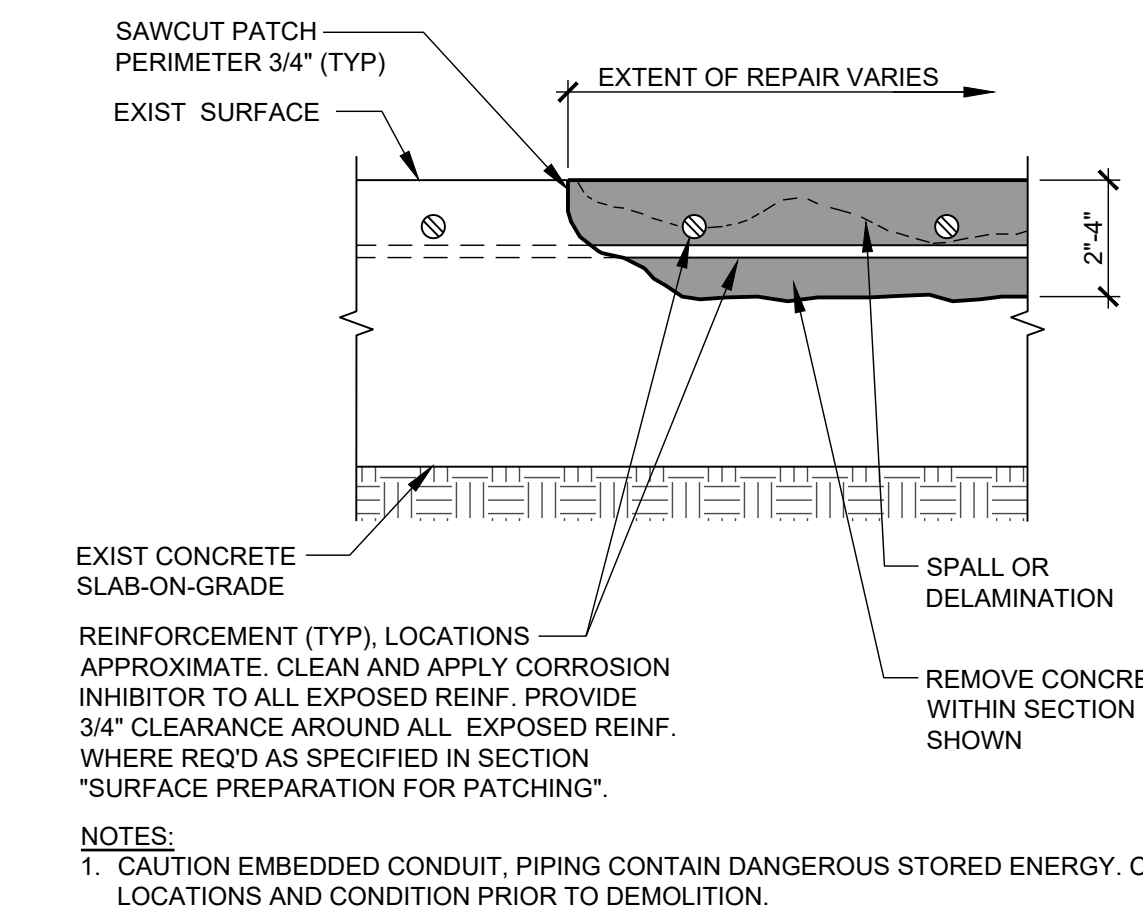
FLOOR PREPARATION - TRAFFIC TOPPING/ MEMBRANE REMOVAL



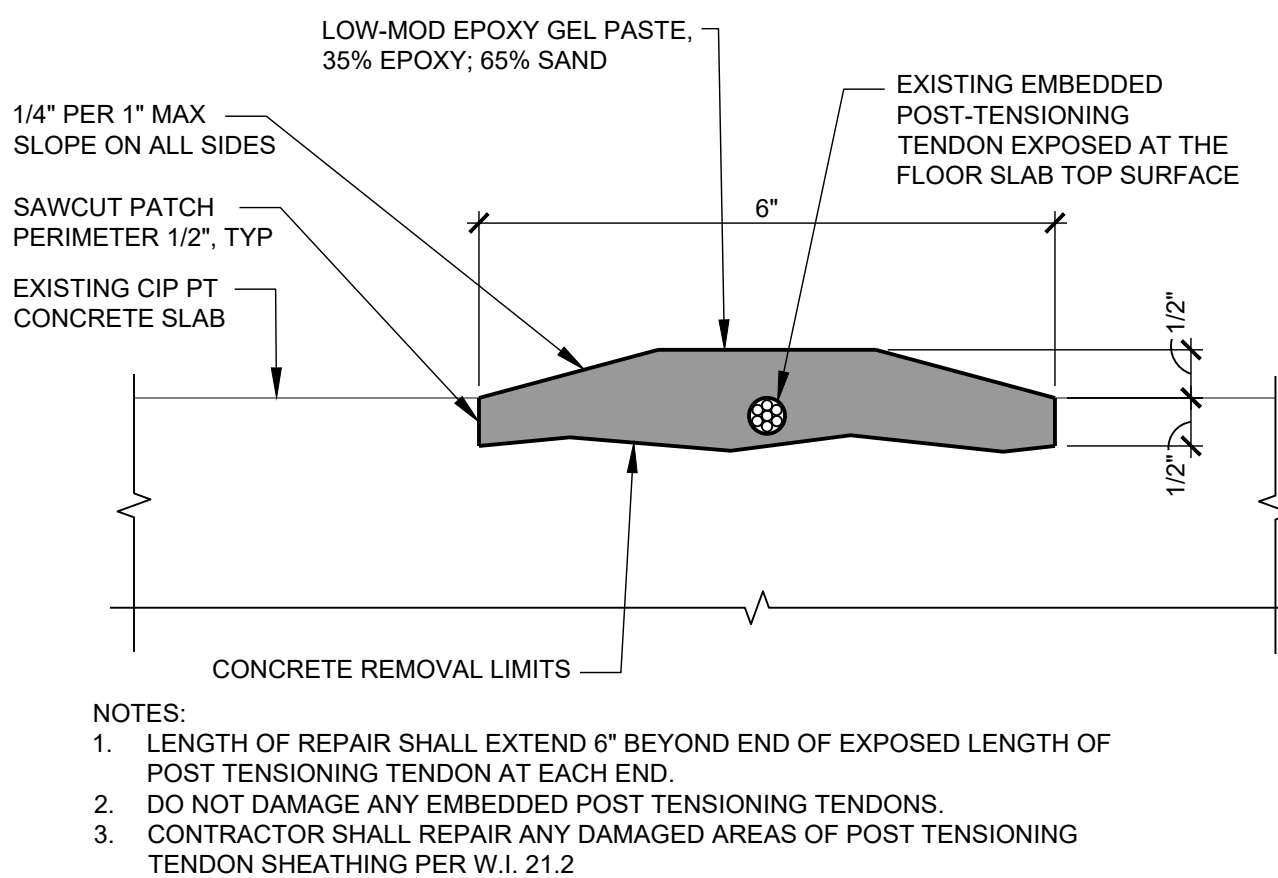
FLOOR REPAIR - PARTIAL DEPTH



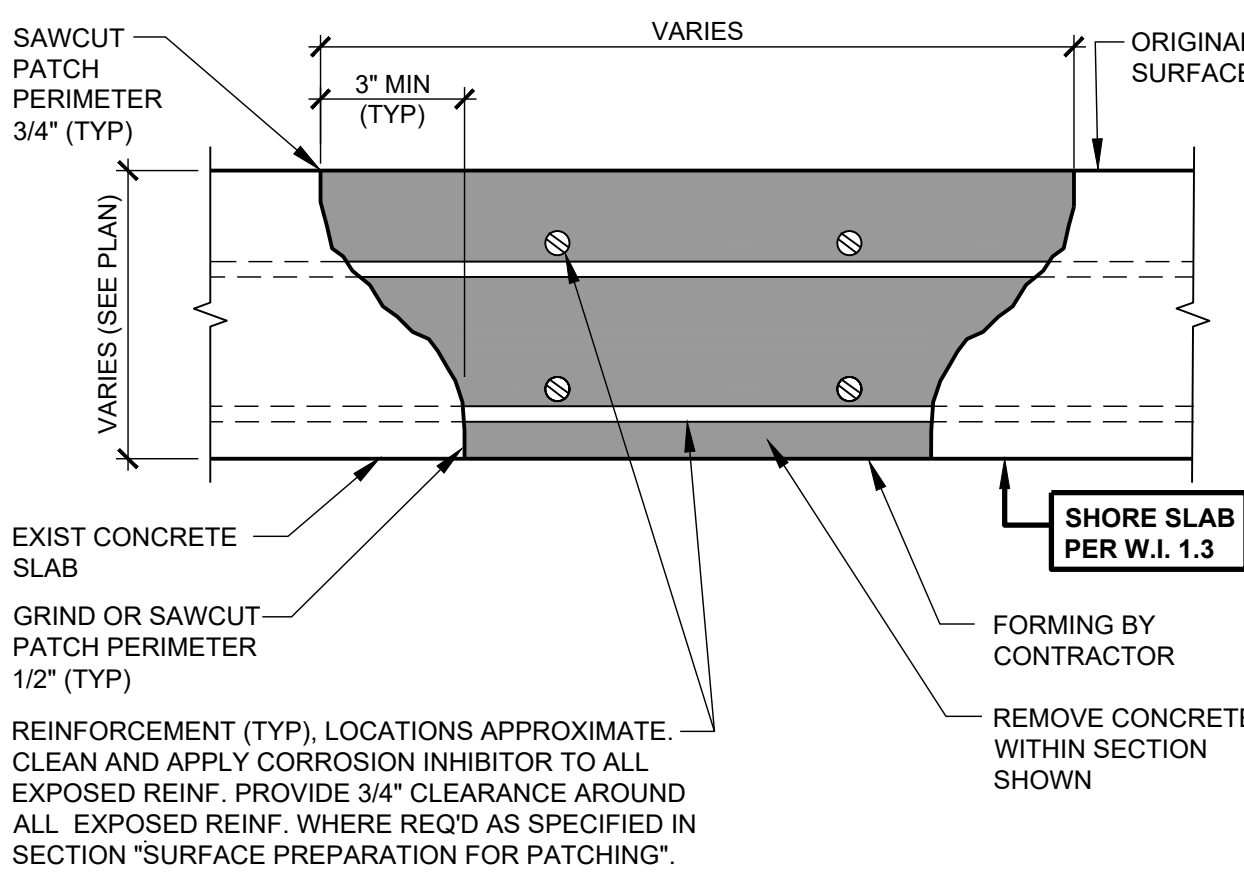
PT STRAND PROFILE - TYPICAL SLAB SECTION



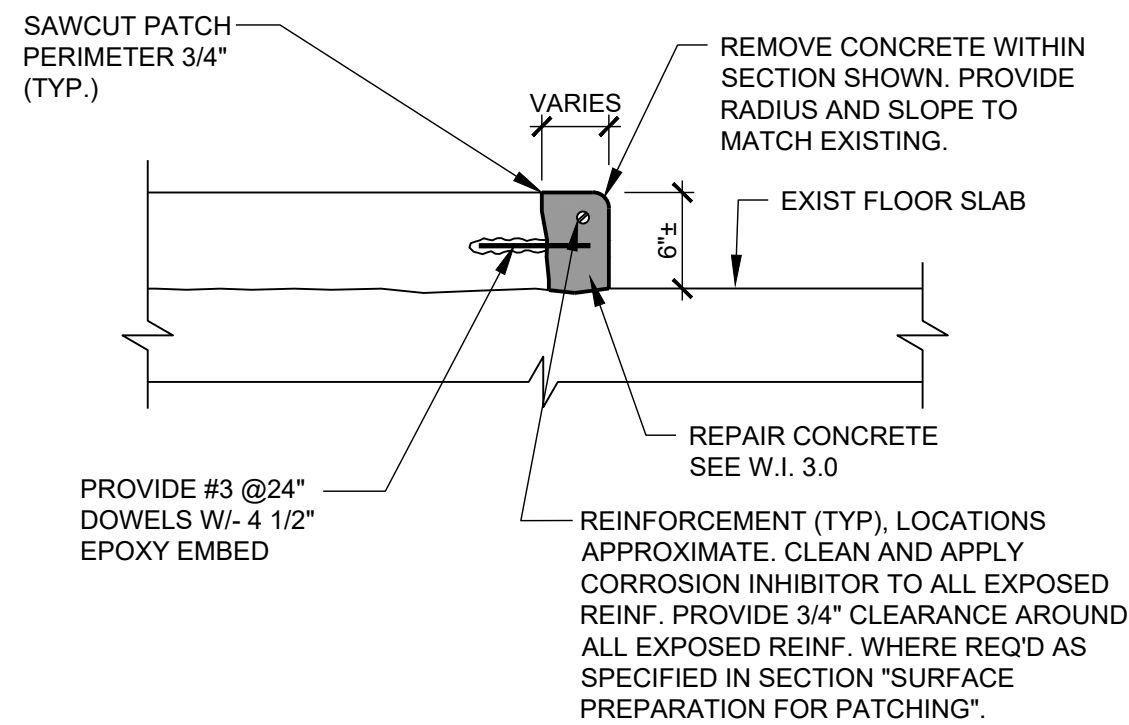
FLOOR REPAIR - SLAB-ON-GRADE



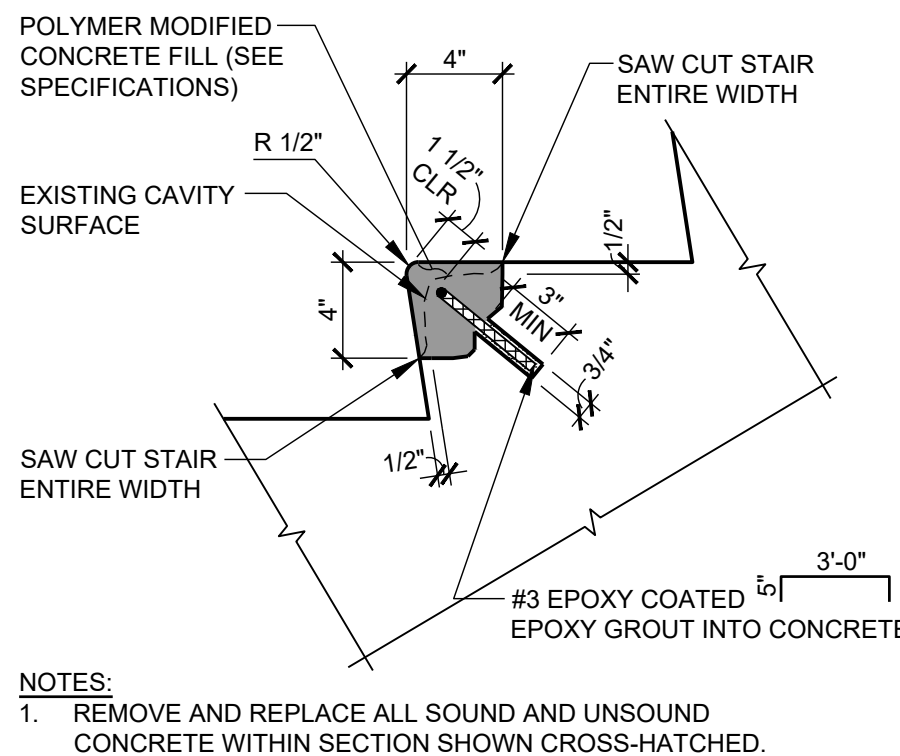
FLOOR REPAIR - PROTECT EXPOSED TENDON



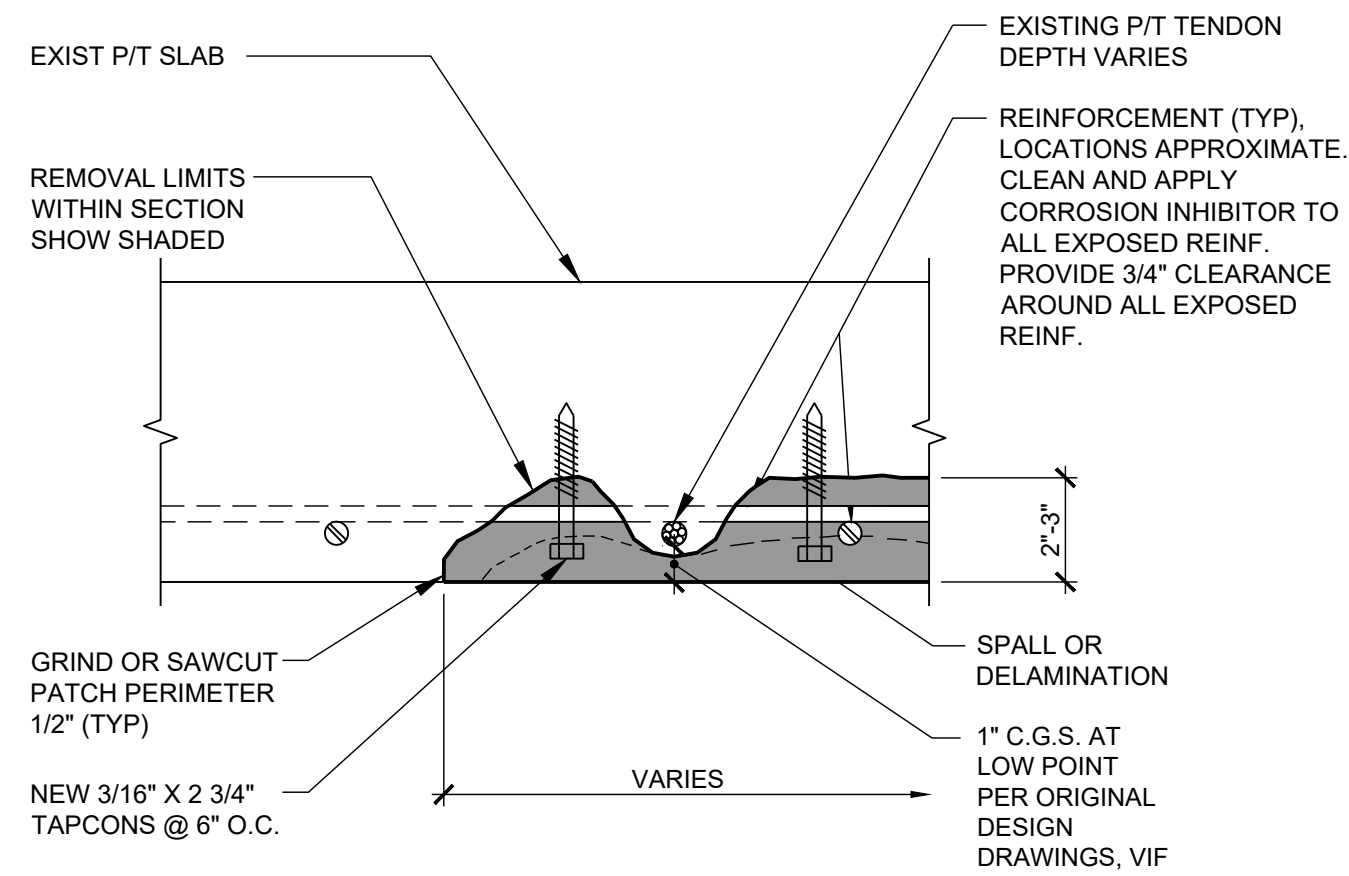
FLOOR REPAIR-FULL DEPTH



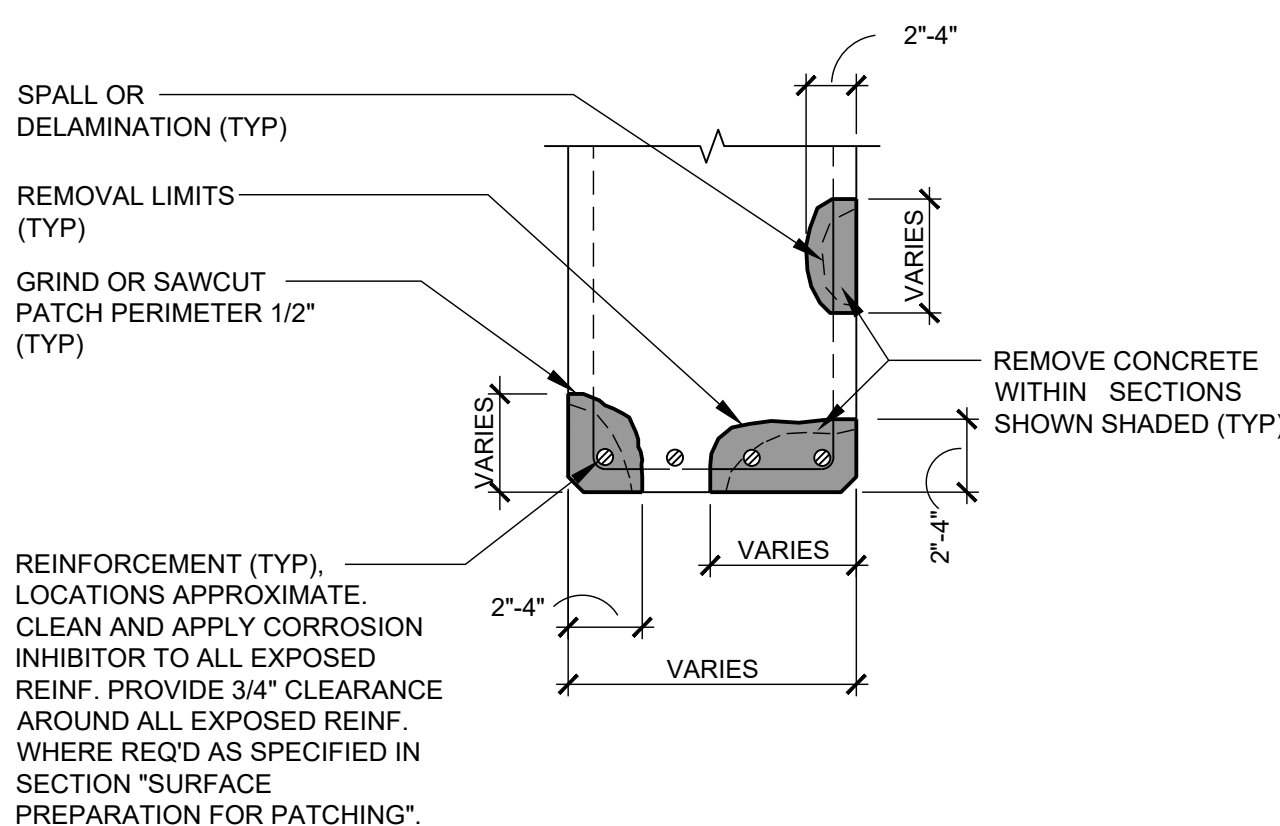
FLOOR REPAIR-CURBS/WALKS



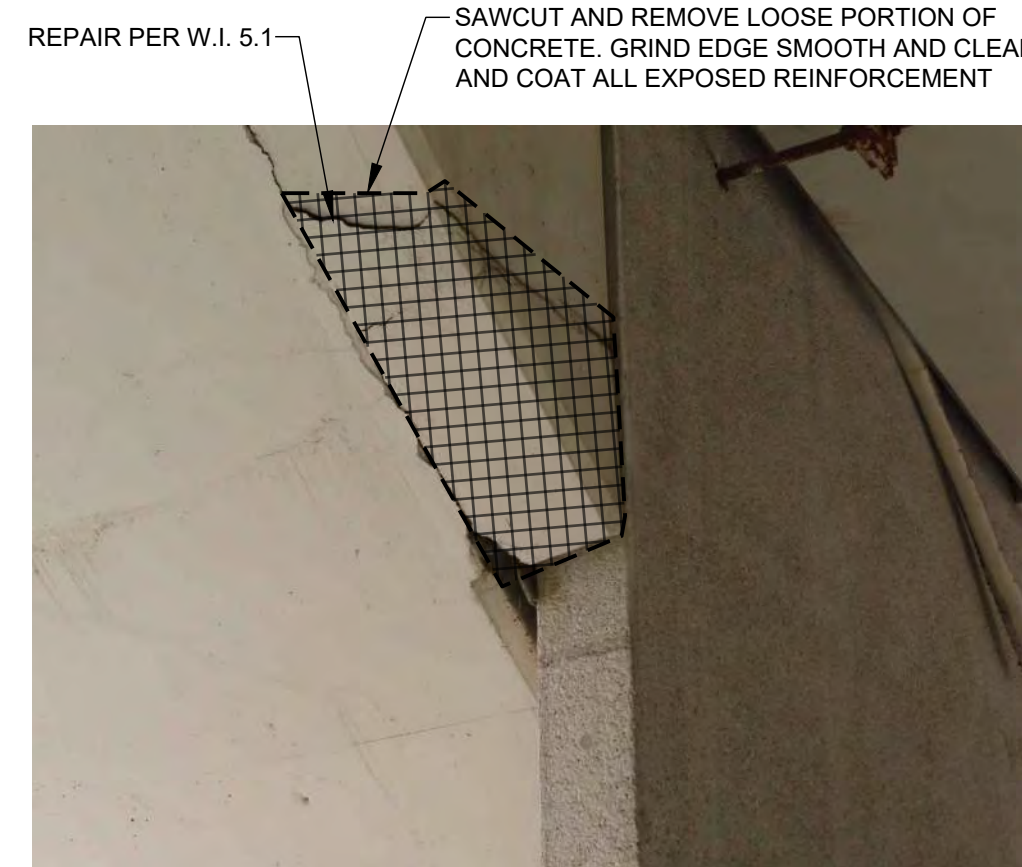
STAIR NOSING REPAIR



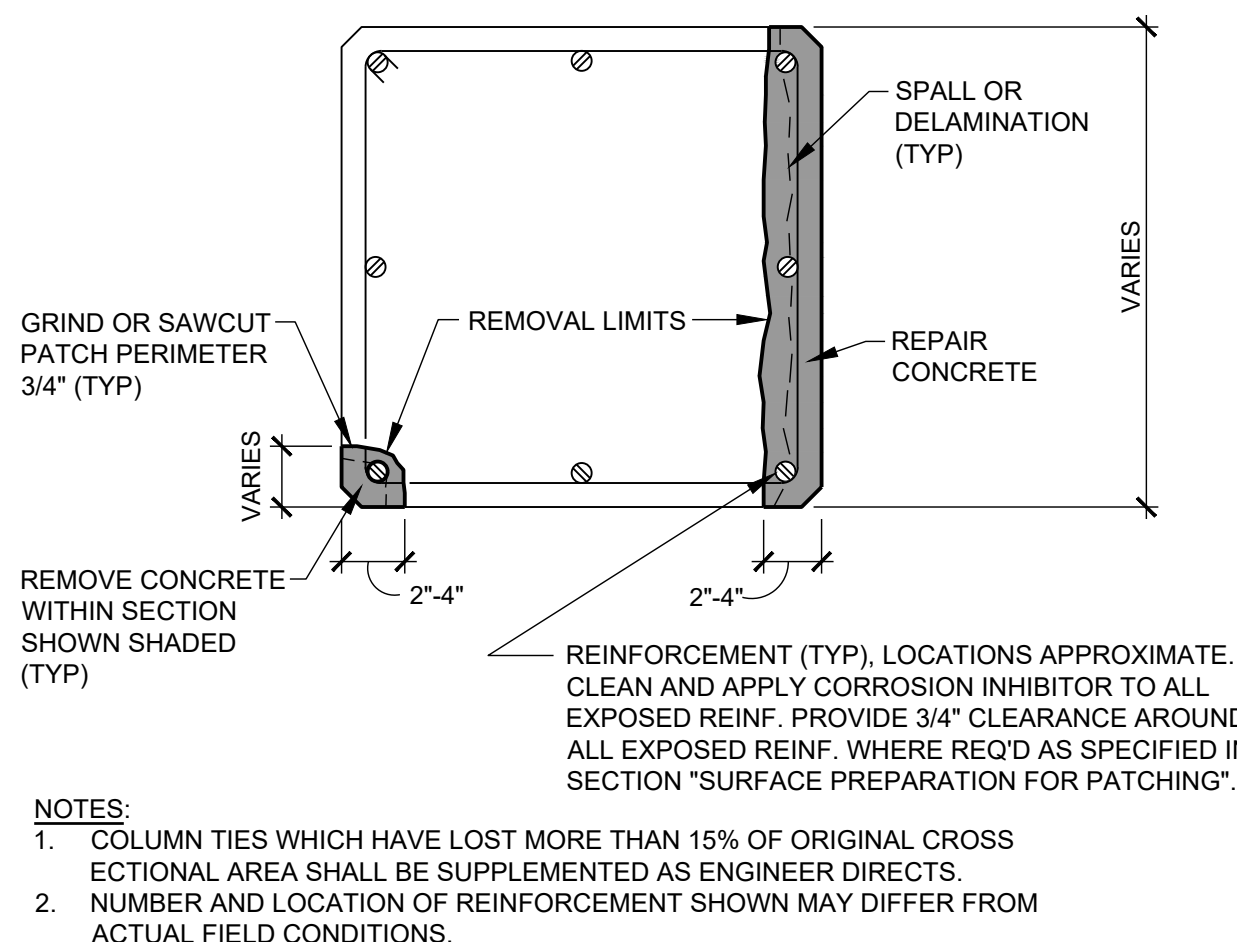
CEILING REPAIR-PARTIAL DEPTH



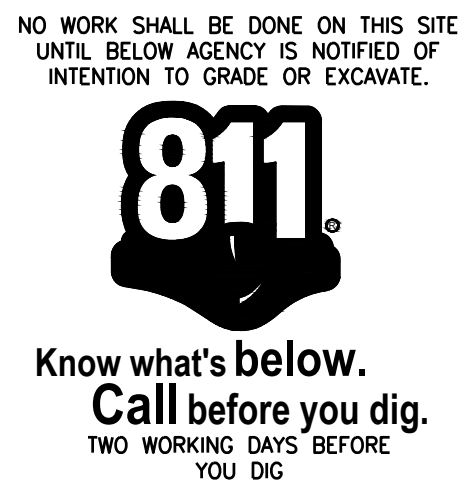
BEAM REPAIR-PARTIAL DEPTH



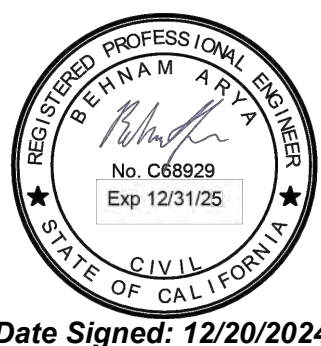
CONCRETE STAIR - EDGE REPAIR



COLUMN REPAIR-PARTIAL DEPTH



REVISIONS		
No.	DESCRIPTION	DATE
65% CD		02/04/22
90% CD		04/01/22
BID SET		12/20/24



PLANS PREPARED BY:



DESIGNED BY: SH

DRAWN BY: AP

CHECKED BY: BA DATE: 12/20/2024



PUBLIC WORKS
1315 VALLEY DRIVE
HERMOSA BEACH, CA 90254
(310) 318-0214

REVIEWED BY:

Jonathan Pascual

1/9/2025

JONATHAN PASCUAL, ASSISTANT ENGINEER

DATE

RECOMMENDED BY:

ACCEPTED BY:

John Oskoui

1/9/2025

JOHN OSKUI, P.E., ACTING CITY ENGINEER

DATE

PARKING STRUCTURE LOT C IMPROVEMENTS

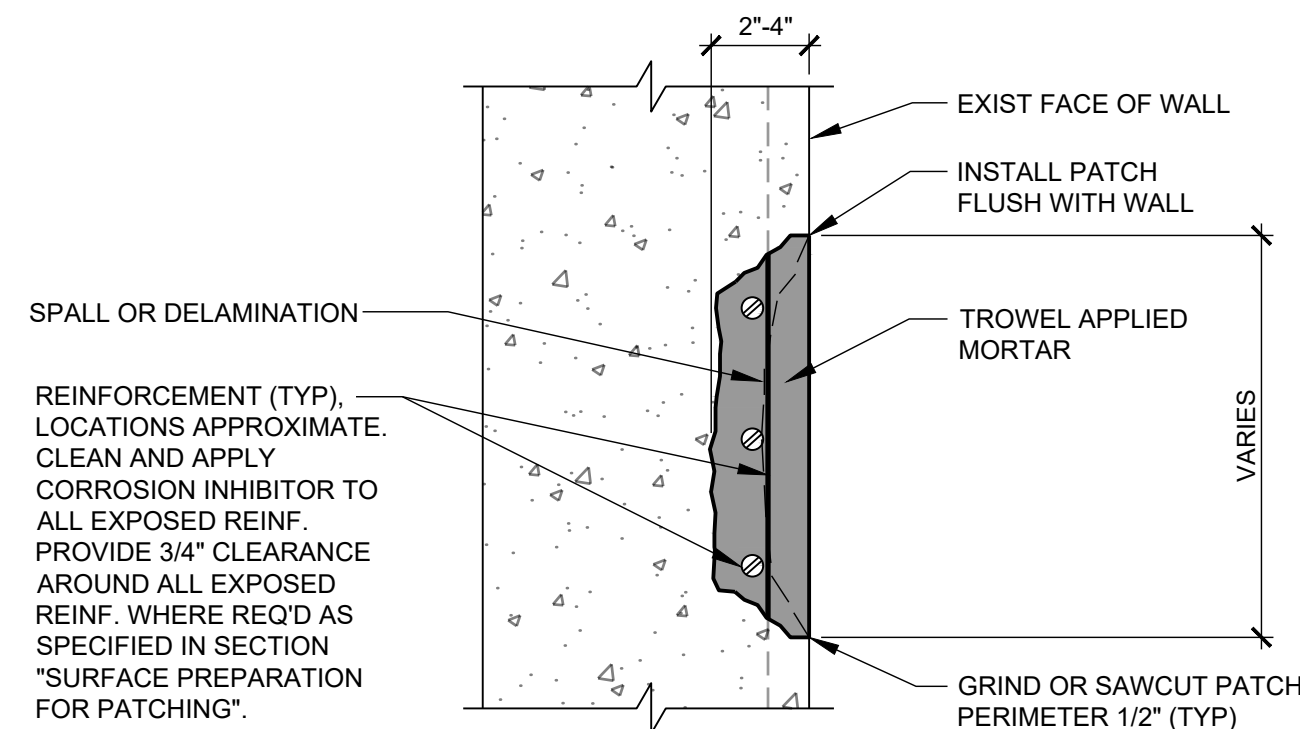
REPAIR DETAILS

CIP 699

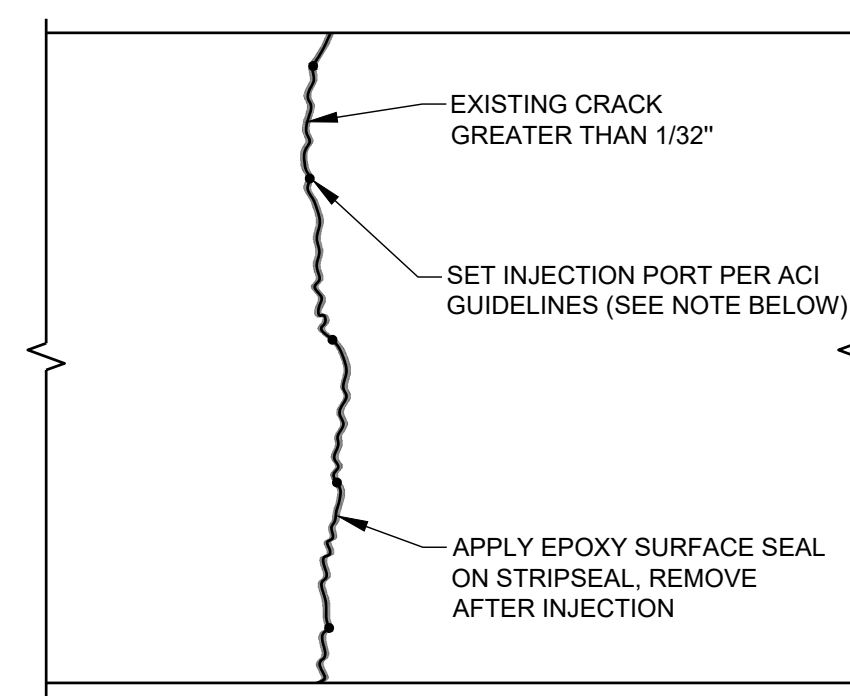
R-501

SHT. 7 OF 18

WARNING: THE FLOOR SLAB HAS POST-TENSIONING TENDONS NEAR BOTH SURFACES OF THE SLAB. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN THE SLAB SO AS NOT TO DAMAGE THE TENDONS OR TENDON SHEATHING. TENDONS MAY BREAK WITH EXPLOSIVE FORCE WHEN CUT. NO ANCHORS MAY BE DRILLED OR SHOT INTO THE SLAB WITHOUT FIRST LOCATING THE TENDONS AND THEN THE ANCHORS CAN NOT BE MORE THAN 1" LONG.

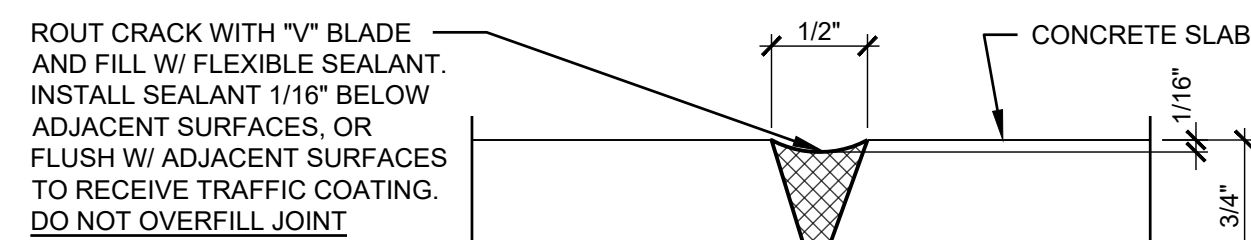


7.1 WALL REPAIR-PARTIAL DEPTH



- NOTES:**
1. CONTRACTOR TO FOLLOW ACI GUIDELINES 503R FOR EPOXY INJECTION.
 2. CONTRACTOR SHALL REMOVE ALL PORTS AND SURFACE SEAL MATERIALS AFTER INJECTION IS COMPLETE.
 3. SPACE PORTS NO MORE THAN 4 INCHES APART, OR TO MATCH EXPECTED DEPTH OF CRACK

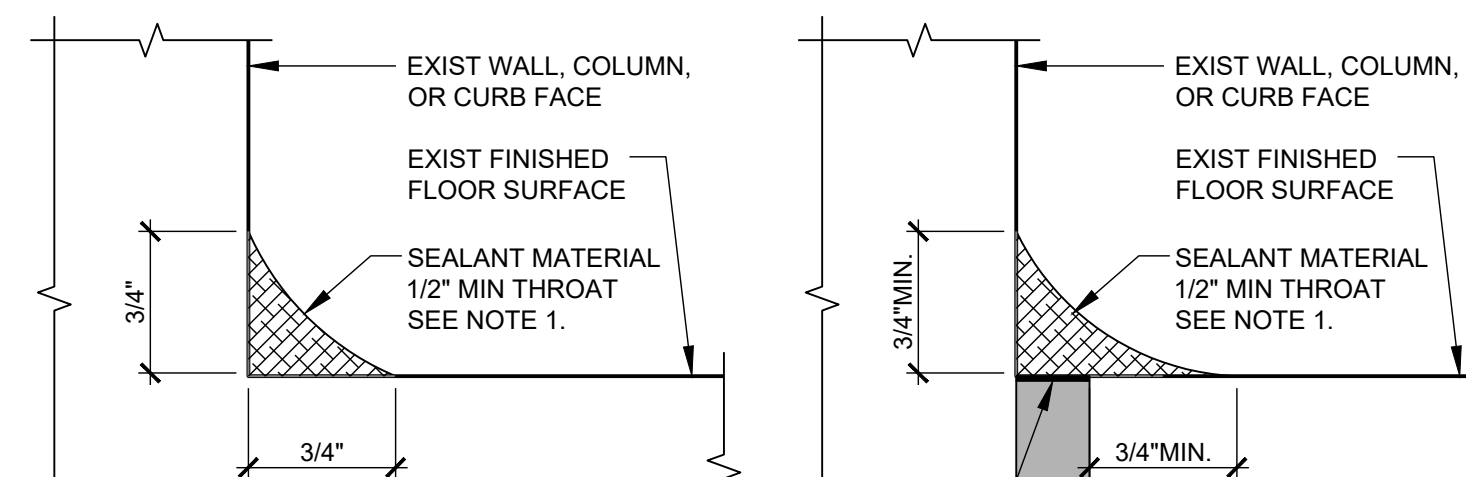
11.5 CRACK REPAIR - EPOXY INJECTION



EXIST. CRACK/JOINT. —
CENTER ROUTED GROOVE
ON CRACK/JOINT

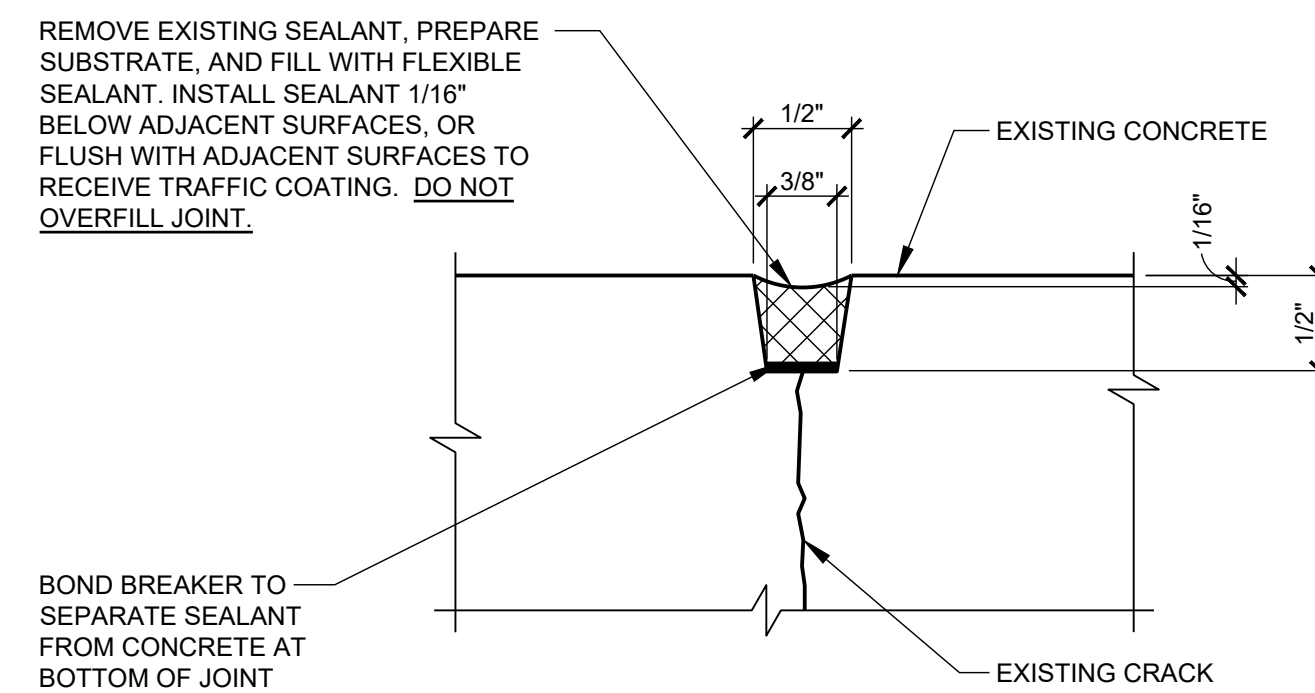
- NOTES:**
1. ROUT CONTROL JOINTS WITH MECHANIZED DEVICE THAT HAS POSITIVE MECHANICAL CONTROL OVER DEPTH, WIDTH AND ALIGNMENT OF CUT IN CURED CONCRETE TO SEALANT JOINT PROFILE AS SHOWN.
 2. PREPARE SURFACE BY ABRASIVE BLASTING ALL JOINTS AFTER REMOVAL AND ROUTING.
 3. INSTALL BACKER ROD AS REQUIRED.
 4. PRIME ALL JOINTS WITH MANUFACTURER APPROVED PRIMER PRIOR TO INSTALLING SEALANT.

SEAL CRACKS AND JOINTS

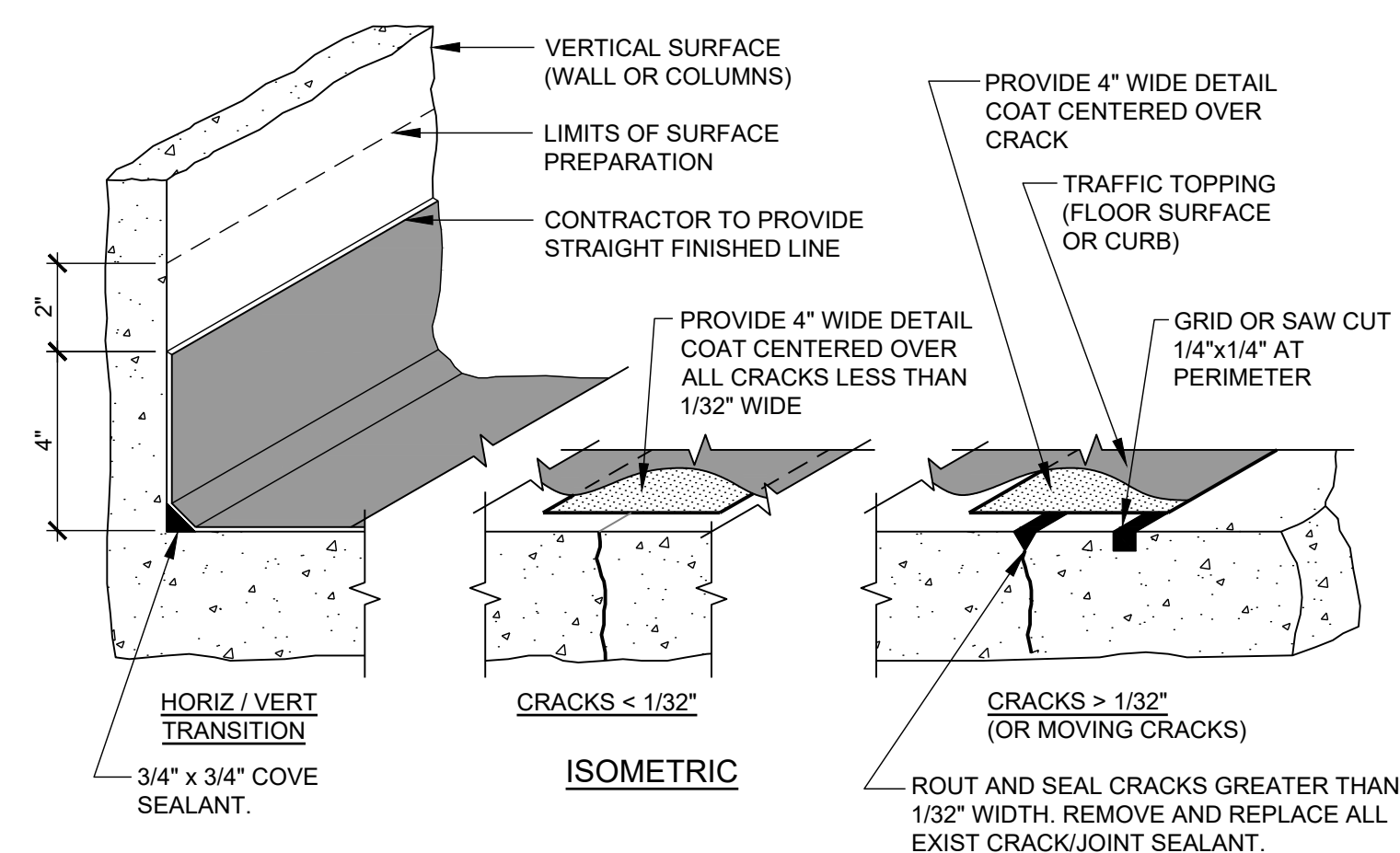


- NOTE:**
1. REMOVE EXISTING COVE SEALANT MATERIAL IF PRESENT. PREPARE SURFACE PER SPECIFICATIONS.

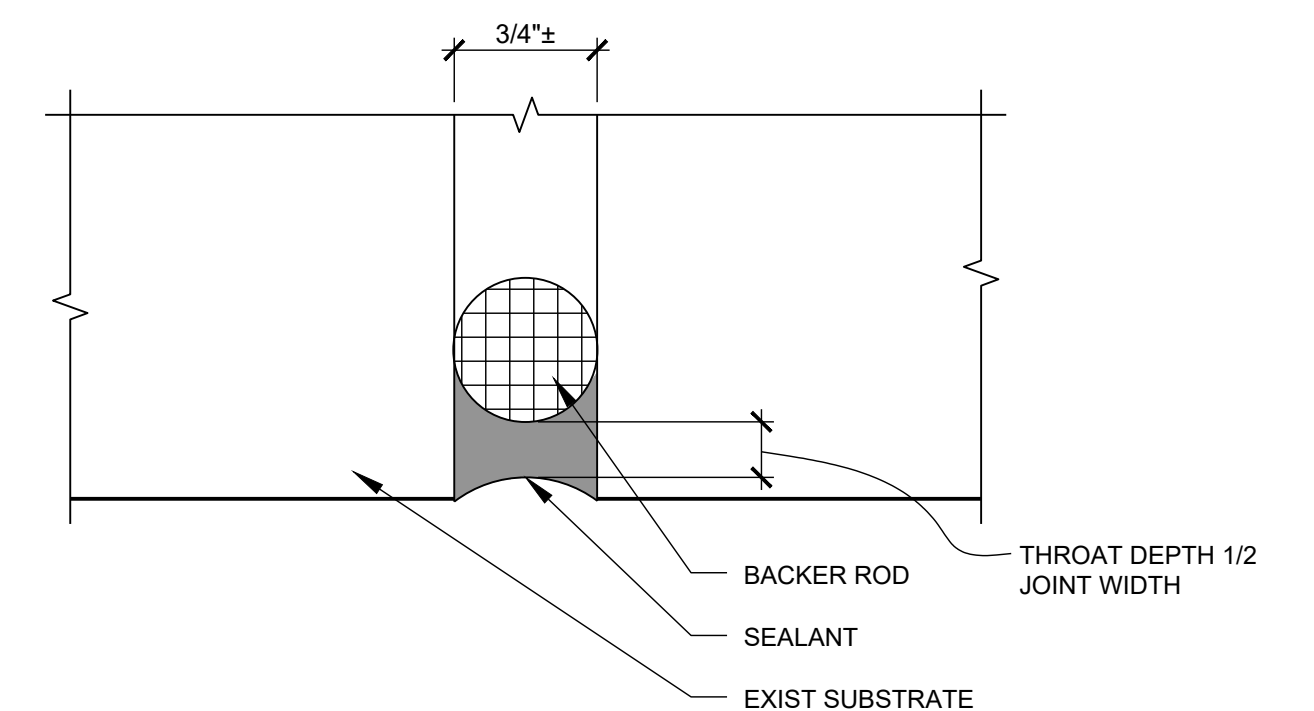
147 COVE SEALANT



11.2 JOINT SEALANT REPAIR

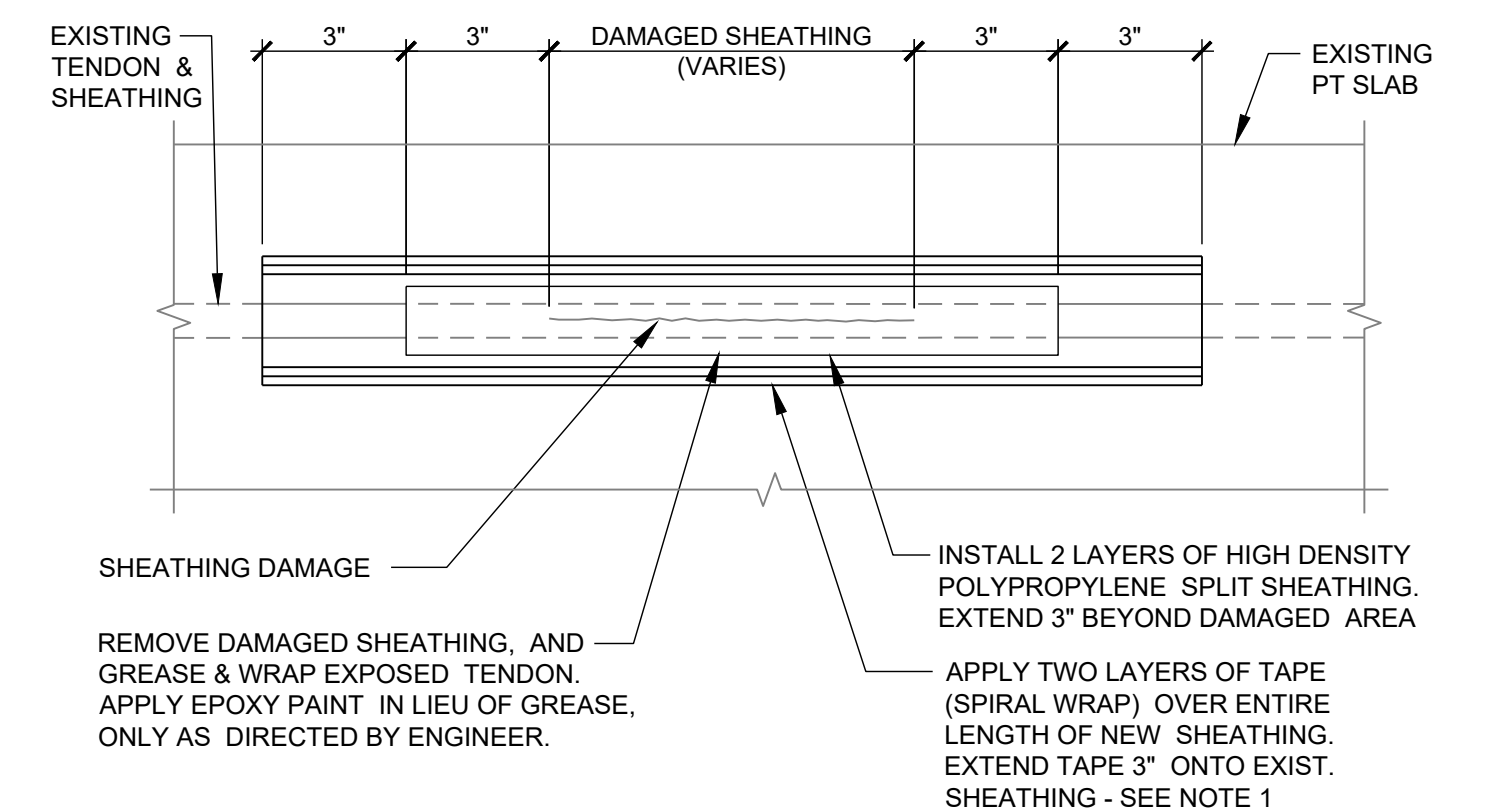


TRAFFIC TOPPING - COMPLETE SYSTEM



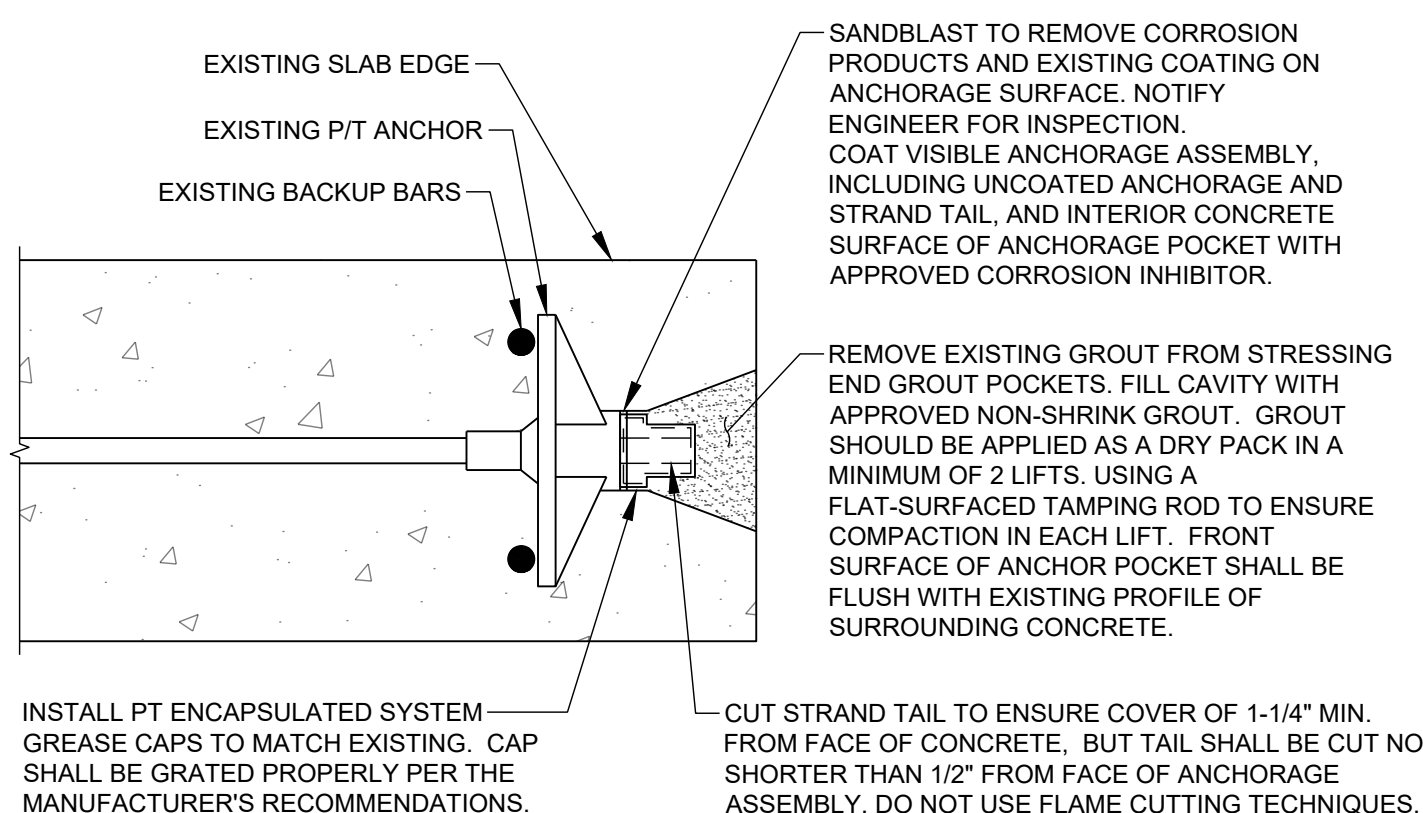
- NOTES:**
1. CLEAN JOINT SUBSTRATE BY SAND & AIR BLASTING.
 2. PREPARE AND PRIME SEALANT CAVITY & INSTALL SEALANT ACCORDING TO SEALANT MANUFACTURER'S RECOMMENDATIONS.

 VERTICAL JOINT SEALANT

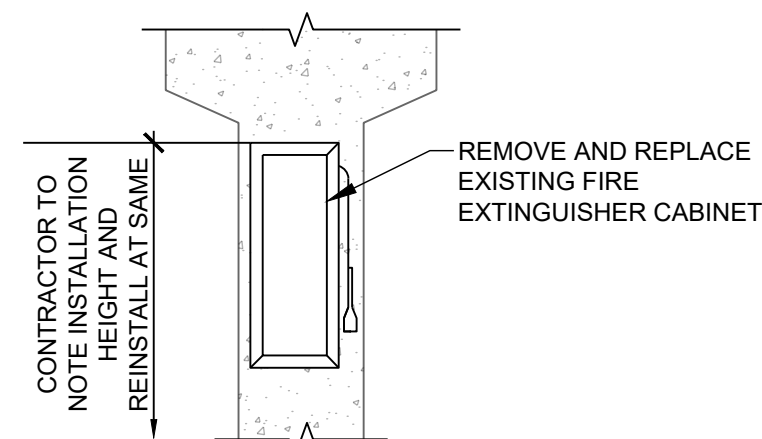


- NOTES:
1. APPROVED SHEATHING REPAIR TAPE MATERIAL INCLUDE:
- a. "3M TAPE No. 226"; 3M, ST. PAUL, MN
 - b. "POLYKEN 826"; BERRY PLASTICS CORP, EVANSVILLE, IN
 - c. "TYCO ADHESIVES No. 398"; TYCO ADHESIVES, FRANKLIN, MA

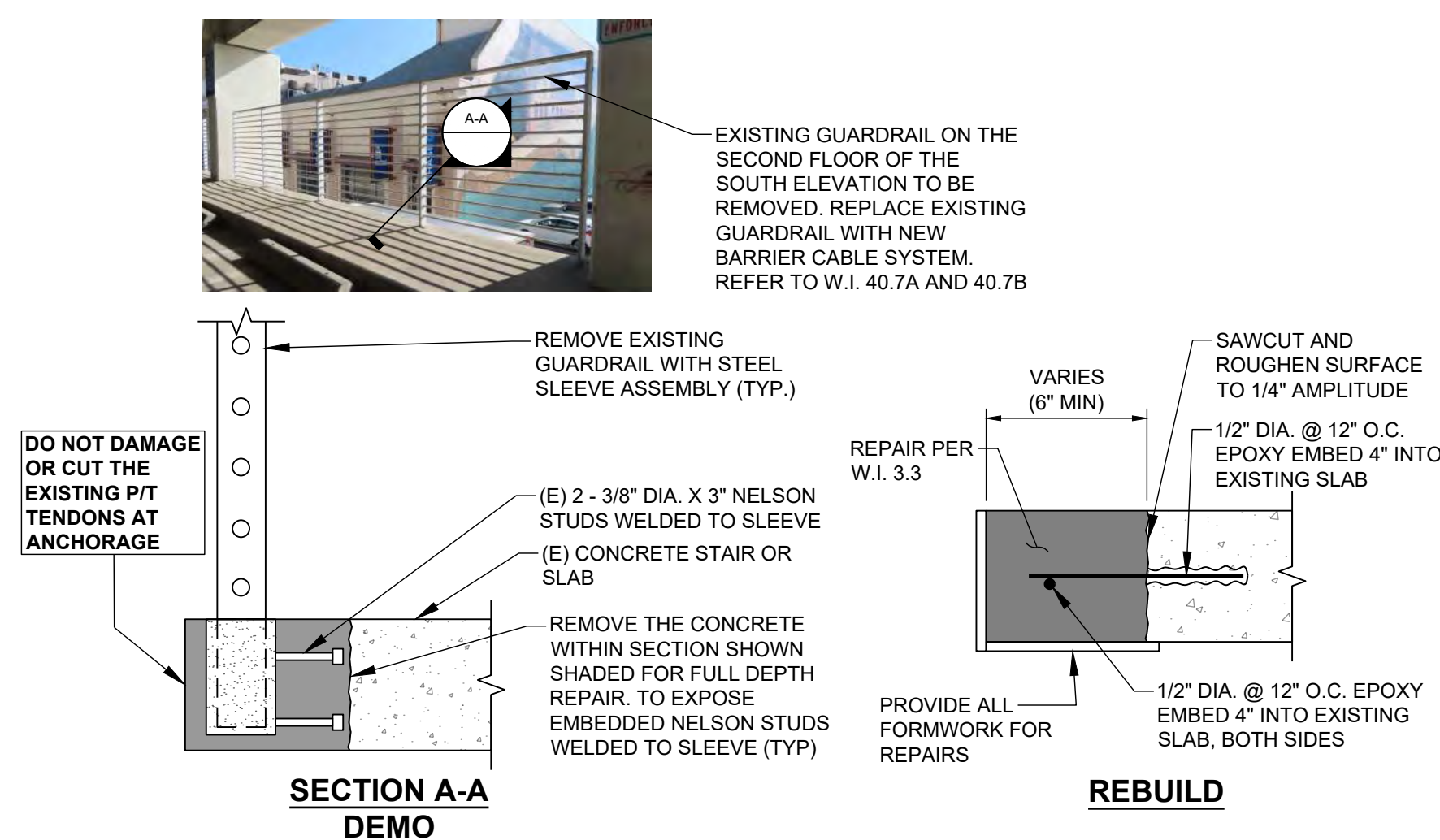
TENDON SHEATHING REPAIR



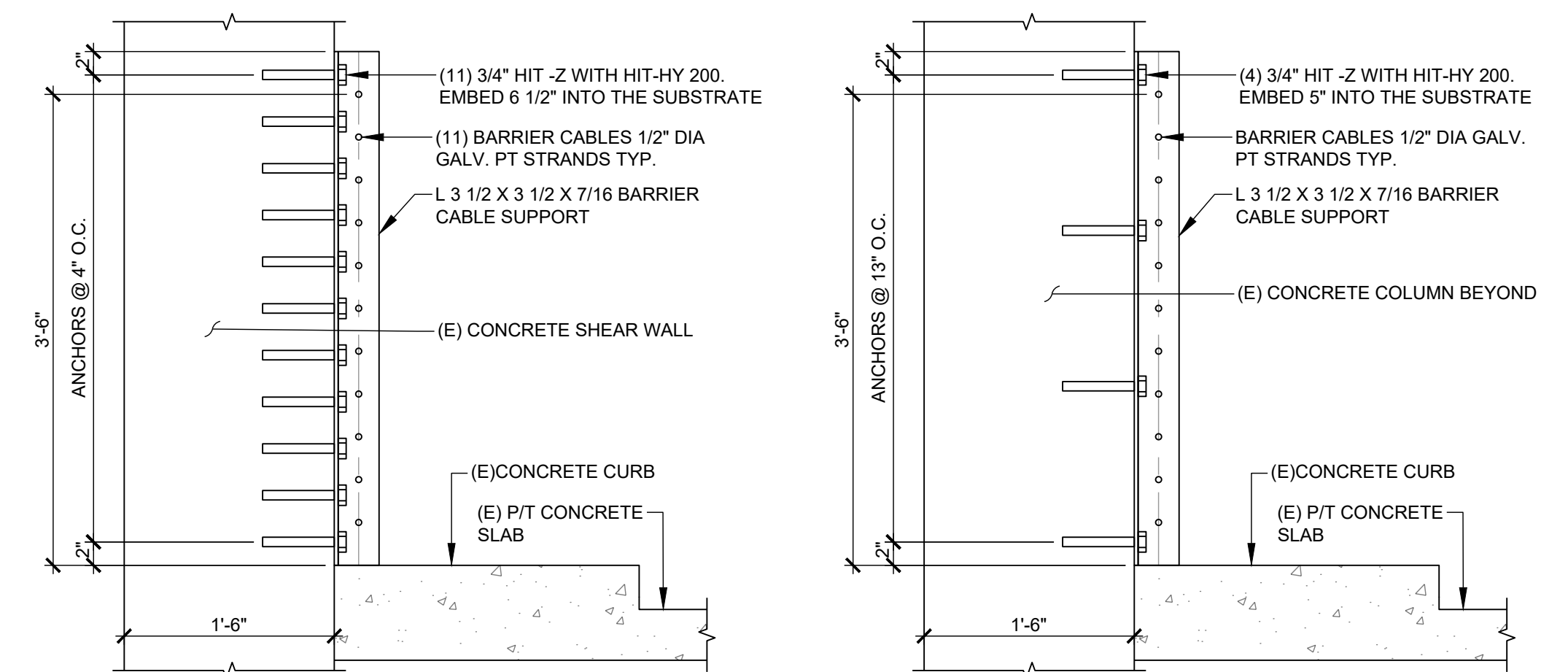
INSPECT P/T TENDON ANCHORAGE
AND REPAIR AT SLAB EDGE



REMOVE AND REPLACE FIRE EXTINGUISHERS

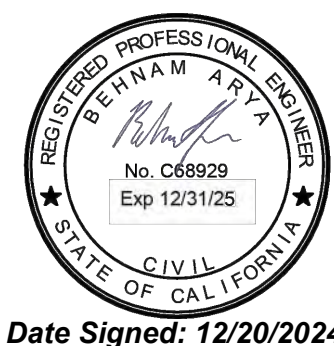


REMOVE EXISTING GUARD RAIL
(SECOND FLOOR - SOUTH ELEVATION)



INSTALL NEW BARRIER CABLE

REVISIONS		
No.	DESCRIPTION	DATE
	65% CD	02/04/22
	90% CD	04/01/22
	BID SET	12/20/24



PLANS PREPARED BY:

 **WALKER**
CONSULTANTS

707 Wilshire Blvd
Suite 3650
Los Angeles, CA 90017
213.488.4911 Ph
www.walkerconsultants.com

DESIGNED BY: SH
DRAWN BY: AP
CHECKED BY: BA DATE: 12/20/2024



PUBLIC WORKS
1315 VALLEY DRIVE
HERMOSA BEACH, CA 90254
(310) 318-0214

REVIEWED BY:	
Jonathan Pascual	1/9/2025
JONATHAN PASCUAL ASSISTANT ENGINEER	DATE

RECOMMENDED BY:	
APPROVED BY:	
	
JOHN OSKOU, P.E., ACTING CITY ENGINEER	1/9/2025
DATE	

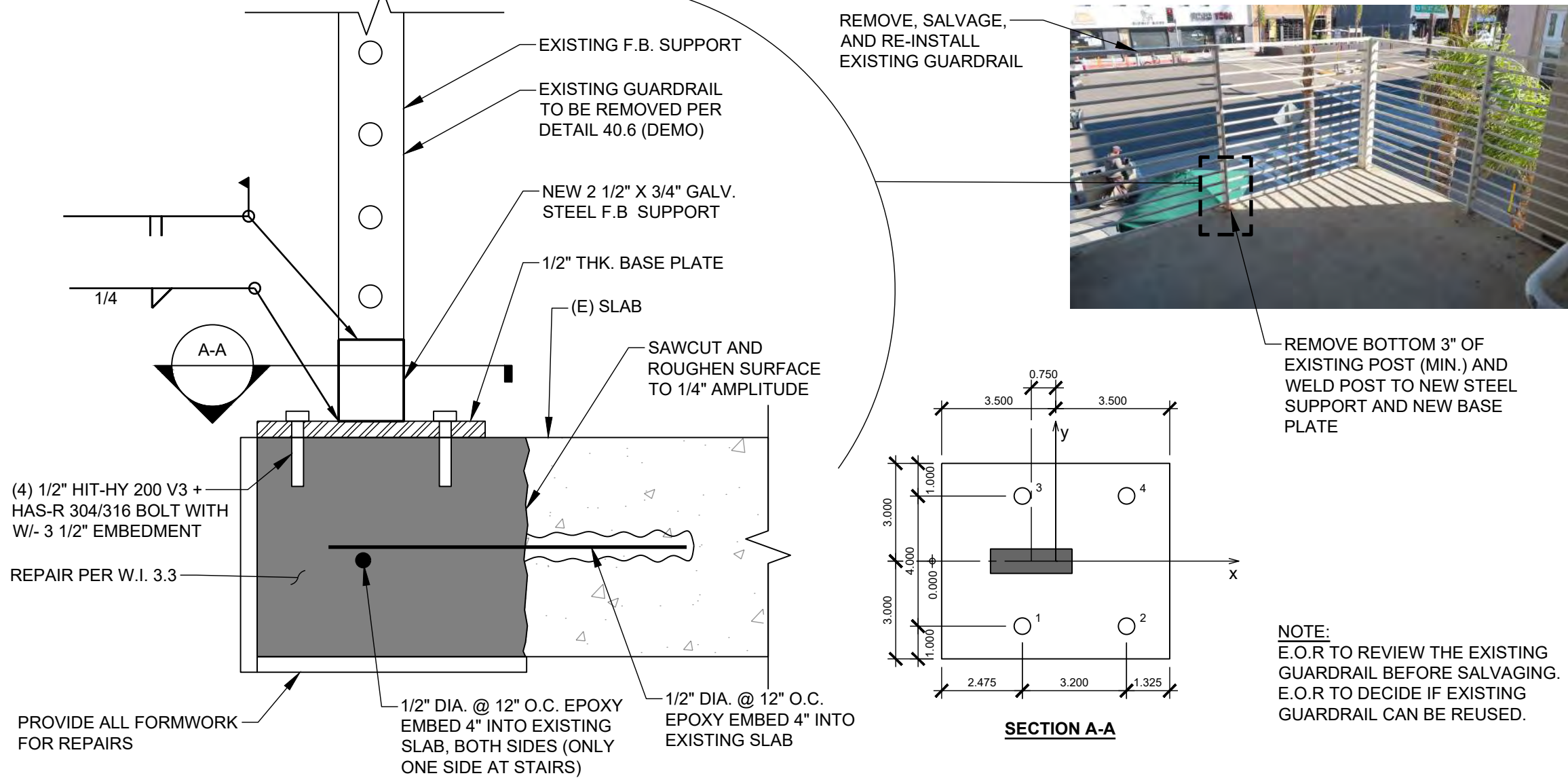
PARKING STRUCTURE LOT C IMPROVEMENTS

IP 699

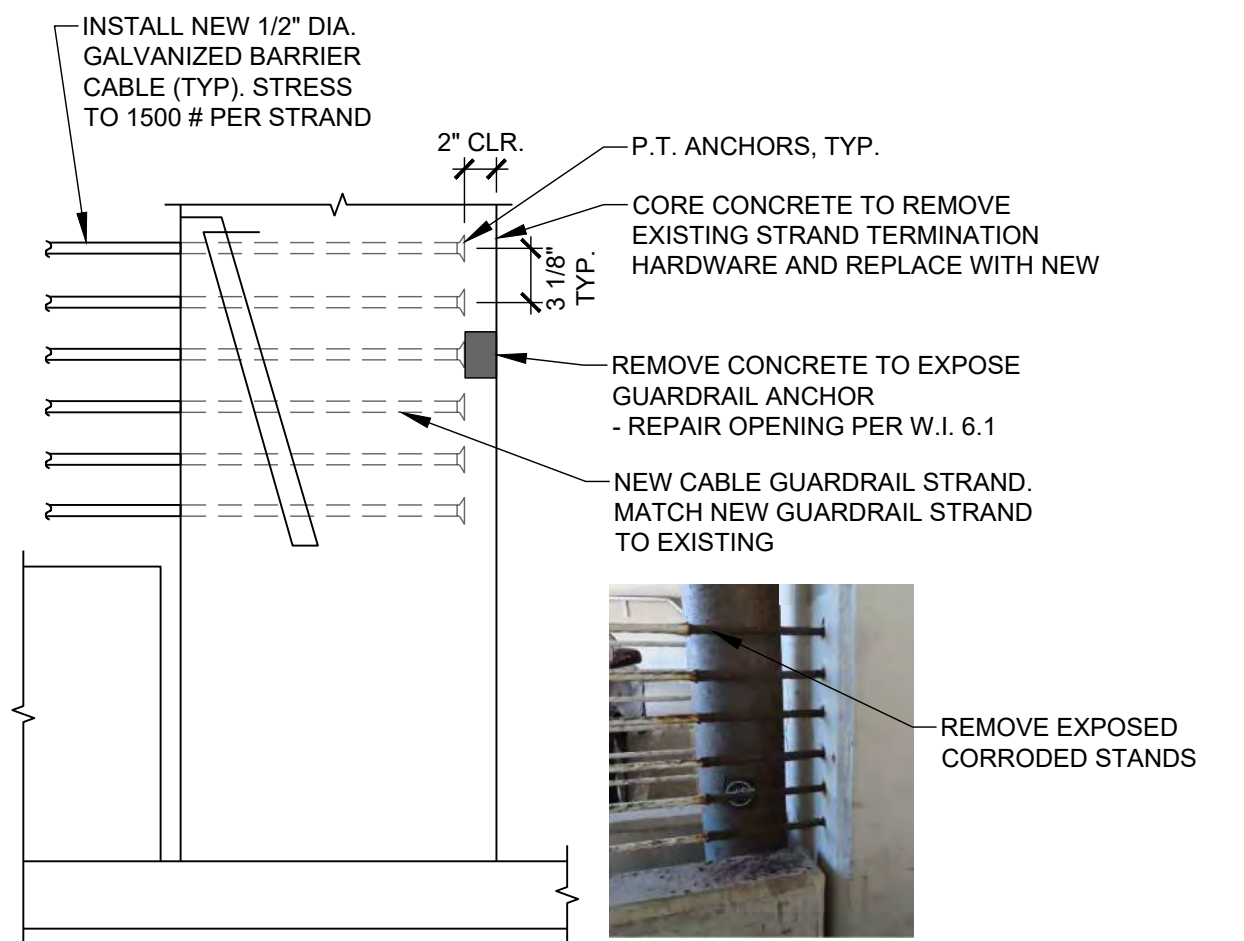
REPAIR DETAILS

R-502
HT. 8 OF 18

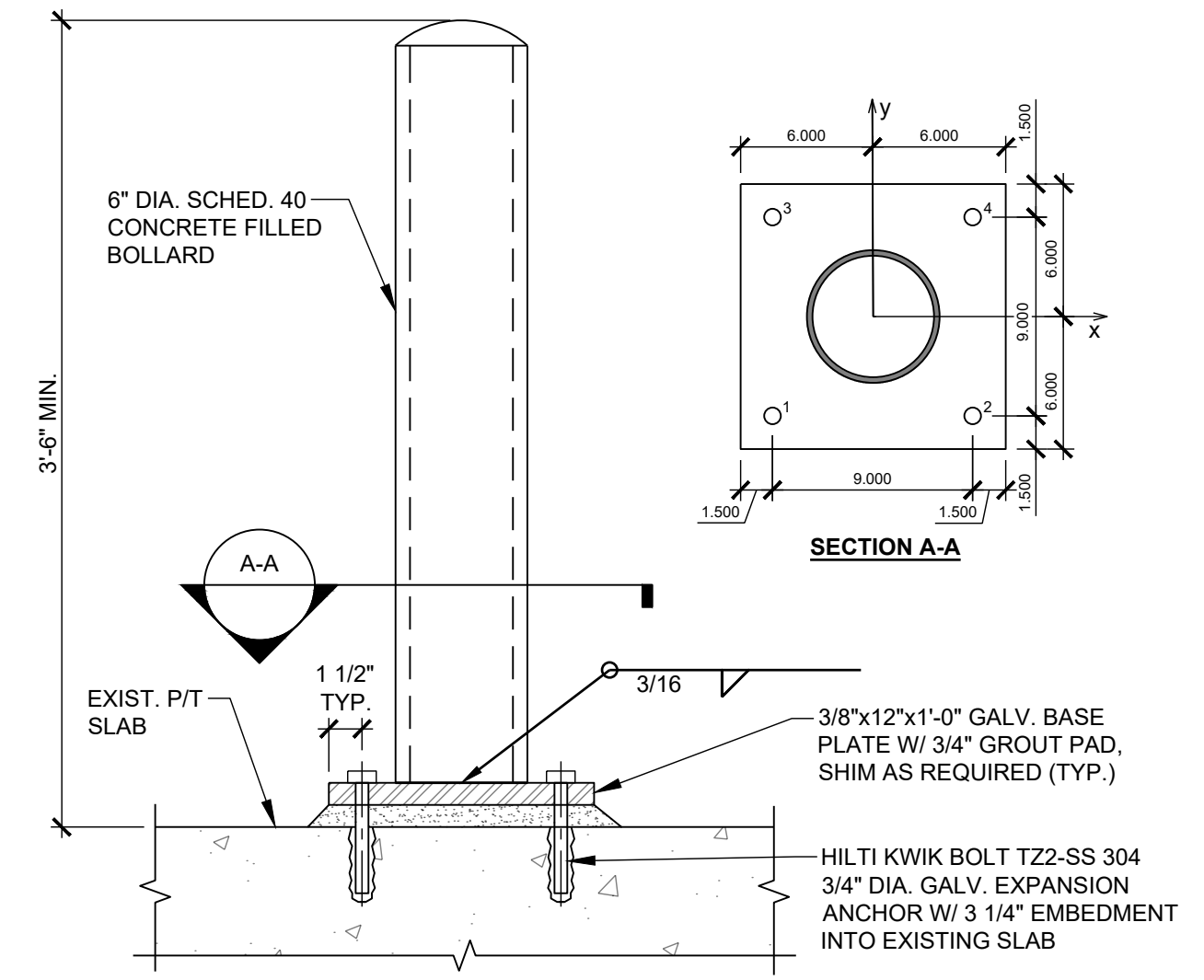
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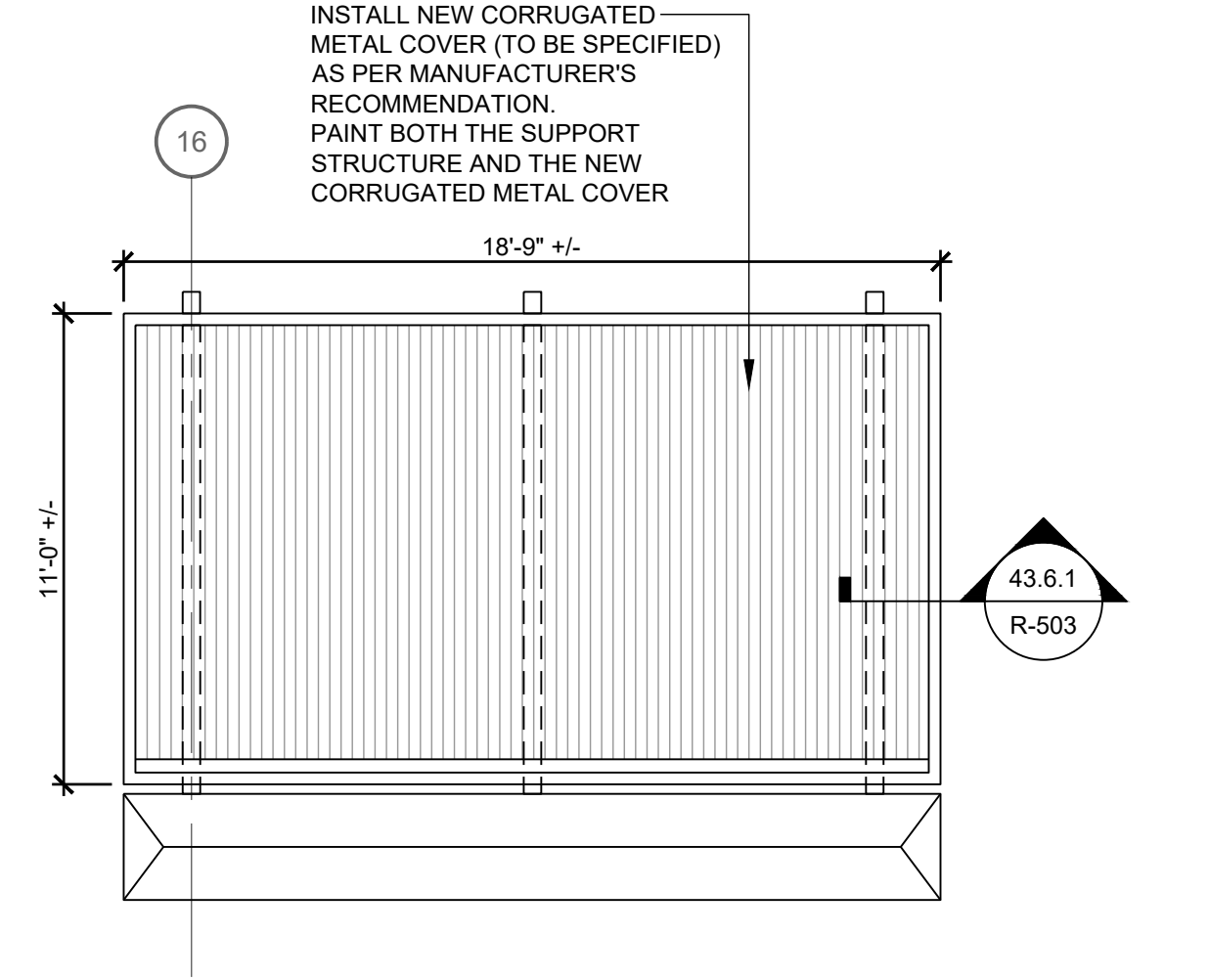
43.2 REMOVE, SALVAGE AND INSTALL EXISTING GUARD RAIL



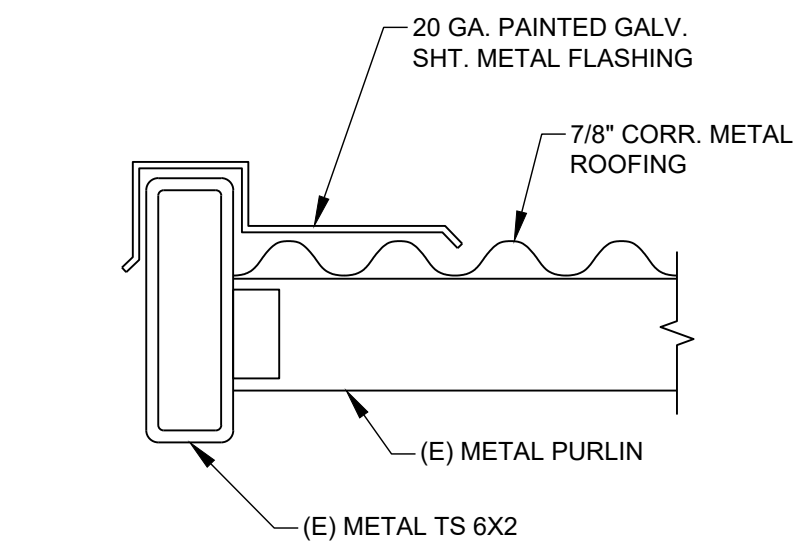
43.4 REPAIR EXISTING BARRIER CABLE



43.5 TYPICAL BOLLARD DETAIL



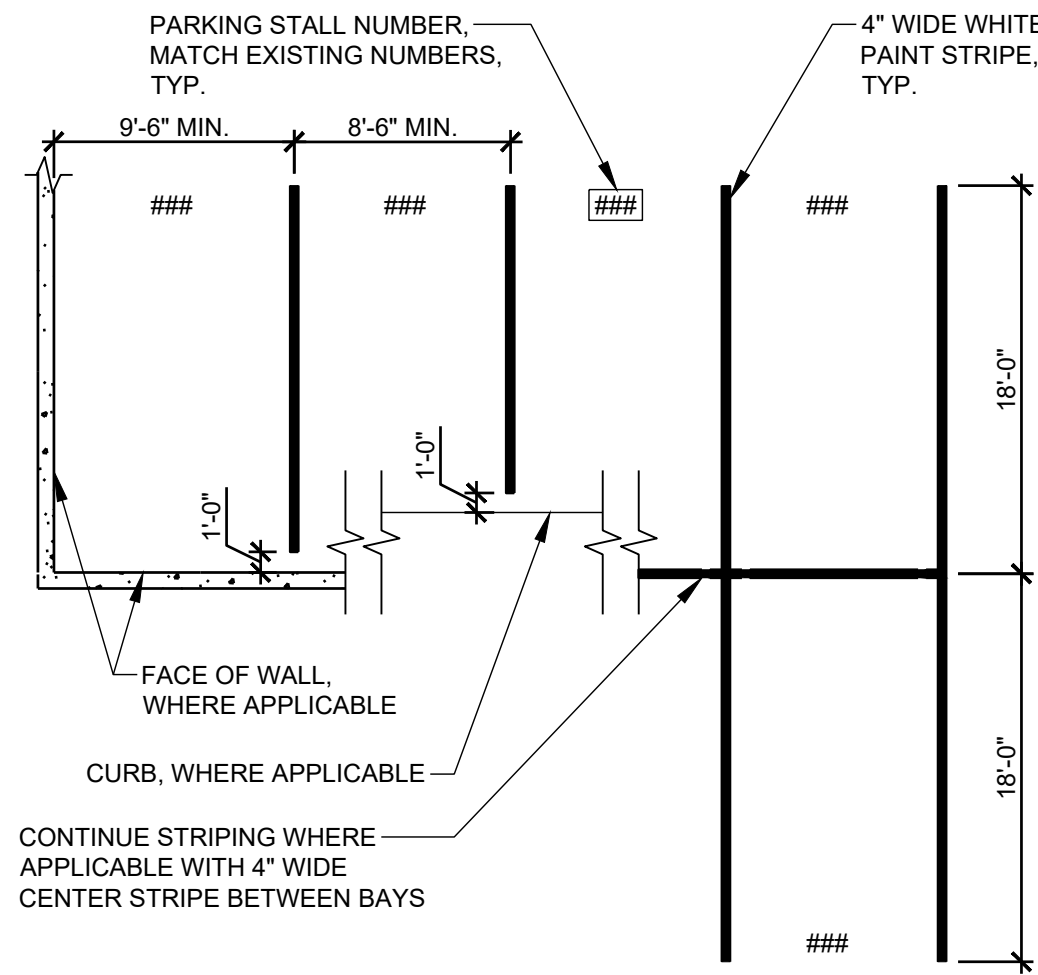
43.6 INSTALL STAIR #1 CANOPY CORRUGATED METAL COVER



43.6.1 CANOPY DETAIL

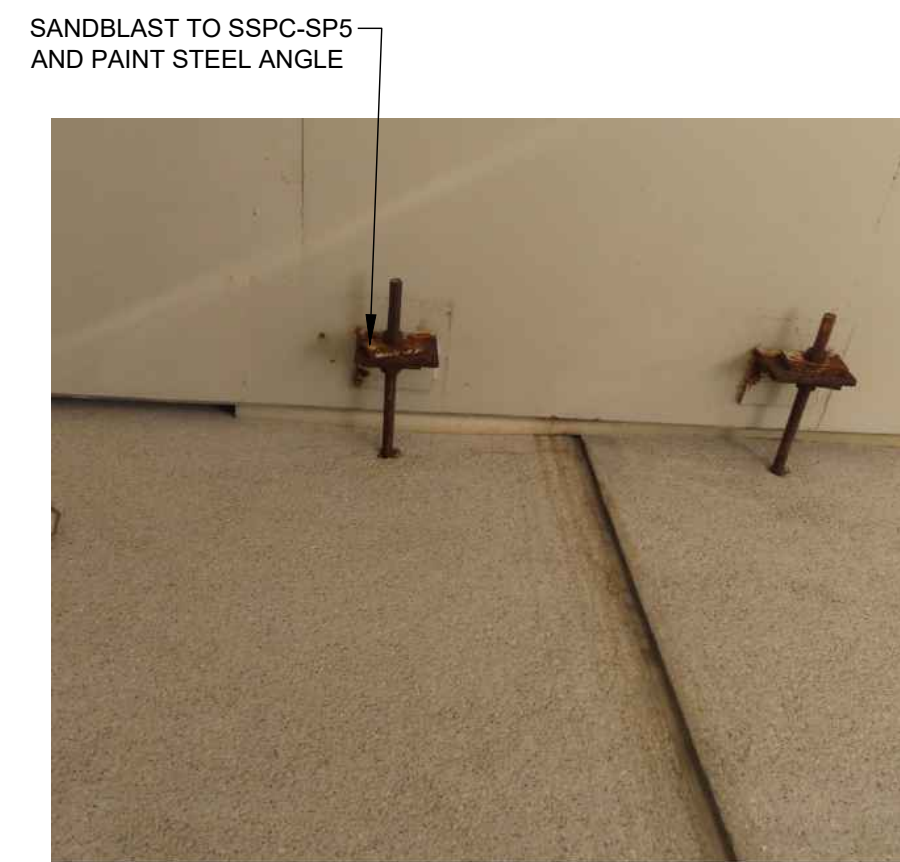


43.7 SOUTH ENTRANCE IMPACT DAMAGE

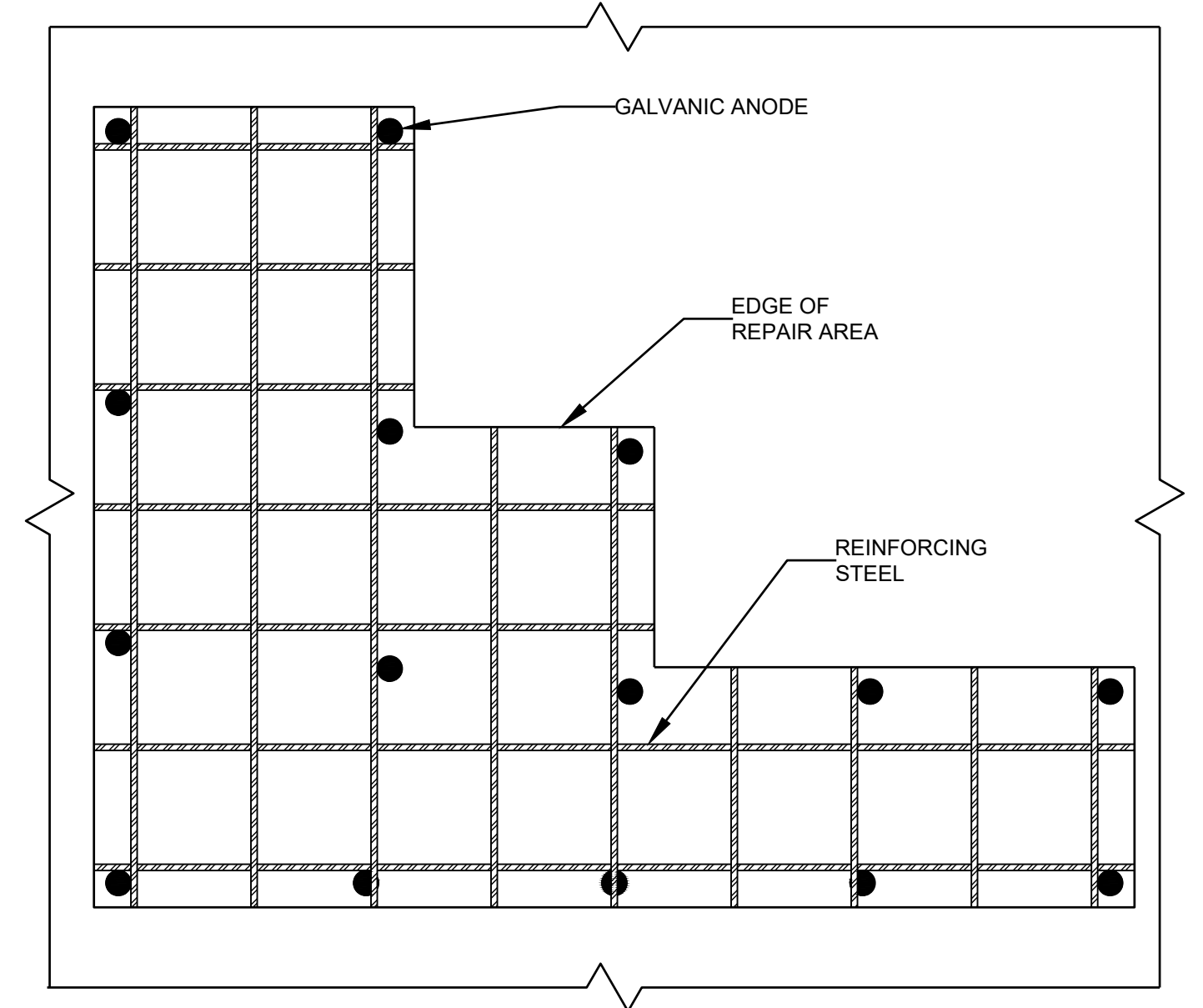


NOTES:
1. CONTRACTOR SHALL DOCUMENT STRIPPING LAYOUT, HATCHING, ANGLE STRIPPING AND PARKING STALL NUMBERS PRIOR TO SURFACE PREPARATION OF CONCRETE
2. MATCH EXISTING STRIPING LAYOUT, INCLUDING ANGLED PARKING AS NECESSARY

45.1 PAINT TRAFFIC MARKINGS

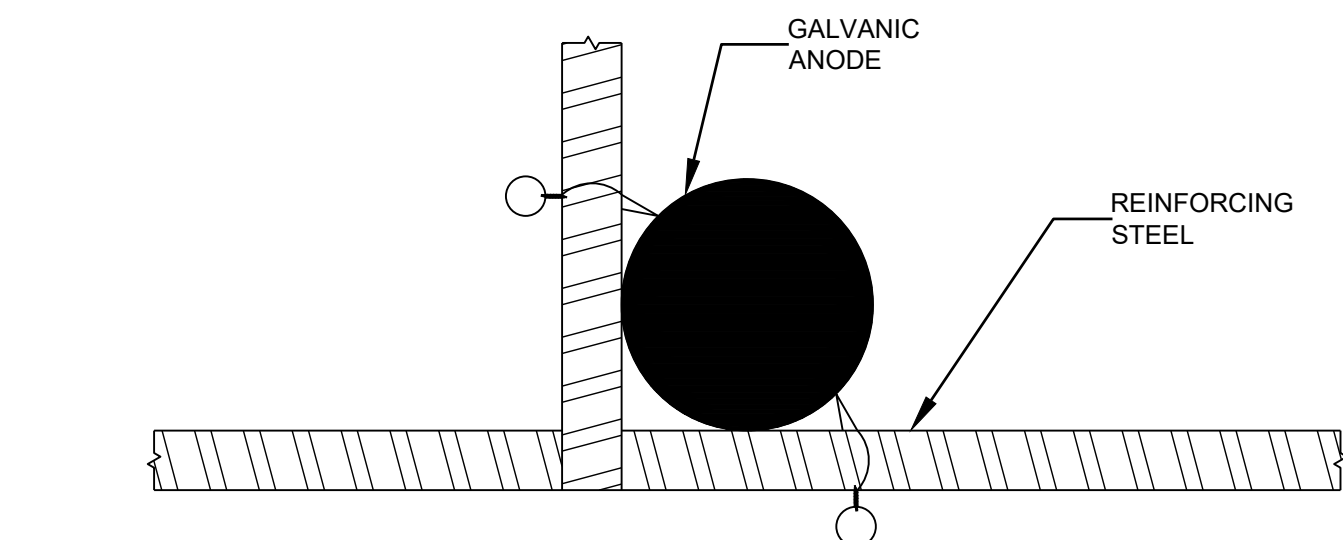


45.6 PAINT STRUCTURAL STEEL

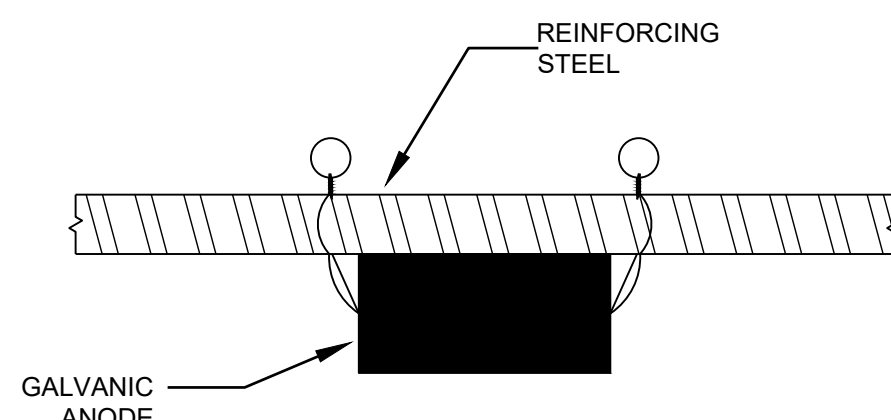


49.1 ANODES-CATHODIC PROTECTION - TYPICAL LAYOUT FOR SLAB REPAIR

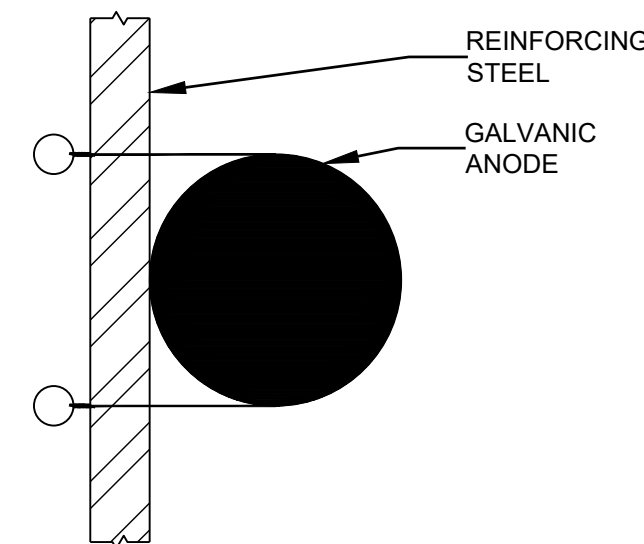
REPAIR NOTES:
1. REMOVE DAMAGED CONCRETE AS WITH STANDARD REPAIR METHODS.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL AT AN EVEN SPACING WITHIN THE PATCH AREA OR AS OUTLINED IN THE CONTRACT SPECIFICATION (24\"/>



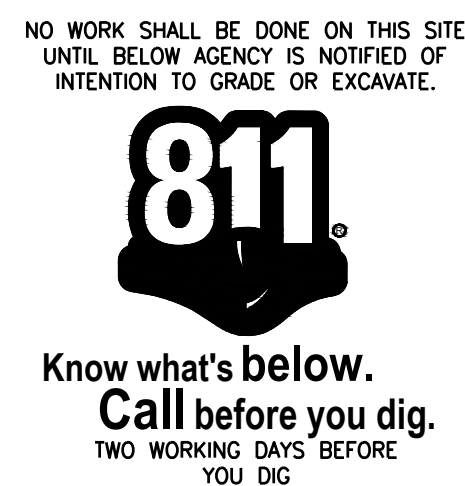
49.1.1 ANODES-CATHODIC PROTECTION - TYPICAL INSTALL AT INTERSECTION



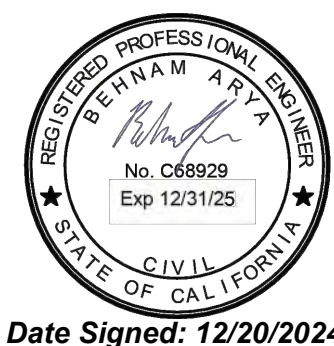
49.1.2 ANODES-CATHODIC PROTECTION - TYPICAL INSTALL BELOW BAR



49.1.3 ANODES-CATHODIC PROTECTION - TYPICAL INSTALL SIDE BAR

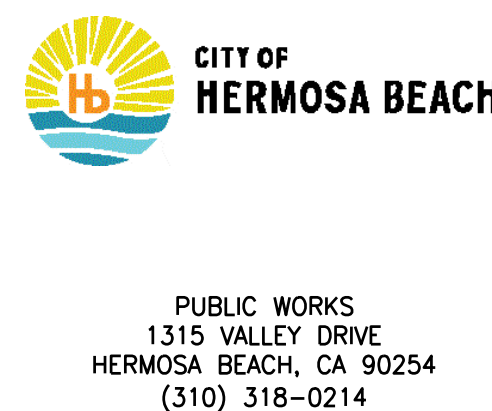


REVISIONS		
No.	DESCRIPTION	DATE
65% CD		02/04/22
90% CD		04/01/22
BID SET		12/20/24



PLANS PREPARED BY:
WALKER CONSULTANTS
707 Wilshire Blvd
Suite 3650
Los Angeles, CA 90017
213.488.4911 Ph
www.walkerconsultants.com

DESIGNED BY: SH
DRAWN BY: AP
CHECKED BY: BA DATE: 12/20/2024



REVIEWED BY:
Jonathan Pascual
JONATHAN PASCUAL, ASSISTANT ENGINEER
1/9/2025
DATE

RECOMMENDED BY:

APPROVED BY:
J. Oskoui
JOHN OSKOU, P.E., ACTING CITY ENGINEER
1/9/2025
DATE

PARKING STRUCTURE
LOT C IMPROVEMENTS

CIP 699

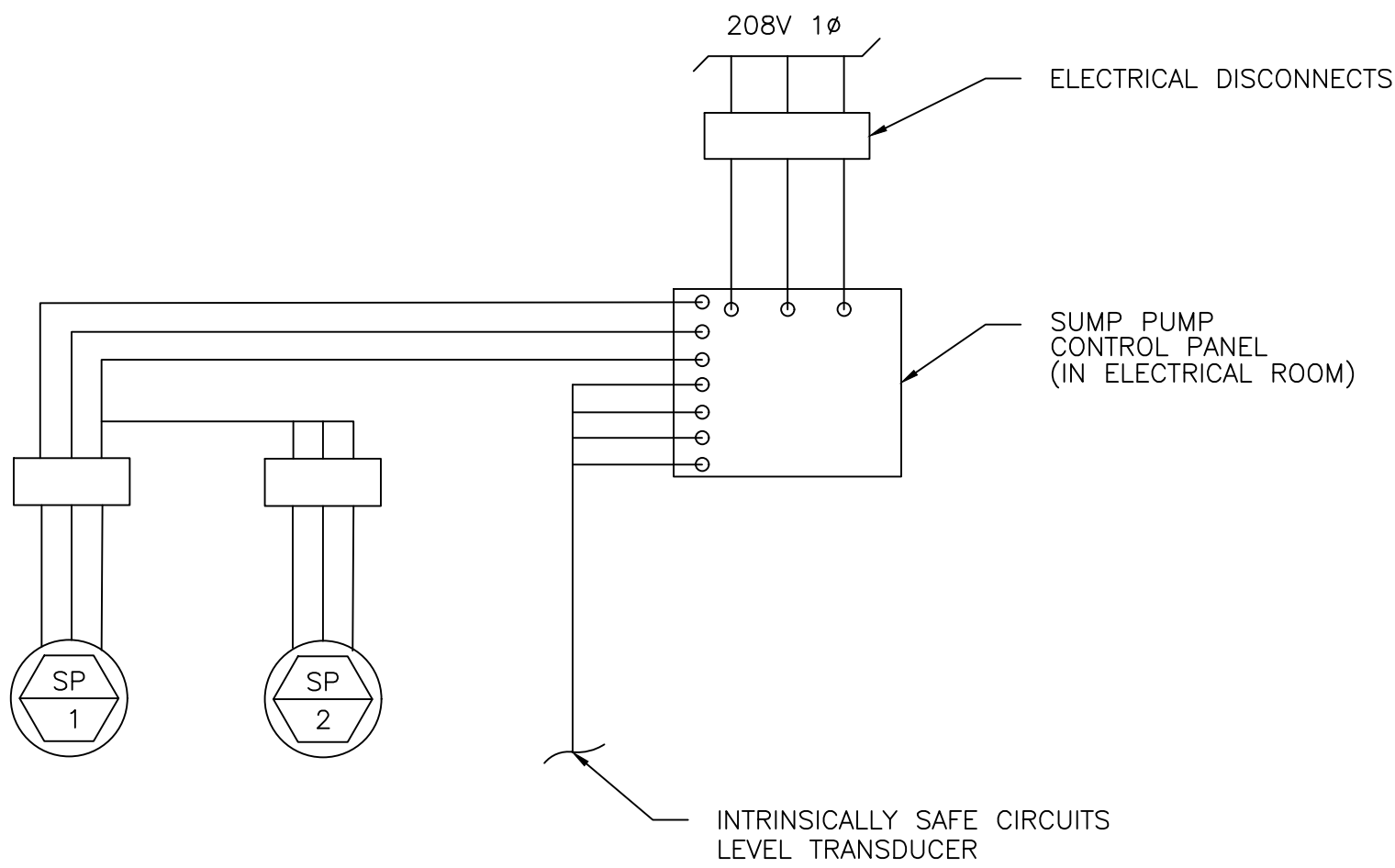
REPAIR DETAILS

R-503
SHT. 9 OF 18

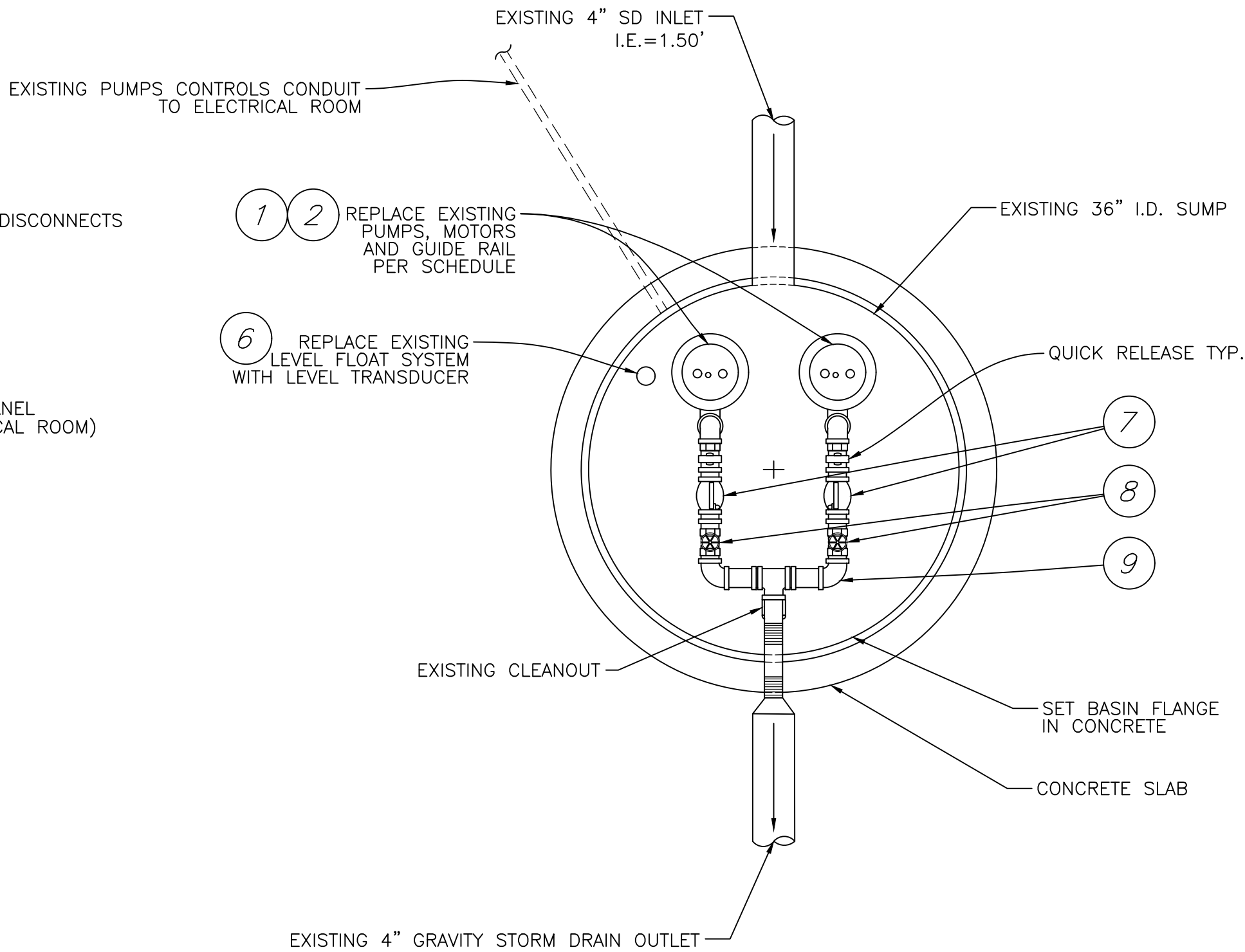
SUMP PUMP MATERIALS SCHEDULE		
ITEM	DESCRIPTION	QUANTY
1	2" SUBMERSIBLE PUMP - ZOELLER MODEL 292 OR ENGINEER APPROVED EQUAL (50GPM @ 25FT TDH)	2
2	2" DIA. - 304 SS SLIDE RAIL ASSEMBLY W/ SUPPORT BRACKETS	2
3	1/4" SS LIFTING CABLE, NYLON COVERED	2
4	POWER CABLE, SHALL BE U.L. LISTED OF SUFFICIENT LENGTH TO REACH FIRST PULL BOX	2
5	CONTROL CABLE, SHALL BE U.L. LISTED	2
6	AMETEK MODEL 575 PRESSURE TRANSDUCER OR ENGINEER APPROVED EQUAL. INSTALL TRANSDUCER WITHIN A 2" PVC PIPE SECURED TO WALL AT 2' INTERVAL	1
7	2" CHECK VALVE	2
8	2" BALL VALVE	2
9	2" SCH 40 GALVANIZED STEEL PIPE & FITTINGS*	LS
10	AUTOCOUPLING ASSY 2" STD	2
11	2" ADAPTER	2

*NOTE: REPLACE ALL PIPE, VALVES, & FITTINGS FROM EXISTING WYE TO PUMPS.

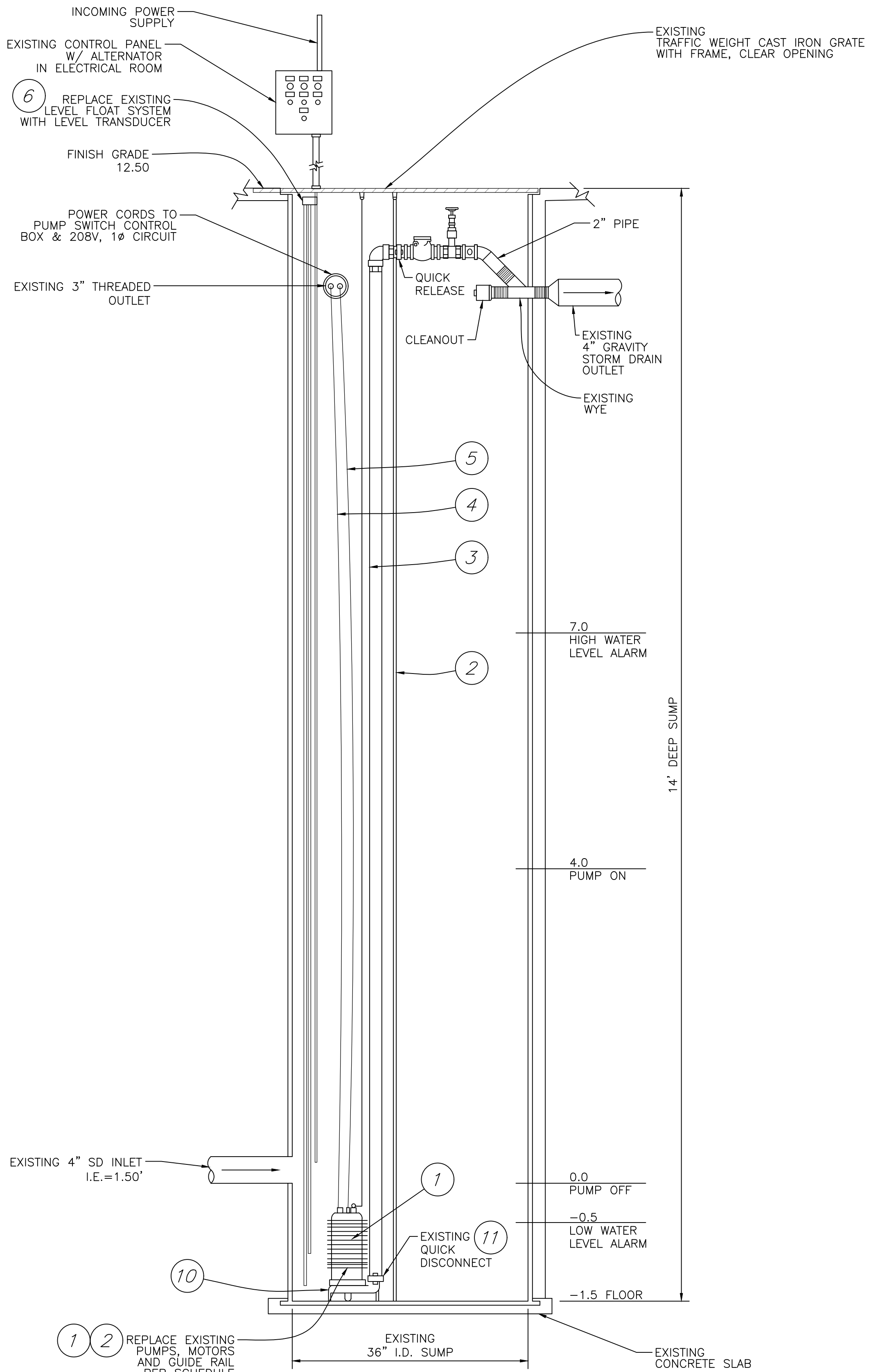
PROJECT SPECIFIC INFORMATION	
AVAILABLE POWER	208V - 1PH
DESIGN FLOW	50 GPM
TOTAL DYNAMIC HEAD	25 FT



- NOTES:
- ELECTRICAL SHALL PROVIDE LINE VOLTAGE WIRING TO BE IN CONDUIT FROM SUMP PUMP CONTROL PANEL & SUMP PUMPS.
 - CONTRACTOR SHALL VERIFY THE NUMBER OF WIRES & WIRING WITH EQUIPMENT MANUFACTURER.
 - INTRINSICALLY-SAFE CIRCUITS MUST BE RUN IN A SEPARATE CONDUIT FROM THE POWER.



SUMP PUMP - PLAN
SCALE: 1"=1'



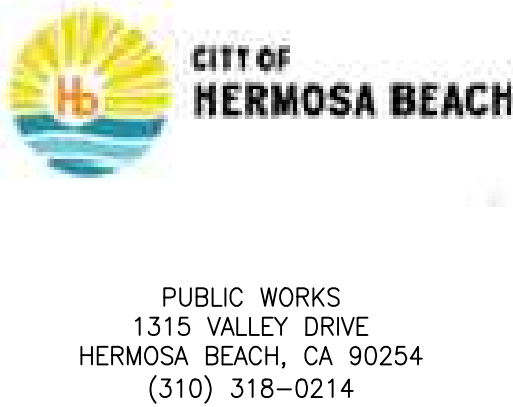
SUMP PUMP - SECTION
SCALE: 1"=1'



REVISIONS		
No.	DESCRIPTION	DATE
△		



PLANS PREPARED BY:	
	1561 E. ORANGETHORPE AVE. SUITE 240 FULLERTON, CA 92831 (714) 526-7500 www.cwecorp.com
DESIGNED BY:	MN
DRAWN BY:	WB
CHECKED BY: WY	DATE: 12/30/2024



REVIEWED BY:	
Jonathan Pascual	1/9/2025
JONATHAN PASCUAL, ASSISTANT ENGINEER	DATE
	DATE

RECOMMENDED BY:	
APPROVED BY:	1/9/2025
JOHN OSKOU, P.E. INTERIM CITY ENGINEER	DATE

PARKING STRUCTURE
LOT C IMPROVEMENTS
SUMP PUMP DETAILS
PARKING STRUCTURE REPAIRS
(C.I.P. No. 699)

FILE NUMBER	CIP 699
PS-1	
SHT. 10 OF 18	

GENERAL ELECTRICAL NOTES

1. THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2017 NATIONAL ELECTRICAL CODE, 2019 CALIFORNIA ELECTRICAL CODE, STATE FIRE MARSHALL REGULATIONS, 2021 CITY OF HERMOSA BEACH MUNICIPAL CODE AND ALL OTHER STATE AND LOCAL CODES, LAWS, AND ORDINANCES HAVING JURISDICTION ALBEIT NOT SHOWN ON DRAWINGS OR SHOWN OTHERWISE.

2. 110.2 APPROVAL: ALL ELECTRICAL ELECTRICAL EQUIPMENT SHALL BE LABELED, LISTED OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION.

3. ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTION REQUIREMENTS.

4. ELECTRICAL CONTRACTOR SHALL VISIT JOB SITE AND VERIFY EXISTING CONDITIONS BEFORE BIDDING AND SHALL INCLUDE IN HIS BID THE NECESSARY COSTS TO CONSTRUCT THIS PROJECT IN ACCORDANCE WITH INTENT OF THE ELECTRICAL DRAWINGS, SPECIFICATIONS, SERVING UTILITY COMPANY'S REQUIREMENTS AND ALL APPLICABLE CODES. SUBMITTAL OF BID INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT BEFORE SUBMITTING BID. CONTRACTOR SHALL VERIFY EXISTING SITE CONDITIONS, POWER AND TELEPHONE SERVICE REQUIREMENTS WITH UTILITY SERVICE PLANNER AND THE EXACT SERVING UTILITY POINTS OF CONNECTION AND PROVIDE ALL SERVICE RELATED EQUIPMENT AND INSTALLATION IN BID. UTILITY SERVICE REQUIREMENTS SHOWN ON THE DRAWINGS ARE BASED ON PRELIMINARY SITE VISIT AND INFORMATION AVAILABLE AT THIS TIME OF VISIT AND ARE NOT GUARANTEED BY ENGINEER OR SERVING UTILITY COMPANY. REFER TO ARCHITECTURAL DRAWINGS AND VISIT SITE PRIOR TO BID TO REVIEW EXISTING TOPOGRAPHY MAPS, LANDSCAPING AND CONSTRUCTION TO BECOME FAMILIAR WITH SLOPE CONDITIONS AND EXISTING CONSTRUCTION AND LANDSCAPING. ADJUST CONDUIT ROUTING INDICATED TO AVOID DISTURBING EXISTING CONDITION WHERE POSSIBLE. SAWCUT EXISTING SURFACE WHERE REQUIRED FOR CONDUIT AND STRUCTURE INSTALLATION AND PATCH TO MATCH EXISTING. REPAIR OR REPLACE ALL SOD, LANDSCAPING, SPRINKLER SYSTEMS, CONDUITS AND WIRING, PIPING ETC. ALTERED BY THE ELECTRICAL WORK TO MATCH EXISTING AND TO MAKE SYSTEMS OPERABLE.

5. THE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF NECA MANUAL OF GOOD WORKMANSHIP" (STANDARD OF INSTALLATION).

6. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, INCLUDING BUT NOT LIMITED TO COMPLETE ELECTRICAL SYSTEMS, POWER AND LIGHTING, TELEPHONE CONDUIT SYSTEM, SIGNAL SYSTEMS, PANELBOARDS(S), CONTROL WIRING, GROUNDING, CONDUIT ONLY SYSTEMS ETC., FOR A COMPLETE AND PROPERLY OPERATING SYSTEM, ENERGIZED THROUGHOUT AND AS INDICATED ON THE DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.

7. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORY AND SHALL BEAR THE INSPECTION LABEL UL WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH THE APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY AND ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, AND NBFU.

8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXISTING DIMENSIONS AND CONDITIONS. HE SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ENGINEER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.

9. PVC CONDUIT SHALL BE USED IN ALL WIRING RUN UNDERGROUND. RIGID GALVANIZED CONDUIT SHALL BE USED WHERE EXPOSED TO WEATHER, AND WHERE SUBJECT TO MECHANICAL DAMAGE. FLEXIBLE CONDUIT SHALL BE USED WHERE THE STRUCTURAL CONDITIONS MAKE THE USE OF RIGID CONDUIT IMPRACTICAL, AND FOR SHORT CONNECTIONS TO VIBRATING EQUIPMENT. USE NEOPRENE JACKETED FLEXIBLE CONDUIT AND FITTINGS WHERE EXPOSED TO WEATHER.

10. ALL WIRING SHALL BE CONCEALED IN FINISHED AREAS. INSTALL EXPOSED RACEWAYS PARALLEL WITH OR PERPENDICULAR TO THE LINES OF BUILDING. PAINT RACEWAYS TO MATCH MOUNTING SURFACE. PENETRATIONS OF ALL WALLS OR CEILINGS SHALL BE SEALED AND FIRE RATING MAINTAINED IN ACCORDANCE WITH UL WL1001, UL WL5001 AND ALL LOCAL AND NATIONAL CODES. DO NOT PENETRATE OR RUN CONDUITS IN AND OUT OF RATED CORRIDOR OR STAIRWELL ENCLOSURE FOR CIRCUITS NOT INTENDED TO SERVE THE EQUIPMENT WITHIN THE ENCLOSURE. CONDUIT MUST BE RUN OUTSIDE OF RATED ENCLOSURE ENVELOPS.

11. ALL CONDUCTORS SHALL BE COPPER AND RATED 600 VOLTS. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE 60°C RATED COPPER TYPE "DUAL RATED THHN/THWN" #12, & #10 SOLID, #8 AND LARGER STRANDED.

12. OUTLET BOXES SHALL BE CAST FERROUS METAL WITH WATERTIGHT GASKETED CAST FERROUS COVERS, THREADED HUBS, AND STAINLESS STEEL SCREWS. USE CROUSE-HINDS OR APPLETON TYPE FS OR FD BOXES OR APPROVED EQUAL BY ENGINEER.

13. VERIFY EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL OUTLETS WITH CONSTRUCTION MANAGER BEFORE ROUGH-IN.

14. ELECTRICAL LAYOUT DRAWINGS ARE DIAGRAMMATIC. INSTALL THE ELECTRICAL SYSTEMS WITHOUT INTERFERING WITH STRUCTURES OR OTHER SYSTEMS.

15. ALL SURFACE-MOUNTED ELECTRICAL EQUIPMENT AND DEVICES SHALL BE PROPERLY SECURED. PROVIDE STRUCTURAL SUPPORT AS NECESSARY FOR MOUNTING EQUIPMENT.

16. CONTRACTOR SHALL LABEL THE COVER PLATE OF EACH ELECTRICAL OUTLET AND JUNCTION BOX WITH INDELEIBLE INK FELT PEN. THE LABEL SHOULD SHOW PANEL AND CIRCUIT NUMBER CONTAINED IN THE BOX.

17. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT EQUIPMENT LOCATIONS. ALL LOCATIONS SHALL BE VERIFIED WITH ENGINEER BEFORE ROUGH-IN.

18. PROVIDE SEPARATE GROUND WIRE IN ALL FLEXIBLE AND PVC CONDUITS.

19. THE CONTRACTOR SHALL MAINTAIN THE UNIFORMITY AND CONTINUITY OF THE GROUNDING SYSTEM.

20. TEST THE ENTIRE SYSTEM TO DEMONSTRATE THAT THE ELECTRICAL COMPONENTS AND SPECIAL SYSTEMS ARE COMPLETE AND FUNCTION PROPERLY, INCLUDING BUT NOT LIMITED TO INSULATION AND GROUNDING TESTS. MAKE NECESSARY CORRECTIONS AND LEAVE SYSTEMS READY FOR OPERATION.

21. COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER DATE JOB ACCEPTANCE BY OWNER. ANY WORK, MATERIAL, OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.

22. AT COMPLETION OF THE JOB, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE OWNER WITH SPARE PARTS, ALL THE EQUIPMENT MANUALS, SPARE PARTS LIST AS RECOMMENDED BY THE MANUFACTURER, EQUIPMENT REPRESENTATIVE ADDRESS AND PHONE NUMBER. FURNISH ONE (1) COMPLETED SET OF "AS-BUILT" ELECTRICAL PLANS SHOWING LOCATIONS OF OUTLETS, CONDUIT RUNS, AND PANELBOARD CIRCUIT NUMBERS. ELECTRICAL CONTRACTOR SHALL PROVIDE ACCURATE DIRECTORIES IN PANELBOARD FRONTS AT COMPLETION OF BUILD-OUT. PANELBOARD DIRECTORIES SHALL INCLUDE THE EQUIPMENT SERVED AND WATTAGE.

23. REFER TO TELCO'S STANDARD SPECIFICATIONS AS PART OF THIS CONSTRUCTION DOCUMENT. ANY CONFLICT BETWEEN THESE DRAWINGS, TELCO'S STANDARD SPECIFICATIONS, AND APPLICABLE CODES, THE MORE STRINGENT REQUIREMENTS SHALL PREVAIL.

24. ALL WORK TO BE EXECUTED IN WORKMANLIKE MANNER AND SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED.

25. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING RELATED TO ELECTRICAL WORK, UNLESS NOTED OTHERWISE AND COORDINATED WITH THE GENERAL CONTRACTOR.

26. THE CONTRACTOR AGREE THAT, IN ACCORDANCE WITH GENERALLY CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT AT ALL TIME. CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT.

27. CONTRACTOR SHALL PERFORM CONTINUITY AND INSULATION TEST AND COMPLY WITH CITY OF LOS ANGELES TESTING STANDARDS OR NATIONALLY RECOGNIZED TESTING STANDARDS. REPLACE ALL CONDUCTORS WHICH DO NOT MEET THE STANDARDS.

28. CONTRACTOR SHALL TEST ALL NEW BREAKERS AND EQUIPMENT AND SHOW THAT THEY FUNCTION AS INTENDED. USE CITY OF LOS ANGELES RECOGNIZED TESTING LABORATORY AND WITNESSED BY THE OWNER'S REPRESENTATIVE.

29. CONTRACTOR SHALL ARC-FLASH STUDY AND PROVIDE THE REQUIRED LABELS ON ALL THE ELECTRICAL EQUIPMENT NOT CURRENTLY LABELED AS REQUIRED BY 2019 CEC.

GENERAL GROUNDING NOTES

1. ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL GROUNDING INSTALLATION AND CONSTRUCTION MAY VARY DUE TO SITE SPECIFIC CONDITIONS.

2. ALL GROUNDING ELECTRODES INCLUDING EXISTING ONES SHALL BE TIED TOGETHER VIA EXOTHERMIC CONNECTION WITH #2 AWG BARE TINNED SOLID COPPER CONDUCTOR TO MAKE A SINGLE EQUI-POTENTIAL GROUND ELECTRODE.

3. ALL GROUND CONNECTIONS SHALL BE #2 AWG U.O.N. ALL WIRES SHALL BE COPPER THHN/THWN. ALL GROUND WIRE SHALL BE TIN COATED OR GREEN INSULATED WIRE.

4. CONTRACTOR TO VERIFY AND TEST GROUND TO A MAXIMUM OF 25-OHM RESISTANCE TO EARTH. PROVIDE SUPPLEMENT GROUNDING RODS AS REQUIRED TO ACHIEVE SPECIFIED OHMS READING. GROUNDING AND OTHER OPTIONAL TESTING WILL BE WITNESSED BY THE CITY OF LOS ANGELES REPRESENTATIVE.

5. NOTIFY ENGINEER IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO SITE SOIL CONDITIONS.

6. BARE GROUNDING CONDUCTOR SHALL BE HARD DRAWN TINNED COPPER SIZES AS NOTED ON PLAN.

7. ALL HORIZONTALLY RUN GROUNDING CONDUCTORS SHALL BE INSTALLED MINIMUM 18" BELOW GRADE IN TRENCH, U.N.O., AND BACK FILL SHALL BE COMPACTED AS REQUIRED BY ENGINEER.

8. ALL GROUND CONDUCTORS SHALL BE RUN AS STRAIGHT AND SHORT AS POSSIBLE, WITH A MINIMUM 12" BENDING RADIUS NOT LESS THAN 90 DEGREES.

9. ALL CONDUCTIVE MATERIALS WITHIN THE CONSTRUCTION SITE AND ALL SUPPORT STRUCTURES, CABLE CHANNEL WAYS OR WIRE GUIDES SHALL BE BONDED TO GROUND SYSTEM AT A POINT NEAREST THE MAIN GROUNDING BUS "MGB" WITH A MINIMUM NO. 6 TINNED COPPER CONDUCTOR AND (2) -HOLE COMPRESSION CONNECTOR AT BUS.

10. ACCEPTABLE CONNECTIONS FOR GROUNDING SYSTEM SHALL BE:

a. BURNDY, HY-GRADE U.L. LISTED CONNECTORS (MECHANICAL CONNECTIONS).

b. CADWELD, EXOTHERMIC WELDS (WELDED CONNECTIONS).

c. TWO -(2) HOLE TINNED COPPER COMPRESSION FITTINGS (BUS BAR CONNECTIONS).

12. ALL CRIMPED CONNECTIONS SHALL HAVE EMBOSSED MANUFACTURER'S DIEMARK VISIBLE AT THE CRIMP.

13. ALL GROUND CONNECTIONS SHALL BE BURNISHED AND SHALL HAVE A COATING OF "KOPR-SHIELD" OR "NO-OX-ID" APPLIED TO THE CONNECTION.

14. ALL CONNECTION HARDWARE AT EQUIPMENT SHALL BE TYPE 316 SS, OR DURIEM BRONZE. "KOPR-SHIELD" OR "NO-OX-ID" APPLIED TO THE CONNECTION.

15. THE GROUND RING SHALL BE INSTALLED 24" MINIMUM BEYOND ANY BUILDING DRIP LINE.

16. CONTRACTOR SHALL CONNECT ALL THE GROUND ELECTRODES WHETHER OR NOT THE PLANS TO MAKE A EQUIPOTENTIAL GROUND SYSTEM. CONTRACTOR IS TO PERFORM A WITNESSED 3-POINT FALL-OF-POTENTIAL GROUND RESISTANCE MEASUREMENT TEST AND RESULTS MUST NOT EXCEED A RESISTANCE READING OF 5 OHMS MAXIMUM. PROVIDE SUPPLEMENT GROUNDING OR XIT RODS AS REQUIRED TO ACHIEVE THE SPECIFIED OHMS READING. CONTRACTOR SHALL PROVIDE GROUNDING AND OTHER OPTIONAL TESTING AS DIRECTED AND TO BE WITNESSED BY OWNER'S REPRESENTATIVE.

17. MAINTAIN A MINIMUM OF 6 FT. SEPARATION BETWEEN GROUNDING RODS.

ELECTRICAL LEGEND

DISTRIBUTION & EQUIPMENT

SYMBOL	DESCRIPTION
	BRANCH CIRCUIT PANELBOARDS, SURFACE AND RECESS MOUNTED, SOLID= 120/280V, HATCHED= 277/480V, DASHED EQUIP.= FUTURE
	COPPERCLAD GROUND ROD
	COPPERCLAD GROUND ROD IN WELL
	DISCONNECT SWITCH, SIZE AS NOTED OR IF NOT SHOWN SIZE PER CONNECTED MOTOR SIZE AND MOTOR DISCONNECT SCHEDULE
	FUSED DISCONNECT SWITCH, SIZE AS NOTED. SIZE FUSE PER MANUFACTURER'S RECOMMENDATIONS
	ENCLOSED CIRCUIT BREAKER DISCONNECT SWITCH, TRIP SIZE AS NOTED.
	DISCONNECT W/ MAGNETIC MOTOR STARTER (CONTROLLER) OR CONTACTOR. SIZE PER LOAD SERVED. NEMA SIZE #1 MINIMUM UON.
	MAGNETIC MOTOR STARTER (CONTROLLER) OR CONTACTOR. SIZE PER LOAD SERVED. NEMA SIZE #1 MINIMUM UON.
	DIV. 16 CONNECTION TO EQUIPMENT PROVIDED BY OTHERS. SHADED = ON ALT. POWER SOURCE NOTED
	DIV. 16 CONNECTION TO EQUIPMENT WITH INTEGRAL DISCONNECT THAT IS PROVIDED BY OTHERS. SHADED = ON ALT. POWER SOURCE NOTED

POWER DEVICES

SYMBOL	DESCRIPTION
	SIMPLEX RECEPTACLE - WALL, CEILING, ON ALT.
	DUPLEX RECEPTACLE - WALL, CEILING, ON ALT.
	DOUBLE DUPLEX RECEPTACLE - WALL, CLG, ON ALT.
	SPECIAL PURPOSE RECEPTACLE -WALL, CEILING ON ALT. POWER; NEMA CONFIGURATION AS NOTED
	RECEPTACLE TYPE SHOWN -WALL -ABOVE COUNTER BACKSPLASH. SEE ARCHITECTURAL DRAWINGS.
	DUPLEX RECEPTACLE - WALL - WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER
	RECEPT. TYPE SHOWN W/ WEATHERPROOF COVER AND INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER
	RECEPT. TYPE SHOWN AT SPECIAL HEIGHT
	RECEPTACLE W/ ISOLATED GROUND AND TRANSIENT SURGE SUPPRESSED.
	DISTRIBUTION BOARD/PANELBOARD
	DATA OUTLET. CONDUIT TO CEILING

ABBREVIATIONS

(E)	EXISTING TO REMAIN	EW	ELECTRIC WATER HEATER	MLO	MAIN LUGS ONLY	SW	SWITCH
(F)	FUTURE	FBO	FURNISHED BY OTHERS	MTD	MOUNTED	SWBD	SWITCHBOARD
(R)	EXISTING TO BE REMOVED	FC	FOOT CANDLES	MTR	MOTOR	SWGR	SWITCHGEAR
(RE)	RELOCATED EXISTING	FDS	FUSED DISCONNECT SWITCH	MTS	MANUAL TRANSFER SWITCH		
(RL)	EXISTING TO BE RELOCATED	FF	FLUSH FLOOR MOUNTED	(N)	NEW INSTALLATION/EQUIPMENT	TB	TERMINAL BOARD
AB	ABOVE COUNTER BACKSPLASH	FLA	FULL LOAD AMPERES	-N-	NEUTRAL (GROUNDED CONDUCTOR)	TEL	TELEPHONE
AC	ALTERNATING CURRENT, AIR CONDITIONER	FLEX	FLEXIBLE	N	NEUTRAL BUS	TSP	TWISTED SHIELDED PAIR
A, AMP	AMPERES AMPERE (RATED)	FU	FUSE	NC	NORMALLY CLOSED	TYP	TYPICAL
AF	FUSE OR CB FRAME A	G	GROUND BUS	NEC	NATIONAL ELECTRICAL CODE, LATEST	UL	UNDERWRITERS LABORATORY
AFF	ABOVE FINISHED FLOOR	G.E.C.	GROUND EARTH CONDUCTOR	-,	NEGATIVE	UON	UNLESS OTHERWISE NOTED
AFG	ABOVE FINISHED GRADE	GEN	GENERATOR	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	UPS	UNINTERRUPTIBLE POWER SUPPLY
AFS	ABOVE FINISHED SURFACE	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	NL	NIGHT LIGHT (UNSWITCHED)	V	VOLTS
AIC	MINIMUM RMS SYMMETRIC AMPERE (EQUIPMENT RATING)	GND	GROUND	NO	NORMALLY OPEN	VA	VOLT-AMPERES
ARS	AVAILABLE RMS SYMMETRICAL	HOA	HAND-OFF/AUTO SWITCH	NRTL	NATIONALLY RECOGNIZED TESTING LABORATORY	W	WATT, WIRE
AS	AMPERE AMPERE (RATED) SWITCH	HP	HORSEPOWER	NTS	NOT TO SCALE	W/	WITH
AT	CIRCUIT BREAKER TRIP SETTING	HPF	HIGH POWER FACTOR	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED	W/O	WITHOUT
ATS	AUTOMATIC TRANSFER SWITCH	HZ	HERTZ (CYCLES PER SECOND)	OFIO	OWNER FURNISHED, OWNER INSTALLED	WCR	WITHSTAND CURRENT RATING
AUTO	AUTOMATIC	IER	INTEGRATED EQUIPMENT (SHORT CIRCUIT) RATING (RMS SYM. AMPS)			WP	WEATHERPROOF, SEE RECEPTACLE SYMBOL
AUX	AUXILIARY	IG	ISOLATED GROUND	P	POLE	WFM	TRANSFORMER
AWG	AMERICAN WIRE GAUGE	IMC	INTERMEDIATE METALLIC CONDUIT	PB	PUSHBUTTON, PULL BOX	XP	EXPLOSION PROOF
BATT	BATTERY	Isc	SHORT CIRCUIT CURRENT	PH, φ	PHASE	Z	ZONE, IMPEDANCE
BG	BELOW GRADE	K	KEY OPERATED, THOUSAND	PL, P/L	PROPERTY LINE		
BTWC	BARE TINNED STRANDED COPPER WIRE	KA	THOUSAND AMP	PLCS	PLACES		
BTSCW	BARE TINNED SOLID COPPER WIRE	KMIL	THOUSAND AMP INTERRUPTING CURRENT	PME	PAD MOUNTED EQUIPMENT		
C	CONDUIT (CIRCULAR RACEWAY)	KW	THOUSAND CIRCULAR MILS	PNL	PANEL		
CB	CIRCUIT BREAKER	KVA	KILOWATTS	POS	POSITIVE		
CKT	CIRCUIT	LAFD	LOS ANGELES FIRE DEPARTMENT	PRI	PRIMARY		
CLG	CEILING	LAC	LOS ANGELES ELECTRICAL CODE, LATEST	PVC	RIGID (SCH.40 U.N.O) POLYVINYL CHLORIDE CONDUIT		
CO	CONDUIT ONLY	LTG	LIGHTING	REQD	REQUIRED		
CU	COPPER	MAX	MAXIMUM	RLA	RATED LOAD AMPERE		
DISC	DISCONNECT	MBP	MAINTENANCE BYPASS PANEL	SLD	SINGLE LINE DIAGRAM		
DIA	DIAMETER	MCA	MINIMUM CIRCUIT AMPERES	S/N	SOLIDLY BONDED NEUTRAL, SOLID NEUTRAL		
DIV	DIVISION	MFR	MANUFACTURER	SPD	SURGE PROTECTIVE DEVICE		
DWP	DEPARTMENT OF WATER AND POWER	MIN	MINIMUM	SPDT	SINGLE POLE DOUBLE THROW		
EMERG	EMERGENCY	MISC	MISCELLANEOUS	SPST	SINGLE POLE SINGLE THROW		
EWC	ELECTRIC WATER COOLER			SUB	SUBSTATION		

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PLANS PREPARED BY:

1561 E. ORANGETHORPE AVE.
SUITE 240
FULLERTON, CA 92831
(714) 526-7500
www.cwecorp.com

PUBLIC WORKS
1315 VALLEY DRIVE
HERMOSA BEACH, CA 90254
(310) 318-0214

DESIGNED BY: MN

DRAWN BY: WB

CHECKED BY: WY DATE: 12/30/2024

REVIEWED BY:

Jonathan Pascual1/9/2025

JONATHAN PASCUAL, ASSISTANT ENGINEER DATE

RECOMMENDED BY:

1/9/2025

JOHN OSKOU, P.E. INTERIM CITY ENGINEER DATE

PARKING STRUCTURE
LOT C IMPROVEMENTS

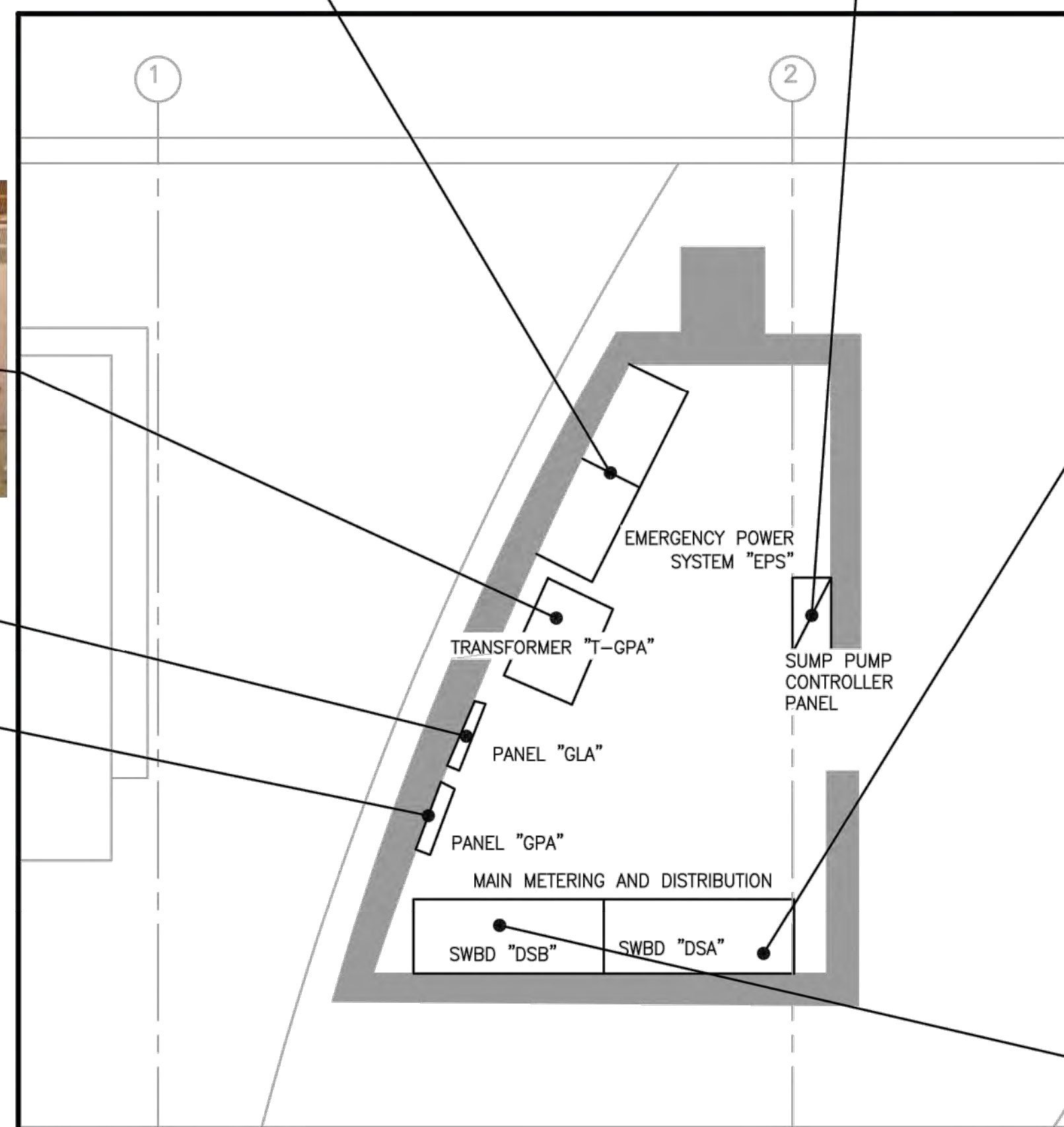
GENERAL NOTES
PARKING STRUCTURE REPAIRS

(C.I.P. No. 699)

FILE NUMBER
CIP 699

E-1
SHT. 11 OF 18

Z:\20380\06 Tasks\01 North Pier Parking Structure\20380 - E-1.dwg

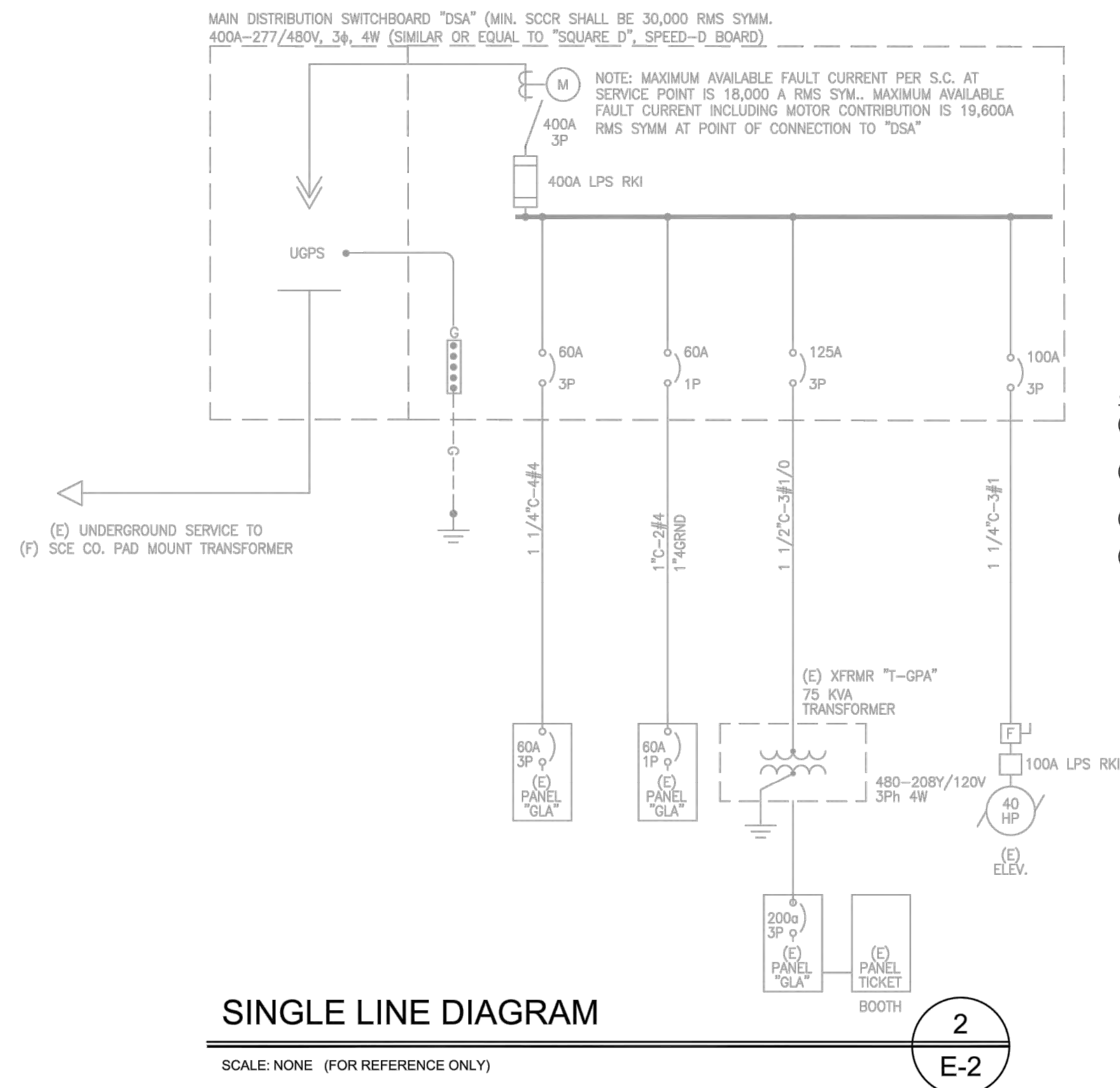


ELECTRICAL ROOM LAYOUT

SCALE: 1/32" = 1'

NOTES:

1. CLEAN AND REPAINT TO MATCH WITH ANTI-CORROSION PAINT. TEST ALL CIRCUIT BREAKERS AND REPLACE AS NECESSARY.
2. REMOVE THE DOORS OF THE PANELBOARDS IF NECESSARY FOR REMOVAL OF RUST.
3. AFTER REMOVING, USE SANDPAPER OR ABRASIVE DISC TO REMOVE RUST. USE HOT DIP GALVANIZE PROCESS BEFORE APPLICATION OF SECOND COAT PAINT.



SINGLE LINE DIAGRAM KEY NOTES:

- ① TEST ALL CIRCUIT BREAKERS AND REPLACE AS NECESSARY.
- ② INTERRUPTING THE RATING OF PANEL AND BREAKERS SHALL MATCH THE RATING OF THE MAIN BREAKER
- ③ REPLACE THE 277/480 3-PHASE METER PANEL ON THE OUTSIDE OF THE ELECTRICAL ROOM (SEE METER NUMBER 256000-168117).
- ④ REPLACE RUSTED CONDUITS THAT SERVE AND ARE CONNECTED TO THE 120/208 DRY-TYPE TRANSFORMER. SHUTDOWN MUST BE COORDINATED TO THE CITY PRIOR PROCEEDING. VERIFY IF CONDUITS BURIED IN CONCRETE ARE STILL IN GOOD CONDITION OR NEEDS REPLACING.



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DESIGNED BY:	MN
DRAWN BY:	WB
CHECKED BY: WY	DATE: 12/30/2024



PUBLIC WORKS
1315 VALLEY DRIVE
HERMOSA BEACH, CA 90254
(310) 318-0214

REVIEWED BY:

Jonathan Pascual 1/9/2025

JONATHAN PASCUAL, ASSISTANT ENGINEER DATE

RECOMMENDED BY:

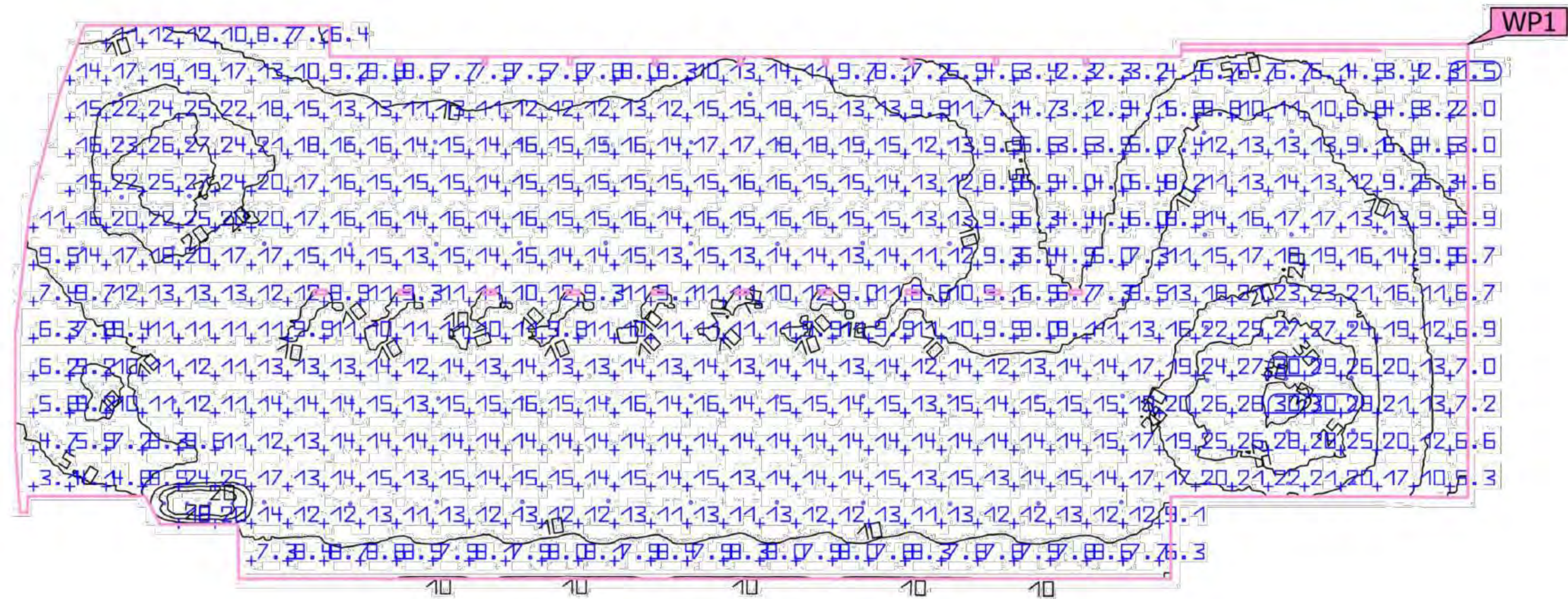
APPROVED BY:	
	1/9/2025
JOHN OSKOU, P.E. INTERIM CITY ENGINEER	DATE

	PARKING STRUCTURE LOT C IMPROVEMENTS
	SINGLE LINE CALCULATIONS PARKING STRUCTURE REPAIRS

(C.I.P. No. 699)

FILE NUMBER
CIP 699

E-2
SHT.12 OF 1

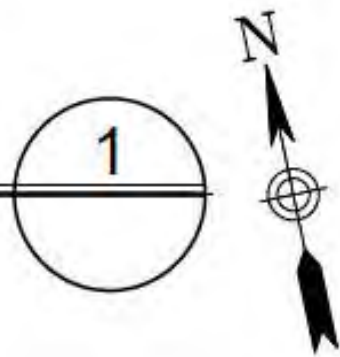


Specifications taken into account according to:
IESNA Lighting Handbook (10th Edition)
Utilization profile: Public car parks (indoor), In/out ramps (at night)

LUMINAIRE LIST								
Index	Manufacturer	Article Name	Item Number	Fitting	Luminous flux	Light Loss Factor	Connected Load	Quantity
1	CREE Lighting	Vehicle Garage Series, Surface Direct Mounting	VG B DM 5M 6L 40K UL WH	1	5,700 lm	0.8	54 W	68
2	Lithonia Lighting	8IN LDN CYL, 4000K, 5000LM, CLEAR, SEMI-SPECULAR REFLECTOR	LDN8CYL 40/50 L08AR LSS	1	5,129 lm	0.8	61.1 W	4
#	Name	Parameter	Min	Max	Average	Mean/Min	Max/Min	
1	GF Parking Area	Perpendicular Illuminance (Adaptive)	1.25 fc	38.3 fc	12.8 fc	10.2 fc	30.6 fc	

GROUND FLOOR PHOTOMETRIC PLAN

SCALE: NONE



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811

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△		

REGISTERED PROFESSIONAL ENGINEER
WILLIAM F. YOUNG
No. C 35715
Exp. 09/30/25
CIVIL
STATE OF CALIFORNIA

PLANS PREPARED BY:

CWE 1561 E. ORANGETHORPE AVE.
SUITE 240
FULLERTON, CA 92831
(714) 526-7500
www.cwecorp.com

DESIGNED BY: MN

DRAWN BY: WB

CHECKED BY: WY DATE: 12/30/2024

REVIEWED BY:

Jonathan Pascual 1/9/2025

JONATHAN PASCUAL, ASSISTANT ENGINEER DATE

RECOMMENDED BY:

APPROVED BY:

J. Oskoui 1/9/2025

JOHN OSKOUI, P.E. INTERIM CITY ENGINEER DATE

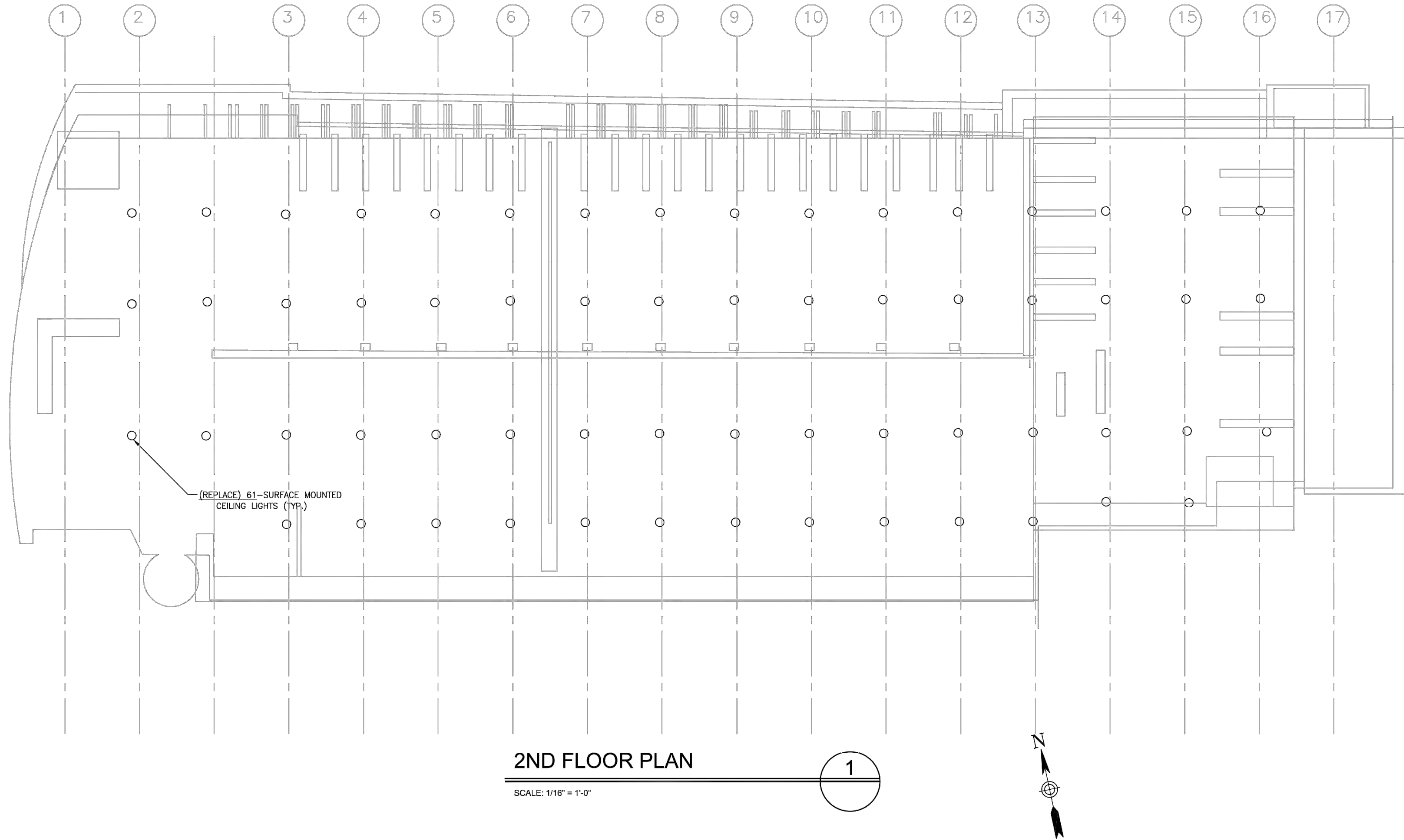
PARKING STRUCTURE
LOT C IMPROVEMENTS

GF PHOTOMETRIC PLAN
PARKING STRUCTURE REPAIRS

(C.I.P. No. 699)

FILE NUMBER
CIP 699

E-4
SHT. 14 OF 18



2ND FLOOR PLAN

SCALE: 1/16" = 1'-0"

VG Series
LED Vehicle Garage Luminaire

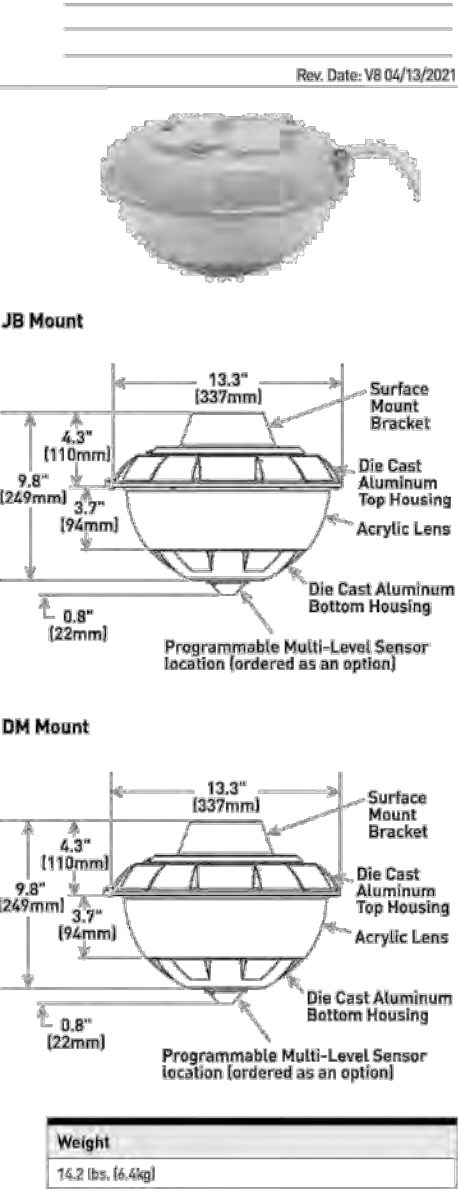
Product Description
Cree Lighting's VG Series parking garage luminaires are designed to deliver optimal, low glare illumination by intelligently combining an in-house designed optical system consisting of indirect view LEDs, a highly efficient internal reflector and a precisely designed optical lens. Architectural design, quick and easy installation and low total cost of ownership makes the VG Series ideal for both new and existing parking garages.
Applications: Parking structures

Performance Summary

Initial Delivered Lumens: 3,770-5,700 lumens
Input Power: 55 or 65 watts
Efficiency: Up to 114 LPM
Assembled in the U.S.A. of U.S. and imported parts
CRI: Minimum 70 CRI
CCT: 3000K, 4000K, 5700K
Limited Warranty: 10 years on luminaire/10 years on Cree-led Dielbacklight lens.

Accessories

Field-Installed Bird Shroud VG-SP	Perimeter Shroud VG-PSD	Hand-Held Remote VG-GSRHC - For successful implementation of the programmable multi-level optics, a minimum of one hand-held remote is required



Ordering Information
Example: VG-B-DM-DM-4L-40K-UL-BK

Product	Version	Mounting	Optic	Lumen Package	CCT	Voltage	Color Options	Options
VG	Work Design (typical)	DM Surface Mount JB J-Bar PB Pendant	DM Direct View SW Type V White	4L 3,770 Lumens BL 5,700 Lumens	30K 4000K 5700K	VL 100-277V 150-277V 24 24V 48 240V	BK Black BZ Bronze SV Silver WH White	PML Programmable Multi-Level - Return to DM, used only for direct



CREE LIGHTING

LOW BAY CEILING LIGHT DETAILS

2

SCALE: NONE

NOTE:

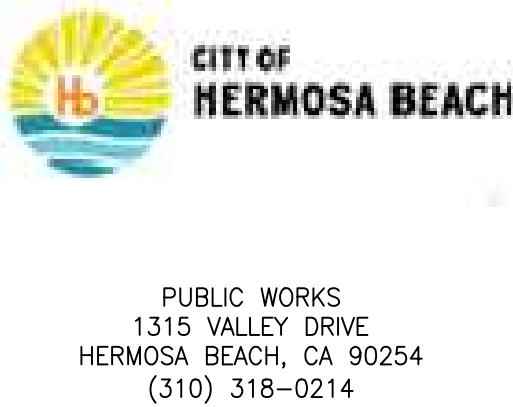
1. CONTRACTOR TO CONFIRM LIGHTING FIXTURE VOLTAGES BEFORE PURCHASING.



REVISIONS		
No.	DESCRIPTION	DATE
△		



PLANS PREPARED BY:	
 1561 E. ORANGETHORPE AVE. SUITE 240 FULLERTON, CA 92831 (714) 526-7500 www.cwecorp.com	
DESIGNED BY:	MN
DRAWN BY:	WB
CHECKED BY: WY	DATE: 12/30/2024

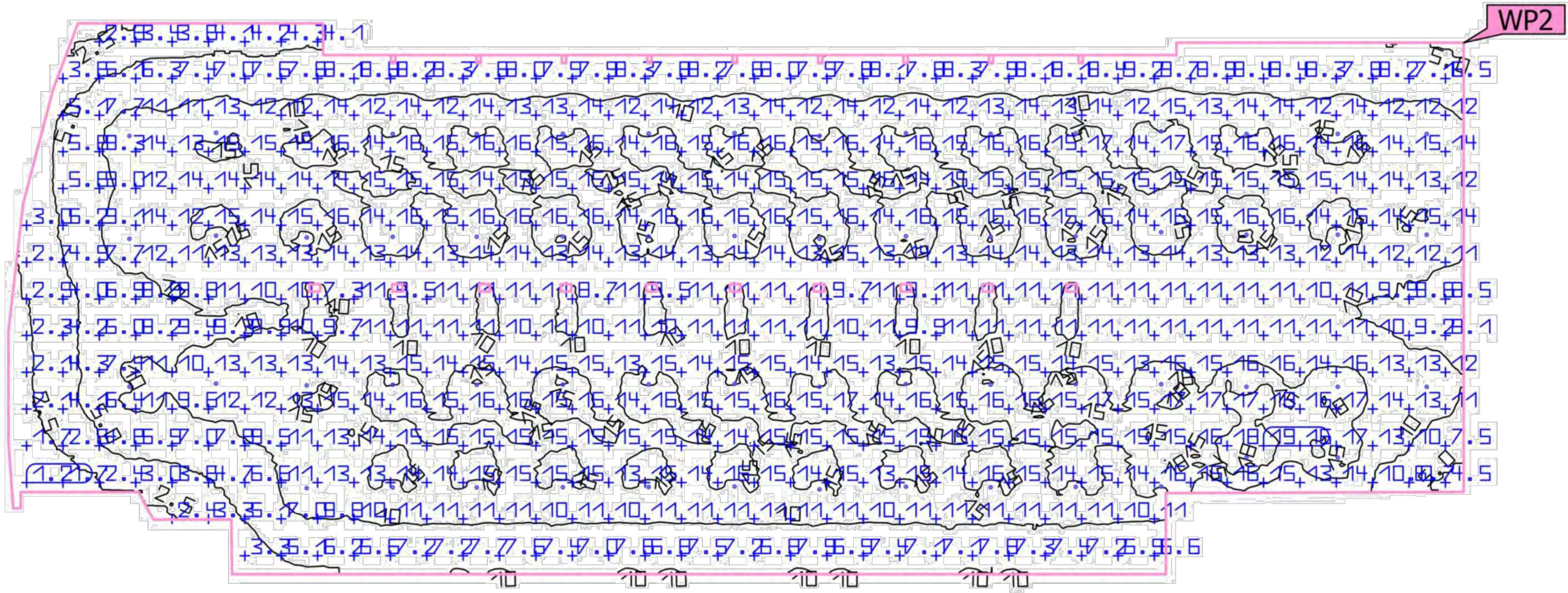


REVIEWED BY:	
Jonathan Pascual JONATHAN PASCUAL, ASSISTANT ENGINEER	
1/9/2025	DATE

RECOMMENDED BY:	
APPROVED BY: 	
1/9/2025	DATE
JOHN OSKOU, P.E. INTERIM CITY ENGINEER	
DATE	DATE

PARKING STRUCTURE
LOT C IMPROVEMENTS
SECOND FLOOR PLAN
PARKING STRUCTURE REPAIRS
(C.I.P. No. 699)

FILE NUMBER	CIP 699
E-5	SHT. 15 OF 18



Specifications taken into account according to:
IESNA Lighting Handbook (10th Edition)
Utilization profile: Public car parks (indoor), In/out ramps (at night)

LUMINAIRE LIST								
Index	Manufacturer	Article Name	Item Number	Fitting	Luminous flux	Light Loss Factor	Connected Load	Quantity
1	CREE LIGHTING	Vehicle Garage Series, Surface Direct Mounting	VG B DM 5M 6L 40K UL WH	1	5,700 lm	0.8	54 W	61

#	Name	Parameter	Min	Max	Average	Mean/Min	Max/Min
1	2F Parking Area	Perpendicular Illuminance (Adaptive)	0.055 fc	19.2 fc	11.8 fc	215 fc	349 fc



NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.

811

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No.	DESCRIPTION	DATE
△		

REGISTERED PROFESSIONAL ENGINEER
WILLIAM F. YOUNG
No. C 35715
Exp. 09/30/25
CIVIL
STATE OF CALIFORNIA

PLANS PREPARED BY:

CWE 1561 E. ORANGETHORPE AVE.
SUITE 240
FULLERTON, CA 92831
(714) 526-7500
www.cwecorp.com

DESIGNED BY: MN

DRAWN BY: WB

CHECKED BY: WY DATE: 12/30/2024

CITY OF HERMOSA BEACH

PUBLIC WORKS
1315 VALLEY DRIVE
HERMOSA BEACH, CA 90254
(310) 318-0214

REVIEWED BY:

Jonathan Pascual 1/9/2025
JONATHAN PASCUAL, ASSISTANT ENGINEER DATE

DATE

RECOMMENDED BY:

APPROVED BY:
J. Oskoui 1/9/2025
JOHN OSKOU, P.E. INTERIM CITY ENGINEER DATE

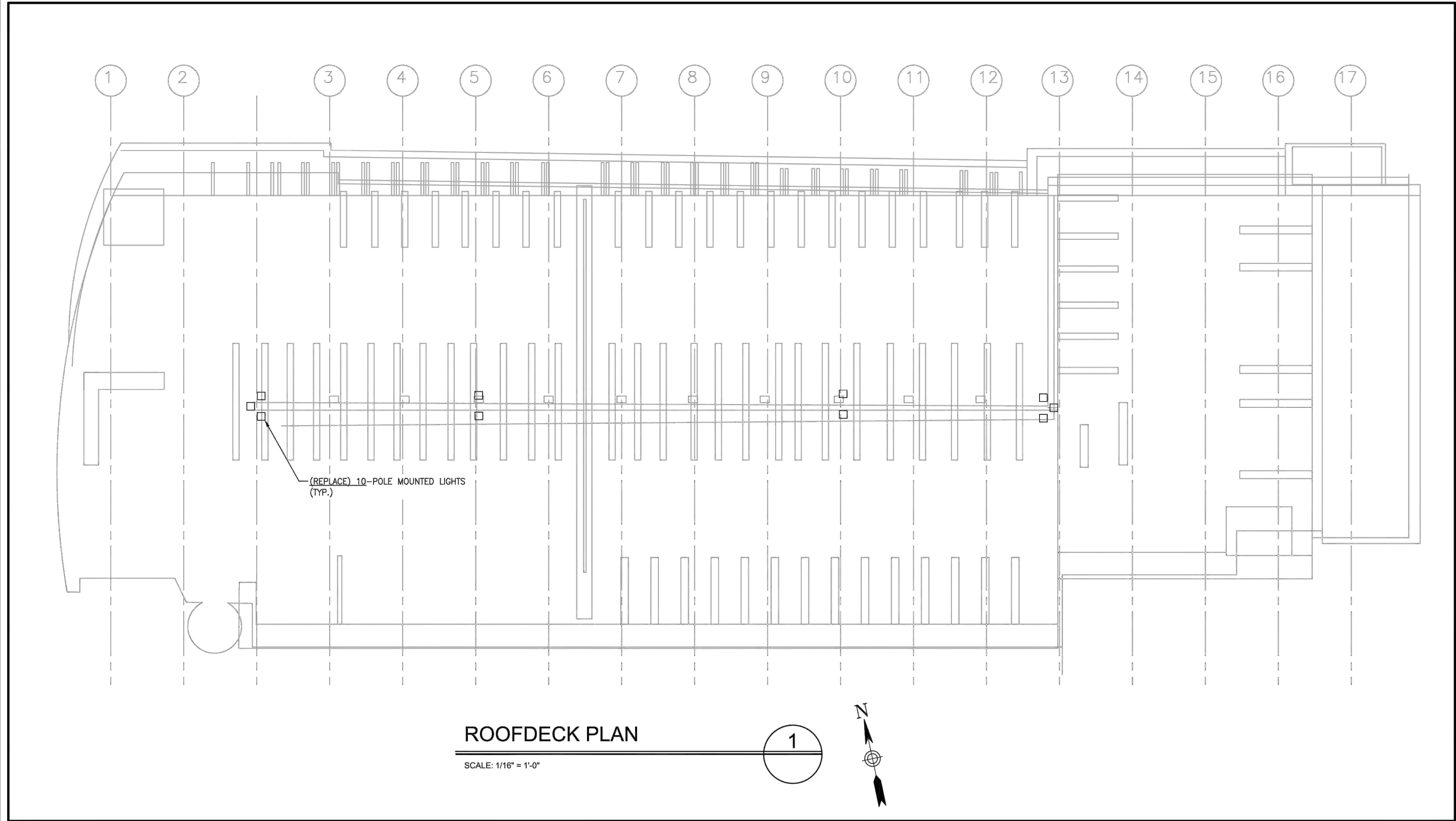
PARKING STRUCTURE
LOT C IMPROVEMENTS

SECOND FLOOR PHOTOMETRIC
PARKING STRUCTURE REPAIRS

(C.I.P. No. 699)

FILE NUMBER
CIP 699

E-6
SHT. 16 OF 18



ROOFDECK PLAN

SCALE: 1/16" = 1'-0"



RSX3 LED Area Luminaire



Rating Number	RSX3 LED P4 40K R4 MVOLT SPA
Series	DWHGXDX
Power	4000K CCT Type R4 Distribution

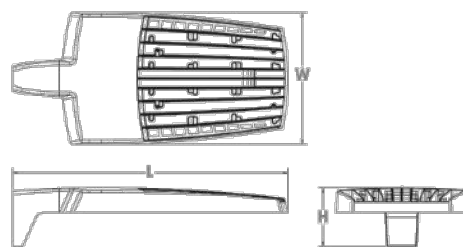
Introduction

The new RSX LED Area family delivers maximum value by providing significant energy savings, long life and outstanding photometric performance at an affordable price. The RSX3 delivers 25,000 to 41,000 lumens allowing it to replace 400W to 1000W HID luminaires.

The RSX features an integral universal mounting mechanism that allows the luminaire to be mounted on most existing drill hole patterns. This "no-drill" solution provides significant labor savings. An easy-access door on the bottom of mounting arm allows for wiring without opening the electrical compartment. A mast arm adaptor, adjustable integral slipfitter and other mounting configurations are available.

Specifications

EPA (ft²@0°):	0.70 ft² (0.07 m²)
Length:	33.8" (85.9 cm) (SPA mount)
Width:	16.1" (40.9 cm)
Height:	3.0" (7.6 cm) Main Body
Weight (max):	48.0 lbs (21.8 kg)



Ordering Information

EXAMPLE: RSX3 LED P4 40K R3 MVOLT SPA DDBXD

Series	Performance Package	LED Chipset/Lumens	Options	Voltage	Mounting
RSX3 LED	P1 P2 P3 P4	30K 3000K 40K 4000K 50K 5000K	R2 Type 2 Wide R3 Type 3 Wide R3S Type 3 Short R4 Type 4 Wide R4S Type 4 Short R5 Type 5 Wide R5S Type 5 Short AFR Alternative Front Row AFRR Alternative Front Row Right Rotated AFRLR Alternative Front Row Left Rotated	MVOLT (120V-277V) ¹ HVOLT (347V-480V) ¹ XVOLT (277V-480V) ¹ (use specific voltage for options as noted) 120 ¹ 277 ¹ 208 ¹ 347 ¹ 240 ¹ 480 ¹	SPA Square pole mounting (3.0" min. 50 pole for 1 at 90°, 3.5" min. 50 pole for 2, 3, 4 at 90°) RPA Round pole mounting (3.2" min. dia. R80 pole for 2, 3, 4 at 90°, 3 at 120°) MA Mast arm adaptor (R5, 2-3/8" OD horizontal sensor) IS Adjustable slipfitter (R5, 2-3/8" OD horizontal) WBA Wall bracket WRASC Wall bracket with surface conduit box AASP Adjustable tilt arm square pole mounting ⁴ AARSP Adjustable tilt arm round pole mounting ⁴ AARWB Adjustable tilt arm wall bracket ⁴ AARWSC Adjustable tilt arm wall bracket and surface conduit box ⁴

Options	Finish
Shipped Installed RS House-side shield ¹ PE Photocatalytic exterior finish ¹⁰ PEX Photocatalytic exterior finish, adjustable ¹⁰ PER7 Seven-wide twelve-lock receptacle only (for controls) ^{10/15/16} CE34 Conduit entry 3/4" NPT (Ry 2) SF Single face (120, 277, 347) ¹ DF Double face (240, 346, 480) ¹ SPD200V 200V Surge-wick (100V standard) FAD Field adjustable output ¹² DANG 0-10V dimming extend out back of housing for external control (internal output standard) ¹²	Shipped Installed *Standalone and Networked Sensors/Controls (factory default settings, see table page 9) NETAR2 rLight-Air generation 2.0/10/1 PIRHN Networked, Bi-Level motion/ambient sensor (for use with NETAR2) ^{13,14} BAA Bay America's Act Compliant *Note: PIRHN with rLight-Air can be used as a standalone or networked solution. Sensor coverage pattern is affected when luminaire is tilted. Shipped Separately (requires some field assembly) EGS External glare shield ¹ EGVF External glare full-view (EGS) around light opening ¹ IS Bird spikes ¹⁷
	DDBXD Dark Bronze DDBLD Black DDBAD Natural Aluminum DDBWH White DDBDB Textured Dark Bronze DDBLB Textured Black DDBAL Textured Natural Aluminum DDBWH Textured White

Electrical Load

Performance Package	System Watts (W)	120V	200V	240V	277V	347V	480V
P1	194W	1.61	0.82	0.60	0.69	0.56	0.40
P2	222W	1.83	1.06	0.92	0.80	0.63	0.45
P3	260W	2.22	1.27	1.10	0.99	0.76	0.55
P4	312W	2.60	1.49	1.29	1.11	0.89	0.65

Performance Data

Lumen Output
Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Beam Spread (deg)	Beam Diameter (ft)	System Watts (W)	120V				200V				240V				277V				347V				480V				
			lm	ft-cd	lm/ft²	lm/ft²	lm	ft-cd	lm/ft²	lm/ft²	lm	ft-cd	lm/ft²	lm/ft²	lm	ft-cd	lm/ft²	lm/ft²	lm	ft-cd	lm/ft²	lm/ft²	lm	ft-cd	lm/ft²	lm/ft²	
P4	312W	R2	36,945	3	0	3	118	40,991	3	0	3	130	46,591	3	0	3	130	46,591	3	0	3	130	46,591	3	0	3	130
		R3	36,915	3	0	5	118	40,848	3	0	5	130	46,448	3	0	5	130	46,448	3	0	5	130	46,448	3	0	5	130
		R3S	37,297	3	0	4	121	41,527	3	0	4	133	41,527	3	0	4	133	41,527	3	0	4	133	41,527	3	0	4	133
		R4	37,297	3	0	5	120	40,978	3	0	5	131	46,578	3	0	5	131	46,578	3	0	5	131	46,578	3	0	5	131
		R4S	37,985	3	0	4	115	39,537	3	0	4	127	39,537	3	0	4	127	39,537	3	0	4	127	39,537	3	0	4	127
		R5	37,907	5	0	4	121	41,527	5	0	5	133	41,527	5	0	5	133	41,527	5	0	5	133	41,527	5	0	5	133
		R5S	38,881	5	0	3	124	42,630	5	0	3	137	42,630	5	0	3	137	42,630	5	0	3	137	42,630	5	0	3	137
		AFR	36,996	3	0	3	118	40,571	3	0	3	130	46,537	3	0	3	130	46,537	3	0	3	130	46,537	3	0	3	130
		AFRR	37,247	5	0	4	119	40,933	5	0	4	131	46,493	5	0	4	131	46,493	5	0	4	131	46,493	5	0	4	131
		AFRLR	37,483	5	0	4	120	41,095	5	0	4	132	41,095	5	0	4	132	41,095	5	0	4	132	41,095	5	0	4	132

Note: XVOLT configurations only for all RSX3 LED P4 — Inputs watts is reduced by 9% to 285W. Delivered lumens reduced by 8% for all published values under P4. IES file for RSX3 LED P4 with XVOLT are available on Acuitybrands.com.

POLE MOUNTED LAMP DETAIL

SCALE: NONE

NOTE:

- CONTRACTOR TO CONFIRM LIGHTING FIXTURE VOLTAGES BEFORE PURCHASING.

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PLANS PREPARED BY:



1561 E. ORANGETHORPE AVE. SUITE 240 FULLERTON, CA 92831 (714) 526-7500 www.cwecorp.com

DESIGNED BY:	MN
DRAWN BY:	WB
CHECKED BY: WY	DATE: 12/30/2024



PUBLIC WORKS 1315 VALLEY DRIVE HERMOSA BEACH, CA 90254 (310) 318-0214

REVIEWED BY:

Jonathan Pascual 1/9/2025
JONATHAN PASCUAL, ASSISTANT ENGINEER DATE

RECOMMENDED BY:

APPROVED BY: J. Oskoui 1/9/2025
JOHN OSKOU, P.E. INTERIM CITY ENGINEER DATE

PARKING STRUCTURE LOT C IMPROVEMENTS

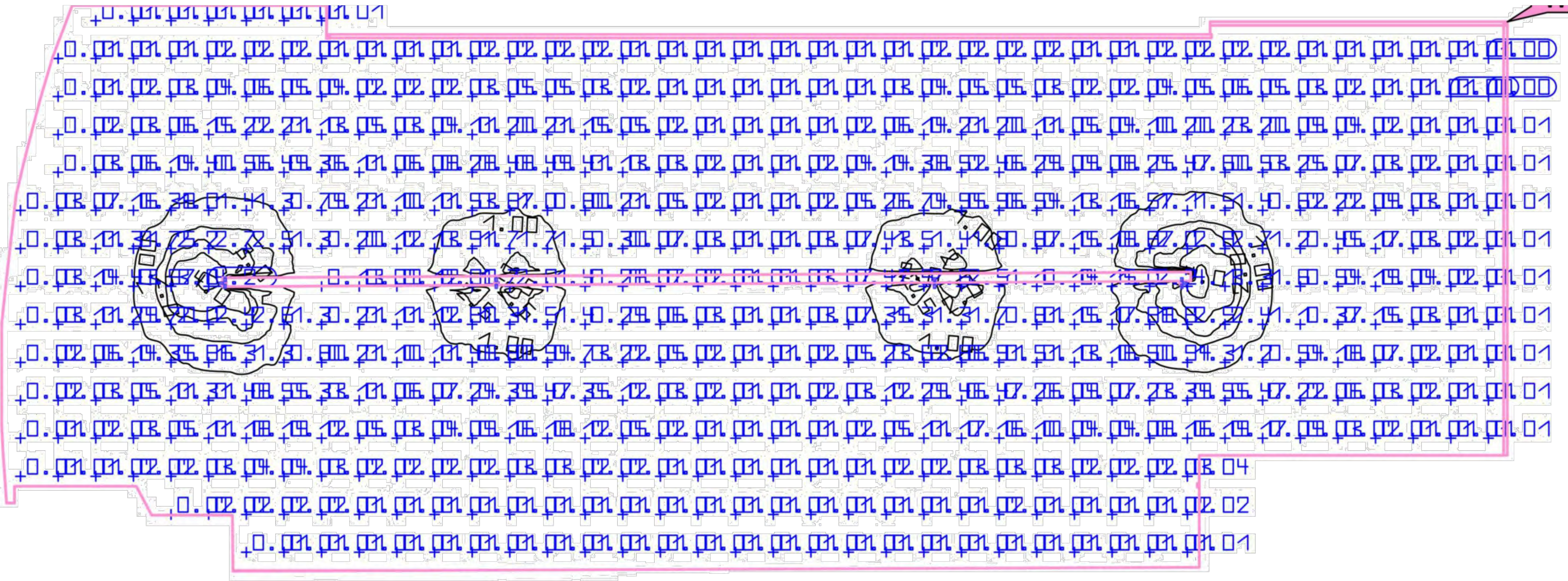
ROOF PLAN PARKING STRUCTURE REPAIRS

(C.I.P. No. 699)

FILE NUMBER CIP 699

E-7

SHT. 17 OF 18



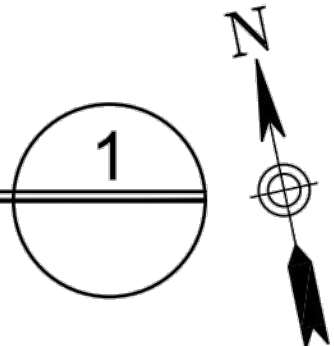
Specifications taken into account according to:
IESNA Lighting Handbook (10th Edition)
Utilization profile: Public car parks (indoor), In/out ramps (at night)

LUMINAIRE LIST								
Index	Manufacturer	Article Name	Item Number	Fitting	Luminous flux	Light Loss Factor	Connected Load	Quantity
1	Lithonia Lighting	RSX Area Fixture Size 3 P4 Lumen Package 4000K CCT Type R4 Distribution	RSX3 LED P4 40K R4	1	40,976 lm	0.8	311.9 W	10

#	Name	Parameter	Min	Max	Average	Mean/Min	Max/Min
1	Roofdeck Parking	Perpendicular Illuminance (Adaptive)	0.00 fc	4.49 fc			

ROOFDECK PHOTOMETRIC PLAN

SCALE: NONE



NO WORK SHALL BE DONE ON THIS SITE
UNTIL BELOW AGENCY IS NOTIFIED OF
INTENTION TO GRADE OR EXCAVATE.

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PLANS PREPARED BY:

 1561 E. ORANGETHORPE AVE.
SUITE 240
FULLERTON, CA 92831
(714) 526-7500
www.cwecorp.com

DESIGNED BY: MN

DRAWN BY: WB

CHECKED BY: WY DATE: 12/30/2024

 CITY OF
HERMOSA BEACH

PUBLIC WORKS
1315 VALLEY DRIVE
HERMOSA BEACH, CA 90254
(310) 318-0214

REVIEWED BY:

Jonathan Pascual 1/9/2025
JONATHAN PASCUAL, ASSISTANT ENGINEER DATE

RECOMMENDED BY:

APPROVED BY:  1/9/2025
JOHN OSKOU, P.E. INTERIM CITY ENGINEER DATE

PARKING STRUCTURE
LOT C IMPROVEMENTS

THIRD FLOOR PHOTOMETRIC
PARKING STRUCTURE REPAIRS

(C.I.P. No. 699)

FILE NUMBER
CIP 699

E-8
SHT. 18 OF 18



**CITY OF HERMOSA BEACH CONTRACT
DOCUMENTS AND SPECIFICATIONS FOR**

**CIP NO. 699
PARKING STRUCTURE LOT “C” IMPROVEMENTS**

January 2025

City of Hermosa Beach

NOTICE INVITING BIDS

Notice is hereby given that the City of Hermosa Beach will receive electronic bids until **11:00 AM on February 12, 2025**; at which time the electronic bids will be publicly opened at the City Council Chambers at 1315 Valley Drive, Hermosa Beach, CA 90254 and posted on Planet Bids for **CIP No. 699 PARKING STRUCTURE LOT “C” IMPROVEMENTS**

There will be a pre-bid meeting at **11AM on January 30, 2025; at 1301 Hermosa Avenue, Hermosa Beach, CA 90254**. The City will respond to questions from prospective Bidders at that time. Each Bidder is strongly encouraged to attend the meeting. Regardless of attendance, each prospective Bidder shall familiarize itself with the plans and work site(s) to satisfy itself that it has the abilities and resources to complete the work.

The project includes, but is not limited to, concrete repair/rehabilitation of the City of Hermosa Beach North Pier Parking Structure. The project includes repairs for concrete work, waterproofing enhancement, installing new guardrails, new barrier cables, conditioning of the air in the electrical room, maintenance/repairs, new sump pumps, new level transducer, power washing of the concrete surfaces, restriping, and aesthetic repairs of the parking structure and other related work to complete the work per project's plans and specifications.

The engineer's cost estimate for the project is \$1,800,000 License requirement is a valid **State of California Contractors License Class “A ” California Contractor's License.**

The overall duration of the project is **thirty-five (35) working days**. All bids must be submitted electronically on Planet Bids Portal, accessible through the City's webpage at **<https://www.hermosabeach.gov/our-government/city-clerk/bids-and-proposals>** where you must first register as a vendor through our Planet Bids Portal. Contract Documents, plans, and specifications will be available for review on Planet Bids. All relevant materials shall be obtained from the link above.

Each proposal must be accompanied by a cash deposit, a certified or cashier's check, or a Bidder's bond, made payable to the City of Hermosa Beach, in an amount not less than 10 percent of the total bid submitted.

The successful Bidder will be required to furnish a faithful performance bond in the amount of 100 percent of the Contract price, a payment bond in the amount of 100 percent of the Contract price, and a warranty bond all in the attached form satisfactory to the City Attorney. The successful Bidder will also be required to pay the State of California prevailing wage scale as determined by the Department of Industrial Relations, available at <https://www.dir.ca.gov/Public-Works/PublicWorks.html>

The Contractor must be registered with the Department of Industrial Relations at the time of bid. Contractor's registration information is available at: <https://www.dir.ca.gov/Public-Works/Contractor-Registration.html>

The City reserves the right to reject any or all bids and to waive any informality or irregularity in any bid received and to be the sole judge of the merits of the respective bids received. The award, if made, will be made to the lowest responsive and responsible

Bidder.

Please submit any questions related to this bid on Planet Bids portal no later than **12:00 P.M. on February 4, 2025.**

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City of Hermosa Beach

CIP NO. 699

NORTH PIER PARKING STRUCTURE REPAIRS

I. PROJECT DESCRIPTION AND UNDERSTANDING

This project is scheduled to have a time frame of thirty-five (35) working days to be completed Monday through Friday from 8AM to 5PM. Work for this project will include but is not limited to concrete work, waterproofing enhancement, installing new guardrails, new barrier cables, conditioning of the air in the electrical room, maintenance/repairs, new sump pumps, new level transducer, aesthetic repairs, and other related work to complete the work per project's plans and specifications. The Engineer's Estimate is \$1,800,000.

II. NOTICE TO BIDDERS

Prospective Bidder: To be considered as a responsive Bidder you must register on Planet Bids portal through the city's website at <https://www.hermosabeach.gov/our-government/city-clerk/bids-and-proposals>.

Pre-bid Meeting: There will be a pre-bid meeting at **11AM on January 30, 2025; at 1301 Hermosa Avenue, Hermosa Beach, CA 90254**. The City will respond to questions from prospective Bidders at that time. Each Bidder is strongly encouraged to attend the meeting. Regardless of attendance, each prospective Bidder shall familiarize itself with the plans and work site(s) to satisfy itself that it has the abilities and resources to complete the work.

Bid Documents: Bid Documents, including but not limited to specifications and proposal forms, will be available for download on Planet Bids Portal, accessible through the webpage at: <https://pbsystem.planetbids.com/portal/51313/bo/bo-search>.

To the extent required by Section 20103.7 of the Public Contract Code, upon request from a Contractor plan room service, the City shall provide an electronic copy of the Contract Documents at no charge to the Contractor plan room.

It is the responsibility of each prospective Bidder to download and print all bid documents for review and to verify the completeness of Bid Documents before submitting a bid. The City does not assume any liability or responsibility based on any defective or incomplete copying, excerpting, scanning, faxing, downloading, or printing of the Bid Documents.

Questions: All questions regarding this bid shall be submitted through Planet Bids no later than **Tuesday, February 4, 2025; at 12PM**. Proposers shall not contact City personnel or Elected Officials with any questions or clarifications concerning this Invitation for Bids other than through Planet Bids. Any City response for this Bid that is not posted through Planet Bids is unauthorized and will be considered invalid.

Submittal of Bids: Electronic bids shall be submitted through Planet Bids until **Wednesday, February 12, 2025; at 11AM** at which time they will be publicly opened and read in the City Council Chambers at 1315 Valley Drive, Hermosa Beach, CA. All bids shall be valid for a period of 90 calendar days after the bid opening date.

Bidder's Guarantee: Each bid must be accompanied by cash or a certified check or a cashier's check or Bidder's bond made payable to the City of Hermosa Beach for an amount equal to at least ten percent (10%) of the bid price. In accordance with Public Contract Code Section 20170, the Bidder's Bond shall be issued by a surety company admitted to do business in the State of California. Further, in accordance with Public Contract Code Section 20172, such guarantee shall be forfeited should the Bidder to whom the Contract is awarded fail to enter into the Contract within the specified time.

Payment, Performance Bonds: The successful Bidder will be required to furnish a Faithful Performance Bond and a Labor and Material Payment Bond, each in an amount equal to one hundred percent (100%) of the Contract Price. Each bond shall be in the forms set forth herein and shall be secured from a surety company that meets all State of California bonding

requirements, as defined in California Code of Civil Procedure Section 995.120, and that is a California admitted surety insurer.

Substitution of Securities: Pursuant to Section 22300 of the Public Contract Code of the State of California, the successful Bidder may substitute certain securities for funds withheld by the City to ensure its performance under the Contract.

Contractor License: In accordance with provisions of Section 3300 of the California Public Contract Code, the City of Hermosa Beach has determined that the **Contractor shall possess a valid “A” California Contractor’s License.** Failure to possess such licenses may render the bid as non-responsive and bar the award of the Contract to that non-responsive Bidder.

Prevailing Wages: Pursuant to Labor Code Section 1773, the Contractor shall pay the prevailing rate of per diem wages and the prevailing wage rate for holiday and overtime work applicable in Los Angeles County from the Director of the Department of Industrial Relations for each craft, classification, or type of worker needed to execute this Contract. A copy of these prevailing wage rates may be obtained by visiting: <https://www.dir.ca.gov/Public-Works/Prevailing-Wage.html>

In addition, a copy of the prevailing rate of per diem wages will be made available at the City’s Public Works Department upon request. The successful Bidder shall post a copy of the prevailing wage rates at each job site. It shall be mandatory for the Bidder to whom the Contract is awarded, and for any subcontractors, to comply with all Labor Code provisions, which include but are not limited to the payment of not less than the said specified prevailing wage rates to all workers employed by them in the execution of the Contract, employment of apprentices, hours of labor, and debarment of Contractors and subcontractors.

Contractor’s Registration with the Department of Industrial Relations (DIR): The Bidder’s attention is directed to Labor Code Section 1725.5, which provides that a Contractor or subcontractor shall not be qualified to bid on, be listed in a Bid proposal, subject to the requirements of Public Contract Code Section 4104, or engage in the performance of any Contract that is subject to Labor Code Section 1720 et seq., unless currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5. No Bid will be accepted, nor any Contract entered into without proof of the Contractor’s and subcontractors’ current registration with the DIR to perform public work. If awarded a Contract, the Bidder and its subcontractors, of any tier, shall maintain active registration with the DIR for the duration of the Project.

Compliance Monitoring and Enforcement: Contractor’s performance of the Work described in the Notice Inviting Bids is subject to compliance monitoring and enforcement by the California Department of Industrial Relations. In bidding on this Project, it shall be the Bidder’s sole responsibility to evaluate and include the cost of complying with all labor compliance requirements under this Contract and applicable law in its Bid.

Award of Contract: The City shall award the Contract for the Project to the lowest responsive, responsible Bidder as determined by the City from the total base bid. City reserves the right to reject any or all bids or to waive any irregularities or informalities in any bids or in the bidding process.

III. INSTRUCTION TO BIDDERS

Form of Proposal: The proposal shall be fully executed and submitted on the forms provided by the City. Proposal forms can be obtained from Planet Bids.

Signatures: All places where signatures are required must be fully executed.

Proposal: Documents which shall be signed and returned to the City with the Bid Proposal are:

- A. Proposal
- B. Bid Schedule
- C. Bid Bond
- D. Bidder's Assurance
- E. Bidder's Declaration
- F. Certificate of Non-Discrimination by Contractors
- G. Certification of Principal
- H. Declaration of Eligibility to Contract
- I. Non-Collusion Declaration
- J. References for Work
- K. SubContractor List
- L. Iran Contracting Act Certification
- M. Public Works Contractor Registration Certification
- N. Fleet Compliance Certification
- O. Addenda (if applicable)

Contract: Documents which shall be signed and returned to the City by the successful Bidder within 10 days of notification of intent to award Contract:

- A. Contract Agreement
- B. Agreement of Indemnification and Hold Harmless and Waiver of Subrogation and Contribution
- C. Equals
- D. Faithful Performance Bond
- E. Payment Bond (Labor and Materials)
- F. Guarantee to the City of Hermosa Beach
- G. General Comprehensive Liability Additional Insured Endorsement
- H. Automobile Liability Additional Insured Endorsement
- I. Instructions for Completing, Executing, and Submitting Evidence of Insurance to the Owner
- J. Worker's Compensation Insurance Certificate
- K. Supplemental Information to be Completed by Principal
- L. W-9 Form
- M. Copy of City Business License

Delivery of Proposal: Each Bid prepared by Bidder shall be completed in itself and shall be submitted electronically through Planet Bids.

Prevailing Wage: In accordance with the provisions of Section 1770 et seq., of the Labor Code, the Director of the Department of Industrial Relations of the State of California has ascertained the general prevailing rate of wages which is the minimum amount which shall be paid to all workers employed to perform the work. A copy of the determination is on file in the office of the City Clerk and is hereby incorporated herein and made a part hereof as though fully set forth herein.

A copy of the determination will be made available to any interested person upon request and shall be posted at the job site.

Overtime: As per Labor Code Section 1810 et seq., eight (8) hours is the legal working day. The Contractor shall pay overtime for each worker who works in excess of the legal working day.

Payment: Refer to the Contract Agreement for payment information. Contractor shall submit progress payment requests on City approved form.

Required Bonds: Prior to the execution of the Contract, the successful Bidder shall file with the City surety bonds in the amounts and for the purposes noted below. The surety insurer shall be a California admitted surety insurer, as defined in Code of Civil Procedure section 995.120. Contractor shall pay all premiums and costs thereof and incidental thereto.

Per Civil Code section 3247, a Payment Bond is required if the Contract is for more than \$25,000.

The successful Bidder shall give three (3) surety bonds with good and sufficient sureties:

"Payment Bond – Labor and Materials" shall be so conditioned as to insure to the benefit of persons furnishing materials for or performing labor upon the work. Bond to be in the sum of not less than 100% of the Contract price to assure the claims of materialmen supplying materials to Contractor, and for payment to laborers and subcontractors employed on the project.

"Faithful Performance Bond" in the sum of not less than 100% of the Contract price to assure the faithful performance of the Contract; shall be conditioned as to assure the faithful performance by the Contractor of all work under said Contract, in a manner that is satisfactory and acceptable to the City; that all materials and workmanship supplied by him will be free from original or developed defects; and that should original or developed defects or failures appear, the Contractor shall, at his own expense, make good such defects and failures and make all replacements and adjustments required, within a reasonable time after being notified by the City to do so, and to the satisfaction of the City.

Rejection of Proposals: The City reserves the right to reject any and all proposals and to waive any minor or technical discrepancies or irregularities. Proposals may be rejected if they show any alteration of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind.

Agents: When proposals are signed by an agent, other than the officer or officers of a corporation authorized to sign Contracts on its behalf or a member of a partnership, a "Power of Attorney" must be on file with the City prior to opening bids or shall be submitted with the proposal; otherwise, the proposal will be rejected as irregular and unauthorized.

Withdrawal of Proposals: Any bid may be withdrawn at any time prior to the time fixed in the public notice for the opening of bids only by written request for the withdrawal of the bid filed with the City Engineer. The request shall be executed by the Bidder or their duly authorized representative. The withdrawal of a bid does not prejudice the right of the Bidder to file a new bid. Bids are opened exactly at the time fixed in the public notice for opening bids. A bid will not be received after that time, nor may any bid be withdrawn after that time. No Bidder may withdraw his bid within ninety (90) days after the actual date of the opening thereof.

Insurance: Without limiting Contractor's indemnification, Contractor shall maintain in force at all times during the performance of this agreement the insurance provisions set out in the Contract Agreement.

City Business License and Permits: The successful Bidder shall obtain a valid City of Hermosa Beach Business License prior to commencing work under this Contract.

The successful Bidder will be required to obtain City Right of Way Permit to work in public right-of-way, issued at no fee for the project.

Increased or Decreased Quantities: The City reserves the right to increase, or decrease, or to entirely eliminate items or portions of items from work if found desirable or expedient.

Approximate Estimate: The quantities in the Bid Schedule are approximate only, being given as a basis for the comparison of bids. The City does not, expressly or by implication, agree that the actual amount of work will correspond therewith. The Contractor shall verify in the field the accuracy of the estimated quantities.

Examination of Plans, Specifications, Contract, and Site of Work: The Bidder shall examine carefully the site of the work contemplated, the Plans and Specifications, and the proposal and Contract forms therefor. The submission of a bid shall be conclusive evidence that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality and scope of work to be performed, the quantities of materials to be furnished, and as to the requirements of the proposal, Plans, Specifications, and the Contract.

Where the City may have made investigations of subsurface conditions in areas where work is to be performed under the Contract, such investigations are made only for the purpose of study and design. Where such investigations have been made, Bidders or Contractors may, upon written request, inspect the records of the City as to such investigations subject to and upon the conditions hereinafter set forth. Such inspection of records may be made at the office of the City Engineer.

The records of such investigations are not a part of the Contract and are shown solely for the convenience of the Bidder or Contractor. It is expressly understood and agreed that the City assumes no responsibility whatsoever in respect to the sufficiency or accuracy of the investigations thus made, the records thereof, or of the interpretations set forth therein or made by the City in its use thereof and there is no warranty or guaranty, either expressed or implied, that the conditions indicated by such investigations or records thereof are representative of those existing throughout such areas, or any part thereof, or that unlooked for developments may not occur, or that materials other than, or in proportions different than these indicated, may not be encountered.

Bidders shall satisfy themselves by personal examination of the locations of the proposed work, and by such other means as they may choose as to actual conditions and requirements and as to the accuracy of the quantities stated in the Proposal forms. Information derived from the maps, plans, specifications, profiles, or drawings, or from the Engineer or his assistants (or the Architects or their assistants), shall not relieve the Bidder of this responsibility, and the interpretation of the data disclosed by borings or other preliminary investigations is not guaranteed nor is any liability assumed by the City.

If a prospective Bidder is in doubt as to the true meaning or intent of any part of the Contract Documents including the Specifications, or discovers discrepancies in, or omissions from, the Specifications or Drawings, they may submit to the Engineer a written request for an interpretation or a correction thereof via Planet Bids. Interpretations or corrections of the Contract Documents including the Specifications and Drawings, shall be made only by addendum duly issued by the Engineer, and a copy of such addendum will be uploaded on Planet Bids and such addendum shall be considered a part of and incorporated in the Contract Documents.

Relief of Bidders: If the Bidder claims a mistake was made in their bid, the Bidder shall give the City written notice within five (5) days after the opening of the bids of the alleged mistake, specifying in the notice in detail how the mistake occurred.

Disqualification of Bidders: More than one proposal from an individual, firm, partnership, corporation, or combination thereof under the same or different names will not be considered. Reasonable grounds for believing that any individual, firm, partnership, corporation, or combination thereof is interested in more than one proposal for the work contemplated may cause the rejection of all proposals in which such individual, firm, partnership, corporation, or combination thereof is interested. If there is reason for believing that collusion exists among the Bidders, any or all proposals may be rejected. Proposals in which the prices obviously are unbalanced due to mathematical errors may be rejected.

Award of Contract: The award of the Contract, if it be awarded, will be to the lowest responsible Bidder whose proposal complies with all of the requirements prescribed. Such award, if made, will normally be made within in ninety (90) calendar days of the opening of the proposals.

If the lowest responsible Bidder refuses or fails to execute the Contract, the City may award the Contract to the second lowest responsible Bidder. If the second lowest responsible Bidder refuses or fails to execute the Contract, the City may award the Contract to the third lowest responsible Bidder.

Execution of Contract: The Contract shall be signed by the successful Bidder and returned, together with the Contract bonds, insurance endorsements and certificates, and all other required documents within ten (10) business days after the Bidder has received notice of intent to award.

Failure to Execute Contract: Failure of the lowest responsible Bidder, the second lowest responsible Bidder, or the third lowest responsible Bidder to execute the Contract and file acceptable bonds as provided herein within ten (10) business days after such Bidder has received notice that the Contract has been awarded to them shall be just cause for the

forfeiture of the proposal guaranty. The successful Bidder may file with the City Engineer a written notice, signed by the Bidder, or his authorized representative, specifying that the Bidder will refuse to execute the Contract if presented to him. The filing of such notice shall have the same force and effect as the failure of the Bidder to execute the Contract and furnish acceptable bonds within the time herein above prescribed.

Return of Proposal Guaranties: Within ten (10) business days after the award of the Contract to the lowest responsible Bidder, the City will return the proposal guaranties, other than Bidder's bonds, accompanying such of the proposals as are not to be further considered in making the award. Retained proposal guaranties will be held until the Contract has been finally executed, after which all proposal guaranties, except Bidder's bonds and any guaranties which have been forfeited, will be returned to the respective Bidders whose proposals they accompany.

Qualifications of Bidders: Each Bidder shall be skilled and regularly engaged in the general class or type of work called for under the Contract. A statement setting forth their experience shall be submitted by each Bidder on the References of Work form provided herein.

Each Bidder shall possess valid active Contractor's License issued by the Contractor's State License Board at the time their bid is submitted. The class of license shall be applicable to the work specified in the Contract. Each Bidder shall also have no less than five (5) years' experience in the magnitude and the character of the work bid.

Pursuant to section 1103 of the Public Contract Code, City staff has determined that the following non-exhaustive experience is reasonably necessary to satisfactorily perform the public works Contract:

The Contractor shall have a minimum of five (5) projects of similar type of construction and magnitude with other public agencies within the past five (5) years.

The Contractor shall have been in the business under the same name and California Contractor's License for a minimum of five (5) continuous years prior to the bid opening date for this project. The license used to satisfy this requirement shall be of the same type as that required by the Contract.

The Contractor shall perform above 50% of the Contract with its own forces.

Bidders must be thoroughly competent and capable of satisfactorily performing the work covered by the proposal. They shall have had project experience similar to the project scope of work. When requested, they shall furnish such statements relative to previous experience on similar work, the plan or procedure proposed, and the organization, machinery, plant, and other equipment available for the contemplated work, and the financial condition and resources of the Bidder, as may be deemed necessary by the City Engineer in determining such competence and capability.

The City of Hermosa Beach will not enter into a Contract with any Bidder who is not properly licensed to do the work of this Contract under the provisions of Section 7000 et seq., of the Business and Professions Code, unless particularly exempted by the terms thereof. A bid by a Contractor who is not properly licensed shall be considered non-responsive and will be rejected. The Contractor must hold all sub-Contractors to these same Contract requirements.

The sheet for Bidder's signature in the Bid Proposal shall clearly show the Contractor's name, address, telephone number, State of California Contractor's license number, classification, and date of expiration.

Completeness of Bids: Bids are required for the entire work. The amount of the bid for comparison purposes will be the total bid price of all items. The Bidder shall set forth the bid price for each item in the respective spaces provided for these purposes.

In case of discrepancy between the unit price and the total set forth for the item, the unit price shall prevail, provided, however, if the amount set forth as a unit price is ambiguous, unintelligible or uncertain for any cause, or is omitted, or in the case where the unit price is the same amount as the entry in the "Total" column, then the amount set forth in the "Total" column for the item shall prevail in accordance with the following:

- a) As to lump sum items, the amount set forth in the "Total" column shall be the unit price.
- b) As to unit price items, the amount set forth in the "Total" column shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price.

The City may waive technical or non-substantive inconsistencies in any bid.

Non-discrimination: Pursuant to the provisions of 31 CFR, Part 51, Section 51.55, the Revenue Sharing Act, notice is hereby given of the following policy, effective immediately:

The City of Hermosa Beach does not discriminate on the basis of handicapped status in admission or access to, or treatment of, or employment in, its programs and activities. The office that will coordinate compliance is that of Human Resources.

Workers' Compensation Insurance: Before execution of this Agreement by the City, the Contractor shall file with the City's Risk Manager the following signed certification:

"I am aware of, and will comply with, Section 3700 of the Labor Code, requiring every employer to be insured against liability for Workers' Compensation or to undertake self-insurance before commencing any of the work."

The Contractor shall also comply with Section 3700 of the Labor Code by securing, paying for and maintaining in full force and effect for the duration of this Agreement, complete Workers' Compensation Insurance, and shall furnish a Certificate of Insurance to the City's Risk Manager reflecting such insurance before this Agreement becomes effective. Contractor shall fully indemnify and hold harmless City, its attorneys, agents, officers, and employees for any claims in law or equity occasioned by the failure of Contractor to comply with the terms of this section. Every Workers' Compensation Insurance policy required hereunder, shall bear an endorsement, or shall have attached a rider, providing that in the event of expiration or proposed cancellation of such policy for any reason whatsoever, the City's Risk Manager shall be notified of such action by registered mail, postage prepaid, return receipt requested, at least 30 days before such expiration or cancellation becomes effective.

Indemnification: Bidders are instructed to refer to the Contract Agreement.

Subcontractors: Bidders must list the name, address of the place of business, Contractor license number, and DIR registration number for each subcontractor to be responsible for more than 1/2 of 1% of the total bid, and the portion of the job for which that subcontractor is responsible. Only one subcontractor may be listed for each portion of the job.

Unfair Business Practices Claims: In entering into a public works Contract or a subcontract to supply goods, services, or materials pursuant to a public works Contract, the Contractor or sub-Contractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2, (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works Contract or the subcontract. This assignment shall be made and become effective at the time the awarding body renders final payment to the Contractor without further acknowledgment by the parties. (Section 7103.5, California Public Contract Code.)

Bidder Registration Requirement: Pursuant to Labor Code sections 1725.5 and 1771.1, all Contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a Contract to perform public work must be registered with the Department of Industrial Relations (DIR). No bid will be accepted, nor any Contract entered into without proof of the Contractor's and subcontractors' current registration with the DIR to perform public work. If awarded a Contract, the Bidder and its subcontractors, of any tier, shall maintain active registration with the DIR for the duration of the Project. To this end, Bidder shall sign and submit with its bid proposal the Public Works Contractor Registration Certification on the form provided, attesting to the facts contained therein. Failure to submit this form may render the bid non-responsive. In addition, each Bidder shall provide the registration number for each listed subcontractor in the space provided in the Subcontractors List form.

Claim Procedures: Bidders are instructed to refer to the Contract Documents, including by way of illustration and not by limitation the Contract Agreement.

Protest Procedures: Bidders may file a "protest" of a bid proposal with the City's City Manager. In order for a Bidder's protest to be considered valid, the protest must:

- A. Be filed in writing within five (5) calendar days after the bid opening date;
- B. Clearly identify the specific irregularity or accusation;
- C. Clearly identify the specific City staff determination or recommendation being protested;
- D. Specify in detail the grounds for protest and the facts supporting the protest;
- E. Include all relevant supporting documentation with the protest at time of filing; and
- F. Be transmitted concurrently to all other parties with a direct financial interest that may be adversely affected by the outcome of the protest. Such parties shall include all other Bidders or proposers who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.

If the protest does not comply with each of these requirements, the City may reject the protest

with or without further review.

If the protest is timely and complies with the above requirements, the City Manager, or other designated City staff member, shall review the protest, any response from the challenged Bidder(s), and all other relevant information, and will provide a written decision to the protestor.

The City Manager or designee shall have up to ten calendar days to decide whether to approve or reject the protest. The written decision of the City Manager or designee on the protest shall be served upon the protesting Bidder and any Bidder subject to the protest within fourteen (14) calendar days of receipt of the bid protest. The City Manager or designee may extend the ten (10) calendar days if necessary, to review additional information requested from any Bidder.

If the protester wishes to further contest the protest, it shall appeal this decision to the City Council by filing a statement of appeal with the City Clerk within five (5) days of the issuance of the City Manager's decision. Said statement of appeal shall include all information required of the original bid protest, as well as a short and plain statement setting forth why the protester disputes the City Manager's decision and the legal and factual basis for such dispute. Any person or entity may present a formal protest to the City with respect to solicitations being conducted by staff.

A Bidder whose bid has been protested by another Bidder may submit to the City Manager a written response to the protest by email or by personal delivery or overnight mail to City Hall, 1315 Valley Drive, Hermosa Beach, California 90254, so that it is received by the City no later than seven calendar days after the protest has been served by the protesting Bidder.

1. Definitions

- a. "Bidder" means any person or firm providing a timely, written response to the City solicitation.
- b. "Bid Protest" means any protest with regard to the response submitted by another Bidder.
- c. "Response" means the written response to the City solicitation provided by a person or firm.
- d. "Solicitation Protest" means a statement of protest, dispute, challenge, disagreement, disapproval or other objection regarding documents, determinations or actions taken or contemplated by the City with respect to a solicitation.
- e. "Solicitation" means the document by which the City identifies goods, equipment, services, or public construction projects for which it seeks a response.

2. Format – The protest must be in writing and include the following information at a minimum:

- a. The name, address, and phone number of the protester, or the authorized representative of the protester;

- b. The signature of the protester or authorized representative of the protester;
 - c. The project number and title under which the protest is submitted;
 - d. A detailed description of the legal and/or factual grounds for the protest and all supporting documentation. For protests containing elements not based on publicly released information the protest must contain documentation clearly showing the date on which the protester received the information; and
 - e. The form of relief requested.
3. State or Federal Funding
- If the subject matter of the solicitation or project is receiving any state or federal funds which requires a protest procedure different than the procedures stated above, then that protest procedure shall control.
- In the event there is any lawsuit filed against the City relating to any federally funded project, the City will provide prompt notice of that lawsuit to all agencies who participated in the funding of the project.
4. Mandatory Procedure
- This administrative procedure and the time limits set forth herein are mandatory. Failure to comply with these mandatory procedures shall constitute a waiver of any right to pursue the bid protest, including filing a Government Code claim or any legal proceedings or actions.

IV. BID DOCUMENTS

A. PROPOSAL

CIP NO. 699 PARKING STRUCTURE LOT “C” IMPROVEMENTS

CONTRACTOR: _____ Date: _____

TO: City of Hermosa Beach
Honorable Mayor and Members of the City Council City Hall
Hermosa Beach, California, 90254

Ladies and Gentlemen:

The undersigned declares that he/she has carefully examined the location of the proposed work and that he/she has examined the Plans and Specifications, has read the Contract Documents, and hereby agrees to furnish all labor, materials, equipment, tools, transportation, and services to do all work required for:

CIP NO. 699 PARKING STRUCTURE LOT “C” IMPROVEMENTS

In accordance with the Plans and Specifications prepared by the Engineer, in accordance with the Special Provisions, the Contract Documents, and in accordance with the Standard Specifications for Public Works Construction 2021, Unified Building Code for Construction (current edition) (except Sections 1-9), and the requirements of the Engineer under said documents, for the prices shown herein.

The Contractor also certifies that he/she is registered with the Department of Industrial Relations.

All work shall be completed within thirty-five (35) working days from the date the Notice to Proceed is issued by the Engineer.

Contractor Signature

PWCR Registration Number

B. BID SCHEDULE

CIP No. 699 PARKING STRUCTURE LOT “C” IMPROVEMENTS

Item No.	Estimated Quantity		Description	Unit Price	Total
1	1	LS	Mobilization and Demobilization (5% maximum)	\$	\$
2	1	LS	Traffic Control – Vehicle & Pedestrian	\$	\$
3	1	LS	Concrete Shoring and Reshoring	\$	\$
4	75,000	SF	Floor Preparation - Scarification	\$	\$
5	2,700	SF	Traffic Topping Removal	\$	\$
6	950	SF	Floor Repair – Partial Depth	\$	\$
7	10	EA	Floor Repair – Protect Exposed Tendon	\$	\$
8	160	SF	Floor Repair – Full Depth (Edge Repair)	\$	\$
9	25	LF	Floor Repair – Concrete Curb	\$	\$
10	15	LF	Floor Repair – Stair Nosing Repair	\$	\$
11	6	SF	Floor Repair – Slab-on-Grade	\$	
12	100	SF	Ceiling Repair – Partial Depth	\$	\$
13	60	SF	Beam Repair – Partial Depth	\$	\$
14	4	SF	Beam Repair – Edge Spall	\$	\$
15	30	SF	Column Repair – Partial Depth	\$	\$
16	30	SF	Wall Repair – Partial Depth	\$	\$
17	2,800	LF	Seal Cracks and Joints	\$	\$
18	800	LF	Joint Sealant Repair	\$	\$
19	160	LF	Vertical Joint Sealant	\$	\$
20	300	LF	Epoxy Injection	\$	\$
21	3,500	LF	Cove Sealant	\$	\$
22	75,000	SF	Traffic Topping	\$	\$
23	168	EA	Inspect P/T Tendon Anchorage	\$	\$
24	1	LS	Remove & Replace Fire Extinguisher Cabinet	\$	\$
25	160	LF	Remove Existing Guardrail	\$	\$
26	1,800	LF	Install New Barrier Cable	\$	\$
27	180	LF	Remove, Salvage, and Install Guardrail	\$	\$
28	360	LF	Repair Existing Barrier Cable	\$	\$

29	100	LF	Clean and Coat Existing Barrier Cable	\$	\$
30	4	EA	Install New Bollards	\$	\$
31	1	LS	Install Stair #1 Canopy Corrugated Metal Cover (Assuming 250sf of metal decking)	\$	\$
32	1	LS	South Entrance Impact Damage	\$	\$
33	1	LS	Paint Traffic Markings and Stalls	\$	\$
34	1	LS	Paint Structural Steel	\$	\$
35	1	LS	Clean and Paint Stair Railings & Light Poles	\$	\$
36	500	EA	Cathodic Protection – Discrete Anodes	\$	\$
37	1	EA	Install Column Protection	\$	\$
38	2	EA	Replace Pump (Pump, Motors, Slide Rails)	\$	\$
39	1	EA	Level Transducer	\$	\$
40	143	EA	Replace Light Fixtures	\$	\$
41	1	LS	Electrical Allowance	\$	\$
		Total (Base Bid)		\$	
				\$	\$

Total Bid in Numbers: _____

Total Bid in Figures: _____

(Total Bid in Words) _____

Contractor Name: _____

In case of any discrepancy between the words and the figures, the words shall prevail. If the unit price and the total amount for any item are not in agreement, the unit price alone shall be considered to represent the Bidder's intention and all totals will be corrected to conform thereto. Attached hereto is cash, a certified check, a cashier's check, or a Bidder's bond in the amount of

_____ Dollars, said amount being not less than ten (10) percent of the amount bid. It is agreed a portion equal to the difference between the low bid and second low bid shall be retained as liquidated damages by the City

if the undersigned fails or refuses to execute the Contract and furnish the required bonds and certificates of insurance within the time provided.

Contractor Signature: _____

PW Registration #: _____

State License #: _____

Contractor Company Name: _____

C. BID BOND

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, _____, (hereinafter referred to as "Contractor") intends to submit a bid to the City of Hermosa Beach, California, a Municipal Corporation, for the performance of certain work as required in the City of Hermosa Beach **CIP NO. 699 PARKING STRUCTURE LOT "C" IMPROVEMENTS** said work being: **CIP NO. 699 PARKING STRUCTURE LOT "C" IMPROVEMENTS** as shown in this specification, and in compliance with the specifications therefore under an invitation of said City contained in a notice or advertisement for bids or proposals.

NOW, THEREFORE, we, the Contractor, as Principal, and _____ a corporation organized and existing under the laws of the State of _____, duly authorized to transact business under the laws of the State of California as Surety, are held and firmly bound unto the City of Hermosa Beach, as Obligee, in the sum of _____ Dollars (\$_____) lawful money of the United States of America, said sum being not less than ten percent (10%) of the bid amount for the payment of which sum well and truly to be made, the said Principal, and said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT: If the bid of the said Principal is rejected by the said Obligee; or if the said Obligee shall accept the bid of the said Principal and said Principal shall enter into an Agreement with said Obligee in accordance with the terms of the bid, and shall give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Agreement and for the prompt payment of labor and material furnished in the prosecution thereof; or in the event of the failure of said Principal to enter such Agreement and give such bond or bonds, if said Principal shall pay to said Obligee the difference not to exceed the penalty thereof between the amount specified in said bid and such larger amount for which said Obligee may in good faith Contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. In case suit is brought upon this bond, the court shall fix and award and the surety shall pay, in addition to the face amount hereof, costs and reasonable attorney's fees incurred by the City of Hermosa Beach in successfully enforcing said obligation.

IN WITNESS THEREOF, we have hereunto, set our hands and seals this _____ day of _____, _____.

Principal

By _____
Title _____

Surety

By _____

Title

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of Notary Public _____

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- .. Individual
- .. Corporate Officer

Title(s)	
.. Partner(s)	.. Limited
	.. General
.. Attorney-In-Fact	
.. Trustee(s)	
.. Guardian/Conservator	
.. Other:	

Signer is representing:
Name Of Person(s) Or Entity(ies)

Title or Type of Document
Number of Pages
Date of Document
Signer(s) Other Than Named Above

D. BIDDER'S ASSURANCE

**CIP 699
PARKING STRUCTURE LOT "C" IMPROVEMENTS**

FROM:

Name of Bidder: _____

Business Address: _____

Telephone No: _____

TO:

Members of the City Council
c/o City Hall
City of Hermosa Beach, California

Members of the City Council:

Pursuant to your published Notice Inviting Bids for:

CIP 699 - PARKING STRUCTURE LOT "C" IMPROVEMENTS

The undersigned declares that he/she has carefully examined the location of the proposed work; that he/she has carefully examined the Plans and Specifications, and read the accompanying Instructions to Bidders and hereby proposes to furnish all materials, machinery, tools, labor, and services and do all the work necessary to complete the project in accordance with said Plans and Specifications and other Contract Documents at the item prices on the bidding schedule.

BY: _____ TITLE: _____

E. BIDDER'S DECLARATION

CIP 699 PARKING STRUCTURE LOT "C" IMPROVEMENTS

It is understood and agreed that:

1. The undersigned has carefully examined all documents which will form a part of the Contract; namely, the Notice Inviting Bids, the Instructions to Bidders, this Proposal, the Bid Bond, the Contract, the Faithful Performance Bond, Warranty Bond, the Payment Bond, the federal requirements, if any, the Plans and Specifications, the Special Provisions, and the Technical Provisions.
2. The undersigned has, by investigation at the site of the work and otherwise, satisfied himself as to the nature and location of the work and fully informed himself as to all conditions and matters, which can in any way affect the work or the cost thereof.
3. The undersigned fully understands the scope of work and has checked carefully all words and figures inserted in this Proposal and he further understands that the City will not be responsible for any errors or omissions in the preparation of the Proposal.
4. The undersigned agrees and acknowledges that he is aware of the provisions of Section 3700 of the Labor Code which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and that the undersigned will comply with such provisions before commencing the performance of the Contract if it is awarded to the undersigned.

The undersigned will execute the Contract and furnish the required statutory bonds and certificates of insurance within the period of time specified in the Contract Documents.

The undersigned will begin work after award of Contract and a Notice to Proceed has been given as herein specified and will complete said work within the time specified in the Bidding Schedule.

5. The undersigned certifies that this Proposal is genuine and not sham or collusive, or made in the interest or on behalf of a person not herein named, and the undersigned has not directly or indirectly induced or solicited any other Bidder to put in a sham bid nor induced any other person, firm, or corporation to refrain from bidding.
6. The undersigned will accept an award and enter into a Contract for all work scheduled herein on which he puts in a bid. The awards for such work are to be entirely at the discretion of the Owner after evaluation of the bids as submitted. The undersigned agrees that the Owner shall recover or retain as liquidated damages an amount equal to the difference between the low bid and amount of the bid of the Bidder with whom the City enters into a Contract, and the surplus, if any, shall be returned to the lowest Bidder in accordance with the provisions of the Public Contract Code section 20174 in the event of his failure to execute a Contract and furnish required bonds and insurance therefor within the time provided.
7. This bid will not be withdrawn within a period of ninety (90) days after the date of its

proper opening by the City.

8. The undersigned Bidder stated under penalty of perjury that the representations made in submitting this bid are, to the best of his/her knowledge, true, accurate, and complete.

Respectfully submitted,

_____ Contractor's Business Name	_____ Contractor Signature Title
_____ Business Address: Street	_____ By Title
_____ City State Zip Classification	_____ Contractor's License No. and
_____ Business Phone Number	_____ Date
_____ Name Title	_____ Residence: Street
_____ City State Zip	_____ Residence Phone Number

Note: If the bid is made by an individual, it must be signed with the full name of the Bidder, whose address must be given; if it is made by a firm, it must be signed in the co-partnership's name by a general partner thereof, who shall also sign his or her own name, and the name and full address of each member must be given; and if it is made by a corporation, it must be signed by a properly authorized officer, the corporate name shall be set forth, and the corporate seal shall be affixed.

F. CERTIFICATE OF NON-DISCRIMINATION BY CONTRACTORS

CIP 699 PARKING STRUCTURE LOT “C” IMPROVEMENTS

As suppliers of goods or services to the City, the firm listed below certifies that it does not discriminate in its employment with regard to race, color, religion, sex, or national origin; that it is in compliance with all applicable federal, state, and local directives, and executive orders regarding non-discrimination in employment; and that it agrees to pursue positively and aggressively the principle of equal opportunity in employment.

We agree specifically:

1. To establish or observe employment policies which affirmatively promote opportunities for minority persons at all job levels.
2. To communicate this policy to all persons concerned, including all company employees, outside recruiting services, especially those serving minority communities, and to the minority communities at large.
3. To take affirmative steps to hire minority employees within the company.

FIRM _____

TITLE OF PERSON SIGNING _____

SIGNATURE _____

DATE _____

Please include any additional information available regarding equal opportunity employment programs now in effect within your company:

G. CERTIFICATION OF PRINCIPAL

CIP 699

PARKING STRUCTURE LOT “C” IMPROVEMENTS

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract. (Section 1861, Labor Code.)

Signature: _____

Name: _____

Title: _____

Name of Company: _____

H. DECLARATION OF ELIGIBILITY TO CONTRACT
[Labor Code Section 1777.1; Public Contract Code Section 6109]

CIP 699
PARKING STRUCTURE LOT “C” IMPROVEMENTS

The undersigned, a duly authorized representative of the Contractor, certifies and declares that:

1. The undersigned Contractor is aware of Section 1771.1 and 1777.7 of the California Labor Code, which prohibit a Contractor or subcontractor who has been found by the Labor Commissioner or the Director of Industrial Relations to be in violation of certain provisions of the Labor Code, from bidding on, being awarded, or performing work as a subcontractor on a public works project for specified periods of time.

2. The undersigned Contractor is not ineligible to bid on, be awarded or perform work as a subcontractor on a public works project by virtue of the foregoing provisions of Sections 1771.1 or 1777.7 of the California Labor Code or any other provision of law.

3. The undersigned Contractor is aware of California Public Contract Code Section 6109, which states:

“(a) A public entity, as defined in Section 1100 [of the Public Contract Code], may not permit a Contractor or subcontractor who is ineligible to bid or work on, or be awarded, a public works project pursuant to Section 1777.1 or 1777.7 of the Labor Code to bid on, be awarded, or perform work as a subcontractor on, a public works project. Every public works project shall contain a provision prohibiting a Contractor from performing work on a public works project with a subcontractor who is ineligible to perform work on the public works project pursuant to Section 1771.1 or 1777.7 of the Labor Code.”

“(b) Any Contract on a public works project entered into between a Contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works Contract, and any public money that may have been paid to a debarred subcontractor by a Contractor on the project shall be returned to the awarding body. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the project.”

4. The undersigned Contractor has investigated the eligibility of each and every subcontractor the undersigned Contractor intends to use on this public works project, and determined that none of them is ineligible to perform work as a subcontractor on a public works project by virtue of the foregoing provisions of the Public Contract Code, Sections 1771.1 or 1777.7 of the Labor Code, or any other provision of law.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed this _____ day of _____, at _____ (place of execution), California.

Signature: _____

Name: _____

Title: _____

Name of Company: _____

I. NON-COLLUSION DECLARATION

CIP 699 PARKING STRUCTURE LOT "C" IMPROVEMENTS

The undersigned declares:

I am the _____ of _____, the party making the foregoing Bid.

The Bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The Bid is genuine and not collusive or sham. The Bidder has not directly or indirectly induced or solicited any other Bidder to put in a false or sham bid. The Bidder has not directly or indirectly colluded, conspired, connived, or agreed with any Bidder or anyone else to put in a sham bid, or to refrain from bidding. The Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the Bid Price of the Bidder or any other Bidder, or to fix any overhead, profit, or cost element of the Bid Price, or of that of any other Bidder. All statements contained in the Bid are true. The Bidder has not, directly or indirectly, submitted his or her Bid Price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a Bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the Bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at _____ [city], _____ [state].

NAME OF BIDDER

SIGNATURE OF BIDDER

ADDRESS OF BIDDER

CITY STATE ZIP

J. REFERENCES OF WORK

CIP 699

PARKING STRUCTURE LOT "C" IMPROVEMENTS

Date: _____

The following are the names, addresses and phone numbers/ email addresses for at least three public agencies for which Bidder has performed similar work **within the past five years.**

All contact information must be current.

Name and Address of Public Agency

Name and Telephone Number of Project Manager

Name and Description of Project

Contract Amount

Date Completed

Name and Address of Public Agency

Name and Telephone Number of Project Manager

Name and Description of Project

Contract Amount

Date Completed

Name and Address of Public Agency

Name and Telephone Number of Project Manager

Name and Description of Project

Contract Amount

Date Completed

Name and Address of Public Agency

Name and Telephone Number of Project Manager

Name and Description of Project

Contract Amount

Date Completed

For additional References, please add separate sheets.

K. SUBCONTRACTORS LIST

CIP 699

PARKING STRUCTURE LOT "C" IMPROVEMENTS

In compliance with the "Subletting and Subcontracting Fair Practices Act" being Sections 4100-4113 of the Government Code of the State of California, and any amendments thereto, each Bidder shall set forth below: (a) the name and location of the place of business, (b) the California Contractor license number, (c) the DIR public works Contractor registration number unless exempt pursuant to Labor Code Sections 1725.5 and 1771.1, and (d) the portion of the work which will be done by each subcontractor who will perform work or labor or render service to the prime Contractor in or about the construction of the work or improvement in an amount in excess of one-half (1/2) of one percent (1%) of the prime Contractor's total bid, and shall further set forth the portion of the work which will be done by each subcontractor. Only one subcontractor for each such portion shall be listed.

Notwithstanding the foregoing, if the work involves the construction of streets and highways, then the Bidder shall list each subcontractor who will perform work or labor or render service to the Bidder in or about the work in an amount in excess of one-half of one percent (0.5%) of the Bidder's Total Bid Price or \$10,000, whichever is greater. No additional time shall be granted to provide the below requested information.

If the Contractor fails to specify a subcontractor for any portion of the work to be performed under the Contract, he shall be deemed to have agreed to perform such portion himself, and he shall not be permitted to subcontract that portion of the work except under the conditions hereinafter set forth.

Subletting or subcontracting of any portion of the work to which subcontractor was designated in the original bid shall only be permitted in cases of public emergency or necessity, and then only after a finding reduced to writing as a public record of the legislative body of the Owner.

We propose to use the following listed subcontractors as per Public Contract Code Section 4100 et seq.: List all Subcontractors. The subcontractor shall be licensed for the type of work they are performing.

Sub-Contractors Name:	Address:
Description of Work:	
CSLB Contractor License No.	DIR Registration No.
Phone No.	Dollar Amount of Work & % of Work

Sub-Contractors Name:	Address:
Description of Work:	
CSLB Contractor License No.	DIR Registration No.
Phone No.	Dollar Amount of Work & % of Work

Sub-Contractors Name:	Address:
Description of Work:	
CSLB Contractor License No.	DIR Registration No.
Phone No.	Dollar Amount of Work & % of Work

Sub-Contractors Name:	Address:
Description of Work:	
CSLB Contractor License No.	DIR Registration No.
Phone No.	Dollar Amount of Work & % of Work

Sub-Contractors Name:	Address:
Description of Work:	
CSLB Contractor License No.	DIR Registration No.
Phone No.	Dollar Amount of Work & % of Work

Percent of work to be performed by sub-Contractors: _____ %
(Note: 50% of work is required to be performed by general Contractor)
For additional Sub-Contractors, please add additional sheet(s)

L. IRAN CONTRACTING ACT CERTIFICATION
(Public Contract Code Section 2200 et seq.)

As required by California Public Contract Code Section 2204, the Contractor certifies subject to penalty for perjury that the option checked below relating to the Contractor's status in regard to the Iran Contracting Act of 2010 (Public Contract Code Section 2200 *et seq.*) is true and correct:

☐ The Contractor is not:

- (1) identified on the current list of person and entities engaged in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203; or
- (2) a financial instruction that extends, for 45 days or more, credit in the amount of \$20,000,000 or more to any other person or entity identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203, if that person or entity uses or will use the credit to provide goods or services in the energy sector in Iran.

☐ The City has exempted the Contractor from the requirements of the Iran Contracting Act of 2010 after making a public finding that, absent the exemption, the City will be unable to obtain the goods and/or services to be provided pursuant to the Contract.

☐ The amount of the Contract payable to the Contractor for the Project does not exceed \$1,000,000.

Signature: _____

Printed Name: _____

Title: _____

Firm Name: _____

Date: _____

Note: In accordance with Public Contract Code Section 2205, false certification of this form shall be reported to the California Attorney General and may result in civil penalties equal to the greater of \$250,000 or twice the Contract amount, termination of the Contract and/or ineligibility to bid on Contracts for three years.

M. PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION

Pursuant to Labor Code sections 1725.5 and 1771.1, all Contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a Contract to perform public work must be registered with the Department of Industrial Relations. See <http://www.dir.ca.gov/Public-Works/PublicWorks.html> for additional information.

No bid will be accepted nor any Contract entered into without proof of the Contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work.

Bidder hereby certifies that it is aware of the registration requirements set forth in Labor Code sections 1725.5 and 1771.1 and is currently registered as a Contractor with the Department of Industrial Relations.¹

Name of Bidder: _____

DIR Registration Number: _____

DIR Registration Expiration: _____

Small Project Exemption: _____ Yes or _____ No

Unless Bidder is exempt pursuant to the small project exemption, Bidder further acknowledges:

1. Bidder shall maintain current DIR registration for the duration of the project.
2. Bidder shall maintain a current DIR registration for the duration of the project.
3. Bidder shall include the requirements of Labor Code sections 1725.5 and 1771.1 in its Contract with subcontractors and ensure that all subcontractors are registered at the time of bid opening and maintain registration status for the duration of the project.
4. Failure to submit this form or comply with any of the above requirements may result in a finding that the bid is non-responsive.

Name of Bidder _____

Signature _____

Name and Title _____

Dated _____

¹ If the Project is exempt from the Contractor registration requirements pursuant to the small project exemption under Labor Code Sections 1725.5 and 1771.1, please mark "Yes" in response to "Small Project Exemption."

N. FLEET COMPLIANCE CERTIFICATION

The California Air Resources Board (“CARB”) implemented amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulations (“Regulation”) which are effective on January 1, 2024 and apply broadly to all self-propelled off road diesel vehicles 25 horsepower or greater and other forms of equipment used in California. A copy of the Regulation is available at <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/off-roaddiesel/appa-1.pdf>. Bidders are required to comply with all CARB and Regulation requirements, including, without limitation, all applicable sections of the Regulation, as codified in Title 13 of the California Code of Regulations section 2449 et seq. throughout the term of the Project. Bidders must provide, with their Bid, copies of Bidder’s and all listed subcontractors the most recent, valid Certificate of Reported Compliance (“CRC”) issued by CARB. Failure to provide valid CRCs as required herein may render the Bid non-responsive.

INSTRUCTIONS TO BIDDERS

COMPLIANCE WITH CARB REGULATIONS

The City is a Public Works Awarding Body, as defined under Title 13 California Code of Regulations section 2449(c)(46). Accordingly, Bidders must submit, with their Bids, a valid Certificate of Reported Compliance (“CRC”) for the Bidder’s and its listed subcontractors fleet (including any applicable leased equipment or vehicles). Bidder must complete and submit the Fleet Compliance Certification, on the form included in the bid package. Failure to provide a valid CRC for the Bidder’s fleet, and for the fleets of all listed subcontractors, or failure to complete the Fleet Compliance Certification, may render the Bid non-responsive.

Fleet Compliance Certification.

Bidder hereby acknowledges that they have reviewed the California Air Resources Board’s policies, rules and regulations and are familiar with the requirements of Title 13, California Code of Regulations, Division 3, Chapter 9, effective on January 1, 2024 (the “Regulation”). Bidder hereby certifies, subject to penalty for perjury, that the option checked below relating to the Bidder’s fleet, and/or that of their subcontractor(s) (“Fleet”) is true and correct:

The Fleet is subject to the requirements of the Regulation, and the appropriate Certificate(s) of Reported Compliance have been attached hereto.

The Fleet is exempt from the Regulation under section 2449.1(f)(2), and a signed description of the subject vehicles, and reasoning for exemption has been attached hereto.

Bidder and/or their subcontractor is unable to procure R99 or R100 renewable diesel fuel as defined in the Regulation pursuant to section 2449.1(f)(3). Bidder shall keep detailed records describing the normal refueling methods, their attempts to procure renewable diesel fuel and

proof that shows they were not able to procure renewable diesel (i.e. third party correspondence or vendor bids).

The Fleet is exempt from the requirements of the Regulation pursuant to section 2449(i)(4) because this Project has been deemed an Emergency, as defined under section 2449(c)(18). Bidder shall only operate the exempted vehicles in the emergency situation and records of the exempted vehicles must be maintained, pursuant to section 2449(i)(4).

The Fleet does not fall under the Regulation or are otherwise exempted and a detailed reasoning is attached hereto.

Name of Bidder: _____

Signature: _____

Name: _____

Title: _____

Date: _____

V. CONTRACT DOCUMENTS

CIP 699

PARKING STRUCTURE LOT “C” IMPROVEMENTS

A. CONTRACT AGREEMENT

This Construction Agreement (“Agreement”) is made and entered into as of the date executed by the Mayor and attested to by the City Clerk, by and between [INSERT CONTRACTOR NAME] (hereinafter referred to as "CONTRACTOR") and the City of Hermosa Beach, California, a municipal corporation (hereinafter referred to as "CITY").

R E C I T A L S

- A. Pursuant to the Notice Inviting Sealed Bids for CIP No. 699 PARKING STRUCTURE LOT “C” IMPROVEMENTS, bids were received, publicly opened, and declared on the date specified in the notice; and
- B. On, City’s City Council declared CONTRACTOR to be the lowest responsible Bidder and accepted the bid of CONTRACTOR; and
- C. The City Council has authorized the Mayor to execute a written Contract with CONTRACTOR for furnishing labor, equipment, and material for the **CIP No 699 PARKING STRUCTURE LOT “C” IMPROVEMENTS** in the City of Hermosa Beach.

NOW, THEREFORE, in consideration of the foregoing and the mutual covenants herein contained, it is agreed:

1. GENERAL SCOPE OF WORK: CITY agrees to engage CONTRACTOR and CONTRACTOR agrees to furnish all necessary labor, tools, materials, appliances, and equipment for and do the work for the **CIP No. 699 PARKING STRUCTURE LOT “C” IMPROVEMENTS** in the City of Hermosa Beach. The work shall be performed in accordance with the Plans and Specifications dated November 2023, on file in the office of the City Clerk and in accordance with bid prices set forth in CONTRACTOR’S Bid Proposal and in accordance with the instructions of the City Engineer.
2. INCORPORATED DOCUMENTS TO BE CONSIDERED COMPLEMENTARY: The Contract documents for the aforesaid project shall consist of the Notice Inviting Bids, Instructions to Bidders, Bid Proposal, Builders General Provisions, Standard Specifications 2021 edition, Special Provisions, Exhibit A and Exhibit B, and all referenced specifications, details, standard drawings, and appendices; together with this Agreement and all required bonds, insurance certificates, permits, notices and affidavits; and also, including any and all addenda or supplemental agreements clarifying, amending, or extending the work contemplated as may be required to insure its completion in an acceptable manner. All of the provisions of said Contract documents are made a part hereof as though fully set forth herein. This Contract is intended to require a complete and finished piece of work and anything necessary to complete the work properly and in accordance with the law and lawful governmental regulations shall be performed by CONTRACTOR whether set out specifically in the Contract or not. Should it be ascertained that any inconsistency exists between the aforesaid documents and this written agreement, the provisions of this Agreement, the Builders General Provisions and the Standard Specifications, in that order, shall control. Collectively, these Contract documents constitute the complete agreement between CITY and CONTRACTOR and supersede any previous agreements or understandings.

3. COMPENSATION: CONTRACTOR agrees to receive and accept the prices set forth in its Bid Proposal [INSERT VALUE] as full compensation for furnishing all materials, performing all work, and fulfilling all obligations hereunder. Said compensation shall cover all expenses, losses, damages, and consequences arising out of the nature of the work during its progress or prior to its acceptance including those for well and faithfully completing the work and the whole thereof in the manner and time specified in the aforesaid Contract documents; and also including those arising from actions of the elements, unforeseen difficulties or obstructions encountered in the prosecution of the work, suspension or discontinuance of the work, and all other unknowns or risks of any description connected with the work.
4. TIME OF PERFORMANCE: CONTRACTOR agrees to complete the work within thirty(30) working days from the date of the notice to proceed. By signing this Agreement, CONTRACTOR represents to CITY that the Contract time is reasonable for completion of the work and that CONTRACTOR will complete such work within the Contract time.
5. LIQUIDATED DAMAGES: In accordance with Government Code section 53069.85, it is agreed that CONTRACTOR will pay to CITY the sum set forth in Exhibit "A" for each and every calendar day of delay beyond the time prescribed in the Contract Documents for finishing the Work, as Liquidated Damages and not as a penalty or forfeiture. In the event this is not paid, CONTRACTOR agrees CITY may deduct that amount from any money due or that may become due CONTRACTOR under the Contract. This Article does not exclude recovery of other damages specified in the Contract Documents.
6. SUBSTITUTION OF SECURITIES: Pursuant to section 22300 of the Public Contract Code of the State of California, CONTRACTOR may request CITY to make retention payments directly to an escrow agent or may substitute securities for any money withheld by CITY to ensure performance under the Contract. At the request and expense of CONTRACTOR, securities equivalent to the amount withheld shall be deposited with CITY or with a state or federally chartered bank as the escrow agent who shall return such securities to CONTRACTOR upon satisfactory completion of the Contract. Deposit of securities with an escrow agent shall be subject to a written agreement substantially in the form provided in section 22300 of the Public Contract Code.
7. PREVAILING WAGES AND CALIFORNIA LABOR LAWS.

Pursuant to Labor Code §§ 1720 *et seq.*, and as specified in 8 California Code of Regulations § 16000 ("Prevailing Wage Laws"), CONTRACTOR must pay its workers prevailing wages. It is CONTRACTOR's responsibility to interpret and implement any prevailing wage requirements, and CONTRACTOR agrees to pay any penalty or civil damages resulting from a violation of the prevailing wage laws. CONTRACTOR shall defend, indemnify and hold the CITY, its officials, officers, employees and agents free and harmless from any claim or liability arising out of any failure or alleged failure to comply with the Prevailing Wage Laws. CONTRACTOR and any subcontractor shall forfeit a penalty of up to \$200 per calendar day or portion thereof for each worker paid less than the prevailing wage rates.

In accordance with Labor Code § 1773.2, copies of the prevailing rate of per diem wages are available upon request from CITY's Engineering Division or the website for State of California Prevailing wage determination at <http://www.dir.ca.gov/DLSR/PWD>. CONTRACTOR must post a copy of the prevailing rate of per diem wages at the job site.

CITY directs CONTRACTOR's attention to Labor Code §§ 1777.5, 1777.6 and 3098 concerning the employment of apprentices by CONTRACTOR or any subcontractor.

Labor Code § 1777.5 requires CONTRACTOR or subcontractor employing tradesmen in any apprenticeship occupation to apply to the joint apprenticeship committee nearest the site of the public works project and which administers the apprenticeship program in that trade for a certificate of approval. The certificate must also fix the ratio of apprentices to journeymen that will be used in the performance of the Contract. The ratio of apprentices to journeymen in such cases will not be less than one to five except:

When unemployment in the area of coverage by the joint apprenticeship committee has exceeded an average of 15 percent in the 90 days before the request for certificate, or

When the number of apprentices in training in the area exceeds a ratio of one to five, or

When the trade can show that it is replacing at least 1/30 of its membership through apprenticeship training on an annual basis state-wide or locally, or

Assignment of an apprentice to any work performed under a public works Contract would create a condition that would jeopardize his or her life or the life, safety, or property of fellow employees or the public at large, or the specific task to which the apprentice is to be assigned is of a nature that training cannot be provided by a journeyman.

When CONTRACTOR provides evidence that CONTRACTOR employs registered apprentices on all of his Contracts on an annual average of not less than one apprentice to eight journeymen.

CONTRACTOR is required to make contributions to funds established for the administration of apprenticeship programs if CONTRACTOR employs registered apprentices or journeymen in any apprenticeable trade on such Contracts and if other Contractors on the public works site are making such contributions.

CONTRACTOR and any subcontractor must comply with Labor Code §§ 1777.5 and 1777.6 in the employment of apprentices.

Information relative to apprenticeship standards, wage schedules and other requirements may be obtained from the Director of Industrial Relations, ex-officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

The CONTRACTOR or any subcontractor that is determined by the Labor Commissioner to have knowingly violated Section 1777.5 shall forfeit as a civil penalty an amount not exceeding \$100 for each full calendar day of noncompliance, or such greater amount as provided by law.

CONTRACTOR and each subcontractor shall keep an accurate payroll record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the public work. The payroll records shall be certified and shall be available for inspection at all reasonable hours at the principal office of CONTRACTOR in the manner provided in Labor Code section 1776. In the event of noncompliance with the requirements of this section, CONTRACTOR shall have 10 days in which to comply subsequent to receipt of written notice specifying in what respects such CONTRACTOR must comply with this section. Should noncompliance still be evident after such 10-day period, CONTRACTOR shall, as a penalty to CITY, forfeit not more than \$100.00 for each calendar day or portion thereof, for each worker, until strict compliance is effectuated. The amount of the forfeiture is to be determined by the Labor Commissioner. A Contractor who is found to have violated the provisions of law regarding wages on Public Works with the intent to defraud shall be ineligible to bid on Public Works Contracts for a period of one to three years as determined by the Labor Commissioner. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, such penalties shall be withheld from progress payments then due. The responsibility for compliance with this section is on CONTRACTOR. The requirement to submit certified payroll records directly to the Labor Commissioner under Labor Code section 1771.4 shall not apply to work performed on a public works project that is exempt pursuant to the small project exemption specified in Labor Code Section 1771.4.

Any ineligible Contractor or subcontractor pursuant to Labor Code Sections 1777.1 and 1777.7 may not perform work on this Project.

By executing this Contract, CONTRACTOR verifies that it fully complies with all requirements and restrictions of state and federal law respecting the employment of undocumented aliens, including, but not limited to, the Immigration Reform and Control Act of 1986, as may be amended from time to time, and shall require all subcontractors and sub-subcontractors to comply with the same.

8. LEGAL HOURS OF WORK: Eight (8) hours of labor shall constitute a legal day's work for all workmen employed in the execution of this Contract, and CONTRACTOR and any subcontractor under it shall comply with and be governed by the laws of the State of California having to do with working hours set forth in Division 2, Part 7, Chapter 1, Article 3 of the Labor Code of the State of California as amended.

CONTRACTOR shall forfeit, as a penalty to City, twenty-five dollars (\$25.00) for each laborer, workman or mechanic employed in the execution of the Contract, by him or any subcontractor under it, upon any of the work hereinbefore mentioned, for each calendar day during which the laborer, worker or mechanic is required or permitted to labor more than eight (8) hours in any one calendar day or 40 hours in any one calendar week in violation of the Labor Code.

9. PUBLIC WORKS CONTRACTOR REGISTRATION: Pursuant to Labor Code sections 1725.5 and 1771.1, all Contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a Contract to perform public work must be registered with the Department of Industrial

Relations (DIR). No bid will be accepted nor any Contract entered into without proof of the Contractor's and subcontractors' current registration with the DIR to perform public work. Notwithstanding the foregoing, the Contractor registration requirements mandated by Labor Code Sections 1725.5 and 1771.1 shall not apply to work performed on a public works project that is exempt pursuant to the small project exemption specified in Labor Code Sections 1725.5 and 1771.1.

10. LABOR COMPLIANCE AND STOP ORDERS: This Project is subject to compliance monitoring and enforcement by the DIR. It shall be CONTRACTOR's sole responsibility to evaluate and pay the cost of complying with all labor compliance requirements under this Contract and applicable law. Any stop orders issued by the DIR against CONTRACTOR or any subcontractor that affect CONTRACTOR's performance of Work, including any delay, shall be CONTRACTOR's sole responsibility. Any delay arising out of or resulting from such stop orders shall be considered CONTRACTOR caused delay subject to any applicable liquidated damages and shall not be compensable by the CITY. CONTRACTOR shall defend, indemnify and hold CITY, its officials, officers, employees and agents free and harmless from any claim or liability arising out of stop orders issued by the DIR against CONTRACTOR or any subcontractor.
11. DEBARMENT OF CONTRACTORS AND SUBCONTRACTORS: Contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Labor Code section 1777.1 or 1777.7. Any Contract on a public works project entered into between a Contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works Contract. Any public money that is paid, or may have been paid to a debarred subcontractor by a Contractor on the Project shall be returned to the CITY. CONTRACTOR shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the project.
12. LABOR/EMPLOYMENT SAFETY: CONTRACTOR shall comply with all applicable laws and regulations of the federal, state, and local government, including Cal/OSHA requirements and requirements for verification of employees' legal right to work in the United States

CONTRACTOR shall maintain emergency first aid treatment for its employees which complies with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 *et seq.*), and California Code of Regulations, Title 8, Industrial Relations Division 1, Department of Industrial Relations, Chapter 4. CONTRACTOR shall ensure the availability of emergency medical services for its employees in accordance with California Code of Regulations, Title 8, Section 1512.

CONTRACTOR shall submit the Illness and Injury Prevention Program and a Project site specific safety program to CITY prior to beginning Work at the Project site. CONTRACTOR shall maintain a confined space program that meets or exceeds the CITY Standards. CONTRACTOR shall adhere to CITY's lock out tag out program

13. TRAVEL AND SUBSISTENCE PAY: CONTRACTOR agrees to pay travel and subsistence pay to each worker needed to execute the work required by this Agreement as such travel and

subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with Labor Code Section 1773.8.

14. CONTRACTOR'S LIABILITY: The City of Hermosa Beach and its officers, agents and employees ("Indemnitees") shall not be answerable or accountable in any manner for any loss or damage that may happen to the work or any part thereof, or for any of the materials or other things used or employed in performing the work; or for injury or damage to any person or persons, either workers or employees of CONTRACTOR, of its subcontractors or the public, or for damage to adjoining or other property from any cause whatsoever arising out of or in connection with the performance of the work. CONTRACTOR shall be responsible for any damage or injury to any person or property resulting from defects or obstructions or from any cause whatsoever.

To the fullest extent permitted by law, CONTRACTOR will indemnify Indemnities against and will hold and save Indemnitees harmless from any and all actions, claims, damages to persons or property, penalties, obligations or liabilities that may be asserted or claimed by any person, firm, entity, corporation, political subdivision, or other organization arising out of or in connection with the work, operation, or activities of CONTRACTOR, its agents, employees, subcontractors or invitees provided for herein, whether or not there is concurrent passive negligence on the part of City. In connection therewith:

a. CONTRACTOR will defend any action or actions filed in connection with any such claims, damages, penalties, obligations or liabilities and will pay all costs and expenses, including attorneys' fees, expert fees and costs incurred in connection therewith.

b. CONTRACTOR will promptly pay any judgment rendered against CONTRACTOR or Indemnitees covering such claims, damages, penalties, obligations and liabilities arising out of or in connection with such work, operations or activities of CONTRACTOR hereunder, and CONTRACTOR agrees to save and hold the Indemnitees harmless therefrom.

c. In the event Indemnitees are made a party to any action or proceeding filed or prosecuted against CONTRACTOR for damages or other claims arising out of or in connection with the work, operation or activities hereunder, CONTRACTOR agrees to pay to Indemnitees and any all costs and expenses incurred by Indemnitees in such action or proceeding together with reasonable attorneys' fees.

Contractor's obligations under this section apply regardless of whether or not such claim, charge, damage, demand, action, proceeding, loss, stop notice, cost, expense, judgment, civil fine or penalty, or liability was caused in part or contributed to by an Indemnatee. However, without affecting the rights of City under any provision of this agreement, to the extent required by Civil Code section 2782, Contractor shall not be required to indemnify and hold harmless City for liability attributable to the active negligence of City, provided such active negligence is determined by agreement between the parties or by the findings of a court of competent jurisdiction. In instances where City is shown to have been actively negligent and where City active negligence accounts for only a percentage of the liability involved, the obligation of Contractor will be for that entire portion or percentage of liability not attributable to the active negligence of City.

So much of the money due to CONTRACTOR under and by virtue of the Contract as shall be considered necessary by City may be retained by City until disposition has been made of such actions or claims for damages as aforesaid.

It is expressly understood and agreed that the foregoing provisions are intended to be as broad and inclusive as is permitted by the law of the State of California. This indemnity provision shall survive the termination of the Agreement and is in addition to any other rights or remedies which Indemnitees may have under the law.

This indemnity is effective without reference to the existence or applicability of any insurance coverage which may have been required under this Agreement or any additional insured endorsements which may extend to Indemnitees.

CONTRACTOR, on behalf of itself and all parties claiming under or through it, hereby waives all rights of subrogation and contribution against the Indemnitees, while acting within the scope of their duties, from all claims, losses and liabilities arising out of or incident to activities or operations performed by or on behalf of the CONTRACTOR regardless of any prior, concurrent, or subsequent passive negligence by the Indemnitees.

15. THIRD PARTY CLAIMS. In accordance with Public Contract Code § 9201, CITY will promptly inform CONTRACTOR regarding third-party claims against CONTRACTOR, but in no event later than ten (10) business days after CITY receives such claims. Such notification will be in writing and forwarded in accordance with the "Notice" section of this Agreement. As more specifically detailed in the Contract documents, CONTRACTOR agrees to indemnify and defend the City against any third-party claim.
16. WORKERS COMPENSATION: In accordance with California Labor Code Sections 1860 and 3700, CONTRACTOR and each of its subcontractors will be required to secure the payment of compensation to its employees. In accordance with the provisions of California Labor Code Section 1861, CONTRACTOR, by signing this Contract, certifies as follows: "I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract.
17. INSURANCE: CONTRACTOR shall procure and maintain for the duration of the Agreement, and for 1 year thereafter, 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, employees, or subcontractors.
 - a. Minimum Scope and Limit of Insurance. Coverage shall be at least as broad as:
 - i. Commercial General Liability (CGL): Insurance Services Office (ISO) Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than \$5,000,000 per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this

project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.

- ii. Automobile Liability: Insurance Services Office Form CA 0001 covering Code 1 (any auto), with limits no less than \$5,000,000 per accident for bodily injury and property damage.
- iii. Workers' Compensation insurance as required by the State of California, with Statutory Limits, and Employers' Liability insurance with a limit of no less than \$1,000,000 per accident for bodily injury or disease.
- iv. Builder's Risk (Course of Construction) insurance utilizing an "All Risk" (Special Perils) coverage form, with limits equal to the completed value of the project and no coinsurance penalty provisions.
- v. Professional Liability (if Design/Build), with limits no less than \$2,000,000 per occurrence or claim, and \$2,000,000 policy aggregate.
- vi. Contractors' Pollution Legal Liability and/or Asbestos Legal Liability and/or Errors and Omissions (if project involves environmental hazards) with limits no less than \$1,000,000 per occurrence or claim, and \$2,000,000 policy aggregate.
- vii. If the Contractor maintains broader coverage and/or higher limits than the minimums shown above, the CITY requires and shall be entitled to the broader coverage and/or the higher limits maintained by CONTRACTOR. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the CITY.
- b. Self-Insured Retentions. Self-insured retentions must be declared to and approved by the CITY. At the option of the CITY, either: the CONTRACTOR shall obtain coverage to reduce or eliminate such self-insured retentions as respects the CITY, its officers, officials, employees, and volunteers; or the CONTRACTOR shall provide a financial guarantee satisfactory to the CITY guaranteeing payment of losses and related investigations, claim administration, and defense expenses. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or CITY.
- c. Other Insurance Provisions. The insurance policies are to contain, or be endorsed to contain, the following provisions:
 - i. The CITY, its officers, officials, employees, and volunteers are to be covered as additional insureds 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 and automobiles owned, leased, hired, or borrowed by or on behalf of the CONTRACTOR. 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, CG 11 85 or both CG 20 10, CG 20 26, CG 20 33, or CG 20 38; and CG 20 37 forms if later revisions used).
 - ii. For any claims related to this project, the CONTRACTOR's insurance coverage shall be primary insurance coverage at least as broad as ISO CG 20 01 04 13 as respects the CITY, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the CITY, its

officers, officials, employees, or volunteers shall be excess of the CONTRACTOR's insurance and shall not contribute with it.

- iii. Each insurance policy required by this clause shall provide that coverage shall not be canceled, except with notice to the CITY.
- d. Builder's Risk (Course of Construction) Insurance.
 - i. CONTRACTOR may submit evidence of Builder's Risk insurance in the form of Course of Construction coverage. Such coverage shall name the CITY as a loss payee as their interest may appear.
 - ii. If the Project does not involve new or major reconstruction, at the option of the CITY, an Installation Floater may be acceptable. For such projects, a Property Installation Floater shall be obtained that provides for the improvement, remodel, modification, alteration, conversion or adjustment to existing buildings, structures, processes, machinery, and equipment. The Property Installation Floater shall provide property damage coverage for any building, structure, machinery or equipment damaged, impaired, broken, or destroyed during the performance of the Work, including during transit, installation, and testing at the CITY's site.
- e. Claims Made Policies. If any coverage required is written on a claims-made coverage form:
 - i. The retroactive date must be shown, and this date must be before the execution date of the Contract or the beginning of Contract work.
 - ii. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of Contract work.
 - iii. If coverage is cancelled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the Contract effective, or start of work date, the CONTRACTOR must purchase extended reporting period coverage for a minimum of five (5) years after completion of Contract work.
 - iv. A copy of the claims reporting requirements must be submitted to the CITY for review.
 - v. If the services involve lead-based paint or asbestos identification/remediation, the Contractors Pollution Liability policy shall not contain lead-based paint or asbestos exclusions. If the services involve mold identification/remediation, the Contractors Pollution Liability policy shall not contain a mold exclusion, and the definition of Pollution shall include microbial matter, including mold.
- f. Acceptability of Insurers. Insurance is to be placed with insurers authorized to conduct business in the state with a current A.M. Best rating of no less than A: VII, unless otherwise acceptable to the CITY.
- g. Waiver of Subrogation. CONTRACTOR hereby agrees to waive rights of subrogation which any insurer of CONTRACTOR may acquire from CONTRACTOR by virtue of the payment of any loss. CONTRACTOR agrees to obtain any endorsement that may be necessary to affect this waiver

of subrogation. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the CITY for all work performed by the CONTRACTOR, its employees, agents and subcontractors.

- h. **Verification of Coverage.** CONTRACTOR shall furnish the CITY with original Certificates of Insurance including all required amendatory endorsements (or copies of the applicable policy language effecting coverage required by this clause) and a copy of the Declarations and Endorsement Page of the CGL policy listing all policy endorsements to CITY before work begins. However, failure to obtain the required documents prior to the work beginning shall not waive the CONTRACTOR's obligation to provide them. The CITY reserves the right to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time.
 - i. **Subcontractors.** CONTRACTOR shall require and verify that all subcontractors maintain insurance meeting all requirements stated herein, and CONTRACTOR shall ensure that CITY is an additional insured on insurance required from subcontractors. For CGL coverage, subcontractors shall provide coverage with a form at least as broad as CG 20 38 04 13.
 - j. **Special Risks or Circumstances.** CITY reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other circumstances.
18. **ASSIGNMENT:** This Contract is not assignable nor the performance of either party's duties delegable without the prior written consent of the other party. Any attempted or purported assignment or delegation of any of the rights or obligations of either party without the prior written consent of the other shall be void and of no force and effect.
19. **INDEPENDENT CONTRACTOR:** CONTRACTOR is and shall at all times remain as to the CITY, a wholly independent Contractor. Neither the CITY nor any of its agents shall have control of the conduct of CONTRACTOR or any of CONTRACTOR'S employees, except as herein set forth. CONTRACTOR shall not at any time or in any manner represent that it or any of its agents or employees are in any manner agents or employees of CITY.
20. **TAXES:** CONTRACTOR is responsible for paying all retail sales and use, transportation, export, import, special or other taxes and duties applicable to, and assessable against any work, materials, equipment, services, processes and operations incidental to or involved in this Contract. CONTRACTOR is responsible for ascertaining and arranging to pay them. The prices established in the Contract shall include compensation for any taxes CONTRACTOR is required to pay by laws and regulations in effect at the bid opening date.
21. **LICENSES:** CONTRACTOR represents and warrants to CITY that it has all licenses, permits, qualifications, insurance, and approvals of whatsoever nature which are legally required of CONTRACTOR to practice its profession. CONTRACTOR represents and warrants to CITY that CONTRACTOR shall, at its sole cost and expense, keep in effect or obtain at all times during the term of this Agreement any licenses, permits, insurance, and approvals which are legally required of CONTRACTOR to practice its profession. CONTRACTOR shall maintain a City of Hermosa Beach business license, if required under CITY ordinance.

Contractors are required by law to be licensed and regulated by the Contractors' State License Board which has jurisdiction to investigate complaints against Contractors if a complaint regarding a patent act or omission is filed within five (5) years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within ten (10) years of the date of the alleged violation. Any questions concerning a Contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

22. RECORDS: CONTRACTOR shall maintain accounts and records, including personnel, property, and financial records, adequate to identify and account for all costs pertaining to this Agreement and such other records as may be deemed necessary by CITY or any authorized representative, and will be retained for four years after the expiration of this Agreement. All such records shall be made available for inspection or audit by CITY at any time during regular business hours.
23. SEVERABILITY. If any portion of these Contract documents are declared by a court of competent jurisdiction to be invalid or unenforceable, then such portion will be deemed modified to the extent necessary in the opinion of the court to render such portion enforceable and, as so modified, such portion and the balance of this Agreement will continue in full force and effect.
24. WHOLE AGREEMENT: This Agreement supersedes any and all other agreements either oral or written, between the parties and contains all of the covenants and agreements between the parties pertaining to the work of improvements described herein. Each party to this Contract acknowledges that no representations, inducements, promises or agreements, orally or otherwise, have been made by any party, or anyone acting on behalf of any party, which are not embodied herein, and that any other agreement, statements or promise not contained in this Contract shall not be valid or binding. Any modifications of this Contract will be effective only if signed by the party to be charged.
25. AUTHORITY: CONTRACTOR affirms that the signatures, titles, and seals set forth hereinafter in execution of this Agreement represent all individuals, firm members, partners, joint ventures, and/or corporate officers having a principal interest herein. Each party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and to bind each respective party. This Agreement may be modified by written amendment. CITY's city manager may execute any such amendment on CITY's behalf.
26. NOTICES: All notices permitted or required under this Agreement shall be in writing, and shall be deemed made when delivered to the applicable party's representative as provided in this Agreement. Additionally, such notices may be given to the respective parties at the following addresses, or at such other addresses as the parties may provide in writing for this purpose. Such notices shall be deemed made when personally delivered or when mailed forty-eight (48) hours after deposit in the U.S. mail, first-class postage prepaid, and addressed to the party at its applicable address.

CITY OF HERMOSA BEACH
1315 Valley Drive
Hermosa Beach, CA 90254

Attention: _____ Project Manager

CONTRACTOR:

Attention: _____

27. DISPUTES. Effective January 1, 1991, Section 20104 et seq., of the California Public Contract Code prescribes a process utilizing informal conferences, non-binding judicial supervised mediation, and judicial arbitration to resolve disputes on construction claims of \$375,000 or less. Effective January 1, 2017, Section 9204 of the Public Contract Code prescribes a process for negotiation and mediation to resolve disputes on construction claims. The intent of this Section is to implement Sections 20104 et seq. and Section 9204 of the California Public Contract Code. This Section shall be construed to be consistent with said statutes.

Claims. For purposes of this Section, “Claim” means a separate demand by CONTRACTOR, after a change order duly requested in accordance with the terms of this Contract has been denied by the CITY, for (A) a time extension, (B) payment of money or damages arising from Work done by or on behalf of CONTRACTOR pursuant to the Contract, or (C) an amount the payment of which is disputed by the CITY. A “Claim” does not include any demand for payment for which CONTRACTOR has failed to provide notice, request a change order, or otherwise failed to follow any procedures contained in the Contract Documents. Claims governed by this Section may not be filed unless and until CONTRACTOR completes all procedures for giving notice of delay or change and for the requesting of a time extension or change order, including but not necessarily limited to the change order procedures contained herein, and CONTRACTOR’s request for a change has been denied in whole or in part. Claims governed by this Section must be filed no later than fourteen (14) days after a request for change has been denied in whole or in part or after any other event giving rise to the Claim. The Claim shall be submitted in writing to the CITY and shall include on its first page the following in 16 point capital font: “THIS IS A CLAIM.” Furthermore, the claim shall include the documents necessary to substantiate the claim. Nothing in this Section is intended to extend the time limit or supersede notice requirements otherwise provided by Contract for the filing of claims, including all requirements pertaining to compensation or payment for extra Work, disputed Work, and/or changed conditions. Failure to follow such Contractual requirements shall bar any claims or subsequent lawsuits for compensation or payment thereon.

Supporting Documentation. The CONTRACTOR shall submit all claims in the following format:

Summary of claim merit and price, reference Contract Document provisions pursuant to which the claim is made

List of documents relating to claim:

Specifications
Drawings
Clarifications (Requests for Information)
Schedules
Other

Chronology of events and correspondence

Analysis of claim merit

Analysis of claim cost

Time impact analysis in CPM format

If CONTRACTOR's claim is based in whole or in part on an allegation of errors or omissions in the Drawings or Specifications for the Project, CONTRACTOR shall provide a summary of the percentage of the claim subject to design errors or omissions and shall obtain a certificate of merit in support of the claim of design errors and omissions.

Cover letter and certification of validity of the claim, including any claims from subcontractors of any tier, in accordance with Government Code section 12650 *et seq.*

City's Response. Upon receipt of a claim pursuant to this Section, CITY shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide CONTRACTOR a written statement identifying what portion of the claim is disputed and what portion is undisputed. Any payment due on an undisputed portion of the claim will be processed and made within 60 days after the public entity issues its written statement.

If CITY needs approval from its governing body to provide the CONTRACTOR a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, CITY shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide CONTRACTOR a written statement identifying the disputed portion and the undisputed portion.

Within 30 days of receipt of a claim, CITY may request in writing additional documentation supporting the claim or relating to defenses or claims CITY may have against the CONTRACTOR. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of CITY and the CONTRACTOR.

CITY's written response to the claim, as further documented, shall be submitted to CONTRACTOR within 30 days (if the claim is less than \$50,000, within 15 days) after receipt of

the further documentation, or within a period of time no greater than that taken by CONTRACTOR in producing the additional information or requested documentation, whichever is greater.

Meet and Confer. If the CONTRACTOR disputes CITY's written response, or CITY fails to respond within the time prescribed, the CONTRACTOR may so notify CITY, in writing, either within 15 days of receipt of CITY's response or within 15 days of CITY's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand, CITY shall schedule a meet and confer conference within 30 days for settlement of the dispute.

Mediation. Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, CITY shall provide the CONTRACTOR 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 60 days after CITY issues its written statement. Any disputed portion of the claim, as identified by CONTRACTOR in writing, shall be submitted to nonbinding mediation, with CITY and CONTRACTOR sharing the associated costs equally. CITY and CONTRACTOR shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing unless the parties agree to select a mediator at a later time.

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.

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.

Unless otherwise agreed to by CITY and CONTRACTOR in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

The mediation shall be held no earlier than the date CONTRACTOR completes the Work or the date that CONTRACTOR last performs Work, whichever is earlier. All unresolved claims shall be considered jointly in a single mediation unless a new unrelated claim arises after mediation is completed.

Procedures After Mediation. If following the mediation, the claim or any portion remains in dispute, CONTRACTOR must file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time CONTRACTOR submits his or her written claim pursuant to subdivision (a) until the time the claim is denied, including any period of time utilized by the meet and confer conference or mediation.

Civil Actions. The following procedures are established for all civil actions filed to resolve claims subject to this Section:

Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both parties or unless mediation was held prior to commencement of the action in accordance with Public Contract Code section 9204 and the terms of these procedures.. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court.

If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1114.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, (A) arbitrators shall, when possible, be experienced in construction law, and (B) any party appealing an arbitration award who does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, also pay the attorney's fees on appeal of the other party.

Government Code Claims. In addition to any and all Contract requirements pertaining to notices of and requests for compensation or payment for extra work, disputed work, claims and/or changed conditions, CONTRACTOR must comply with the claim procedures set forth in Government Code sections 900 et seq. prior to filing any lawsuit against the CITY. Such Government Code claims and any subsequent lawsuit based upon the Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to extra work, disputed work, claims, and/or changed conditions have been followed by CONTRACTOR. If no such Government Code claim is submitted, or if any prerequisite Contractual requirements are not otherwise satisfied as specified herein, CONTRACTOR shall be barred from bringing and maintaining a valid lawsuit against the CITY. A Government Code claim must be filed no earlier than the date the work is completed or the date CONTRACTOR last performs work on the Project, whichever occurs first. A Government Code claim shall be inclusive of all unresolved claims unless a new unrelated claim arises after the Government Code claim is submitted.

Non-Waiver. CITY's failure to respond to a claim from CONTRACTOR within the time periods described in this Section or to otherwise meet the time requirements of this Section shall result in the claim being deemed rejected in its entirety. CITY's failure to respond shall not waive CITY's rights to any subsequent procedures for the resolution of disputed claims.

24. NON-DISCRIMINATION: Contractor represents that it is an equal opportunity employer and that it shall not discriminate against any employee or applicant for employment because of race, religion, color, national origin, ancestry, sex, age or other interests protected by the State or Federal

Constitutions. Such non-discrimination shall include, but not be limited to, all activities related to initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination. A violation of this section exposes CONTRACTOR to the penalties provided for in Labor Code Section 1735.

25. TERMINATION: This Contract may be terminated by CITY at any time, either with or without cause, by giving CONTRACTOR three (3) days advance written notice. In the event of termination by CITY for any reason other than the fault of CONTRACTOR, CITY shall pay CONTRACTOR for all Work performed up to that time as provided herein. In the event of breach of the Contract by Contractor, CITY may terminate the Contract immediately without notice, may reduce payment to CONTRACTOR in the amount necessary to offset CITY's resulting damages, and may pursue any other available recourse against CONTRACTOR. CONTRACTOR may not terminate this Contract except for cause. In the event this Contract is terminated in whole or in part as provided, CITY may procure, upon such terms and in such manner as it may determine appropriate, services similar to those terminated. Further, if this Contract is terminated as provided, CITY may require CONTRACTOR to provide all finished or unfinished documents, data, diagrams, drawings, materials or other matter prepared or built by CONTRACTOR in connection with its performance of this Contract.
26. ANTI-TRUST CLAIMS: This provision shall be operative if this Contract Agreement is applicable to California Public Contract Code Section 7103.5. In entering into this Contract Agreement to supply goods, services or materials, Contractor hereby offers and agrees to assign to the Agency all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2, commencing with Section 16700, of Part 2 of Division 7 of the Business and Professions Code) arising from purchases of goods, services, or materials pursuant to the Contract Agreement. This assignment shall be made and become effective at the time the Agency tender final payment to Contractor, without further acknowledgment by the Parties.
27. NO THIRD PARTY BENEFICIARY. This Contract and every provision herein is for the exclusive benefit of the Contractor and the City and not for the benefit of any other party. There will be no incidental or other beneficiaries of any of the Contractor's or the City's obligations under this Contract.
28. TIME IS OF ESSENCE. Time is of the essence for each and every provision of the Contract Documents.
29. FORCE MAJEURE. If CONTRACTOR is delayed in the performance or progress of the work by a Force Majeure Event, then the CONTRACTOR shall be entitled to a time extension, as provided in the Contract documents, when the work stopped is on the critical path and shall not be charged liquidated damages. Such a non-compensable adjustment shall be CONTRACTOR's sole and exclusive remedy for such delays and the CONTRACTOR will not receive an adjustment to the Contract price or any other compensation. Contractor must submit a timely request in accordance with the requirements of the Contract documents. A Force Majeure Event shall mean an event that materially affects a party's performance and is one or more of the following: (1) Acts of God or other natural disasters occurring at the project site; (2) terrorism or other acts of a public enemy; (3) orders of governmental authorities (including, without limitation, unreasonable and

unforeseeable delay in the issuance of permits or approvals by governmental authorities that are required for the work); (4) pandemics, epidemics or quarantine restrictions; and (5) strikes and other organized labor action occurring at the project site and the effects thereof on the work, only to the extent such strikes and other organized labor action are beyond the control of CONTRACTOR and its subcontractors, of every tier, and to the extent the effects thereof cannot be avoided by use of replacement workers. For purposes of this section, "orders of governmental authorities," includes ordinances, emergency proclamations and orders, rules to protect the public health, welfare and safety, and other actions of the City in its capacity as a municipal authority.

30. PROVISIONS REQUIRED BY LAW AND CONTRACTOR COMPLIANCE. Each and every provision of law required to be included in these Contract Documents shall be deemed to be included in these Contract Documents. The Contractor shall comply with all requirements of applicable federal, state and local laws, rules and regulations, including, but not limited to, the provisions of the California Labor Code and California Public Contract Code which are applicable to this Work.
31. ACCEPTANCE OF FACSIMILE SIGNATURES. The Parties agree that this Contract, agreements ancillary to this Contract, and related documents to be entered into in connection with this Contract will be considered signed when the signature of a party is delivered by facsimile transmission. Such facsimile signature will be treated in all respects as having the same effect as an original signature.
32. GOVERNING LAW: This Agreement shall be governed by the laws of the State of California, and exclusive venue for any action involving this Contract will be in Los Angeles County.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement with all the formalities required by law on the respective dates set forth opposite their signatures.

State of California
CONTRACTOR'S License No. _____

CONTRACTOR

Date

By: _____
TITLE

CITY OF HERMOSA BEACH, CALIFORNIA

Date By: _____
MAYOR

ATTEST:

Date By: _____
CITY CLERK

CONTRACTOR'S Business Phone _____

Emergency Phone at which CONTRACTOR can be reached at any time: () _____

APPROVED AS TO FORM:

CITY ATTORNEY

Date

**B. AGREEMENT OF INDEMNIFICATION
AND HOLD HARMLESS AND WAIVER OF SUBROGATION AND CONTRIBUTION**

CIP 699

PARKING STRUCTURE LOT “C” IMPROVEMENTS

Contract/Agreement/License/Permit No. or description: _____

Indemnitor(s) (list all names): _____

To the fullest extent permitted by law, Indemnitor hereby agrees, at its sole cost and expense, to defend, protect, indemnify, and hold harmless the City of Hermosa Beach and its respective elected officials, officers, attorneys, agents, employees, volunteers, successors, and assigns (collectively “Indemnitees”) from and against any and all damages, costs, expenses, liabilities, claims, demands, causes of action, proceedings, expenses, judgments, penalties, liens, and losses of any nature whatsoever, including fees of accountants, attorneys, or other professionals and all costs associated therewith (collectively “Liabilities”), arising or claimed to arise, directly or indirectly, out of, in connection with, resulting from, or related to any act, failure to act, error, or omission of Indemnitor or any of its officers, agents, servants, employees, subcontractors, materialmen, suppliers or their officers, agents, servants or employees, arising or claimed to arise, directly or indirectly, out of, in connection with, resulting from, or related to the above-referenced Contract, agreement, license, or permit (the “Agreement”) or the performance or failure to perform any term, provision, covenant, or condition of the Agreement, including this indemnity provision. This indemnity provision is effective regardless of any prior, concurrent, or subsequent active or passive negligence by Indemnitees and shall operate to fully indemnify Indemnitees against any such negligence. This indemnity provision shall survive the termination of the Agreement and is in addition to any other rights or remedies which Indemnitees may have under the law. Payment is not required as a condition precedent to an Indemnitee’s right to recover under this indemnity provision, and an entry of judgment against an Indemnitee shall be conclusive in favor of the Indemnitee’s right to recover under this indemnity provision. Indemnitor shall pay Indemnitees for any attorney fees and costs incurred in enforcing this indemnification provision. Notwithstanding the foregoing, nothing in this instrument shall be construed to encompass (a) Indemnitees’ sole negligence or willful misconduct to the limited extent that the underlying Agreement is subject to Civil Code 2782(a), or (b) the Contracting public agency’s active negligence to the limited extent that the underlying Agreement is subject to Civil Code 2782(b). This indemnity is effective without reference to the existence or applicability of any insurance coverages which may have been required under the Agreement or any additional insured endorsements which may extend to Indemnitees.

Indemnitor, on behalf of itself and all parties claiming under or through it, hereby waives all rights of subrogation and contribution against the Indemnitees, while acting within the scope of their duties, from all claims, losses and liabilities arising out of or incident to activities or operations performed by or on behalf of the Indemnitor regardless of any prior, concurrent, or subsequent active or passive negligence by the Indemnitees. Accountants, attorneys, or other professionals employed by Indemnitor to defend Indemnitees shall be selected by Indemnitees.

In the event there is more than one person or entity named in the Agreement as an Indemnitor, then all obligations, liabilities, covenants and conditions under this instrument shall be joint and several.

“Indemnitor”

Name _____

Name _____

By: _____

By: _____

C. EQUALS

CIP 699 PARKING STRUCTURE LOT “C” IMPROVEMENTS

The undersigned desires to use the material, product, thing, or service described below, as “an equal” to such item as specified.

In accordance with the provisions under General Conditions, entitled EQUALS, if the City shall find any item so described equal to the respective item specified, then the undersigned may furnish such item, together with all necessary labor, materials, equipment and incidentals required to perform and complete the work.

Contractor’s Name

Date

Address

Telephone Number

Materials, apparatus or equipment specified for which Bidder proposes “an equal”		Complete description of the materials, apparatus or equipment the Bidder desires to use as “an equal” and name of Contractor if different
<i>Specify page number</i>		
1.		
2.		
3.		

D. FAITHFUL PERFORMANCE BOND

**CIP 699
PARKING STRUCTURE LOT “C” IMPROVEMENTS**

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the City of Hermosa Beach, (hereinafter referred to as “City”) has awarded to _____, (hereinafter referred to as the “Contractor”) an agreement for **Contract No.** _____, (hereinafter referred to as the “Project”).

WHEREAS, the work to be performed by the Contractor is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as “Contract Documents”), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, the Contractor is required by said Contract Documents to perform the terms thereof and to furnish a bond for the faithful performance of said Contract Documents.

NOW, THEREFORE, we, _____, the undersigned Contractor and _____ as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto the City in the sum of _____ DOLLARS, (\$_____), said sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the Contractor, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract Documents and any alteration thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill all obligations including the one (1) year guarantee of all materials and workmanship; and shall indemnify and save harmless the City, its officials, officers, employees, and authorized volunteers, as stipulated in said Contract Documents, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees including reasonable attorney’s fees, incurred by City in enforcing such obligation.

As a condition precedent to the satisfactory completion of the Contract Documents, unless otherwise provided for in the Contract Documents, the above obligation shall hold good for a period of one (1) year after the acceptance of the work by City, during which time if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the City from loss or damage resulting from or caused by defective materials or faulty workmanship.

The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the City's rights or the Contractor or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure Section 337.15.

Whenever Contractor shall be, and is declared by the City to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly, at the City's option:

- i. Take over and complete the Project in accordance with all terms and conditions in the Contract Documents; or
- ii. Obtain a bid or bids for completing the Project in accordance with all terms and conditions in the Contract Documents and upon determination by Surety of the lowest responsive and responsible Bidder, arrange for a Contract between such Bidder, the Surety and the City, and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the Contract price, including other costs and damages for which Surety may be liable. The term "balance of the Contract price" as used in this paragraph shall mean the total amount payable to Contractor by the City under the Contract and any modification thereto, less any amount previously paid by the City to the Contractor and any other set offs pursuant to the Contract Documents.
- iii. Permit the City to complete the Project in any manner consistent with California law and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the Contract price, including other costs and damages for which Surety may be liable. The term "balance of the Contract price" as used in this paragraph shall mean the total amount payable to Contractor by the City under the Contract and any modification thereto, less any amount previously paid by the City to the Contractor and any other set offs pursuant to the Contract Documents.

Surety expressly agrees that the City may reject any Contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Contractor.

Surety shall not utilize Contractor in completing the Project nor shall Surety accept a bid from Contractor for completion of the Project if the City, when declaring the Contractor in default, notifies Surety of the City's objection to Contractor's further participation in the completion of the Project.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project to be performed thereunder shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project.

By their signatures hereunder, Surety and Contractor hereby confirm under penalty of perjury that surety is an admitted surety insurer authorized to do business in the State of California.

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK]

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

Contractor/ Principal

By _____

Title _____

Surety

By

Attorney-in-Fact

Title _____

The rate of premium on this bond is _____ per thousand. The total amount of premium charges is \$_____.
(The above must be filled in by corporate attorney.)

THIS IS A REQUIRED FORM

Any claims under this bond may be addressed to:

(Name and Address of Surety)

(Name and Address of Agent or Representative for service of process in California, if different from above)

(Telephone number of Surety and Agent or Representative for service of process in California)

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of Notary Public _____

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- .. Individual
- .. Corporate Officer

Title(s)

.. Partner(s) .. Limited
 .. General

.. Attorney-In-Fact

.. Trustee(s)

.. Guardian/Conservator

.. Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

Title or Type of Document

Number of Pages

Date of Document

Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for Contractor/Principal.

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of Notary Public _____

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- .. Individual
- .. Corporate Officer

Title(s)
.. Partner(s) .. Limited
.. General
.. Attorney-In-Fact
.. Trustee(s)
.. Guardian/Conservator
.. Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

Title or Type of Document

Number of Pages

Date of Document

Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for the Attorney-in-Fact. The Power-of Attorney to local representatives of the bonding company must also be attached.

END OF PERFORMANCE BOND

E. PAYMENT BOND (LABOR AND MATERIALS)

CIP 699

PARKING STRUCTURE LOT "C" IMPROVEMENTS

KNOW ALL MEN BY THESE PRESENTS That

WHEREAS, the City of Hermosa Beach (hereinafter designated as the "City"), by action taken or a resolution passed _____, 20____, has awarded to _____ hereinafter designated as the "Principal," a Contract for the work described as follows: **Contract No.** _____ (the "Project"); and

WHEREAS, said Principal is required to furnish a bond in connection with said Contract; providing that if said Principal or any of its Subcontractors shall fail to pay for any materials, provisions, provender, equipment, or other supplies used in, upon, for or about the performance of the work Contracted to be done, or for any work or labor done thereon of any kind, or for amounts due under the Unemployment Insurance Code or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of said Principal and its Subcontractors with respect to such work or labor the Surety on this bond will pay for the same to the extent hereinafter set forth.

NOW THEREFORE, we, the Principal and _____ as Surety, are held and firmly bound unto the City in the penal sum of _____ Dollars (\$_____) lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, his or its subcontractors, heirs, executors, administrators, successors or assigns, shall fail to pay any of the persons named in Civil Code Section 9100, fail to pay for any materials, provisions or other supplies, used in, upon, for or about the performance of the work Contracted to be done, or for any work or labor thereon of any kind, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department or Franchise Tax Board from the wages of employees of the Contractor and his subcontractors pursuant to Revenue and Taxation Code Section 18663, with respect to such work and labor the Surety or Sureties will pay for the same, in an amount not exceeding the sum herein above specified, and also, in case suit is brought upon this bond, all litigation expenses incurred by the City in such suit, including reasonable attorneys' fees, court costs, expert witness fees and investigation expenses.

This bond shall inure to the benefit of any of the persons named in Civil Code Section 9100 so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any Contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described, or pertaining or relating to the furnishing of labor, materials, or equipment therefore, nor by any change or modification of

any terms of payment or extension of the time for any payment pertaining or relating to any scheme or work of improvement herein above described, nor by any rescission or attempted rescission or attempted rescission of the Contract, agreement or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such Contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and under no circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of Contract between the owner or City and original Contractor or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that claimant is a person described in Civil Code Section 9100, and has not been paid the full amount of his claim and that Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned, including but not limited to the provisions of sections 2819 and 2845 of the California Civil Code.

By their signatures hereunder, Surety and Principal hereby confirm under penalty of perjury that surety is an admitted surety insurer authorized to do business in the State of California.

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

Contractor/ Principal

By_____

Title_____

Surety

By

Attorney-in-Fact

Title_____

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of Notary Public _____

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- .. Individual
- .. Corporate Officer

Title(s)

.. Partner(s) .. Limited
 .. General

.. Attorney-In-Fact

.. Trustee(s)

.. Guardian/Conservator

.. Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

Title or Type of Document

Number of Pages

Date of Document

Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for Contractor/Principal.

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 20____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of Notary Public _____

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

DESCRIPTION OF ATTACHED DOCUMENT

- ☐ Individual
☐ Corporate Officer

Title(s)
☐ Partner(s) ☐ Limited
☐ General
☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

Title or Type of Document

Number of Pages

Date of Document

Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for the Attorney-in-Fact. The Power-of-Attorney to local representatives of the bonding company must also be attached.

END OF PAYMENT BOND

F. GUARANTEE TO THE CITY OF HERMOSA BEACH

**CIP 699
PARKING STRUCTURE LOT “C” IMPROVEMENTS**

As a material inducement to the City to award the Contract for CIP No. _____ to the _____, the undersigned (“Guarantor”) has agreed to enter into this guarantee. The Guarantor hereby unconditionally guarantees to the fullest extent allowed by law the following work included in this project: _____ (“the work”).

Guarantor guarantees that the materials and equipment used by itself and its sub-Contractors will be free from defects and that the work will conform to the plans and specifications. Should any of the materials or equipment prove defective or should the work as a whole, or any part thereof, prove defective for any reason whatsoever (except due to intentional torts by the City), or should the work as a whole or any part thereof fail to operate properly or fail to comply with the plans and specifications, Guarantor will, at the City’s sole election: 1) reimburse the City, upon written demand, for all of the City’s expenses incurred replacing or restoring any such equipment or materials, including the cost of any work necessary to make such replacement or repairs; or 2) replace any such defective material or equipment and repair said work completely, all without any cost to the City. Guarantor further guarantees that any such repair work will conform to the plans and specifications for the project. This guarantee will remain in effect for one year from the date on which the Contract for the work is accepted by the City.

Guarantor understands and agrees that the City shall have the unqualified option to make any replacements or repairs itself or to have such replacement, repair, performed by the undersigned. The City shall have no obligation to consult with Guarantor before the City proceeds to perform any repair, replacement, or work itself. If the City elects to have Guarantor perform said repair, replacement, or work, Guarantor agrees that the repair, replacement, or work shall be performed within 15 days after receipt of a written demand from the City.

If the City elects to perform the replacement, repairs itself, Guarantor agrees to make reimbursement payment within 15 days after receipt of a written demand for payment from the City.

If the Guarantor fails or refuses to comply with this guarantee, the City shall be entitled to all costs and expenses, including attorneys and expert fees, reasonably incurred by reason of Guarantor’s failure or refusal.

Guarantor

Contractor

Date

By

Title

**G. GENERAL COMPREHENSIVE LIABILITY ADDITIONAL INSURED
ENDORSEMENT**

**CIP 699
PARKING STRUCTURE LOT "C" IMPROVEMENTS**

NAME OF ADDRESS OF INSURED:

General description of agreement(s) and/or activity(ies) insured:

Notwithstanding any inconsistent statement in the policy to which this endorsement is attached or in any endorsement now or hereafter attached thereto, it is agreed as follows:

1. That the City of Hermosa Beach and its or their elected officials, officers, agents and employees are insureds thereunder in relation to those activities described generally above with regard to operations performed by or on behalf of the named insured.
2. Such insurance shall be primary, and not contributing with any other insurance maintained by _____ the _____ City.
3. The policy to which this endorsement is attached shall apply separately to each insured against whom claim is made or suit is brought except with respect to the limits of the company's _____ liability.
4. The policy to which this endorsement is attached shall not be subject to cancellation, change in coverage, reduction of limits or non-renewal except after written notice to Risk Management, City of Hermosa Beach, by certified mail, return receipt requested, not less than thirty (30) days prior to the effective date thereto.

CANCELLATION NOTICE AND ENDORSEMENT TO BE SENT TO:

Risk Management
City of Hermosa Beach
1315 Valley Dr. Hermosa
Beach, CA 90254
(310) 318-0202

Except as stated above and not in conflict with this endorsement, nothing contained herein shall be held to waive, alter or extend any of the limits, agreements, or exclusions of the policy to which this endorsement is attached.

Endorsement

Effective

Policy No.

No. _____ Date _____

TYPE OF COVERAGES TO WHICH LIMITS OF THIS ENDORSEMENT ATTACHES LIABILITY	POLICY PERIOD FROM	TO

Scheduled items or locations are to be identified on an attached sheet.

The following inclusions relate to the above coverages includes:

☐ Premises & Operations	☐ Explosion Hazard
☐ Contractual Liability	☐ Collapse
☐ Independent Contractors	☐ Underground Hazard
☐ Products/Completed Operations	☐ Personal Injury
☐ Broad Form Property Damage	☐ _____
☐ Broad Form Liability Endorsement	

A deductible or self-insured retention (strike out one) of _____
applies to _____ coverage.

DEDUCTIBLE APPLIES PER CLAIM, _____ PER OCCURRENCE _____

INSURANCE COMPANY
ADDRESS: _____

I, _____, (print name) hereby declare under penalty of perjury, under the laws of the State of California, that I have the authority to bind the above-named insurance company to this endorsement and by my execution hereof, do so bind said company.

Signature of Authorized Representative (Original Signature
only; No facsimile signature or initialed signature accepted)

Executed at _____, _____ on _____ 20 .

Phone No.: () _____

H. AUTOMOBILE LIABILITY ADDITIONAL INSURED ENDORSEMENT

CIP 699 PARKING STRUCTURE LOT "C" IMPROVEMENTS

NAME OF ADDRESS OF INSURED:

General description of agreement(s) and/or activity(ies) insured:

Notwithstanding any inconsistent statement in the policy to which this endorsement is attached or in any endorsement now or hereafter attached thereto, it is agreed as follows:

1. That the City of Hermosa Beach and its or their elected officials, officers, agents and employees are insureds thereunder in relation to those activities described generally above with regard to operations performed by or on behalf of the named insured.
2. Such insurance shall be primary, and not contributing with any other insurance maintained by the City.
3. The policy to which this endorsement is attached shall apply separately to each insured against whom claim is made or suit is brought except with respect to the limits of the company's liability.
4. The policy to which this endorsement is attached shall not be subject to cancellation, change in coverage, reduction of limits or non-renewal except after written notice to Risk Management, City of Hermosa Beach, by certified mail, return receipt requested, not less than thirty (30) days prior to the effective date thereto.

CANCELLATION NOTICE AND ENDORSEMENT TO BE SENT TO:

Risk Management
City of Hermosa Beach
1315 Valley Dr. Hermosa
Beach, CA 90254
(310) 318-0202

Except as stated above and not in conflict with this endorsement, nothing contained herein shall be held to waive, alter or extend any of the limits, agreements, or exclusions of the policy to which this endorsement is attached.

Endorsement No. _____	Effective Date _____	Policy No. _____

TYPE OF COVERAGES TO WHICH LIMITS OF THIS ENDORSEMENT ATTACHES LIABILITY	POLICY PERIOD FROM _____ TO _____

Scheduled items or locations are to be identified on an attached sheet.

The following inclusions relate to the above coverages includes:

☐ Owned Automobiles	☐ Owned, Non-owned and Hired Automobiles
☐ Non-owned Automobiles	
☐ Hired Automobiles	

A deductible or self-insured retention (strike out one) of _____ applies to _____ coverage.

DEDUCTIBLE APPLIES PER CLAIM, _____ PER OCCURRENCE _____

INSURANCE COMPANY
ADDRESS: _____

I, _____, (print name) hereby declare under penalty of perjury, under the laws of the State of California, that I have the authority to bind the above-named insurance company to this endorsement and by my execution hereof, do so bind said company.

Signature of Authorized Representative (Original Signature
only; No facsimile signature or initialed signature accepted)

Executed at _____, _____ on _____, 20 .

Phone No.: () _____

**I. INSTRUCTIONS FOR COMPLETING, EXECUTING, AND SUBMITTING
EVIDENCE OF INSURANCE TO THE OWNER**

**CIP 699
PARKING STRUCTURE LOT "C" IMPROVEMENTS**

Insured: _____
(Contractor, Lessee, Permittee, etc.)

Date: _____

Insured

- A. In order to reduce problems and time delays in providing evidence of insurance to the City, you are requested to give your insurance agent or broker a copy of the attached Insurance Requirements and endorsement forms along with these instructions for completing, executing, and submitting evidence of insurance.

If the agreement requires Workers' Compensation coverage and you have been authorized by the State of California to self-insure Workers' Compensation, then a copy of the certificate from the State authorizing self-insurance for Workers' Compensation shall meet the requirements for Workers' Compensation insurance covering activities within the State of California.

All questions relating to insurance should be directed to the department or office responsible for your Contract, lease, permit, or other agreement.

Insurance Agent or Broker

- B. The appropriate Endorsement Form shall be used. No changes in the terms of the Endorsement will be permitted. Certificates of Insurance alone will not be accepted by the City.

More than one insurance policy may be required to comply with the insurance requirements. Endorsement forms appropriate to your insured's Contract, lease or permit are checked below and enclosed.

- ☐ Workers' Compensation/Employers Liability
- ☐ General Liability
- ☐ Automobile Liability
- ☐ Excess/umbrella Liability
- ☐ Professional Liability
- ☐ Property insurance
- ☐ Fine Arts Property Insurance

You shall have an authorized representative of the insurance company sign the completed endorsement forms, note his phone number at the bottom of page 2 and have said representative transmit the forms to the City. Signatures must be originals as the City will not accept facsimile (rubber stamp, photocopy, etc.) or initialed signatures.

The name of the Insurance Company underwriting the coverage and its address shall be noted on page 2 of the endorsement form.

The "General description of agreement(s) and/or activity(ies) insured" shall include reference to the activity and/or to either the specific City Contract number, lease number, permit number or construction approval number.

The coverages and limits for each type of insurance are specified in the attached sheet of insurance requirements. When coverage is on a scheduled basis, then a separate sheet is to be attached to the endorsement listing such scheduled locations, vehicles, etc., so covered.

Endorsements to excess policies will be required when primary insurance is insufficient in complying with the City's requirements.

If there is insufficient space on the form to note pertinent information, such as inclusions, exclusions or specific provisions, etc., a separate sheet may be attached.

When additional sheets are attached, change the number of pages at the bottom of the form.

Completed Endorsement(s) and questions relating to the required insurance are to be directed to:

Risk Management
City of Hermosa Beach
1315 Valley Dr. Hermosa
Beach, CA 90254
(310) 318-0202

Improperly completed Endorsements will be returned to your insured for correction by an authorized representative of the insurance company.

DELAY IN SUBMITTING PROPERLY COMPLETED ENDORSEMENT FORMS MAY DELAY YOUR INSURED'S INTENDED OCCUPANCY OR OPERATION UNDER AGREEMENT WITH THE OWNER.

For extensions or renewals of insurance policies which have the City's Endorsement Form(s) attached, the City will accept a copy of the endorsement (with an original signature) to extend the period of coverage as evidence of continued coverage.

J. WORKER'S COMPENSATION INSURANCE CERTIFICATE

CIP 699

PARKING STRUCTURE LOT "C" IMPROVEMENTS

The Contractor shall execute the following form as required by the California Labor Code, Sections 1860 and 1861:

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of the Contract.

DATED: _____

CONTRACTOR: _____

By: _____

Signature

Title

ATTEST:

By: _____

Signature

Title

K. SUPPLEMENTAL INFORMATION TO BE COMPLETED BY PRINCIPAL

CIP 699

PARKING STRUCTURE LOT "C" IMPROVEMENTS

If an individual, so state. If a firm or co-partnership, state the firm and give the names of all individual co-partners composing the partnership. If a corporation, state legal name of corporation; state also the names of the president, secretary, treasurer, and manager thereof.

Business Address:

Telephone Number:

Date:

Print Name:

Principal

Signature:

L. W9 FORM

Form W-9 (Rev. October 2018) Department of the Treasury Internal Revenue Service	Request for Taxpayer Identification Number and Certification ▶ Go to www.irs.gov/FormW9 for instructions and the latest information.	Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.		
	2 Business name/disregarded entity name, if different from above		
	3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes. ☐ Individual/sole proprietor or single-member LLC ☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____ Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner. ☐ Other (see instructions) ▶ _____		4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ (Applies to accounts maintained outside the U.S.)
	5 Address (number, street, and apt. or suite no.) See instructions.	Requester's name and address (optional)	
	6 City, state, and ZIP code		
	7 List account number(s) here (optional)		

Part I Taxpayer Identification Number (TIN) Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see <i>How to get a TIN</i> , later. Note: If the account is in more than one name, see the instructions for line 1. Also see <i>What Name and Number To Give the Requester</i> for guidelines on whose number to enter.	Social security number <table border="1"><tr><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td></tr></table> or Employer identification number <table border="1"><tr><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>					-			-									-							
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Part II Certification Under penalties of perjury, I certify that: 1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and 2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and 3. I am a U.S. citizen or other U.S. person (defined below); and 4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct. Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here	Signature of U.S. person ▶	Date ▶

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
 - Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
 - Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
 - Form 1099-S (proceeds from real estate transactions)
 - Form 1099-K (merchant card and third party network transactions)
 - Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
 - Form 1099-C (canceled debt)
 - Form 1099-A (acquisition or abandonment of secured property)
- Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.

**CIP No. 699
Parking Structure Lot “C”
Improvements**

TECHNICAL PROVISIONS

TECHNICAL PROVISIONS – STRUCTURAL S-1

TECHNICAL PROVISIONS – PUMP STATION P-1

TECHNICAL PROVISIONS – ELECTRICAL E-1

TECHNICAL PROVISIONS PREPARED BY CWE
UNDER THE SUPERVISION OF:



TECHNICAL PROVISIONS – STRUCTURAL

DIVISION 01 - GENERAL REQUIREMENTS

- 011110 Summary of Work - Restoration
- 012900 Payment Procedures
- 013100 Project Management and Coordination
- 013200 Construction Progress Documentation
- 013300 Submittal Procedures
- 014000 Quality Control
- 014210 Reference Standards and Definitions

DIVISION 02 – EXISTING CONDITIONS

- 020010 Work Items

DIVISION 03 – CONCRETE

- 033021 Cast-in-Place Concrete Restoration
- 033760 Prepackaged Repair Mortar
- 036300 Epoxy Injection Systems

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

- 071800 Traffic Coatings
- 079233 Concrete Joint Sealants

DIVISION 09 - FINISHES

- 099113 Exterior Painting
- 099121 Pavement Markings – Restoration

SECTION 011110 - SUMMARY OF WORK - RESTORATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 PROJECT DESCRIPTION

- A. Work will be performed at locations within parking structure as shown on Drawings.
- B. Work required in these areas and estimated quantities are listed on Bid Form. Bid Quantities associated with Work Items listed on Drawings have been estimated and are subject to measurement as defined in Article "Measurements." Where additional Work Items are described, but not specifically located and/or shown on Drawings, Contractor shall be responsible for locating and marking areas to be repaired. Owner and/or Engineer/Architect reserves right to increase or decrease quantities up to 25% at same unit cost, as required by job conditions. Unit costs will be established in accordance with Supplementary Conditions, Article "Changes" for quantity variations exceeding 25%.
- C. Work Item specifications and details shall govern all repair operations. Locations where Work Items apply are shown on Drawings as symbols.
- D. Final payment shall be made on basis of actual approved Work performed as measured in place.
- E. Project comprises of repairs to a
 - 1. Work includes providing all materials, labor, equipment, supervision, and services required to perform repairs on the topside and underside of the supported levels. Work includes, but is not limited to, partial depth concrete repairs, beams repairs, column repairs, and Installation of a waterproofing membrane at the MIT N-4 City of Hermosa North Pier Parking Garage in accordance with the Contract Documents.

1.3 MEASUREMENTS

- A. Before ordering any material or doing any Work, Contractor shall verify all measurements at Project site and shall be responsible for correctness of same.
- B. Before proceeding with each Work Item, Contractor shall locate, mark, and measure quantity of each item and report quantities to Engineer/Architect. If measured quantities

exceed Engineer/Architect's estimate, Contractor shall obtain written authorization to proceed from Owner before executing Work required for that Work Item.

- C. Measurement of quantities for individual Work Items will be performed by Contractor and reviewed by Engineer/Architect. Coordinate measurements with inspection as required in Section "Project Management and Coordination."
- D. Cost of Work included in each Work Item for quantities as indicated in Contract Documents shall be included in Base Bid.

1. Additions to or deductions from lump sum price for quantities of each Work Item added to or deducted from Work respectively shall be at unit prices indicated in Bid Form and shall constitute payment or deductions in full for all material, equipment, labor, supervision and incidentals necessary to complete Work.

1.4 WORK SEQUENCE

- A. Prior to commencement of work, meet with Engineer/Architect and Owner representatives to establish sequence and schedule of Work. Contractor shall give Owner notice of areas to be cleared of cars at least 2 working days in advance of actual Work.
- B. Contractor shall notify Owner's representative at least 24 hrs prior to beginning any abrasive blasting operations.
- C. Contractor shall remove all broken concrete and debris from Work area on daily basis and dispose of same at authorized dump sites.
- D. Contractor shall remove dust and air transported sand/debris from remainder of facility at conclusion of operations in Work area.

1.5 CONTRACTOR USE OF PREMISES

- A. General: During construction period Contractor shall have limited use of premises for construction operations. The City will continue to operate the other portions of the garage and building that are not being worked on.
- B. General: Limit use of premises to construction activities in areas indicated; allow for Owner occupancy and use by public.
 - 1. Confine operations to areas within Contract limits indicated. Portions of the site beyond areas in which construction operations are indicated are not to be disturbed.
 - 2. Keep driveways and entrances serving the premises clear and available to the Owner and Owner's employees at all times. Do not use these areas for parking or

storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.

- C. Contractor's use of premises shall not interfere with operation of same. Elevators shall not be used for transfer of materials or equipment.
- D. Contractor's debris removal path shall be over non-repaired services unless physical restraints prevent use of such path.
- E. Contractor shall confine its apparatus, materials, equipment, tool cribs, field offices and operations to areas designated by Owner and/or Engineer/Architect. Premises shall not be unreasonably encumbered with materials and equipment. Neat and orderly stockpiling and other operations shall be maintained and debris shall be regularly removed from site. Contractor shall not load or permit any part of structure to be loaded with weight that will endanger structural integrity or safety of facility. Contractor shall limit axle loads to maximum 4000 lb per axle and gross weight of 8000 lb, or stockpiling of materials and equipment to 50 lb per sq ft. Contractor to note existing height restrictions within parking structure.
- F. Contractor Parking: Contractor's employees shall park within confines of work area or pay prevailing parking rates.
- G. On-Site Storage: Contractor shall not store materials or equipment at site of Work for more than one week prior to time that materials or equipment are incorporated into Work.

1.6 BARRICADES

- A. Provide positive barricading to separate Work areas from areas open to public and to prevent the need for washing cars parked adjacent to the work area. Minimum acceptable separation: 6 ft. 0 in. high temporary construction fence (or 4 ft. 0 in. high solid temporary barrier constructed of wood.) with tarpaulins or other barrier hung floor to ceiling to prevent damage to vehicles due to airborne debris. See "Temporary Facilities" for additional requirements.

1.7 TRAFFIC OFFICERS AND FLAGMEN

- A. When, in Owner's opinion, it is necessary that uniformed police or security officers be used to protect and control pedestrian traffic, to direct vehicular traffic during construction and to keep traffic off any part of Work, or to protect public safety, a police/security detail will be obtained. All expenses for uniformed officers shall be assumed by Contractor. Contractor to coordinate the use of flagmen or officers.

1.8 CLAIMS

- A. Contractor shall promptly address all damages claims. Owner reserves right to resolve any claims not addressed by Contractor within 3 wks after claim is received by Contractor. Any amounts paid by Owner will be deducted from Contractor's next progress payment.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 011110

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.3 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Construction Manager and paid for by Owner.
 - 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Engineer will return incomplete applications without action.
 - 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 - 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- D. Transmittal: Submit Application for Payment to Construction Manager as directed by Owner. Include waivers of lien and similar attachments if required.
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- E. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.

PAYMENT PROCEDURES

012900 - 1

1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
 2. When an application shows completion of an item, submit final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Waiver Delays: Submit each Application for Payment with Contractor's waiver of mechanic's lien for construction period covered by the application.
 - a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- F. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. "Contractor's Affidavit of Payment of Debts and Claims."
 5. "Contractor's Affidavit of Release of Liens."
 6. Evidence that claims have been settled.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General project coordination procedures.
 - 2. Coordination Drawings.
 - 3. Administrative and supervisory personnel.
 - 4. Project meetings.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 01 Section "Closeout Procedures" for coordinating Contract closeout.

1.3 COORDINATION

- A. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 1. Preparation of Contractor's Construction Schedule.
 2. Preparation of the Schedule of Values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Project closeout activities.

1.4 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Engineer of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Engineer, within 3 days of the meeting.
- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Engineer, but no later than 15 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
 1. Attendees: Authorized representatives of Owner, Engineer, and their consultants; Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
- C. Progress Meetings: Conduct progress meetings at regular intervals. Coordinate dates of meetings with preparation of payment requests.
 1. Attendees: In addition to representatives of Owner and Engineer, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be

represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
 - a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Section 6 of the Special Provisions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following
 - 1. Contractor's Construction Schedule.
 - 2. Construction schedule updating reports.
 - 3. Daily construction reports.
 - 4. Material location reports.
 - 5. Field condition reports.
 - 6. Unusual event reports.
 - 7. Construction photographs.
- B. Related Sections include the following:
 - 1. Division 01 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
 - 2. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
 - 3. Division 01 Section "Photographic Documentation" for submitting construction photographs.
 - 4. Division 01 Section "Quality Control" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical activities are activities on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor activity is an activity that precedes another activity in the network.

3. Successor activity is an activity that follows another activity in the network. B.
Event: The starting or ending point of an activity.

- C. Milestone: A key or critical point in time for reference or measurement.

1.4 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 1. Working electronic copy of schedule file, where indicated.
 2. PDF file.
- B. Contractor's Construction Schedule: Initial schedule of size required to display entire schedule for entire construction period.
 1. Submit a working digital copy of schedule, using software indicated and labeled to comply with requirements for submittals. Include type of schedule (Initial or Updated) and date on label.
- C. Digital Photographs: Submit image files within three (3) days of taking photographs.
 1. Submit photos by uploading to Walker. Include copy of key plan indicating each photograph's location and direction.
- D. Construction Schedule Updating Reports: Submit with Application for Payment
- E. Daily Construction Reports: Submit at monthly intervals.
- F. Unusual Event Reports: Submit at time of unusual event.

1.5 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, submittals schedule, progress reports, payment requests, and other required schedules and reports.
 1. Secure time commitments for performing critical elements of the Work from parties involved.
 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

1.6 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for Date of Commencement to Final Completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
 - 1. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
 - 2. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Engineer's administrative procedures necessary for certification of Substantial Completion.
 - 3. Punch List and Final Completion: Include not more than thirty (30) days for completion of punch list items and final completion.
- C. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule with each monthly payment application.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 - 3. As the Work progresses, indicate final completion percentage for each activity.
- D. Distribution: Distribute copies of approved schedule to Engineer, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
 - 1. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

1.7 GANTT-CHART SCHEDULE REQUIREMENTS

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Ganttchart-type, Contractor's Construction Schedule within 15 days of date established for commencement of the Work.

1. Base schedule on the startup construction schedule and additional information received since the start of Project.

- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1.8 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 1. List of subcontractors at Project site.
 2. Approximate count of personnel at Project site.
 3. Material deliveries.
 4. High and low temperatures and general weather conditions, including presence of rain or snow.
 5. Testing and inspection.
 6. Accidents.
 7. Meetings and significant decisions.
 8. Unusual events.
 9. Stoppages, delays, shortages, and losses.
 10. Orders and requests of authorities having jurisdiction.
 11. Change Orders received and implemented.
 12. Change Directives received and implemented.
- B. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.
- C. Unusual Event Reports: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, responses by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.
 1. Submit unusual event reports directly to Owner within 1 day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs with maximum depth of field and in focus.
 - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- B. Periodic Construction Photographs: Take photographs to show status of construction and progress as work progresses.

END OF SECTION 013200

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Requirements:
 - 1. Division 01 Section "Payment Procedures" For submitting Applications for Payment and the schedule of values.
 - 2. Division 01 Section "Project Management and Coordination" for submitting coordination drawings and subcontract list.
 - 3. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 4. Division 01 Section "Quality Requirements" for submitting test and inspection reports and schedule of tests and inspections.
 - 5. Division 01 Section "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
 - 6. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Engineer's approval. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Engineer and additional time for handling and reviewing submittals required by those corrections.
1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
 2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
 4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Engineer's final release or approval.
 - g. Scheduled dates for purchasing.
 - h. Scheduled date of fabrication.
 - i. Scheduled dates for installation.
 - j. Activity or event number.

1.5 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
1. Project name.
 2. Date.
 3. Name of Engineer.
 4. Name of Contractor.
 5. Name of firm or entity that prepared submittal.
 6. Names of subcontractor, manufacturer, and supplier.
 7. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier, and alphanumeric suffix for resubmittals.

8. Category and type of submittal.
 9. Submittal purpose and description.
 10. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
 11. Drawing number and detail references, as appropriate.
 12. Indication of full or partial submittal.
 13. Location(s) where product is to be installed, as appropriate.
 14. Other necessary identification.
 15. Remarks.
 16. Signature of transmitter.
- B. Options: Identify options requiring selection by Engineer.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Engineer[on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. PDF Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

1.6 SUBMITTAL PROCEDURES

- A. Engineer's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Engineer for Contractor's use in preparing submittals.
1. Upon written request by the Contractor and execution of associated disclaimer forms and related documentation, the Contract Drawings will be provided to the Contractor for use in preparation of record drawings and submittals. Drawing files will be transmitted one time to the Contractor at the start of construction. This version of the drawings is provided only as a courtesy and convenience and Engineer makes no representations as to their accuracy or completeness as they relate to the Contract Documents.
- B. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Email: Prepare submittals as PDF package and transmit to Engineer by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Engineer.
 - a. Engineer will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.

- C. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 - 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 - 4. Coordinate transmittal of submittals for related parts of the Work specified in different Sections so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- D. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1. Initial Review: Allow (10) days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 - 3. Resubmittal Review: Allow (7) days for review of each resubmittal.
- E. Resubmittals: Engineer will review each of Contractor's submittals the initial time and, should resubmittal be required, one additional time to verify that reasons for resubmittal have been addressed by Contractor and corrections made. Resubmittal changes/revisions/corrections shall be circled. Engineer will review only circled items and will not be responsible for non-circled changes/revisions/corrections and additions. Should additional resubmittals be required, Contractor shall reimburse Owner for all costs incurred, including the cost of Engineer's services made necessary to review such additional resubmittals. Owner will in turn reimburse Engineer.
 - 1. Make resubmittals in same form and number of copies as initial submittal.
 - a. Note date and content of previous submittal.
 - b. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - c. Resubmit submittals until they are marked with approval notation from Engineer's action stamp.

- F. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- G. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Engineer's action stamp.

1.7 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each submittal to show which products and options are applicable.
 - 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 - 4. Submit Product Data before Shop Drawings, and before or concurrent with Samples.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data unless submittal based on Engineer's digital data drawing files is otherwise permitted.
 - 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.

- C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Generic description of Sample.
 - c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.
 3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.
 4. Paper Transmittal: Include paper transmittal including complete submittal information indicated.
 5. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 6. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit (1) full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Engineer will return submittal with options selected.
 7. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

- a. Number of Samples: Submit (3) sets of Samples. Engineer will retain (2) Sample sets; remainder will be returned.
 - b. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 1) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least (3) sets of paired units that show approximate limits of variations.
- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 - 1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 - 2. Manufacturer and product name, and model number if applicable.
 - 3. Number and name of room or space.
 - 4. Location within room or space.
- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of Engineers and owners, and other information specified.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
 - 1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
 - 2. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
 - 3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
 - 4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
 - 5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
 - 6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of

Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified. H. Test and Research Reports:

1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - a. Name of evaluation organization.
 - b. Date of evaluation.
 - c. Time period when report is in effect.
 - d. Product and manufacturers' names.
 - e. Description of product.
 - f. Test procedures and results.
 - g. Limitations of use.

1.8 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 1. If criteria indicated are insufficient to perform services or certification required, submit a written request for additional information to Engineer.

- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

1.9 REQUESTS FOR INFORMATION

- A. Engineer reserves the right to reject, unprocessed, any Request for Information (RFI) that the Engineer, at its sole discretion, deems frivolous.
- B. Engineer reserves the right to reject, unprocessed, any RFI that the Engineer, at its sole discretion, deems already answered in the Contract Documents.
- C. RFI process shall not be used for requesting substitutions. Procedures for substitutions are clearly specified elsewhere in the contract documents.

1.10 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer
- B. Project Closeout and Maintenance Material Submittals: See Requirements in Division 01 Section "Closeout Procedures."
- C. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
 - 1. Engineer will not review submittals received from Contractor that do not have Contractor's review and approval.

1.11 ENGINEER'S ACTION

- A. General: Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Engineer or its subconsultant will review each submittal, make marks to indicate corrections or revisions required, and return it.

1. PDF Submittals: Engineer will indicate, via markup on each submittal, the appropriate action.
 - a. See Division 00, Section "Supplementary Conditions" for description of terminology on Engineer's Stamp applied via markup to each submittal.
2. Paper Submittals: Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
 - a. See Division 00, Section "Supplementary Conditions" for description of terminology on Engineer's Stamp.
- C. Informational Submittals: Engineer will review each submittal and will not return it, or will return it if it does not comply with requirements. Engineer will forward each submittal to appropriate party.
- D. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Engineer.
- E. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- F. Engineer will discard submittals received from sources other than Contractor.
- G. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 33 00

SECTION 014000 - QUALITY CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for quality control services.
- B. Quality control services include inspections, tests and related actions including reports, performed by independent agencies, governing authorities, and the Contractor. They do not include Contract enforcement activities performed by Engineer/Architect.
- C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve the Contractor of responsibility for compliance with Contract Document requirements.
- D. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, Owner or authorities having jurisdiction are not limited by provisions of this Section.
 - 4. Specific test and inspection requirements are not specified in this Section.

1.3 DEFINITIONS

- A. Experienced: When used with an entity or individual, "experienced" unless otherwise further described means having successfully completed a minimum of (5) previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

- B. Field Quality-Control Tests: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- C. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- D. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- E. Source Quality-Control Tests: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.
- F. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- G. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- H. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual product incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Engineer.

1.4 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Engineer.

1.5 CONFLICTING REQUIREMENTS

- A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements are specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Engineer for direction before proceeding.

- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Engineer for a decision before proceeding.

1.6 ACTION SUBMITTALS

- A. Delegated-Design Services Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.7 INFORMATIONAL SUBMITTALS

- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- B. Qualification Data: For Contractor's quality-control personnel.
- C. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility submitted to authorities having jurisdiction before starting work on the following systems:
 - 1. Seismic-force-resisting system, designated seismic system, or component listed in the Statement of Special Inspections.
 - 2. Main wind-force-resisting system or a wind-resisting component listed in the Statement of Special Inspections.
- D. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- E. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
 - 1. Specification Section number and title.
 - 2. Entity responsible for performing tests and inspections.
 - 3. Description of test and inspection.
 - 4. Identification of applicable standards.
 - 5. Identification of test and inspection methods.
 - 6. Number of tests and inspections required.
 - 7. Time schedule or time span for tests and inspections.

8. Requirements for obtaining samples.
 9. Unique characteristics of each quality-control service.
- F. Reports: Prepare and submit certified written reports and documents as specified.
- G. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.8 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within (10) days of Notice to Proceed, and not less than (5) days prior to preconstruction conference. Submit in format acceptable to Engineer. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's Construction Schedule.
- B. Quality-Control Personnel Qualifications: Engage qualified personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
1. Project quality-control manager [may also serve as Project superintendent] [shall not have other Project responsibilities].
 2. <Insert qualifications appropriate to Project>.
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
- D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
1. Contractor-performed tests and inspections including Subcontractor-performed tests and inspections. Include required tests and inspections and Contractorelected tests and inspections. Distinguish source quality-control tests and inspections from field quality-control tests and inspections.
 2. Special inspections required by authorities having jurisdiction and indicated on the Statement of Special Inspections.
 3. Owner-performed tests and inspections indicated in the Contract Documents, including tests and inspections indicated to be performed by Commissioning Authority.
- E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to

bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.

- F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Engineer has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.9 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
1. Date of issue.
 2. Project title and number.
 3. Name, address, telephone number, and email address of testing agency.
 4. Dates and locations of samples and tests or inspections.
 5. Names of individuals making tests and inspections.
 6. Description of the Work and test and inspection method.
 7. Identification of product and Specification Section.
 8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.
 10. Record of temperature and weather conditions at time of sample taking and testing and inspection.
 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, telephone number, and email address of technical representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Statement that products at Project site comply with requirements.
 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.

- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, telephone number, and email address of factory-authorized service representative making report.
 2. Statement that equipment complies with requirements.
 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 4. Statement whether conditions, products, and installation will affect warranty.
 5. Other required items indicated in individual Specification Sections.

1.10 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
- H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work
 - 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Engineer with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

1.11 RESPONSIBILITIES

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 - 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
 - 2. Payment for these services will be made from testing and inspection allowances, as authorized by Change Orders.

3. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 2. Engage a qualified testing agency to perform quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 3. Notify testing agencies at least (24) hours in advance of time when Work that requires testing or inspection will be performed.
 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 5. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- D. Testing Agency Responsibilities: Cooperate with Engineer and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Engineer and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the locations from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform duties of Contractor.

- E. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 01 Section "Submittal Procedures."
- F. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- G. Associated Contractor Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - 1. Access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
 - 4. Facilities for storage and field curing of test samples.
 - 5. Delivery of samples to testing agencies.
 - 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 - 7. Security and protection for samples and for testing and inspection equipment at Project site.
- H. Coordination: Coordinate sequence of activities to accommodate required quality assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's Construction Schedule. Update as the Work progresses.
 - 1. Distribution: Distribute schedule to Owner, Engineer testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.12 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Owner will engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner and as follows:
1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
 2. Notifying Engineer and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
 3. Submitting a certified written report of each test, inspection, and similar qualitycontrol service to Engineer with copy to Contractor and to authorities having jurisdiction.
 4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
 5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
 6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
1. Date test or inspection was conducted.
 2. Description of the Work tested or inspected.
 3. Date test or inspection results were transmitted to Engineer.
 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Engineer's reference during normal working hours.
1. Submit log at Project closeout as part of Project Record Documents.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspection, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore

patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 01 Section "Execution."

- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

SECTION 014210 - REFERENCE STANDARDS AND DEFINITIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

- A. General: Basic contract definitions are included in the Conditions of the Contract.
- B. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on the Drawings; or to other paragraphs or schedules in the Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference. Location is not limited.
- C. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by the Design Professional, requested by the Design Professional, and similar phrases.
- D. "Approved": The term "approved," when used in conjunction with the Design Professional's action on the Contractor's submittals, applications, and requests, is limited to the Design Professional's duties and responsibilities as stated in the Conditions of the Contract.
- E. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": The term "furnish" means to supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": The term "install" describes operations at the Project site including the actual unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.
- I. "Installer": An installer is the Contractor or another entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, to perform a particular

construction activity, including installation, erection, application, or similar operations. Installers are required to be experienced in the operations they are engaged to perform.

1. The term "experienced," when used with the term "installer," means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.
2. Trades: Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.
3. Assigning Specialists: Certain Sections of the Specifications require that specific construction activities shall be performed by specialists who are recognized experts in those operations. The specialists must be engaged for those activities, and their assignments are requirements over which the Contractor has no option. However, the ultimate responsibility for fulfilling contract requirements remains with the Contractor.

- a. This requirement shall not be interpreted to conflict with enforcing building codes and similar regulations governing the Work. It is also not intended to interfere with local trade-union jurisdictional settlements and similar conventions.

- J. "Project site" is the space available to the Contractor for performing construction activities, either exclusively or in conjunction with others performing other work as part of the Project. The extent of the Project site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.
- K. "Testing Agencies": A testing agency is an independent entity engaged to perform specific inspections or tests, either at the Project site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

1.3 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. Specification Format: These Specifications are organized into Divisions and Sections based on the CSI/CSC's "MasterFormat" numbering system.
- B. Specification Content: These Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be interpolated as the sense requires. Singular words shall be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.

2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Section Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.4 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of the date of the Contract Documents.
- C. Conflicting Requirements: Where compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to the Design Professional for a decision before proceeding.
 1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to the Design Professional for a decision before proceeding.
- D. Copies of Standards: Each entity engaged in construction on the Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 1. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source and make them available on request.
- E. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where abbreviations and acronyms are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards-producing organization, authorities having jurisdiction, or other entity applicable to the context of the text provision. Refer to Gale Research's

"Encyclopedia of Associations" or Columbia Books' "National Trade & Professional Associations of the U.S.," which are available in most libraries.

1.5 SUBMITTALS

- A. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 014210

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Water Service: Owner will pay water-service use charges for water used by all entities for construction operations.
- C. Electric Power Service: Owner will pay electric-power-service use charges for electricity used by all entities for construction operations.

1.4 INFORMATIONAL SUBMITTALS

- A. Implementation and Termination Schedule: Within fifteen (15) days of date established for commencement of the Work, submit schedule indicating implementation and termination dates of each temporary utility.
- B. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.

- C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fireprevention program.
- D. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Include the following:
 - 1. Locations of dust-control partitions at each phase of work.
 - 2. HVAC system isolation schematic drawing.
 - 3. Location of proposed air-filtration system discharge.
 - 4. Waste-handling procedures.
 - 5. Other dust-control measures.

1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Accessible Temporary Egress: Comply with applicable provisions in the United States Access Board's ADA-ABA Accessibility Guidelines.

1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch- thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top and bottom rails. Provide concrete bases for supporting posts.
- B. Fencing Windscreen Privacy Screen: Polyester fabric scrim with grommets for attachment to chain link fence, sized to height of fence, in color selected by Architect from manufacturer's standard colors.

- C. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.

D. Dust-Control Adhesive-Surface Walk-Off Mats: Provide mats minimum 36 by 60 inches.

2.2 TEMPORARY FACILITIES

- A. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

- 1. Store combustible materials apart from building.

2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units with fourstage filtration. Provide single switch for emergency shutoff. Configure to run continuously.

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

- 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

3.2 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

- 1. Locate facilities to limit site disturbance as specified in Division 1 Section "Summary."

- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.3 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- D. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
 - 1. Prior to commencing work, isolate the HVAC system in area where work is to be performed.
 - a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.
 - b. Maintain negative air pressure within work area using HEPA-equipped airfiltration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.
 - 2. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
 - 3. Perform daily construction cleanup and final cleanup using approved, HEPA-filterequipped vacuum equipment.
- E. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.
- F. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
- G. Telephone Service: Provide supervisory construction personnel with cell phone access equipment.

3.4 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 - 1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
 - 2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- C. Parking: Use designated areas of Owner's existing parking areas for construction personnel.
- D. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
 - 1. Identification Signs: Provide Project identification signs as indicated on Drawings.
 - 2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
 - a. Provide temporary, directional signs for construction personnel and visitors.
 - 3. Maintain and touch up signs so they are legible at all times.
- E. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Division 1 Section "Execution."
- F. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
 - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- G. Existing Elevator Use: Use of Owner's existing elevators will be permitted, provided elevators are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore elevators to condition existing before initial use, including replacing worn cables, guide shoes, and similar items of limited life.
 - 1. Do not load elevators beyond their rated weight capacity.
 - 2. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevator car and entrance doors and frame. If, despite such protection,

elevators become damaged, engage elevator Installer to restore damaged work so no evidence remains of correction work. Return items that cannot be refinished in field to the shop, make required repairs and refinish entire unit, or provide new units as required.

- H. Existing Stair Usage: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.
 - 1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
 - 1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
 - 1. Comply with work restrictions specified in Division 1 Section "Summary."
- C. Site Enclosure Fence: Before construction operations begin furnish and install site enclosure fence in a manner that will prevent people from easily entering site except by entrance gates.
- D. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- E. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- F. Covered Walkway: Erect protective, covered walkway for passage of individuals through or adjacent to Project site. Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction.
 - 1. Provide overhead decking, protective enclosure walls, handrails, barricades, warning signs, exit signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.

2. Paint and maintain appearance of walkway for duration of the Work.
- G. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.
- H. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes and noise.
1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant-treated plywood on construction operations side.
 2. Construct dustproof partitions with two layers of 6-mil polyethylene sheet on each side. Cover floor with two layers of 6-mil polyethylene sheet, extending sheets 18 inches up the sidewalls. Overlap and tape full length of joints. Cover floor with fireretardant-treated plywood.
 - a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches between doors. Maintain water-dampened foot mats in vestibule.
 3. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
 4. Insulate partitions to control noise transmission to occupied areas.
 5. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.
 6. Protect air-handling equipment.
 7. Provide walk-off mats at each entrance through temporary partition.
- I. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
1. Prohibit smoking in construction areas. Comply with additional limits on smoking specified in other Sections.
 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
 3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
 4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.6 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses. B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section "Closeout Procedures."

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements governing Contractor's selection of products for use in Project.

- 1. Multiple Prime Contracts: Provisions of this Section apply to construction activities of each prime Contractor.
- B. Related Requirements:

- 1. Division 01 Section "Allowances" for products selected under an allowance.
- 2. Division 01 Section "Alternates" for products selected under an alternate.
- 3. Division 01 Section "References" for applicable industry standards for products specified.
- 4. Division 01 Section "Submittal Procedures" specifies requirements for submittal of the Contractor's Construction Schedule and the Submittal Schedule.
- 5. Division 01 Section "Product Substitution Procedures" specifies administrative procedures for handling requests for substitutions made after award of the Contract.

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
- B. Definitions used in this Article are not intended to change meaning of other terms used in Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms such are self-explanatory and have well recognized meanings in construction industry.
 - a. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.

- b. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - c. Comparable Product: Product that is demonstrated and approved by Engineer through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
 - d. "Foreign Products," as distinguished from "domestic products," are items substantially manufactured (50% or more of value) outside of United States and its possessions; or produced or supplied by entities substantially owned (more than 50%) by persons who are not citizens of nor living within United States and its possessions.
- 2. **"Materials"** are products that are substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form part of Work.
- 3. **"Equipment"** is a product with operational parts, whether motorized or manually operated, that requires service connections such as wiring or piping.
- C. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification.
- D. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications. Submit a comparable product request, if applicable.

1.4 ACTION SUBMITTALS

- A. Comparable Product Request Submittal: Submit request for consideration of each comparable product. Identify basis-of-design product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.

2. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within seven (7) days of receipt of a comparable product request. Engineer will notify Contractor of approval or rejection of proposed comparable product request within fifteen (15) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.
 - a. Form of Engineer's Approval of Submittal: As specified in Section "Submittal Procedures."
 - b. Use product specified if Engineer does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
 1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
 2. If a dispute arises between contractors over concurrently selectable but incompatible products, Engineer will determine which products shall be used.
- B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.
 1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is not conspicuous.
 2. Equipment Nameplates: Provide a permanent nameplate on each item of service connected or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.
 3. See individual identification sections in Divisions 21, 22, 23, and 26 for additional identification requirements.

- C. Foreign Product Limitations: Except under 1 or more of following conditions, provide domestic products, not foreign products, for inclusion in the Work:
1. No available domestic product complies with Contract Documents.
 2. Domestic products that comply with Contract Document are only available at prices or terms that are substantially higher than foreign products that also comply with Contract Documents.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected. C. Storage:
1. Store products to allow for inspection and measurement of quantity or counting of units.
 2. Store materials in a manner that will not endanger Project structure.
 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 6. Protect stored products from damage and liquids from freezing.
 7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 - 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Engineer will make selection.
 - 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
 - 6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

a. Submit additional documentation required by Engineer in order to establish equivalency of proposed products. Evaluation of "or equal" product status is by the Engineer, whose determination is final. B. Product Selection Procedures:

1. Sole Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole product may be indicated by the phrase: "Subject to compliance with requirements, provide the following: ..."
2. Sole Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole manufacturer/source may be indicated by the phrase: "Subject to compliance with requirements, provide products by the following: ..."
3. Limited List of Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered unless otherwise indicated.
 - a. Limited list of products may be indicated by the phrase: "Subject to compliance with requirements, provide one of the following: ..."
4. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, which complies with requirements.
 - a. Non-limited list of products is indicated by the phrase: "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following: ..."
5. Limited List of Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered unless otherwise indicated.
 - a. Limited list of manufacturers is indicated by the phrase: "Subject to compliance with requirements, provide products by one of the following: ..."
6. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, which complies with requirements.
 - a. Non-limited list of manufacturers is indicated by the phrase: "Subject to compliance with requirements, available manufacturers whose products

may be incorporated in the Work include, but are not limited to, the following:
..."

7. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
 - a. For approval of products by unnamed manufacturers, comply with requirements in Section "Substitution Procedures" for substitutions for convenience.
- C. Visual Matching Specification: Where Specifications require "match Engineer's sample," provide a product that complies with requirements and matches Engineer's sample. Engineer's decision will be final on whether a proposed product matches.
1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section "Substitution Procedures" for proposal of product.
 - D. Visual Selection Specification: Where Specifications include the phrase "as selected by Engineer from manufacturer's full range" or similar phrase, select a product that complies with requirements. Engineer will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: Engineer will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Engineer may return requests without action, except to record noncompliance with these requirements:
 1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant product qualities include attributes such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
 2. Evidence that proposed product provides specified warranty.
 3. List of similar installations for completed projects with project names and addresses and names and addresses of Engineers and owners, if requested.
 4. Samples, if requested.

- B. Submittal Requirements: Approval by the Engineer of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.

PART 3 - EXECUTION

3.1 INSTALLATION OF PRODUCTS:

- A. Comply with manufacturer's instructions and recommendations for installation of products in applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.
 - 1. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION 016000

SECTION 016010 - PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling requests for substitutions made after award of Contract. B. Related Requirements:

1. Division 01 Section "Allowances" for products selected under an allowance.
2. Division 01 Section "Alternates" for products selected under an alternate.
3. Division 01 Section "Reference Standards and Definitions" for applicability of industry standards to products specified
4. Division 01 Section "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

- C. Engineer's policy is to reject requests for substitution unless paragraph "Substitutions" under Article "Definitions" applies. Vendors wishing inclusion in Engineer's master specification: contact Engineer for procedure.

1.3 DEFINITIONS

- A. Definitions used in this Article are not intended to change or modify meaning of other terms used in Contract Documents.
- B. Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by Contractor after award of Contract are considered requests for "substitutions." Following are not considered substitutions:
1. Revisions to Contract Documents requested by Owner or Engineer.
 2. Specified options of products and construction methods included in Contract Documents.
 3. Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 SUBMITTALS

- A. Substitution Request Submittal: Requests for substitution will be considered if received within fifteen (15) days after commencement of Work. Requests received more than fifteen (15) days after commencement of Work may be considered or rejected at discretion of Engineer.
1. Submit 3 copies of each request for substitution for consideration. Submit requests on forms included at end of this Section and in accordance with procedures required for Change Order proposals.
 2. Identify product, or fabrication or installation method to be replaced in each request. Include Specification Section number and title and Drawing numbers and titles. Provide complete documentation showing compliance with requirements for substitutions, and the following information, as appropriate:
 - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
 - b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.

- m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
- 3. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within seven (7) days of receipt of a request for substitution. Engineer will notify Contractor of acceptance or rejection of proposed substitution within fifteen (15) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.
 - a. Forms of Acceptance: Change Order, Construction Change Directive, or Engineer's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Engineer does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.7 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than fifteen (15) days prior to time required for preparation and review of related submittals.
 - 1. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Engineer will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.

- f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Engineer will consider requests for substitution if received within fifteen (15) days after commencement of the Work. Requests received after that time may be considered or rejected at discretion of Engineer.
 - 1. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Engineer will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Engineer for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 - b. Requested substitution does not require extensive revisions to the Contract Documents.
 - c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - d. Substitution request is fully documented and properly submitted.
 - e. Requested substitution will not adversely affect Contractor's construction schedule.
 - f. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - g. Requested substitution is compatible with other portions of the Work.
 - h. Requested substitution has been coordinated with other portions of the Work.
 - i. Requested substitution provides specified warranty.
 - j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- C. Contractor's submittal and Engineer's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 016010

REQUEST FOR SUBSTITUTION

To:
Attention:

From:

Name of Company

Address

City, State, Zip Code

Phone

Fully answer all information requested below. Failure to answer any item may cause rejection of request for substitution. If requested by Engineer, submit information about manufacturer and vendor history, financial stability, distribution and support systems. Use one form for each product requested. Only first product listed will be considered on forms with more than one product listed.

Specification _____ Section Number: _____
Drawing Number: _____

Para Number: _____ Detail Number: _____

Specified Product: _____

Proposed Substitution: _____

Answer the following questions. Attach an explanation sheet on your company's letterhead when required.

Does the proposed substitution affect dimensions indicated on Drawings?

No _____ Yes _____ (If yes, explain below).

Does the proposed substitution require changes in Drawings and/or design or installation changes?

No _____ Yes _____

If yes, is the cost of these changes included in the proposed amount? No _____ Yes _____

Does the proposed substitution affect other trades? No _____ Yes _____

(If yes, explain who and how)

If the proposed product does affect the work of other trades, has the cost impact on their work been included in the price of the proposed substitution?

No _____ Yes _____

Does the proposed product's guarantee differ from that of the specified product's?

No _____ Yes _____ (If yes, explain below).

Why is this proposal for substitution being submitted? List reasons below.

Attach a listing of 3 projects using proposed substitution completed within the past 5 yrs in geographic and climatic region of Project. One of applications shall have been in service for at least 3 yrs.

Attach product data/brochures and Vendor Qualification Form for the specified and substitute product.

Undersigned has examined Construction Documents, is familiar with specified product, understands indicated application of product, and understands design intent of Engineer. Undersigned states that proposed substitution complies with Construction Documents and will perform at least equally to specified product within limitations stated above. Undersigned accepts responsibility for coordinating application and installation of proposed substitution and waives all claims for additional costs resulting from incorporation of proposed substitution into Project or its subsequent failure to perform according to specified requirements.

Submitted By: _____

Typed

Signature

Date: _____

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:

1. Installation of the Work.
 2. Cutting and patching.
 3. Progress cleaning.
 4. Protection of installed construction.
- B. Related Requirements:

1. Division 01 Section "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
2. Division 01 Section "Submittal Procedures" for submitting surveys.
3. Division 01 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.
4. Division 02 Section "Work Items" for coordinating restoration construction activities to maintain Owner's operations during construction.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.4 PREINSTALLATION MEETINGS

- A. Cutting and Patching Conference: Conduct conference at Project site.
 1. Prior to commencing work requiring cutting and patching, review extent of cutting and patching anticipated and examine procedures for ensuring satisfactory result

from cutting and patching work. Require representatives of each entity directly concerned with cutting and patching to attend, including the following:

- a. Contractor's superintendent.
 - b. Trade supervisor responsible for cutting operations.
 - c. Trade supervisor(s) responsible for patching of each type of substrate.
 - d. Mechanical, electrical, and utilities subcontractors' supervisors, to the extent each trade is affected by cutting and patching operations.
2. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.5 INFORMATIONAL SUBMITTALS

- A. Cutting and Patching Plan: Submit plan describing procedures at least ten (10) days prior to the time cutting and patching will be performed. Include the following information:
 1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
 3. Products: List products to be used for patching and firms or entities that will perform patching work.
 4. Dates: Indicate when cutting and patching will be performed.
 5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
 - a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.
- B. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

1.6 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 1. Structural Elements: When cutting and patching structural elements, notify Engineer of locations and details of cutting and await directions from Engineer before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as

intended or that results in increased maintenance or decreased operational life or safety.

3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Engineer's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

- B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Engineer for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present

where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
1. Description of the Work.
 2. List of detrimental conditions, including substrates.
 3. List of unacceptable installation tolerances.
 4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
1. Notify Engineer and Owner not less than two days in advance of proposed utility interruptions.
 2. Do not proceed with utility interruptions without Engineer's and Owner's written permission.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Engineer according to requirements in Section 013100 "Project Management and Coordination."

3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
 - 4. Maintain minimum headroom clearance of eight (8) feet occupied and unoccupied spaces.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Where possible, select tools or equipment that minimize production of excessive noise levels
- F. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Engineer.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- G. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- H. Repair or remove and replace damaged, defective, or nonconforming Work.
 - 1. Comply with Section "Closeout Procedures" for repairing or removing and replacing defective Work.

3.4 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 5. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as

invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.5 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.
 - 1. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.
- H. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."
- I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- K. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

- B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- C. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work. B. Related Requirements:
 - 1. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 2. Closeout requirements for specific construction activities are included in appropriate Sections in Divisions 02 through 14, 21-27, and 31-33.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at final completion.

1.4 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of ten (10) days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 - 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Engineer. Label with manufacturer's name and model number.
 - 5. Submit testing, adjusting, and balancing records.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of ten (10) days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Complete startup and testing of systems and equipment.
 - 2. Perform preventive maintenance on equipment used prior to Substantial Completion.
 - 3. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 - 4. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 - 5. Complete final cleaning requirements.
 - 6. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of ten (10) days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Engineer, that must be completed or corrected before certificate will be issued.

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.7 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
 1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
 2. Certified List of Incomplete Items: Submit certified copy of Engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Engineer. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Submit pest-control final inspection report.
 5. Submit final completion photographic documentation.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
 1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 - a. Engineer will provide one repeat inspection under its contract with Owner. Subsequent inspections shall be at Contractor's expense.
 - b. Upon completion of reinspection, Engineer will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
 - c. If necessary, reinspection will be repeated.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Engineer.
 - d. Name of Contractor.
 - e. Page number.
4. Submit list of incomplete items in the following format:
 - a. PDF electronic file. Engineer will return annotated file.

1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Engineer for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Partial Occupancy: Submit properly executed warranties within fifteen (15) days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- D. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- E. Warranties in Paper Form:
 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

- F. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS (NOT APPLICABLE).

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
 - 1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are not planted, mulched, or paved to a smooth, eventextured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid

- disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, visionobscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - j. Remove labels that are not permanent.
 - k. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - l. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - m. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - n. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
 - o. Leave Project clean and ready for occupancy.
- C. Construction Waste Disposal: Comply with waste disposal requirements in Division 01 Section "Temporary Facilities and Controls."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair, or remove and replace, defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
 - 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings and Work Item Unit Quantity Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data. B. Related Requirements:
 - 1. Section "Closeout Procedures" for general closeout procedures and maintenance manual requirements.
 - 2. Divisions 02 through 5,7, 9, 22 26, Sections for specific requirements for Project Record Documents of products in those Sections.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit PDF electronic files of marked-up scanned record prints and one (1) file prints.
- B. Record Specifications: Submit annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.
 - 1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.
- D. Reports: Submit written report weekly indicating items incorporated into project record documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

1.4 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
1. Preparation: Mark record prints to show the actual installation and unit quantity where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding markedup record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding photographic documentation.
 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Locations of concealed internal utilities.
 - d. Changes made following Engineer/Architect's written orders.
 - e. Details not on the original Contract Drawings.
 - f. Field records for variable and concealed conditions.
 - g. Record information on the Work that is shown only schematically.
 - h. Actual location and quantity of unit price items of the Work.
 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.

2. Format: Annotated PDF electronic file with comment function enabled.
3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Engineer/Architect.
 - e. Name of Contractor.

1.5 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
 5. Note related Change Orders, Record Drawings, and record Product Data, and record Drawings where applicable.
- B. Format: Submit record Specifications as annotated PDF electronic file.

1.6 RECORD PRODUCT DATA

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.

1.7 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as PDF electronic file.
 - 1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION 017839

SECTION 020010 - WORK ITEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENT

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Divisions 1 – 9 Specification Sections apply to this Section.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

WI 1.0 GENERAL REQUIREMENTS

- A. Scope of Work
 - 1. Work consists of performing all tasks, specifically required and incidental, which are not identified under separate Work Item designation, but necessary to perform the work identified in this project. This work includes, but is not limited to the following items:
 - WI 1.1 - Mobilization
 - WI 1.2 - Concrete Formwork
 - WI 1.3 - Concrete Shores and Reshores
 - WI 1.4 - Concrete Reinforcement
 - WI 1.5 – Overhead Protection/Temporary Signage/Traffic Control

WI 1.1 PROJECT MOBILIZATION

- A. Scope of Work
 - 1. Work consists of coordinating, scheduling, obtaining and assembling at construction site all equipment, materials, permits, supplies, manpower and other essentials and incidentals necessary to perform Work defined in this Contract. Payment of lump sum amount for mobilization shall be according to following schedule and shall be based on percentage of original contract amount earned.
- B. Materials
 - 1. None
- C. Execution

1. At execution of agreement by all parties, mobilization payment shall not be more than 25% of mobilization lump sum amount.
2. When billing amount earned is greater than 10% but less than 25% of original contract amount, total payment for mobilization shall not be more than 50% of mobilization lump sum amount.
3. When billing amount earned is equal to or greater than 25% but less than 50% of original contract amount, total payment for mobilization shall not be more than 75% of mobilization lump sum amount.
4. When billing amount earned is equal to or greater than 50% of original contract amount, total payment for mobilization shall be 100% of mobilization lump sum amount.

WI 1.2 CONCRETE FORMWORK

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, and incidentals necessary to install formwork as required for cast-in-place concrete.

B. Materials

1. Forms for Exposed Finish Concrete: Plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on Drawings.
 - a. Use overlaid plywood complying with U.S. Product Standard PS-1 "A-C or B-B High Density Overlaid Concrete Form," Class I
 - b. Use plywood complying with U.S. Product Standard PS-1 "B-B (Concrete Form) Plywood," Class I, Exterior Grade or better, mill-oiled and edgesealed, with each piece bearing legible inspection trademark.
2. Forms for Unexposed Finish Concrete: Plywood, lumber, metal, or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.
3. Form Coatings: Provide commercial formulation form-coating compounds with a maximum VOC meeting local requirements that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces, including but not limited to water-curing, curing compound, stains, or paints.
4. Form Ties: Factory-fabricated, adjustable-length, removable or snap-off metal form ties, designed to prevent form deflection and to prevent spalling concrete upon removal. Provide units that will leave no metal closer than 1.5 in. to exposed surface.
 - a. Provide ties that, when removed, will leave holes not larger than 1.0 in.

diameter in concrete surface.

5. Shores:
 - a. Nail Ellis clamps, if used with wood shores, to shores with minimum of two nails to prevent slipping.
 - b. Wedges: Hardwood or steel. Softwood wedges prohibited.

C. Execution

1. Work shall conform to requirements of latest edition of ACI 301 "Standard Specifications for Structural Concrete," ACI 302.1 R "Guide for Concrete Floor Slab Construction," ACI 318 "Building Code Requirements for Reinforced Concrete," and ACI 347 "Recommended Practice for Concrete Formwork" except as modified by the following paragraphs.
2. Store all formwork and formwork materials clear of ground, protected, so as to preclude damage.
3. Construct forms to sizes, shapes, lines, and dimensions shown and to obtain accurate alignment, location, grades, level, and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide backup at joints to prevent leakage of cement paste.
4. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, for easy removal.
5. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
6. Chamfer exposed corners and edges as indicated, using wood, metal, PVC, or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.
7. Provisions for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses, and chases from trades providing such items. Accurately place and securely support items built into forms.
8. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, or other debris just before concrete is placed. Retighten forms and bracing before concrete placement as required to prevent mortar leaks and maintain proper alignment.
9. Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface. Provide and secure units sufficiently strong to support types of screed strips by use of strike-off templates or accepted compacting type screeds.

10. Coat contact surfaces of forms with accepted, nonresidual, low-VOC form-coating compound before reinforcement is placed.
11. Coat steel forms with non-staining, rust-preventive form oil or otherwise protect against rusting. Rust-stained steel formwork not acceptable.
12. For post-tensioned concrete, formwork shall remain in place until post-tensioning has been completed. Do not place additional loads on structure until concrete has been properly reshored.
13. For non-post-tensioned concrete, formwork shall remain in place until concrete has reached minimum two-thirds of 28-day strength. Do not place additional loads on structure until concrete has been properly reshored.
14. Clean and repair surfaces of forms to be re-used in Work. Split, frayed, delaminated or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new formwork.
15. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use "patched" forms for exposed concrete surfaces, except as acceptable to Engineer/Architect.

WI 1.3 CONCRETE SHORES AND RESHORES

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, and incidentals necessary to install temporary shoring and to maintain shores in place until Work requiring shores is complete and associated concrete has properly cured.

B. Materials

1. Shores shall be steel, rated at a minimum allowable load of 4,500 lb at 12 ft extension or steel shoring towers rated at a minimum allowable load of 40,000 lbs per four leg tower (based on two 20,000 lb crossed braced frames.).

C. Execution

1. Comply with ACI 301 and ACI 347 for shoring and reshoring in multi-story construction, except as modified in this Section.
2. For purpose of calculations: Construction Load = 50 psf; Dead Load varies throughout the structure. Contractor and Contractor's Engineer are responsible for calculating the dead load for shoring at each location.
3. Shore/reshore load limits may be adjusted after conducting calculation analysis for specific project conditions. check bearing [aci 318] and punching shear [aci 318].
4. Shore/Reshore loads on the structure shall not exceed 40 psf distributed load on the slab, and concentrated loads shall not exceed posted wheel loads or 2,000

- lbs., whichever is less. Concentrated bearing pressures shall not exceed 1,200 psi.
5. Shore/Reshore loads on concrete slab-on-grade shall be distributed by steel grillage or timber grillage so as not to exceed soil bearing capacity or 1,500 psf, whichever is smaller.
 6. Shore/Reshore loads shall be distributed horizontally and/or distributed to more than one level to meet shore/reshore load limitations.
 7. Shore/Reshore loads shall be distributed to multiple framing members (beams/joists/double tee stems) and extend beyond the immediate work area to ensure proper distribution of loads throughout the structure.
 8. Prior to installation of shores, Contractor shall submit shoring scheme prepared and sealed by Licensed Structural Engineer in Massachusetts.
 9. Engineer/Architect will review shoring scheme for general conformance to requirements stated herein. If it does not conform, Contractor will be informed to resubmit another shoring scheme.
 10. Remove shores and reshore in planned sequence to avoid damage to partially cured concrete. Locate and provide adequate reshoring to safely support Work without excessive stress or deflection.
 11. Keep reshores in place as required until heavy loads due to construction operations have been removed.
 12. If during construction, modifications are necessary to accommodate other trades, revise and resubmit erection plan to Engineer/Architect for review.

WI 1.4 CONCRETE REINFORCEMENT

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, and incidentals necessary to fabricate and install all mild steel reinforcement and epoxy coated reinforcement.

B. Materials

1. Reinforcement materials shall be as specified in ACI 301 "Standard Specifications for Structural Concrete."
2. Welded wire reinforcement: provide mats only. Roll stock prohibited.
3. Epoxy Coating Materials for Reinforcement: ASTM A775 and A884:
4. Supplier shall be certified currently under CRSI Fusion Bonded Epoxy Coating Applicator Plant Certification Program.
5. Provide one of following epoxy coatings for reinforcement and steel accessories as noted on the Drawings:
 - a. "Scotchkote 413," by 3M Company, St. Paul, MN.
 - b. "Nap-Gard 7-2719," by Axalta Coating Systems LLC.

6. Use patching material recommended by epoxy powder manufacturer, compatible with epoxy coating and inert in concrete. Acceptable materials are as follows:
 - a. "Scotchkote 413/215," by 3M Company, St. Paul, MN.
 - b. "MasterEmaco P124," by BASF Building Systems, Shakopee, MN.
 - c. "Duralprep AC," by The Euclid Chemical Company, Cleveland, OH.
 - d. "Sika Armatec 110 EpoCem," by Sika Corporation, Lyndhurst NJ.
7. Corrosion Inhibiting Coating for Existing Exposed Non-prestressed Steel Reinforcement or Welded wire reinforcement:
 - a. "MasterEmaco ADH 326," by BASF Building Systems, Shakopee, MN.
 - b. "Euco 452", or "Duralcrete Series" by The Euclid Chemical Company, Cleveland, OH.
 - c. "Sikadur 32 Hi-Mod LPL," by Sika Corporation, Lyndhurst, NJ.
 - d. "Sika Armatec 110 EpoCem," by Sika Corporation, Lyndhurst NJ.

C. Execution

1. Work shall conform to requirements of latest edition of ACI 301 "Standard Specifications for Structural Concrete," ACI 315 "Details and Detailing of Concrete Reinforcement," ACI 318 "Building Code Requirements for Reinforced Concrete," and Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice."
2. Submittals required include: Product data for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, waterstops, joint systems, curing compounds, and others as requested by Engineer/Architect including, but not limited to:
 - a. Manufacturer's product data and installation instructions for proprietary form coatings, manufactured form systems, ties, and accessories.
 - b. Steel producer's certificates of mill analysis, tensile tests, and bend tests.
 - c. Manufacturer's product data, specifications, and installation instructions for proprietary materials, welded and mechanical splices, and reinforcement accessories.
 - d. Corrosion Inhibitor for Reinforcement:
 - 1) Written certification from coating manufacturer that coating resin for reinforcement has been approved by National Bureau of Standards.
 - 2) Written information from coating manufacturer on proper use and application of coating resin.
 - 3) Coating applicator's written certification of results of quality control program.
 - e. Submit all materials and methods for concrete curing to Engineer/Architect for approval before beginning concreting Work. Include certification of curing compound allowable moisture loss.

3. Store concrete reinforcement materials at site to prevent damage and accumulation of dirt or excessive rust.
4. Epoxy Coated Reinforcement:
 - a. Contact areas of handling and hoisting systems shall be padded or be made of nylon or other acceptable material.
 - b. Use spreader bars to lift bundles of coated steel to prevent bar-to-bar abrasion.
 - c. Pad bundling bands or fabricate of nylon or other acceptable material.
 - d. Store coated steel on padded or wooden cribbing.
 - e. Do not drag coated steel members.
 - f. After placement, restrict traffic on coated steel to prevent damage.
5. Reinforcement with any of following defects will be rejected:
 - a. Lengths, depths and bends exceeding CRSI fabrication tolerances.
 - b. Bends or kinks not indicated on Drawings or final Shop Drawings.
 - c. Reduced cross-section due to excessive rusting or other cause.
6. General: Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars," for details and methods of reinforcement placement and supports and as herein specified.
 - a. Avoiding cutting or puncturing vapor retarder during reinforcement placement and concreting operations.
 - b. Examine conditions under which concrete reinforcement is to be placed, and immediately notify Engineer/Architect in writing of unsatisfactory conditions. Do not proceed with Work until unsatisfactory conditions have been corrected in acceptable manner.
 - c. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials that reduce or destroy bond with concrete.
 - d. Fabricate reinforcement to conform to required shapes and dimensions, with fabrication tolerances complying with CRSI MSP. In case of fabricating errors, do not re-bend or straighten reinforcement in manner that will injure or weaken material.
 - e. Bends in reinforcement are standard 90° bends unless noted otherwise.
 - f. Reinforcement with any of following defects will be rejected:
 - 1) Lengths, depths and bends exceeding CRSI fabrication tolerances.
 - 2) Bends or kinks not indicated on Drawings or final Shop Drawings.
 - 3) Reduced cross-section due to excessive rusting or other cause.
 - g. Perform all welding of mild steel reinforcement, metal inserts and connections with low hydrogen welding electrodes in accordance with AWS D1.4.
 - h. Epoxy coated reinforcement: Fabricator and applicator to provide installer with written instructions to handle, store and place epoxy coated reinforcement to prevent damage to coating.

- i. Comply with ACI 301, Chapter 3 for placing reinforcement.
- j. Use rebar chairs and accessories to hold all reinforcing positively in place. Provide rebar chairs at all formed surfaces, both vertical and horizontal, to maintain minimum specified cover. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces. Maximum spacing of chairs and accessories shall be per CRSI Manual of Standard Practice. In situations not covered by CRSI, provide support at 4 ft on center maximum each way.
- k. Install welded wire reinforcement in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.
- l. Splices:
 - 1) Provide standard reinforcement splices by lapping ends, placing bars in contact, and tying tightly with wire. Comply with requirements of ACI 318 for minimum lap of spliced bars.
 - 2) For mechanical tension splices of reinforcement:
 - a) Column bar lengths shall not exceed 30 ft between splices. In any bar, no splices shall occur at any floor level.
 - b) Exercise care to assure that no reduction of cross-sectional area of reinforcement occurs.
 - c) Use Barsplice Products, Inc., Bar-Grip or Grip-Twist, NMB Splice Sleeve, or Erico LENTON splices.
 - d) For all mechanical splices, perform splicing in strict accordance with manufacturer's requirements and instructions.
 - e) All splices to develop 125% of specified yield strength of bars, or of smaller bar in transition splices.
 - f) Stagger splices in adjacent bars.
 - g) Except where shown on Drawings, welding of reinforcement prohibited without prior written authorization by Engineer/Architect.
 - 3) Compression splices: Mechanically coupled splices in accordance with ACI 318.
- m. Epoxy Coated Reinforcement:
 - 1) Rest epoxy coated steel members supported from formwork on coated wire bar supports, or on bar supports made of dielectric material or other suitable material.
 - 2) Coat wire bar supports with dielectric material for minimum distance of 2 in. from point of contact with coated steel member.
 - 3) Fasten epoxy-coated steel members with nylon-, epoxy-, or plasticcoated tie wire, or other suitable material acceptable to Engineer/Architect.
 - 4) Mechanical connections, when required, shall be installed in accordance with splice device manufacturer's recommendations. Repair any damage to coating.

- 5) All parts of mechanical connections on epoxy-coated steel, including steel splice sleeves, bolts, and nuts shall be coated with same material used for repair of coating damage.
- 6) Do not cut epoxy-coated steel unless permitted by Engineer/ Architect. When cut, coat ends with material used for repair of coating damage.
- 7) All welding of epoxy-coated steel shall conform to AWS D1.4.
- 8) Adequate ventilation shall be provided when welding epoxy-coated steel.
- 9) After welding, repair coating damage.

WI 1.5 OVERHEAD PROTECTION/TEMPORARY SIGNAGE/TRAFFIC CONTROL

A. Scope of Work

1. This work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to: provide, erect, maintain and remove following completion of project overhead protection for vehicles and pedestrians, necessary to protect and control traffic circulation through drive lane areas where traffic flow must be maintained for operational use of other garage areas. Contractor shall provide and install and remove following completion of project, temporary signage, traffic control barricades/fences, and all other traffic controls as required for vehicular and pedestrian traffic control and user information during construction and as required by Owner and Engineer/Architect.

B. Materials

1. Temporary signage shall meet following minimum requirements:
 - a. Minimum size: 48" x 48"
 - b. Backing material: 0.5 in. medium density overlay plywood.
 - c. Colors:
 - 1) Background: medium orange or white.
 - 2) Symbols/Lettering: black
 - d. Lettering: silk screened or die-cut.
 - 1) Font Style: Helvetica or similar.
 - 2) Size: 2 in. high minimum for pedestrian information; 4 in. high minimum for traffic information.
2. Barricades/barriers shall at minimum 4 ft. 0 in. high solid temporary barrier constructed of wood or concrete to separate Work areas from areas open to public.

C. Execution

1. Contractor shall submit a detailed action plan to Owner and Engineer for temporary signage and traffic control prior to mobilizing for general conformance and informational purposes only.
2. Erect overhead protection as required to make project site safe for public. Under no circumstances shall construction work be performed without site protection in place to safeguard public.
3. Temporary signage and appropriate barricades for traffic control shall be provided to the satisfaction of the Owner to adequately inform the public (pedestrians and vehicles) of construction operations and how they are to proceed in and around the building site.
4. Signage mounting height: 5 ft. to bottom of sign. Provide mounting brackets as required.
5. Contractor shall submit shop drawings detailing sign size, layout, colors, and mounting schemes for approval prior to fabricating signs and mounting brackets.
6. Typical regulatory signs (that is, STOP, YIELD, etc.) and "Handicap" signs shall conform to all Federal, state, and local requirements for sizes, materials, and colors.
7. After removal of overhead protection/temporary signage/traffic controls, clean areas affected by these elements to condition prior to installation.

WI 2.0 FLOOR SURFACE PREPARATION

A. Scope of Work

1. This Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to locate existing spalls, locate and remove delaminated and unsound concrete and prepare cavities for repair and/or overlay. Refer to Detail Series 2.0 for specific requirements.

B. Materials/Equipment (NOT APPLICABLE)

C. Execution

1. Locating, removals and preparation of deteriorated floor surface concrete shall be performed as specified in Division 02 Section "Surface Preparation for Patching and Overlay."
2. Concrete removals shall be as square or rectangular shaped as practical.
3. All concrete shall be removed from within deterioration area boundaries until sound concrete is reached on all sides.
4. All exposed steel within cavities shall be cleaned by sandblasting and damaged and defective reinforcement replaced as specified
5. Contractor shall allow for Engineer/Architect inspection of all cavities for condition as specified.

WI 2.1 FLOOR PREPARATION - SCARIFICATION

ADD TEXT

WI 2.6 FLOOR PREPARATION - TRAFFIC TOPPING/MEMBRANE REMOVAL

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to remove and dispose of traffic toppings or other bonded waterproofing membrane from concrete floor slab as shown on Drawings.

B. Materials/Equipment

1. Equipment used shall not exceed weight or clearance restrictions currently in force for structure. No equipment may be used which, in opinion of Owner or Engineer/Architect, will damage existing structural system.
2. Equipment used shall leave a surface profile acceptable for specified use of newly exposed concrete slab, including exposed concrete, waterproofing membrane reapplication, or bonded concrete overlay.

C. Execution

1. Remove existing traffic topping/membrane from concrete floor slab by mechanical means.
2. Clean final slab surface after removals so slab can be inspected and determine repair areas. All debris incidental to removal and surface cleaning shall be removed from deck and properly disposed of before inspection begins.
3. Damage to floor slab caused by removal operations shall be corrected to satisfaction of Engineer/Architect at no additional cost to Owner.
4. Preparation of spall and delamination cavities prior to placement of concrete patch or overlay materials is not part of Work of this Work Item.

WI 3.0 CONCRETE FLOOR REPAIR

A. Scope of Work

1. This Work consists of furnishing all labor, materials, equipment, supervision and incidentals including shoring necessary to locate existing spalls, locate and remove delaminated and unsound floor concrete, prepare cavities and install new concrete and reinforcing (as required) materials to restore concrete floor to original condition and appearance. Refer to Detail Series 3.0 for specific requirements.

B. Materials

1. Concrete repair materials shall be as specified in Division 03 Section "Cast-inPlace Concrete Restoration" and/or Division 03 Section "Prepackaged Repair Mortar".

2. Conventional steel reinforcement shall be as specified in Division 03 Section "Cast-in-Place Concrete Restoration" and/or Work Item 1.4, "Concrete Reinforcement."

C. Execution

1. Locating, marking, removal, preparation, and inspection of deteriorated concrete and reinforcing steel preparation, repair and installation shall be performed as specified in Division 02 Section "Surface Preparation for Patching and Overlay."
2. Final surface preparation, concrete placement, finishing and curing shall be performed as specified in concrete repair material specification. Manufacturer specifications/requirements for these issues shall also be followed in the event proprietary bag mix repair materials are used.

WI 3.1 FLOOR REPAIR – PARTIAL DEPTH

- A. Refer to Work Item 3.0, "Concrete Floor Repair" for scope of Work, materials and Execution procedure associated with this Work Item. Refer to Detail 3.1 for specific requirements.

WI 3.2 FLOOR REPAIR – PROTECT EXPOSED TENDON

- A. Refer to Work Item 3.0, "Concrete Floor Repair" for scope of Work, materials and Execution procedure associated with this Work Item. Refer to Detail 3.2 for specific requirements.

WI 3.3 FLOOR REPAIR - FULL DEPTH (EDGE REPAIR)

- A. Refer to Work Item 3.0, "Concrete Floor Repair" for Scope of Work, Material and Execution procedures associated with this Work Item. Refer to Detail 3.3 for specific requirements.

WI 3.4 FLOOR REPAIR – CONCRETE CURB

- A. Refer to Work Item 3.0, "Concrete Floor Repair" for scope of Work, materials and Execution procedure associated with this Work Item. Refer to Detail 3.4 for specific requirements.

WI 3.10 FLOOR REPAIR – STAIR NOSING REPAIR

- A. Refer to Work Item 3.0, "Concrete Floor Repair" for Scope of Work, Material and Execution procedures associated with this Work Item. Refer to Detail 3.10 for specific requirements.

WI 3.11 FLOOR REPAIR – SLAB-ON-GRADE

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment. Supervision and incidentals necessary to locate and remove delaminated slab-on-grade concrete, re-establish subbase material, and install new concrete. Refer to Detail 3.11 for specific requirements.

B. Materials

1. Concrete repair materials shall be as specified in Division 03 Section "Prepackaged Repair Mortar."

C. Execution

1. Locating, marking, removal, preparation, and inspection of deteriorated floor surface concrete and reinforcing steel preparation, repair and installation shall be performed as specified in Division 02 Section "Surface Preparation for Patching and Overlay."
2. Properly compact subbase as required. Provide new subbase material as necessary.
3. Final surface preparation, concrete placement, finishing and curing shall be performed as specified in concrete repair material specification. Manufacturer specifications/requirements for these issues shall also be followed in the event proprietary bag mix repair materials are used.

WI 4.0 CONCRETE CEILING REPAIR

A. Scope of Work

1. This Work consists of furnishing all labor, materials, equipment, supervision and incidentals including shoring necessary to locate existing spalls, locate and remove delaminated and unsound overhead concrete, prepare cavities and install new concrete and reinforcing (as required) materials to restore overhead concrete to original condition and appearance. Refer to Detail Series 4.0 for specific requirements.

B. Materials

1. Trowel applied patching material shall be as specified in Division 03 Section "Prepackaged Repair Mortar." Trowel applied material may only be used per Engineers approval for repair application where repair depth is less than 1" deep.

C. Execution

1. Locating, marking, removal, preparation, and inspection of deteriorated concrete and reinforcing steel preparation, repair and installation shall be performed as specified in Division 02 Section "Surface Preparation for Patching and Overlay."

2. Final surface preparation, concrete placement, finishing and curing shall be performed as specified in concrete repair material specification. Manufacturer specifications/requirements on these issues shall also be followed in the event proprietary bag mix repair materials are used.

WI 4.1 CEILING REPAIR - PARTIAL DEPTH/SHALLOW

- A. Refer to Work Item 4.0, "Concrete Ceiling Repair" for Scope of Work, materials and procedure associated with this Work Item. Refer to Detail 4.1 for specific requirements.

WI 5.0 CONCRETE BEAM REPAIR

A. Scope of Work

1. This Work consists of furnishing all labor, materials, equipment, supervision and incidentals including shoring necessary to locate existing spalls, locate and remove delaminated and unsound overhead concrete, prepare cavities and install new concrete and reinforcing (as required) materials to restore concrete beams and joists to original condition and appearance. Refer to Detail Series 5.0 for specific requirements.

B. Materials

1. Cast-in-place concrete repair materials shall be as specified in Division 03 Section "Cast-in-Place Concrete Restoration" and/or Division 03 Section "Prepackaged Repair Mortar".
2. Conventional steel reinforcement shall be as specified in Division 03 Section "Cast-in-Place Concrete Restoration" and/or Work Item 1.4, "Concrete Reinforcement."
3. Trowel applied patching material shall be as specified in Division 03 Section "Prepackaged Repair Mortar." This material may be used for shallow removal and repair Work Items only.

C. Execution

1. Locating, marking, removal, preparation, and inspection of deteriorated concrete and reinforcing steel preparation, repair and installation shall be performed as specified in Division 02 Section "Surface Preparation for Patching and Overlay." Install shoring at repair locations where required per the Construction Documents prior to starting removals.
2. Final surface preparation, concrete placement, finishing and curing shall be performed as specified in concrete repair material specification. Manufacturer specifications/requirements on these issues shall also be followed in the event proprietary bag mix repair materials are used.

WI 5.1 BEAM REPAIR - PARTIAL DEPTH/SHALLOW

- A. Refer to Work Item 5.0, "Concrete Beam and Joist Repair" for scope of Work, materials and procedure associated with this Work Item. Refer to Detail 5.1 for specific requirements.

WI 5.2 CONCRETE STAIR – EDGE SPALL

- A. Refer to Work Item 5.0, "Concrete Beam and Joist Repair" for scope of Work, materials and procedure associated with this Work Item. Refer to Detail 5.2 for specific requirements.

WI 6.0 CONCRETE COLUMN REPAIR

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals including shoring necessary to locate existing spalls, locate and remove delaminated and unsound concrete, prepare cavities and install concrete and reinforcing (as required) materials to restore concrete columns to original condition and appearance. Refer to Detail Series 6.0 for specific requirements.

B. Materials

1. Cast-in-place concrete repair materials shall be as specified in Division 03 Section "Cast-in-Place Concrete Restoration" and/or Division 03 Section "Prepackaged Repair Mortar".
2. Conventional steel reinforcement shall be as specified in Division 03 Section "Castin-Place Concrete Restoration" and/or Work Item 1.4, "Concrete Reinforcement."
3. Trowel applied patching material shall be as specified in Division 03 Section "Prepackaged Repair Mortar." This material may be used for shallow removal and repair Work Items only.

C. Execution

1. Locating, marking, removal, preparation, and inspection of deteriorated concrete and reinforcing steel preparation, repair and installation shall be performed as specified in Division 02 Section "Surface Preparation for Patching and Overlay." Install shoring at repair locations where required per the Construction Documents prior to starting removals.
2. Final surface preparation, concrete placement, finishing and curing shall be performed as specified in concrete repair material specification. Manufacturer specifications/requirements on these issues shall also be followed in the event proprietary bag mix repair materials are used.

WI 6.1 COLUMN REPAIR – PARTIAL DEPTH /SHALLOW

- A. Refer to Work Item 6.0, "Concrete Column Repair" for scope of Work, materials and procedure associated with this Work Item. Refer to Detail 6.1 for specific requirements.

WI 7.0 CONCRETE WALL REPAIR

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to locate existing spalls, locate and remove delaminated and unsound concrete, prepare cavities and place patching materials to restore concrete walls to original condition and appearance. Refer to Detail Series 7.0 for specific requirements.

B. Materials

1. Trowel applied patching material shall be as specified in Section "Prepackaged Repair Mortar." This material may be used for shallow removal and repair Work Item only.
2. Concrete repair materials shall be as specified in Section "Cast-in-Place Concrete Restoration", and/or Section "Prepackaged Repair Mortar."

C. Execution

1. Contractor shall locate and mark all Work areas as specified in Section "Surface Preparation for Patching," Article "Inspection."
2. Procedure for delaminated, spalled and unsound concrete removal shall be as specified in Section "Surface Preparation for Patching," Article "Preparation."
3. Engineer/Architect shall inspect all cavities for condition according to Section "Surface Preparation for Patching," Article "Inspection of Repair Preparation."
4. All steel exposed within cavities shall be cleaned to bare metal by mechanical means according to Section "Surface Preparation for Patching," Article "Cleaning of Reinforcement within Delamination and Spall Cavities," and damaged and defective reinforcement replaced as specified in Section "Surface Preparation for Patching," Article "Reinforcement and Embedded Materials in Repair Areas." Exposed steel shall be epoxy coated with an approved epoxy resin as specified in Work Item "Concrete Reinforcement."
5. Contractor shall prepare cavities for patch placement as specified in Section "Surface Preparation for Patching," Article "Preparation of Cavity for Patch Placement."
6. Patch materials and associated reference specifications are listed in Work Item "Concrete Wall Repair," Article "Materials," above. Patch installation procedures shall be in accordance with referenced specifications for selected material.

WI 7.1 WALL REPAIR - PARTIAL DEPTH / SHALLOW

- A. Refer to Work Item "Concrete Wall Repair" for scope of Work, materials and procedure associated with this Work Item. Refer to Detail 7.1 for specific requirements.

WI 11.0 CRACK AND JOINT REPAIR

WI 11.1 ROUT & SEAL CRACKS

- A. Scope of Work
1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to locate, prepare and seal unsealed construction and control joints in concrete floor and/or topping. Refer to Detail 11.1 for specific requirements.
- B. Materials
1. Approved materials for use in this Work are specified in Division 07 Section "Concrete Joint Sealants."
- C. Execution
1. Contractor shall thoroughly clean and inspect concrete slabs and/or topping for cracks and unsealed construction and control joints. Those identified as either greater than 0.03 in. wide or showing evidence of water leakage and/or salt staining on ceiling below shall be sealed. All cracks and joints identified for repair shall be marked with chalk to aid in precision routing. Obtain depths to top reinforcing bars and P-T tendons in area of repair by use of a pachometer (rebar locator). Determine depth of electrical conduit (metal or plastic). Do not exceed this depth of routing where the crack to be repaired crosses the embedded items. Damage to embedded items will require repair or replacement at no cost to the Owner.
 2. Cracks and construction joints shall be ground or sawcut to an adequate width and depth as required by Work Item Detail. Routing shall be performed by mechanized device that has positive mechanical control over depth and alignment of cut. Hand held power grinders with abrasive disks shall not be used on control/construction joints, but may be used on random cracks.
 3. Cavities shall be thoroughly cleaned by either sandblasting or grinding to remove all laitance, unsound concrete and curing compounds which may interfere with adhesion. Groove shall be air blasted to remove remaining debris.
 4. Sealant materials and installation procedures shall be in accordance with referenced specifications for selected material.
 5. Traffic topping manufacturer shall verify in writing that joint sealant is compatible with traffic topping. Crack and joint sealant work shall be incidental to traffic topping system.

WI 11.2 JOINT SEALANT REPAIR

- A. Refer to Work Item 11.0, "Crack and Joint Repair" for scope of Work, materials and procedure associated with this Work Item. Refer to Detail 11.2 for specific requirements.

WI 11.3 VERTICAL JOINT SEALANT

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to locate and mark failed vertical joint sealant, remove existing sealant, prepare edges and reseal vertical joints. Refer to Detail 11.3 for specific requirements.

B. Materials

1. Approved materials for use in this Work are specified in Division 07 Section "Concrete Joint Sealants."
2. Materials used shall be as specified in Division 07 Section "Architectural Joint Sealants."

C. Execution

1. Contractor shall locate failed crack/joint sealant by visual inspection.
2. Contractor shall remove existing sealant from joints and/or cracks.
3. When existing joint dimensions do not conform to Detail 11.3, joints shall be routed or sawcut to an adequate width and depth to match Work Item Detail. Routing shall be performed by mechanized device that has positive mechanical control over depth and alignment of cut.
4. Cavities shall be thoroughly cleaned by either sandblasting or grinding to remove all remaining sealant and unsound concrete which may interfere with adhesion. Groove shall also be air blasted to remove remaining debris.
5. Sealant materials and installation procedures shall be in accordance with referenced specifications for selected material.
6. Tool as necessary.
7. If traffic topping will contact vertical joint sealant, traffic topping manufacturer shall verify in writing that joint sealant is compatible with traffic topping.

WI 11.5 EPOXY INJECTION

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to locate cracks and obtain approval by the Engineer for crack injection, prepare and pressure inject cracks with an epoxy resin so as to create waterproof barrier and/or structural repair as indicated in the Drawings. Refer to Detail 11.5 for specific requirements.

B. Materials

1. Epoxy injection materials shall be as specified in Division 03 Section "Epoxy Injection Systems."

C. Execution

1. Epoxy injection work and materials shall be performed in accordance with Division 03 Section "Epoxy Injection Systems."
2. Contractor is responsible for location of all locations requiring epoxy injection prior to start of Work.
3. Contractor shall allow for Engineer/Architect inspection of all epoxy injection sites for condition as specified.
4. No payment will be allowed for Work executed without Engineer/Architect inspection and verification.
5. Remove and patch all ports, holes, temporary seal materials to match existing conditions. This is considered incidental to the Work.
6. Clean and paint the repair area limited to the disturbed surfaces to match existing surfaces.

WI 11.7 COVE SEALANT

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to prepare concrete surfaces and install cove sealant between floor and vertical surfaces as shown on Drawings. Refer to Detail 11.7 for specific requirements.

B. Materials

1. Joint sealant materials shall be as specified in Division 07 Section Concrete Joint Sealants."

C. Execution

1. Intersection to be sealed shall be thoroughly cleaned by sandblasting to remove all contaminants and foreign material.
2. Entire Work area shall then be cleaned with compressed air to assure that all loose particles have been removed and that intersection is dry.

3. Properly prepared intersection shall be coated evenly and completely with joint primer material on each of intersecting faces in accordance with sealant manufacturer's recommendations.
4. After primer has cured, apply cove sealant to intersection such that sealant extends 0.75 in. onto each of intersecting faces.
5. Work cove sealant into joint so that all air is removed and tool to concave shape such that minimum throat dimension of no less than 0.5 in. is maintained.
6. Remove excess sealant and allow to cure.

WI 16.0 TRAFFIC TOPPING

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals, including installation of joint sealant materials, necessary to prepare existing floor surfaces and install traffic topping. Coating of all vertical surfaces within Work limits shall be incidental to installation of traffic topping. Refer to Detail series 16.0 for specific requirements.

B. Materials

1. Traffic topping materials shall be as specified in Division 07 Section "Traffic Coatings."

C. Execution

1. Floor surface preparation shall be performed by coating system licensed applicator or under its direct supervision.
2. Shotblast surface preparation is required for floors.
3. Coating system shall be installed by licensed applicators in strict accordance with manufacturer's recommendations and referenced specification section.
4. Crack preparation, including installation of sealant material where required, is incidental to traffic topping work.
5. Coating system shall be thoroughly cured prior to Work areas being returned to service.

WI 16.1 TRAFFIC TOPPING - VEHICULAR

- A. Refer to Work Item 16.0, "Traffic Topping" for Scope of Work, materials and procedure associated with this Work Item. Refer to Detail 16.1 for specific requirements.

WI 21.0 P/T- REPAIR

WI 21.1 INSPECT P/T TENDON ANCHORAGE & REPAIR AT SLAB EDGE

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to expose tendon anchors for Engineer review of damage or deterioration to the anchorage assembly. Concrete work performed in association with this work will be paid separately under Work Item series 3.0. Refer to Detail 21.1 for specific requirements.

B. Materials (Not Used)

C. Execution

1. Remove concrete at anchorage locations in accordance with Work Item series 3.0 sufficient to permit clear viewing of the anchorage. Remove concrete only as shown and to the limits detailed at the anchorages.
2. Clean exposed tendon and anchorage assembly for inspection and condition documentation. Notify Engineer at least 48 hours before exposing anchorages, do not patch exposed tendon or anchorage until Engineer's inspection is complete and Engineer gives approval to proceed with patching.
3. Clean and epoxy coat exposed reinforcing steel and anchor plate per Work Item series 3.0.
4. Re-cast concrete at anchorage locations in accordance with Work Item series 3.0 to match surrounding concrete. Concrete work performed in association with this work will be paid separately under Work Item series 3.0.

WI 21.2 PROTECT EXPOSED P/T TENDON(S)

A. Scope of Work

1. This work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to remove damaged tendon sheathing, re-grease (or epoxy coat tendons as approved by Engineer) in damaged area and install new sheathing. Concrete work performed in association with this work will be paid separately under Work Item series 3.0. Refer to Detail 21.20 for specific requirements.

B. Materials

1. Material shall be as specified in Division 03 Section "Unbonded Post-Tensioned Concrete."

C. Execution

1. Remove damaged sheathing materials from exposed tendon.
2. Grease coating:
 - a. Apply additional corrosion-inhibiting grease over the damaged area to completely fill any void or surface depression caused by the sheathing damage.
3. Epoxy coating option (use only as approved by Engineer).
 - a. Clean tendon to remove grease residue from exposed tendon.
 - b. Apply uniform coating of epoxy to exposed tendon.
4. Install split sheathing over exposed tendon. Sheathing shall overlap existing sheathing by at least two inches at each end. Sheathing shall be oriented such that the split is toward the bottom.
5. Tape entire length of repair, spirally wrapping tape around sheathing to provide at least two layers of tape. Taping shall overlap existing sheathing by 2 in. at each end.

WI 25.0 MECHANICAL

WI 25.1 MECHANICAL – ALLOWANCE

A. Scope of Work

1. Mechanical allowance shall be all related utility work (drain lines, sprinkler lines, electrical conduit, junction boxes, etc.) associated with interruptions of these utilities to repair existing structural areas.
2. All utilities removed during Work shall be reinstalled in accordance with latest edition of electrical and mechanical codes in effect. Work ineligible for allowance includes Work covered by or incidental to Work Items within this Specification or for Work required through Contractor's negligence.

B. Method of Payment

1. Mechanical work as approved in writing by Engineer/Architect prior to implementation, shall be paid for by Contractor. Contractor shall provide written documentation of costs for work performed, including invoices from subcontractors with any General Contractor's markup, to Engineer/Architect with each pay request. Contractor shall attach documentation and invoices to written authorization. At completion of project, any variation between allowance and actual cost documentation will be reflected in an adjustment of allowance amount.

WI 30.0 ELECTRICAL – LIGHTING

WI 30.1 ELECTRICAL ALLOWANCE

A. Scope of Work

1. Electrical allowance shall be all related utility work (drain lines, sprinkler lines, electrical conduit, junction boxes, etc.) associated with interruptions of these utilities to repair existing structural areas.
2. All utilities removed during Work shall be reinstalled in accordance with latest edition of electrical and mechanical codes in effect. Work ineligible for allowance includes Work covered by or incidental to Work Items within this Specification or for Work required through Contractor's negligence.

B. Method of Payment

1. Electrical work as approved in writing by Engineer/Architect prior to implementation, shall be paid for by Contractor. Contractor shall provide written documentation of costs for work performed, including invoices from subcontractors with any General Contractor's markup, to Engineer/Architect with each pay request. Contractor shall attach documentation and invoices to written authorization. At completion of project, any variation between allowance and actual cost documentation will be reflected in an adjustment of allowance amount.

WI 30.11 REPLACE LIGHT FIXTURES

A. Scope of Work

1. Replace existing surface mounted and pole mounted light fixtures per Sheets E5, E6, and E7 of the project plans.

WI 30.2 REMOVE AND REPLACE FIRE EXTINGUISHER CABINET

- A. Refer to Work Item 30.2 for Scope of Work, Material and Execution procedures associated with this Work Item. Refer to Detail 30.2 for specific requirements.

WI 40.0 CONNECTIONS/BEARINGS

WI 40.6 REMOVE EXISTING GUARDRAIL

- A. Refer to Work Item 40.6 for Scope of Work, Material and Execution procedures associated with this Work Item. Refer to Detail 40.6 for specific requirements.

WI 40.7 INSTALL NEW BARRIER CABLE

- A. Refer to Work Item 40.7 for Scope of Work, Material and Execution procedures associated with this Work Item. Refer to Detail 40.7 for specific requirements.

WI 43.0 MISCELLANEOUS METALS

WI 43.2 REMOVE SALVAGE AND INSTALL GUARDRAIL

- A. Refer to Work Item 43.2 for Scope of Work, Material and Execution procedures associated with this Work Item. Refer to Detail 43.2 for specific requirements.

WI 43.4 REPAIR EXISTING BARRIER CABLE

- A. Refer to Work Item 43.4 "Repair Existing Barrier Cable" for Scope of Work, Material and Execution procedures associated with this Work Item. Refer to Detail 43.4 for specific requirements.

WI 43.5 INSTALL NEW BOLLARD

- A. Refer to Work Item 43.5 "Install New Bollard" for Scope of Work, Material and Execution procedures associated with this Work Item. Refer to Detail 43.5 for specific requirements.

WI 43.6 INSTALL STAIR #1 CANOPY CORRUGATED METAL COVER

- A. Refer to Work Item 43.6 "Install Stair #1 Canopy Corrugated Metal Cover" for Scope of Work, Material and Execution procedures associated with this Work Item. Refer to Detail 43.6 for specific requirements.

WI 43.7 SOUTH ENTRANCE IMPACT DAMAGE

- A. Refer to Work Item 43.7 for Scope of Work, Material and Execution procedures associated with this Work Item. Refer to Detail 43.7 for specific requirements.

WI 45.0 PAINTING

WI 45.1 PAINT TRAFFIC MARKINGS

- A. Scope of Work
 - 1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to locate, layout and paint exit ramp curbs and all other required pavement markings.
- B. Materials

1. Painting materials shall be as specified in Division 09 Section "Pavement Marking - Restoration."

C. Execution

1. Unless otherwise indicated in the Construction Documents, stripes and paint color shall match all existing marks and be provided at same locations.
2. Where new striping layout is described in the Construction Documents that conflicts with existing striping layout, remove existing stripes in those locations where they conflict with new striping layout. See referenced specification section for removal requirements.
3. Where existing traffic marking layout is to be maintained, Contractor shall prepare drawing of existing traffic marking layout in work areas prior to starting with repairs. Contractor shall note stall width, angle of parking, directional traffic arrows and all other existing pavement markings.
4. Contractor shall submit striping plan for Engineer/Architect's review.
5. Engineer/Architect may inspect all layout and surface preparation for conditions in accordance with Division 09 Section "Pavement Marking-Restoration."

WI 45.6 PAINT STRUCTURAL STEEL

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to contain, with full height barriers, preparation debris and paint during operations and prepare, prime and paint all structural steel and miscellaneous metal items as located on Drawings.

B. Materials

1. Paint materials shall be as specified in Division 09 Section "Exterior Painting." C.

Execution

1. Contractor shall locate and verify with Engineer/Architect all Work areas.
2. Contractor shall verify color selection with Owner prior to start of Work.
3. Contractor shall take all necessary measures to contain, with full height barriers, sandblasting debris and paint to immediate Work area to protect public from injury and property from damage.
4. Contractor shall solvent clean any surface area with oil or grease build-up prior to receiving additional preparation in accordance with SSPC-SP1 and Division 09 Section "Exterior Painting."
5. Contractor shall prepare all surfaces with surface corrosion in accordance with SSPC-SP10 "Near White Metal Blast Cleaning" or SSPC-SP11 "Power Tool Cleaning to Bare Metal" and Division 09 Section "Exterior Painting."

6. Contractor shall remove all debris from Work area prior to application of primer or paint.
7. Contractor shall apply primer to all prepared metal surfaces on same day (within 8 hrs) as preparation operations. Apply primer and Paints according to Division 09 Section "Exterior Painting" and in strict accordance with manufacturer's recommendations.

WI 45.7 CLEAN AND PAINT STAIR RAILINGS

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to contain debris, with full height barriers, cleaning, preparation and paint during operations and prepare, prime and paint all structural steel and miscellaneous metal items as located on Drawings.

B. Materials

1. Paint materials shall be as specified in Division 09 Section "Exterior Painting." C.

Execution

1. Contractor shall locate and verify with Engineer/Architect all Work areas.
2. Contractor shall verify color selection with Owner prior to start of Work.
3. Contractor shall take all necessary measures to contain, with full height barriers, sandblasting debris and paint to immediate Work area to protect public from injury and property from damage.
4. Contractor shall solvent clean any surface area with oil or grease build-up prior to receiving additional preparation in accordance with SSPC-SP1 and Division 09 Section "Exterior Painting."
5. Contractor shall prepare all surfaces with surface corrosion in accordance with SSPC-SP10 "Near White Metal Blast Cleaning" or SSPC-SP11 "Power Tool Cleaning to Bare Metal" and Division 09 Section "Exterior Painting."
6. Contractor shall remove all debris from Work area prior to application of primer or paint.
7. Contractor shall apply primer to all prepared metal surfaces on same day (within 8 hrs) as preparation operations. Apply primer and Paints according to Division 09 Section "Exterior Painting" and in strict accordance with manufacturer's recommendations.

WI 49.1 CATHODIC PROTECTION – DISCRETE ANODES

A Scope of Work

1. This Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to install galvanic anodes in concrete repair patches for various concrete repair Work Items as shown on Drawings. Refer to Detail 49.1 for specific requirements.

B. Materials

1. Materials shall be as specified in Division 03 Section "Galvanic Anode Corrosion Protection System."

C. Execution

1. Concrete demolition and patching shall be in accordance with appropriate repair Work Item and is not a part of this Work Item.
2. Contractor shall install discrete anodes at (16) inches on center (maximum) in each patch around the perimeter of the repair. Final anode installation locations will vary, based on existing reinforcing steel layout; determine final installation layout with Engineer input in field.
3. Unless noted otherwise, Contractor shall install discrete anodes on mild reinforcing steel only. Post-tension tendons shall not receive anodes.
4. Discrete anodes are to be installed per Specifications to the reinforcing bar to clean/bare metal. Orient anodes towards center of concrete members where possible to maximize concrete cover.
5. Confirm electrical connection between anode tie wire and reinforcing steel by measuring DC resistance (ohm) with a multi-meter. Connection is acceptable if DC resistance is less than 1 ohm
6. For highly resistive repair concrete (latex, microsilica/pozzolan enhanced, etc.), bridging mortar between discrete anode and existing concrete substrate shall be installed to provide a proper electrically conductive path.
7. Coating of reinforcing steel and anode connection wires is not to occur until after unit is installed to existing steel. Discrete anode is not to be coated with epoxy.

END OF SECTION 020010

SECTION 025130 - GENERAL CONCRETE SURFACE PREPARATION

PART 1 - GENERAL

1.1 DEFINITIONS

- A. **DELAMINATIONS:** Fracture planes, "internal cracks," within concrete. Typically, these fractures are parallel to the member face and vary in depth.
- B. **NEAR-VERTICAL CHIPPED EDGES:** Provide an edge dressed to within 20° of perpendicular of finished surface.
- C. **SPALLS:** Potholes, cavities or voids in concrete. Usually result of delamination migrating to face of concrete member. When fracture finally reaches surface, concrete encompassed by delamination breaks away, resulting in spall.
- D. **UNSOUND CONCRETE:** Concrete exhibiting one or more of:
 - 1. Incipient fractures present beneath existing delaminated or spalled surfaces.
 - 2. Honeycombing.
 - 3. Friable or punky areas.
 - 4. Deterioration from freeze-thaw action.
- E. **SCALING:** Deterioration which attacks mortar fraction (paste) of concrete mix. First appears as minor flaking and disintegration of concrete surface. Scaling eventually progresses deeper into concrete, exposing aggregate which breaks away.
- F. **SHOTBLASTING:** Scarification of concrete surfaces using an abraded metal shotrebound. See ICRI Guideline 03732 "Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays."

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 025130

GENERAL CONCRETE SURFACE PREPARATION
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SECTION 025140 - SURFACE PREPARATION FOR PATCHING AND OVERLAY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the provision of all labor, materials, equipment, supervision and incidentals necessary to locate and remove all delaminated and unsound concrete, all existing failed patches, all existing surface spalls and potholes, and preparation of cavities created by removal to receive concrete patching material.
- B. This Section includes the provision of all labor, materials, equipment, supervision and incidentals necessary to prepare existing sound concrete slab surfaces to receive bonded concrete overlay.
- C. Related Sections: Following Sections contain requirements that relate to this Section:
 - 1. Division 02 Section "Work Items"
 - 2. Division 03 Section "Cast-in-Place Concrete – Restoration"
 - 3. Division 03 Section "Prepackaged Repair Mortar"

1.3 REFERENCES

- A. "Specifications for Structural Concrete for Buildings" (ACI 301) by American Concrete Institute, herein referred to as ACI 301, is included in total as specification for this structure except as otherwise specified herein.
- B. Comply with provisions of following codes, specifications and standards except where more stringent requirements are shown on Drawings or specified herein:
 - 1. "Concrete Repair Guide" (ACI 546R-04)

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 INSPECTION

A. Floor Slabs:

1. Floor slab delaminations: locate by sounding surface with hammer, rod, or chain drag.
2. When delaminated area is struck, distinct hollow sound is heard.
3. Contractor: sound all designated floors for delaminations.
4. Certain structural systems that contain thin slab thicknesses with Welded Wire Reinforcement or other small diameter reinforcing, such as waffle slab or precast tees, may have significant deterioration without evidence of delaminations. These structural systems require qualified personnel to provide additional inspections, primarily visual in nature, to define the extent of deterioration.
5. Contractor: Visually inspect thin slab thicknesses with small diameter reinforcing for deterioration.

B. Vertical and Overhead Surfaces:

1. Vertical and overhead surface delaminations: locate by sounding appropriate member with hammer or rod.
2. Cracks, usually horizontal in orientation along beam faces, and vertical in orientation near column corners are indicators of delaminated concrete.
3. Contractor: sound only vertical and overhead surfaces that show evidence of cracking and/or salt and water staining.

C. Delaminated areas, once located by Contractor, shall be further sounded to define limits. Mark limits with chalk or paint.

D. Contractor: locate spalls by visual inspection and mark boundaries with chalk or paint after sounding surface.

E. Engineer/Architect will define and mark additional unsound concrete areas for removal, if required.

F. Areas to be removed shall be as straight and rectangular as practical to encompass repair and provide neat patch.

G. Contractor: Locate and determine depth of all embedded REINFORCEMENT, and ELECTRICAL CONDUIT in repair area and mark these locations for reference during concrete removal. Do **NOT** nick or cut any embeds unless approved by Engineer/Architect.

H. For overlay installation, boundaries of overlay areas will be as defined in project drawings and verified by Engineer/Architect.

3.2 PREPARATION

- A. Temporary shoring may be required at concrete floor repair areas exceeding 5 sq ft and at any beam, joist, or column repair. Contractor: Review all marked removal and preparation areas and request clarification by Engineer/Architect of shoring requirements in questionable areas. Shores shall be in place prior to concrete removal and cavity preparation in any area requiring shores.
- B. Delaminated, spalled and unsound concrete floor areas: mark boundaries. All concrete shall be removed from within marked boundary to minimum depth of 0.75 in. using 15 to 30 lb chipping hammers equipped with chisel point bits. When directed by Engineer/Architect, chipping hammers less than 15 lb shall be used to minimize damage to sound concrete. Near vertical chipped edge shall be provided along perimeter of repair area where shown on drawings. Areas to be removed shall encompass repair and provide uniform cavity surface. If delaminations exist beyond minimum removal depth, chipping shall continue until all unsound and delaminated concrete has been removed from cavity.
- C. Where embedded reinforcement or electrical conduit is exposed by concrete removal, exercise extra caution to avoid damaging it during removal of unsound concrete. If bond between exposed embedded reinforcement and adjacent concrete is impaired by Contractor's removal operations, Contractor shall perform additional removal around and beyond perimeter of reinforcement for minimum of 0.75 in. along entire length affected at no cost to Owner.
- D. If rust is present on embedded reinforcement where it enters sound concrete, additional removal of concrete along and beneath reinforcement required. Additional removal shall continue until non-rusted reinforcement is exposed or may be terminated as Engineer/Architect directs.
- E. Sawcut patch and overlay boundaries to depth of 0.75 in. into floor slab, unless otherwise noted. No sawcutting required at overlay boundaries abutting existing vertical surface (wall, beam, curb, etc.). For vertical and overhead surfaces marked boundary may be sawcut, ground or chipped to depth of 0.5 in. to 0.625 in. into existing concrete, measured from original surface. All edges shall be straight and patch areas square or rectangular-shaped. Diamond blade saw or grinder with abrasive disk suitable for cutting concrete is acceptable for performing work. Edge cut at boundary shall be dressed perpendicular to member face. It shall also be of uniform depth, for entire length of cut. Exercise extra caution during sawcutting to avoid damaging existing reinforcement (ESPECIALLY POST-TENSIONING TENDONS AND SHEATHING) and electrical conduit and any other embedded items near surface of concrete. Any damage to existing reinforcement, post-tensioning tendons or sheathing during removals shall be repaired by Contractor with Engineer/Architect-approved methods at no additional cost to Owner.

3.3 INSPECTION OF REPAIR PREPARATION

- A. After removals are complete, but prior to final cleaning, exposed concrete surfaces and exposed reinforcement shall be inspected by Contractor and verified by

Engineer/Architect for compliance with requirements of this Section. Where Engineer/Architect finds unsatisfactory surface or cavity preparation, Engineer/ Architect shall direct Contractor to perform additional removals. Engineer/Architect shall verify areas after additional removals.

- B. Contractor shall inspect embedded reinforcement and conduits exposed within cavity for defects due to corrosion or damage resulting from removal operations. Contractor shall notify Engineer/Architect of all defective and damaged reinforcement or conduits. Replacement of damaged or defective reinforcement or conduits shall be performed according to this Section and as directed by Engineer/Architect.
- C. After inspections of exposed surfaces and reinforcement are complete, Engineer/ Architect and Contractor shall measure and document removal and replacement quantities for payment, as required.

3.4 REINFORCEMENT AND EMBEDDED MATERIALS IN REPAIR AREAS

- A. All embedded reinforcement exposed during surface preparation that has lost more than 15% (10% if 2 or more consecutive parallel bars and/or tendons are affected) of original cross-section due to corrosion shall be considered DEFECTIVE. All non-defective exposed reinforcement that has lost section to extent specified above as direct result of Contractor's removal operations shall be considered DAMAGED.
- B. Embedded materials including, but not limited to, electrical conduit, corrosion protection systems and snow/ice melting equipment shall be protected by Contractor during removal operations. Damage due to removal operations shall be repaired by Contractor in accordance with national code requirements at no cost to Owner. Embedded materials which are defective due to pre-existing conditions may be repaired or replaced by Contractor or abandoned at Owner's option and cost.
- C. Supplement defective or damaged embedded reinforcement by addition of reinforcement of equal diameter with Class "B" minimum splice per ACI 318 beyond damaged portion of reinforcement. Secure new reinforcement to existing reinforcement with wire ties and/or approved anchors. Supplemental reinforcement shall be ASTM A615 Grade 60 steel installed in accordance with Division 03 specification Sections. Tendon supplement or repair materials, when applicable, shall be as required by Section "Work Items."
- D. Loose and supplemental reinforcement exposed during surface preparation shall be securely anchored prior to concrete placement. Loose reinforcement shall be adequately secured by wire ties to bonded reinforcement or shall have drilled-in anchors installed to original concrete substrate. Drilled-in anchors shall be Powers "Tie-Wire Lok-Bolt" anchors, ITW Ramset/Red Head "TW-1400" anchor, or approved equivalent. Supplemental reinforcing needed to be held off substrate shall be adequately secured by drilled-in anchors installed to original concrete substrate with Powers "Tie-Wire Spike", ITW Ramset/Red Head Redi-Drive "TD4-112" anchors, or approved equivalent. Engineer/Architect will determine adequacy of wire ties and approve other anchoring

devices prior to their use. Securing loose and supplemental reinforcement is incidental to surface preparation and no extras will be allowed for this Work.

- E. Concrete shall be removed to provide minimum of 3/4 in. clearance on all sides of defective or damaged exposed embedded reinforcement that is left in place. Minimum of 1.5-in. concrete cover shall be provided over all new and existing reinforcement.

Concrete cover over reinforcement may be reduced to 1 in. with Engineer/Architect's approval if coated with an approved epoxy resin.

- F. Supplemental reinforcement and concrete removals required for repairs of defective or damaged reinforcement shall be paid for as follows:
 - 1. Concrete removals and supplemental reinforcement required for repairs of DEFECTIVE reinforcement shall be paid for by Owner at unit price bid.
 - 2. Concrete removals and supplemental reinforcement required for repairs of DAMAGED reinforcement shall be paid for by Contractor.

3.5 CLEANING OF REINFORCEMENT WITH DELAMINATION AND SPALL CAVITIES

- A. All exposed steel shall be cleaned of rust to bare metal by sandblasting. Cleaning shall be completed immediately before concrete placement to insure that base metal is not exposed to elements and further rusting for extended periods of time. Clean entire bar diameter be cleaned.
- B. After all sandblasting operations and cleanup are completed, paint all exposed steel with an approved epoxy. Protect prepared surfaces from damage prior to and during concrete placement.

3.6 PREPARATION OF CAVITY FOR PATCH PLACEMENT

- A. Floor slab and cavity surfaces will be examined prior to commencement of concrete placement operations. Sounding surface shall be part of examination. Any delamination noted during sounding shall be removed as specified in this Section.
- B. Cavities prepared by chipping or other impact methods shall be sandblasted to remove material that may impair concrete bonding. Sound concrete surfaces shall be prepared by shotblasting as previously specified in this section. Airblasting is required as final step to remove all debris including sand and dust. All debris shall be removed from site prior to commencement of concrete placement, bonding agent preparation, etc. as specified in Division 03 Sections.

END OF SECTION 025140

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SECTION 032117 – GALVANIC ANODE CORROSION PROTECTION SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes furnishing all labor, tools, materials, equipment and services necessary to properly install embedded galvanic anodes.
- B. Embedded galvanic anodes are designed to provide localized corrosion protection to mild steel reinforcement that is located within a partial or full depth concrete repair. When placed at appropriate spacing, as recommended by the product manufacturer, along the perimeter of concrete patches or interface between new and existing concrete, galvanic anodes help control active corrosion and mitigate formation of new corrosion sites.
- C. Related Section: Following Sections contain requirements that relate to this Section:
 - 1. Division 02 Section "General Concrete Surface Preparation."
 - 2. Division 02 Section "Surface Preparation for Patching."
 - 3. Division 03 Section "Cast-In-Place Concrete - Restoration."
 - 4. Division 03 Section "Prepackaged Repair Mortar"

1.3 QUALITY ASSURANCE

- A. The contractor shall provide submittals confirming the chloride penetration resistance of the repair material or bridging mortar by an independent testing laboratory prior to beginning work.
 - 1. Concrete repair material or Bridging Mortar shall have a Rapid Chloride Penetration Resistance (ASTM C1202) above 1350 Coulombs or Bulk Electrical Resistivity (ASTM C1760) below 15,000 Ohm-cm as measured after 28-day wet-cure.
- B. Embedded galvanic anodes shall utilize chemical enhancement to keep the zinc active over the anode design life. Alkali-activated anodes shall have a pH of 14 or greater.

- C. Insulating materials such as epoxy bonding agents shall not be used in any patch or concrete placement protected by galvanic anodes. D. Testing Agency:
1. Independent testing laboratory provided by Contractor and acceptable to Engineer/Architect.
 2. Testing laboratory shall submit documented proof of ability to perform required tests.
 3. Testing Agency is responsible for conducting, monitoring and reporting results of all tests required under this Section. Testing Agency has authority to reject material not meeting Specifications.
 4. Testing of repair locations shall be performed by testing agency representatives that are NACE certified to CP2, CP3 or CP4.
 5. Testing Agency shall submit the following information for Field Testing of Material unless modified in writing by Engineer/Architect:
 - a. Project name and location.
 - b. Contractor's name.
 - c. Testing Agency's name, address and phone number.
 - d. Anode manufacturer.
 - e. Date of report.
 - f. Testing Agency technician's name .
 - g. Placement location within structure.
 - h. Weather data:
 - 1) Air temperatures.
 - 2) Weather.
 - 3) Wind speed.
 - i. Date, time, and place of test.
 - j. Related test data as required in Section "Field Quality Control by Testing Agency."

1.4 REFERENCES

- A. Comply with provisions of following codes, specifications and standards except where more stringent requirements are shown on Drawings or specified herein:
1. ACI/ICRI: Concrete Repair Manual.
 2. ACI Guideline No. 222R: – Corrosion of Metals in Concrete
 3. ACI 562: Code Requirements for Evaluation, Repair and Rehabilitation of Concrete Buildings.
 4. ACI RAP-8: Repair Application Procedure: Installation of Embedded Galvanic Anodes
 5. ICRI Guideline 310.1R: Guide for Surface Preparation for the Repair of Deteriorated Concrete resulting from Reinforcing Steel Corrosion.

6. ASTM A615/A615M: Standard Specification for Deformed and Plain Carbon Steel Bar for Concrete Reinforcement.
7. ASTM A82: Specification for Plain Steel Wire for Concrete Reinforcement.
8. ASTM B6-09 - Standard Specification for Zinc.
9. ASTM B418: Standard Specification for Cast and Wrought Galvanic Zinc Anodes.
10. ASTM C1202: Standard Test Method for an Electrical Indication of Concrete Ability to Resist Chloride Ion Penetration,
11. ASTM C1760: Standard Test Method for Bulk Electrical Conductivity of Hardened Concrete."

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver all materials to site in original, unopened containers, bearing following information:
 1. Name of product.
 2. Name of manufacturer.
 3. Batch number
 4. Date of manufacture
- B. Store materials in unopened boxes in dry conditions and protect from extremes in temperature and humidity. Replace packages or materials showing any signs of damage with new material at no additional cost to Owner.

1.6 WARRANTY

- A. System manufacturer and Contractor shall furnish Owner written single source performance guarantee that the embedded galvanic anodes will remain electrochemically active, producing galvanic current and provide corrosion protection for a period of five years starting from the date of substantial completion of the project.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Embedded galvanic anodes shall utilize zinc in compliance in compliance with ASTM B418 Type II (Z13000) and ASTM B6 Special High Grade (Z13001) with iron content less than 15 ppm.
- B. Embedded galvanic anodes shall be pre-manufactured, and contain sufficient quantity of metallic zinc to mitigate corrosion for a period of fifteen (15) years.

Minimum amount of zinc shall be at least 100 grams. Amount of zinc shall be at least 200% of amount needed to satisfy anticipated service life based on electrochemical theory (Faraday's Law) and based on currents that are expected to flow in anodes. Zinc shall be cast around steel tie wires to provide a durable zinc / steel connection

as per NACE practice. Anodes shall be supplied with integral unspliced tie wires for direct connection to reinforcing steel.

- C. Embedded galvanic anodes shall be evaluated and certified by an independent organization.
- D. Embedded galvanic anodes shall have verifiable record with a minimum of 5 projects of similar size showing minimum five years satisfactory performance in similar field environment. Records shall demonstrate satisfactory flow of protective current throughout three-year period; including at least 0.2 mA after 1 year, and at least 0.1 mA after 3 years. Significant cathodic polarization of surrounding reinforcing steel shall be documented throughout this period.
- E. Repair mortars, concrete and bonding agents shall be Portland cement-based materials with volumetric resistivity below 15,000 ohm-cm, as measured after 28day wet cure and in saturated condition. Contractor shall provide submittals confirming the resistivity of repair materials prior to beginning work. Non-conductive repair materials such as epoxy, urethane, or magnesium phosphate shall not be permitted.
- F. Deformed bars for reinforcement shall be hot-rolled steel in accordance with ASTM A615/A615M-00, Grade 60 (Grade 400).
- G. Deliver, store, and handle all materials in accordance with manufacturer's instructions.
- H. Available Products: Subject to compliance with the requirements, products that may be incorporated into the Work include, but are not limited to the following: Acceptable Products (Minimum Zinc Content 100 grams) are as follows:
 - 1. Alkali Activated Embedded Galvanic Anodes:
 - a. "Galvashield XP2 or XP4," by Sika Corporation, Lyndhurst, NJ or by Vector Corrosion Technologies, Winnipeg Canada.
 - b. Engineer approved equal.

PART 3 - EXECUTION

3.1 CONCRETE REMOVAL AND PREPARATION

- A. Concrete removal, preparation of the concrete surface for patching shall be conducted under appropriate concrete partial or full depth repair work item and according to Section "Surface Preparation for Patching."

3.2 CLEANING AND REPAIR OF REINFORCING STEEL

- A. Clean exposed reinforcing steel of rust, mortar, etc. to provide sufficient electrical connection prior to installation of anodes.
- B. Secure loose reinforcing steel by tying tightly to other bars with steel tie wire. Newly secured reinforcing steel shall be tested to insure electrical continuity according to Section "Galvanic Anode Installation: Electrical Continuity" below.

3.3 GALVANIC ANODE INSTALLATION

- A. Galvanic anodes shall be installed along perimeter of repair or interface with spacing as indicated in Project Documents and in accordance with manufacturer recommendations.
 - 1. In no case shall distance between anodes exceed 30 inches (760 mm).
 - 2. Handle and install anodes in accordance with manufacturer's written instructions.
 - 3. Provide sufficient clearance between anodes and substrate to allow repair material to encase anode.
 - 4. Install galvanic anodes immediately following preparation and cleaning of steel reinforcement.
 - 5. Galvanic anodes shall be installed to provide minimum 2 inches (50 mm) concrete cover over the anodes. If less than 2 inches (50 mm) of concrete cover is expected, place anode behind bar and secure to clean reinforcing steel.
 - 6. Secure galvanic anodes within 4 in (100 mm) of patch edge using anode tie wires, preferably Tie wires shall be wrapped at least one full turn in opposite directions around cleaned reinforcing steel and twisted tight to allow little or no free movement. Anode may be tied to a single bar or may be placed at an intersection between two bars and secured to each clean bar.
- B. Electrical Continuity
 - 1. At all anode locations, Contractor to confirm and report electrical continuity between anode tie wire and reinforcing steel and between exposed reinforcing steel within the repair area by using a multi-meter on the lowest DC mV scale. Electrical continuity is acceptable if the DC mV difference between test points is equal to or less than 1 mV. Document testing and submit in accordance with Section "Submittals."
 - 2. If electrical continuity does not exist between anode unit and reinforcing steel, remove the anode, clean the steel, reinstall the anode and retest. If electrical continuity does not exist between reinforcing steel within the repair area, connect discontinuous steel to continuous steel by wrapping tightly with steel tie wire to provide electrical continuity.

3.4 CONCRETE REPLACEMENT

- A. Provide bridging mortar completing surrounding anode and forming a connection to patch perimeter.
- B. Complete repair in accordance with appropriate work item.
- C. Do not damage the anode during concrete replacement or allow anode to be soaked with water greater than 20 minutes.

3.5 FIELD QUALITY CONTROL BY TESTING AGENCY

- A. Field Observations.
 - 1. Presence of insulating materials.
 - 2. Confirmation of material type installed.
 - 3. Confirmation of material spacing and attachment.
 - 4. Confirmation of material installation in accordance to manufacturer requirements. and as indicated in Contract Documents.
 - 5. Confirm continuity of at least 10 anode locations or up to 5% of repair quantity identified by the Contractor as ready for concrete placement.

END OF SECTION 032117

SECTION 033021 - CAST-IN-PLACE CONCRETE - RESTORATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies cast-in-place concrete, including reinforcement, concrete materials, mix design, placement procedures, and finishes.
- B. Work in other Sections related to Cast-in-Place Concrete:

1. Division 1 Section "Project Management and Coordination."
2. Division 1 Section "Quality Control."
3. Division 1 Section "Submittal Procedures."
4. Division 2 Section "Work Items."
5. Division 2 Section "General Concrete Surface Preparation."
6. Division 2 Section "Surface Preparation for Patching."
7. Division 7 Section "Traffic Coatings."
8. Division 7 Section "Concrete Joint Sealants."
9. Division 9 Section "Pavement Marking."

1.3 DEFINITIONS

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

1.4 SUBMITTALS

- A. General: In addition to the following, comply with submittal requirements in ACI 301.
- B. Product Data: For each type of manufactured material and product indicated.
- C. Design Mixes: For each concrete mix. Use form at end of this Section.
- D. Testing Agency: Promptly report all field concrete test results to Engineer, Contractor and Concrete Supplier.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed concrete work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.
- C. Source Limitations: Obtain each type of cement of the same brand from the same manufacturer's plant, each aggregate from one source, and each admixture from the same manufacturer.
- D. Comply with ACI 301, "Specification for Structural Concrete," including the following, unless modified by the requirements of the Contract Documents.
 - 1. General requirements, including submittals, quality assurance, acceptance of structure, and protection of in-place concrete.
 - 2. Formwork and form accessories.
 - 3. Steel reinforcement and supports.
 - 4. Concrete mixtures.
 - 5. Handling, placing, and constructing concrete.
- E. Testing Agency
 - Qualifications:
 - 1. Independent agency, acceptable to authorities having jurisdiction, and acceptable to engineer, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
- F. Testing Agency is responsible for conducting, monitoring and reporting results of all tests required under this Section. Testing Agency shall immediately report test results showing properties that do not conform to Project Specification requirements to Contractor's authorized on-site representative and to Owner's authorized on-site representative.
- G. Testing Agency: Submit following Field Test information for Project Concrete unless modified in writing by Engineer:
 - 1. Project name and location.
 - 2. Contractor's name.
 - 3. Testing Agency's name, address, and phone number.
 - 4. Concrete supplier.
 - 5. Date of report.
 - 6. Testing Agency technician's name (sampling and testing).
 - 7. Placement location within structure.
 - 8. Time of batching.

9. Time of testing.
10. Elapsed time from batching at plant to discharge from truck at site.
11. Concrete mixture identification number.
12. Weather data:
 - a. Air temperatures.
 - b. Weather.
13. Field test data:
 - a. Date, time and place of test.
 - b. Slump.
 - c. Concrete Temperature.
 - d. Slump flow (for SCC).
 - e. Air content.
14. Compressive test data:
 - a. Cylinder number.
 - b. Age of concrete when tested.
 - c. Date and time of cylinder test.
 - d. Curing time (field and lab).
 - e. Cross-sectional area of cylinder.
 - f. Compressive strength.
 - g. Type of failure (at break).

1.6 REFERENCES

A. American Concrete Institute (ACI):

1. ACI 117, "Standard Specifications for Tolerances for Concrete Construction and Materials."
2. ACI 214R, "Evaluation of Strength Test Results of Concrete."
3. ACI 301, "Specifications for Structural Concrete."
4. ACI 302.1R, "Guide for Concrete Floor and Slab Construction."
5. ACI 305R, "Hot Weather Concreting."
6. ACI 306.1, "Cold Weather Concreting."
7. ACI 308R, "Guide to Curing Concrete."
8. ACI 308.1, "Standard Specifications for Curing Concrete."
9. ACI 318, "Building Code Requirements for Structural Concrete & Commentary."
10. ACI 347, "Guide to Formwork for Concrete."
11. ACI 347.2 "Guide to Shoring/Reshoring of Concrete Multistory Buildings." B.

American Society for Testing and Materials (ASTM):

1. ASTM A 36, "Standard Specification for Carbon Structural Steel."

2. ASTM A 185, "Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete Reinforcement."
3. ASTM A 615, "Standard Specification for Deformed and Plain Carbon -Steel Bars for Concrete Reinforcement."
4. ASTM A 706, "Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement."
5. ASTM A 775, "Standard Specification for Epoxy-Coated Steel Reinforcing Bars."
6. ASTM A 884, "Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement for Reinforcement."
7. ASTM C 31, "Standard Practice for Making and Curing Concrete Test Specimens in the Field."
8. ASTM C 33, "Standard Specification for Concrete Aggregates."
9. ASTM C 39, "Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens."
10. ASTM C 94, "Standard Specification for Ready-Mixed Concrete."
11. ASTM C 138, "Standard Test Method for Unit Weight, Yield, and Air Content (Gravimetric) of Concrete."
12. ASTM C 143, "Standard Test Method for Slump of Hydraulic Cement Concrete."
13. ASTM C 150, "Standard Specification for Portland Cement."
14. ASTM C 171, "Standard Specification for Sheet Materials for Curing Concrete."
15. ASTM C 172, "Standard Practice for Sampling Freshly Mixed Concrete."
16. ASTM C 173, "Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method."
17. ASTM C 231, "Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method."
18. ASTM C 260, "Standard Specification for Air-Entraining Admixtures for Concrete."
19. ASTM C 309, "Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete."
20. ASTM C 494, "Standard Specifications for Chemical Admixtures for Concrete."
21. ASTM C 567, "Standard Test Method for Determining the Density of Structural Lightweight Concrete."
22. ASTM C 618, "Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete."
23. ASTM C 989, "Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars."
24. ASTM C 1218, "Standard Test Method for Water Soluble Chloride Ion in Mortar and Concrete."
25. ASTM C 1315, "Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete."
26. ASTM C 1611/C 1611M, "Standard Test Method for Slump Flow of Self-Consolidating Concrete."

PART 2 - PRODUCTS

2.1 FORMWORK

- A. Furnish formwork and form accessories according to ACI 301, ACI 347, and ACI 347.2.

2.2 STEEL REINFORCEMENT

- A. Epoxy-coated Reinforcing Bars: ASTM A775
- B. Epoxy-Coated Welded Wire Fabric: ASTM A884, fabricated from as-drawn steel wire into flat sheets, mats only. Roll stock prohibited.
- C. Provide bar supports according to CRSI's "Manual of Standard Practice." Use all-plastic bar supports when in contact with exposed concrete surface.

2.3 CONCRETE MATERIALS

- A. Ready Mixed Concrete: Obtain concrete from plant with current certification from:
 - 1. Concrete Materials Engineering Council.
 - 2. Massachusetts Department of Transportation.
 - 3. National Ready Mixed Concrete Association.
 - 4. Prestressed Concrete Institute.
- B. Portland Cement: ASTM C 150, Types I or II or Type I/II.
- C. Fly Ash: ASTM C618, Class C or Class F.
- D. Ground-Granulated Blast Furnace Slag: ASTM C989, Gr. 100 or higher.
- E. Silica Fume: ASTM C1240.
- F. Normal-Weight Coarse Aggregate: ASTM C 33, Crushed and graded limestone or approved equivalent, Class 5S uniformly graded, not exceeding 3/4-inch nominal size. No cherts, opaline or crushed hydraulic-cement concrete is permitted.
 - 1. Combine Aggregate Gradation: Well graded from coarsest to finest with not more than 18 percent and not less than 8 percent retained on an individual sieve, except that less than 8 percent may be retained on coarsest sieve and on No. 50 sieve, and less than 8 percent may be retained on sieves finer than No. 50.
- G. Normal-Weight Fine Aggregate: Natural sand conforming to ASTM C 33 and having preferred grading shown for normal weight aggregate in ACI 302.1R, Table 5.1. H. Water: Potable and complying with ASTM C 1602.

2.4 ADMIXTURES

- A. General: Admixtures certified by manufacturer to contain no more than 0.1 percent water-soluble chloride ions by mass of cement and to be compatible with other admixtures. Do not use admixtures containing calcium chloride.
 - B. General: Admixtures certified by manufacturer that all admixtures used are mutually compatible.
 - C. Admixtures: Use admixtures according to manufacturer's written instructions.
 - 1. Use water-reducing or high-range water reducing admixture in concrete, as required, for placement and workability.
 - 2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
 - 3. Use high-range water-reducing admixture in pumped concrete, concrete for heavyuse industrial slabs, fiber reinforced concrete, and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.45.
 - 4. Use non-corrosive accelerator for all concrete, less than 8 inches thick, placed at air temperatures below 50 degrees Fahrenheit.
 - 5. Use high range water reducing admixture and viscosity modifying admixture, where required, in Self-Consolidating Concrete (SCC).
 - 6. Use corrosion-inhibiting admixture in parking structure slabs and other areas noted on drawings.
 - D. Normal Water-Reducing Admixture: ASTM C 494, Type A.
 - 1. Products: Subject to compliance with requirements, provide one of following:
 - a. "Eucon Series," Euclid Chemical Co.
 - b. "WRDA Series," W.R. Grace & Co.
 - c. "Master Pozzolith Series," or "Master PolyHeed Series," BASF Corporation.
 - d. "Plastocrete Series", Sika Corporation.
 - e. "OptiFlo Series" or "EcoFlo Series," Premiere Concrete Admixtures.
 - f. "Polychem Series" or "KB Series," General Resource Technology.
 - g. "LC-400 Series" or "LC-500 Series," Russ Tech Admixtures, Inc. E.
- Mid-Range Water-Reducing Admixture: ASTM C 494, Type A.
- 1. Subject to compliance with requirements, provide one of following:
 - a. "Eucon MR" or "Eucon X-15 and X-20," Euclid Chemical Co.
 - b. "Daracem Series" or "MIRA Series," W.R. Grace & Co.
 - c. "Master Polyheed Series," BASF Corporation.
 - d. "Sikaplast Series" or "Plastocrete Series", Sika Corporation.
 - e. "Polychem 1000" or "KB Series," General Resource Technology.
 - f. "Finishease-NC," Russ Tech Admixtures, Inc.

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- a. "Eucon AcN-Series," "Accelguard 80," "Accelguard NCA," or "Accelguard 90," by Euclid Chemical Company.
 - b. "DCI," "PolaraSet," "Lubricon NCA," "Daraset" or "Gilco," by W.R. Grace & Co.
 - c. "MasterSet FP 20" or "MasterSet AC 534," by BASF Corporation.
 - d. "Sika Set NC," "Plastocrete 161FL", or "Sika Rapid-1," by Sika Corporation.
 - e. "Catexol 2000 RHE," by Axim Concrete Technologies.
 - f. "Polychem NCA" or "Polychem Super Set," General Resource Technology.
 - g. "LCNC-166," Russ Tech Admixtures, Inc.
- J. Corrosion Inhibiting Admixture shall be capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete.
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. "Eucon CIA" or "Eucon BCN," Euclid Chemical Company.
 - b. "DCI" or "DCI-S," W.R. Grace.
 - c. "MasterLife CI 30," BASF Corporation.
 - d. "Sika CNI," Sika Corporation.
 - e. "Catexol 1000 CN-CI," Axim Concrete Technologies.
 - f. "Polychem CI," General Resource Technology.
 - g. "Russ Tech RCI," Russ Tech Admixtures, Inc.
 2. Add at rate of 3 gal/cu yd. of concrete, which shall inhibit corrosion to 9.9 lb of chloride ions per cu. yd. of concrete. Calcium Nitrite based corrosion inhibitor shall have a concentration of 30 percent, plus or minus 2 percent of solids content.

2.5 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
1. Evaporation Retarder:
 - a. AquaFilm J74 by Dayton Superior Corporation, Miamisburg, OH
 - b. Eucobar; Euclid Chemical Co.
 - c. E-Con; L&M Construction Chemicals, Inc.
 - d. MasterKure ER 50; BASF Corporation.
 - e. SikaFilm; Sika Corporation.
 - f. Sure-Film (J-74); Dayton Superior Corporation.
 - g. "EVRT", Russ Tech Admixtures, Inc.
 - h. "Barrier," Premiere Concrete Solutions.
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) dry. Materials must be free of harmful substances, such as sugar or fertilizer, or substances that may discolor the concrete. To

remove soluble substances, burlap should be thoroughly rinsed in water before placing it on the concrete.

- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.

2.6 CONCRETE MIXTURES

- A. Proportion mixtures determined by either laboratory trial mix or field test data bases, as follows:
 - 1. Proportion normal-weight concrete according to ACI 211.1 and ACI 301.
 - 2. Provide different mixtures as the season warrants, as well as each type and strength of concrete or for different placing methods.
- B. Use a qualified independent testing agency for preparing and reporting proposed Mixture Proportions for the laboratory trial mix basis.
- C. Requirements for normal-weight concrete mix are shown on Drawings:
 - 1. Compressive strength
 - 2. Slump
 - 3. Water-cementitious materials ratio
 - 4. Air content
- D. Supplementary cementitious materials: For concrete exposed to deicers, limit percentage, by weight, of cementitious materials according to ACI 318 requirements.
- E. Air Entrainment:
 - 1. See General Notes on Drawings for total average air content (percent by volume).
 - 2. Average air content shall exceed value stated in General Notes on Drawings.
 - 3. Permissible variation for any one test result from specified average total air content: plus or minus 1.5 percent unless noted otherwise on General Notes on Drawings.
 - 4. Hardened concrete shall have an air void spacing factor of 0.0080 in. maximum. Specific surface (surface area of air voids) shall be 600 in² per cu in. of air-void volume, or greater. Concrete mixes not meeting these values as determined by ASTM C 457 may require adjustments unless accepted in writing by Engineer."
- F. Chloride Ion Content of Mixture:
 - 1. Water soluble chloride ion content of concrete shall not exceed 0.06 percent by weight of cement for pre-stressed concrete and 0.15 percent for reinforced concrete. (ACI 318 Chapter 4 Table 4.4.1"Maximum Chloride Ion Content for Corrosion Protection of Reinforcement") Testing procedure to determine chloride ion content shall conform to ASTM C 1218.

2. Concrete chloride ion content shall be determined by Testing Agency prior to placement. Cast samples from current production of concrete mix proposed for superstructure.
 3. Concrete not meeting the requirements of paragraph "Water soluble chloride ion content of concrete..." above, shall contain appropriate amount of calcium nitrite. Concrete supplier shall provide laboratory test results showing the amount of excess chloride ion content in the concrete mixture contributed by the aggregates. For each pound of chloride ion in excess of the amount allowed, mix shall contain calcium nitrite (30 percent, plus or minus 2 percent, solids content) on one-to-one basis (one gallon of calcium nitrite for one lb. of excess chloride ion). Calcium nitrite used to offset chloride ions is in addition to calcium nitrite used as a corrosion inhibitor. Maximum of 1.5 lb. of chloride ion per cubic yard may be offset in this manner.
- G. Admixtures: Use admixtures according to manufacturer's written instructions.
1. Consider using water-reducing admixture or high-range water-reducing admixture (Superplasticizers), OR admixtures that achieve self-consolidating concrete, as required, for placement, workability, finishing and when required, increased flowability.
 2. Consider using water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
 3. Use high range water-reducing admixture in pumped concrete, concrete for parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio of 0.45 or less. Use normal or mid-range water reducing admixture for concrete with water-cementitious materials ratio greater than 0.45.
 4. Use corrosion-inhibiting admixture in concrete mixes where indicated.
- H. When concrete mixture contains calcium nitrite admixture, (or other ionic salts that affect the chloride permeability test), perform rapid chloride permeability test for submitted mixture and for control sample. Control sample shall have the same mixture and watercementitious materials ratio as submitted mixture, except calcium nitrite admixture shall not be used.
- I. Slump (ACI 301, Part 4 header "Slump"):
1. Maximum slump for concrete is indicated on Drawings. Where field conditions require slump to exceed that shown, increased slump shall be obtained by use of high range water reducers (superplasticizers) only, and Contractor shall obtain written acceptance from Engineer who may require an adjustment to mix.
 2. All concrete containing high-range water-reducing admixture (superplasticizer) shall have a verified initial slump of 2– 3 in. Final slump after the addition of the superplasticizer shall be 6–9 in. as required by the contractor to properly place the concrete. Before permission for plant addition of superplasticizer to be granted by Engineer, fulfill following requirements:

- a. Submit letter from testing laboratory which developed original mixture proportions, for each super plasticized mixture, certifying volume of mix water which will produce specified slump and water/cement ratio, taking into account aggregate moisture content.
 - b. Submit plant computer printout of mixture ingredients for each truckload of super plasticized concrete with delivery of that truckload. Mix water volume greater than that certified shall be cause for concrete rejection.
 - c. Over-retarding or crusting of flatwork surface: cause for concrete rejection.
 - d. Segregation or rapid slump loss (superplasticizer life) due to incompatibility or under-dosing: cause for concrete rejection.
- J. Engineer's acceptance of mixture proportions shall not relieve Contractor from responsibility for any variation from requirements of Contract Documents unless Contractor has in writing called Engineer's attention to each such variation at time of submission and Engineer has given written approval of each such variation.
- K. Adjustment to Concrete Mixtures: Adjustments to mixture proportions may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant, as accepted by Engineer. Laboratory test data for revised mixture and strength results shall be submitted to and accepted by Engineer before using in work.

2.7 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94 and ASTM C 1116, and furnish batch plant-printed ticket information at delivery to site.
1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.
- B. Provide plant-printed batch ticket for each batch discharged and used in work, indicating project identification name and number, date, mixture identification number, date, time of batching, mixing time, quantity and details of materials, amount of water introduced and water permitted by plant to be added, if any.
- C. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94. Mix concrete materials in appropriate drum-type batch machine mixer.
1. For mixer capacity of 1 cu. yd. (0.76 cu. m) or smaller, continue mixing at least one and one-half minutes, but not more than five minutes after ingredients are in mixer, before any part of batch is released.
 2. For mixer capacity larger than 1 cu. yd. (0.76 cu. m), increase mixing time by 15 seconds for each additional 1 cu. yd. (0.76 cu. m).
 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mix type, mix time, quantity, and amount of water added. Record approximate location of final deposit in structure.

2.8 MATERIAL ACCESSORIES

A. Extended Open Time Epoxy Bonding Agent: Three component, water based, epoxy modified portland cement bonding agent and corrosion inhibitor coating providing the recommended Manufacturer's open time in which to apply repair mortar. Product shall be capable of achieving bond strength of 2,700 psi per ASTM C 882.

1. Acceptable materials for this Work are:

- a. "Duralprep A.C." by The Euclid Chemical Company, Cleveland, OH.
- b. "Sika Armatec 110 EpoCem", by Sika Corporation, Lyndhurst, NJ.

B. Epoxy Adhesive: 2 or 3 component, 100 percent solids, 100 percent reactive compound suitable for use on dry or damp surfaces. Product shall be capable of achieving bond strength of 1,800 psi per ASTM C 882.

1. Acceptable materials for this Work are:

- a. "MasterEmaco P 124" or "MasterEmaco ADH 326," by Master Builders Solutions
- b. "Kemko 001 or 008", by ChemCo Systems, Inc., Redwood City, CA.
- c. "Dural #452 and Dural Series", by The Euclid Chemical Company, Cleveland, OH.
- d. Sikadur 32 Hi-Mod LPL", by Sika Corporation, Lyndhurst, NJ.

C. Epoxy Coating for Existing Exposed Non-prestressed Steel Reinforcement or Welded Wire Reinforcement:

1. Provide one of following epoxy coatings:

- a. "Sikadur 32 Hi-Mod," Sika Chemical Corp.
- b. "MasterEmaco ADH 326," Master Builders Solutions
- c. "Scotchkote 413 PC," 3M Company.
- d. "Dural 452 MV," The Euclid Chemical Company.
- e. "Resi-Bond (J-58)," Dayton Superior Corporation. D. For

mechanical tension splices of reinforcement:

1. All splices to develop 125 percent of specified yield strength of bars, or of smaller bar in transition splices. Acceptable products:

- a. Bar-Lock Rebar Coupler, by Dayton Superior.
- b. Bar-Grip or Grip-Twist, by Barsplice Products, Inc.
- c. Extender HRC 500 Series Coupler, by Headed Reinforcement Corp.
- d. Splice Sleeve, by NMB.
- e. LENTON Splices, by Erico.

- E. Compression splices: Mechanically coupled splices in accordance with ACI 318, Chapter 12.
- F. Joint Fillers
 - 1. Joint filler in slabs and curbs per ASTM D1751 Asphalt impregnated fiber board; as shown on Drawings. Acceptable products as follows:
 - a. "Flexcell," Knight-Celotex Corp.
 - b. "Fibre Expansion Joint," W.R. Meadows, Inc.
 - 2. Joint filler used vertically to isolate walls from columns or other walls: White molded polystyrene bead board type.
 - 3. Joint cover used to bridge gap between columns and grade walls, retaining walls, or basement walls: Minimum width: Gap width plus 4 in. For gaps over 3 in. wide, protect cover with protection board sized to span gap satisfactorily. Acceptable products:
 - a. "Sealtight Premoulded Membrane Vapor Seal," W.R. Meadows, Inc., Elgin, Illinois.
 - b. "Sealtight Melgard," W.R. Meadows, Inc., Elgin, Illinois and shall be applied according to manufacturer's instructions.

2.9 TOOLS

- A. Slab Jointing
 - 1. Concrete groovers: For tooled joints in concrete:
 - a. For concrete not exceeding 4 in. thickness, use groover with 1 in. deep v-cut bit, 0.5 in. surface width and 3/16 in. to 1/4 in. edge radius.
 - b. For concrete exceeding 4 in. thickness, use groover with 1.5 in. deep v-cut bit, 0.5 in. surface width and 3/16 in. to 1/4 in. edge radius.
 - 2. Saw Cut Joints:
 - a. Acceptable tool: "Soff-Cut Saw Model 310" or "Model G2000," Soff-Cut International, Corona, CA.
 - 1) Cut joint as soon as concrete will support weight of operator and saw without deforming.
 - 2) Joint shall be 1 in. deep for concrete thickness of 4 in. or less. Joint shall be 1.5 in. deep for concrete exceeding 4 in. thickness. Do not cut reinforcement.
 - 3) Extend joint to adjacent vertical surface within 30 minutes of cutting.
 - 4) Retool or grind saw cut joint before installing sealant to provide equivalent dimensions, shape and volume as joint obtained by tooled joint. Surface width shall be 0.5 in. with 3/16 to 1/4 in. edge radius.

- B. All joints subject to acceptance by sealant installer. Concrete contractor to rework rejected joints until acceptable to sealant installer.

PART 3 - EXECUTION

3.1 PRECONSTRUCTION MEETING

- A. Conduct a preconstruction meeting addressing the concrete preparation, installation, protection, quality control, and acceptance of Work.

3.2 FORMWORK

- A. Design, construct, erect, shore, brace, and maintain formwork according to ACI 301 and ACI 347.

3.3 STEEL REINFORCEMENT

- A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

3.4 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Locate and install so as not to impair strength or appearance of concrete, at locations indicated or as approved by Engineer.
- C. Isolation Joints: Install joint-filler strips at junctions with slabs-on-grade and vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
 - 1. Extend joint filler full width and depth of joint, terminating flush with finished concrete surface, unless otherwise indicated.

3.5 CONCRETE PLACEMENT

- A. Comply with recommendations in ACI 304R for measuring, mixing, transporting, and placing concrete.
- B. Do not add water to concrete during delivery, at Project site, or during placement.
- C. Consolidate concrete with mechanical vibrating equipment.
- D. Cold Weather Placement: Comply with ACI 306.1.

- E. Hot Weather Placement: Comply with ACI 305 R.

3.6 FINISHING FORMED SURFACE.

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defective areas repaired and patched, and fins and other projections exceeding 1/4 inch (6 mm) in height rubbed down or chipped off.
1. Apply to concrete surfaces not exposed to public view.
- B. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.7 FINISHING FLOORS AND SLABS

- A. Flatwork in Horizontal Areas (BROOM Finish, ACI 301, Section 5 header "Broom or Belt Finish":
1. Bullfloat immediately after screeding. Complete before any excess moisture or bleed water is present on surface (ACI 302.1R, Article 8.3.3). The use of power trowels is discouraged; however, if they are used the following applies:
 - a. Use minimal passes so as to not overwork the concrete.
 - b. At the contractor's expense a petrographic analysis will be required in each area where a power trowel is used to verify the air content at the slab surface is within specified limits.
 2. After excess moisture or bleed water has disappeared and concrete has stiffened sufficiently to allow operation, give slab surfaces coarse transverse scored texture by drawing broom across surface. Texture shall be as accepted by Engineer from sample panels.
 3. Finish tolerance: ACI 301, Paragraph 5.3.4.2 and ACI 117, paragraph 4.5.7: The gap at any point between the straightedge and the floor (and between the high spots) shall not exceed 0.5 in. In addition, floor surface shall not vary more than plus or minus 0.75 in. from elevation noted on Drawings anywhere on floor surface.
 4. Before installation of flatwork and after submittal, review, and approval of concrete mixture proportions, Contractor shall fabricate two acceptable test panels simulating finishing techniques and final appearance to be expected and used on Project. Test panels shall be minimum of 4 ft. by 4 ft. in area and shall be reinforced and cast to thickness of typical parking and drive area wearing surface in Project. (Maximum thickness of test panels need not exceed 6 in.) Contractor shall finish panels following requirements of paragraphs above. Finished panels (one or both) may be rejected by Engineer, in which case Contractor shall repeat procedure on rejected panel(s) until Engineer acceptance is obtained. Accepted test panels shall be cured in accordance with Specifications and may be incorporated into Project.

Accepted test panels shall serve as basis for acceptance/rejection of final finished surfaces of all flatwork.

5. Finish all concrete slabs to proper elevations to ensure that all surface moisture will drain freely to floor drains, and that no puddle areas exist. Contractor shall bear cost of any corrections to provide for positive drainage. B. Flatwork subject to pedestrian traffic:
 1. Concrete surfaces at all walking areas subject to pedestrian traffic shall provide a smooth, slip resistant walking surface for pedestrians with these minimum requirements:
 - a. Shall provide walking surfaces in accordance with ASTM – F 1637 Standard Practice for Safe Walking Surfaces and "Americans with Disabilities Act (ADA), Accessibility Guidelines (ADAAG)".
 - b. Adjoining walkway surfaces shall be flush and meet the following minimum requirements:
 - 1) Changes in level of less than $\frac{1}{4}$ inch in height may be without edge treatment as shown in ADA Figure 303.2 and on the Drawings.
 - 2) Changes in Level between $\frac{1}{4}$ inch and $\frac{1}{2}$ inch height shall be beveled with a slope no greater than 1:2 as shown in ADA Figure 303.3 and on the Drawings.
 - 3) Changes in level greater than $\frac{1}{2}$ inch in height are not permitted unless they can be transitioned by means of a ramp with minimum requirements shown on the Drawings.
 - 4) Openings in floor or ground surfaces shall not allow passage of a sphere more than $\frac{1}{2}$ inch diameter except as allowed for elevators and platform lifts as shown in ADA Figure 302.3 and on the Drawings.
 - c. Walkway surfaces shall provide a slip resistant surface.
 - 1) Concrete surfaces shall be troweled and finished to provide a slip resistant finish.
 - 2) Contractor shall provide sample area with slip resistant surface finish.
 - 3) Static coefficient of friction for walking surfaces shall be measured on a dry surface by the NBS – Brungraber machine using a silastic sensor shoe and shall be 0.6 or larger for a level surface and 0.8 or larger for ramps.

3.8 TOLERANCES

- A. Comply with ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

3.9 CONCRETE PROTECTION AND CURING

- A. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 305R for hotweather protection during placement. Keep concrete continually moist prior to final curing by evaporation retarder, misting, sprinkling, or using absorptive mat or fabric covering kept continually moist.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.1 lb/sq. ft. x h before and during finishing operations. Apply material according to manufacturer's written instructions one or more times after placement, screeding and bull floating concrete, but prior to float finishing. Repeated applications are prohibited after float finishing has begun.
 - 1. Acceptable evaporation retarder materials for this Work are:
 - a. "Cimfilm", by Axim Concrete Technologies.
 - b. "MasterKure ER 50," by BASF Corporation.
 - c. "AquaFilm", by Conspec Marketing & Manufacturing Co., Inc.
 - d. "Sure-Film (J-74)", by Dayton Superior Corporation.
 - e. "Eucobar", or "Tamms Surface Retarder", by The Euclid Chemical Company, Cleveland, OH.
 - f. "E-Con", by L&M Construction Chemicals, Inc.
 - g. "EVRT", by Russ Tech Admixtures, Inc.
 - h. "SikaFilm", by Sika Corporation, Lyndhurst, NJ.
- C. Immediate upon conclusion of finishing operation cure concrete in accordance with ACI 308 for duration of at least seven days by moisture curing or moisture retaining covering. Provide additional curing immediately following initial curing and before concrete has dried.
 - 1. Continue method used in initial curing.
 - 2. Material conforming to ASTM C171.
 - 3. Other moisture retaining covering as approved by Engineer/Architect.
 - 4. During initial and final curing periods maintain concrete above 50°.
 - 5. Prevent rapid drying at end of curing period.
- D. Concrete surfaces to receive slab coatings or penetrating sealers shall be cured with moisture curing or moisture-retaining cover.
- E. Curing Methods: Cure formed and non-formed concrete moisture curing, moistureretaining-cover curing, curing compound, or a combination of these as follows:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.

- c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

3.10 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor shall engage a qualified independent testing and inspecting agency acceptable to the Engineer to sample materials, perform tests, and submit test reports during concrete placement according to requirements specified in this Article. Perform tests according to ACI 301.
- B. Sample concrete in accordance with ASTM C 172.
- C. Epoxy Coated Material:
 1. Perform field inspection of installed epoxy coated material under provisions of Division 1 Section "Quality Control."
 2. Repair all epoxy coating damage due to fabrication and handling, using a mirror to find any damage on undersides.
 3. Repair all damaged areas using manufacturer's recommended patching material and method.
 4. No damaged area shall be left uncorrected.
 5. Epoxy coated welded wire reinforcement with consistent visible holes in epoxy coating (particularly at mesh intersections): unacceptable. Remove from project.
- D. Temperature:
 1. Test temperature of concrete in accordance with ASTM C 1064/C 1064M and ACI 301 each time cylinders are taken or as directed by the Engineer.
- E. Slump Test:
 1. Conduct one slump test in accordance with ASTM C 143/C 143M per truck load of ready-mixed concrete delivered to Project at truck for superstructure concrete.
 2. Conduct slump test in accordance with ASTM C 143/C 143M and ACI 301 for foundation concrete.
 3. When high-range water-reducing admixture (superplasticizer) is used, initial slump must be verified by Testing Agency.
- F. Water Content:
 1. Water content or water-cementitious materials ratio shall be verified by use of the Microwave Test in accordance with AASHTO T 318.

2. Conduct test each time test cylinders are taken and as directed by Engineer. G. Air Content:

1. General Contractor: Coordinate all parties involved to produce conforming concrete.
2. Sample freshly-mixed concrete at point of final placement in accordance with ASTM C 172 and conduct one air content test in accordance with ASTM C 231 or ASTM C 173 for each truck of ready-mix, air entrained concrete delivered to Project.

H. Concrete Compressive Strength:

1. Make test cylinders in accordance with ASTM C 31 and test in accordance with ASTM C 39 as follows:
 - a. Take minimum of three sets of cylinders for each 100 cu yds. or fraction thereof, of each Mixture of concrete placed in any one day.
 - b. A set of cylinders shall be comprised of two 6 inch by 12 inch cylinders or three 4 inch by 8 inch cylinders.
 - c. At Contractor's option and cost, cylinders may be taken to verify concrete strength prior to form removal.
 - d. Testing Agency: Provide and maintain site cure box for cylinders.
2. Sample plastic concrete for testing at point of final placement, in accordance with ASTM C 172. Engineer will select sampling locations which may include points where plastic concrete has already been screeded and floated. Sample concrete for test cylinders to be used to verify concrete compressive strength for posttensioning as near as possible to actual tendon anchorages.
3. Cover specimens properly, immediately after finishing. Protect outside surfaces of cardboard molds, if used, from contact with sources of water for first 24 hours after molding.
4. Cure test cylinders per ASTM C 31 as follows:
 - a. To verify compressive strength prior to form removal or for additional test cylinders required due to cold weather concreting conditions:
 - 1) Store test specimens on structure as near to point of sampling as possible and protect from elements in same manner as that given to portion of structure as specimen represents.
 - 2) Transport to test laboratory no more than 4 hours before testing. Remove molds from specimens immediately before testing.
 - b. To verify 28-day compressive strength:
 - 1) During first 24 hours after molding, store test specimens under conditions that maintain temperature immediately adjacent to

- specimens in range of 60 to 80 degrees F. and prevent loss of moisture from specimens.
- 2) Remove test specimens from molds at end of 20 +/- 4 hours and store in moist condition at 73.4 +/- 3 degrees F. until moment of test. Laboratory moist rooms shall meet requirements of ASTM C 511.
5. Compression test for non-prestressed concrete:
- a. Test one set of cylinders at 7 days.
 - b. Test one set of cylinders at 28 days.
 - c. Test one set of cylinders at 56 days for concrete strength requirement of 7000 psi or greater.
6. Hold one set of cylinders in reserve for use as Engineer directs.
7. Unless notified by Engineer, reserve cylinders may be discarded without being tested after 56 days.
- I. Report all nonconforming test results to Engineer and others on distribution lists via fax or email. Follow up with colored paper copies to flag the non-conformances.
- J. Monthly, submit a graph showing distribution of compressive strength test results and air content test results. Include microwave test results for concretes with a water cementitious ratio less than or equal to 0.40 concrete.

3.11 EVALUATION AND ACCEPTANCE OF WORK

- A. Acceptance of Repairs (ACI 301):
1. Acceptance of completed concrete Work will be according to provisions of ACI 301.
 2. Repair areas shall be sounded by Engineer and Contractor with hammer or rod after curing for 72 hours. Contractor shall repair all hollowness detected by removing and replacing patch or affected area at no extra cost to Owner.
 3. If shrinkage cracks appear in repair area when initial curing period is completed, repair shall be considered defective, and it shall be removed and replaced by Contractor at no extra cost.

3.12 CONCRETE MIX DESIGN FORM

- A. See appendix to this Section for concrete mix design form.

END OF SECTION 033021

APPENDIX: Concrete Mix Design Submittal Form

I. <u>GENERAL INFORMATION</u>	
Project:	City:
General Contractor:	
Concrete Supplier:	
Mixture Identification No.:	Concrete Grade:
Use (Describe) ¹ :	

¹ example: floor slabs, topping, columns, etc.

II. <u>MIXTURE PROPORTIONING DATA</u>		
Proportioning Based on (Check only one): Standard Deviation Analysis: _____ or Trial Mix Test Data: _____		
Mixture Characteristics: (see Mixtures in Drawings General Notes)	Density: _____ pcf;	Air: _____ % specified
	Slump _____ in. before superplasticizer	Slump _____ in. after superplasticizer Or for SCC: Spread _____ in.
	Strength: _____ psi (28 day);	

WALKER SUBMITTAL STAMP _____

CONTRACTOR SUBMITTAL STAMP

III. <u>MATERIALS</u>
Aggregates: (size; type; source; gradation report; specification)

Coarse:		
Fine:		
Other Materials:	<u>Type</u>	<u>Product-Manufacturer</u> (<u>Source</u>)
Cement:		
Flyash, slag, or other pozzolan:		
Silica Fume		
Processed Ultra Fine Fly Ash		
HRM		
Air Entraining Agent:		
Water Reducer		
High Range Water Reducer (HRWR / superplasticizer)		
Non-Corrosive Accelerator		
Retarder		
Fibers		
Other(s):		

IV. <u>MIX PROPORTIONS</u> ⁽²⁾		
	WEIGHT (lbs.) (per yd ³)	ABSOLUTE VOL. (cu. ft.) (per yd ³)
Cement:		
Fine Aggregate: ⁽³⁾		
Coarse Aggregate: ⁽³⁾		
Flyash, slag, or other pozzolan:		
Silica Fume		
Processes Ultra-Fine Fly Ash		
HRM		
Water: ⁽⁴⁾ (gals. & lbs.)		
Entrained Air: (oz.)		
Fibers:		
(Other) _____:		
TOTALS:		

NOTES:
 (2) Mix proportions indicated shall be based on data used in section VII or IX.
 (3) Based on saturated surface dry weights of aggregates.
 (4) Includes ALL WATER, including added water and free water contained on aggregates.

V. <u>RATIOS</u>		VI. <u>SPECIFIC GRAVITIES</u>
Water ⁽¹⁾	lb.	Fine Aggregate:
=	=	
Cementitious Material ⁽²⁾	lb.	Coarse Aggregate:
Fine Agg.	lb.	
=	=	
Total Agg.	lb.	

NOTES:
 (1) Includes ALL water, including added water and free water contained on aggregates.
 (2) Cementitious materials include cement, fly ash, slag, silica fume, HRM, Processed UltraFine Fly Ash or other pozzolan.

VII. <u>ADMIXTURES</u>				
Air Entraining Agent (A.E.A.):	___ oz.	per yd ³	___ oz.	per 100# cement
Superplasticizer	___ oz.	per yd ³	___ oz.	per 100# cement
Water Reducer	___ oz.	per yd ³	___ oz.	per 100# cement
Non-corrosive Accelerator	___ oz.	per yd ³	___ oz.	per 100# cement
Retarder	___ oz.	per yd ³	___ oz.	per 100# cement
Other	___ oz.	per yd ³	___ oz.	per 100# cement
Lithium Nitrate	___ gal.	per yd ³		

VIII. STANDARD DEVIATION ANALYSIS: Yes N/A
 (Complete this section only if Mixture was developed using standard deviation analysis of previous project test results. If other method was used, check "N/A".)

<u>Number of Tests Evaluated:</u> (One test is average of two cylinder breaks)	<u>Standard Deviation:</u> (Single Group)
<u>Attach copy of test data considered:</u>	<u>Standard Deviation:</u> (Two Groups)
Required average compressive strength: $f'_{cr} = f'_c + \rule{1.5cm}{0.4pt}$ psi	
NOTE: Mixture shall be proportioned in accordance with ACI 301 section 4.2.3 to achieve average compressive strength f'_{cr} equal to or greater than the larger of one of the following equations: (4.-3) $f'_{cr} = f'_c + 1.34ks$ [s = calculated standard deviation] or (4-4) $f'_{cr} = f'_c + 2.33ks - 500$ or (4-5) $f'_{cr} = 0.9f'_c + 2.33ks$ (for $f'_c > 5,000$ psi) (Refer to ACI 301 for required average when data are not available to establish standard deviation. For post-tensioning projects, see also special requirements for strength required to apply initial post-tensioning.)	
MIXTURE CHARACTERISTICS (As shown on drawings)	
Slump = <u> </u> in.	Air Content = <u> </u> %
Unit Wet Wt. = <u> </u> pcf	Unit Dry Wt. = <u> </u> pcf
MIXTURE CHARACTERISTICS (Based on proportioning data)	
Initial Slump = <u> </u> in.	Final Slump <u> </u> in.
Unit Wet Wt.= <u> </u> pcf.	Unit Dry Wt. = <u> </u> pcf.
Air Content = <u> </u> %	

IX. <u>TRIAL MIXTURE TEST DATA:</u>	<u>Yes</u>	<u>N/A</u>
(Complete this section only if Mixture Proportion is based on data from trial test mixture(s) batched by testing agency or Contractor. If other method was used, check "N/A".)		
<u>Age</u> (days)	<u>Mix #1</u> (comp. str.)	<u>Mix #2</u> (comp. str.)
		<u>Mix #3</u> (comp. str.)

<u>7</u>					
<u>7</u>					
<u>28</u>					
<u>28</u>					
<u>28</u>					
<u>28</u> day average compressive strength, psi					
NOTE: Mixture shall be proportioned in accordance with ACI 301 section 4.2.3 to achieve average compressive strength f'_{cr} equal to or greater than the larger of one of the following equations: (Less than 3000) $f'_{cr} = f'_c + 1000$ or (3000 to 5000) $f'_{cr} = f'_c + 1200$ or (Over 5000) $f'_{cr} = 1.1f'_c + 700$ For post-tensioning projects, see also special requirements for strength required to apply initial post-tensioning.					
MIXTURE CHARACTERISTICS (as shown on drawings)					
Slump = _____ in.		Air Content = _____ %			
Unit Wet Wt. = _____ pcf		Unit Dry Wt. = _____ pcf			
MIXTURE CHARACTERISTICS (Based on proportioning data)					
Initial Slump = _____ in.		Final Slump _____ in.			
Unit Wet Wt.= _____ pcf.		Unit Dry Wt. = _____ pcf.			
Air Content = _____ %					

X. OTHER TEST DATA		
Water Soluble Chloride Ion Content of mix:	_____ % (by weight of cement)	ASTM C 1218

Hardened Air Content (per ASTM C457):		
Air content: _____%	Air void spacing Factor _____ in.	Specific surface: _____ in ² /in ³
Chloride Ion Content of Concrete Mixture: ASTM C 1218		
Shrinkage (Length Change, Average) per ASTM C117:		
_____% @ 4 days	_____% @ 7 days	_____% @ 14 days
_____% @21 days	_____% @28 days	

XI. <u>Remarks:</u>

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Ready Mix Concrete Supplier Information
Name:
Address:
Phone Number:
Date:
Main Plant Location:
Miles from Project Site:
Secondary or Backup Plant Location:
Miles from Project Site:

My signature below certifies that I have read, understood, and will comply with the requirements of this Section.

Signature _____

Typed or Printed Name _____

REQUIRED ATTACHMENTS	
	Coarse aggregate grading report
	Fine aggregate grading report
	Concrete compressive strength data used for calculation of required average strength and for calculation of standard deviation
	Chloride ion data and related calculations
	Admixture compatibility certification letter
	Shrinkage information per ASTM C157
	ASTM C 457
	Alkali Content Data and Calculations OR ASTM C1293, ASTM C1260, ASTM C 1567 or CE CRD-C662 Test report for each aggregate

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SECTION 033760 – PREPACKAGED REPAIR MORTAR

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the provision of all labor, materials, supervision and incidentals necessary to prepare deteriorated or damaged concrete surfaces and install prepackaged concrete repair mortar to formed horizontal, vertical and overhead surfaces to restore original surface condition and integrity.
- B. Related Sections: Following Sections contain requirements that relate to this Section:
 - 1. Division 01 Section "Submittal Procedures."
 - 2. Division 02 Section "Work Items."
 - 3. Division 02 Section "General Concrete Surface Preparation."
 - 4. Division 02 Section "Surface Preparation for Patching."
 - 5. Division 03 Section "Cast-In-Place Concrete Restoration."
 - 6. Division 07 Section "Concrete Joint Sealants."
 - 7. Division 07 Section "Traffic Coatings."
 - 8. Division 09 Section "Pavement Marking."

1.3 QUALITY ASSURANCE

- A. Work shall conform to requirements of ACI 301 as applicable except where more stringent requirements are shown on Drawings or specified in this Section.
- B. Testing Agency:
 - 1. Independent testing laboratory employed by Contractor and acceptable to Engineer.
 - 2. Accredited by AASHTO under ASTM C1077. Testing laboratory shall submit documented proof of ability to perform required tests.
- C. Sampling and testing of mortar shall be performed by ACI certified Concrete Field Technicians Grade I. Certification shall be no more than three years old.
- D. Testing Agency is responsible for conducting, monitoring and reporting results of all tests required under this Section. Testing Agency has authority to reject mortar not meeting

Specifications. Testing Agency does not have the authority to accept mortar that does not meet specifications.

- E. Testing Agency shall submit the following information for Field Testing of Concrete unless modified in writing by Engineer:
1. Project name and location.
 2. Contractor's name.
 3. Testing Agency's name, address and phone number.
 4. Mortar manufacturer.
 5. Date of report.
 6. Testing Agency technician's name (sampling and testing).
 7. Placement location within structure.
 8. Weather data:
 - a. Air temperatures.
 - b. Weather.
 - c. Wind speed.
 9. Date, time, and place of test.
 10. Compressive test data:
 - a. Cube or cylinder number.
 - b. Age of sample when tested.
 - c. Date and time of test.
 - d. Compressive strength.

1.4 REFERENCES

- A. "Standard Specification for Structural Concrete" (ACI 301) by American Concrete Institute, herein referred to as ACI 301, is included in total as specification for this structure except as otherwise specified herein.
- B. Comply with provisions of following codes, specifications and standards except where more stringent requirements are shown on Drawings or specified herein:
1. "Building Code Requirements for Structural Concrete" (ACI 318), American Concrete Institute, herein referred to as ACI 318.
 2. "Hot Weather Concreting" reported by ACI Committee 305.
 3. "Cold Weather Concreting" reported by ACI Committee 306.
 4. "Standard Specification for Curing Concrete" (ACI 308.1)
- C. Contractor shall have following ACI publications at Project construction site at all times:
1. "Standard Specifications for Structural Concrete (ACI 301) with Selected ACI and ASTM References," ACI Field Reference Manual, SP15.

2. "Hot Weather Concreting" reported by ACI Committee 305.
3. "Cold Weather Concreting" reported by ACI Committee 306.
- D. American Society for Testing and Materials (ASTM):
 1. ASTM C109, "Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or 50-mm Cube Specimens)."
 2. ASTM C31, "Test Method for Compressive Strength of Cylindrical Concrete Specimens."
 3. ASTM C1583, "Standard Test Method for the Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method)"

1.5 SUBMITTALS

- A. Make submittals in accordance with requirements of Division 01 and as specified in this Section.
- B. Contractor: At preconstruction meeting, submit procedures for demolition, surface preparation, material batching, placement, finishing, and curing of application. Provide procedure to protect fresh patches from severe weather conditions.
- C. Testing Agency: Promptly report all mortar test results to Engineer and Contractor. Include following information:
 1. See Article "Quality Assurance," paragraph "Testing Agency shall submit...."
 2. Strength determined in accordance with ASTM C109.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide products of one of following, only where specifically named in product category:
 1. update since SIKA bought them.
 2. Euclid Chemical Corporation (Euclid), Cleveland, OH
 3. King Construction Products (King), Burlington, ON 4. Mapei Corporation (MAPEI), Deerfield Beach, FL
 5. Sika Corporation (Sika), Lyndhurst, NJ.

2.2 MATERIALS

- A. Horizontal Repair and Form and Pour Mortar: Shall be prepackaged cementitious repair mortar capable of horizontal and form and pour partial depth applications, achieving a

minimum 3,000 psi compressive strength at 7 days and 5,000 psi compressive strength at 28 days per ASTM C39 as certified by manufacturer with maximum lineal shrinkage of 0.10% at 28 days. Extend per manufacturer's instructions as required for deeper placements.

1. Acceptable cementitious repair materials for this Work are as follows:

- a. "MasterEmaco S440,
- b. "Planitop 11," by MAPEI.
- c. "Sikacrete 211," by Sika.
- d. Other types may be used only with Engineer's approval in writing prior to bidding.

B. Rapid Strength Repair Mortar: Shall be prepackaged, cementitious repair mortar. Repair mortar shall be capable of application achieving a minimum 3,500 psi compressive strength at 1 day and 5,000 psi compressive strength at 28 days per ASTM C39 as certified by manufacturer. Extend per manufacturer's instructions as required for deeper placements.

1. Acceptable materials for this Work are as follows:

- a. "MasterEmaco T430,"
- b. "Planitop 18 ES" by MAPEI.
- c. "Sikaquick 1000," by Sika.
- d. Other types may be used only with Engineer's approval in writing prior to bidding.

C. Trowel Applied Repair Mortar: Shall be prepackaged, cementitious repair mortar capable of vertical/overhead application by trowel achieving a minimum 3,000 psi compressive strength at 7 days and 4,500 psi compressive strength at 28 days per ASTM C 109 as certified by manufacturer.

1. Acceptable materials for this Work are as follows:

- a. "MasterEmaco N425," .
- b. "Planitop XS," by MAPEI
- c. "Sikaquick VOH," by Sika.
- d. Other types may be used only with Engineer's approval in writing prior to bidding.

D. Horizontal Topping Mortar: Shall be prepackaged cementitious repair mortar capable of horizontal partial depth applications on minimum thickness of 0.5 inches and a maximum thickness of 2 inches, achieving a minimum 3,000 psi compressive strength at 7 days and 5,000 psi compressive strength at 28 days per ASTM C109 as certified by manufacturer. The mortar is not to be extended.

1. Acceptable materials for this Work are as follows:

- a. "MasterEmaco T1061,"
- b. "Planitop 15," by MAPEI.
- c. "SikaTop 111 Plus," by Sika.
- d. Other types may be used only with Engineer's approval in writing prior to bidding.

2.3 MATERIAL ACCESSORIES

- A. Extended Open Time Epoxy Bonding Agent: Three component, water based, epoxy modified portland cement bonding agent and corrosion inhibitor coating providing the recommended Manufacturer's open time in which to apply repair mortar.
 1. Acceptable materials for this Work are:
 - a. "MasterEmaco P124,"
 - b. "Planibond 3C," by MAPEI.
 - c. "Armotec 110 EpoCem", by Sika.
- B. Bonding Grout: Bonding grout shall consist of prepackage repair material mixed with sufficient water to form stiff slurry to achieve consistency of "pancake batter."
- C. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.
- D. Floor repairs to receive a traffic bearing waterproofing membrane of penetrating

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Epoxy Bonding Agent Extended Open Time:
 1. In strict accordance with manufacturer's recommendations, mix and apply epoxy bonding agent to all areas as indicated on Drawings.
 2. Allow epoxy bonding agent to dry a minimum 2 hours, but no more than the Manufacturer's recommended open time prior to placing repair mortar.
- B. Bonding Grout:
 1. Mix bonding grout and scrub into SSD repair substrate with a stiff broom to all areas as indicated on Drawings.
 2. Place repair material prior to initial set of grout. If grout sets prior to placement of repair material, complete remove grout from surface and re-clean prior to proceeding with new grout placement and repair mortar.
- C. Mortar Placement: Mortar materials shall be placed in strict accordance with manufacturer's instructions. Properly proportioned and mixed mortar material shall be

placed using tools to consolidate mortar so that no voids exist within new material and continuous contact with base concrete is achieved.

- D. Form and Pour Repair Mortar Placement: Mix and apply in strict accordance with manufacturer's written instructions, to achieve a maximum 9" slump. Consolidate mortar so that no voids exist and continuous contact with base concrete is achieved.
- E. Vertical and Overhead Repairs: Mortar materials shall be placed in strict accordance with manufacturer's instructions. Properly proportioned and mixed mortar material shall be placed using tools to consolidate mortar so that no voids exist within new material and continuous contact with base concrete is achieved. Supplemental wire mesh shall be required for delamination and spall repairs greater than two inches in depth.
- F. Finishing:
 - 1. Apply a nonslip broom finish to top of floor patches and to exterior concrete platforms, steps, and ramps. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.
 - 2. Provide a surface finish similar to adjacent surfaces for vertical and overhead partial depth repairs.
 - 3. Finish formed surfaces similar to adjacent surfaces.

3.2 CONCRETE PROTECTION AND CURING

- A. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 305R for hotweather protection during placement. Keep concrete continually moist prior to final curing by evaporation retarder, misting, sprinkling, or using absorptive mat or fabric covering kept continually moist.
- B. Immediate upon conclusion of finishing operation cure concrete in accordance with ACI 308.1 for duration of at least seven (7) days by curing methods listed below. Provide additional curing immediately following initial curing and before concrete has dried.
 - 1. During initial and final curing periods maintain concrete above 50°.
 - 2. Prevent rapid drying at end of curing period.
- C. Concrete surfaces to receive slab coatings or penetrating sealers shall be cured with moisture curing or moisture-retaining-cover curing.
- D. Curing Methods: Cure formed and non-formed concrete moisture curing, moistureretaining-cover curing, curing compound, or a combination of these as follows:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.

- c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
3. Curing compound: Apply curing compound in accordance with manufacturer's instructions.

3.3 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor **shall** engage a qualified independent testing and inspecting agency acceptable to the Engineer to sample materials, perform tests, and submit test reports during concrete placement according to requirements specified in this Article. Perform tests according to ACI 301.
- B. Testing Frequency: Perform one set of strength testing and one bond test for each product used for each day's work. Prepare samples in accordance with ASTM C31.
- C. Compressive Strength Testing: Determine strength at 3, 7, and 28 days. Each test shall consist of two 6-inch diameter cylinders or three 4-inch diameter cylinders. Testing shall be in accordance with ASTM C39.
- D. Compressive Strength Testing: Determine strength at 3, 7, and 28 days. Each test shall consist of three 2-inch cubes. Testing shall be in accordance with ASTM C109 using as placed mortar.
- E. Bond Testing: Bond testing shall be performed at 7 days in accordance with ASTM C1583.

3.4 EVALUATION AND ACCEPTANCE OF WORK

- A. Acceptance of Repairs (ACI 301):
 1. Acceptance of completed concrete Work will be according to provisions of ACI 301.
 2. Repair areas shall be sounded by Engineer and Contractor with hammer or rod after curing for 72 hours. Contractor shall repair all hollowness detected by removing and replacing patch or affected area at no extra cost to Owner.
 3. If shrinkage cracks appear in repair area when initial curing period is completed, repair shall be considered defective, and it shall be removed and replaced by Contractor at no extra cost.

4. Patches shall be considered defective if average strength does not meet minimum strength at 28 days or if average bond strength does not meet minimum requirements of 150 psi.

END OF SECTION 033760

SECTION 036300 - EPOXY INJECTION SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the provision of all labor, materials, equipment, supervision and incidentals necessary to prepare cracks in structural concrete members and inject them with a 2-component, moisture-insensitive, 100 percent solids, low-viscosity epoxy resin system.
- B. Related Sections: Following Sections contain requirements that relate to this Section:
 - 1. Division 01 Section "Submittal Procedures."
 - 2. Division 02 Section "Work Items."
 - 3. Division 02 Section "General Concrete Surface Preparation."
 - 4. Division 02 Section "Surface Preparation for Patching."

1.3 QUALITY ASSURANCE

- A. Testing Agency will be independent testing laboratory employed by Contractor and approved by Engineer/Architect.
- B. Testing Agency is responsible for conducting, monitoring and reporting to Owner results of all field tests of epoxy injection and installation required under this Section with copy of all reports to Engineer and Contractor.
- C. Submit following information for Field Testing of Epoxy Injection Installation unless modified in writing by Engineer/Architect:
 - 1. Project name and location.
 - 2. Contractor's name.
 - 3. Testing Agency's name, address and phone number.
 - 4. Epoxy material supplier.
 - 5. Date of report.
 - 6. Testing Agency technician's name (sampling and testing).
 - 7. Placement location within structure.
 - 8. Epoxy material data:

- a. Epoxy type.
 - b. Gel type.
 - c. Width of cracks injected (if applicable).
 - d. Crack conditions (dry or wet).
 - e. Injection port spacing.
 - f. Initial and (if different) constant injection pressures.
 - g. Use rate of epoxy.
9. Weather data:
- a. Air temperatures.
 - b. Weather.
 - c. Wind speed.
10. Field test data:
- a. Date, time and place of test.
 - b. Thickness of epoxy in crack or void. D.

Qualifications:

1. Contractor Qualifications: Contractor shall be qualified in the field of concrete repair and protection with a minimum of 5 years experience in application of similar systems and products on projects of similar size and scope.
- a. Successful completion of a minimum of 3 projects of similar size and complexity to specified Work.
 - b. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
 - c. Install materials in accordance with all safety and weather conditions required by the manufacturer, or as modified by applicable rules and regulations of local, state, and federal authorities having jurisdiction.
2. Manufacturer Qualifications: The manufacturer of the specified product shall be ISO 9001:2000 Certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis. The manufacturer shall have a minimum 15 years of experience in manufacturing of surface hardener.
- E. Pre-Construction Meetings: Conduct Pre-Construction meeting at Project site to comply with requirements of Division 01 and as specified in this Section.
- 1. Schedule and convene meeting a minimum of 1 week prior to commencing Work of this Section.
- 1.

2. Review requirements for application, including surface preparation specified under other Sections, substrate condition and pretreatment, minimum curing period, forecasted weather conditions, special details, installation procedures, testing and inspection procedures, protection, and repair.
3. Discuss procedures for protecting adjacent finished Work.

1.4 REFERENCES

- A. "Standard Specifications for Structural Concrete," (ACI 301) by American Concrete Institute, herein referred to as ACI 301, is included in total as specification for this structure except as otherwise specified herein.
- B. Comply with provisions of following codes, specifications and standards except where more stringent requirements are shown on Drawings or specified herein:
 1. "Building Code Requirements for Reinforced Concrete," (ACI 318), American Concrete Institute, herein referred to as ACI 318.
 2. "Causes, Evaluation, and Repair of Cracks in Concrete Structures" (ACI 224.112), American Concrete Institute.
 3. "State-of-the-Art Report on Parking Structures" (ACI 362), American Concrete Institute.
 4. "Specification for Crack Repair by Epoxy Injection" (ACI 503.7), American Concrete Institute.
 5. "Guide for the Application of Epoxy and Latex Adhesives for Bonding Freshly Mixed and Hardened Concretes", (ACI 503.6), American Concrete Institute.
 6. "Standard Specification for Bonding Hardened Concrete, Steel, Wood, Brick, and Other Materials to Hardened Concrete with a Multi-Component Epoxy Adhesive" (ACI 503.1), American Concrete Institute.
 7. "Guide for Repair of Concrete Bridge Superstructures" Reported by ACI Committee 546 (ACI 546.1).
- C. Contractor shall have following ACI/ICRI publications at Project construction site at all times:
 1. "Specification for Crack Repair by Epoxy Injection" (ACI 503.7), American Concrete Institute." Structural Crack Repair by Epoxy Injection", ACI RAP Bulletin 1, American Concrete Institute.
 2. "Standard Specification for Bonding Hardened Concrete, Steel, Wood, Brick, and Other Materials to Hardened Concrete with a Multi-Component Epoxy Adhesive" (ACI 503.1), American Concrete Institute.

1.5 SUBMITTALS

- A. Make submittals in accordance with requirements of Division 01 and as specified in this Section.
 - 1.

- B. Contractor: Submit manufacturer's product data sheets, technical sheets, recommended application procedures and information on epoxy injection equipment.
- C. Testing Agency: Promptly report all test results to Engineer/Architect and Contractor. Include following information:

See Article "Quality Assurance," paragraph "Submit following information for Field Testing...."

2. Visual examination of epoxy resin penetration.
- D. See requirements of Division 01 Section, "Submittal Procedures," Part 1 heading, "Submittal Procedures," for limits to resubmittals.
- E. See requirements of Division 01 Section, "Submittal Procedures," Part 2 heading, "Requests for Information," for RFI constraints.

1.6 WARRANTY

- A. System manufacturer and Contractor shall furnish Owner written single source performance guarantee that epoxy resin injection system will be free of defects related to design, workmanship or material deficiency for 3-year period from date of acceptance of Work required under this Section against leakage or bond failure:
 1. Any adhesive or cohesive failure.
 2. Cracking or other weathering deficiency.
 3. Normal abrasion or tear failure.
- B. Any repair under this guarantee shall be done at no cost to Owner. Guarantee shall be provided by Contractor and manufacturer of system.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. Injection epoxy shall be one of following:
 1. "MasterInject 1380" or "MasterInject 1500"
 2. "Sikadur 35 Hi-Mod LV" or "Sikadur 52" as manufactured by Sika Chemical Corporation, Lyndhurst, NJ.
 3. "Epoxy HP-LV" as manufactured by Hunt Process Corp-Southern, Ridgeland, MS.
 4. "Pro-Poxy 50 Super LV" as manufactured by Unitex, Kansas City, MO.
 5. "Eucopoxy" or "Duralcrete LV" as manufactured by The Euclid Chemical Company, Cleveland OH.
 6. "Sure Inject J56 SLV" as manufactured by Dayton Superior Corp., Miamisburg OH.
 7. "KonTek 11 LV" as manufactured by Contech Group, Inc. Seattle, WA.
 8. "Kemko 038" as manufactured by ChemCo Systems, Inc., Redwood City, CA. B.

Epoxy gel shall be as specified by the selected injection epoxy manufacturer.

- 1.

C. Equipment:

Epoxy injection unit shall be portable and equipped with positive displacement-type pumps with interlock to provide positive ratio control of epoxy injection resin components. Pumps shall be air or electric powered and shall provide in-line mixing and metering system and shall be equipped with drain-back plugs.

2. Equipment used to inject epoxy shall be capable of following:
 - a. Automatic proportioning of materials within mix ratio tolerances set by epoxy resin manufacturer.
 - b. Delivery of components, resin and hardeners, from separate reservoirs to mixing type discharge head.
 - c. Complete and uniform mixing of components at discharge head.
 - d. Injection of resin system at constant pressures not to exceed 150 psi.

PART 3 - EXECUTION

3.1 PREPARATION

A. Crack Identification:

1. All cracks 0.03 in. wide or greater that are designated by Engineer/Architect, and not coincident with principal delamination, shall be injected. Cracks that occur coincident with principal delaminations shall not be injected.
2. Cracks requiring repair shall be located by Contractor at time of construction and marked with chalk.

B. Crack Preparation for Injection:

1. Surface of concrete adjacent to crack must be free of all laitance, efflorescence, dirt or foreign particles.
2. Cracks may be damp or dry as per injection material manufacturer's recommended installation procedures.
3. All cracks shall be properly sealed along their exposed length with an approved epoxy gel.
4. Epoxy injection ports shall be uniformly spaced along crack and shall be installed as recommended by system manufacturer. If concrete member being injected is exposed on both sides, provide injection ports on opposite sides at staggered intervals.
5. Apply epoxy gel around injection port to provide an adequate seal to prevent escape of injection resin from perimeter of port while under pressure.
6. Apply epoxy gel for sealing in manner that will result in minimal defacing or disorganization of concrete substrate.
- 1.

3.2 INSTALLATION

A. Epoxy Injection:

Dispense epoxy injection resin under constant pressure in accordance with manufacturer's recommended procedures or as required to achieve maximum filling and penetration of crack without inclusion of air voids in epoxy resin material.

2. Injection shall begin at lowest port and progress incrementally higher.
3. Appearance of epoxy resin at next higher port shall be considered evidence of successful crack filling.
4. If penetration of epoxy resin into cracks is not possible, notify Engineer/Architect prior to discontinuing injection procedures. If alternate injection procedures are possible, submit procedure in writing to Engineer/Architect for review.
5. Contractor shall adhere to all limitations and cautions for epoxy resin injection material as per manufacturer's current printed literature.

B. Cleaning:

1. When cracks are completely filled, allow adhesive to cure for sufficient time to allow the removal of the surface seal without any draining or runback of epoxy material from the cracks.
2. Remove the surface seal material, ports, and injection adhesive runs or spills from concrete surfaces.
3. Finish the face of the crack flush to the adjacent concrete, removing any indentations or protrusions caused by the placement of entry ports.
4. Match work area to adjacent surface including any surface treatments.

3.3 FIELD QUALITY CONTROL BY TESTING AGENCY A.

Core Testing:

1. Testing Agency shall obtain 3- 2 in. minimum diameter core samples in first 100 ft of repaired cracks and 1 core for each 100 ft thereafter. Cores shall be taken after injection resin has cured for period of 7 days. Core sample shall be for full crack depth. Core locations and sizes shall be submitted to Engineer/Architect for review prior to taking core samples. Care should be taken not to damage or cut existing reinforcement (ESPECIALLY POST-TENSIONING TENDONS).
2. Core samples shall be visually examined to determine degree of epoxy penetration. Minimum of 90% of crack shall be full of epoxy adhesive.

Evaluation and Acceptance of Epoxy Injection:

1. Results of visual examination will be reviewed by Engineer/Architect for compliance with Article "Field Quality Control by Testing Agency," paragraph "Core Testing."
- 1.

2. If results of initial cores fail by lack of penetration, work shall not proceed further until area represented by cores has been re-injected and re-tested for acceptance.
3. After cracks have been re-injected, additional cores shall be taken as directed by Engineer/Architect. Cores shall be tested for compliance with Article "Field Quality Control by Testing Agency," paragraph "Core Testing" by Owner's Testing Agency at Contractor's expense.
4. Core holes shall be filled with non-shrink grout material. Grout shall be applied with hard trowel, and be thoroughly rodded and tamped in place. Finish, texture

1.

and color to match existing surface. Materials and procedures for filling testing core holes shall be submitted to Engineer/Architect for review prior to starting work.

C. Acceptance of Structure:

1. Acceptance of completed concrete injection work will be according to requirements of Article "Field Quality Control by Testing Agency," paragraph "Core Testing."
2. Grouted core holes shall be sounded by Engineer/Architect and Contractor with hammer or rod after curing for 48 hours.

END OF SECTION 036300

SECTION 051617 - STRAND GUARDRAIL SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following metal fabrications:
 - 1. Strand guardrail.

1.3 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 01 Specification Sections.
- B. Shop drawings detailing fabrication and installation of strand guardrail system. Include plans, elevations, sections, and details of fabrications and their connections. Show anchorage and accessory items. Provide templates for anchors and bolts. C. Installation drawings shall include:
 - 1. Number, arrangement, and length of strand guardrails.
 - 2. Jacking force required to achieve specified final effective force for all strand guardrails.
 - 3. Cable elongations corresponding to jacking force and final effective force for all strand guardrails.
 - 4. Detailing of anchorage devices.
 - 5. Other incidental features.
- D. Submit following information with Installation Drawing submittal:
 - 1. Sealed calculations, prepared under supervision of a Professional Engineer licensed in California for jacking force required to achieve specified final effective strand pretension for all strand guardrails considering strand length, losses due to anchorage seating, and materials and equipment being supplied.
 - 2. Certified calibration curve for each jack to show the gauge pressure corresponding to the required jacking force.

- E. Samples representative of materials and finished products as may be requested by Engineer/Architect.
- F. Qualification data for firms and persons specified in the "Quality Assurance" article to demonstrate their capabilities and experience. Include a list of completed projects with project name, addresses, names of architects and owners, and other information specified.
- G. Stressing records to Engineer/Architect promptly upon completion of stressing operations.
- H. Certification from Installer that stressing process and records have been reviewed, and that forces specified have been provided.
- I. See requirements of Division 01 Section, "Submittal Procedures," Part 1 heading, "Submittal Procedures," for limits to resubmittals.
- J. See requirements of Division 01 Section, "Submittal Procedures," Part 2 heading, "Requests for Information," for RFI constraints.

1.4 QUALITY ASSURANCE

- A. Fabricator Qualifications: Firm experienced in producing guardrail strand fabrications similar to those indicated for this Project with a record of successful in-service performance, and with sufficient production capacity to produce required units without delaying the Work.
- B. Provide barrier cable systems produced in PTI-certified plant conforming to all material and installation requirements of PTI "Specifications for Seven Wire Strand Barrier Cable Applications".
- C. Installer Qualifications: All barrier cable systems using seven-wire prestressing steel strands shall be installed by PTI certified installers.
- D. Work shall conform to requirements of PTI "Specifications for Seven Wire Strand Barrier Cable Applications" except where more stringent requirements are shown on Drawings or specified in this Section.
- E. Inspection Agency employed by Contractor shall keep barrier cable stressing records and submit to Engineer/Architect. Report will document:
 - 1. Calculated elongation based upon actual elastic modulus and cross-sectional area of strands used.
 - 2. Actual field elongation measured for each guardrail strand.
 - 3. Gauge pressure required to achieve required jacking force [per calibration chart] for each strand.
 - 4. Actual gage pressures for each strand.

5. Jack and gauge identification numbers.

1.5 REFERENCES

A. American Institute of Steel Construction (AISC):

1. AISC, "Code of Standard Practice for Steel Buildings and Bridges."
2. AISC, "Manual of Steel Construction."
3. AISC, "Specification for the Design, Fabrication and Erection of Structural Steel for Buildings."

B. American Society for Testing and Materials (ASTM):

1. ASTM A36, "Specification for Structural Steel."
2. ASTM A123, "Specification for Zinc (Hot-Dip Galvanized) Coatings On Iron and Steel Products."
3. ASTM A416, "Specification for Steel Strand, Uncoated Seven-Wire Stress-Relieved, for Prestressed Concrete."
4. ASTM A475, "Specification for Zinc-Coated Steel Wire Strand."
5. ASTM A882, "Standard Specification for Epoxy-Coated Seven-Wire Prestressing Steel Strand."
6. ASTM B633, "Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel."
7. ASTM B695, "Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel."

C. Post-Tensioning Institute

1. PTI M 10.4-07, "Specification for Seven Wire Prestressed Steel Strand for Barrier Cable Applications."

1.6 PROJECT CONDITIONS

- A. Field Measurements: Check actual locations of walls and other construction to which strand guardrails must fit by accurate field measurements before fabrication. Show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

PART 2 - PRODUCTS

2.1 FERROUS METALS

- A. General: Comply with Post-Tensioning Institute's "Specification for Seven Wire Steel Strand Barrier Cable Applications."
- B. Handrail Strand and Terminal Fittings: 7 wire, steel wire strand, ASTM A 475, Common Grade, Class A zinc coating, 0.5 in. diameter. Terminal fittings to be:
 - 1. Swaged and threaded stubs with washers and nuts as shown on Drawings, stainless steel, ASTM A 320, Grade B8F, AISI Type 303 Se, and:
 - 2. Similar to threaded stud No. MS 21259-12, Loos and Company, Inc., Pomfret, Connecticut.
- C. Guardrail Strand and Prestressing/Post-Tensioning Anchors:
 - 1. Seven wire, steel strand, 0.5 in. diameter, galvanized stress-relieved prestressing strand, with minimum ultimate tensile strength of 250,000 psi.
 - 2. Strand to have continuous hot-dip galvanized coating. Minimum weight of zinc coating shall be 0.90 oz./sq. ft.(Class A).
 - 3. Anchor bodies shall be galvanized and compatible with strand system furnished. Anchor bodies shall comply with Post-Tensioning Institute "Specification for Unbonded Single Strand Tendons." Environment: corrosive. Repair damaged metal surfaces by cleaning and applying two coats of galvanizing repair paint to galvanized surfaces. Apply two coats of galvanizing repair paint to wedge grippers after stressing is complete.
 - 4. Anchor back seating force. Unless noted otherwise, back seat all anchors to a force equal to 80% of the minimum ultimate tensile strength (MUTS) of the strand.
- D. Guardrail Strand and Terminal Fittings:
 - 1. Seven wire, steel strand, 0.5 in. diameter, ASTM A416, with minimum ultimate tensile strength of 270,000 psi.
 - 2. Epoxy-coated strand shall comply with requirements of ASTM A882 "Standard Specification for Epoxy-Coated 7-Wire Steel Strand. Thickness: 30 mil minimum. Color: black.
 - 3. Anchor bodies shall be galvanized and compatible with strand system furnished. Anchor bodies shall comply with Post-Tensioning Institute "Specification for Unbonded Single Strand Tendons." Environment: corrosive. Repair damaged metal surfaces by cleaning and applying two coats of galvanizing repair paint to galvanized surfaces. Apply two coats of galvanizing repair paint to wedge grippers after stressing is complete.
 - 4. Anchor back seating force. Unless noted otherwise, back seat all anchors to a force equal to 80% of the minimum ultimate tensile strength (MUTS) of the strand.

2.2 FABRICATION, GENERAL

- A. Form strand guardrail from materials of size, thickness, and shapes indicated but not less than that needed to comply with performance requirements indicated. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of materials indicated or specified for various components of each metal fabrication.
- B. Allow for thermal movement resulting from the following maximum change (range) in ambient temperature in the design, fabrication, and installation of installed strand guardrail assemblies to prevent over stressing. Base design calculations on actual surface temperatures of metals due to both solar heat gain and nighttime sky heat loss.
 - 1. Temperature Change (Range): 100 F°.
- C. Provide for anchorage of type indicated; coordinate with supporting structure. Fabricate and space anchoring devices to secure strand guardrails rigidly in place and to support indicated loads.
- D. Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- E. Fabricate joints that will be exposed to weather in a manner to exclude water.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installing anchorages. Coordinate delivery of such items to Project site.

3.2 INSTALLATION, GENERAL

- A. Fastening to In-Place Construction: Provide anchor bodies where necessary for securing miscellaneous metal fabrications to in-place construction. B. If the guardrail strands are required to be post-tensioned:
 - 1. Backstress all fixed and stressing anchorages.
 - 2. Stress, and then immediately backstress, individual guardrail strands one at a time.
 - 3. Backstress the guardrail strand to a force equal to 80% of the minimum ultimate tensile strength (MUTS) of the strand.

4. Prevent damage to the column or other member to which the guardrail strand is anchored.
 5. For related procedures refer to the PTI Guide Specification.
- C. Do not cut strand ends until Contractor receives Engineer/Architect's written approval of stressing records.

3.3 ADJUSTING AND CLEANING

- A. For galvanized surfaces, clean welds, bolted connections, and abraded areas, and apply galvanizing repair paint to comply with ASTM A 780.

END OF SECTION 05 16 17

SECTION 071800 – TRAFFIC COATINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. A single installer shall be responsible for providing complete water proofing system including all products specified in following Sections:
 - 1. Division 07 Section, "Traffic Coatings"
 - 2. Division 07 Section, "Joint Sealants"
- B. This Section includes traffic coating: Fluid applied, waterproofing, traffic-bearing elastomeric membrane with integral wearing surface, where surface to which membrane is to be applied is one or more of following:
 - 1. Over designated areas as shown on the drawings.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Distribute reviewed submittals to all others whose Work is related.
- B. Pre-installation Conference: Meet at project site well in advance of time scheduled for Work to proceed to review requirements for Work and conditions that could interfere with successful coating performance. Require every party concerned with coating Work or required to coordinate with it or protect it thereafter, to attend. Include manufacturer's technical representative and warranty officer.
- C. Make submittals in accordance with requirements of Division 01 Section, "Submittal Procedures:"
 - 1. See requirements of Division 01 Section, "Submittal Procedures," Part 1 heading, "Submittal Procedures," for limits to resubmittals.
 - 2. See requirements of Division 01 Section, "Submittal Procedures," Part 2 heading, "Requests for Information," for RFI constraints.
- D. Submittals and Resubmittals: Engineer will review each of Contractor's shop drawings and/or submittal data initial time and, should resubmittal be required, one additional time

to verify that reasons for resubmittal have been addressed by Contractor and corrections made. Resubmittal changes/revisions/corrections shall be circled. Engineer will review only circled items and will not be responsible for non-circled changes/revisions/corrections and additions. Should additional resubmittals be required, Contractor shall reimburse Owner for all costs incurred, including cost of Engineer's services made necessary to review such additional resubmittals. Owner shall in turn reimburse Engineer.

E. Requests For Information

1. Engineer reserves right to reject, unprocessed, any Request for Information (RFI) that Engineer, at its sole discretion, deems frivolous and/or deems already answered in the Contract Documents.
2. RFI process shall not be used for requesting substitutions. Procedures for substitutions are clearly specified elsewhere in Contract documents.

1.4 ACTION SUBMITTALS

A. Product Data: For each system indicated, submit the following at least 60 days prior to application.

1. Product description, technical data, appropriate applications, and limitations.
2. Primer type and application rate
3. Material, and wet mils required to obtain specified dry thickness for each coat.
4. Type, gradation, and aggregate loading required within each coat. B.

Samples:

1. One 4 in. by 4 in. stepped sample showing each component for each system indicated.

C. Sample Warranty: For each system indicated.

1.5 INFORMATION SUBMITTALS

A. Certificates

1. Certification that products and installation comply with applicable federal, state where project is located, and local EPA, OSHA and VOC requirements regarding health and safety hazards.
2. Evidence of applicator's being certified by manufacturer. Evidence shall include complete copy of manufacturer's licensing/certification document, spelling out repair responsibility for warranty claims.

3. Certification from Manufacturer that finishes as specified are acceptable for system to be installed at least 1 month before placement of any concrete which will receive traffic coating.
4. Certification stating static coefficient of friction meets minimum requirements of Americans with Disabilities Act (ADA).
5. Certification stating materials have been tested and listed for UL 790 Class "A" rated materials/system by UL for traffic coating application specified on project. Containers shall bear UL labels.
6. Certification from manufacturer confirming compatibility with existing underlying coatings and/or substrate.

B. Manufacturer's Instructions: for each system indicated.

1. Crack treatment and surface preparation method and acceptance criteria.
2. Method of application of each coat.
3. Maximum and minimum allowable times between coats.
4. Final cure time before resumption of parking and/or paint striping.
5. Any other special instructions required to ensure proper installation. C. Field

Quality Control:

1. Quality Control Plan as defined in Part 3.
2. Two copies each of manufacturer's technical representative's log for each visit.
3. Testing agency field reports.

D. Qualification Statements

1. Manufacturer's qualifications as defined in "Quality Assurance" article.
2. Installer's qualifications as defined in "Quality Assurance" article.
3. Signed statement from applicator certifying that applicator has read, understood, and shall comply with all requirements of this Section.

1.6 CLOSEOUT SUBMITTALS

A. Three copies of System Maintenance Manual.~~DELETE PARA BELOW IF NOT APPLICABLE TO YOUR PROJECT.~~ B.

C. Final executed Warranty.

1.7 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Owner retains right to reject any manufacturer.

1. Evidence of acceptable previous work on WALKER-designed projects. If none, so state.

2. Evidence of financial stability acceptable to Engineer/Architect.
3. Listing of 20 or more projects completed with submitted system, to include:
 - a. Name and location of project.
 - b. Type of system applied.
 - c. On-Site contact with phone number.
- B. Manufacturer's technical representative, acceptable to Engineer/Architect, shall be on site during surface preparation and initial stages of installation.
- C. Installer's Qualifications: Owner retains right to reject any manufacturer.
 1. Evidence of compliance with Summary article paragraph "A single installer. . ."
 2. Evidence that installer has successfully performed or has qualified staff who have successfully performed at least 5 verifiable years of installations similar to those involved in this Contract, and minimum 10 projects with submitted system.
 3. Listing of 5 or more installations in climate and size similar to this Project performed by installer's superintendent.
- D. Testing Agency: Independent testing laboratory employed by Contractor and acceptable to Engineer/Architect.
- E. Certifications
 1. Traffic coating shall satisfy current National Volatile Organic Compound (VOC) Emission Standards for Architectural Coatings.
 2. Licensing/certification document from manufacturer that confirms system installer is a licensed/certified applicator for the manufacturer and is legally licensed to perform work in the state this project is being constructed.
 3. Licensing/certification agreement shall include following information:
 - a. Applicator's financial responsibility for warranty burden under agreement terms.
 - b. Manufacturer's financial responsibility for warranty burden under agreement terms.
 - c. Process for dispute settlement between manufacturer and applicator in case of system failures where cause is not evident or cannot be assigned.
 - d. Authorized signatures for both Applicator Company and Manufacturer.
 - e. Commencement date of agreement and expiration date (if applicable).

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver all materials to site in original, unopened containers, bearing following information:
 1. Name of product.
 2. Name of manufacturer.

3. Date of preparation.
 4. Lot or batch number.
- B. Store materials under cover and protect from weather. Replace packages or materials showing any signs of damage with new material at no additional cost to Owner.

1.9 FIELD CONDITIONS

- A. Weather and Substrate Conditions: Proceed with work only when existing and forecast weather and temperature of concrete substrate will permit work in accordance with manufacturer's recommendations.

1.10 WARRANTY

- A. System Manufacturer (New Application): Furnish Owner with written total responsibility Joint and Several Warranty, detailing responsibilities of manufacturer and applicator with regard to warranty requirements (Joint and Several). Warranty shall provide that system will be free of defects, water penetration and chemical damage related to system design, workmanship or material deficiency, consisting of:
1. Any adhesive or cohesive failures.
 2. Spalling surfaces.
 3. Weathering.
 4. Surface crazing (does not apply to traffic coating protection course).
 5. Abrasion or tear failure resulting from normal traffic use.
 6. Failure to bridge cracks less than 0.0625 in. or cracks existing at time of traffic coating installation on double tees only.
- B. If material surface shows any of defects listed above, supply labor and material to repair all defective areas and to repaint all damaged line stripes.
- C. Warranty period shall be a 5 year Joint and Several Warranty commencing with date of acceptance of work.
- D. Perform any repair under this warranty at no cost to Owner.
- E. Address following in terms of Warranty: length of warranty, change in value of warranty – if any- based on length of remaining warranty period, transferability of warranty, responsibilities of each party, notification procedures, dispute resolution procedures, and limitations of liability for direct and consequential damages.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturer: Subject to compliance with requirements, provide products of 1 of following, only where specifically named in product category:

1. Lymtal International Inc. (Lymtal), Lake Orion, MI.
2. Sika Corporation (Sika), Lyndhurst, NJ.
3. update
4. Neogard Division of Jones-Blair Company (Neogard), Dallas, TX.
5. Pacific Polymers, Inc. a Division of ITW (Pacific Polymers), Garden Grove, CA
6. Polycoat Products Division of Amer. Polymers (Polycoat), Santa Fe Springs, CA.
7. Pecora Corporation (Pecora), Harleysville, PA
8. Technical Barrier Systems, Inc. (TBS), Oakville, Ontario.
9. Tremco (Tremco), Cleveland, OH.

2.2 MATERIALS, TRAFFIC COATING

A. Available Products: Subject to compliance with the requirements, products that may be incorporated into the Work include, but are not limited to the following: Coatings shall be compatible with all other materials in this Section and related work.

1. VOC Compliant, Extreme Low Odor, High-Solids, Fast Cure, Heavy Duty Coating System:
 - a. Iso-Flex 760 U HL AR and 760 U HL AL, Lymtal.
 - b. Sikalastic 720/745, Sika.
 - c. AutoGard FC HD-48, Autogard E, Neogard.
 - d. Flexodeck Mark 170.2, Poly-Carb.
 - e. Kelmar FCW III, Exposure 3, TBS.
 - f. MasterSeal Traffic 2500,
 - g. Qualideck Heavy Vehicular (152/252/372/512), APT
 - h. Vulkem 360NF/950NF and 951NF, Tremco.

B. Provide ultraviolet screening for all traffic coating placed on this project.

C. Finish topcoat shall be colored Dark Gray.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces to receive Work and report immediately in writing to Engineer/Architect any deficiencies in surface which render it unsuitable for proper execution of Work.

- B. Coordinate and verify that related Work meets following requirements before beginning surface preparation and application:
 - 1. Concrete surfaces are finished as acceptable for system to be installed. Correct all high points, ridges, and other defects in a manner acceptable to Engineer/Architect.
 - 2. Curing compounds used on concrete surfaces are compatible with system to be installed.
 - 3. Concrete surfaces have completed proper curing period for system selected.
 - 4. Joint Sealants are compatible with traffic coatings.

3.2 PREPARATION

- A. Seal all openings to occupied space to prevent cleaning materials, solvents and fumes from infiltration. All protective measures and/or ventilating systems required to prevent infiltration are incidental to this Work.
- B. Acid etching is prohibited.
- C. Remove all laitance and surface contaminants, including oil, grease and dirt as specified by manufacturer's written recommendations.
- D. Remove all debonded traffic coatings. Remove all laitance and surface contaminants, including oil, grease and dirt, by shotblasting and appropriate degreasers, or as specified by manufacturer's written recommendations to provide warranty.
- E. Before applying materials, apply system to small area to assure that it will adhere to substrate and joint sealants and dry properly and to evaluate appearance.
- F. All cracks on concrete surface shall be prepared in accordance with manufacturer's recommendations.
- G. All random cracks on concrete surface less than 0.03 in. wide and showing no evidence of water and/or saltwater staining on ceiling below shall receive detail coat unless more complete treatment required in accordance with manufacturer's recommendations. Rout and seal random cracks, construction joints and control joints prior to installation of primer or base coat. Crack preparation including installation of joint sealant material, where required, is incidental to traffic coating work.
- H. Mask off adjoining surfaces not to receive traffic coating and mask off drains to prevent spillage and migration of liquid materials outside membrane area. Provide neat/straight lines at termination of traffic coating.

3.3 INSTALLATION/APPLICATION

- A. Installation should include all of the following steps:
 - 1. Surface Preparation: Prepare concrete for system application.

2. Crack/Construction/Control/Cove Joint Sealing: Detail for crack bridging.
 3. Primer Coat: Insure proper adhesion of membrane to substrate.
 4. Base Coat: Provide crack spanning in conjunction with Crack Detail noted above.
 5. Aggregate Coat – to hold aggregate in system, providing skid and wear close up resistance.
 6. Aggregate: Correct size, shape, hardness and amount necessary to insure proper skid and wear resistance.
 7. Top Coat: Lock aggregate into place, provide a maintainable surface and provide resistance to ponding water, UV degradation, color loss and chemical intrusion.
- B. Do all Work in accordance with manufacturer's written instructions and specifications including, but not limited to, moisture content of substrate, atmospheric conditions (including relative humidity and temperature), coverages, mil thicknesses and texture, and as shown on Drawings.
- C. A primer coat is required for all systems. No exception.
- D. Do not apply traffic coating material until concrete has been air dried at temperatures at or above 40°F for at least 30 days after curing period specified.
- E. Cease material installation under adverse weather conditions, or when temperatures are outside manufacturer's recommended limitations for installation, or when temperature of work area or substrate are below 40°F.
- F. All adjacent vertical surfaces shall be coated with traffic coating minimum of 4 in. above coated horizontal surface. Requirement includes, but is not limited to pipes, columns, walls, curbs (full height of vertical faces of all curbs) and islands.
- G. Complete all Work under this Section before painting line stripes.
- H. Clean off excess material and material smears adjacent to joints as work progresses using methods and materials approved by manufacturers.

3.4 FIELD QUALITY CONTROL

- A. Develop a quality control plan for assured specified uniform membrane thickness that utilizes grid system of sufficiently small size to designate coverage area of not more than 5 gallons at specified thickness. In addition, employ wet mil gauge to continuously monitor thickness during application. Average specified wet mil thickness shall be maintained within grid during application with minimum thickness of not less than 80% of average acceptable thickness. Immediately apply more material to any area not maintaining these standards.
- B. Testing Agency employ wet mil gauge to periodically monitor thickness during application.
- C. Determine overall coating system mil thickness:

1. Contractor shall provide 6 in. by 6 in. bond breaker (coating coupon) on concrete surface for each 25,000 sq ft, or fraction thereof, of coating to be placed as directed by Engineer/Architect and manufacturer. Dimensionally locate coupon for easy removal.
2. Contractor shall assist Testing Agency in removing coating coupons from concrete surface at completion of manufacturer-specified cure period. Contractor shall repair coupon area per coating manufacturer's instructions.
3. Testing Agency shall determine dry mil thickness of completed Traffic Coating System, including bond breaker. Take 9 readings (minimum), 3 by 3 pattern at 2 in. on center. No reading shall be taken closer than 1 in. from coupon edge. Report individual readings and overall coating system average to Engineer/Architect. Readings shall be made with micrometer or optical comparator.

END OF SECTION 071800

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SECTION 079233 – CONCRETE JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. A single installer shall be responsible for providing complete water proofing system including all products specified in the following Sections:

- 1. Division 07 Section, "Traffic Coatings" B.

This Section includes the following:

- 1. Exterior joints in the following horizontal traffic bearing surfaces:
 - a. Construction joints in cast-in-place concrete.
 - b. Control joints in slab-on-grade, pour strips, repair patches and topping slabs.
 - c. Perimeter of all floor drains.
 - d. Perimeter of floor penetrations identified on the Drawings.
 - e. Cove joints at intersection of horizontal and vertical concrete.
 - f. Other joints as indicated on Drawings.

- C. Related Sections: Following Sections contain requirements that relate to this Section.

- 1. Division 03 Section, "Cast-in-Place Concrete Restoration."
 - 2. Division 07 Section, "Traffic Coatings."
 - 3. Division 09 Section, "Pavement Markings."

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Materials shall be compatible with materials or related Work with which they come into contact, and with materials covered by this Section.
 - 2. Distribute reviewed submittals to all others whose Work is related.
- B. Make submittals in accordance with requirements of Division 01 Section, "Submittal Procedures:"

1. See requirements of Division 01 Section, "Submittal Procedures," Part 1 heading, "Submittal Procedures," for limits to resubmittals.
 2. See requirements of Division 01 Section, "Submittal Procedures," Part 2 heading, "Requests for Information," for RFI constraints.
- C. Submittals and Resubmittals: Engineer will review each of Contractor's shop drawings and/or submittal data the initial time and, should resubmittal be required, one additional time to verify that reasons for resubmittal have been addressed by Contractor and corrections made. Resubmittal changes/revisions/corrections shall be circled. Engineer will review only circled items and will not be responsible for non-circled changes/revisions/corrections and additions. Should additional resubmittals be required, Contractor shall reimburse Owner for all costs incurred, including the cost of Engineer's services made necessary to review such additional resubmittals. Owner shall in turn reimburse Engineer.
- D. Requests For Information
1. Engineer reserves the right to reject, unprocessed, any Request for Information (RFI) that the Engineer, at its sole discretion, deems frivolous.
 2. Engineer reserves the right to reject, unprocessed, any RFI that the Engineer, at its sole discretion, deems already answered in the Contract Documents.
 3. RFI process shall not be used for requesting substitutions. Procedures for substitutions are clearly specified elsewhere in the contract documents.

1.4 ACTION SUBMITTALS

- A. Product Data: For each system indicated at least 30 days prior to application.
1. Product description, technical data, appropriate applications and limitations.
 2. Primer type and application rate
- B. Samples:
1. One for each system indicated.
- C. Sample Warranty: For each system indicated.

1.5 INFORMATION SUBMITTALS

- A. Certificates:
1. Evidence of installer's being certified by manufacturer. Evidence shall include complete copy of manufacturer's licensing/certification document, spelling out repair responsibility for warranty claims.

2. Certification from the Manufacturer that joint details as specified are acceptable for system to be installed at least 1 month before placement of any concrete which will receive joint sealant. B. Field Quality Control:
 1. Two copies each of manufacturer's technical representative's log for each visit.
 2. Testing agency field and test reports. C. Qualification

Statements:

1. Manufacturer's qualifications as defined in the "Quality Assurance" article.
2. Installer's qualifications as defined in the "Quality Assurance" article.
3. Signed statement from this Section applicator certifying that applicator has read, understood, and shall comply with all requirements of this Section.

1.6 CLOSEOUT SUBMITTALS

- A. Final executed Warranty.

1.7 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Owner retains right to reject any manufacturer.
 1. Evidence of acceptable previous work on WALKER-designed projects. If none, so state.
 2. Evidence of financial stability acceptable to Engineer/Architect.
 3. Listing of 20 or more projects completed with submitted sealant, to include:
 - a. Name and location of project.
 - b. Type of sealant applied.
 - c. On-Site contact with phone number.
- B. Manufacturer's technical representative, acceptable to Engineer/Architect, shall be on site during surface preparation and initial stages of installation.
- C. Installer's Qualifications: Owner retains right to reject any installer or subcontractor.
 1. Installer shall be legally licensed to perform work in the state of Massachusetts. Evidence of compliance with Summary article paragraph "A single installer. . ."
 2. Evidence that installer has successfully performed or has qualified staff who have successfully performed at least 5 verifiable years of installations similar to those involved in this Contract, and minimum 10 projects with submitted sealant.
 3. Listing of 5 or more installations in climate and size similar to this Project performed by installer's superintendent.

- D. Testing Agency: Independent testing laboratory employed by Contractor and acceptable to Engineer/Architect. E. Certifications:
1. Licensing/certification document from system manufacturer that confirms sealant installer is a licensed/certified applicator for the manufacturer and is legally licensed to perform work in the state of California
 2. Licensing/certification agreement shall include following information:
 - a. Applicator's financial responsibility for warranty burden under agreement terms.
 - b. Manufacturer's financial responsibility for warranty burden under agreement terms.
 - c. Process for dispute settlement between manufacturer and applicator in case of system failures where cause is not evident or cannot be assigned.
 - d. Authorized signatures for both Applicator Company and Manufacturer.
 - e. Commencement date of agreement and expiration date (if applicable).

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver all materials to site in original, unopened containers, bearing following information:
1. Name of product.
 2. Name of manufacturer.
 3. Date of preparation.
 4. Lot or batch number.
- B. Store materials under cover and protect from weather. Replace packages or materials showing any signs of damage with new material at no additional cost to Owner.

1.9 FIELD CONDITIONS

- A. Weather and Substrate Conditions: Proceed with work only when existing and forecast weather and temperature of concrete substrate will permit work in accordance with manufacturer's recommendations.

1.10 WARRANTY

- A. Manufacturer: Furnish Owner with written total responsibility Joint and Several Warranty, detailing responsibilities of manufacturer and installer with regard to warranty requirements (Joint and Several). The warranty shall provide that sealant will be free of defects, water penetration and chemical damage related to system design, workmanship or material deficiency, consisting of:

1. Any adhesive or cohesive failures.
 2. Weathering.
 3. Abrasion or tear failure resulting from normal traffic use.
- B. If material surface shows any of defects listed above, supply labor and material to repair all defective areas and to repaint all damaged line stripes.
- C. Warranty period shall be a 5 year Joint and Several Warranty commencing with date of acceptance of work.
- D. Perform any repair under this warranty at no cost to Owner.
- E. Address the following in the terms of the Warranty: length of warranty, change in value of warranty – if any- based on length of remaining warranty period, transferability of warranty, responsibilities of each party, notification procedures, dispute resolution procedures, and limitations of liability for direct and consequential damages.
- F. Snowplows, vandalism, and abnormally abrasive maintenance equipment are not normal traffic use and are exempted from warranty.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide products of 1 of following, only where specifically named in product category:
- 1.
 2. Dow Corning Corp. (Dow Corning), Midland, MI.
 3. Pecora Corporation (Pecora), Harleysville, PA.
 4. Sika Corporation (Sika), North Canton, OH.
 5. Tremco (Tremco), Cleveland, OH.

2.2 MATERIALS, JOINT SEALANT SYSTEM

- A. Provide complete system of compatible materials designed by manufacturer to produce waterproof, traffic-bearing control joints as detailed on Drawings.
- B. Compounds used for sealants shall not stain masonry or concrete. Aluminum pigmented compounds not acceptable.
- C. Color of sealants shall match adjacent surfaces.
- D. Closed cell or reticulated backer rods: Acceptable products:

1. "Sof Rod," Nomaco Inc., 501 NMC Drive, Zebulon, NC 27597. (800) 345-7279 ext. 341.
 2. "ITP Soft Type Backer Rod," Industrial Thermo Polymers Limited, 2316 Delaware Ave., Suite 216, Buffalo, NY 14216. (800) 387-3847.
 - 3.
- E. Bond breakers and fillers: as recommended by system manufacturer.
- F. Primers: as recommended by sealant manufacturer.
- G. Acceptable sealants are listed below. Sealants shall be compatible with all other materials in this Section and related work.
- H. Acceptable polyurethane control joint sealants (traffic bearing):
1. Iso-flex 880 GB or Iso-flex 881, Lymtal.
 2. Dynatrol II-SG or Urexpan NR 200, Pecora.
 3. THC-900, THC-901, Vulkem 45SSL, Dymeric 240, Dymeric 240 FC or Dymonic 100, Tremco.
- I. Acceptable polyurethane vertical and cove joints sealants (non-traffic bearing)
1. Dymeric 240/240FC, Dymonic 100 or THC 901 (cove only), Tremco.
 2. Dynatred, Pecora.
 3. Iso-flex 881, Lymtal.
- J. Proposed Substitutions: None for this project. Contact Engineer/Architect for consideration for future projects.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to receive Work and report immediately in writing to Engineer/Architect any deficiencies in surface which render it unsuitable for proper execution of Work.
- B. Coordinate and verify that related Work meets following requirements before beginning installation
1. Concrete surfaces are finished as acceptable for system to be installed.
 2. Curing compounds used on concrete surfaces are compatible with system to be installed.
 3. Concrete surfaces have completed proper curing period for system selected.

3.2 PREPARATION

- A. Seal all openings to occupied space to prevent cleaning materials, solvents and fumes from infiltration. All protective measures and/or ventilating systems required to prevent infiltration are incidental to this Work.
- B. Correct unsatisfactory conditions before installing sealant system.
- C. Acid etching is prohibited.
- D. Grind joint edges smooth and straight with beveled grinding wheel before sealing. All surfaces to receive sealant shall be dry and thoroughly cleaned of all loose particles, laitance, dirt, dust, oil, grease or other foreign matter. Obtain written approval of method from system manufacturer before beginning cleaning.
- E. Final preparation of joints shall be a sandblast with medium that removes dust and ground material from surfaces to receive sealant.
- F. Check preparation of substrate for adhesion of sealant.
- G. Prime and seal joints and protect as required until sealant is fully cured. A primer coat is required for all systems.

3.3 INSTALLATION/APPLICATION

- A. Do all Work in strict accordance with manufacturer's written instructions and specifications including, but not limited to, moisture content of substrate, atmospheric conditions (including relative humidity and temperature), thicknesses and texture, and as shown on Drawings.
- B. Completely fill joint without sagging or smearing onto adjacent surfaces.
- C. Non-Sag Sealants: Tool joints concave: Wet tooling not permitted.
- D. Clean off excess material and material smears adjacent to joints as work progresses using methods and materials approved by manufacturers.
- E. Cease material installation under adverse weather conditions, or when temperatures are outside manufacturer's recommended limitations for installation, or when temperature of work area or substrate are below 40°F.

3.4 FIELD QUALITY CONTROL

- A. Contractor and Engineer/Architect will jointly determine which one of following 2 methods of sealant testing to verify sealant profile:
 - 1. Contractor, at Engineer/Architect's direction, shall cut out lesser of 1% of total lineal footage placed or total of 100 lineal ft of joint sealant at isolated/random locations

(varying from in. to ft of material) for Engineer/Architect and Manufacturer's Representative inspection of sealant profile.

2. Contractor, at Engineer/Architect's direction, shall install 3 trial joint sections of 20 ft each. Contractor shall cut out joint sections, as selected by Engineer/Architect, for Engineer/Architect and Manufacturer's Representative inspection. Additional isolated/random removals may be required where sealant appears deficient B. Repair all random joint sealant "cut out" sections at no cost to Owner.

C. Testing Agency:

1. Check shore hardness per ASTM standard specified in sealant manufacturer's printed data.
2. If flood test of joints required by this Section, report results to Engineer/Architect.

END OF SECTION 079233

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on the following exterior substrates:
 - 1. Metal Railings

1.3 DEFINITIONS

- A. MPI Gloss Level 1 (Matte Finish): Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. MPI Gloss Level 3 ('Egg-Shell-Like' Finish): 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. MPI Gloss Level 4 ('Satin-Like' Finish): 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- D. MPI Gloss Level 5 (Semi-Gloss): 35 to 70 units at 60 degrees, according to ASTM D 523.
- E. MPI Gloss Level 6 (Gloss): 70 to 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
 - 1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
 - 2. Indicate VOC content.
- B. Sustainable Design Submittals:
- C. Samples for Initial Selection: For each type of topcoat product.

- D. Samples for Verification: For each type of paint system and each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, 8 inches (200 mm) square.
 - 2. Apply coats on Samples in steps to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- E. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Paint: 5 percent, but not less than 1 gal. (3.8 L) of each material and color applied.

1.6 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Architect will select one surface to represent surfaces and conditions for application of each paint system.
 - a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).
 - b. Other Items: Architect will designate items or areas required.
 - 2. Final approval of color selections will be based on mockups.
 - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
 - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).
1. Maintain containers in clean condition, free of foreign materials and residue.
 2. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).
- B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Behr Process Corporation.
 2. Benjamin Moore & Co.
 3. Dunn-Edwards Corporation.
 4. Glidden Professional.
 5. Kelly-Moore Paint Company Inc.
 6. PPG Architectural Finishes, Inc.
 7. Pratt & Lambert.
 8. Sherwin-Williams Company (The).

2.2 PAINT, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists." B. Material Compatibility:
1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

- C. VOC Content: For field applications, paints and coatings shall comply with VOC content limits of authorities having jurisdiction and the following VOC content limits:
 - 1. Primers, Sealers, and Undercoaters: 100 g/L.
 - 2. Rust-Preventive Coatings: 100 g/L.
- D. Colors: As selected by Architect from manufacturer's full range by Owner.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Concrete: 12 percent.
 - 2. Masonry (Clay and CMUs): 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- E. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.
- F. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:
 1. SSPC-SP 2.
- G. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- H. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."
 1. Use applicators and techniques suited for paint and substrate indicated.
 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
 3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- C. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:

1. Paint the following work where exposed to view:
 - a. Equipment, including panelboards.
 - b. Uninsulated metal piping.
 - c. Pipe hangers and supports.
 - d. Metal conduit.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 EXTERIOR PAINTING SCHEDULE

- A. Galvanized-Metal Substrates:
 1. System:
 - a. Prime Coat: Epoxy.

- 1) Sherwin-Williams; Macropoxy 646 - 100.
 - 2) Equivalent products by other manufacturers and approved by Architect/Engineer.
- b. Topcoat: Polyurethane Rust Preventative.
- 1) Sherwin-Williams; – Hi-Solids Polyurethane 100.
 - 2) Equivalent products by other manufacturers and approved by Architect/Engineer.

END OF SECTION 099113

SECTION 099121 - PAVEMENT MARKING - RESTORATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes surface preparation and application of high build paint systems to replace existing for the items of types, patterns, sizes, and colors described in this article. B.

Provide the following systems as shown on Drawings:

1. Parking Stall Stripes.
2. Traffic Arrows, crosswalks, accessible stall access aisles, walkways, symbols, stop bars, words and other markings.
3. International Symbol of Accessibility.

- C. Provide painting of curbs and curb ramps as described in the following paragraphs:

1. Paint vertical surface and the first 6 in. of the abutting horizontal surface at the top of all curbs and islands (including PARCS equipment islands) within parking facility to match existing, unless otherwise noted on the Drawings.
2. Paint color for curbs and curb ramps shall be yellow.

- D. Proportion International Symbol of Accessibility in accordance with ICC A117.1-2009 Accessible and Usable Buildings or 2010 ADA Standards for Accessible Design. E. Related Work:

1. Pavement Marking Contractor shall verify compatibility with sealers, joint sealants, caulking and all other surface treatments as specified in Division 07.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Provide product data as follows:
1. Manufacturer's certification that the material complies with standards referenced within this Section.
 2. Intended paint use.

- 3. Pigment type and content.
- 4. Vehicle type and content.
- C. Submit list of similar projects (minimum of 5) where pavement-marking paint has been in use for a period of not less than 2 yrs.
- D. See requirements of Division 01 Section, "Submittal Procedures," Part 1 heading, "Submittal Procedures," for limits to resubmittals.
- E. See requirements of Division 01 Section, "Submittal Procedures," Part 2 heading, "Requests for Information," for RFI constraints.

1.4 PROJECT CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 degrees F.
- B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 degrees F above the dew point; or to damp or wet surfaces.

1.5 QUALITY ASSURANCE

- A. Provide written 1 year warranty to Owner that pavement markings will be free of defects due to workmanship, inadequate surface preparation, and materials including, but not limited to, fading and/or loss of markings due to abrasion, peeling, bubbling and/or delamination. Excessive delamination, peeling, bubbling or abrasion loss shall be defined as more than 15% loss of marking material within one year of substantial completion and/or occupancy of the parking area. With no additional cost to Owner, repair and/or recoat all pavement marking where defects develop or appear during warranty period and all damage to other Work due to such defects.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Pavement marking materials shall meet Federal, State and Local environmental standards.
- B. Paint shall be manufactured and formulated from first grade raw materials and shall be free from defects or imperfections that might adversely affect product serviceability.
- C. Paints shall comply with the National Organic Compound Emission Standards for Architectural Coatings, Environmental Protection Agency, 40 CFR Part 59.

- D. The product shall not contain mercury, lead, hexavalent chromium, or halogenated solvents.

2.2 PAVEMENT MARKING PAINTS:

- A. Low VOC - Solvent based paint may be employed for white and yellow pavement markings and shall meet the requirements of MPI #32
 - 1. Available Products: Subject to compliance with the requirements, products that may be incorporated into the Work include, but are not limited to the following:
 - a. Chlorinated Rubber Traffic & Zone Marking Paint, 7493/7494, by RAE Products & Chemicals Corporation
 - b. Setfast Low VOC Acrylic Marking Paint, TM 5626/5627 by Sherwin Williams Company
- B. All products shall have performance requirements of Type I and II of Federal Standard TT-P-1952E.

2.3 COLOR OF PAINT

- A. Color of paint shall match existing, unless noted otherwise on Contract Drawings:
 - 1. White: Match federal color chip 37925 and daylight directional reflectance (without glass beads) shall not be less than 84% (relative to magnesium oxide) when tested in accordance with Federal Test Method Standard 141, Method 6121.
 - 2. Yellow: Match federal color chip No. 33538. Color shall have daylight directional reflectance (without glass beads) of not less than 50% (relative to magnesium oxide) when tested in accordance with Federal Test Method Standard 141, Method 6121.
 - 3. Blue: Match federal color chip No. 35180. Color shall have daylight directional reflectance (without glass beads) of not less than 52% (relative to magnesium oxide) when tested in accordance with Federal Test Method Standard 141, Method 6121.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
- B. Document the location of existing striping and traffic marking, and colors utilized prior to removal of traffic lines and markings for surface preparation.

- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
 - 1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.
- E. Striping shall not be placed until full cure of concrete repairs, sealers or coatings. Sealers (other than silane) generally require 14 days @ 70°F or higher. Silane sealers require 24 hrs @ 70°F or higher. Bituminous surfaces generally require 30 days @ 45° F or higher. Coatings shall be fully cured

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Do not paint or finish any surface that is wet or damp.
- C. Clean substrates of substances that could impair bond of paints, including dirt, dust, oil, grease, release agents, curing compounds, efflorescence, chalk, and incompatible paints and encapsulants.
- D. Concrete Substrates: Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- E. Lay out all striping on each tier, using existing layout, dimensions and details unless otherwise noted on Contract Drawings.
- F. Report any discrepancies, interferences or changes in striping due to field conditions to Engineer/Architect prior to painting. Pavement Marking Contractor shall be required to remove paint, repair surface treatment and repaint stripes not applied in strict accordance with Contract Drawings.
- G. Where existing painted pavement markings and/or stripes conflict with new striping layout or must be removed due to installation which does not conform to contract requirements, remove existing paint markings, using care to avoid scarring substrate surface.
 - 1. Concrete and asphalt surfaces: Material shall be removed by methods acceptable to Engineer/Architect and cause as little damage as possible to surface texture of pavement. Methods, that can provide acceptable results, are grinding and air or shot blasting. Use of chemicals to remove pavement markings prohibited. Collect residue generated by removal of pavement markings and dispose of as required by all applicable laws and regulations. If grinding is used, lightly grind floor surface

using wheel mounted floor grinder or similar equipment with positive elevation control of grinder head. For all removal techniques: On test area, demonstrate to Owner acceptable removal of paint material and control of paint removal equipment to prevent substrate scarring.

2. Traffic Topping/Membrane surfaces: Remove existing pavement markings by solvent washing or high-pressure water washing. Submit letter from traffic topping/membrane manufacturer certifying that solvents and/or water pressures are acceptable for this use and will not damage material. On test area, demonstrate to Owner acceptable removal of paint material and control of paint removal equipment to prevent substrate scarring.
3. Contractor shall not use paint, bituminous bond coat or other methods of covering markings to obliterate existing pavement markings.
4. Material deposited on pavement as a result of removal shall be removed as work progresses. Accumulation of material, that might interfere with drainage or might constitute a hazard to traffic, prohibited.
5. Curing compounds on new concrete surfaces (less than 1 yr old) shall be removed per existing pavement marking removal requirements prior to installation of new pavement markings. H. Work Areas:

1. Store, mix and prepare paints only in areas designated by Contractor for that purpose.
2. Provide clean cans and buckets required for mixing paints and for receiving rags and other waste materials associated with painting. Clean buckets regularly. At close of each day's Work, remove used rags and other waste materials associated with painting.
3. Take precautions to prevent fire in or around painting materials. Provide and maintain appropriate hand fire extinguisher near paint storage and mixing area. I.

Mixing:

1. Do not intermix materials of different character or different manufacturer.
 2. Do not thin material except as recommended by manufacturer. J. Disposal:
1. Contractor shall properly dispose of unused materials and containers in compliance with Federal Resource Conservation Recovery Act (RCRA) of 1976 as amended, and all other applicable laws and regulations.

3.3 APPLICATION

- A. Apply painting and finishing materials in accordance with manufacturer's directions. Use applications and techniques best suited for material and surfaces to which applied. Minimum air shall be used to prevent overspray. Temperature during application shall be minimum of 40° F and rising, unless manufacturer requires higher minimum temperature. Maximum relative humidity shall be as required by manufacturer.

1. Total wet mil thickness of 0.015 in (minimum).

2. Total dry film thickness of 0.008 in (minimum).
- B. All lines shall be straight, true, and sharp without fuzzy edges, overspray or non-uniform application. Corners shall be at right angles, unless shown otherwise, with no overlaps. Line width shall be uniform (-0%, +5% from specified width). No excessive humping (more material in middle than at edges or vice versa).
 - C. All lines shall be 4-inches wide unless otherwise noted.

END OF SECTION 099121

TECHNICAL PROVISIONS – PUMP STATION

SECTION 221400 – SUBMERSIBLE PUMPS

SECTION 407200 – LEVEL TRANSDUCERS

SECTION 22 14 00 SUBMERSIBLE PUMPS

PART 1 - GENERAL

1.1 DESCRIPTION

This work shall include the removal and replacement of the pumps, motors, guide rail assemblies, wet well piping, and related labor and materials to provide a fully functional sump pump in the parking structure. This work will also include cleaning and clearing of any piping that may restrict the flows into or out of the pump wet well.

1.2 RELATED WORK

- A. Part 1, GENERAL PROVISIONS.
- B. Section 3-7, CONTRACT DOCUMENTS.
- C. Section 26 05 00, COMMON WORK RESULTS FOR ELECTRICAL.
- D. Section 26 05 04, CLEANING, INSPECTION, AND TESTING OF ELECTRICAL EQUIPMENT.
- E. Section 40 72 00, LEVEL TRANSDUCER

1.3 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. American National Standard Institute (ANSI)/Hydraulic Institute (HI):
 - 1.1-1.2-2014 Rotodynamic Centrifugal Pumps for Nomenclature and Definitions
 - 1.3-2013 Rotodynamic Centrifugal Pumps for Design and Application
 - 1.4-2014 Rotodynamic Centrifugal Pumps for Manuals
- C. ASTM International
Describing Installation, Operation, and Maintenance
(ASTM):
 - A48/A48M-2003 (R2012) Standard Specification for Gray Iron Castings
 - A532/A532M-2010 (R2014) Standard Specification for Abrasion-Resistant Cast Irons
 - B584-2014 Standard Specification for Copper Alloy Sand Castings for General Applications
- D. National Electrical Manufacturers Association
(NEMA):
 - ICS 6-1993 (R2001, R2006) Industrial Control and Systems: Enclosures
 - 250-2014 Enclosures for Electrical Equipment (1000 Volts Maximum)
- E. Underwriters' Laboratories, Inc. (UL):
 - 508-1999 (R2013) Standards for Industrial Control Equipment

1.4 SUBMITTALS

- A. Submittals, including number of required copies, shall be submitted in accordance with the General Provisions of these specifications.

- C. Manufacturer's Literature and Data including: Full item description and optional features and accessories. Include dimensions, weights, materials, applications, standard compliance, model numbers, size, and capacity.
 - 1. Pump:
 - a. Manufacturer and model.
 - b. Operating speed (rpm).
 - c. Capacity.
 - d. Characteristic performance curves.
 - 2. Electric Motor:
 - a. Manufacturer.
 - b. Speed.
 - c. Current Characteristics and HP.
 - d. Efficiency.
 - 3. Control panel.
 - 4. Sensors.
- D. Certified copies of all the factory and construction site test data sheets and reports.
- E. Complete operating and maintenance manuals including wiring diagrams, technical data sheets and information for ordering replacement parts:
 - 1. Include complete list which indicates all components of the system.
 - 2. Include complete diagrams of the internal wiring for each item of equipment.
 - 3. Diagrams shall have their terminals identified to facilitate installation, operation and maintenance, and troubleshooting.

1.5 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.6 WARRANTY.

- A. Manufacturer's Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of pumps and accessories that fail in materials or workmanship within specified warranty period;
 - 1. Failures include, but are not limited to, the following:
 - a. Faulty operation of pumps, controls, or pumping and piping system accessories;
 - b. Deterioration of metals, metal finishes, and other materials beyond normal use;
 - 2. Warranty Period for Pumps: One year from date of Substantial Completion;
 - 3. Warranty Period for Control Panel: One year from date of Substantial Completion.

1.7 AS-BUILT DOCUMENTATION

- A. Submit manufacturer's literature and data updated to include submittal review comments and any equipment substitutions.
- B. Submit operation and maintenance data updated to include submittal review comments, substitutions and construction revisions shall be hard copy and in electronic version on compact disc or DVD inserted into a three-ring binder. All aspects of system operation and maintenance procedures, including piping isometrics, wiring diagrams of all circuits, a written description of system design, control logic, and sequence of operation shall be included in the operation and maintenance manual. The operations and maintenance manual shall include troubleshooting techniques and procedures for emergency situations. Notes on all special systems or devices such as damper and door closure

interlocks shall be included. A List of recommended spare parts (manufacturer, model number, and quantity) shall be furnished. Information explaining any special knowledge or tools the owner will be required to employ shall be inserted into the As-Built documentation.

- C. The installing contractor shall maintain as-built drawings of each completed phase for verification; and shall provide the complete set at the time of final systems certification testing. As-built drawings are to be provided, and a copy of them in Auto-CADD provided on compact disk or DVD.
- D. Certification documentation shall be provided to Engineer 10 working days prior to submitting the request for final inspection. The documentation shall include all test results, the names of individuals performing work for the testing agency on this project, detailed procedures followed for all tests, and a certification that all results of tests were within limits specified.

PART 2 - PRODUCTS

2.1 SUMP PUMP

A. Scope:

Furnish – two (2) solids handling submersible non-clog wastewater pump with 2-vane enclosed impeller or Engineer pre-approved equal. The pump shall be supplied with a mating cast discharge connection (two (2) inch or adaptable to the two (2) inch discharge line) and be capable of delivering 50 U.S. gallons per minute (gpm) at a total dynamic head (TDH) of 25- feet. The motor shall be an integral part of the pump unit. The motor shall be connected for operation to the 208V, single phase, 60 Hertz electrical supply service. Pumps are intended for wet pit installation and shall be supplied with a standard cast iron auto-installation guide rail system with an integrated discharge elbow. Pump shall be fitted with a stainless-steel lifting bail assembly for lifting pumps out of wet well for service or replacement. The working load rating of the lifting system shall be a minimum of 50% greater than the pump weight. Each pump motor shall be equipped with power and control cable sized in accordance with NEC and CSA standards.

B. Pump Design

The heavy duty submersible wastewater pump shall be capable of handling raw unscreened stormwater without clogging. The pump shall be driven by a premium efficiency motor providing the highest levels of operational reliability and energy efficiency.

C. Guide Rail Base Assembly

The discharge base & elbow assembly shall be permanently installed in the wet well and connected to the discharge piping. In order to prevent binding or separation of the pump from the guide rail system, the pump(s) shall connect to the guide rail base automatically and firmly, guided by two guide rails.

Minimum two (2) inch stainless-steel guide rails extending from the base elbow to the top of the station. Systems using guide cable in lieu of rigid guide bars or pipes shall not be considered acceptable. The sliding guide bracket shall be a separate part of the pumping unit, capable of being attached to standard two (2) inch pump connection, so

that the pump mounting is non- proprietary, and any pump with a standard discharge flange can be mounted on the base assembly.

Base or bracket assemblies with proprietary or non-standard flange dimensions shall not be considered acceptable.

A field replaceable Nitrile (Buna-N) rubber profile gasket or O-ring shall accomplish positive sealing of the pump flange/guide rail bracket to the discharge elbow. No portion of the pump shall bear directly on the floor of the sump. The guide rail system shall be available in an optional non- sparking version, approved by Factory Mutual for use in NEC Class 1, Division 1, Group C&D hazardous locations.

D. Seals

The motor shall be protected by two mechanical seals mounted in tandem with a seal chamber between the seals. Seal chamber shall be oil filled to lubricate seal face and to transmit heat from shaft to the outer shell. Seal face shall be carbon and ceramic and lapped to a flatness of one light band. A double electrode shall be mounted in the seal chamber to detect any water entering the chamber through the lower seal. Water in the chamber shall cause a red light to turn on at the control box. This signal shall not stop motor but shall act as a warning only, indicating service is required.

E. Impeller

The impeller shall be ductile iron and of the 2-vane solids handling enclosed type. Vane inlet tips shall be carefully rounded to prevent stringy material from catching in vanes. Pump-out vane shall be used in front and back chamber. Impeller shall be dynamically balanced. Impeller shall be driven by stainless steel shaft key and impeller held in place with lock screw and washer. Impeller and motor shall lift off case as a unit without disturbing discharge piping. Impeller neck shall run in bronze wear ring that is pressed into volute case.

F. Pump Case

The volute case shall be cast iron and have a flanged center line discharge. Discharge flange shall be 2" standard with bolt holes (or capable of adapting to the 2" discharge) straddling center line. A bronze wear ring shall be pressed into case for guiding impeller neck and to prevent corrosion freeze-up. Wear ring to be held from rotating by locking with stainless steel set screw in end of ring.

G. Pump and Motor Casting

The pump shall be painted with waterborne hybrid acrylic/alkyd paint or Engineer approved equal. This custom engineered, quick dry paint shall provide superior levels of corrosion and chemical protection. All fasteners shall be 302 stainless steel.

H. Power Cable

Power cord and control cord shall be triple sealed. The power and control conductor shall be single strand sealed with epoxy potting compound and then clamped in place with rubber seal bushing to seal outer jacket against leakage and to provide for strain pull. Cords shall withstand a pull strain to meet FM requirements. Insulation of power and control cords shall be type SOOW or W. Both control and power cords shall have a green carrier ground conductor that attaches to motor frame.

PART 3 - EXECUTION

3.1 STARTUP AND TESTING

A. Perform tests and inspections and prepare test reports;

1. Manufacturer's Field Service: Engage a pump station manufacturer's authorized service representative to assist in testing and startup; B. Tests and Inspections:

1. Test completed piping systems according to requirements of authorities having jurisdiction. Submit reports;
2. After installing wastewater pumping stations and after electrical circuitry has been energized, test pumps and controls for compliance with requirements;
3. After electrical circuitry has been energized, start units to confirm the station can run at pre- specified design parameters;
4. Test piping for leaks and defects;
5. Test and adjust controls and safeties;

Remove and replace components of the stormwater pumping stations that do not pass tests and inspections and retest as specified above. //

3.2 DEMONSTRATION AND TRAINING

- A. Provide services of manufacturer's technical representative for two (2) hours to instruct City Personnel in operation and maintenance of units.
- B. Submit training plans and copy of training documents (electronic and hard copy) for City review prior to training.

- - - E N D - - -

SECTION 40 72 00
LEVEL TRANSDUCER

PART 1 - GENERAL

1.1 DESCRIPTION

This work shall include the installation of level transducer (pressure transducer), related labor and materials to provide water level detection in the sump pump to start and stop the pumps. This work will also include refurbishing of the existing mechanical float system in the pump wet well. The level transducer shall be the primary level detection system. Redundant back up will be provided by the mechanical float system.

1.2 RELATED WORK

- A. Part 1, GENERAL PROVISIONS.
- B. Section 3-7, CONTRACT DOCUMENTS.
- C. Section 26 05 00, COMMON WORK RESULTS FOR ELECTRICAL.
- D. Section 26 05 04, CLEANING, INSPECTION, AND TESTING OF ELECTRICAL EQUIPMENT.
- E. Section 22 14 00, SUBMERSIBLE PUMPS

1.3 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. National Electrical Manufacturers Association (NEMA):
 - ICS 6-1993 (R2001, R2006) Industrial Control and Systems: Enclosures
 - 250-2014 Enclosures for Electrical Equipment (1000 Volts Maximum)
- C. Underwriters' Laboratories, Inc. (UL):
 - 508-1999 (R2013) Standards for Industrial Control Equipment

1.4 SUBMITTALS

- A. Submittals, including number of required copies, shall be submitted in accordance with the General Provisions of these specifications.
- B. Manufacturer's Literature and Data including: Full item description and optional features and accessories. Include dimensions, weights, materials, applications, standard compliance, and model numbers.
- C. Certified copies of all the factory and construction site test data sheets and reports.
- D. Complete operating and maintenance manuals including wiring diagrams, technical data sheets and information for ordering replacement parts:
 - 1. Include complete list which indicates all components of the system.
 - 2. Include complete diagrams of the internal wiring for each item of equipment.
 - 3. Diagrams shall have their terminals identified to facilitate installation, operation and maintenance, and troubleshooting.

1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

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Parking Structure Lot "C" Improvements
C.I.P No. 699

Construction Document
January 2025

1.6 WARRANTY.

- A. Manufacturer's Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components that fail in materials or workmanship within specified warranty period; 1. Warranty Period for Level Transducer, One year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 LEVEL TRANSDUCER

A. Scope:

Level Control System: Senses variations of wastewater level in well. The system shall utilize a submersible pressure transducer as the primary level detection device. Redundant back up will be provided by two intrinsically safe, non-mercury mechanical floats.

1. Basis of Design (Pressure Transducer): PMC VL2000 series Submersible Level Transmitter, or Engineer pre-approved equal.
2. Existing Level Sensor Design (Mechanical Float): Refurbish existing mechanical float system or replace with OPTI-FLOAT Internally Weighted, Non-Mercury Float

PART 3 - EXECUTION

3.1 STARTUP AND TESTING

A. Perform tests and inspections and include results in pump test reports;

1. Manufacturer's Field Service: Pump station testing and startup shall include testing of the level transducer and redundant mechanical float systems; B. Tests and Inspections:

1. After electrical circuitry has been energized, fill wet well with water and utilize the level transducer to start pumps to confirm the station can run at pre-specified design parameters. Run additional tests to confirm the redundant mechanical float system is operational;
2. Test and adjust controls and safeties.

Remove and replace components of the level transducer and mechanical float systems that do not pass tests and inspections and retest as specified above.

--- E N D ---

TECHNICAL PROVISIONS – ELECTRICAL

SECTION 260500 – COMMON WORK RESULTS FOR ELECTRICAL

SECTION 260504 – CLEANING, INSPECTION, AND TESTING OF ELECTRICAL EQUIPMENT

SECTION 265113 – INTERIOR LIGHTING FIXTURES, LAMPS, AND BALLASTS

**SECTION 26 05 00
COMMON WORK RESULTS FOR ELECTRICAL**

PART 1 - GENERAL

The electrical work included in all other divisions is the responsibility of the contractor performing the division 26 work unless noted otherwise.

PROJECT OVERVIEW

SCOPE

The work under this section includes basic electrical requirements, which are applicable to all Division 26 sections. This section includes information common to two or more technical specification sections or items that are of a general nature, not conveniently fitting into other technical sections.

RELATED WORK

Applicable provisions in other Sections of these Specification.

REFERENCE STANDARDS

Abbreviations of standards organizations referenced in this, and other sections are as follows:

ANSI American National Standards Institute
ASTM American Society for Testing and
Materials EPA Environmental Protection
Agency
ETL Electrical Testing Laboratories, Inc.
IEEE Institute of Electrical and Electronics Engineers
IES Illuminating Engineering Society
ISA Instrument Society of America
NBS National Bureau of Standards
NEC National Electric Code
NEMA National Electrical Manufacturers Association
NESC National Electrical Safety Code
NFPA National Fire Protection Association
NRTL Nationally Recognized Testing
Laboratory UL Underwriters Laboratories
Inc.
HBMC Hermosa Beach Municipal Code

REGULATORY REQUIREMENTS

All work and materials are to conform in every detail to applicable rules and requirements of the City of Hermosa Beach Municipal Code, the National Electrical Code (NFPA 70), other applicable National Fire Protection Association codes, the National Electrical Safety Code, and present manufacturing standards (including NEMA).

All Division 26 work shall be done under the direction of a currently licensed State of California Master Electrician.

QUALITY ASSURANCE

Where equipment or accessories are used which differ in arrangement, configuration, dimensions, ratings, or engineering parameters from those indicated on the contract documents, the contractor is responsible for all costs involved in integrating the equipment or accessories into the system and the assigned space, and for obtaining the performance from the system into which these items are placed.

Manufacturer references used herein are intended to establish a level of quality and performance requirements unless more explicit restrictions are stated to apply.

All materials shall be listed by and shall bear the label of an approved Nationally Recognized Testing Laboratory (NRTL) as identified by the United States Occupational Safety and Health Administration (OSHA), per the OSHA Nationally Recognized Testing Laboratory Program. If none of the approved electrical testing laboratories has published standards for a particular item, then other national independent testing standards, if available, applicable, and approved by DFD, shall apply and such items shall bear those labels. Where one of the approved electrical testing laboratories has an applicable system listing and label, the entire system, shall be so labeled.

The Contractor shall be a company with experience in the installation of medium voltage cable, medium voltage equipment and components. The company shall have documented history with a minimum of two similar medium voltage projects.

The contractor shall have a minimum of two qualified electricians trained and experienced (Minimum of two similar medium voltage projects) in the installation of medium voltage cable, medium voltage equipment and components.

At the discretion of the Engineer, documentation of experience, and relevant projects shall be furnished by the contractor.

Workmen involved in splicing and termination of cables shall have been specifically trained in the procedures required for the splices and terminations used in this project.

At the discretion of the Engineer, documentation of experience and/or training in medium voltage cable splicing and termination shall be furnished by the Contractor.

CONTINUITY OF EXISTING SERVICES AND SYSTEMS

No outages shall be permitted on existing systems except at the time and during the interval specified by the by the City of Hermosa Beach Project Representative. The institution may require written approval. Any outage must be scheduled when the interruption causes the least interference with normal institutional schedules and business routines. No extra costs will be paid to the Contractor for such outages which must occur outside of regular weekly working hours.

This Contractor shall restore any circuit interrupted as a result of this work to proper operation as soon as possible. Note that institutional operations are on a seven-day week schedule.

PROTECTION OF FINISHED SURFACES

Furnish one can of touch-up paint for each different color factory finish furnished by the Contractor. Deliver touch-up paint with other "loose and detachable parts" as covered in the General Requirements.

APPROVED ELECTRICAL TESTING LABORATORIES

The following laboratories are approved for providing electrical product safety testing, listing and labeling services as required in these specifications:

A Nationally Recognized Testing Laboratory (NRTL) as identified by the United States Occupational Safety and Health Administration (OSHA), per the OSHA Nationally Recognized Testing Laboratory Program.

INTENT

The Contractor shall furnish and install all the necessary materials, apparatus, and devices to complete the electrical equipment and systems installation herein specified, except such parts as are specifically exempted herein.

If an item is either called for in the specifications or shown on the plans, it shall be considered sufficient for the inclusion of said item in this contract. If a conflict exists within the Specifications or exists within the Drawings, the Contractor shall furnish the item, system, or workmanship, which is the highest quality, largest, or most closely fits the City of Hermosa Beach's intent (as determined by the City of Hermosa Beach Project Manager). Refer to the General Conditions of the Contract for further clarification.

It must be understood that the details and drawings are diagrammatic. The Contractor shall verify all dimensions at the site and be responsible for their accuracy.

All sizes as given are minimum except as noted.

Materials and labor shall be new (unless noted or stated otherwise), first class, and workmanlike, and shall be subject at all times to the City of Hermosa Beach's, tests and approval from the commencement until the acceptance of the completed work.

Whenever a particular manufacturer's product is named, it is intended to establish a level of quality and performance requirements unless more explicit restrictions are stated to apply.

OMISSIONS

No later than ten (10) days before bid opening, the Contractor shall call the attention of the City of Hermosa Beach's to any materials or apparatus the Contractor believes to be inadequate and to any necessary items of work omitted.

SUBMITTALS

Submit for all equipment and systems as indicated in the respective specification sections, marking each submittal with that specification section number. Mark general catalog sheets and drawings to indicate specific items being submitted and proper identification of equipment by name and/or number, as indicated in the contract documents. Failure to

do this may result in the submittal(s) being returned to the Contractor for correction and resubmission. Failing to follow these instructions does not relieve the Contractor from the requirement of meeting the project schedule.

On request from the City of Hermosa Beach, the successful bidder shall furnish additional drawings, illustrations, catalog data, performance characteristics, etc.

Submittals shall be grouped to include complete submittals of related systems, products, and accessories in a single submittal. Mark dimensions and values in units to match those specified. Include wiring diagrams of electrically powered equipment.

The submittals must be approved before fabrication is authorized.

Submit sufficient quantities of submittals to allow the following distribution:

Operating and Maintenance Manuals	2 copies
City of Hermosa Beach	1 copy

PROJECT/SITE CONDITIONS

Install Work in locations shown on drawings, unless prevented by project conditions.

Prepare drawings showing proposed rearrangement of work to meet project conditions, including changes to work specified in other sections. Obtain permission of City of Hermosa Beach before proceeding.

Tools, materials and equipment shall be confined to areas designated by the City of Hermosa Beach.

WORK SEQUENCE AND SCHEDULING

During the construction period coordinate electrical schedule and operations with City of Hermosa Beach's Construction Representative.

WORK BY OTHER TRADES

Every attempt has been made to indicate in this trade's specifications and drawings all work required of this Contractor. However, there may be additional specific paragraphs in other trade specifications and addenda, and additional notes on drawings for other trades which pertain to this trade's work, and thus those additional requirements are hereby made a part of these specifications and drawings.

Electrical details on drawings for equipment to be provided by others are based on preliminary design data only. This Contractor shall lay out the electrical work and shall be responsible for its correctness to match equipment actually provided by others.

OFFSITE STORAGE

Prior approval by City of Hermosa Beach will be needed. The contractor shall submit Storage Agreement Form to City of Hermosa Beach for consideration of off-site materials storage. In general, building wire, conduit, fittings and similar rough-in material will not be accepted for off-site storage. No material will be accepted for off-site storage unless shop drawings for the material have been approved.

SALVAGE MATERIALS

No materials removed from this project shall be reused unless specifically noted otherwise. All materials removed shall become the property of and shall be disposed of by the Contractor.

The following material shall be removed from service and turned over to the City of Hermosa Beach or user agency, at a site selected by the City of Hermosa Beach, in the same condition as when it was removed

CERTIFICATES AND INSPECTIONS

Obtain and pay for all required installation inspections, except those provided by the City of Hermosa Beach, in accordance with the Hermosa Beach Municipal Code. Deliver originals of these certificates to the City of Hermosa Beach's Project Representative.

The Electrical Contractor is responsible for coordination of City of Hermosa Beach electrical inspections. Prior to the start of significant on-site electrical work, the contractor shall schedule a pre-installation meeting with the City of Hermosa Beach Electrical Inspector to discuss the inspection requirements and review the contract requirements (also see Article 15 of the General Conditions). The Electrical Contractor shall be present when the Hermosa Beach Electrical Inspector conducts the electrical inspections.

OPERATION AND MAINTENANCE DATA

All operations and maintenance data shall comply with the submission and content requirements specified under section GENERAL REQUIREMENTS.

In addition to the general content specified under GENERAL REQUIREMENTS supply the following additional documentation:

1. Manufacturer's wiring diagrams for electrically powered equipment.
2. All required passwords to gain local access to equipment and controllers.

RECORD DRAWINGS

The Contractor shall maintain at least one copy each of the specifications and drawings on the job site at all times.

The City of Hermosa Beach will provide the Contractor with a suitable set of contract drawings on which daily records of changes and deviations from contract shall be recorded. Dimensions and elevations on the record drawings shall locate all buried or concealed piping, conduit, or similar items.

The daily record of changes shall be the responsibility of Contractor's field superintendent. No arbitrary mark-ups will be permitted.

At completion of the project, the Contractor shall submit the marked-up record drawings to the Architect/Engineer prior to final payment.

PART 2 - PRODUCTS

NO PRODUCTS SPECIFIED ON THIS SECTION

PART 3 - EXECUTION

HOUSEKEEPING AND CLEAN UP

The Contractor shall clean up and remove from the premises, on a daily basis, all debris and rubbish resulting from its work and shall repair all damage to new and existing equipment resulting from its work. When job is complete, this Contractor shall remove all tools, excess material and equipment, etc., from the site.

END OF SECTION

SECTION 26 05 04
CLEANING, INSPECTION, AND TESTING OF ELECTRICAL EQUIPMENT

PART 1 - GENERAL

SCOPE

The work under this section includes the required cleaning, inspection, adjustment, maintenance and testing of electrical equipment, as specified herein. This applies only to new electrical and existing electrical equipment being furnished, modified, worked on or serviced by this contractor for this project. Included are the following topics:

PART 2 - PRODUCTS

No products specified.

PART 3 - EXECUTION

GENERAL INSPECTION AND CLEANING OF ALL ELECTRICAL EQUIPMENT

Inspect for physical damage and abnormal mechanical and electrical conditions.

Any item found to be out of tolerance, or in any other way defective as a result of the required inspection or testing, shall be reported to the City of Hermosa Beach. Procedure for repair and/or replacement will be outlined. After appropriate corrective action is completed the item shall be re-tested.

Compare equipment nameplate information with the latest single line diagram and report any discrepancies.

Verify proper auxiliary device operation and indicators.

Check tightness of accessible bolted electrical joints. Use torque wrench method.

Make a close examination of equipment and remove any shipping brackets, insulation, packing, etc. that may not have been removed during original installation.

Make a close examination of equipment and remove any dirt or other forms of debris that may have collected in existing equipment or in new equipment during installation.

Clean All Equipment:

- Vacuum inside of panelboards, switchboards, switchgear, and the exterior of all Communications and Electronic Safety and Security hardware and equipment.

- Loosen attached particles and vacuum them away. Wipe all insulators with a clean, dry, lint free rag.

- Clean insulator grooves.

- Re-vacuum inside surfaces as directed by the City of Hermosa Beach Construction Representative or Inspector

Inspect equipment anchorage.

Inspect equipment and bus alignment.

Check all heater elements for operation and control.

Lubricate nonelectrical equipment per manufacturer's recommendations.

GROUNDING SYSTEMS

Inspect the ground system for adequate termination at all devices.

SWITCHBOARDS (LOW VOLTAGE)

Visual and Mechanical Inspection:

Inspect for physical, electrical and mechanical conditions. Re-torque all bolted connections.

Hermosa Beach Parking Structure Lot C Improvements

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Compare equipment nameplate information with latest single line diagram and report discrepancies.

Inspect for proper alignment, anchorage and grounding

All doors, panels and sections shall be inspected for paint, dents, scratches, and fit.

Vacuum clean the switchboard enclosure.

All active components shall be exercised and cleaned where possible.

All indicating devices shall be inspected for proper operation.

PANELBOARDS

Torque all the connections per the manufacturers spec. Verify phase wires, color coding, separate neutral and mechanical bonding. Verify circuit breaker operation. Verify the directory.

Vacuum clean the panelboard enclosure.

MANHOLES

Check cable racking and system grounding in all manholes.

Verify all cable labels.

LIGHT FIXTURES

Check the bonding and proper lamping. Verify that recessed fixtures are installed with hold down clips.

Confirm operation of the fixture with the proper switch or sensor.

BATTERY PACK EMERGENCY LIGHTING

Verify the operation per the manufacturers spec and run all of the diagnostic steps. Confirm proper grounding and location.

UPS SYSTEM

Operate and test the system per the manufacturers spec. Confirm the batteries and liquid level along with the transfer scheme.

After the generator has cooled down from the four hour test, shut it down and then simulate a power failure including operation of the transfer switch, automatic cycle, and automatic shutdown and return to normal.

Check the automatic transfer switches and automatic start circuits for proper function.

COMMUNICATIONS AND ELECTRONIC SAFETY AND SECURITY

At equipment rooms:

Check all cable and connectors for proper installation and support.

Visually inspect cables, lugs, connectors and all other components for physical damage and proper connections.

Confirm cable bends to comply with manufacturer's minimum allowable bending radii.

Inspect for proper shield grounding, cable support and termination. Confirm all dust caps and blank panels are in place.

Wipe down all equipment racks and cabinets, enclosures, cable supports, cable organizers, termination hardware and related items.

Coordinate cleaning schedule to provide a secure, dust and contaminant-free environment as required to accommodate all trade's equipment that will be positioned in the room. This condition likely will precede general occupancy.

Refer to Division 27 and 28 specification sections that may include additional requirements.

END OF SECTION

SECTION 26 51 13 INTERIOR LIGHTING FIXTURES, LAMPS, AND BALLASTS

PART 1 - GENERAL

SCOPE

The work under this section includes interior luminaires and accessories, exit signs, and building-mounted exterior lighting. Included are the following topics:

RELATED WORK

Applicable provisions of Division 1 govern work under this Section.54f

Section 26 08 00 – Commissioning of Electrical

Section 26 27 26 – Wiring Devices

REFERENCE STANDARDS

RoHS – Restriction of Hazardous Substances. Council of the European Union (EC) Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

LM-79-08 (or latest) – IES Approved Method for the Electrical and Photometric Measurements of Solid- State Lighting Products.

LM-80-08 (or latest) – IES Approved Method for Measuring Lumen Maintenance of LED Light Sources.

TM-21-11 (or latest) – IES Technical Memorandum on Projecting Long Term Lumen Maintenance of LED Light Sources.

NEMA SSL 1-2010 (or latest) – Electronic Drivers for LED Devices, Arrays, or Systems.

SUBMITTALS

Include outline drawings, lamp and ballast data, support points, weights, accessory information and performance data for each luminaire type.

For each luminaire type, submit luminaire information including catalog cuts with highlighted catalog numbers and required accessories:

- Luminaire:
 - Manufacturer and catalog number, o
 - Delivered lumens,
 - Input watts, o
 - Efficacy, o
 - Color rendering
 - index.
- Driver:
 - Manufacturer and catalog number, o
 - Type (Non-Dimming, Step-dimming,
 - Continuous dimming, etc.), o Power Factor,
 - Crest Factor, THD, etc.

OPERATION AND MAINTENANCE DATA

All operations and maintenance data shall comply with the submission and content requirements specified under section GENERAL REQUIREMENTS.

EXTRA MATERIALS

Provide one (1) of each type of luminaire.

Provide one (1) LED driver of each type.

DEFINITIONS

Driver: The power supply used to power LED luminaires, modules, or arrays.

L70, L₇₀, or L_{70%}: The reported life of an LED component or system to reach 70% lumen maintenance, or 70% of the LED's original light output.

LED's: Broadly defined as complete luminaire with light emitting diode (LED) packages, modules, light bars or arrays, complete with driver.

LED luminaire failure: Negligible light output from more than 10 percent of the LEDs, or less than 70 percent of the listed lumen output constitutes luminaire failure.

PART 2 - PRODUCTS

INTERIOR LUMINAIRES AND ACCESSORIES

See the Luminaire Schedule on the drawings for types of luminaires and catalog numbers. Catalog numbers are shown on the drawings for quality and performance requirements only. Luminaires manufactured by others are equally acceptable provided they meet or exceed the performance of the indicated luminaires and meet the intent of the design.

Luminaire shall be listed by a NRTL (Nationally Recognized Testing Laboratory: e.g. UL, ETL, etc.).

Provide luminaires with quick-connect disconnecting means similar to Thomas & Betts Sta-Kon.

GENERAL USE LAMPS

General Use Incandescent Lamps and Incandescent Reflector Lamps are prohibited. Use LED retrofit lamps or LED luminaires in lieu of incandescent or halogen luminaires. LED retrofit lamps shall be:

- Rated for the voltage of the incandescent lamp/luminaire they are replacing. ☐ Dimmable where required as indicated on the plans.
- Rated for the luminaire in which they are being installed. Verify whether the luminaire is enclosed and whether the LED retrofit lamp is rated for enclosed luminaires and the temperatures that will be encountered.
- LED lamps/luminaires shall provide delivered footcandles equal to or greater than the footcandles provided by an equivalent incandescent lamp/luminaire.
- LED retrofit lamps shall have an average rated life of 25,000 hours, minimum.
- Lamp color temperature shall be nearly equal to the incandescent lamp it is replacing.

All lamps shall be new.

LED LUMINAIRES

- LED Luminaires shall meet all DesignLights Consortium® (DesignLights.org) Product Qualification Criteria. This does not require that the luminaire be listed on the DesignLights Consortium's® Qualified Products List, but they must meet the Product Qualification Criteria. The technical requirements that the luminaire shall meet for each Application Category are:

- o Minimum Light Output. o
Zonal Lumen
Requirements. o
Minimum Luminaire
Efficacy.
- o Minimum CRI. o L70
Lumen Maintenance.
- o Minimum Luminaire
Warranty of 5 years (not
pro-rated) to include LED
driver and all LED
components.

Additional requirements:

- Color Temperature of 3000K-4100K for interior luminaires as listed in the Luminaire Schedule on the plans. The color temperature of exterior LED luminaires should not exceed 4100K (nominal).
- Color Consistency: LED manufacturer shall use a maximum 3-step MacAdam Ellipse binning process to achieve consistent luminaire-to-luminaire color for interior luminaires. Exterior luminaires shall use a maximum 5-step MacAdam Ellipse binning process.
- Glare Control: Exterior luminaires shall meet DesignLights Consortium's® criteria for Zonal Lumen Distribution requirements or Backlight-Uplight-Glare (BUG) standards for exterior luminaires.
- Luminaire shall be mercury-free, lead-free, and RoHS compliant.
- Luminaire shall comply with FCC 47 CFR part 15 non-consumer RFI/EMI standards.
- Light output of the LED system shall be measured using the absolute photometry method following IES LM-79 and IES LM-80 requirements and guidelines.
- Luminaire shall maintain 70% lumen output (L70) for a minimum of 50,000 hours.
□ Lumen output shall not depreciate more than 20% after 10,000 hours of use.
- Luminaire and driver shall be furnished from a single manufacturer to ensure compatibility.
- Luminaire Color Rendering Index (CRI) shall be a minimum of 80 for interior luminaires, and a minimum of 70 for exterior luminaires.
- LED luminaire shall be thermally designed as to not exceed the maximum junction temperature of the LED for the ambient temperature of the location the luminaire is to be installed. Rated case temperature shall be suitable for operation in the ambient temperatures typically found for the intended installation. Exterior luminaires to operate in ambient temperatures of -40°F to 104°F (-40°C to 40°C).
- Luminaire shall operate normally for input voltage fluctuations of plus or minus 10 percent.
- Luminaire shall have a maximum Total Harmonic Distortion (THD) of $\leq 20\%$ at full input power and across specified voltage range.
- All connections to luminaires shall be reverse polarity protected and provide high voltage protection in the event connections are reversed or shorted during the installation process. □ All luminaires shall be provided with knockouts for conduit connections.
- The LED luminaire shall carry a limited 5-year warranty minimum for LED light engine(s)/board array, and driver(s).
- Provide all of the following data on submittals:

- Delivered lumens ○
- Input watts ○
- Efficacy ○ Color
- rendering index.

LED Luminaires used for Emergency Egress Lighting:

- The failure of one LED shall not affect the operation of the remaining LEDs.

Emergency LED Luminaire Compatibility with Inverters:

- Emergency Inverters shall be sine-wave type, or have written confirmation from the luminaire manufacturer that the luminaire will function with a square-wave inverter.

LED DRIVERS

General:

- Provide driver type (non-dimmed, step-dimmed, continuous-dimming, etc.) as indicated on the luminaire schedule on the drawings.
- Minimum Warranty of 5 years (not pro-rated) to include LED driver and all LED components.
- Driver shall have a rated life of 50,000 hours, minimum.
- Driver and LEDs shall be furnished from a single manufacturer to ensure compatibility.
- Driver shall have a minimum power factor (pf) of 0.9 and a maximum crest factor (cf) of 1.5 at full input power and across specified voltage range.
- Driver shall operate normally for input voltage fluctuations of plus or minus 10 percent.
- Driver shall have a maximum Total Harmonic Distortion (THD) of $\leq 20\%$ at full input power and across specified voltage range.
- Wiring connections to LED drivers shall utilize polarized quick-disconnects for field maintenance.
- Fuse Protections: All luminaires shall have built-in fuse protection. All power supply outputs shall be either fuse protected or be Polymeric Positive Temperature Coefficient (PTC)-protected as per Class 2 UL listing.
- Provide all of the following data on submittals:
 - Input watts ○ Power
 - Factor (pf) ○ Crest
 - Factor (cf) at full input
 - power ○ Total
 - Harmonic Distortion
 - (THD).

Dimming Drivers:

- LED driver shall be compatible with dimming controls where dimming is indicated on the plans. Dimmable drivers shall use Dimming Constant Current (DCC), Constant Voltage, or Pulse Width Modulation (PWM) operation.
- Step-Dimming Drivers: Easily switched from 0% to 50% to 100% output power. Both switch-leg inputs shall control 50% of the luminaire's light output equally.
- Continuous Dimming Drivers: LED luminaires shall dim to (10%, 1%, or 0.1%) as specified in the Luminaire Schedule on the plans without visible flicker or "popcorn effect". "Popcorn effect" is defined as the luminaire being on a pre-set dimmed level (less than 100%), and going to 100% prior to returning to the pre-set level when power is returned to the luminaire. Continuous

Dimming Drivers shall use 0-10V contro

PART 3 - EXECUTION

INSTALLATION

Verify ceiling types with Architectural plans or with existing ceilings. Verify specified luminaires are compatible with specified ceiling type(s) prior to ordering luminaires.

Install in accordance with manufacturer's instructions.

Install suspended luminaires using aircraft cable, or pendants supported from swivel hangers. Heavy duty chain supports may be used where indicated on the luminaire schedule. Provide aircraft cable, pendants, or chain lengths required to suspend luminaire at indicated height. All aircraft cables or pendant supported luminaires shall have an independent support to structure at all cable or pendant support locations. When chain is used, tie-wrap the luminaire wiring method to the chain.

Support luminaires larger than 2 x 4 foot (600 x 1200 mm) size independent of ceiling framing.

Provide independent support for all luminaires over 50 lbs.

Locate ceiling luminaires as indicated on reflected ceiling plan.

Install surface mounted luminaires and exit signs plumb and adjust to align with building lines and with each other. Secure to prohibit movement.

The Contractor shall install luminaire supports as required. Luminaire installations with luminaires supported only by insecure boxes will be rejected. It shall be the Contractor's responsibility to support all luminaires adequately, providing extra steel work for the support of luminaires if required. Any components necessary for mounting luminaires shall be provided by the Contractor. No plastic, composition or wood type anchors shall be used.

Install code required hardware to secure recessed grid-supported luminaires in place.

Install accessories furnished with each luminaire.

Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within luminaire.

Bond luminaires and metal accessories to branch circuit equipment grounding conductor.

Install specified lamps in each luminaire and exit sign.

HID High-Bay or Low-Bay Luminaires: Use power hook hangers rated 500 pounds (225 kg) minimum and provide safety chain between ballast and structure. Also provide safety chain between reflector and ballast.

Dimmed luminaire circuits shall have separate neutrals.

Dimmed LED luminaires shall have a positive OFF, which requires turning off the circuit to the luminaire so that the luminaires don't "glow" at the lowest dimmed setting. This shall be accomplished using a switch, relay, or some other means acceptable to City of Hermosa Beach.

All new luminaires shall be operational at the Substantial Completion of the project.

ADJUSTING AND CLEANING

Align luminaires and clean lenses and diffusers at completion of Work. Clean paint splatters, dirt, and debris from installed luminaires.

Aim and adjust luminaires as indicated on Drawings.

Touch up luminaire finish at completion of work.

FIELD QUALITY CONTROL

Operate each luminaire after installation and connection. Inspect for proper connection and operation.

LUMINAIRE CONNECTIONS

METAL-CLAD (MC) CABLE WHIPS

Metal-Clad (MC) type cable that combines power and Class 2 circuits into a single cable may be used for luminaire whips where 0-10V dimming control wiring is required. Whips may not exceed six (6) feet in length. Examples of such products are Encore Wire® MC-LED™ or Southwire® MC-PCS Duo™. Manufacturer's names and catalog numbers are used for quality and performance only. MC Cables manufactured by others shall be equally acceptable provided they meet or exceed in performance and quality as specified.

Surface Mounted (unfinished spaces):

- Provide direct conduit and box connection.

Surface Mounted (finished spaces):

- Provide direct conduit and box connection. Use surface metal raceway where indicated on drawings. Conceal box and conduit where appropriate. Flexible metal conduit shall not be used where the conduit is exposed.

CONSTRUCTION VERIFICATION

Contractor is responsible for utilizing the construction verification checklists supplied under specification Section 26 08 00 in accordance with the procedures defined for construction verification in Section 01 91 01 or 01 91 02.

END OF SECTION

CIP No. 699
PARKING STRUCTURE LOT “C” IMPROVEMENTS
VII. SPECIAL PROVISIONS

The following Special Provisions supplement and amend the 2021 Standard Specifications for Public Works Construction (SSPWC). These Special Provisions have been arranged into a format and sequence that parallels the Standard Specifications for Public Works Construction.

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PART 1 – GENERAL PROVISIONS

PREFACE: STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

The Standard Specifications for Public Works Construction (SSPWC), written and promulgated by the Southern California Chapter of the American Public Works Association and the Southern California Districts of the Associated General Contractors of California, shall be the Standard Specifications of the Owner. All work shall conform to the edition indicated in this document and in the bid proposal documents, including supplements, of the SSPWC, these Special Provisions which supplement or modify the SSPWC, the Standard Plans for Public Works Construction (SPPWC) of the same edition as the SSPWC, and the Standard Drawings as issued by the City available at the time bids are opened unless otherwise specified in the Contract Documents.

The above referenced Standard Specifications, Special Provisions and Standard Drawings are hereby made a part of the Contract Documents.

SECTION 1 – GENERAL

1-2 TERMS AND DEFINITIONS.

Whenever the following terms are used in the SSPWC, they shall be understood to mean and refer to the following:

- a) Board – The City Council of the City of Hermosa Beach
- b) Contract Documents – Documents including but not limited to the proposal forms, Special Provisions, Bonds, Insurance, Contract, and all Addenda setting forth any modifications to the documents.
- c) Engineer – The Director of Public Works/City Engineer or their authorized representative
- d) Bidder – An individual, co-partnership, association, or corporation submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.
- e) Legal Address of Contractor – The address given on the Contractor's bid and is hereby designated as the place to which all notices, letters or other communications to the Contractor shall be mailed or delivered.

SECTION 2 – SCOPE OF THE WORK.

2-2 PERMITS.

Add the following:

Prior to beginning work, the Contractor shall obtain authorization and permits from the City of Hermosa Beach. The Contractor will be responsible to protect and preserve all property and improvements in accordance with the Contract Documents.

The Contractor must have or obtain a valid City of Hermosa Beach Business License in accordance with the provisions of the Hermosa Beach Municipal Code.

Building Permit

A Building Permit is required to work within a building structure and will be issued at no cost to

the Contractor.

Electrical/Plumbing/Mechanical Permits

Electrical/Plumbing/Mechanical Permits are required to work within a building structure and will be issued at no cost to the Contractor.

City Encroachment/Right of Way Permit

A City Encroachment/Right of Way Permit is required to work within public right-of-way and will be issued at no cost to the Contractor.

Other Encroachment/Right of Way Permits

When work occurs in the right-of-way of other entities, the Contractor shall obtain a no fee right of way permit as required for an encroachment from that entity.

2-5 THE CONTRACTOR'S EQUIPMENT AND FACILITIES.

2-5.4 Haul Routes.

Replace the entire subsection with the following:

Haul Routes shall be per the City of Hermosa Beach Truck Routes map.

Add the following subsections:

2-5.5 Contractor's Responsibility for Work.

Until the formal acceptance of the work by the City, the Contractor shall have the charge and care thereof and shall, subject to the insurance protection furnished, bear the risk of accident, loss or damage to any part thereof by action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore and otherwise correct damages to any portion of the work occasioned by any of the above causes before its acceptance.

In case of suspension of work from any cause whatever, the Contractor shall be responsible for all materials and the proper temporary storage thereof.

2-5.6 Notice and Service Thereof.

Any notice required or given by one party to the other under the Contract shall be in writing and shall be dated and signed by the party giving such notice or by a duly authorized representative of such party. Any such notice shall not be effective for any purpose whatever unless served in the following manner:

Notice shall be given to the City by personal delivery thereof to the City's Engineer or by depositing the same in the United States mail enclosed in a sealed envelope, registered and with postage prepaid, addressed to:

Public Works Department
City of Hermosa Beach
1315 Valley Dr.
Hermosa Beach, CA 90254

Notice shall be given to the Contractor by personal delivery thereof to said Contractor or to his authorized representative at the site of the project, or by depositing the same in the United States mail, enclosed in a sealed envelope addressed to said Contractor at the address established for the conduct of the work under this Contract, postage prepaid and registered.

Notice shall be given to the Surety, or any other person, by personal delivery to said Surety or other person, or by depositing the same in the United States Mail, enclosed in a sealed envelope addressed to such Surety or persons at the address of said Surety or persons last communicated to the party giving the notice, postage prepaid and registered.

2-5.7 Warranty of Title.

No materials, supplies, or equipment for the work under this Contract shall be purchased subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest therein or any part thereof is retained by the seller or supplier. The Contractor warrants clear and good title to all materials, supplies, and equipment installed and incorporated in the work, and agrees upon completion of all work to deliver the premises, together with all improvements and appurtenances constructed or placed thereon by them to the City free from any claims, liens, encumbrances, or charges, and further agrees that neither they nor any person, firm, or corporation furnishing any material or labor for work covered by the Contract shall have any right to a lien upon the premises or any improvement or appurtenance thereon; provided, that this shall not preclude the Contractor from installing metering devices or other equipment of utility companies the title of which is commonly retained by the utility company.

Nothing contained in this section, however, shall defeat or impair the right of such persons furnishing materials or labor under any bond given by the Contractor for their protection, or any right under any law permitting such persons to look to funds due the Contractor, which are in the hands of the City.

2.11 RETENTION OF IMPERFECTION WORK.

If any portion of the work done or materials furnished under the contract proves defective or not in accordance with the specifications and contract drawings, and if the imperfection in the same is not of sufficient magnitude or importance to make the work dangerous or undesirable, or if the removal of such work is impracticable or will create conditions which are dangerous or undesirable in the opinion of the Engineer, the Engineer shall have the right and authority to retain the work instead of requiring it to be removed and reconstructed, but he shall make such deductions therefor in the payment due the Contractor as may be just and reasonable.

SECTION 3 – CONTROL OF THE WORK.

3-6 THE CONTRACTOR'S REPRESENTATIVE.

Add the following:

The Contractor shall provide the Engineer with the name, address, and business and home telephone numbers of the person responsible for the maintenance of barricades, traffic control signs, lights and other safety devices.

3-7 CONTRACT DOCUMENT.

3-7.2 Precedence of Contract Documents.

Replace the entire subsection with the following:

If there is a conflict between any of the Contract Documents, the document highest in the order of precedence shall control. The order of precedence, from highest to lowest, shall be as follows:

1. Requirements of law, including the Code and Ordinances of the City of Hermosa Beach.
2. Permits from other agencies as may be required by law.
3. Permits from City of Hermosa Beach Departments as may be required by law or ordinance.
4. The Contract.
5. The Bid Proposal.
6. Addenda.
7. Notice Inviting Bids.
8. Instructions to Bidders.
9. Special and General Provisions.
10. Plans.
11. City of Hermosa Beach Standard Plans.
12. Other Standard Plans.
13. Standard Specifications for Public Works Construction.
14. Reference Specifications.

Change orders, supplemental agreements, and approved revisions to Plans and Specifications will take precedence over documents listed above, except those listed as FIRST, SECOND, and THIRD. Detailed plans shall have precedence over general plans.

3-8 SUBMITTALS.

3-8.1 General.

Add the following:

The Contractor shall submit the following submittals within ten (10) days of notification of the City's intent to award this contract:

- Project Construction Schedule, sequence, and phase sequence plan
- Preconstruction video on USB, 2 copies
- Copy of City Business License (Prime and Subcontractors)
- 24 Hr. Emergency Phone Call List
- Letters identifying site authorized contractor's representative or "Superintendent" and contractor's "Competent Person"
- WPCP / Best Management Practices

- All submittals required as per Technical Specifications section of this document and project plans.
- And others as requested by the Engineer

3-13 COMPLETION, ACCEPTANCE, AND WARRANTY.

Add the following subsection:

3-13.4 Completion and Acceptance.

In addition to the guarantees as required in Section 2-4 of the Standard Specifications, the Faithful Performance Bond shall remain in full force and effect for a period of one year after acceptance of the work by the Owner to insure that defects, which appear within said period, will be repaired, replaced, or corrected by the Contractor, at its own cost and expense, to the satisfaction of the Engineer within thirty (30) days after written notice thereof by the City.

SECTION 5 - LEGAL RELATIONS AND RESPONSIBILITIES.

5-3 LABOR.

Add the following subsection:

5-3.6 Laws.

Each bidder must submit with the Bid Proposal a fully executed Certificate of Non- Discrimination by Contractors. Bids will not be considered unless accompanied by the completed Certificate.

After the opening of bids and the determination of the low bidder, said low bidder shall submit to the Public Works Department, no later than 5:00 P.M. on the third working day following the bid opening, a completed "Fair Employment Practices Contractor Compliance Report".

The Contractor shall comply with all applicable provisions of Sections 1776, 1777.5 and 1777.7 of the California Labor Code. The Contractor shall be responsible for compliance with Section 1776 and shall insert a provision in all subcontracts requiring subcontractors to comply with said section.

The Contractor is prohibited from performing work on this project with a subcontractor who is ineligible to perform work on the project pursuant to Section 1777.1 or 1777.7 of the Labor Code.

5-4 INSURANCE.

Replace the entire subsection with the following:

The Contractor shall, at its expense, maintain in effect all times during the performance of work under the Contract not less than the following coverage and limits of insurance, which shall be maintained with insurers licensed to sell insurance in the State of California and having a "A-" or higher rating in the latest edition of Best's Insurance Guide, and shall be subject to approval by the City's Risk Manager:

Workers' Compensation and Employer's Liability

- Workers' Compensation – coverage as required by law

- Employer's Liability – limits of at least \$1,000,000 per occurrence

Comprehensive General Liability

- Combined Single Limit - \$2,000,000

Automobile Liability

- Combined Single Limit - \$1,000,000

The automobile and general comprehensive liability policies may be combined in a single policy with a combined single limit of \$1,000,000.

All of the Contractor's policies shall contain an endorsement providing written notice shall be given to the City at least 30 calendar days prior to termination, cancellation or reduction of coverage in the policy

The Bodily Injury and Property Damage Liability policies shall contain the following:

1. An endorsement extending coverage to the City as an insured, in the same manner as the named insured as respects liabilities arising out of the performance of any work under the Contract. Such insurance shall be primary insurance as respects the interest of the City, and any other insurance maintained by the City shall be excess and not contributing insurance with the insurance required hereunder.
2. "Severability of Interest" clause.
3. Elimination of any exclusion regarding loss or damage to property caused by explosion or resulting from collapse of buildings or structures or damage to property underground, commonly referred to by insurers as the "XCU" hazards.
4. Provision or endorsement stating that such insurance, subject to all of its other terms and conditions, applies to the liability assumed by the Contractor under the Contract.

Promptly on execution of the Contract, and prior to commencement of any work, the Contractor shall deliver to the City copies of all required policies and endorsements thereto on the forms supplied by the City.

The Contractor shall require and verify similar insurance on the part of its subcontractors.

The foregoing requirements as to the types, limits and City approval of insurance coverage to be maintained by the Contractor are not intended to and shall not in any manner limit or qualify the liabilities and obligation assumed by the Contractor under the Contract.

Any policy or policies of insurance that the Contractor or his Subcontractors elects to carry as insurance against loss or damage to their construction equipment and tools or other personal property used in fulfillment of this contract shall include a provision waiving the insurer's right of subrogation against the City.

The cost of all insurance shall be included in the contractor's bid.

5-7 SAFETY.

Add the following subsection:

5-7.9 Emergency Provisions.

Unusual conditions may arise on the work which will require that immediate and unusual provision be made to protect the public from danger or loss or damage to life and property, due directly or indirectly to the prosecution of the work, and it is part of the service required of the Contractor to make such provisions and to furnish such protection.

Whenever, in the opinion of the City, an emergency exists of which the City is aware and against which the Contractor has not taken sufficient precaution for the safety of the public or the protection of utilities or of adjacent structures or property which may be injured by the progress of construction; and whenever, in the opinion of the City, immediate action shall be considered necessary in order to protect public or private personnel or property interests, or prevent likely loss of human life or damage on account of the operations under the Contract, then in that event the City may provide suitable protection to said interests by causing such work to be done and material to be furnished, as in the opinion of the City may seem reasonable and necessary, all at the expense of the Contractor.

Add the following subsections:

5-8 LAWS TO BE OBSERVED.

5-8.1 Laws and Regulations.

The Contractor shall keep himself fully informed of all Federal and State laws, County and City ordinances and regulations which, in any manner, affect those engaged or employed on the work, the materials used in the work or the conduct of the work. If any discrepancy or inconsistency should be discovered in this contract or in the Plans or Specifications herein referred to, in relation to any such law, ordinance or regulation, the Contractor shall forthwith report the same in writing to the Engineer. The Contractor shall, at all times, observe and comply with and shall cause all his agents and employees to observe and comply with all such applicable laws, ordinances and regulations in effect or which may become effective before completion of this contract. He shall protect and indemnify the City and its officers and agents against any claim or liability arising from or based on the violations of any such laws, ordinances or regulations whether by himself or by his employees or his subcontractors or their employees.

Except as otherwise explicitly provided in these specifications, all permits and licenses necessary to the prosecution of the work shall be secured by the Contractor at his own expense and he shall pay all taxes properly assessed against his equipment or property used or required in connection with the work.

All state laws, all county and city ordinances and regulations now imposed by competent authority and relating to any materials required to be furnished under these specifications and works required to be done hereunder, shall be deemed to be and hereby are made controlling and part of these specifications.

5-8.2 General.

The Contractor shall keep himself fully informed of all existing state and national laws and municipal ordinances and regulations which in any manner affect those engaged or employed in the work, or the materials used in the work or which in any way affect the conduct of the work and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over

the same.

5-8.3 Eight-Hour Law.

Eight (8) hours labor constitutes a legal day's work. The Contractor shall forfeit as a penalty \$25.00 (Twenty-five dollars) for each workman employed in the execution of the contract by the Contractor or any subcontractor under him for each calendar day during which such workman is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of the Labor Code and in particular, Section 1810 to Section 1815 thereof inclusive except that work performed by employees of Contractors in excess of eight (8) hours per day and forty (40) hours during any one week, shall be compensated at not less than one and one-half (1 1/2) times the basic rate of pay as provided in Section 1815.

5-8.4 Prevailing Rate of Per Diem Wages.

Pursuant to the provisions of Section 1773 of the Labor Code, the general prevailing wage rates in the County in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are set forth in the General Prevailing Wage Rates. The Federal Minimum wage rates for this project as predetermined by the United States Secretary of labor are set forth herein by addenda and in copies that may be examined at the offices described above where project plans, special provisions, and proposal forms may be seen. Addenda to modify the federal minimum wage rates, if necessary, will be issued to holders. Future effective general prevailing wage rates which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the general prevailing wage rates.

Attention is directed to the Federal minimum wage rate requirements in these Special Provisions. If there is a difference between the minimum wage rates predetermined by the Secretary of labor and the general prevailing wage rates determined by the Director of the California Department of Industries Relations for similar classifications of labor, the Contractor and subcontractor shall pay not less than the higher wage rate. The City will not accept lower State wage rates not specifically included in the Federal minimum wage determination. This includes "helper" (or other classifications based on hours of experience) or any other classifications not appearing in the Federal wage rate determination. Where Federal wage determinations do not contain the State wage rate determination otherwise available for use by the Contractor and subcontractor, the Contractor and subcontractor shall pay not less than the Federal minimum wage rate which most closely approximates the duties of the employees in question.

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

The Contractor shall comply with Labor Code Section 1775. In accordance with said section,

the Contractor shall forfeit as a penalty to the City \$50.00 (fifty dollars) for each calendar day, or portion thereof, for each workman paid less than the stipulated prevailing rates for such work or craft in which such workman is employed for any work done under the contract by him or by any subcontractor under him in violation of the provisions of the Labor Code and in particular Labor Code Sections 1770 to 1780, inclusive. In addition to said penalty and pursuant to said Section 1775, the difference between such stipulated prevailing wage rates and the amount paid to each workman for each calendar day or portion thereof for which each workman was paid less than the stipulated prevailing wage rate shall be paid to each workman by the Contractor.

5-8.5 Certified Payroll.

Pursuant to Section 1776 of the Labor Code, the Contractor and/or subcontractors shall submit weekly to the City for each week in which any contract work is performed a certified copy of all payroll records. Should the Contractor fail to provide such payroll certificates, the City may withhold \$1,000.00 for each weekly payroll certificate not received from payment due.

5-9 FAIR EMPLOYMENT PRACTICE COMMISSION CERTIFICATION.

The Contractor's attention is directed to the requirements in Section 12990 of the Government Code for nondiscrimination and compliance employment programs.

SECTION 6 – PROSECTION AND PROGRESS OF THE WORK.

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK.

6-1.1 Construction Schedule.

Add the following:

The Contractor's proposed construction schedule shall be submitted to the Engineer within ten (10) working days after the date of the Notice of Contract Approval. The schedule shall be supported by written statements from each supplier of materials or equipment indicating that all orders have been placed and acknowledged, and setting forth the dates that each item will be delivered.

In preparation of the construction schedule, the following items shall be considered:

- The City observes the following holidays, which shall be considered non-working days. If the Contractor elects to work on any of the City holidays the Contractor shall be responsible for paying any associated inspection costs, including overtime and holiday premiums. **Any work not completed and fully open to public traffic shall be maintained in a safe and delineated condition. Traffic control and safety devices shall be maintained at all times.**
 - New Year's Day
 - Martin Luther King Jr.'s Birthday
 - Washington's Birthday
 - Cesar Chavez Day
 - Memorial Day
 - Juneteenth

- Independence Day
- Labor Day
- Veterans Day
- Thanksgiving
- Christmas Day
- The Contractor's working hours shall be limited to the hours between 8:00 A.M. and 5:00 P.M., Monday through Friday. Deviation from normal working hours will not be allowed unless written permission has been duly obtained beforehand from the office of the City Engineer. The Contractor shall provide adequate light for proper prosecution of the work, for the safety of the workmen and the public, and for proper inspection.
- In the event of either a requested or emergency deviation, inspection service fees will be charged against the Contractor. The service fees will be calculated at overtime rates including benefits, overhead and travel time. The service fees will be deducted from any amounts due to the Contractor.

Prior to issuing the Notice to Proceed, the Engineer will schedule a preconstruction meeting with the Contractor to review the proposed construction schedule and delivery dates, arrange utility coordination, discuss construction methods and clarify inspection procedures.

The names, addresses, and telephone numbers of the Contractor and subcontractors, or their representatives, shall be filed with the Public Works Manager and the County Sheriff's Department or the City Police Department prior to beginning work.

The Contractor shall also notify the City of Hermosa Beach and the owners of all utilities and substructures not less than 72 hours prior to starting construction. The following utility companies list of names and telephone numbers is intended for the convenience of the contractor and is not guaranteed to be complete or correct:

Southern California Edison Co.	310/783-9332
The Gas Co.	310/605-7837
Verizon	818/837-0394
Hermosa Beach Police & Fire	310/524-2750
Time Warner (Cable TV)	310/216-4184
West Basin Municipal Water District	310/217-2411
Athens Services	626/934-4696
California Water Service Co.	310/257-1428
Underground Service Alert	800/227-2600
Los Angeles County Flood Maintenance	562/861-0316
Los Angeles County Public Works	626/458-3109

The Contractor shall submit periodic Progress Reports to the Director of Public Works by the tenth day of each month. The report shall include an updated Construction Schedule. Any

deviations from the original schedule shall be explained. Progress payments will be withheld pending receipt of any outstanding reports.

6-4.3 Payment for Delays.

To the furthest extent permitted by law, replace the entire subsection with the following:

In compliance with the provisions of California Public Contract Code § 7102, the Contractor will be compensated for damages incurred due to delays in completing the Work due solely to the fault of the City, where such delay is unreasonable under the circumstances and not contemplated by the parties. The Contractor and City agree that determining actual damages is impracticable and extremely difficult. As such, the Contractor shall be entitled to the appropriate time extension and to payment of liquidated damages in the sum of \$1,200 per Day of delay in excess of the time specified for the Completion of the Work. Such amount shall constitute the only payment allowed and shall necessarily include all overhead (direct or indirect), all profit, all administrative costs, all bond costs, all labor, materials, equipment and rental costs, and any other costs, expenses and fees incurred or sustained as a result of such delay. The Contractor expressly agrees to be limited solely to the liquidated damages for all such delays as defined in this subsection.

6-9 LIQUIDATED DAMAGES.

Add the following:

The amount of liquidated damages is hereby amended to **\$1,200** for each consecutive calendar day.

SECTION 7 – MEASUREMENT AND PAYMENT.

7-3 PAYMENT.

7-3.2 Partial and Final Payment.

Replace the entire subsection with the following:

The closure date for periodic progress payments shall be the twenty-fifth day of each month. Authorization to pay is commonly received on the tenth day of the following month. However, payments will be withheld pending receipt of any outstanding reports required by the Contract Documents.

7-3.4 Mobilization.

Replace the entire subsection with the following:

Mobilization shall include all site visits; preparation of all submittals; BMPs; obtaining all permits, insurance, and bonds; video recording of the site existing conditions; moving onto the site all materials and equipment; set up of any temporary facilities (e.g. sanitary facilities, parking, construction water, equipment and materials staging area, fencing); distribution of all notification materials; removal of same at completion of the work; site cleanup; and other work as required to perform and complete the work.

No material, equipment, or vehicles to be left overnight on sidewalks or streets.

A minimum of one week prior to the start of construction, the Contractor shall video record all

areas where construction is to take place. Such video recordings shall be provided to the Engineer before construction commences. These video recordings shall serve as a record of the existing conditions for disputes arising from restoration and should therefore be taken along the line of construction and site access and staging areas at sufficient detail as necessary to clearly depict details of existing conditions. Video recordings shall document existing sidewalks, and adjacent conditions. The video recordings shall be on two USB copies and given to the Engineer. All video recordings shall be indexed and catalogued in such a manner that each photographed area is readily identifiable and shall also indicate the date and time (hour, minutes, and seconds) on which the recording was made. The Contractor shall also video record any unusual conditions encountered during construction that are not already a matter of photographic record. In any areas where existing conditions cannot be determined by means of video recording, the area shall be restored as approved by the Engineer at Contractor's expense. All video recordings shall become the property of the City.

Mobilization shall consist of preparatory work and operations including, but not limited to, those necessary for the movement of personnel, equipment, materials and incidentals to the project site necessary for work on the project and for all other work and operations which must be performed or costs incurred including bonds, insurance, construction permits and/or permit riders as may be required by law, and financing prior to beginning work on the various contract items on the project site.

Mobilization shall also include the cost, time and labor to move the necessary construction equipment to and from the job site, supervisory time on the job by the Contractor's personnel to keep the construction site in a safe condition and all other related work as required for all non-working days during the course of construction. Contractor is responsible for securing an adequate storage site for equipment and materials.

Mobilization shall include any work shown on the plans, including removal and/or relocation of an item of work shown on construction documents, which has no corresponding bid item for said work. It shall also include removal of vegetation, removal and/or modifications to the existing planters, wall, fences, gates within the project area, on private properties and within the public right of way as shown on the construction documents. Full compensation relating to that work, including the furnishing of labor and materials, and the disposal of materials shall be included herein.

Mobilization shall include furnishing water required for the construction work; installation and removal of necessary temporary construction fence (including screen), protection of utilities, trees, fences, walls, landscaping, and other facilities; and the relocations as shown on the plans. All complaints received by the City associated with the construction alleging damage to private property and vehicles shall be responded to by the Contractor within one working day of notification. Failure to comply with this provision may result in a penalty of one hundred and fifty dollars (\$150.00) per occurrence.

The Contractor shall have on the work site at all times, as its agent, a competent superintendent capable of reading and thoroughly understanding the plans, specifications, other related documents, and directions from the Engineer.

Contractor shall confine his operations and work area within the project area. No encroachment into private property will be permitted without the prior written consent of the property owner.

Obtaining this consent will be the responsibility and the costs of the Contractor. Material shown on the plans or designated in the Special Provisions which is to be used in the reconstructed work and which has been damaged or destroyed as a result of the Contractor's operations shall be repaired or replaced at the option of the Engineer by the Contractor at the Contractor's sole expense.

The Contractor shall provide personnel to keep the construction site in a safe condition at all times, including non-working hours. Mobilization shall include scheduling and phasing of the work per the requirements of the City. The Contractor shall coordinate all construction activities with the City.

Payment for mobilization shall be per the Lump Sum (LS) price bid not exceeding 5% of the total bid amount for the project and shall include obtaining and paying for all bonding, insurance, business licenses and permits, as required for entire project, from the City of Hermosa Beach and all related agencies including but not limited to utility companies and private and public agencies. The City of Hermosa Beach will waive its permit fee.

The Contractor shall comply with the requirements specified by each license or permit. Compensation also includes furnishing a crew to pothole at the discretion of the Engineer. Progress payments for this item shall be paid in accordance with the completion percentage of the project and shall include the costs of such mobilization and administration for the entire contract period.

Add the following subsection:

7-3.9 Work Performed Without Direct Payment.

Tools and materials of any class for which no price is fixed in the Proposal, it shall be understood that such work, equipment, labor, tools and materials shall be provided without extra charge, allowance, or direct payment of any kind. The cost of performing such work or furnishing such equipment, labor, tools, and materials shall be included in the lump sum bid item in the Proposal and no additional compensation will be paid therefor.

7-4.2 Basis for Establishing Costs.

7-4.2.1 Labor.

Replace the entire subsection with the following:

The costs of labor will be the actual cost for wages of workers performing the extra work at the time the extra work is done, plus the employer payments of payroll taxes, health and welfare, pension, vacation, apprenticeship funds, and other direct costs, resulting from Federal, State, or local laws, as well as assessments or benefits required by collective bargaining agreements.

7-4.3 Markup

7-4.3.1 Work by the Contractor.

Replace the entire subsection with the following:

An allowance for overhead and profit shall be added to the Contractor's costs and shall constitute the full and complete markup for all overhead and profit on extra work performed by the Contractor. The Contractor shall also be compensated for the actual increase in the

Contractor's bond premium caused by the extra work. The markup shall be:

- a. Labor – 20%
- b. Materials – 15%
- c. Tool and Equipment Rental – 15%
- d. Other Items – 15%

7-4.3.2 Work by a Subcontractor.

When any of the extra work is performed by a subcontractor, the markup shall be applied to the subcontractor's costs. An allowance for the Contractor's overhead and profit shall be added to the sum of the subcontractor's costs and markup and shall constitute the full and complete markup for all overhead and profit for the Contractor on work by the subcontractor. For Contractor markup of subcontractor's costs, the allowance shall be 10% on the first \$2,000 or portion thereof and 5% on costs in excess of \$2,000.

7-6 PAYMENT FOR PROJECT BID ITEMS.

7-6.1 Traffic Control and Public Safety.

The Contractor shall provide and maintain all construction area traffic controls in accordance with Part 6 of the Standard Specifications for Public Works Construction, the latest version of the California Manual on Uniform Traffic Control Devices (CA MUTCD), and Work Area Traffic Control Handbook (WATCH), and as noted herein. All necessary traffic control devices shall be in place prior to the start of work on a project section.

The Contractor shall so conduct his operations as to offer the least possible obstruction and inconvenience to public traffic. Every effort shall be made to provide a clear and unobstructed view of all traffic control signs, signals, and markers.

The Contractor shall maintain access for emergency vehicles at all times. The Contractor shall maintain a 24-hour emergency service to remove, install, relocate, and maintain warning devices and shall furnish to the Engineer names and telephone numbers of three persons responsible for this emergency service. In the event these persons do not promptly respond when notified, or it becomes necessary to call other forces to accomplish emergency service, the Contractor will be responsible for any cost incurred.

All existing permanent traffic control signs, barricades, and devices shall remain in effective operation unless a substitute operation is arranged for and approved by the Engineer. In the event that a temporary traffic control device or sign conflicts with a permanent one, the Contractor shall cover the permanent device to eliminate the conflict.

Prior to the start of each workday, the Contractor shall perform all necessary work incidental to and commensurate with the proper signing, detouring, barricading, etc., heretofore and hereinafter specified that is required for that particular day's schedule of operations. No construction shall be permitted until such signing and detouring operations have been completed.

The Contractor may post "Temporary No Parking" signs only after notifying and receiving approval from the Engineer. Type of sign, method, and location of such posting shall conform to the California MUTCD sign chart. The Contractor shall be required to provide and maintain all necessary flag persons, barricades, delineators, signs, flashers, and any other safety equipment as

set forth in the latest publication of the California MUTCD, or as required by the Engineer to ensure safe passage of traffic (vehicles, pedestrians, cyclists, etc.).

The Contractor shall submit a traffic control and phasing plan for approval prior to beginning construction. No work shall commence on a phase until the previous phase is completed unless approved by the Engineer. The Contractor shall include these sequences in their work progress schedule to be submitted. The Contractor shall provide written notification to all businesses and residents near the construction one week prior to the work start date. The notice shall be prepared by the Contractor, approved by the City, distributed by the Contractor, and will include a preliminary schedule, name of the job superintendent/foreman and a telephone number where they can be reached 24 hours a day in case of emergency.

The cost for all project noticing will be included in the price of the traffic control. Failure or refusal by the Contractor to comply with the above requirements shall be sufficient cause for the Engineer to order the work done by City forces and for all costs thereof to be borne by the Contractor.

This item shall also include non-skid steel plates and temporary AC including installation and removal; all associated temporary signing and striping; flashing arrow signs; flagging and/or flagger costs; and other items as requested by the Engineer to safely complete the work.

Should the Contractor appear to be negligent in furnishing warning and protective measures as above provided, the Engineer may direct attention to the existence of a hazard, and the necessary warning and protective measures shall be furnished and installed by the Contractor, at their expense. Should the Engineer point out the inadequacy of warning and protective measures, such action on the part of the Engineer shall not relieve the Contractor from responsibility for public safety or abrogate its obligation to furnish and pay for these devices.

The Contractor shall provide access as required to accommodate special circumstance at any residence including access for disabled, impaired, special medical needs, etc.

Payment for Traffic Control and Public Safety shall be made per contract unit price per Lump Sum and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involving placing, removing, storing, maintaining, moving to new locations, replacing and disposing of the components of traffic control system as specified in the SSPWC and these specifications, and as directed by the City.

7-6.3 Temporary Construction Fencing.

It shall be the Contractor's responsibility to secure the entire limit of the work site with temporary construction fencing including installation of windscreen material. The fencing limits and layout are subject to approval by the Engineer. Temporary construction fencing shall be equipped with green privacy screen material.

Payment for Temporary Construction Fencing shall be included in cost of other items of work and no additional compensation will be allowed thereof.

7-6.4 Bid items 1 through 41 per Project's Bid Schedule

The price paid for the work items listed in the Bid Schedule shall include full compensation for furnishing the labor, material, tools and equipment and doing all of the related and incidental work involved to complete the work per the plans, specifications and contract documents. Contractor

will include the cost of work not listed but necessary to complete the project designated in the Contract Documents in the various listed work items on the Bid Form.

The General Provisions and specifications which are not listed in the schedule of work items of the bid form are, in general, applicable to more than one listed work item, and no separate work item is provided thereof. Include the cost of work not listed, but necessary to complete the project designated in the contract documents, in the various listed work items of the bid form. This shall include, but not be limited to, keeping a neat and orderly work site, free of trash, and based on the City's site inspections, the City shall back-charge the Contractor for any remedial trash pickup determined to be required by the City.

The bids for the work are intended to establish a total cost for the work in its entirety. Should the Contractor feel that the cost for the work has not been established by specific items in the bid form, he shall include the cost for that work in some related bid item so that his proposal for the project does reflect his total cost for completing the work in its entirety.

Work for bid schedule items shall be constructed per the plans, specifications and contract documents, complete-in-place.

SECTION 9 – SPECIFIC CONDITIONS.

9-1 Work Area

9-1.1 Work Area Access

The subject work area is located in the heart of Hermosa Beach downtown. The contractor shall make every effort to minimize impact on the adjacent and nearby businesses and pedestrians. Moreover, a portion of the parking structure's lower level is dedicated for use by patrons of the Beach House Hotel. Contractor shall sequence its work in such a manner so to minimize the duration for completing the necessary work in the parking structure's lower level.

9-1.2 Work Area Maintenance

Contractor is only allowed to work between 8 AM and 5 PM - Mondays through Fridays. The City will continue to use the parking structure during restoration. Contractor must phase and arrange work to maintain access at all times to all areas that are not under construction for both vehicles and pedestrians. The contractor is responsible for collection and removal of all construction debris on a daily basis and the site shall be left in a neat and orderly condition, satisfactory to the City. The contractor is responsible for protecting adjacent structures, landscaping, and other surfaces and items which could be affected by the work.

9-1.3 Contractor's Temporary Facilities

Contractor will be allowed to utilize an area approximately 400 square feet in size within the Parking Structure as approved by the Engineer. All materials left in the area overnight is to be fenced off.

9-2 Construction Management Software

9-2.1 Procore Software

The contractor shall use the Procore construction management software (with account for the project made available by the City at no additional cost) for various construction management activities related to the project including but not limited to submission of schedules, project material submittals, and RFIs. Project documents including plans and specifications will also be made available on Procore for the contractor's use for the duration of the project.

EXHIBIT “A” – SCHEDULE OF PERFORMANCE

CITY OF HERMOSA BEACH

CIP No. 699

PARKING STRUCTURE LOT “C” IMPROVEMENTS

SECTION 1. BEGINNING OF WORK, TIME OF COMPLETION

1. Attention is directed to the provisions of Section 6-1 ("Construction Schedule and Commencement of the Work"), Section 6-1.1 ("Construction Schedule"), and Section 6-9 ("Liquidated Damages"), of the State Specifications, and these Provisions.
2. The Contractor shall complete work within **thirty-five (35) working days** after receiving the "Notice to Proceed".
3. The Contractor and its securities will pay the sum of **one thousand two hundred dollars (\$1,200)** as liquidated damages for each working day of delay in the performance of the work in this agreement and as shown on the plans.

EXHIBIT “B” – SOLID WASTE REPORTING

CITY OF HERMOSA BEACH

CIP No. 699

PARKING STRUCTURE LOT “C” IMPROVEMENTS

SOLID WASTE REPORTING

Pursuant to the California Integrated Solid Waste Management Act of 1989, the City is required to report the amount of solid waste generated within the City and the disposal of that waste with the ultimate required goal of being a reduction of at least 50% in the amount of solid waste being disposed in landfills. To permit the City to comply with this State law, the contractor is required to complete the Solid Waste Report form, a copy of which is included in these special provisions. The report includes a summary of the solid waste generated by the project, a summary of solid waste disposed of at class III landfills and a summary of solid waste diverted from disposal through recycling and re-use. The contractor may use a self-generated report format that includes all of the information included on the City form.

The report shall be filed with the City after project completion and prior to final payment. If the project time span includes more than one calendar year, a separate report is required for the solid waste in each calendar year. A report for a calendar year that does not coincide with project completion shall be filed with the City on or before January 31st.

Supporting documents to be submitted with the report shall include legible copies of weigh tickets, receipts, or invoices that specifically identify the job site location that generated the waste materials. If materials are taken to a location where weigh tickets, receipts, or invoices are not available, the contractor shall provide the documentation on its own company letterhead.

The contractor is encouraged to divert solid waste from disposal at landfills through recycling and re-use when possible while maintaining compliance with all other contract specifications and special provisions.

Contractor's Construction and Demolition Waste Diversion Reporting Form								
Job Site Address (where waste was generated):								
City Permit No.:								
Material	Name of Facility/Site Where Taken	Disposal	Aggregate	Recycled or Reused				
				Alternative landfill	Compost	Engineered Fill	Mulch	Other
		Tons	Tons	Tons	Tons	Tons	Tons	Tons
ASPHALT								
CONCRETE								
DIRT								
GREEN WASTE								
METAL								
OTHER SEGREGATED MATERIALS(Describe)								
ROCKS								
WOOD								
MIXED WASTE								
OTHER CONSTRUCTION OR DEMOLITION WASTE								
TOTAL								
COMPANY NAME:					DATE OF REPORT:			

EXHIBIT “C” – CONSTRUCTION NOTICE TEMPLATE

COMPANY LETTERHEAD

NOTICE OF WORK/CONSTRUCTION

Name of Project Date of Notice

Dear Residents and Businesses (if applicable):

Provide a brief description of the work that is to be performed. Four to five sentences should suffice.

Map detailing
what streets will
be closed.

What: Provide a brief description of what is happening. One sentence should suffice.

Start/Duration: When is the project expected to start and how long is it anticipated to take for it to be completed? If there are different phases, indicate the estimated time.

What to Expect: Will there be noise? Will there be flaggers directing traffic? Will residents have access, or will it be a full closure? Will parking be temporarily blocked? Include enough details.

Equipment in Use: What kind of equipment will be seen?

Working Hours: What are the working hours and days?

Contact Information

Always include contact information for residents and business owners in case they have questions or concerns.

We apologize for any inconvenience and thank you for your patience. Sincerely,

Contractor Name

[illegible]