



CITY OF EAST PALO ALTO, CALIFORNIA

**INVITATION FOR BIDS FOR
CITYWIDE LIGHTING IMPROVEMENTS PROJECT
PUBLIC WORKS PROJECT NO. ST-04A/B**

DATE OF AD PUBLICATION

MONDAY, AUGUST 18, 2025

BIDS DUE:

THURSDAY, OCTOBER 2, 2025, at 3:00 PM PST

At the Office of the City Clerk
City of East Palo Alto
2415 University Avenue
East Palo Alto, CA 94303

Contact Person During Bidding Period:
Batool Zaro, Senior Engineer
(650) 853-3166
bzaro@cityofepa.org

TABLE OF CONTENTS

Notice Inviting Bids	4
Instructions to Bidders	6
Bid Proposal.....	12
Bid Schedule	15
Subcontractor List.....	17
Noncollusion Declaration	18
Bid Bond.....	19
Bidder's Questionnaire	21
Contract	24
Payment Bond.....	29
Performance Bond	31
General Conditions	33
Article 1 - Definitions.....	33
Definitions.....	33
Article 2 - Roles and Responsibilities	35
2.1 City	35
2.2 Contractor.....	36
2.3 Subcontractors	39
2.4 Coordination of Work.....	39
2.5 Submittals.....	40
2.6 Shop Drawings	41
Article 3 - Contract Documents.....	41
3.1 Interpretation of Contract Documents	41
3.2 Order of Precedence	42
3.3 Caltrans Standard Specifications	43
3.4 For Reference Only	43
3.5 Current Versions	43
3.6 Conformed Copies	43
Article 4 - Bonds, Indemnity, and Insurance	44
4.1 Payment and Performance Bonds	44
4.2 Indemnity	44
4.3 Insurance.....	44
Article 5 - Contract Time	46
5.1 Time is of the Essence	46
5.2 Schedule Requirements.....	47
5.3 Delay and Extensions of Contract Time.....	49
5.4 Liquidated Damages	52
Article 6 - Contract Modification	52
6.1 Contract Modification.....	52
6.2 Contractor Change Order Requests	54
6.3 Adjustments to Contract Price.....	54
6.4 Unilateral Change Order	55
6.5 Non-Compliance Deemed Waiver.....	55
Article 7 - General Construction Provisions	55
7.1 Permits, Fees, Business License, and Taxes	55
7.2 Temporary Facilities	56
7.3 Noninterference and Site Management	56
7.4 Signs.....	56
7.5 Project Site and Nearby Property Protections.	57
7.6 Materials and Equipment.....	58
7.7 Substitutions	59
7.8 Testing and Inspection	59

7.9	Project Site Conditions and Maintenance	60
7.10	Instructions and Manuals	62
7.11	As-built Drawings	62
7.12	Existing Utilities	62
7.13	Notice of Excavation.....	63
7.14	Trenching and Excavations of Four Feet or More.....	63
7.15	Trenching of Five Feet or More	63
7.16	New Utility Connections	64
7.17	Lines and Grades.	64
7.18	Historic or Archeological Items.....	64
7.19	Environmental Control.....	64
7.20	Noise Control.....	65
7.21	Mined Materials.	65
Article 8	- Payment	65
8.1	Schedule of Values	65
8.2	Progress Payments	65
8.3	Adjustment of Payment Application	66
8.4	Early Occupancy.	66
8.5	Retention	67
8.6	Payment to Subcontractors and Suppliers.....	67
8.7	Final Payment	68
8.8	Release of Claims	68
8.9	Warranty of Title	68
Article 9	- Labor Provisions	68
9.1	Discrimination Prohibited.....	68
9.2	Labor Code Requirements	68
9.3	Prevailing Wages	69
9.4	Payroll Records	69
9.5	Labor Compliance	70
Article 10	- Safety Provisions	70
10.1	Safety Precautions and Programs	70
10.2	Hazardous Materials	70
10.3	Material Safety	70
10.4	Hazardous Condition.....	71
10.5	Emergencies	71
Article 11	- Completion and Warranty Provisions	71
11.1	Final Completion	71
11.2	Warranty	72
11.3	Use Prior to Final Completion	73
11.4	Substantial Completion	73
Article 12	- Dispute Resolution	73
12.1	Claims.....	73
12.2	Claims Submission.....	74
12.3	City's Response	76
12.4	Meet and Confer.....	76
12.5	Mediation and Government Code Claims	76
12.6	Tort Claims	77
12.7	Arbitration	77
12.8	Burden of Proof and Limitations.....	77
12.9	Legal Proceedings.....	77
12.10	Other Disputes	77
Article 13	- Suspension and Termination.....	78
13.1	Suspension for Cause	78
13.2	Suspension for Convenience	78
13.3	Termination for Default.....	78
13.4	Termination for Convenience	80

13.5	Actions Upon Termination for Default or Convenience	80
Article 14 - Miscellaneous Provisions		81
14.1	Assignment of Unfair Business Practice Claims	81
14.2	Provisions Deemed Inserted	81
14.3	Waiver	81
14.4	Titles, Headings, and Groupings	82
14.5	Statutory and Regulatory References	82
14.6	Survival.....	82
Special Conditions		83

Notice Inviting Bids

1. **Bid Submission.** The City of East Palo Alto ("City") will accept sealed bids for its Citywide Lighting Improvements Project ("Project"), by or before October 2, 2025, at 3:00 p.m., at its City Hall office, located at 2415 University Avenue, California, at which time the bids will be publicly opened and read aloud.
2. **Project Information.**
 - 2.1 **Location and Description.** The City of East Palo Alto is soliciting bids from qualified professionals for services associated with streetlights. The scope includes but is not limited to a citywide streetlight assessment, the installation of streetlights on PG&E poles, the installation of new solar streetlights, the installation of new streetlights, the replacement of fixtures, the installation of sports lighting, etc.
 - 2.2 **Time for Final Completion.** The Project performance period is five (5) years.
3. **License and Registration Requirements.**
 - 3.1 **License.** This Project requires a valid California contractor's license for the following classification(s): Class A or Class C10.
 - 3.2 **DIR Registration.** City may not accept a Bid Proposal from or enter into the Contract with a bidder, without proof that the bidder is registered with the California Department of Industrial Relations ("DIR") to perform public work pursuant to Labor Code § 1725.5, subject to limited legal exceptions.
4. **Contract Documents.** The scope of work, specifications, bid forms and contract documents for the Project, and any addenda thereto ("Contract Documents") may be downloaded from City's website located at: [Bids and RFPs | City of East Palo Alto](#).
5. **Bid Security.** The Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier's or certified check made payable to City, or a bid bond executed by a surety licensed to do business in the State of California on the Bid Bond form included with the Contract Documents. The bid security must guarantee that within ten days after City issues the Notice of Potential Award, the successful bidder will execute the Contract and submit the payment and performance bonds, insurance certificates and endorsements, valid Certificates of Reported Compliance as required under the California Air Resources Board's In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.) ("Off-Road Regulation"), if applicable, and any other submittals required by the Contract Documents and as specified in the Notice of Potential Award.
6. **Prevailing Wage Requirements.**
 - 6.1 **General.** Pursuant to California Labor Code § 1720 et seq., this Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes.
 - 6.2 **Rates.** The prevailing rates are on file with the City and are available online at <http://www.dir.ca.gov/DLSR>. Each Contractor and Subcontractor must pay no less than the specified rates to all workers employed to work on the Project. The

schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work must be at least time and one-half.

6.3 Compliance. The Contract will be subject to compliance monitoring and enforcement by the DIR, under Labor Code § 1771.4.

- 7. Performance and Payment Bonds.** The successful bidder will be required to provide performance and payment bonds, each for 100% of the Contract Price, as further specified in the Contract Documents.
- 8. Substitution of Securities.** Substitution of appropriate securities in lieu of retention amounts from progress payments is permitted under Public Contract Code § 22300.
- 9. Subcontractor List.** Each Subcontractor must be registered with the DIR to perform work on public projects. Each bidder must submit a completed Subcontractor List form with its Bid Proposal, including the name, location of the place of business, California contractor license number, DIR registration number, and percentage of the Work to be performed (based on the base bid price) for each Subcontractor that will perform Work or service or fabricate or install Work for the prime contractor in excess of one-half of 1% of the bid price, using the Subcontractor List form included with the Contract Documents.
- 10. Instructions to Bidders.** All bidders should carefully review the Instructions to Bidders for more detailed information before submitting a Bid Proposal. The definitions provided in Article 1 of the General Conditions apply to all of the Contract Documents, as defined therein, including this Notice Inviting Bids.

Publication Date: August 18, 2025

END OF NOTICE INVITING BIDS

Instructions to Bidders

Each Bid Proposal submitted to The City of East Palo Alto ("City") for its Citywide Lighting Improvements Project ("Project") must be submitted in accordance with the following instructions and requirements:

1. Bid Submission.

1.1 General. Each Bid Proposal must be completed, using the form provided in the Contract Documents, signed, and submitted to City in a sealed envelope, with all required forms and attachments, by or before the date and time set forth in Section 1 of the Notice Inviting Bids, or as amended by subsequent addendum. Faxed or emailed Bid Proposals will not be accepted, unless otherwise specified. Late submissions will be returned unopened. City reserves the right to postpone the date or time for receiving or opening bids. Each bidder is solely responsible for all of its costs to prepare and submit its bid and by submitting a bid waives any right to recover those costs from City. The bid price(s) must include all costs to perform the Work as specified, including all labor, material, supplies, and equipment and all other direct or indirect costs such as applicable taxes, insurance and overhead.

1.2 Bid Envelope. The sealed envelope containing the Bid Proposal and all required forms and attachments must be clearly labeled and addressed as follows:

BID PROPOSAL:

Citywide Lighting Improvements Project
CIP No. ST-04A/B

City Clerk
2415 University Avenue
East Palo Alto, CA 94303
Attn: Batool Zaro

The envelope must also be clearly labeled, as follows, with the bidder's name, address, and its registration number with the California Department of Industrial Relations ("DIR") for bidding on public works contracts (Labor Code §§ 1725.5 and 1771.1):

[Contractor company name]
[street address]
[city, state, zip code]
DIR Registration No: _____

1.3 DIR Registration. Subject to limited legal exceptions for joint venture bids and federally-funded projects, City may not accept a Bid Proposal from a bidder without proof that the bidder is registered with the DIR to perform public work under Labor Code § 1725.5. If City is unable to confirm that the bidder is currently registered with the DIR, City may disqualify the bidder and return its bid unopened. (Labor Code §§ 1725.5 and 1771.1(a).)

2. Bid Proposal Form and Enclosures. Each Bid Proposal must be completed in ink using the Bid Proposal form included with the Contract Documents. The Bid Proposal form must be fully completed without interlineations, alterations, or erasures. Any necessary corrections must be clear and legible, and must be initialed by the bidder's authorized representative. A Bid Proposal submitted with exceptions or terms such as "negotiable,"

“will negotiate,” or similar, will be considered nonresponsive. Each Bid Proposal must be accompanied by bid security, as set forth in Section 4 below, and by a completed Subcontractor List and Non-Collusion Declaration using the forms included with the Contract Documents, and any other required enclosures, as applicable.

3. **Authorization and Execution.** Each Bid Proposal must be signed by the bidder’s authorized representative. A Bid Proposal submitted by a partnership must be signed in the partnership name by a general partner with authority to bind the partnership. A Bid Proposal submitted by a corporation must be signed with the legal name of the corporation, followed by the signature and title of two officers of the corporation with full authority to bind the corporation to the terms of the Bid Proposal, under California Corporations Code § 313.
4. **Bid Security.** Each Bid Proposal must be accompanied by bid security of ten percent of the maximum bid amount, in the form of a cashier’s check or certified check, made payable to the City, or bid bond using the form included in the Contract Documents and executed by a surety licensed to do business in the State of California. The bid security must guarantee that, within ten days after issuance of the Notice of Potential Award, the bidder will: execute and submit the enclosed Contract for the bid price; submit payment and performance bonds for 100% of the maximum Contract Price; submit the insurance certificates and endorsements; and submit valid Certificates of Reported Compliance as required by the Off-Road Regulation, if applicable, and any other submittals, if any, required by the Contract Documents or the Notice of Potential Award. A Bid Proposal may not be withdrawn for a period of 60 days after the bid opening without forfeiture of the bid security, except as authorized for material error under Public Contract Code § 5100 et seq.
5. **Requests for Information.** Questions or requests for clarifications regarding the Project, the bid procedures, or any of the Contract Documents must be submitted in writing to Batool Zaro, Senior Engineer, at bzaro@cityofepa.org. Oral responses are not authorized and are not binding on the City. Bidders should submit any such written inquiries at least five Working Days before the scheduled bid opening. Questions received any later might not be addressed before the bid deadline. An interpretation or clarification by City in response to a written inquiry will be issued in an addendum.
6. **Pre-Bid Investigation.**
 - 6.1 **General.** Each bidder is solely responsible at its sole expense for diligent and thorough review of the Contract Documents, examination of the Project site, and reasonable and prudent inquiry concerning known and potential site and area conditions prior to submitting a Bid Proposal. Each bidder is responsible for knowledge of conditions and requirements which reasonable review and investigation would have disclosed. However, except for any areas that are open to the public at large, bidders may not enter property owned or leased by the City or the Project site without prior written authorization from City.
 - 6.2 **Document Review.** Each bidder is responsible for review of the Contract Documents and any informational documents provided “For Reference Only,” e.g., as-builts, technical reports, test data, and the like. A bidder is responsible for notifying City of any errors, omissions, inconsistencies, or conflicts it discovers in the Contract Documents, acting solely in its capacity as a contractor and subject to the limitations of Public Contract Code § 1104. Notification of any such errors, omissions, inconsistencies, or conflicts must be submitted in writing to the City no later than five Working Days before the scheduled bid opening. (See Section 5, above.) City expressly disclaims responsibility for assumptions a bidder might draw from the presence or absence of information provided by City.

- 6.3 Project Site.** Questions regarding the availability of soil test data, water table elevations, and the like should be submitted to the City in writing, as specified in Section 5, above. Any subsurface exploration at the Project site must be done at the bidder's expense, but only with prior written authorization from City. All soil data and analyses available for inspection or provided in the Contract Documents apply only to the test hole locations. Any water table elevation indicated by a soil test report existed on the date the test hole was drilled. The bidder is responsible for determining and allowing for any differing soil or water table conditions during construction. Because groundwater levels may fluctuate, difference(s) in elevation between ground water shown in soil boring logs and ground water actually encountered during construction will not be considered changed Project site conditions. Actual locations and depths must be determined by bidder's field investigation. The bidder may request access to underlying or background information on the Project site in City's possession that is necessary for the bidder to form its own conclusions, including, if available, record drawings or other documents indicating the location of subsurface lines, utilities, or other structures.
- 6.4 Utility Company Standards.** The Project must be completed in a manner that satisfies the standards and requirements of any affected utility companies or agencies (collectively, "utility owners"). The successful bidder may be required by the third party utility owners to provide detailed plans prepared by a California registered civil engineer showing the necessary temporary support of the utilities during coordinated construction work. Bidders are directed to contact the affected third party utility owners about their requirements before submitting a Bid Proposal.
- 7. Bidders Interested in More Than One Bid.** No person, firm, or corporation may submit or be a party to more than one Bid Proposal unless alternate bids are specifically called for. However, a person, firm, or corporation that has submitted a subcontract proposal or quote to a bidder may submit subcontract proposals or quotes to other bidders.
- 8. Addenda.** Subject to the limitations of Public Contract Code § 4104.5, City reserves the right to issue addenda prior to bid time. Any addenda issued prior to the bid opening are part of the Contract Documents. Each bidder is solely responsible for ensuring it has received and reviewed all addenda prior to submitting its bid. Bidders should check City's website periodically for any addenda or updates on the Project at : [Bids and RFPs | City of East Palo Alto](#).
- 9. Brand Designations and "Or Equal" Substitutions.** Any specification designating a material, product, thing, or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate quality and type of item desired, and bidders may request use of any equal material, product, thing, or service. All data substantiating the proposed substitute as an equal item must be submitted with the written request for substitution. A request for substitution must be submitted within 35 days after Notice of Potential Award unless otherwise provided in the Contract Documents. This provision does not apply to materials, products, things, or services that may lawfully be designated by a specific brand or trade name under Public Contract Code § 3400(c).
- 10. Bid Protest.** Any bid protest against another bidder must be submitted in writing and received by City at 2415 University Avenue, East Palo Alto, CA 94303 or sent via email at bzaro@cityofepa.org before 5:00 p.m. no later than two Working Days following bid opening ("Bid Protest Deadline") and must comply with the following requirements:
- 10.1 General.** Only a bidder who has actually submitted a Bid Proposal is eligible to submit a bid protest against another bidder. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another

bidder, but must timely pursue its own protest. For purposes of this Section 10, a “Working Day” means a day that City is open for normal business, and excludes weekends and holidays observed by City. Pursuant to Public Contract Code § 4104, inadvertent omission of a Subcontractor’s DIR registration number on the Subcontractor List form is not grounds for a bid protest, provided it is corrected within 24 hours of the bid opening or as otherwise provided under Labor Code § 1771.1(b).

- 10.2 Protest Contents.** The bid protest must contain a complete statement of the basis for the protest and must include all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the *specific* portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address, email address, and telephone number of the protesting bidder and any person submitting the protest on behalf of or as an authorized representative of the protesting bidder.
- 10.3 Copy to Protested Bidder.** Upon submission of its bid protest to City, the protesting bidder must also concurrently transmit the protest and all supporting documents to the protested bidder, and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest, by email or hand delivery to ensure delivery before the Bid Protest Deadline.
- 10.4 Response to Protest.** The protested bidder may submit a written response to the protest, provided the response is received by City before 5:00 p.m., within two Working Days after the Bid Protest Deadline or after actual receipt of the bid protest, whichever is sooner (the “Response Deadline”). The response must attach all supporting documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address, email address, and telephone number of the person responding on behalf of or representing the protested bidder if different from the protested bidder.
- 10.5 Copy to Protesting Bidder.** Upon submission of its response to the bid protest to the City, the protested bidder must also concurrently transmit by email or hand delivery, by or before the Response Deadline, a copy of its response and all supporting documents to the protesting bidder and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
- 10.6 Exclusive Remedy.** The procedure and time limits set forth in this Section are mandatory and are the bidder’s sole and exclusive remedy in the event of a bid protest. A bidder’s failure to comply with these procedures will constitute a waiver of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings.
- 10.7 Right to Award.** City reserves the right, acting in its sole discretion, to reject any bid protest that it determines lacks merit, to award the Contract to the bidder it has determined to be the responsible bidder submitting the lowest responsive bid, and to issue a Notice to Proceed with the Work notwithstanding any pending or continuing challenge to its determination.
- 11. Reservation of Rights.** City reserves the unfettered right, acting in its sole discretion, to waive or to decline to waive any immaterial bid irregularities; to accept or reject any or all bids; to cancel or reschedule the bid; to postpone or abandon the Project entirely; or to perform all or part of the Work with its own forces. The Contract will be awarded, if at all, within 60 days after opening of bids or as otherwise specified in the Special Conditions, to

the responsible bidder that submitted the lowest responsive bid. Any planned start date for the Project represents the City's expectations at the time the Notice Inviting Bids was first issued. City is not bound to issue a Notice to Proceed by or before such planned start date, and it reserves the right to issue the Notice to Proceed when the City determines, in its sole discretion, the appropriate time for commencing the Work. The City expressly disclaims responsibility for any assumptions a bidder might draw from the presence or absence of information provided by the City in any form. Each bidder is solely responsible for its costs to prepare and submit a bid, including site investigation costs.

12. **Bonds.** Within ten calendar days following City's issuance of the Notice of Potential Award to the successful bidder, the bidder must submit payment and performance bonds to City as specified in the Contract Documents using the bond forms included in the Contract Documents. All required bonds must be calculated on the maximum total Contract Price as awarded, including additive alternates, if applicable.
13. **License(s).** The successful bidder and its Subcontractor(s) must possess the California contractor's license(s) in the classification(s) required by law to perform the Work. The successful bidder must also obtain a City business license within 10 days following City's issuance of the Notice of Potential Award. Subcontractors must also obtain a City business license before performing any Work.
14. **Ineligible Subcontractor.** Any Subcontractor who is ineligible to perform work on a public works project under Labor Code §§ 1777.1 or 1777.7 is prohibited from performing work on the Project.
15. **Safety Orders.** If the Project includes construction of a pipeline, sewer, sewage disposal system, boring and jacking pits, or similar trenches or open excavations, which are five feet or deeper, each bid must include a bid item for adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life or limb, which comply with safety orders as required by Labor Code § 6707.
16. **In-Use Off-Road Diesel-Fueled Fleets.** If the Project involves the use of vehicles subject to the California Air Resources Board's In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.) ("Off-Road Regulation"), then within ten calendar days following City's issuance of the Notice of Potential Award to the successful bidder, the bidder must submit to City valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, if applicable, in accordance with the Off-Road Regulation, unless exempt under the Off-Road Regulation.
17. **Bid Schedule.** Each bidder must complete the Bid Schedule form with unit prices as indicated, and submit the completed Bid Schedule with its Bid Proposal.
 - 17.1 **Incorrect Totals.** In the event a computational error for any bid item (base bid or alternate) results in an incorrect extended total for that item, the submitted base bid or bid alternate total will be adjusted to reflect the corrected amount as the product of the estimated quantity and the unit cost. In the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid, and the amount entered as the base bid on the Bid Proposal form, the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid will be deemed the base bid price. Likewise, in the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for any bid alternate, and the amount entered for the alternate on the Bid Proposal form, the actual total of the itemized prices shown on the Bid Schedule for that

alternate will be deemed the alternate price. Nothing in this provision is intended to prevent a bidder from requesting to withdraw its bid for material error under Public Contract Code § 5100 et seq.

- 17.2 Estimated Quantities.** Unless identified as a “Final Pay Quantity,” the quantities shown on the Bid Schedule are estimated and the actual quantities required to perform the Work may be greater or less than the estimated amount. The Contract Price will be adjusted to reflect the actual quantities required for the Work based on the itemized or unit prices provided in the Bid Schedule, with no allowance for anticipated profit for quantities that are deleted or decreased, and no increase in the unit price, and without regard to the percentage increase or decrease of the estimated quantity and the actual quantity.
- 18. Bidder’s Questionnaire.** A completed, signed Bidder’s Questionnaire using the form provided with the Contract Documents and including all required attachments must be submitted within 48 hours following a request by City. A bid that does not fully comply with this requirement may be rejected as nonresponsive. A bidder who submits a Bidder’s Questionnaire which is subsequently determined to contain false or misleading information, or material omissions, may be disqualified as non-responsible.

END OF INSTRUCTIONS TO BIDDERS

Bid Proposal

Citywide Streetlight Improvements Project

_____ (“Bidder”) hereby submits this Bid Proposal to The City of East Palo Alto (“City”) for the above-referenced project (“Project”) in response to the Notice Inviting Bids and in accordance with the Contract Documents referenced in the Notice.

1. **Base Bid.** Bidder proposes to perform and fully complete the Work for the Project as specified in the Contract Documents, within the time required for full completion of the Work, including all labor, materials, supplies, mobilization, traffic control, and equipment and all other direct or indirect costs including, but not limited to, taxes, insurance and all overhead, for the following price (“Base Bid”):
\$_____.

2. **Bid Alternates.** Bidder submits the following prices for the specified bid alternates:

Alternative Bid A: Labor

Add: \$_____

Alternative Bid C: Sports Lighting at Jack Farrell Park

Add: \$_____

3. **Addenda.** Bidder agrees that it has confirmed receipt of or access to, and reviewed, all addenda issued for this bid. Bidder waives any claims it might have against the City based on its failure to receive, access, or review any addenda for any reason. Bidder specifically acknowledges receipt of the following addenda:

Addendum:	Date Received:	Addendum:	Date Received:
#01	_____	#05	_____
#02	_____	#06	_____
#03	_____	#07	_____
#04	_____	#08	_____

4. **Bidder’s Certifications and Warranties.** By signing and submitting this Bid Proposal, Bidder certifies and warrants the following:

- 4.1 **Examination of Contract Documents.** Bidder has thoroughly examined the Contract Documents and represents that, to the best of Bidder’s knowledge, there are no errors, omissions, or discrepancies in the Contract Documents, subject to the limitations of Public Contract Code § 1104.
- 4.2 **Examination of Worksite.** Bidder has had the opportunity to examine the Worksite and local conditions at the Project location.
- 4.3 **Bidder Responsibility.** Bidder is a responsible bidder, with the necessary ability, capacity, experience, skill, qualifications, workforce, equipment, and resources to perform or cause the Work to be performed in accordance with the Contract Documents and within the Contract Time.
- 4.4 **Responsibility for Bid.** Bidder has carefully reviewed this Bid Proposal and is solely responsible for any errors or omissions contained in its completed bid. All statements and information provided in this Bid Proposal and enclosures are true and correct to the best of Bidder’s knowledge.

- 4.5 Nondiscrimination.** In preparing this bid, the Bidder has not engaged in discrimination against any prospective or present employee or Subcontractor on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status.
- 4.6 Iran Contracting Act.** If the Contract Price exceeds \$1,000,000, Bidder is not identified on a list created under the Iran Contracting Act, Public Contract Code § 2200 et seq. (the "Act"), as a person engaging in investment activities in Iran, as defined in the Act, or is otherwise expressly exempt under the Act.
- 5. Award of Contract.** By signing and submitting this Bid Proposal, Bidder agrees that, if City issues the Notice of Potential Award to Bidder, then within ten days following issuance of the Notice of Potential Award to Bidder, Bidder will do all of the following:
- 5.1 Execute Contract.** Enter into the Contract with City in accordance with the terms of this Bid Proposal, by signing and submitting to City the Contract prepared by City using the form included with the Contract Documents;
- 5.2 Submit Required Bonds.** Submit to City a payment bond and a performance bond, each for 100% of the Contract Price, using the bond forms provided and in accordance with the requirements of the Contract Documents;
- 5.3 Insurance Requirements.** Submit to City the insurance certificate(s) and endorsement(s) as required by the Contract Documents; and
- 5.4 Certificates of Reported Compliance.** Submit to City valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, if applicable, if the Project involves the use of vehicles subject to the Off-Road Regulation. (See Section 16 of the Instructions to Bidders.)
- 6. Bid Security.** As a guarantee that, if awarded the Contract, Bidder will perform its obligations under Section 4 above, Bidder is enclosing bid security in the amount of ten percent of its maximum bid amount in one of the following forms (check one):
- _____ A cashier's check or certified check payable to City and issued by _____ [Bank name] in the amount of \$_____.
- _____ A bid bond, using the Bid Bond form included with the Contract Documents, payable to City and executed by a surety licensed to do business in the State of California.

This Bid Proposal is hereby submitted on _____, 20__.

s/ _____

Name and Title

Company Name

License #, Expiration Date, and Classification

Address

DIR Registration #

City, State, Zip

Phone

Contact Name

Contact Email

END OF BID PROPOSAL

Bid Schedule

This Bid Schedule must be completed in ink and included with the sealed Bid Proposal. Pricing must be provided for each Bid Item as indicated. Items marked "(SW)" are Specialty Work that must be performed by a qualified Subcontractor. The lump sum or unit cost for each item must be inclusive of all costs, whether direct or indirect, including profit and overhead. The sum of all amounts entered in the "Extended Total Amount" column must be identical to the Base Bid price entered in Section 1 of the Bid Proposal form.

AL = Allowance CF = Cubic Feet CY = Cubic Yard EA = Each LB = Pounds
 LF = Linear Foot LS = Lump Sum SF = Square Feet TON = Ton (2000 lbs)

BID ITEM NO.	ITEM DESCRIPTION	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
1	Citywide Lighting Assessment	1	LS	\$	\$
2	Streetlight	50	EA	\$	\$
3	Streetlight Mastarm (8ft)	50	EA	\$	\$
4	Solar Streetlight (30 ft)	30	EA	\$	\$
5	Solar Streetlight (20 ft)	20	EA	\$	\$
6	LED	300	EA	\$	\$
7	Decorative Streetlight ((Holophane MPL3 Roadway Scaled Street Light)	25	EA	\$	\$
8	Decorative Streetlight ((Holophane MPL3) Pedestrian Scaled Street Light)	25	EA	\$	\$
9	Sports Lighting – Martin Luther King Junior Park	1	LS	\$	\$

* Final Pay Quantity

TOTAL BASE BID: Items 1 through 9 inclusive: \$_____

Note: The amount entered as the "Total Base Bid" should be identical to the Base Bid amount entered in Section 1 of the Bid Proposal form.

ALTERNATIVE BID SCHEDULES

ALTERNATIVE SCHEDULE A: LABOR

BID ITEM NO.	ITEM DESCRIPTION	HOURLY STRAIGHT TIME
10	Operations Superintendent	
11	Streetlight Maintenance Worker	

12	Crew Leader	
13	GIS Specialist: GIS Map and Database - Initial Set Up	
14	GIS Specialist: GIS Map and Database - Ongoing Support	
15	Project Management (PG&E Coordination)	

TOTAL ALTERNATIVE BID: A Items 10 through 15 inclusive:
\$ _____

Note: The amount entered as the "Total Base Bid" should be identical to the Base Bid amount entered in Section 1 of the Bid Proposal form.

ALTERNATIVE SCHEDULE B: SERVICES - TIME AND MATERIAL BASIS

BID ITEM NO.	ITEM DESCRIPTION
16	Equipment and Component Repair. Including but not limited to: Lamps, Sockets ,Ballasts ,Starters Photoelectric cells, Fuses , Fuse holders , Conductors , Wiring , All other incidentals.

Time and material rate to be provided as an attachment. Any equipment not listed will be charged per current Caltrans equipment rates. The City will pay a maximum travel time of one hour in each direction.

ALTERNATIVE SCHEDULE C: SPORTS LIGHTING AT JACK FARRELL PARK

BID ITEM NO.	ITEM DESCRIPTION	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
17	Sports Lighting – Jack Farrell Park	1	LS		

TOTAL ALTERNATIVE BID: C Items 17 inclusive: \$ _____

Note: The amount entered as the "Total Base Bid" should be identical to the Base Bid amount entered in Section 1 of the Bid Proposal form.

BIDDER NAME: _____

END OF BID SCHEDULE

Subcontractor List

For each Subcontractor that will perform a portion of the Work in an amount in excess of one-half of 1% of the Bidder's total Base Bid,¹ the bidder must list a description of the Work, the name of the Subcontractor, its California contractor license number, the location of its place of business, its DIR registration number, and the portion of the Work that the Subcontractor is performing based on a percentage of the Base Bid price.

DESCRIPTION OF WORK	SUBCONTRACTOR NAME	CALIFORNIA CONTRACTOR LICENSE NO.	LOCATION OF BUSINESS	DIR REG. NO.	PERCENT OF WORK

END OF SUBCONTRACTOR LIST

¹ For street or highway construction, this requirement applies to any subcontract of \$10,000 or more.

Noncollusion Declaration

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ [title] of _____
[business name], 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.

This declaration is intended to comply with California Public Contract Code § 7106 and Title 23 U.S.C § 112.

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].

s/ _____

Name [print]

END OF NONCOLLUSION DECLARATION

Bid Bond

_____ ("Bidder") has submitted a bid, dated _____, 20____ ("Bid"), to < _____ > ("City") for work on the < _____ > Project ("Project"). Under this duly executed bid bond ("Bid Bond"), Bidder as Principal and _____, its surety ("Surety"), are bound to City as obligee in the penal sum of ten percent of the maximum amount of the Bid (the "Bond Sum"). Bidder and Surety bind themselves and their respective heirs, executors, administrators, successors and assigns, jointly and severally, as follows:

1. **General.** If Bidder is awarded the Contract for the Project, Bidder will enter into the Contract with City in accordance with the terms of the Bid.
2. **Submittals.** Within ten days following issuance of the Notice of Potential Award to Bidder, Bidder must submit to City the following:
 - 2.1 **Contract.** The executed Contract, using the form provided by City in the Project contract documents ("Contract Documents");
 - 2.2 **Payment Bond.** A payment bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Payment Bond form included with the Contract Documents;
 - 2.3 **Performance Bond.** A performance bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Performance Bond form included with the Contract Documents;
 - 2.4 **Insurance.** The insurance certificate(s) and endorsement(s) required by the Contract Documents;
 - 2.5 **Certificates of Reported Compliance.** Valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, if applicable, in accordance with the In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.) ("Off-Road Regulation"), if the Project involves the use of vehicles subject to the Off-Road Regulation; and any other documents required by the Instructions to Bidders or Notice of Potential Award.
3. **Enforcement.** If Bidder fails to execute the Contract or to submit the bonds, insurance certificates, and valid Certificates of Reported Compliance as required by the Contract Documents, Surety guarantees that Bidder forfeits the Bond Sum to City. Any notice to Surety may be given in the manner specified in the Contract and delivered or transmitted to Surety as follows:

Attn: _____
Address: _____
City/State/Zip: _____
Phone: _____
Fax: _____
Email: _____
4. **Duration and Waiver.** If Bidder fulfills its obligations under Section 2, above, then this obligation will be null and void; otherwise, it will remain in full force and effect for 60 days following the bid opening or until this Bid Bond is returned to Bidder, whichever occurs first. Surety waives the provisions of Civil Code §§ 2819 and 2845.

This Bid Bond is entered into and effective on _____, 20____.

SURETY:

Business Name

s/ _____

Date

Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

BIDDER:

Business Name

s/ _____

Date

Name, Title

END OF BID BOND

Bidder's Questionnaire

CITYWIDE LIGHTING IMPROVEMENT PROJECT

Within 48 hours following a request by City, a bidder must submit to City a completed, signed Bidder's Questionnaire using this form and all required attachments, including clearly labeled additional sheets as needed. City may request the Questionnaire from one or more of the apparent low bidders following the bid opening, and may use the completed Questionnaire as part of its investigation to evaluate a bidder's qualifications for this Project. The Questionnaire must be filled out completely, accurately, and legibly. Any errors, omissions, or misrepresentations in completion of the Questionnaire may be grounds for rejection of the bid or termination of a Contract awarded pursuant to the bid.

Part A: General Information

Bidder Business Name: _____ ("Bidder")

Check One: ☐ Corporation (State of incorporation: _____)
 ☐ Partnership
 ☐ Sole Proprietorship
 ☐ Joint Venture of: _____
 ☐ Other: _____

Main Office Address and Phone: _____

Local Office Address and Phone: _____

Website Address: _____

Owner of Business: _____

Contact Name and Title: _____

Contact Phone and Email: _____

Bidder's California Contractor's License Number(s): _____

Bidder's DIR Registration Number: _____

Part B: Bidder Experience

1. How many years has Bidder been in business under its present business name? _____ years
2. Has Bidder completed projects similar in type and size to this Project as a general contractor?
_____ Yes _____ No
3. Has Bidder ever been disqualified from a bid on grounds that it is not responsible, or otherwise disqualified or debarred from bidding under state or federal law?
_____ Yes _____ No

If yes, provide additional information on a separate sheet regarding the disqualification or debarment, including the name and address of the agency or owner of the project, the type and size of the project, the reasons that Bidder was disqualified or debarred, and the month and year in which the disqualification or debarment occurred.

4. Has Bidder ever been terminated for cause, alleged default, or legal violation from a construction project, either as a general contractor or as a subcontractor?

_____ Yes _____ No

If yes, provide additional information on a separate sheet regarding the termination, including the name and address of the agency or owner of the subject project, the type and size of the project, whether Bidder was under contract as a general contractor or a subcontractor, the reasons that Bidder was terminated, and the month and year in which the termination occurred.

5. Provide information about Bidder's past projects performed as general contractor as follows:

- 5.1 Six most recently completed public works projects within the last three years;
- 5.2 Three largest completed projects within the last three years; and
- 5.3 Any project which is similar to this Project including scope and character of the work.

6. Use separate sheets to provide all of the following information for each project identified in response to the above three categories:

- 6.1 Project name, location, and description;
- 6.2 Owner (name, address, email, and phone number);
- 6.3 Prime contractor, if applicable (name, address, email, and phone number);
- 6.4 Architect or engineer (name, email, and phone number);
- 6.5 Project and/or construction manager (name, email, and phone number);
- 6.6 Scope of work performed (as general contractor or as subcontractor);
- 6.7 Initial contract price and final contract price (including change orders);
- 6.8 Original scheduled completion date and actual date of completion;
- 6.9 Time extensions granted (number of days);
- 6.10 Number and amount of stop notices or mechanic's liens filed;
- 6.11 Amount of any liquidated damages assessed against Bidder; and
- 6.12 Nature and resolution of any project-related claim, lawsuit, mediation, or arbitration involving Bidder.

Part C: Safety

1. Provide Bidder's Experience Modification Rate (EMR) for the last three years:

Year	EMR

2. Complete the following, based on information provided in Bidder's CalOSHA Form 300 or Form 300A, Annual Summary of Work-Related Illnesses and Injuries, from the most recent past calendar year:

- 2.1 Number of lost workday cases: _____
- 2.2 Number of medical treatment cases: _____
- 2.3 Number of deaths: _____

3. Has Bidder ever been cited, fined, or prosecuted by any local, state, or federal agency, including OSHA, CalOSHA, or EPA, for violation of any law, regulation, or requirements pertaining to health and safety?

_____ Yes _____ No

If yes, provide additional information on a separate sheet regarding each such citation, fine, or prosecution, including the name and address of the agency or owner of the project, the type and size of the project, the reasons for and nature of the citation, fine, or prosecution, and the month and year in which the incident giving rise to the citation, fine, or prosecution occurred.

4. Name, title, and email for person responsible for Bidder's safety program:

_____	_____	_____
Name	Title	Email

Part D: Verification

In signing this document, I, the undersigned, declare that I am duly authorized to sign and submit this Bidder's Questionnaire on behalf of the named Bidder, and that all responses and information set forth in this Bidder's Questionnaire and accompanying attachments are, to the best of my knowledge, true, accurate and complete as of the date of submission. **I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.**

Signature: _____ Date: _____

By: _____
Name and Title

END OF BIDDER'S QUESTIONNAIRE

Contract

This public works contract ("Contract") is entered into by and between < _____ > ("City") and _____ ("Contractor"), for work on the < _____ > Project ("Project").

The parties agree as follows:

1. **Award of Contract.** In response to the Notice Inviting Bids, Contractor has submitted a Bid Proposal to perform the Work to construct the Project. On _____, 20____, City authorized award of this Contract to Contractor for the amount set forth in Section 4, below. City has elected to include the following Project alternate(s) in the Contract:

_____. <If the bid documents request bid alternates and City elects to include alternates in the Contract, identify the additive or deductive alternates. If the Contract does not include alternates, write "No alternates" in the space above.>

2. **Contract Documents.** The Contract Documents incorporated into this Contract include and are comprised of all of the documents listed below. The definitions provided in Article 1 of the General Conditions apply to all of the Contract Documents, including this Contract.

- 2.1 Notice Inviting Bids;
- 2.2 Instructions to Bidders;
- 2.3 Addenda, if any;
- 2.4 Bid Proposal and attachments thereto;
- 2.5 Contract;
- 2.6 Payment and Performance Bonds;
- 2.7 General Conditions;
- 2.8 Special Conditions;
- 2.9 Project Plans and Specifications;
- 2.10 Change Orders, if any;
- 2.11 Notice of Potential Award;
- 2.12 Notice to Proceed; and
- 2.13 The following:

_____. <List additional documents here, if any, including the formal title and document date. If there are no additional documents, write "No other documents" in the space above.>

3. **Contractor's Obligations.** Contractor will perform all of the Work required for the Project, as specified in the Contract Documents. Contractor must provide, furnish, and supply all things necessary and incidental for the timely performance and completion of the Work, including all necessary labor, materials, supplies, tools, equipment, transportation, onsite facilities, and utilities, unless otherwise specified in the Contract Documents. Contractor must use its best efforts to diligently prosecute and complete the Work in a professional and expeditious manner and to meet or exceed the performance standards required by the Contract Documents.

4. **Payment.** As full and complete compensation for Contractor's timely performance and completion of the Work in strict accordance with the terms and conditions of the Contract Documents, City will pay Contractor \$_____ ("Contract Price") for all of Contractor's direct and indirect costs to perform the Work, including all labor, materials, supplies, equipment, taxes, insurance, bonds and all overhead costs, in accordance with the payment provisions in the General Conditions.

5. **Time for Completion.** Contractor will fully complete the Work for the Project, meeting all requirements for Final Completion, within <_____> calendar days from the start date set forth in the Notice to Proceed ("Contract Time"). By signing below, Contractor expressly waives any claim for delayed early completion.
6. **Liquidated Damages.** As further specified in Section 5.4 of the General Conditions, if Contractor fails to complete the Work within the Contract Time, City will assess liquidated damages in the amount of \$<_____> per day for each day of unexcused delay in achieving Final Completion, and such liquidated damages may be deducted from City's payments due or to become due to Contractor under this Contract.
7. **Labor Code Compliance.**
- 7.1 **General.** This Contract is subject to all applicable requirements of Chapter 1 of Part 7 of Division 2 of the Labor Code, including requirements pertaining to wages, working hours and workers' compensation insurance, as further specified in Article 9 of the General Conditions.
- 7.2 **Prevailing Wages.** This Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes. Copies of these prevailing rates are available online at <http://www.dir.ca.gov/DLSR>.
- 7.3 **DIR Registration.** City may not enter into the Contract with a bidder without proof that the bidder and its Subcontractors are registered with the California Department of Industrial Relations to perform public work pursuant to Labor Code § 1725.5, subject to limited legal exceptions.
8. **Workers' Compensation Certification.** Pursuant to Labor Code § 1861, by signing this Contract, Contractor certifies as follows: "I am aware of the provisions of Labor Code § 3700 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 on this Contract."
9. **Conflicts of Interest.** Contractor, its employees, Subcontractors, and agents may not have, maintain, or acquire a conflict of interest in relation to this Contract in violation of any City ordinance or requirement, or in violation of any California law, including Government Code § 1090 et seq., or the Political Reform Act, as set forth in Government Code § 81000 et seq. and its accompanying regulations. Any violation of this Section constitutes a material breach of the Contract.
10. **Independent Contractor.** Contractor is an independent contractor under this Contract and will have control of the Work and the means and methods by which it is performed. Contractor and its Subcontractors are not employees of City and are not entitled to participate in any health, retirement, or any other employee benefits from City.
11. **Notice.** Any notice, billing, or payment required by or pursuant to the Contract Documents must be made in writing, signed, dated, and sent to the other party by personal delivery, U.S. Mail, a reliable overnight delivery service, or by email as a PDF file. Notice is deemed effective upon delivery, except that service by U.S. Mail is deemed effective on the second working day after deposit for delivery. Notice for each party must be given as follows:

City:

<Department or Title>
<Address>
<City/State/Zip>
<Phone (optional)>
Attn: <Name/Title>
<Email address>

Copy to: <Name/Title>
<Email address>

Contractor:

Name: _____
Address: _____
City/State/Zip: _____
Phone: _____
Attn: _____
Email: _____
Copy to: _____

12. General Provisions.

- 12.1 Assignment and Successors.** Contractor may not assign its rights or obligations under this Contract, in part or in whole, without City's written consent. This Contract is binding on Contractor's and City's lawful heirs, successors and permitted assigns.
- 12.2 Third Party Beneficiaries.** There are no intended third party beneficiaries to this Contract.
- 12.3 Governing Law and Venue.** This Contract will be governed by California law and venue will be in the <_____> County Superior Court, and no other place. Contractor waives any right it may have pursuant to Code of Civil Procedure § 394, to file a motion to transfer any action arising from or relating to this Contract to a venue outside of <_____> County, California.
- 12.4 Amendment.** No amendment or modification of this Contract will be binding unless it is in a writing duly authorized and signed by the parties to this Contract.
- 12.5 Integration.** This Contract and the Contract Documents incorporated herein, including authorized amendments or Change Orders thereto, constitute the final, complete, and exclusive terms of the agreement between City and Contractor.
- 12.6 Severability.** If any provision of the Contract Documents is determined to be illegal, invalid, or unenforceable, in whole or in part, the remaining provisions of the Contract Documents will remain in full force and effect.
- 12.7 Iran Contracting Act.** If the Contract Price exceeds \$1,000,000, Contractor certifies, by signing below, that it is not identified on a list created under the Iran Contracting Act, Public Contract Code § 2200 et seq. (the "Act"), as a person

engaging in investment activities in Iran, as defined in the Act, or is otherwise expressly exempt under the Act.

- 12.8 Authorization.** Each individual signing below warrants that he or she is authorized to do so by the party that he or she represents, and that this Contract is legally binding on that party. If Contractor is a corporation, signatures from two officers of the corporation are required pursuant to California Corporations Code § 313.

[Signatures are on the following page.]

The parties agree to this Contract as witnessed by the signatures below:

CITY:

Approved as to form:

s/ _____

s/ _____

Name, Title

Name, Title

Date: _____

Date: _____

Attest:

s/ _____

Name, Title

Date: _____

CONTRACTOR: _____
Business Name

s/ _____

Seal:

Name, Title

Date: _____

Second Signature (See Section 12.8):

s/ _____

Name, Title

Date: _____

Contractor's California License Number(s) and Expiration Date(s)

END OF CONTRACT

Payment Bond

< _____ > ("City") and _____
("Contractor") have entered into a contract for work on the
< _____ > Project ("Project"). The Contract
is incorporated by reference into this Payment Bond ("Bond").

1. **General.** Under this Bond, Contractor as principal and _____, its surety ("Surety"), are bound to City as obligee in an amount not less than \$ _____, under California Civil Code § 9550 et seq., to ensure payment to authorized claimants. This Bond is binding on the respective successors, assigns, owners, heirs, or executors of Surety and Contractor.
2. **Surety's Obligation.** If Contractor or any of its Subcontractors fails to pay a person authorized in California Civil Code § 9100 to assert a claim against a payment bond, any amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract, or any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of Contractor and its Subcontractors under California Unemployment Insurance Code § 13020 with respect to the work and labor, then Surety will pay the obligation.
3. **Beneficiaries.** This Bond inures to the benefit of any of the persons named in California Civil Code § 9100, so as to give a right of action to those persons or their assigns in any suit brought upon this Bond. Contractor must promptly provide a copy of this Bond upon request by any person with legal rights under this Bond.
4. **Duration.** If Contractor promptly makes payment of all sums for all labor, materials, and equipment furnished for use in the performance of the Work required by the Contract, in conformance with the time requirements set forth in the Contract and as required by California law, Surety's obligations under this Bond will be null and void. Otherwise, Surety's obligations will remain in full force and effect.
5. **Waivers.** Surety waives any requirement to be notified of alterations to the Contract or extensions of time for performance of the Work under the Contract. Surety waives the provisions of Civil Code §§ 2819 and 2845. City waives the requirement of a new bond for any supplemental contract under Civil Code § 9550. Any notice to Surety may be given in the manner specified in the Contract and sent to Surety as follows:

Attn: _____
Address: _____
City/State/Zip: _____
Phone: _____
Email: _____
6. **Law and Venue.** This Bond will be governed by California law, and venue for any dispute pursuant to this Bond will be in the < _____ > County Superior Court, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.

[Signatures are on the following page.]

7. **Effective Date; Execution.** This Bond is entered into and is effective on _____,
20__.

SURETY:

Business Name

s/ _____

Date

Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

Business Name

s/ _____

Date

Name, Title

APPROVED BY CITY:

s/ _____

Date

Name, Title

END OF PAYMENT BOND

Performance Bond

< _____ > ("City") and _____
("Contractor") have entered into a contract for work on the
< _____ > Project ("Project"). The Contract is
incorporated by reference into this Performance Bond ("Bond").

1. **General.** Under this Bond, Contractor as principal and _____, its surety ("Surety"), are bound to City as obligee for an amount not less than \$ _____ to ensure Contractor's faithful performance of its obligations under the Contract. This Bond is binding on the respective successors, assigns, owners, heirs, or executors of Surety and Contractor.
2. **Surety's Obligations.** Surety's obligations are co-extensive with Contractor's obligations under the Contract. If Contractor fully performs its obligations under the Contract, including its warranty obligations under the Contract, Surety's obligations under this Bond will become null and void. Otherwise, Surety's obligations will remain in full force and effect.
3. **Waiver.** Surety waives any requirement to be notified of and further consents to any alterations to the Contract made under the applicable provisions of the Contract Documents, including changes to the scope of Work or extensions of time for performance of Work under the Contract. Surety waives the provisions of Civil Code §§ 2819 and 2845.
4. **Application of Contract Balance.** Upon making a demand on this Bond for completion of the Work prior to acceptance of the Project, City will make the Contract Balance available to Surety for completion of the Work under the Contract. For purposes of this provision, the Contract Balance is defined as the total amount payable by City to Contractor as the Contract Price minus amounts already paid to Contractor, and minus any liquidated damages, credits, or backcharges to which City is entitled under the terms of the Contract.
5. **Contractor Default.** Upon written notification from City of Contractor's termination for default under Article 13 of the Contract General Conditions, time being of the essence, Surety must act within the time specified in Article 13 to remedy the default through one of the following courses of action:
 - 5.1 Arrange for completion of the Work under the Contract by Contractor, with City's consent, but only if Contractor is in default solely due to its financial inability to complete the Work;
 - 5.2 Arrange for completion of the Work under the Contract by a qualified contractor acceptable to City, and secured by performance and payment bonds issued by an admitted surety as required by the Contract Documents, at Surety's expense; or
 - 5.3 Waive its right to complete the Work under the Contract and reimburse City the amount of City's costs to have the remaining Work completed.
6. **Surety Default.** If Surety defaults on its obligations under the Bond, City will be entitled to recover all costs it incurs due to Surety's default, including legal, design professional, or delay costs.
7. **Notice.** Any notice to Surety may be given in the manner specified in the Contract and sent to Surety as follows:

Attn: _____

Address: _____
City/State/Zip: _____
Phone: _____
Fax: _____
Email: _____

8. **Law and Venue.** This Bond will be governed by California law, and venue for any dispute pursuant to this Bond will be in the <_____> County Superior Court, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.
9. **Effective Date; Execution.** This Bond is entered into and effective on _____, 20____.

SURETY:

Business Name

s/ _____

Date

Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

CONTRACTOR:

Business Name

s/ _____

Date

Name, Title

APPROVED BY CITY:

s/ _____

Date

Name, Title

END OF PERFORMANCE BOND

General Conditions

Article 1 - Definitions

Definitions. The following definitions apply to all of the Contract Documents unless otherwise indicated, e.g., additional definitions that apply solely to the Specifications or other technical documents. Defined terms and titles of documents are capitalized in the Contract Documents, with the exception of the following (in any tense or form): “day,” “furnish,” “including,” “install,” “work day,” or “working day.”

Allowance means a specific amount that must be included in the Bid Proposal for a specified purpose.

Article, as used in these General Conditions, means a numbered Article of the General Conditions, unless otherwise indicated by the context.

Change Order means a written document duly approved and executed by City, which changes the scope of Work, the Contract Price, or the Contract Time.

City means the municipality which has entered into the Contract with Contractor for performance of the Work, acting through its City Council, officers, employees, City Engineer, and any other authorized representatives.

City Engineer means the City Engineer for City and his or her authorized delegee(s).

Claim means a separate demand by Contractor for a change in the Contract Time or Contract Price, that has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been rejected by City, in whole or in part; a written demand by Contractor disputing a unilateral Change Order or a portion thereof; or a written demand by Contractor objecting to the amount of Final Payment.

Contract means the signed agreement between City and Contractor for performing the Work required for the Project, and all documents expressly incorporated therein.

Contract Documents means, collectively, all of the documents listed as such in Section 2 of the Contract, including the Notice Inviting Bids; the Instructions to Bidders; addenda, if any; the Bid Proposal and attachments thereto; the Contract; the Notice of Potential Award and Notice to Proceed; the payment and performance bonds; the General Conditions; the Special Conditions; the Project Plans and Specifications; any Change Orders; and any other documents which are clearly and unambiguously made part of the Contract Documents. The Contract Documents do not include documents provided “For Reference Only,” or documents that are intended solely to provide information regarding existing conditions.

Contract Price means the total compensation to be paid to Contractor for performance of the Work, as set forth in the Contract and as may be amended by Change Order or adjusted for an Allowance. The Contract Price is not subject to adjustment due to inflation or due to the increased cost of labor, material, supplies, or equipment following submission of the Bid Proposal.

Contract Time means the time specified for complete performance of the Work, as set forth in the Contract and as may be amended by Change Order.

Contractor means the individual, partnership, corporation, or joint venture that has signed the Contract with City to perform the Work.

Day means a calendar day unless otherwise specified.

Design Professional means the licensed individual(s) or firm(s) retained by City to provide architectural, engineering, or other design professional services for the Project. If no Design Professional has been retained for this Project, any reference to Design Professional is deemed to refer to the Engineer.

DIR means the California Department of Industrial Relations.

Drawings has the same meaning as Plans.

Engineer means the City Engineer for the City of East Palo Alto and his or her authorized delegates.

Excusable Delay is defined in Section 5.3(B), Excusable Delay.

Extra Work means new or unforeseen work added to the Project, as determined by the Engineer in his or her sole discretion, including Work that was not part of or incidental to the scope of the Work when the Contractor's bid was submitted; Work that is substantially different from the Work as described in the Contract Documents at bid time; or Work that results from a substantially differing and unforeseeable condition.

Final Completion means Contractor has fully completed all of the Work required by the Contract Documents to the City's satisfaction, including all punch list items and any required commissioning or training, and has provided the City with all required submittals, including the instructions and manuals, product warranties, and as-built drawings.

Final Payment means payment to Contractor of the unpaid Contract Price, including release of undisputed retention, less amounts withheld or deducted pursuant to the Contract Documents.

Furnish means to purchase and deliver for the Project.

Government Code Claim means a claim submitted pursuant to California Government Code § 900 et seq.

Hazardous Materials means any substance or material identified now or in the future as hazardous under any Laws, or any other substance or material that may be considered hazardous or otherwise subject to Laws governing handling, disposal, or cleanup.

Including, whether or not capitalized, means "including, but not limited to," unless the context clearly requires otherwise.

Inspector means the individual(s) or firm(s) retained or employed by City to inspect the workmanship, materials, and manner of construction of the Project and its components to ensure compliance with the Contract Documents and all Laws.

Install means to fix in place for materials, and to fix in place and connect for equipment.

Laws means all applicable local, state, and federal laws, regulations, rules, codes, ordinances, permits, orders, and the like enacted or imposed by or under the auspices of any governmental entity with jurisdiction over any of the Work or any performance of the Work, including health and safety requirements.

Non-Excusable Delay is defined in Section 5.3(D), Non-Excusable Delay.

Plans means the City-provided plans, drawings, details, or graphical depictions of the Project requirements, but does not include Shop Drawings.

Project means the public works project referenced in the Contract, as modified by any Project alternates elected by City, if any.

Project Manager means the individual designated by City to oversee and manage the Project on City's behalf and may include his or her authorized delegee(s) when the Project Manager is unavailable. If no Project Manager has been designated for this Project, any reference to Project Manager is deemed to refer to the Engineer.

Recoverable Costs is defined in Section 5.3(F), Recoverable Costs.

Request for Information or **RFI** means Contractor's written request for information about the Contract Documents, the Work or the Project, submitted to City in the manner and format specified by City.

Section, when capitalized in these General Conditions, means a numbered section or subsection of the General Conditions, unless the context clearly indicates otherwise.

Shop Drawings means drawings, plan details or other graphical depictions prepared by or on behalf of Contractor, and subject to City acceptance, which are intended to provide details for fabrication, installation, and the like, of items required by or shown in the Plans or Specifications.

Specialty Work means Work that must be performed by a specialized Subcontractor with the specified license or other special certification, and that the Contractor is not qualified to self-perform.

Specifications means the technical, text specifications describing the Project requirements, which are prepared for and incorporated into the Contract by or on behalf of City, and does not include the Contract, General Conditions or Special Conditions.

Subcontractor means an individual, partnership, corporation, or joint venture retained by Contractor directly or indirectly through a subcontract to perform a specific portion of the Work. The term Subcontractor applies to subcontractors of all tiers, unless otherwise indicated by the context. A third party such as a utility performing related work on the Project is not a Subcontractor, even if Contractor must coordinate its Work with the third party.

Technical Specifications has the same meaning as Specifications.

Work means all of the construction and services necessary for or incidental to completing the Project in conformance with the requirements of the Contract Documents.

Work Day or **Working Day**, whether or not capitalized, means a weekday when the City is open for business, and does not include holidays observed by the City.

Worksite means the place or places where the Work is performed, which includes, but may extend beyond the Project site, including separate locations for staging, storage, or fabrication.

Article 2 - Roles and Responsibilities

2.1 City.

(A) **City Council.** The City Council has final authority in all matters affecting the Project, except to the extent it has delegated authority to the Engineer.

(B) **Engineer.** The Engineer, acting within the authority conferred by the City Council, is responsible for administration of the Project on behalf of City, including authority to provide directions to the Design Professional and to Contractor to ensure proper and timely completion of the Project. The Engineer's decisions are final and conclusive within the scope of his or her authority, including interpretation of the Contract Documents.

(C) **Project Manager.** The Project Manager assigned to the Project will be the primary point of contact for the Contractor and will serve as City's representative for daily administration of the Project on behalf of City. Unless otherwise specified, all of Contractor's communications to City (in any form) will go to or through the Project Manager. City reserves the right to reassign the Project Manager role at any time or to delegate duties to additional City representatives, without prior notice to or consent of Contractor.

(D) **Design Professional.** The Design Professional is responsible for the overall design of the Project and, to the extent authorized by City, may act on City's behalf to ensure performance of the Work in compliance with the Plans and Specifications, including any design changes authorized by Change Order. The Design Professional's duties may include review of Contractor's submittals, visits to any Worksite, inspecting the Work, evaluating test and inspection results, and participation in Project-related meetings, including any pre-construction conference, weekly meetings, and coordination meetings. The Design Professional's interpretation of the Plans or Specifications is final and conclusive.

2.2 Contractor.

(A) **General.** Contractor must provide all labor, materials, supplies, equipment, services, and incidentals necessary to perform and timely complete the Work in strict accordance with the Contract Documents, and in an economical and efficient manner in the best interests of City, and with minimal inconvenience to the public.

(B) **Responsibility for the Work and Risk of Loss.** Contractor is responsible for supervising and directing all aspects of the Work to facilitate the efficient and timely completion of the Work. Contractor is solely responsible for and required to exercise full control over the Work, including the construction means, methods, techniques, sequences, procedures, safety precautions and programs, and coordination of all portions of the Work with that of all other contractors and Subcontractors, except to the extent that the Contract Documents provide other specific instructions. Contractor's responsibilities extend to any plan, method or sequence suggested, but not required by City or specified in the Contract Documents. From the date of commencement of the Work until either the date on which City formally accepts the Project or the effective date of termination of the Contract, whichever is later, Contractor bears all risks of injury or damage to the Work and the materials and equipment delivered to any Worksite, by any cause including fire, earthquake, wind, weather, vandalism, or theft, subject to the limitations of Laws, including Public Contract Code § 7105.

(C) **Project Administration.** Contractor must provide sufficient and competent administration, staff, and skilled workforce necessary to perform and timely complete the Work in accordance with the Contract Documents. Before starting the Work, Contractor must designate in writing and provide complete contact information, including telephone numbers and email address, for the officer or employee in Contractor's organization who is to serve as Contractor's primary representative for the Project, and who has authority to act on Contractor's behalf. A Subcontractor may not serve as Contractor's primary representative.

(D) **On-Site Superintendent.** Contractor must, at all times during performance of the Work, provide a qualified and competent full-time superintendent acceptable to City, and assistants as necessary, who must be physically present at the Project site while any aspect of the Work is being performed. The superintendent must have full authority to act and communicate on behalf of Contractor, and Contractor will be bound by the superintendent's communications to City. City's approval of the superintendent is required before the Work commences. If City is not satisfied with the superintendent's performance, City may request a qualified replacement of the superintendent. Failure to comply may result in temporary suspension of the Work, at Contractor's sole expense and with no extension of Contract Time, until an approved superintendent is physically present to supervise the Work. Contractor must provide written notice to City, as soon as practicable, before replacing the superintendent.

(E) **Standards.** Contractor must, at all times, ensure that the Work is performed in an efficient, skillful manner following best practices and in full compliance with the Contract Documents, Laws, and applicable manufacturer's recommendations. Contractor has a material and ongoing obligation to provide true and complete information, to the best of its knowledge, with respect to all records, documents, or communications pertaining to the Project, including oral or written reports, statements, certifications, Change Order requests, or Claims.

(F) **Meetings.** Contractor, its project manager, superintendent and any primary Subcontractors requested by City, must attend a pre-construction conference, if requested by City, as well as weekly Project progress meetings scheduled with City. If applicable, Contractor may also be required to participate in coordination meetings with other parties relating to other work being performed on or near the Project site or in relation to the Project, including work or activities performed by City, other contractors, or other utility owners.

(G) **Construction Records.** Contractor will maintain up-to-date, thorough, legible, and dated daily job reports, which document all significant activity on the Project for each day that Work is performed on the Project. The daily report for each day must include the number of workers at the Project site; primary Work activities; major deliveries; problems encountered, including injuries, if any; weather and site conditions; and delays, if any. Contractor will take date and time-stamped photographs to document general progress of the Project, including site conditions prior to construction activities, before and after photographs at offset trench laterals, existing improvements and utilities, damage and restoration. Contractor will maintain copies of all subcontracts, Project-related correspondence with Subcontractors, and records of meetings with Subcontractors. Upon request by the City, Contractor will permit review of and/or provide copies of any of these construction records.

(H) **Responsible Party.** Contractor is solely responsible to City for the acts or omissions of any Subcontractors, or any other party or parties performing portions of the Work or providing equipment, materials or services for or on behalf of Contractor or the Subcontractors. Upon City's written request, Contractor must promptly and permanently remove from the Project, at no cost to City, any employee or Subcontractor or employee of a Subcontractor who the Engineer has determined to be incompetent, intemperate or disorderly, or who has failed or refused to perform the Work as required under the Contract Documents.

(I) **Correction of Defects.** Contractor must promptly correct, at Contractor's sole expense, any Work that is determined by City to be deficient or defective in any way, including workmanship, materials, parts, or equipment. Workmanship, materials, parts, or equipment that do not conform to the requirements under the Contract Documents, as determined by City, will be considered defective and subject to rejection. Contractor must

also promptly correct, at Contractor's sole expense, any Work performed beyond the lines and grades shown on the Plans or established by City, and any Extra Work performed without City's prior written approval. If Contractor fails to correct or to take reasonable steps toward correcting defective Work within five days following notice from City, or within the time specified in City's notice to correct, City may elect to have the defective Work corrected by its own forces or by a third party, in which case the cost of correction will be deducted from the Contract Price. If City elects to correct defective Work due to Contractor's failure or refusal to do so, City or its agents will have the right to take possession of and use any equipment, supplies, or materials available at the Project site or any Worksite on City property, in order to effectuate the correction, at no extra cost to City. Contractor's warranty obligations under Section 11.2, Warranty, will not be waived nor limited by City's actions to correct defective Work under these circumstances. Alternatively, City may elect to retain defective Work, and deduct the difference in value, as determined by the Engineer, from payments otherwise due to Contractor. This paragraph applies to any defective Work performed by Contractor during the one-year warranty period under Section 11.2.

(J) **Contractor's Records.** Contractor must maintain all of its records relating to the Project in any form, including paper documents, photos, videos, electronic records, approved samples, and the construction records required pursuant to paragraph (G), above. Project records subject to this provision include complete Project cost records and records relating to preparation of Contractor's bid, including estimates, take-offs, and price quotes or bids.

(1) Contractor's cost records must include all supporting documentation, including original receipts, invoices, and payroll records, evidencing its direct costs to perform the Work, including, but not limited to, costs for labor, materials, and equipment. Each cost record should include, at a minimum, a description of the expenditure with references to the applicable requirements of the Contract Documents, the amount actually paid, the date of payment, and whether the expenditure is part of the original Contract Price, related to an executed Change Order, or otherwise categorized by Contractor as Extra Work. Contractor's failure to comply with this provision as to any claimed cost operates as a waiver of any rights to recover the claimed cost.

(2) Contractor must continue to maintain its Project-related records in an organized manner for a period of five years after City's acceptance of the Project or following Contract termination, whichever occurs first. Subject to prior notice to Contractor, City is entitled to inspect or audit any of Contractor's records relating to the Project during Contractor's normal business hours. Contractor's records may also be subject to examination and audit by the California State Auditor, pursuant to Government Code § 8546.7. The record-keeping requirements set forth in this subsection 2.2(J) will survive expiration or termination of the Contract.

(K) **Copies of Project Documents.** Contractor and its Subcontractors must keep copies, at the Project site, of all Work-related documents, including the Contract, permit(s), Plans, Specifications, addenda, Contract amendments, Change Orders, RFIs and RFI responses, Shop Drawings, as-built drawings, schedules, daily records, testing and inspection reports or results, and any related written interpretations. These documents must be available to City for reference at all times during construction of the Project.

2.3 Subcontractors.

(A) **General.** All Work which is not performed by Contractor with its own forces must be performed by Subcontractors. City reserves the right to approve or reject any and all Subcontractors proposed to perform the Work, for reasons including the Subcontractor's poor reputation, lack of relevant experience, financial instability, and lack of technical ability or adequate trained workforce. Each Subcontractor must obtain a City business license before performing any Work.

(B) **Contractual Obligations.** Contractor must require each Subcontractor to comply with the provisions of the Contract Documents as they apply to the Subcontractor's portion(s) of the Work, including the generally applicable terms of the Contract Documents, and to likewise bind their subcontractors. Contractor will provide that the rights that each Subcontractor may have against any manufacturer or supplier for breach of warranty or guarantee relating to items provided by the Subcontractor for the Project, will be assigned to City. Nothing in these Contract Documents creates a contractual relationship between a Subcontractor and City, but City is deemed to be a third-party beneficiary of the contract between Contractor and each Subcontractor.

(C) **Termination.** If the Contract is terminated, each Subcontractor's agreement must be assigned by Contractor to City, subject to the prior rights of any surety, but only if and to the extent that City accepts, in writing, the assignment by written notification, and assumes all rights and obligations of Contractor pursuant to each such subcontract agreement.

(D) **Substitution of Subcontractor.** If Contractor requests substitution of a listed Subcontractor under Public Contract Code § 4107, Contractor is solely responsible for all costs City incurs in responding to the request, including legal fees and costs to conduct a hearing, and any increased subcontract cost to perform the Work that was to be performed by the listed Subcontractor. If City determines that a Subcontractor is unacceptable to City based on the Subcontractor's failure to satisfactorily perform its Work, or for any of the grounds for substitution listed in Public Contract Code § 4107(a), City may request removal of the Subcontractor from the Project. Upon receipt of a written request from City to remove a Subcontractor pursuant to this paragraph, Contractor will immediately remove the Subcontractor from the Project and, at no further cost to City, will either (1) self-perform the remaining Work to the extent that Contractor is duly licensed and qualified to do so, or (2) substitute a Subcontractor that is acceptable to City, in compliance with Public Contract Code § 4107, as applicable.

2.4 Coordination of Work.

(A) **Concurrent Work.** City reserves the right to perform, have performed, or permit performance of other work on or adjacent to the Project site while the Work is being performed for the Project. Contractor is responsible for coordinating its Work with other work being performed on or adjacent to the Project site, including by any utility companies or agencies, and must avoid hindering, delaying, or interfering with the work of other contractors, individuals, or entities, and must ensure safe and reasonable site access and use as required or authorized by City. To the full extent permitted by law, Contractor must hold harmless and indemnify City against any and all claims arising from or related to Contractor's avoidable, negligent, or willful hindrance of, delay to, or interference with the work of any utility company or agency or another contractor or subcontractor.

(B) **Coordination.** If Contractor's Work will connect or interface with work performed by others, Contractor is responsible for independently measuring and visually inspecting such work to ensure a correct connection and interface. Contractor is responsible for any

failure by Contractor or its Subcontractors to confirm measurements before proceeding with connecting Work. Before proceeding with any portion of the Work affected by the construction or operations of others, Contractor must give the Project Manager prompt written notification of any defects Contractor discovers which will prevent the proper execution of the Work. Failure to give notice of any known or reasonably discoverable defects will be deemed acknowledgement by Contractor that the work of others is not defective and will not prevent the proper execution of the Work. Contractor must also promptly notify City if work performed by others, including work or activities performed by City's own forces, is operating to hinder, delay, or interfere with Contractor's timely performance of the Work. City reserves the right to backcharge Contractor for any additional costs incurred due to Contractor's failure to comply with the requirements in this Section 2.4.

2.5 Submittals. Unless otherwise specified, Contractor must submit to the Engineer for review and acceptance, all schedules, Shop Drawings, samples, product data, and similar submittals required by the Contract Documents, or upon request by the Engineer. Unless otherwise specified, all submittals, including Requests for Information, are subject to the general provisions of this Section, as well as specific submittal requirements that may be included elsewhere in the Contract Documents, including the Special Conditions or Specifications. The Engineer may require submission of a submittal schedule at or before a pre-construction conference, as may be specified in the Notice to Proceed.

(A) **General.** Contractor is responsible for ensuring that its submittals are accurate and conform to the Contract Documents.

(B) **Time and Manner of Submission.** Contractor must ensure that its submittals are prepared and delivered in a manner consistent with the current City-accepted schedule for the Work and within the applicable time specified in the Contract Documents, or if no time is specified, in such time and sequence so as not to delay the performance of the Work or completion of the Project.

(C) **Required Contents.** Each submittal must include the Project name and contract number, Contractor's name and address, the name and address of any Subcontractor or supplier involved with the submittal, the date, and references to applicable Specification section(s) and/or drawing and detail number(s).

(D) **Required Corrections.** If corrections are required, Contractor must promptly make and submit any required corrections as specified in full conformance with the requirements of this Section, or other requirements that apply to that submittal.

(E) **Effect of Review and Acceptance.** Review and acceptance of a submittal by City will not relieve Contractor from complying with the requirements of the Contract Documents. Contractor is responsible for any errors in any submittal, and review or acceptance of a submittal by City is not an assumption of risk or liability by City.

(F) **Enforcement.** Any Work performed or any material furnished, installed, fabricated or used without City's prior acceptance of a required submittal is performed or provided at Contractor's risk, and Contractor may be required to bear the costs incident thereto, including the cost of removing and replacing such Work, repairs to other affected portions of the Work or material, and the cost of additional time or services required of City, including costs for the Design Professional, Project Manager, or Inspector.

(G) **Excessive RFIs.** A RFI will be considered excessive or unnecessary if City determines that the explanation or response to the RFI is clearly and unambiguously discernable from the Contract Documents. City's costs to review and respond to

excessive or unnecessary RFIs may be deducted from payments otherwise due to Contractor.

- 2.6 Shop Drawings.** When Shop Drawings are required by the Specifications or requested by the Engineer, they must be prepared according to best practices at Contractor's expense. The Shop Drawings must be of a size and scale to clearly show all necessary details. Unless otherwise specified by City, Shop Drawings must be provided to the Engineer for review and acceptance at least 30 days before the Work will be performed. If City requires changes, the corrected Shop Drawings must be resubmitted to the Engineer for review within the time specified by the Engineer. For all Project components requiring Shop Drawings, Contractor will not furnish materials or perform any Work until the Shop Drawings for those components are accepted by City. Contractor is responsible for any errors or omissions in the Shop Drawings, shop fits and field corrections; any deviations from the Contract Documents; and for the results obtained by the use of Shop Drawings. Acceptance of Shop Drawings by City does not relieve Contractor of Contractor's responsibility.
- 2.7 Access to Work.** Contractor must afford prompt and safe access to any Worksite by City and its employees, agents, or consultants authorized by City; and upon request by City, Contractor must promptly arrange for City representatives to visit or inspect manufacturing sites or fabrication facilities for items to be incorporated into the Work.
- 2.8 Personnel.** Contractor and its Subcontractors must employ only competent and skillful personnel to perform the Work. Contractor and its Subcontractor's supervisors, security or safety personnel, and employees who have unescorted access to the Project site must possess proficiency in English sufficient to read, understand, receive, and implement oral or written communications or instructions relating to their respective job functions, including safety and security requirements. Upon written notification from the Engineer, Contractor and its Subcontractors must immediately discharge any personnel who are incompetent, disorderly, disruptive, threatening, abusive, or profane, or otherwise refuse or fail to comply with the requirements of the Contract Documents or Laws, including Laws pertaining to health and safety. Any such discharged personnel may not be re-employed or permitted on the Project in any capacity without City's prior written consent.

Article 3 - Contract Documents

3.1 Interpretation of Contract Documents.

(A) **Plans and Specifications.** The Plans and Specifications included in the Contract Documents are complementary. If Work is shown on one but not on the other, Contractor must perform the Work as though fully described on both, consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. The Plans and Specifications are deemed to include and require everything necessary and reasonably incidental to completion of the Work, whether or not particularly mentioned or shown. Contractor must perform all Work and services and supply all things reasonably related to and inferable from the Contract Documents. In the event of a conflict between the Plans and Specifications, the Specifications will control, unless the drawing(s) at issue are dated later than the Specification(s) at issue. Detailed drawings take precedence over general drawings, and large-scale drawings take precedence over smaller scale drawings. Any arrangement or division of the Plans and Specifications into sections is for convenience and is not intended to limit the Work required by separate trades. A conclusion presented in the Plans or Specifications is only a recommendation. Actual locations and depths must be determined by Contractor's field investigation. Contractor may request access to underlying or background information in City's possession that is necessary for Contractor to form its own conclusions.

(B) **Duty to Notify and Seek Direction.** If Contractor becomes aware of a changed condition in the Project, or of any ambiguity, conflict, inconsistency, discrepancy, omission, or error in the Contract Documents, including the Plans or Specifications, Contractor must promptly submit a Request for Information to the Engineer and wait for a response from City before proceeding further with the related Work. The RFI must notify City of the issue and request clarification, interpretation or direction. The Engineer's clarification, interpretation or direction will be final and binding on Contractor. If Contractor proceeds with the related Work before obtaining City's response, Contractor will be responsible for any resulting costs, including the cost of correcting any incorrect or defective Work that results. Timely submission of a clear and complete RFI is essential to avoiding delay. Delay resulting from Contractor's failure to submit a timely and complete RFI to the Engineer is Non-Excusable Delay. If Contractor believes that City's response to an RFI justifies a change to the Contract Price or Contract Time, Contractor must perform the Work as directed, but may submit a timely Change Order request in accordance with the Contract Documents. (See Articles 5 and 6.)

(C) **Figures and Dimensions.** Figures control over scaled dimensions.

(D) **Technical or Trade Terms.** Any terms that have well-known technical or trade meanings will be interpreted in accordance with those meanings, unless otherwise specifically defined in the Contract Documents.

(E) **Measurements.** Contractor must verify all relevant measurements in the Contract Documents and at the Project site before ordering any material or performing any Work, and will be responsible for the correctness of those measurements or for costs that could have been avoided by independently verifying measurements.

(F) **Compliance with Laws.** The Contract Documents are intended to comply with Laws and will be interpreted to comply with Laws.

3.2 Order of Precedence. Information included in one Contract Document but not in another will not be considered a conflict or inconsistency. Unless otherwise specified in the Special Conditions, in case of any conflict or inconsistency among the Contract Documents, the following order of precedence will apply, beginning from highest to lowest, with the most recent version taking precedent over an earlier version:

- (A) Change Orders;
- (B) Addenda;
- (C) Contract;
- (D) Notice to Proceed;
- (E) Attachment B – Federal Contract Requirements (only if used);
- (F) Special Conditions;
- (G) General Conditions;
- (H) Payment and Performance Bonds;
- (I) Specifications;
- (J) Plans;
- (K) Notice of Potential Award;
- (L) Notice Inviting Bids;
- (M) Attachment A – Federal Bidding Requirements (only if used);
- (N) Instructions to Bidders;
- (O) Contractor's Bid Proposal and attachments;
- (P) the City's standard specifications, as applicable; and
- (Q) Any generic documents prepared by and on behalf of a third party, that were not prepared specifically for this Project, such as the Caltrans Standard Specifications or Caltrans Special Provisions.

- 3.3 Caltrans Standard Specifications.** Any reference to or incorporation of the Standard Specifications of the State of California, Department of Transportation (“Caltrans”), including “Standard Specifications,” “Caltrans Specifications,” “State Specifications,” or “CSS,” means the most current edition of Caltrans’ Standard Specifications, unless otherwise specified (“Caltrans Standard Specifications”), including the most current amendments as of the date that Contractor’s bid was submitted for this Project. The following provisions apply to use of or reference to the Caltrans Standard Specifications or Special Provisions:
- (A) **Limitations.** The “General Provisions” of the Caltrans Standard Specifications, i.e., sections 1 through 9, do not apply to these Contract Documents with the exception of any specific provisions, if any, which are expressly stated to apply to these Contract Documents.
- (B) **Conflicts or Inconsistencies.** If there is a conflict or inconsistency between any provision in the Caltrans Standard Specifications or Special Provisions and a provision of these Contract Documents, as determined by City, the provision in the Contract Documents will govern.
- (C) **Meanings.** Terms used in the Caltrans Standard Specifications or Special Provisions are to be interpreted as follows:
- (1) Any reference to the “Engineer” is deemed to mean the City Engineer.
 - (2) Any reference to the “Special Provisions” is deemed to mean the Special Conditions, unless the Caltrans Special Provisions are expressly included in the Contract Documents listed in Section 2 of the Contract.
 - (3) Any reference to the “Department” or “State” is deemed to mean City.
- 3.4 For Reference Only.** Contractor is responsible for the careful review of any document, study, or report provided by City or appended to the Contract Documents solely for informational purposes and identified as “For Reference Only.” Nothing in any document, study, or report so appended and identified is intended to supplement, alter, or void any provision of the Contract Documents. Contractor is advised that City or its representatives may be guided by information or recommendations included in such reference documents, particularly when making determinations as to the acceptability of proposed materials, methods, or changes in the Work. Any record drawings or similar final or accepted drawings or maps that are not part of the Contract Documents are deemed to be For Reference Only. The provisions of the Contract Documents are not modified by any perceived or actual conflict with provisions in any document that is provided For Reference Only.
- 3.5 Current Versions.** Unless otherwise specified by City, any reference to standard specifications, technical specifications, or any City or state codes or regulations means the latest specification, code, or regulation in effect on the date that bids were due.
- 3.6 Conformed Copies.** If City prepares a conformed set of the Contract Documents following award of the Contract, it will provide Contractor with two hard copy (paper) sets and one copy of the electronic file in PDF format. It is Contractor’s responsibility to ensure that all Subcontractors, including fabricators, are provided with the conformed set of the Contract Documents at Contractor’s sole expense.
- 3.7 Ownership.** No portion of the Contract Documents may be used for any purpose other than construction of the Project, without prior written consent from City. Contractor is

deemed to have conveyed the copyright in any designs, drawings, specifications, Shop Drawings, or other documents (in paper or electronic form) developed by Contractor for the Project, and City will retain all rights to such works, including the right to possession.

Article 4 - Bonds, Indemnity, and Insurance

- 4.1 Payment and Performance Bonds.** Within ten days following issuance of the Notice of Potential Award, Contractor is required to provide a payment bond and a performance bond, each in the penal sum of not less than 100% of the Contract Price, and each executed by Contractor and its surety using the bond forms included with the Contract Documents.
- (A) **Surety.** Each bond must be issued and executed by a surety admitted in California. If an issuing surety cancels the bond or becomes insolvent, within seven days following written notice from City, Contractor must substitute a surety acceptable to City. If Contractor fails to substitute an acceptable surety within the specified time, City may, at its sole discretion, withhold payment from Contractor until the surety is replaced to City's satisfaction, or terminate the Contract for default.
- (B) **Supplemental Bonds for Increase in Contract Price.** If the Contract Price increases during construction by five percent or more over the original Contract Price, Contractor must provide supplemental or replacement bonds within ten days of written notice from City pursuant to this Section, covering 100% of the increased Contract Price and using the bond forms included with the Contract Documents.
- 4.2 Indemnity.** To the fullest extent permitted by law, Contractor must indemnify, defend, and hold harmless City, its Council, officers, officials, employees, agents, volunteers, and consultants (individually, an "Indemnitee," and collectively the "Indemnitees") from and against any and all liability, loss, damage, claims, causes of action, demands, charges, fines, costs, and expenses (including, without limitation, attorney fees, expert witness fees, paralegal fees, and fees and costs of litigation or arbitration) (collectively, "Liability") of every nature arising out of or in connection with the acts or omissions of Contractor, its employees, Subcontractors, representatives, or agents, in bidding or performing the Work or in failing to comply with any obligation of Contractor under the Contract, except such Liability caused by the active negligence, sole negligence, or willful misconduct of an Indemnitee. This indemnity requirement applies to any Liability arising from alleged defects in the content or manner of submission of Contractor's bid for the Contract. Contractor's failure or refusal to timely accept a tender of defense pursuant to this Contract will be deemed a material breach of the Contract. City will timely notify Contractor upon receipt of any third-party claim relating to the Contract, as required by Public Contract Code § 9201. Contractor waives any right to express or implied indemnity against any Indemnitee. Contractor's indemnity obligations under this Contract will survive the expiration or any early termination of the Contract.
- 4.3 Insurance.** No later than ten days following issuance of the Notice of Potential Award, Contractor must procure and provide proof of the insurance coverage required by this Section in the form of certificates and endorsements acceptable to City. The required insurance must cover the activities of Contractor and its Subcontractors relating to or arising from the performance of the Work, and must remain in full force and effect at all times during the period covered by the Contract, through the date of City's acceptance of the Project. All required insurance must be issued by a company licensed to do business in the State of California, and each such insurer must have an A.M. Best's financial strength rating of "A" or better and a financial size rating of "VIII" or better. If Contractor fails to provide any of the required coverage in full compliance with the requirements of the Contract Documents, City may, at its sole discretion, purchase such coverage at

Contractor's expense and deduct the cost from payments due to Contractor, or terminate the Contract for default. The procurement of the required insurance will not be construed to limit Contractor's liability under this Contract or to fulfill Contractor's indemnification obligations under this Contract.

(A) **Policies and Limits.** The following insurance policies and limits are required for this Contract, unless otherwise specified in the Special Conditions:

(1) *Commercial General Liability ("CGL") Insurance:* The CGL insurance policy must be issued on an occurrence basis, written on a comprehensive general liability form, and must include coverage for liability arising from Contractor's or its Subcontractor's acts or omissions in the performance of the Work, including contractor's protective coverage, contractual liability, products and completed operations, and broad form property damage, with limits of at least \$2,000,000 per occurrence and at least \$4,000,000 general aggregate. The CGL insurance coverage may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by excess or umbrella policies, provided each such policy complies with the requirements set forth in this Section, including required endorsements.

(2) *Automobile Liability Insurance:* The automobile liability insurance policy must provide coverage of at least \$2,000,000 combined single-limit per accident for bodily injury, death, or property damage, including hired and non-owned auto liability.

(3) *Workers' Compensation Insurance and Employer's Liability:* The workers' compensation and employer's liability insurance policy must comply with the requirements of the California Labor Code, providing coverage of at least \$1,000,000 or as otherwise required by the statute. If Contractor is self-insured, Contractor must provide its Certificate of Permission to Self-Insure, duly authorized by the DIR.

(4) *Pollution Liability Insurance:* The pollution liability insurance policy must be issued on an occurrence basis, providing coverage of at least \$2,000,000 for all loss arising out of claims for bodily injury, death, property damage, or environmental damage caused by pollution conditions resulting from the Work.

(5) *Builder's Risk Insurance:* The builder's risk insurance policy must be issued on an occurrence basis, for all-risk or "all perils" coverage on a 100% completed value basis on the insurable portion of the Project for the benefit of City.

(B) **Notice.** Each certificate of insurance must state that the coverage afforded by the policy or policies will not be reduced, cancelled or allowed to expire without at least 30 days advance written notice to City, unless due to non-payment of premiums, in which case ten days advance written notice must be made to City.

(C) **Waiver of Subrogation.** Each required policy must include an endorsement providing that the carrier will waive any right of subrogation it may have against City.

(D) **Required Endorsements.** The CGL policy, automobile liability policy, pollution liability policy, and builder's risk policy must include the following specific endorsements:

(1) The City, including its Council, officials, officers, employees, agents, volunteers and consultants (collectively, "Additional Insured") must be named as an additional insured for all liability arising out of the operations by or on behalf of the named insured, and the policy must protect the Additional Insured against

any and all liability for personal injury, death or property damage or destruction arising directly or indirectly in the performance of the Contract. The additional insured endorsement must be provided using ISO form CG 20 10 11 85 or equivalent form(s) approved by the City.

(2) The inclusion of more than one insured will not operate to impair the rights of one insured against another, and the coverages afforded will apply as though separate policies have been issued to each insured.

(3) The insurance provided by Contractor is primary and no insurance held or owned by any Additional Insured may be called upon to contribute to a loss.

(4) This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.

(E) **Contractor's Responsibilities.** This Section 4.3 establishes the minimum requirements for Contractor's insurance coverage in relation to this Project, but is not intended to limit Contractor's ability to procure additional or greater coverage. Contractor is responsible for its own risk assessment and needs and is encouraged to consult its insurance provider to determine what coverage it may wish to carry beyond the minimum requirements of this Section. Contractor is solely responsible for the cost of its insurance coverage, including premium payments, deductibles, or self-insured retentions, and no Additional Insured will be responsible or liable for any of the cost of Contractor's insurance coverage.

(F) **Deductibles and Self-Insured Retentions.** Any deductibles or self-insured retentions that apply to the required insurance (collectively, "deductibles") in excess of \$100,000 are subject to approval by the City's Risk Manager, acting in his or her sole discretion, and must be declared by Contractor when it submits its certificates of insurance and endorsements pursuant to this Section 4.3. If the City's Risk Manager determines that the deductibles are unacceptably high, at City's option, Contractor must either reduce or eliminate the deductibles as they apply to City and all required Additional Insured; or must provide a financial guarantee, to City's satisfaction, guaranteeing payment of losses and related investigation, claim administration, and legal expenses.

(G) **Subcontractors.** Contractor must ensure that each Subcontractor is required to maintain the same insurance coverage required under this Section 4.3, with respect to its performance of Work on the Project, including those requirements related to the Additional Insureds and waiver of subrogation, but excluding pollution liability or builder's risk insurance unless otherwise specified in the Special Conditions. A Subcontractor may be eligible for reduced insurance coverage or limits, but only to the extent approved in writing in advance by the City's Risk Manager. Contractor must confirm that each Subcontractor has complied with these insurance requirements before the Subcontractor is permitted to begin Work on the Project. Upon request by the City, Contractor must provide certificates and endorsements submitted by each Subcontractor to prove compliance with this requirement. The insurance requirements for Subcontractors do not replace or limit the Contractor's insurance obligations.

Article 5 - Contract Time

5.1 Time is of the Essence. Time is of the essence in Contractor's performance and completion of the Work, and Contractor must diligently prosecute the Work and complete it within the Contract Time.

(A) **General.** Contractor must commence the Work on the date indicated in the Notice to Proceed and must fully complete the Work in strict compliance with all requirements of the Contract Documents and within the Contract Time. Contractor may not begin performing the Work before the date specified in the Notice to Proceed.

(B) **Authorization.** Contractor is not entitled to compensation or credit for any Work performed before the date specified in the Notice to Proceed, with the exception of any schedules, submittals, or other requirements, if any, that must be provided or performed before issuance of the Notice to Proceed.

(C) **Rate of Progress.** Contractor and its Subcontractors must, at all times, provide workers, materials, and equipment sufficient to maintain the rate of progress necessary to ensure full completion of the Work within the Contract Time. If City determines that Contractor is failing to prosecute the Work at a sufficient rate of progress, City may, in its sole discretion, direct Contractor to provide additional workers, materials, or equipment, or to work additional hours or days without additional cost to City, in order to achieve a rate of progress satisfactory to City. If Contractor fails to comply with City's directive in this regard, City may, at Contractor's expense, separately contract for additional workers, materials, or equipment or use City's own forces to achieve the necessary rate of progress. Alternatively, City may terminate the Contract based on Contractor's default.

5.2 Schedule Requirements. Contractor must prepare all schedules using standard, commercial scheduling software acceptable to the Engineer, and must provide the schedules in electronic and paper form as requested by the Engineer. In addition to the general scheduling requirements set forth below, Contractor must also comply with any scheduling requirements included in the Special Conditions or in the Technical Specifications.

(A) **Baseline (As-Planned) Schedule.** Within ten calendar days following City's issuance of the Notice to Proceed (or as otherwise specified in the Notice to Proceed), Contractor must submit to City for review and acceptance a baseline (as-planned) schedule using critical path methodology showing in detail how Contractor plans to perform and fully complete the Work within the Contract Time, including labor, equipment, materials, and fabricated items. The baseline schedule must show the order of the major items of Work and the dates of start and completion of each item, including when the materials and equipment will be procured. The schedule must also include the work of all trades, reflecting anticipated labor or crew hours and equipment loading for the construction activities, and must be sufficiently comprehensive and detailed to enable progress to be monitored on a day-by-day basis. For each activity, the baseline schedule must be dated, provided in the format specified in the Contract Documents or as required by City, and must include, at a minimum, a description of the activity, the start and completion dates of the activity, and the duration of the activity.

(1) **Specialized Materials Ordering.** Within five calendar days following issuance of the Notice to Proceed, Contractor must order any specialized material or equipment for the Work that is not readily available from material suppliers. Contractor must also retain documentation of the purchase order date(s).

(B) **City's Review of Schedules.** City will review and may note exceptions to the baseline schedule, and to the progress schedules submitted as required below, to assure completion of the Work within the Contract Time. Contractor is solely responsible for resolving any exceptions noted in a schedule and, within seven days, must correct the schedule to address the exceptions. City's review or acceptance of Contractor's schedules will not operate to waive or limit Contractor's duty to complete the Project within the Contract Time, nor to waive or limit City's right to assess liquidated damages for Contractor's unexcused failure to do so.

(C) **Progress Schedules.** After City accepts the final baseline schedule with no exceptions, Contractor must submit an updated progress schedule and three-week look-ahead schedule, in the format specified by City, for review and acceptance with each application for a progress payment, or when otherwise specified by City, until completion of the Work. The updated progress schedule must: show how the actual progress of the Work as constructed to date compares to the baseline schedule; reflect any proposed changes in the construction schedule or method of operations, including to achieve Project milestones within the Contract Time; and identify any actual or potential impacts to the critical path. Contractor must also submit periodic reports to City of any changes in the projected material or equipment delivery dates for the Project.

(1) *Float.* The progress schedule must show early and late completion dates for each task. The number of days between those dates will be designated as the "float." Any float belongs to the Project and may be allocated by the Engineer to best serve timely completion of the Project.

(2) *Failure to Submit Schedule.* Reliable, up-to-date schedules are essential to efficient and cost-effective administration of the Project and timely completion. If Contractor fails to submit a schedule within the time periods specified in this Section, or submits a schedule to which City has noted exceptions that are not corrected, City may withhold up to five percent from payment(s) otherwise due to Contractor until the exceptions are resolved, the schedule is corrected and resubmitted, and City has accepted the schedule. In addition, Contractor's failure to comply with the schedule requirements in this Section 5.2 will be deemed a material default and a waiver of any claims for Excusable Delay or loss of productivity arising during any period when Contractor is out of compliance, subject only to the limits of Public Contract Code § 7102.

(D) **Recovery Schedule.** If City determines that the Work is more than one week behind schedule, within seven days following written notice of such determination, Contractor must submit a recovery schedule, showing how Contractor intends to perform and complete the Work within the Contract Time, based on actual progress to date.

(E) **Effect of Acceptance.** Contractor and its Subcontractors must perform the Work in accordance with the most current City-accepted schedule unless otherwise directed by City. City's acceptance of a schedule does not operate to extend the time for completion of the Work or any component of the Work, and will not affect City's right to assess liquidated damages for Contractor's unexcused delay in completing the Work within the Contract Time.

(F) **Posting.** Contractor must at all times prominently post a copy of the most current City-accepted progress or recovery schedule in its on-site office.

(G) **Reservation of Rights.** City reserves the right to direct the sequence in which the Work must be performed or to make changes in the sequence of the Work in order to facilitate the performance of work by City or others, or to facilitate City's use of its property. The Contract Time or Contract Price may be adjusted to the extent such changes in sequence actually increase or decrease Contractor's time or cost to perform the Work.

(H) **Authorized Working Days and Times.** Contractor is limited to working Monday through Friday, excluding holidays, during City's normal business hours, except as provided in the Special Conditions or as authorized in writing by City. City reserves the right to charge Contractor for additional costs incurred by City due to Work performed on days or during hours not expressly authorized in the Contract Documents, including

reimbursement of costs incurred for inspection, testing, and construction management services.

5.3 Delay and Extensions of Contract Time.

(A) **Notice of Delay.** If Contractor becomes aware of any actual or potential delay affecting the critical path, Contractor must promptly notify the Engineer in writing, regardless of the nature or cause of the delay, so that City has a reasonable opportunity to mitigate or avoid the delay.

(B) **Excusable Delay.** The Contract Time may be extended if Contractor encounters "Excusable Delay," which is an unavoidable delay in completing the Work within the Contract Time due to causes completely beyond Contractor's control, and which Contractor could not have avoided or mitigated through reasonable care, planning, foresight, or diligence, provided that Contractor is otherwise fully performing its obligations under the Contract Documents. Grounds for Excusable Delay may include fire, natural disasters including earthquake or unusually severe weather, acts of terror or vandalism, epidemic, unforeseeable adverse government actions, unforeseeable actions of third parties, encountering unforeseeable hazardous materials, unforeseeable site conditions, or suspension for convenience under Article 13. The Contract Time will not be extended based on circumstances which will not unavoidably delay completing the Work within the Contract Time based on critical path analysis.

(C) **Weather Delays.** A "Weather Delay Day" is a Working Day during which Contractor and its forces, including Subcontractors, are unable to perform more than 40% of the critical path Work scheduled for that day due to adverse weather conditions which impair the ability to safely or effectively perform the scheduled critical path Work that day. Adverse weather conditions may include rain, saturated soil, and Project site clean-up required due to adverse weather. Determination of what constitutes critical path Work scheduled for that day will be based on the most current, City-approved schedule. Contractor will be entitled to a non-compensable extension of the Contract Time for each Weather Delay Day in excess of the normal Weather Delay Days within a given month as determined by reliable records, including monthly rainfall averages, for the preceding ten years (or as otherwise specified in the Special Conditions or Specifications).

(1) Contractor must fully comply with the applicable procedures in Articles 5 and 6 of the General Conditions regarding requests to modify the Contract Time.

(2) Contractor will not be entitled to an extension of time for a Weather Delay Day to the extent Contractor is responsible for concurrent delay on that day.

(3) Contractor must take reasonable steps to mitigate the consequences of Weather Delay Days, including prudent workforce management and protecting the Work, Project Site, materials, and equipment.

(D) **Non-Excusable Delay.** Delay which Contractor could have avoided or mitigated through reasonable care, planning, foresight, or diligence is "Non-Excusable Delay." Contractor is not entitled to an extension of Contract Time or any compensation for Non-Excusable Delay, or for Excusable Delay that is concurrent with Non-Excusable Delay. Non-Excusable Delay includes delay caused by:

(1) weather conditions which are normal for the location of the Project, as determined by reliable records, including monthly rainfall averages, for the preceding ten years;

- (2) Contractor's failure to order equipment and materials sufficiently in advance of the time needed for completion of the Work within the Contract Time;
- (3) Contractor's failure to provide adequate notification to utility companies or agencies for connections or services necessary for completion of the Work within the Contract Time;
- (4) foreseeable conditions which Contractor could have ascertained from reasonably diligent inspection of the Project site or review of the Contract Documents or other information provided or available to Contractor;
- (5) Contractor's failure, refusal, or financial inability to perform the Work within the Contract Time, including insufficient funds to pay its Subcontractors or suppliers;
- (6) performance or non-performance by Contractor's Subcontractors or suppliers;
- (7) the time required to respond to excessive RFIs (see Section 2.5(G));
- (8) delayed submission of required submittals, or the time required for correction and resubmission of defective submittals;
- (9) time required for repair of, re-testing, or re-inspection of defective Work;
- (10) enforcement of Laws by City, or outside agencies with jurisdiction over the Work; or
- (11) City's exercise or enforcement of any of its rights or Contractor's duties pursuant to the Contract Documents, including correction of defective Work, extra inspections or testing due to non-compliance with Contract requirements, safety compliance, environmental compliance, or rejection and return of defective or deficient submittals.

(E) **Compensable Delay.** Pursuant to Public Contract Code § 7102, in addition to entitlement to an extension of Contract Time, Contractor is entitled to compensation for costs incurred due to delay caused solely by City, when that delay is unreasonable under the circumstances involved and not within the contemplation of the parties ("Compensable Delay"). Contractor is not entitled to an extension of Contract Time or recovery of costs for Compensable Delay that is concurrent with Non-Excusable Delay. Delay due to Weather Delay Days in excess of normal for a given month, as set forth in Section 5.3(C), is not Compensable Delay, and will only entitle Contractor to an extension of time commensurate with the time lost due to such delay.

(F) **Recoverable Costs.** Contractor is not entitled to compensation for Excusable Delay unless it is Compensable Delay, as defined above. Contractor is entitled to recover only the actual, direct, reasonable, and substantiated costs ("Recoverable Costs") for each working day that the Compensable Delay prevents Contractor from proceeding with more than 50% of the critical path Work scheduled for that day, based on the most recent progress schedule accepted by City. Recoverable Costs will not include home office overhead or lost profit.

(G) **Request for Extension of Contract Time or Recoverable Costs.** A request for an extension of Contract Time or any associated Recoverable Costs must be submitted in writing to City within 14 calendar days of the date the delay is first encountered, even if the duration of the delay is not yet known at that time, or any entitlement to the Contract

Time extension or to the Recoverable Costs will be deemed waived. In addition to complying with the requirements of this Article 5, the request must be submitted in compliance with the Change Order request procedures in Article 6 below. Strict compliance with these requirements is necessary to ensure that any delay or consequences of delay may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project and timely performance of the Work. Any request for an extension of Contract Time or Recoverable Costs that does not strictly comply with all of the requirements of Article 5 and Article 6 will be deemed waived.

(1) *Required Contents.* The request must include a detailed description of the cause(s) of the delay and must also describe the measures that Contractor has taken to mitigate the delay and/or its effects, including efforts to mitigate the cost impact of the delay, such as by workforce management or by a change in sequencing. If the delay is still ongoing at the time the request is submitted, the request should also include Contractor's plan for continued mitigation of the delay or its effects.

(2) *Delay Days and Costs.* The request must specify the number of days of Excusable Delay claimed or provide a realistic estimate if the duration of the delay is not yet known. If Contractor believes it is entitled to Recoverable Costs for Compensable Delay, the request must specify the amount and basis for the Recoverable Costs that are claimed or provide a realistic estimate if the amount is not yet known. Any estimate of delay duration or cost must be updated in writing and submitted with all required supporting documentation as soon as the actual time and cost is known. The maximum extension of Contract Time will be the number of days, if any, by which an Excusable Delay or a Compensable Delay exceeds any concurrent Non-Excusable Delay. Contractor is entitled to an extension of Contract Time, or compensation for Recoverable Costs, only if, and only to the extent that, such delay will unavoidably delay Final Completion.

(3) *Supporting Documentation.* The request must also include any and all supporting documentation necessary to evidence the delay and its actual impacts, including scheduling and cost impacts with a time impact analysis using critical path methodology and demonstrating the unavoidable delay to Final Completion. The time impact analysis must be submitted in a form or format acceptable to City.

(4) *Burden of Proof.* Contractor has the burden of proving that: the delay was an Excusable Delay or Compensable Delay, as defined above; Contractor has fully complied with its scheduling obligations in Section 5.2, Schedule Requirements; Contractor has made reasonable efforts to mitigate the delay and its schedule and cost impacts; the delay will unavoidably result in delaying Final Completion; and any Recoverable Costs claimed by Contractor were actually incurred and were reasonable under the circumstances.

(5) *Legal Compliance.* Nothing in this Section 5.3 is intended to require the waiver, alteration, or limitation of the applicability of Public Contract Code § 7102.

(6) *No Waiver.* Any grant of an extension of Contract Time, or compensation for Recoverable Costs due to Compensable Delay, will not operate as a waiver of City's right to assess liquidated damages for Non-Excusable Delay.

(7) *Dispute Resolution.* In the event of a dispute over entitlement to an extension of Contract Time or compensation for Recoverable Costs, Contractor may not stop Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely

completion of the Work. Contractor's sole recourse for an unresolved dispute based on City's rejection of a Change Order request for an extension of Contract Time or compensation for Recoverable Costs is to comply with the dispute resolution provisions set forth in Article 12 below.

5.4 Liquidated Damages. It is expressly understood that if Final Completion is not achieved within the Contract Time, City will suffer damages from the delay that are difficult to determine and accurately specify. Pursuant to Public Contract Code § 7203, if Contractor fails to achieve Final Completion within the Contract Time due to Contractor's Non-Excusable Delay, City will charge Contractor in the amount specified in the Contract for each calendar day that Final Completion is delayed beyond the Contract Time, as liquidated damages and not as a penalty. Any waiver of accrued liquidated damages, in whole or in part, is subject to approval of the City Council or its authorized delegate.

(A) **Liquidated Damages.** Liquidated damages will not be assessed for any Excusable Delay or Compensable Delay, as set forth above.

(B) **Milestones.** Liquidated damages may also be separately assessed for failure to meet milestones specified elsewhere in the Contract Documents.

(C) **Setoff.** City is entitled to deduct the amount of liquidated damages assessed against any payments otherwise due to Contractor, including progress payments, Final Payment, or unreleased retention. If there are insufficient Contract funds remaining to cover the full amount of liquidated damages assessed, City is entitled to recover the balance from Contractor or its performance bond surety.

(D) **Occupancy or Use.** Occupancy or use of the Project in whole or in part prior to Final Completion does not constitute City's acceptance of the Project and will not operate as a waiver of City's right to assess liquidated damages for Contractor's Non-Excusable Delay in achieving Final Completion.

(E) **Other Remedies.** City's right to liquidated damages under this Section applies only to damages arising from Contractor's Non-Excusable Delay or failure to complete the Work within the Contract Time. City retains its right to pursue all other remedies under the Contract for other types of damage, including damage to property or persons, costs or diminution in value from defective materials or workmanship, costs to repair or complete the Work, or other liability caused by Contractor.

Article 6 - Contract Modification

6.1 Contract Modification. Subject to the limited exception set forth in subsection (D) below, any change in the Work or the Contract Documents, including the Contract Price or Contract Time, will not be a valid and binding change to the Contract unless it is formalized in a Change Order, including a "no-cost" Change Order or a unilateral Change Order. Changes in the Work pursuant to this Article 6 will not operate to release, limit, or abridge Contractor's warranty obligations pursuant to Article 11 or any obligations of Contractor's bond sureties.

(A) **City-Directed Changes.** City may direct changes in the scope or sequence of Work or the requirements of the Contract Documents, without invalidating the Contract. Such changes may include Extra Work as set forth in subsection (C) below, or deletion or modification of portions of the Work. Contractor must promptly comply with City-directed changes in the Work in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement as to adjustments to the Contract Price or Contract Time for the change in the Work or for the Extra Work. Contractor is not

entitled to extra compensation for cost savings resulting from “value engineering” pursuant to Public Contract Code § 7101, except to the extent authorized in advance by City in writing, and subject to any applicable procedural requirements for submitting a proposal for value engineering cost savings.

(B) **Disputes.** In the event of a dispute over entitlement to or the amount of a change in Contract Time or a change in Contract Price related to a City-directed change in the Work, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute. Likewise, in the event that City and Contractor dispute whether a portion or portions of the Work are already required by the Contract Documents or constitute Extra Work, or otherwise dispute the interpretation of any portion(s) of the Contract Documents, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute, as directed by City. If Contractor refuses to perform the Work in dispute, City may, acting in its sole discretion, elect to delete the Work from the Contract and reduce the Contract Price accordingly, and self-perform the Work or direct that the Work be performed by others. Alternatively, City may elect to terminate the Contract for convenience or for cause. Contractor’s sole recourse for an unresolved dispute related to changes in the Work or performance of any Extra Work is to comply with the dispute resolution provisions set forth in Article 12, below.

(C) **Extra Work.** City may direct Contractor to perform Extra Work related to the Project. Contractor must promptly perform any Extra Work as directed or authorized by City in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement on adjustments to the Contract Price or Contract Time for such Extra Work. If Contractor believes it is necessary to perform Extra Work due to changed conditions, Contractor must promptly notify the Engineer in writing, specifically identifying the Extra Work and the reason(s) the Contractor believes it is Extra Work. This notification requirement does not constitute a Change Order request pursuant to Section 6.2, below. Contractor must maintain detailed daily records that itemize the cost of each element of Extra Work, and sufficiently distinguish the direct cost of the Extra Work from the cost of other Work performed. For each day that Contractor performs Extra Work, or Work that Contractor contends is Extra Work, Contractor must submit no later than the following Working Day, a daily report of the Extra Work performed that day and the related costs, together with copies of certified payroll, invoices, and other documentation substantiating the costs (“Extra Work Report”). The Engineer will make any adjustments to Contractor’s Extra Work Report(s) based on the Engineer’s records of the Work. When an Extra Work Report(s) is agreed on and signed by both City and Contractor, the Extra Work Report(s) will become the basis for payment under a duly authorized and signed Change Order. Failure to submit the required documentation by close of business on the next Working Day is deemed a full and complete waiver for any change in the Contract Price or Contract Time for any Extra Work performed that day.

(D) **Minor Changes and RFIs.** Minor field changes, including RFI replies from City, that do not affect the Contract Price or Contract Time and that are approved by the Engineer acting within his or her scope of authority, do not require a Change Order. By executing an RFI reply from City, Contractor agrees that it will perform the Work as clarified therein, with no change to the Contract Price or Contract Time.

(E) **Remedy for Non-Compliance.** Contractor’s failure to promptly comply with a City-directed change is deemed a material breach of the Contract, and in addition to all other remedies available to it, City may, at its sole discretion, hire another contractor or

use its own forces to complete the disputed Work at Contractor's sole expense, and may deduct the cost from the Contract Price.

6.2 Contractor Change Order Requests. Contractor must submit a request or proposal for a change in the Work, compensation for Extra Work, or a change in the Contract Price or Contract Time as a written Change Order request or proposal.

(A) **Time for Submission.** Any request for a change in the Contract Price or the Contract Time must be submitted in writing to the Engineer within 14 calendar days of the date that Contractor first encounters the circumstances, information or conditions giving rise to the Change Order request, even if the total amount of the requested change in the Contract Price or impact on the Contract Time is not yet known at that time. If City requests that Contractor propose the terms of a Change Order, unless otherwise specified in City's request, Contractor must provide the Engineer with a written proposal for the change in the Contract Price or Contract Time within five working days of receiving City's request, in a form satisfactory to the Engineer.

(B) **Required Contents.** Any Change Order request or proposal submitted by Contractor must include a complete breakdown of actual or estimated costs and credits, and must itemize labor, materials, equipment, taxes, insurance, subcontract amounts, and, if applicable, Extra Work Reports. Any estimated cost must be updated in writing as soon as the actual amount is known.

(C) **Required Documentation.** All claimed costs must be fully documented, and any related request for an extension of time or delay-related costs must be included at that time and in compliance with the requirements of Article 5 of the General Conditions. Upon request, Contractor must permit City to inspect its original and unaltered bidding records, subcontract agreements, subcontract change orders, purchase orders, invoices, or receipts associated with the claimed costs.

(D) **Required Form.** Contractor must use City's form(s) for submitting all Change Order requests or proposals, unless otherwise specified by City.

(E) **Certification.** All Change Order requests must be signed by Contractor and must include the following certification:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Change Order request are true and correct. Contractor warrants that this Change Order request is comprehensive and complete as to the Work or changes referenced herein, and agrees that any known or foreseeable costs, expenses, or time extension requests not included herein, are deemed waived."

6.3 Adjustments to Contract Price. The amount of any increase or decrease in the Contract Price will be determined based on one of the following methods listed below, in the order listed with unit pricing taking precedence over the other methods. Markup applies only to City-authorized time and material Work, and does not apply to any other payments to Contractor. For Work items or components that are deleted in their entirety, Contractor will only be entitled to compensation for those direct, actual, and documented costs (including restocking fees), reasonably incurred before Contractor was notified of the City's intent to delete the Work, with no markup for overhead, profit, or other indirect costs.

(A) **Unit Pricing.** Amounts previously provided by Contractor in the form of unit prices, either in a bid schedule or in a post-award schedule of values pursuant to Section 8.1, Schedule of Values, will apply to determine the price for the affected Work, to the

extent applicable unit prices have been provided for that type of Work. No additional markup for overhead, profit, or other indirect costs will be added to the calculation.

(B) **Lump Sum.** A mutually agreed upon, all-inclusive lump sum price for the affected Work with no additional markup for overhead, profit, or other indirect costs.

(C) **Time and Materials.** On a time and materials basis, if and only to the extent compensation on a time and materials basis is expressly authorized by City in advance of Contractor's performance of the Work and subject to any not-to-exceed limit. Time and materials compensation for increased costs or Extra Work (but not decreased costs or deleted Work) will include allowed markup for overhead, profit, and other indirect costs, calculated as the total of the following sums, the cumulative total of which may not exceed the maximum markup rate of 15%:

(1) All direct labor costs provided by the Contractor, excluding superintendence, project management, or administrative costs, plus 15% markup;

(2) All direct material costs provided by the Contractor, including sales tax, plus 15% markup;

(3) All direct plant and equipment rental costs provided by the Contractor, plus 15% markup;

(4) All direct additional subcontract costs plus 10% markup for Work performed by Subcontractors; and

(5) Increased bond or insurance premium costs computed at 1.5% of the total of the previous four sums.

6.4 Unilateral Change Order. If the parties dispute the terms of a proposed Change Order, including disputes over the amount of compensation or extension of time that Contractor has requested, the value of deleted or changed Work, what constitutes Extra Work, or quantities used, City may elect to issue a unilateral Change Order, directing performance of the Work, and authorizing a change in the Contract Price or Contract Time for the adjustment to compensation or time that the City believes is merited. Contractor's sole recourse to dispute the terms of a unilateral Change Order is to submit a timely Claim pursuant to Article 12, below.

6.5 Non-Compliance Deemed Waiver. Contractor waives its entitlement to any increase in the Contract Price or Contract Time if Contractor fails to fully comply with the provisions of this Article. Contractor will not be paid for unauthorized Extra Work.

Article 7 - General Construction Provisions

7.1 Permits, Fees, Business License, and Taxes.

(A) **Permits, Fees, and City Business License.** Contractor must obtain and pay for all permits, fees, and licenses required to perform the Work, including a City business license. Contractor must cooperate with and provide notifications to all government agencies with jurisdiction over the Project, as may be required. Contractor must provide City with copies of all records of permits and permit applications, payment of required fees, and any licenses required for the Work.

(B) **Taxes.** Contractor must pay for all taxes on labor, material, and equipment, except Federal Excise Tax to the extent that City is exempt from Federal Excise Tax.

7.2 Temporary Facilities. Contractor must provide, at Contractor's sole expense, any and all temporary facilities for the Project, including an onsite staging area for materials and equipment, a field office, sanitary facilities, utilities, storage, scaffolds, barricades, walkways, and any other temporary structure required to safely perform the Work along with any incidental utility services. The location of all temporary facilities must be approved by the City prior to installation. Temporary facilities must be safe and adequate for the intended use and installed and maintained in accordance with Laws and the Contract Documents. Contractor must fence and screen the Project site and, if applicable, any separate Worksites, including the staging area, and its operation must minimize inconvenience to neighboring properties. Additional provisions pertaining to temporary facilities may be included in the Specifications or Special Conditions.

(A) **Utilities.** Contractor must install and maintain the power, water, sewer, and all other utilities required for the Project site, including the piping, wiring, internet and wifi connections, and any related equipment necessary to maintain the temporary facilities.

(B) **Removal and Repair.** Contractor must promptly remove all such temporary facilities when they are no longer needed or upon completion of the Work, whichever comes first. Contractor must promptly repair any damage to City's property or to other property caused by the installation, use, or removal of the temporary facilities, and must promptly restore the property to its original or intended condition.

7.3 Noninterference and Site Management. Contractor must avoid interfering with City's use of its property at or adjacent to the Project site, including use of roadways, entrances, parking areas, walkways, and structures. Contractor must also minimize disruption of access to private property in the Project vicinity. Contractor must coordinate with affected property owners, tenants, and businesses, and maintain some vehicle and pedestrian access to their residences or properties at all times. Temporary access ramps, fencing or other measures must be provided as needed. Before blocking access to a private driveway or parking lot, Contractor must provide effective notice to the affected parties at least 48 hours in advance of the pending closure and allow them to remove vehicles. Private driveways, residences and parking lots must have access to a roadway during non-Work hours.

(A) **Offsite Acquisition.** Unless otherwise provided by City, Contractor must acquire, use, and dispose of, at its sole expense, any Worksites, licenses, easements, and temporary facilities necessary to access and perform the Work.

(B) **Offsite Staging Area and Field Office.** If additional space beyond the Project site is needed, such as for the staging area or the field office, Contractor may need to make arrangements with the nearby property owner(s) to secure the space. Before using or occupying any property owned by a third party, Contractor must provide City with a copy of the necessary license agreement, easement, or other written authorization from the property owner, together with a written release from the property owner holding City harmless from any related liability, in a form acceptable to the City Attorney.

(C) **Traffic Management.** Contractor must provide traffic management and traffic controls as specified in the Contract Documents, as required by Laws, and as otherwise required to ensure public and worker safety, and to avoid interference with public or private operations or the normal flow of vehicular, bicycle, or pedestrian traffic.

7.4 Signs. No signs may be displayed on or about City's property, except signage which is required by Laws or by the Contract Documents, without City's prior written approval as to size, design, and location.

7.5 Project Site and Nearby Property Protections.

(A) **General.** Contractor is responsible at all times, on a 24-hour basis and at its sole cost, for protecting the Work, the Project site, and the materials and equipment to be incorporated into the Work, until the City has accepted the Project, excluding any exceptions to acceptance, if any. Except as specifically authorized by City, Contractor must confine its operations to the area of the Project site indicated in the Plans and Specifications. Contractor is liable for any damage caused by Contractor or its Subcontractors to the Work, City's property, the property of adjacent or nearby property owners and the work or personal property of other contractors working for City, including damage related to Contractor's failure to adequately secure the Work or any Worksite.

(1) Subject to City's approval, Contractor will provide and install safeguards to protect the Work; any Worksite, including the Project site; City's real or personal property and the real or personal property of adjacent or nearby property owners, including plant and tree protections.

(2) City wastewater systems may not be interrupted. If the Work disrupts existing sewer facilities, Contractor must immediately notify City and establish a plan, subject to City's approval, to convey the sewage in closed conduits back into the sanitary sewer system. Sewage must not be permitted to flow in trenches or be covered by backfill.

(3) Contractor must remove with due care, and store at City's request, any objects or material from the Project site that City will salvage or reuse at another location.

(4) If directed by Engineer, Contractor must promptly repair or replace any property damage, as specified by the Engineer. However, acting in its sole discretion, City may elect to have the property damage remedied otherwise, and may deduct the cost to repair or replace the damaged property from payment otherwise due to Contractor.

(5) Contractor will not permit any structure or infrastructure to be loaded in a manner that will damage or endanger the integrity of the structure or infrastructure.

(B) **Securing Project Site.** After completion of Work each day, Contractor must secure the Project site and, to the extent feasible, make the area reasonably accessible to the public unless City approves otherwise. All excess materials and equipment not protected by approved traffic control devices must be relocated to the staging area or demobilized. Trench spoils must be hauled off the Project site daily and open excavations must be protected with steel plates. Contractor and Subcontractor personnel may not occupy or use the Project site for any purpose during non-Work hours, except as may be provided in the Contract Documents or pursuant to prior written authorization from City.

(C) **Unforeseen Conditions.** If Contractor encounters facilities, utilities, or other unknown conditions not shown on or reasonably inferable from the Plans or apparent from inspection of the Project site, Contractor must immediately notify the City and promptly submit a Request for Information to obtain further directions from the Engineer. Contractor must avoid taking any action which could cause damage to the facilities or utilities pending further direction from the Engineer. The Engineer's written response will be final and binding on Contractor. If the Engineer's subsequent direction to Contractor affects Contractor's cost or time to perform the Work, Contractor may submit a Change Order request as set forth in Article 6 above.

(D) **Support; Adjacent Properties.** Contractor must provide, install, and maintain all shoring, bracing, and underpinning necessary to provide support to City's property and adjacent properties and improvements thereon. Contractor must provide notifications to adjacent property owners as may be required by Laws. See also, Section 7.15, Trenching of Five Feet or More.

(E) **Notification of Property Damage.** Contractor must immediately notify the City of damage to any real or personal property resulting from Work on the Project. Contractor must immediately provide a written report to City of any such property damage in excess of \$500 (based on estimated cost to repair or replace) within 24 hours of the occurrence. The written report must include: (1) the location and nature of the damage, and the owner of the property, if known; (2) the name and address of each employee of Contractor or any Subcontractor involved in the damage; (3) a detailed description of the incident, including precise location, time, and names and contact information for known witnesses; and (4) a police or first responder report, if applicable. If Contractor is required to file an accident report with another government agency, Contractor will provide a copy of the report to City.

7.6 Materials and Equipment.

(A) **General.** Unless otherwise specified, all materials and equipment required for the Work must be new, free from defects, and of the best grade for the intended purpose, and furnished in sufficient quantities to ensure the proper and expeditious performance of the Work. Contractor must employ measures to preserve the specified quality and fitness of the materials and equipment. Unless otherwise specified, all materials and equipment required for the Work are deemed to include all components required for complete installation and intended operation and must be installed in accordance with the manufacturer's recommendations or instructions. Contractor is responsible for all shipping, handling, and storage costs associated with the materials and equipment required for the Work. Contractor is responsible for providing security and protecting the Work and all of the required materials, supplies, tools and equipment at Contractor's sole cost until City has formally accepted the Project as set forth in Section 11.1, Final Completion. Contractor will not assign, sell, mortgage, or hypothecate any materials or equipment for the Project, or remove any materials or equipment that have been installed or delivered.

(B) **City-Provided.** If the Work includes installation of materials or equipment to be provided by City, Contractor is solely responsible for the proper examination, handling, storage, and installation in accordance with the Contract Documents. Contractor must notify City of any defects discovered in City-provided materials or equipment, sufficiently in advance of scheduled use or installation to afford adequate time to procure replacement materials or equipment as needed. Contractor is solely responsible for any loss of or damage to such items which occurs while the items are in Contractor's custody and control, the cost of which may be offset from the Contract Price and deducted from any payment(s) due to Contractor.

(C) **Intellectual Property Rights.** Contractor must, at its sole expense, obtain any authorization or license required for use of patented or copyright-protected materials, equipment, devices, or processes that are incorporated into the Work. Contractor's indemnity obligations in Article 4 apply to any claimed violation of intellectual property rights.

7.7 Substitutions.

(A) **“Or Equal.”** Any Specification designating a material, product, or thing (collectively, “item”) or service by specific brand or trade name, followed by the words “or equal,” is intended only to indicate the quality and type of item or service desired, and Contractor may request use of any equal item or service. Unless otherwise stated in the Specifications, any reference to a specific brand or trade name for an item or service that is used solely for the purpose of describing the type of item or service desired, will be deemed to be followed by the words “or equal.” A substitution will only be approved if it is a true “equal” item or service in every aspect of design, function, and quality, as determined by City, including dimensions, weight, maintenance requirements, durability, fit with other elements, and schedule impacts.

(B) **Request for Substitution.** A post-award request for substitution of an item or service must be submitted in writing to the Engineer for approval in advance, within the applicable time period provided in the Contract Documents. If no time period is specified, the substitution request may be submitted any time within 35 days after the date of award of the Contract, or sufficiently in advance of the time needed to avoid delay of the Work, whichever is earlier.

(C) **Substantiation.** Any available data substantiating the proposed substitute as an equal item or service must be submitted with the written request for substitution. Contractor’s failure to timely provide all necessary substantiation, including any required test results as soon as they are available, is grounds for rejection of the proposed substitution, without further review.

(D) **Burden of Proving Equality.** Contractor has the burden of proving the equality of the proposed substitution at Contractor’s sole cost. City has sole discretion to determine whether a proposed substitution is equal, and City’s determination is final.

(E) **Approval or Rejection.** If the proposed substitution is approved, Contractor is solely responsible for any additional costs or time associated with the substituted item or service. If the proposed substitution is rejected, Contractor must, without delay, install the item or use the service as specified by City.

(F) **Contractor’s Obligations.** City’s approval of a proposed substitution will not relieve Contractor from any of its obligations under the Contract Documents. In the event Contractor makes an unauthorized substitution, Contractor will be solely responsible for all resulting cost impacts, including the cost of removal and replacement and the impact to other design elements.

7.8 Testing and Inspection.

(A) **General.** All materials, equipment, and workmanship used in the Work are subject to inspection and testing by City at all times and at all locations during construction and/or fabrication, including at any Worksite, shops, and yards. All manufacturers’ application or installation instructions must be provided to the Inspector at least ten days prior to the first such application or installation. Contractor must, at all times, make the Work available for testing or inspection. Neither City’s inspection or testing of Work, nor its failure to do so, operate to waive or limit Contractor’s duty to complete the Work in accordance with the Contract Documents.

(B) **Scheduling and Notification.** Contractor must cooperate with City in coordinating the inspections and testing. Contractor must submit samples of materials, at Contractor’s expense, and schedule all tests required by the Contract Documents in time to avoid any delay to the progress of the Work. Contractor must notify the Engineer no

later than noon of the Working Day before any inspection or testing and must provide timely notice to the other necessary parties as specified in the Contract Documents. If Contractor schedules an inspection or test beyond regular Work hours, or on a Saturday, Sunday, or recognized City holiday, Contractor must notify the Engineer at least two Working Days in advance for approval. If approved, Contractor must reimburse City for the cost of the overtime inspection or testing. Such costs, including the City's hourly costs for required personnel, may be deducted from payments otherwise due to Contractor.

(C) **Responsibility for Costs.** City will bear the initial cost of inspection and testing to be performed by independent consultants retained by City, subject to the following exceptions:

- (1) Contractor will be responsible for the costs of any subsequent inspections or tests which are required to substantiate compliance with the Contract Documents, and any associated remediation costs.
- (2) Contractor will be responsible for inspection costs, at City's hourly rates, for inspection time lost because the Work is not ready, or Contractor fails to appear for a scheduled inspection.
- (3) If any portion of the Work that is subject to inspection or testing is covered or concealed by Contractor prior to the inspection or testing, Contractor will bear the cost of making that portion of the Work available for the inspection or testing required by the Contract Documents, and any associated repair or remediation costs.
- (4) Contractor is responsible for properly shoring all compaction test sites deeper than five feet below grade, as required under Section 7.15 below.
- (5) Any Work or material that is defective or fails to comply with the requirements of the Contract Documents must be promptly repaired, removed, replaced, or corrected by Contractor, at Contractor's sole expense, even if that Work or material was previously inspected or included in a progress payment.

(D) **Contractor's Obligations.** Contractor is solely responsible for any delay occasioned by remediation of defective or noncompliant Work or material. Inspection or testing of the Work does not in any way relieve Contractor of its obligations to perform the Work as specified. Any Work done without the inspection(s) or testing required by the Contract Documents will be subject to rejection by City.

(E) **Distant Locations.** If required off-site testing or inspection must be conducted at a location more than 100 miles from the Project site, Contractor is solely responsible for the additional travel costs required for testing and/or inspection at such locations.

(F) **Final Inspection.** The provisions of this Section 7.8 also apply to final inspection under Article 11, Completion and Warranty Provisions.

7.9 Project Site Conditions and Maintenance. Contractor must at all times, on a 24-hour basis and at its sole cost, maintain the Project site and staging and storage areas in clean, neat, and sanitary condition and in compliance with all Laws pertaining to safety, air quality, and dust control. Adequate toilets must be provided, and properly maintained and serviced for all workers on the Project site, located in a suitably secluded area, subject to City's prior approval. Contractor must also, on a daily basis and at its sole cost, remove and properly dispose of the debris and waste materials from the Project site.

(A) **Air Emissions Control.** Contractor must not discharge smoke or other air contaminants into the atmosphere in violation of any Laws. Contractor must comply with all Laws, including the California Air Resources Board's In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.).

(B) **Dust and Debris.** Contractor must minimize and confine dust and debris resulting from the Work. Contractor must abate dust nuisance by cleaning, sweeping, and immediately sprinkling with water excavated areas of dirt or other materials prone to cause dust, and within one hour after the Engineer notifies Contractor that an airborne nuisance exists. The Engineer may direct that Contractor provide an approved water-spraying truck for this purpose. If water is used for dust control, Contractor will only use the minimum necessary. Contractor must take all necessary steps to keep waste water out of streets, gutters, or storm drains. See Section 7.19, Environmental Control. If City determines that the dust control is not adequate, City may have the work done by others and deduct the cost from the Contract Price. Contractor will immediately remove any excess excavated material from the Project site and any dirt deposited on public streets.

(C) **Clean up.** Before discontinuing Work in an area, Contractor must clean the area and remove all debris and waste along with the construction equipment, tools, machinery, and surplus materials.

(1) Except as otherwise specified, all excess Project materials, and the materials removed from existing improvements on the Project site with no salvage value or intended reuse by City, will be Contractor's property.

(2) Hauling trucks and other vehicles leaving the Project site must be cleaned of exterior mud or dirt before traveling on City streets. Materials and loose debris must be delivered and loaded to prevent dropping materials or debris. Contractor must immediately remove spillage from hauling on any publicly traveled way. Streets affected by Work on the Project must be kept clean by street sweeping.

(D) **Disposal.** Contractor must dispose of all Project debris and waste materials in a safe and legal manner. Contractor may not burn or bury waste materials on the Project site. Contractor will not allow any dirt, refuse, excavated material, surplus concrete or mortar, or any associated washings, to be disposed of onto streets, into manholes or into the storm drain system.

(E) **Completion.** At the completion of the Work, Contractor must remove from the Project site all of its equipment, tools, surplus materials, waste materials and debris, presenting a clean and neat appearance. Before demobilizing from the Project site, Contractor must ensure that all surfaces are cleaned, sealed, waxed, or finished as applicable, and that all marks, stains, paint splatters, and the like have been properly removed from the completed Work and the surrounding areas. Contractor must ensure that all parts of the construction are properly joined with the previously existing and adjacent improvements and conditions. Contractor must provide all cutting, fitting and patching needed to accomplish that requirement. Contractor must also repair or replace all existing improvements that are damaged or removed during the Work, both on and off the Project site, including curbs, sidewalks, driveways, fences, signs, landscaping, utilities, street surfaces and structures. Repairs and replacements must be at least equal to the previously existing improvements, and the condition, finish and dimensions must match the previously existing improvements. Contractor must restore to original condition all property or items that are not designated for alteration under the Contract Documents and leave each Worksite clean and ready for occupancy or use by City.

(F) **Non-Compliance.** If Contractor fails to comply with its maintenance and cleanup obligations or any City clean up order, City may, acting in its sole discretion, elect to

suspend the Work until the condition(s) is corrected with no increase in the Contract Time or Contract Price, or undertake appropriate cleanup measures without further notice and deduct the cost from any amounts due or to become due to Contractor.

- 7.10 Instructions and Manuals.** Contractor must provide to City three copies each of all instructions and manuals required by the Contract Documents, unless otherwise specified. These must be complete as to drawings, details, parts lists, performance data, and other information that may be required for City to easily maintain and service the materials and equipment installed for this Project.

(A) **Submittal Requirements.** The instructions and manuals, along with any required guarantees, must be delivered to City for review prior to requesting final inspection pursuant to Section 11.1(A), unless otherwise specified.

(B) **Training.** Contractor or its Subcontractors must train City's personnel in the operation and maintenance of any complex equipment or systems as a condition precedent to Final Completion, if required in the Contract Documents.

- 7.11 As-built Drawings.** Contractor and its Subcontractors must prepare and maintain at the Project site a detailed, complete and accurate as-built set of the Plans which will be used solely for the purpose of recording changes made in any portion of the original Plans in order to create accurate record drawings at the end of the Project.

(A) **Duty to Update.** The as-built drawings must be updated as changes occur, on a daily basis if necessary. City may withhold the estimated cost for City to have the as-built drawings prepared from payments otherwise due to Contractor, until the as-built drawings are brought up to date to the satisfaction of City. Actual locations to scale must be identified on the as-built drawings for all runs of mechanical and electrical work, including all site utilities installed underground, in walls, floors, or otherwise concealed. Deviations from the original Plans must be shown in detail. The exact location of all main runs, whether piping, conduit, ductwork or drain lines, must be shown by dimension and elevation. The location of all buried pipelines, appurtenances, or other improvements must be represented by coordinates and by the horizontal distance from visible above-ground improvements.

(B) **Final Completion.** Contractor must verify that all changes in the Work are depicted in the as-built drawings and must deliver the complete set of as-built drawings to the Engineer for review and acceptance as a condition precedent to Final Completion and Final Payment.

- 7.12 Existing Utilities.**

(A) **General.** The Work may be performed in developed, urban areas with existing utilities, both above and below ground, including utilities identified in the Contract Documents or in other informational documents or records. Contractor must take due care to locate identified or reasonably identifiable utilities before proceeding with trenching, excavation, or any other activity that could damage or disrupt existing utilities. This may include excavation with small equipment, potholing, or hand excavation, and, if practical, using white paint or other suitable markings to delineate the area to be excavated. Except as otherwise provided herein, Contractor will be responsible for costs resulting from damage to identified or reasonably identifiable utilities due to Contractor's negligence or failure to comply with the Contract Documents, including the requirements in this Article 7.

(B) **Unidentified Utilities.** Pursuant to Government Code § 4215, if, during the performance of the Work, Contractor discovers utility facilities not identified by City in the

Contract Documents, Contractor must immediately provide written notice to City and the utility. City assumes responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Project site if those utilities are not identified in the Contract Documents. Contractor will be compensated in accordance with the provisions of the Contract Documents for the costs of locating, repairing damage not due to Contractor's failure to exercise reasonable care, and removing or relocating utility facilities not indicated in the Plans or Specifications with reasonable accuracy, and for equipment on the Project necessarily idled during such work. Contractor will not be assessed liquidated damages for delay in completion of the Work, to the extent the delay was caused by City's failure to provide for removal or relocation of the utility facilities.

7.13 Notice of Excavation. Contractor must comply with all applicable requirements in Government Code § 4216 et seq., which are incorporated by reference herein.

7.14 Trenching and Excavations of Four Feet or More. As required by Public Contract Code § 7104, if the Work includes digging trenches or other excavations that extend deeper than four feet below the surface, the provisions in this Section apply to the Work and the Project.

(A) **Duty to Notify.** Contractor must promptly, and before the following conditions are disturbed, provide written notice to City if Contractor finds any of the following conditions:

(1) Material that Contractor believes may be a hazardous waste, as defined in § 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing Laws;

(2) Subsurface or latent physical conditions at the Project site differing from those indicated by information about the Project site made available to bidders prior to the deadline for submitting bids; or

(3) Unknown physical conditions at the Project site of any unusual nature, materially different from those ordinarily encountered and generally recognized as inherent in work of the character required by the Contract Documents.

(B) **City Investigation.** City will promptly investigate the conditions and if City finds that the conditions materially differ from those indicated, apparent, or reasonably inferred from information about the Project site made available to bidders, or involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, City will issue a Change Order.

(C) **Disputes.** In the event that a dispute arises between City and Contractor regarding any of the conditions specified in subsection (B) above, or the terms of a Change Order issued by City, Contractor will not be excused from completing the Work within the Contract Time, but must proceed with all Work to be performed under the Contract. Contractor will retain any and all rights provided either by the Contract or by Laws which pertain to the resolution of disputes between Contractor and City.

7.15 Trenching of Five Feet or More. As required by Labor Code § 6705, if the Contract Price exceeds \$25,000 and the Work includes the excavation of any trench or trenches of five feet or more in depth, a detailed plan must be submitted to City for acceptance in advance of the excavation. The detailed plan must show the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation. If the plan varies from the shoring system standards, it

must be prepared by a California registered civil or structural engineer. Use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders is prohibited.

7.16 New Utility Connections. Except as otherwise specified, City will pay connection charges and meter costs for new permanent utilities required by the Contract Documents, if any. Contractor must notify City sufficiently in advance of the time needed to request service from each utility provider so that connections and services are initiated in accordance with the Project schedule.

7.17 Lines and Grades. Contractor is required to use any benchmark provided by the Engineer. Unless otherwise specified in the Contract Documents, Contractor must provide all lines and grades required to execute the Work. Contractor must also provide, preserve, and replace if necessary, all construction stakes required for the Project. All stakes or marks must be set by a California licensed surveyor or a California registered civil engineer. Contractor must notify the Engineer of any discrepancies found between Contractor's staking and grading and information provided by the Contract Documents. Upon completion, all Work must conform to the lines, elevations, and grades shown in the Plans, including any changes directed by a Change Order.

7.18 Historic or Archeological Items.

(A) **Contractor's Obligations.** Contractor must ensure that all persons performing Work at the Project site are required to immediately notify the Project Manager, upon discovery of any potential historic or archeological items, including historic or prehistoric ruins, a burial ground, archaeological or vertebrate paleontological site, including fossilized footprints or other archeological, paleontological or historical feature on the Project site (collectively, "Historic or Archeological Items").

(B) **Discovery; Cessation of Work.** Upon discovery of any potential Historic or Archeological Items, Work must be stopped within an 85-foot radius of the find and may not resume until authorized in writing by City. If required by City, Contractor must assist in protecting or recovering the Historic or Archeological Items, with any such assistance to be compensated as Extra Work on a time and materials basis under Article 6, Contract Modification. At City's discretion, a suspension of Work required due to discovery of Historic or Archeological Items may be treated as Excusable Delay pursuant to Article 5, or as a suspension for convenience under Article 13.

7.19 Environmental Control. Contractor must not pollute any drainage course or its tributary inlets with fuels, oils, bitumens, acids, insecticides, herbicides or other harmful materials. Contractor must prevent the release of any hazardous material or hazardous waste into the soil or groundwater, and prevent the unlawful discharge of pollutants into City's storm drain system and watercourses as required below. Contractor and its Subcontractors must at all times in the performance of the Work comply with all Laws concerning pollution of waterways.

(A) **Stormwater Permit.** Contractor must comply with all applicable conditions of the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity ("Stormwater Permit").

(B) **Contractor's Obligations.** If required for the Work, a copy of the Stormwater Permit is on file in City's principal administrative offices, and Contractor must comply with it without adjustment of the Contract Price or the Contract Time. Contractor must timely and completely submit required reports and monitoring information required by the conditions of the Stormwater Permit. Contractor also must comply with all other Laws

governing discharge of stormwater, including applicable municipal stormwater management programs.

- 7.20 Noise Control.** Contractor must comply with all applicable noise control Laws. Noise control requirements apply to all equipment used for the Work or related to the Work, including trucks, transit mixers or transient equipment that may or may not be owned by Contractor.
- 7.21 Mined Materials.** Pursuant to Public Contract Code § 20676, Contractor will not purchase any sand, gravel, or other minerals for the Work from an operation subject to the Surface Mining and Reclamation Act of 1975 (Public Resources Code § 2710 et seq.) unless the Contractor certifies, under penalty of perjury, that the minerals are from a mining operation included on the AB 3098 List, which may be accessed online at: <https://www.conservation.ca.gov/smgb/Pages/AB-3098-List.aspx>.

Article 8 - Payment

- 8.1 Schedule of Values.** Prior to submitting its first application for payment, Contractor must prepare and submit to the Project Manager a schedule of values apportioned to the various divisions and phases of the Work, including mobilization and demobilization. If a Bid Schedule was submitted with Contractor's bid, the amounts in the schedule of values must be consistent with the Bid Schedule. Each line item contained in the schedule of values must be assigned a value such that the total of all items equals the Contract Price. The items must be sufficiently detailed to enable accurate evaluation of the percentage of completion claimed in each application for payment, and the assigned value consistent with any itemized or unit pricing submitted with Contractor's bid.

(A) **Measurements for Unit Price Work.** Materials and items of Work to be paid for on the basis of unit pricing will be measured according to the methods specified in the Contract Documents.

(B) **Deleted or Reduced Work.** Contractor will not be compensated for Work that City has deleted or reduced in scope, except for any labor, material, or equipment costs for such Work that Contractor reasonably incurred before Contractor learned that the Work could be deleted or reduced. Contractor will only be compensated for those actual, direct and documented costs incurred, and will not be entitled to any mark up for overhead or lost profits.

- 8.2 Progress Payments.** Following the last day of each month, or as otherwise required by the Special Conditions or Specifications, Contractor will submit to the Project Manager a monthly application for payment for Work performed during the preceding month based on the estimated value of the Work performed during that preceding month.

(A) **Application for Payment.** Each application for payment must be itemized to include labor, materials, and equipment incorporated into the Work, and materials and equipment delivered to the Project site, as well as authorized and approved Change Orders. Each payment application must be supported by the unit prices submitted with Contractor's Bid Schedule and/or schedule of values and any other substantiating data required by the Contract Documents.

(B) **Payment of Undisputed Amounts.** City will pay the undisputed amount due within 30 days after Contractor has submitted a complete and accurate payment application, subject to Public Contract Code § 20104.50. City will deduct a percentage from each progress payment as retention, as set forth in Section 8.5, below, and may deduct or withhold additional amounts as set forth in Section 8.3, below.

8.3 Adjustment of Payment Application. City may adjust or reject the amount requested in a payment application, including application for Final Payment, in whole or in part, if the amount requested is disputed or unsubstantiated. Contractor will be notified in writing of the basis for the modification to the amount requested. City may also deduct or withhold from payment otherwise due based upon any of the circumstances and amounts listed below. Sums withheld from payment otherwise due will be released when the basis for that withholding has been remedied and no longer exists.

(A) For Contractor's unexcused failure to perform the Work as required by the Contract Documents, including correction or completion of punch list items, City may withhold or deduct an amount based on the City's estimated cost to correct or complete the Work.

(B) For loss or damage caused by Contractor or its Subcontractors arising out of or relating to performance of the Work or any failure to protect the Project site, City may deduct an amount based on the estimated cost to repair or replace.

(C) For Contractor's failure to pay its Subcontractors and suppliers when payment is due, City may withhold an amount equal to the total of past due payments and may opt to pay that amount separately via joint check pursuant to Section 8.6(B), Joint Checks.

(D) For Contractor's failure to timely correct rejected, nonconforming, or defective Work, City may withhold or deduct an amount based on the City's estimated cost to correct or complete the Work.

(E) For any unreleased stop notice, City may withhold 125% of the amount claimed.

(F) For Contractor's failure to submit any required schedule or schedule update in the manner specified or within the time specified in the Contract Documents, City may withhold an amount equal to five percent of the total amount requested until Contractor complies with its schedule submittal obligations.

(G) For Contractor's failure to maintain or submit as-built documents in the manner specified or within the time specified in the Contract Documents, City may withhold or deduct an amount based on the City's cost to prepare the as-builts.

(H) For Work performed without Shop Drawings that have been accepted by City, when accepted Shop Drawings are required before proceeding with the Work, City may deduct an amount based on the estimated cost to correct unsatisfactory Work or diminution in value.

(I) For fines, payments, or penalties assessed under the Labor Code, City may deduct from payments due to Contractor as required by Laws and as directed by the Division of Labor Standards Enforcement.

(J) For any other fines, payments, or penalties assessed against the City relating to Contractor's acts or omissions, including violations of Laws, City may withhold or deduct such amounts from payment otherwise due to Contractor.

(K) For any other costs or charges that may be withheld or deducted from payments to Contractor, as provided in the Contract Documents, including liquidated damages, City may withhold or deduct such amounts from payment otherwise due to Contractor.

8.4 Early Occupancy. Neither City's payment of progress payments nor its partial or full use or occupancy of the Project constitutes acceptance of any part of the Work.

8.5 Retention. City will retain five percent of the full amount due on each progress payment (i.e., the amount due before any withholding or deductions pursuant to Section 8.3, Adjustment of Payment Application), or the percentage stated in the Notice Inviting Bids, whichever is greater, as retention to ensure full and satisfactory performance of the Work. Contractor is not entitled to any reduction in the rate of withholding at any time, nor to release of any retention before 35 days following City's recordation of the Notice of Completion, subject to the terms of Public Contract Code § 7107.

(A) **Substitution of Securities.** As provided by Public Contract Code § 22300, Contractor may request in writing that it be allowed, at its sole expense, to substitute securities for the retention withheld by City. Any escrow agreement entered into pursuant to this provision must fully comply with Public Contract Code § 22300 and will be subject to approval as to form by City's legal counsel. If City exercises its right to draw upon such securities in the event of default pursuant to section (7) of the statutory Escrow Agreement for Security Deposits in Lieu of Retention, pursuant to subdivision (g) of Public Contract Code § 22300 ("Escrow Agreement"), and if Contractor disputes that it is in default, its sole remedy is to comply with the dispute resolution procedures in Article 12 and the provisions therein. It is agreed that for purposes of this paragraph, an event of default includes City's rights pursuant to these Contract Documents to withhold or deduct sums from retention, including withholding or deduction for liquidated damages, incomplete or defective Work, stop payment notices, or backcharges. It is further agreed that if any individual authorized to give or receive written notice on behalf of a party pursuant to section (10) of the Escrow Agreement are unavailable to give or receive notice on behalf of that party due to separation from employment, retirement, death, or other circumstances, the successor or delegee of the named individual is deemed to be the individual authorized to give or receive notice pursuant to section (10) of the Escrow Agreement.

(B) **Release of Undisputed Retention.** All undisputed retention, less any amounts that may be assessed as liquidated damages, retained for stop notices, or otherwise withheld pursuant to Section 8.3, Adjustment of Payment Application, will be released as Final Payment to Contractor no sooner than 35 days following recordation of the notice of completion, and no later than 60 days following acceptance of the Project by City's governing body or authorized designee pursuant to Section 11.1(C), Acceptance, or, if the Project has not been accepted, no later than 60 days after the Project is otherwise considered complete pursuant to Public Contract Code § 7107(c).

8.6 Payment to Subcontractors and Suppliers. Each month, Contractor must promptly pay each Subcontractor and supplier the value of the portion of labor, materials, and equipment incorporated into the Work or delivered to the Project site by the Subcontractor or supplier during the preceding month. Such payments must be made in accordance with the requirements of Laws pertaining to such payments, and those of the Contract Documents and applicable subcontract or supplier contract.

(A) **Withholding for Stop Notice.** Pursuant to Civil Code § 9358, City will withhold 125% of the amount claimed by an unreleased stop notice, a portion of which may be retained by City for the costs incurred in handling the stop notice claim, including attorneys' fees and costs, as authorized by law.

(B) **Joint Checks.** City reserves the right, acting in its sole discretion, to issue joint checks made payable to Contractor and a Subcontractor or supplier, if City determines this is necessary to ensure fair and timely payment for a Subcontractor or supplier who has provided services or goods for the Project. As a condition to release of payment by a joint check, the joint check payees may be required to execute a joint check agreement in a form provided or approved by the City Attorney's Office. The joint check payees will be

jointly and severally responsible for the allocation and disbursement of funds paid by joint check. Payment by joint check will not be construed to create a contractual relationship between City and a Subcontractor or supplier of any tier beyond the scope of the joint check agreement.

- 8.7 Final Payment.** Contractor's application for Final Payment must comply with the requirements for submitting an application for a progress payment as stated in Section 8.2, above. Corrections to previous progress payments, including adjustments to estimated quantities for unit priced items, may be included in the Final Payment. If Contractor fails to submit a timely application for Final Payment, City reserves the right to unilaterally process and issue Final Payment without an application from Contractor in order to close out the Project. For the purposes of determining the deadline for Claim submission pursuant to Article 12, the date of Final Payment is deemed to be the date that City acts to release undisputed retention as final payment to Contractor, or otherwise provides written notice to Contractor of Final Payment or that no undisputed funds remain available for Final Payment due to offsetting withholdings or deductions pursuant to Section 8.3, Adjustment of Payment Application. If the amount due from Contractor to City exceeds the amount of Final Payment, City retains the right to recover the balance from Contractor or its sureties.
- 8.8 Release of Claims.** City may, at any time, require that payment of the undisputed portion of any progress payment or Final Payment be contingent upon Contractor furnishing City with a written waiver and release of all claims against City arising from or related to the portion of Work covered by those undisputed amounts subject to the limitations of Public Contract Code § 7100. Any disputed amounts may be specifically excluded from the release.
- 8.9 Warranty of Title.** Contractor warrants that title to all work, materials, or equipment incorporated into the Work and included in a request for payment will pass over to City free of any claims, liens, or encumbrances upon payment to Contractor.

Article 9 - Labor Provisions

- 9.1 Discrimination Prohibited.** Discrimination against any prospective or present employee engaged in the Work on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status is strictly prohibited. Contractor and its Subcontractors are required to comply with all applicable Laws prohibiting discrimination, including the California Fair Employment and Housing Act (Govt. Code § 12900 et seq.), Government Code § 11135, and Labor Code §§ 1735, 1777.5, 1777.6, and 3077.5.
- 9.2 Labor Code Requirements.**
- (A) **Eight Hour Day.** Pursuant to Labor Code § 1810, eight hours of labor constitute a legal day's work under this Contract.
- (B) **Penalty.** Pursuant to Labor Code § 1813, Contractor will forfeit to City as a penalty, the sum of \$25.00 for each day during which a worker employed by Contractor or any Subcontractor is required or permitted to work more than eight hours in any one calendar day or more than 40 hours per calendar week, except if such workers are paid overtime under Labor Code § 1815.
- (C) **Apprentices.** Contractor is responsible for compliance with the requirements governing employment and payment of apprentices, as set forth in Labor Code § 1777.5, which is fully incorporated by reference.

(D) **Notices.** Pursuant to Labor Code § 1771.4, Contractor is required to post all job site notices prescribed by Laws.

9.3 Prevailing Wages. Each worker performing Work under this Contract that is covered under Labor Code §§ 1720, 1720.3, or 1720.9, including cleanup at the Project site, must be paid at a rate not less than the prevailing wage as defined in §§ 1771 and 1774 of the Labor Code. The prevailing wage rates are on file with the City and available online at <http://www.dir.ca.gov/dlsr>. Contractor must post a copy of the applicable prevailing rates at the Project site.

(A) **Penalties.** Pursuant to Labor Code § 1775, Contractor and any Subcontractor will forfeit to City as a penalty up to \$200.00 for each calendar day, or portion thereof, for each worker paid less than the applicable prevailing wage rate. Contractor must also pay each worker the difference between the applicable prevailing wage rate and the amount actually paid to that worker.

(B) **Federal Requirements.** If this Project is subject to federal prevailing wage requirements in addition to California prevailing wage requirements, Contractor and its Subcontractors are required to pay the higher of the currently applicable state or federal prevailing wage rates.

9.4 Payroll Records. Contractor must comply with the provisions of Labor Code §§ 1771.4, 1776, and 1812 and all implementing regulations, which are fully incorporated by this reference, including requirements for monthly electronic submission of payroll records to the DIR.

(A) **Contractor and Subcontractor Obligations.** Contractor and each Subcontractor must keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed in connection with the Work. Each payroll record must contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

(1) The information contained in the payroll record is true and correct; and

(2) Contractor or the Subcontractor has complied with the requirements of Labor Code §§ 1771, 1811, and 1815 for any Work performed by its employees on the Project.

(B) **Certified Record.** A certified copy of an employee's payroll record must be made available for inspection or furnished to the employee or his or her authorized representative on request, to City, to the Division of Labor Standards Enforcement, to the Division of Apprenticeship Standards of the DIR, and as further required by the Labor Code.

(C) **Enforcement.** Upon notice of noncompliance with Labor Code § 1776, Contractor or Subcontractor has ten days in which to comply with the requirements of this section. If Contractor or Subcontractor fails to do so within the ten-day period, Contractor or Subcontractor will forfeit a penalty of \$100.00 per day, or portion thereof, for each worker for whom compliance is required, until strict compliance is achieved. Upon request by the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement, these penalties will be withheld from payments then due to Contractor.

- 9.5 Labor Compliance.** Pursuant to Labor Code § 1771.4, the Contract for this Project is subject to compliance monitoring and enforcement by the DIR.

Article 10 - Safety Provisions

- 10.1 Safety Precautions and Programs.** Contractor and its Subcontractors are fully responsible for safety precautions and programs, and for the safety of persons and property in the performance of the Work. Contractor and its Subcontractors must at all times comply with all applicable health and safety Laws and seek to avoid injury, loss, or damage to persons or property by taking reasonable steps to protect its employees and other persons at any Worksite, materials and equipment stored on or off site, and property at or adjacent to any Worksite.
- (A) **Reporting Requirements.** Contractor must immediately notify the City of any death, serious injury or illness resulting from Work on the Project. Contractor must immediately provide a written report to City of each recordable accident or injury occurring at any Worksite within 24 hours of the occurrence. The written report must include: (1) the name and address of the injured or deceased person; (2) the name and address of each employee of Contractor or of any Subcontractor involved in the incident; (3) a detailed description of the incident, including precise location, time, and names and contact information for known witnesses; and (4) a police or first responder report, if applicable. If Contractor is required to file an accident report with a government agency, Contractor will provide a copy of the report to City.
- (B) **Legal Compliance.** Contractor's safety program must comply with the applicable legal and regulatory requirements. Contractor must provide City with copies of all notices required by Laws.
- (C) **Contractor's Obligations.** Any damage or loss caused by Contractor arising from the Work which is not insured under property insurance must be promptly remedied by Contractor.
- (D) **Remedies.** If City determines, in its sole discretion, that any part of the Work or Project site is unsafe, City may, without assuming responsibility for Contractor's safety program, require Contractor or its Subcontractor to cease performance of the Work or to take corrective measures to City's satisfaction. If Contractor fails to promptly take the required corrective measures, City may perform them and deduct the cost from the Contract Price. Contractor agrees it is not entitled to submit a Claim for damages, for an increase in Contract Price, or for a change in Contract Time based on Contractor's compliance with City's request for corrective measures pursuant to this provision.
- 10.2 Hazardous Materials.** Unless otherwise specified in the Contract Documents, this Contract does not include the removal, handling, or disturbance of any asbestos or other Hazardous Materials. If Contractor encounters materials on the Project site that Contractor reasonably believes to be asbestos or other Hazardous Materials, and the asbestos or other Hazardous Materials have not been rendered harmless, Contractor may continue Work in unaffected areas reasonably believed to be safe, but must immediately cease work on the area affected and report the condition to City. No asbestos, asbestos-containing products or other Hazardous Materials may be used in performance of the Work.
- 10.3 Material Safety.** Contractor is solely responsible for complying with § 5194 of Title 8 of the California Code of Regulations, including by providing information to Contractor's employees about any hazardous chemicals to which they may be exposed in the course of the Work. A hazard communication program and other forms of warning and training

about such exposure must be used. Contractor must also maintain Safety Data Sheets ("SDS") at the Project site, as required by Laws, for materials or substances used or consumed in the performance of the Work. The SDS will be accessible and available to Contractor's employees, Subcontractors, and City.

(A) **Contractor Obligations.** Contractor is solely responsible for the proper delivery, handling, use, storage, removal, and disposal of all materials brought to the Project site and/or used in the performance of the Work. Contractor must notify the Engineer if a specified product or material cannot be used safely.

(B) **Labeling.** Contractor must ensure proper labeling on any material brought onto the Project site so that any persons working with or in the vicinity of the material may be informed as to the identity of the material, any potential hazards, and requirements for proper handling, protections, and disposal.

10.4 Hazardous Condition. Contractor is solely responsible for determining whether a hazardous condition exists or is created during the course of the Work, involving a risk of bodily harm to any person or risk of damage to any property. If a hazardous condition exists or is created, Contractor must take all precautions necessary to address the condition and ensure that the Work progresses safely under the circumstances. Hazardous conditions may result from, but are not limited to, use of specified materials or equipment, the Work location, the Project site condition, the method of construction, or the way any Work must be performed.

10.5 Emergencies. In an emergency affecting the safety or protection of persons, Work, or property at or adjacent to any Worksite, Contractor must take reasonable and prompt actions to prevent damage, injury, or loss, without prior authorization from the City if, under the circumstances, there is inadequate time to seek prior authorization from the City.

Article 11 - Completion and Warranty Provisions

11.1 Final Completion.

(A) **Final Inspection and Punch List.** When the Work required by this Contract is fully performed, Contractor must provide written notification to City requesting final inspection. The Engineer will schedule the date and time for final inspection, which must include Contractor's primary representative for this Project and its superintendent. Based on that inspection, City will prepare a punch list of any items that are incomplete, missing, defective, incorrectly installed, or otherwise not compliant with the Contract Documents. The punch list to Contractor will specify the time by which all of the punch list items must be completed or corrected. The punch list may include City's estimated cost to complete each punch list item if Contractor fails to do so within the specified time. The omission of any non-compliant item from a punch list will not relieve Contractor from fulfilling all requirements of the Contract Documents. Contractor's failure to complete any punch list item within the time specified in the punch list will not waive or abridge its warranty obligations for any such items that must be completed by the City or by a third party retained by the City due to Contractor's failure to timely complete any such outstanding item.

(B) **Requirements for Final Completion.** Final Completion will be achieved upon completion or correction of all punch list items, as verified by City's further inspection, and upon satisfaction of all other Contract requirements, including any commissioning required under the Contract Documents and submission of all final submittals, including

instructions and manuals as required under Section 7.10, and complete, final as-built drawings as required under Section 7.11, all to City's satisfaction.

(C) **Acceptance.** The Project will be considered accepted upon City Council action during a public meeting to accept the Project, unless the Engineer is authorized to accept the Project, in which case the Project will be considered accepted upon the date of the Engineer's issuance of a written notice of acceptance. In order to avoid delay of Project close out, the City may elect, acting in its sole discretion, to accept the Project as complete subject to exceptions for punch list items that are not completed within the time specified in the punch list.

(D) **Final Payment and Release of Retention.** Final Payment and release of retention, less any sums withheld pursuant to the provisions of the Contract Documents, will not be made sooner than 35 days after recordation of the notice of completion. If Contractor fails to complete all of the punch list items within the specified time, City may withhold up to 150% of City's estimated cost to complete each of the remaining items from Final Payment and may use the withheld retention to pay for the costs to self-perform the outstanding items or to retain a third party to complete any such outstanding punch list item.

11.2 Warranty.

(A) **General.** Contractor warrants that all materials and equipment will be new unless otherwise specified, of good quality, in conformance with the Contract Documents, and free from defective workmanship and materials. Contractor further warrants that the Work will be free from material defects not intrinsic in the design or materials required in the Contract Documents. Contractor warrants that materials or items incorporated into the Work comply with the requirements and standards in the Contract Documents, including compliance with Laws, and that any Hazardous Materials encountered or used were handled as required by Laws. At City's request, Contractor must furnish satisfactory evidence of the quality and type of materials and equipment furnished. Contractor's warranty does not extend to damage caused by normal wear and tear, or improper use or maintenance.

(B) **Warranty Period.** Contractor's warranty must guarantee its Work for a period of one year from the date of Project acceptance (the "Warranty Period"), except when a longer guarantee is provided by a supplier or manufacturer or is required by the Specifications or Special Conditions. Contractor must obtain from its Subcontractors, suppliers and manufacturers any special or extended warranties required by the Contract Documents.

(C) **Warranty Documents.** As a condition precedent to Final Completion, Contractor must supply City with all warranty and guarantee documents relevant to equipment and materials incorporated into the Work and guaranteed by their suppliers or manufacturers.

(D) **Subcontractors.** The warranty obligations in the Contract Documents apply to Work performed by Contractor and its Subcontractors, and Contractor agrees to be co-guarantor of such Work.

(E) **Contractor's Obligations.** Upon written notice from City to Contractor of any defect in the Work discovered during the Warranty Period, Contractor or its responsible Subcontractor must promptly correct the defective Work at its own cost. Contractor's obligation to correct defects discovered during the Warranty Period will continue past the expiration of the Warranty Period as to any defects in Work for which Contractor was notified prior to expiration of the Warranty Period. Work performed during the Warranty

Period ("Warranty Work") will be subject to the warranty provisions in this Section 11.2 for a one-year period that begins upon completion of such Warranty Work to City's satisfaction.

(F) **City's Remedies.** If Contractor or its responsible Subcontractor fails to correct defective Work within ten days following notice by City, or sooner if required by the circumstances, City may correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor must reimburse City for its costs in accordance with subsection (H), below.

(G) **Emergency Repairs.** In cases of emergency where any delay in correcting defective Work could cause harm, loss or damage, City may immediately correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor or its surety must reimburse City for its costs in accordance with subsection (H), below.

(H) **Reimbursement.** Contractor must reimburse City for its costs to repair under subsections (F) or (G), above, within 30 days following City's submission of a demand for payment pursuant to this provision. If City is required to initiate legal action to compel Contractor's compliance with this provision, and City is the prevailing party in such action, Contractor and its surety are solely responsible for all of City's attorney's fees and legal costs expended to enforce Contractor's warranty obligations herein, in addition to any and all costs City incurs to correct the defective Work.

11.3 Use Prior to Final Completion. City reserves the right to occupy or make use of the Project, or any portions of the Project, prior to Final Completion if City has determined that the Project or portion of it is in a condition suitable for the proposed occupation or use, and that it is in its best interest to occupy or make use of the Project, or any portions of it, prior to Final Completion.

(A) **Non-Waiver.** Occupation or use of the Project, in whole or in part, prior to Final Completion will not operate as acceptance of the Work or any portion of it, nor will it operate as a waiver of any of City's rights or Contractor's duties pursuant to these Contract Documents, and will not affect nor bear on the determination of the time of substantial completion with respect to any statute of repose pertaining to the time for filing an action for construction defect.

(B) **City's Responsibility.** City will be responsible for the cost of maintenance and repairs due to normal wear and tear with respect to those portions of the Project that are being occupied or used before Final Completion. The Contract Price or the Contract Time may be adjusted pursuant to the applicable provisions of these Contract Documents if, and only to the extent that, any occupation or use under this Section actually adds to Contractor's cost or time to complete the Work within the Contract Time.

11.4 Substantial Completion. For purposes of determining "substantial completion" with respect to any statute of repose pertaining to the time for filing an action for construction defect, "substantial completion" is deemed to mean the last date that Contractor or any Subcontractor performs Work on the Project prior to City acceptance of the Project, except for warranty work performed under this Article.

Article 12 - Dispute Resolution

12.1 Claims. This Article applies to and provides the exclusive procedures for any Claim arising from or related to the Contract or performance of the Work.

(A) **Limitations.** A Claim may only include the portion of a previously rejected demand that remains in dispute between Contractor and City. With the exception of any dispute regarding the amount of money actually paid to Contractor as Final Payment, Contractor is not entitled to submit a Claim demanding a change in the Contract Time or the Contract Price, which has not previously been submitted to City in full compliance with Article 5 and Article 6, and subsequently rejected in whole or in part by City.

(B) **Scope of Article.** This Article is intended to provide the exclusive procedures for submission and resolution of Claims of any amount and applies in addition to the provisions of Public Contract Code § 9204 and § 20104 et seq., which are incorporated by reference herein.

(C) **No Work Delay.** Notwithstanding the submission of a Claim or any other dispute between the parties related to the Project or the Contract Documents, Contractor must perform the Work and may not delay or cease Work pending resolution of a Claim or other dispute, but must continue to diligently prosecute the performance and timely completion of the Work, including the Work pertaining to the Claim or other dispute.

(D) **Informal Resolution.** Contractor will make a good faith effort to informally resolve a dispute before initiating a Claim, preferably by face-to-face meeting between authorized representatives of Contractor and City.

12.2 Claims Submission. The following requirements apply to any Claim subject to this Article:

(A) **Substantiation.** The Claim must be submitted to City in writing by registered or certified mail with return receipt requested and clearly identified as a "Claim" submitted pursuant to this Article 12. The Claim must include all of the documents necessary to substantiate the Claim including the Change Order request that was rejected in whole or in part, and a copy of City's written rejection that is in dispute. The Claim must clearly identify and describe the dispute, including relevant references to applicable portions of the Contract Documents, and a chronology of relevant events. Any Claim for additional payment must include a complete, itemized breakdown of all known or estimated labor, materials, taxes, insurance, and subcontract, or other costs. Substantiating documentation such as payroll records, receipts, invoices, or the like, must be submitted in support of each component of claimed cost. Any Claim for an extension of time or delay costs must be substantiated with a schedule analysis and narrative depicting and explaining claimed time impacts.

(B) **Claim Format and Content.** A Claim must be submitted in the following format:

- (1) Provide a cover letter, specifically identifying the submission as a "Claim" submitted under this Article 12 and specifying the requested remedy (e.g., amount of proposed change to Contract Price and/or change to Contract Time).
- (2) Provide a summary of each Claim, including underlying facts and the basis for entitlement, and identify each specific demand at issue, including the specific Change Order request (by number and submittal date), and the date of City's rejection of that demand, in whole or in part.
- (3) Provide a detailed explanation of each issue in dispute. For multiple issues included within a single Claim or for multiple Claims submitted concurrently, separately number and identify each individual issue or Claim, and include the following for each separate issue or Claim:

- a. A succinct statement of the matter in dispute, including Contractor's position and the basis for that position;
- b. Identify and attach all documents that substantiate the Claim, including relevant provisions of the Contract Documents, RFIs, calculations, and schedule analysis (see subsection (A), Substantiation, above);
- c. A chronology of relevant events; and
- d. Analysis and basis for claimed changes to Contract Price, Contract Time, or any other remedy requested.

(4) Provide a summary of issues and corresponding claimed damages. If, by the time of the Claim submission deadline (below), the precise amount of the requested change in the Contract Price or Contract Time is not yet known, Contractor must provide a good faith estimate, including the basis for that estimate, and must identify the date by which it is anticipated that the Claim will be updated to provide final amounts.

(5) Include the following certification, executed by Contractor's authorized representative:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Claim submittal are true and correct. Contractor warrants that this Claim submittal is comprehensive and complete as to the matters in dispute, and agrees that any costs, expenses, or delay not included herein are deemed waived."

(C) ***Submission Deadlines.***

(1) A Claim disputing rejection of a request for a change in the Contract Time or Contract Price must be submitted within 21 days following the date that City notified Contractor in writing that a request for a change in the Contract Time or Contract Price, duly submitted in compliance with Article 5 and Article 6, has been rejected in whole or in part. A Claim disputing the terms of a unilateral Change Order must be submitted within 21 days following the date of issuance of the unilateral Change Order. These Claim deadlines apply even if Contractor cannot yet quantify the total amount of any requested change in the Contract Time or Contract Price. If the Contractor cannot quantify those amounts, it must submit an estimate of the amounts claimed pending final determination of the requested remedy by Contractor.

(2) With the exception of any dispute regarding the amount of Final Payment, any Claim must be filed on or before the date of Final Payment or will be deemed waived.

(3) A Claim disputing the amount of Final Payment must be submitted within 21 days of the effective date of Final Payment, under Section 8.7, Final Payment.

(4) Strict compliance with these Claim submission deadlines is necessary to ensure that any dispute may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project. ***Any Claim that is not submitted within the specified deadlines will be deemed waived by Contractor.***

12.3 City's Response. City will respond within 45 days of receipt of the Claim with a written statement identifying which portion(s) of the Claim are disputed, unless the 45-day period is extended by mutual agreement of City and Contractor or as otherwise allowed under Public Contract Code § 9204. However, if City determines that the Claim is not adequately substantiated pursuant to Section 12.2(A), Substantiation, City may first request in writing, within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to defenses to the Claim that City may have against the Claim.

(A) **Additional Information.** If additional information is thereafter required, it may be requested and provided upon mutual agreement of City and Contractor. If Contractor's Claim is based on estimated amounts, Contractor has a continuing duty to update its Claim as soon as possible with information on actual amounts in order to facilitate prompt and fair resolution of the Claim.

(B) **Non-Waiver.** Any failure by City to respond within the times specified above will not be construed as acceptance of the Claim, in whole or in part, or as a waiver of any provision of these Contract Documents.

12.4 Meet and Confer. If Contractor disputes City's written response, or City fails to respond within the specified time, within 15 days of receipt of City's response or within 15 days of City's failure to respond within the applicable 45-day time period under Section 12.3, respectively, Contractor may notify City of the dispute in writing sent by registered or certified mail, return receipt requested, and demand an informal conference to meet and confer for settlement of the issues in dispute. If Contractor fails to notify City of the dispute and demand an informal conference to meet and confer in writing within the specified time, Contractor's Claim will be deemed waived.

(A) **Schedule Meet and Confer.** Upon receipt of the demand to meet and confer, City will schedule the meet and confer conference to be held within 30 days, or later if needed to ensure the mutual availability of each of the individuals that each party requires to represent its interests at the meet and confer conference.

(B) **Location for Meet and Confer.** The meet and confer conference will be scheduled at a location at or near City's principal office.

(C) **Written Statement After Meet and Confer.** Within ten working days after the meet and confer has concluded, City will issue a written statement identifying which portion(s) of the Claim remain in dispute, if any.

(D) **Submission to Mediation.** If the Claim or any portion remains in dispute following the meet and confer conference, within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute, the Contractor may identify in writing disputed portion(s) of the Claim, which will be submitted for mediation, as set forth below.

12.5 Mediation and Government Code Claims.

(A) **Mediation.** Within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute following the meet and confer, City and Contractor will mutually agree to a mediator, as provided under Public Contract Code § 9204. Mediation will be scheduled to ensure the mutual availability of the selected mediator and all of the individuals that each party requires to represent its interests. If there are multiple Claims in dispute, the parties may agree to schedule the mediation to address all outstanding Claims at the same time. The parties will share the costs of the mediator and mediation fees equally, but each party is otherwise solely and separately

responsible for its own costs to prepare for and participate in the mediation, including costs for its legal counsel or any other consultants.

(B) **Government Code Claims.**

(1) Timely presentation of a Government Code Claim is a condition precedent to filing any legal action based on or arising from the Contract. Compliance with the Claim submission requirements in this Article 12 is a condition precedent to filing a Government Code Claim.

(2) The time for filing a Government Code Claim will be tolled from the time Contractor submits its written Claim pursuant to Section 12.2, above, until the time that Claim is denied in whole or in part at the conclusion of the meet and confer process, including any period of time used by the meet and confer process. However, if the Claim is submitted to mediation, the time for filing a Government Code Claim will be tolled until conclusion of the mediation, including any continuations, if the Claim is not fully resolved by mutual agreement of the parties during the mediation or any continuation of the mediation.

12.6 Tort Claims. This Article does not apply to tort claims and nothing in this Article is intended nor will be construed to change the time periods for filing tort-based Government Code Claims.

12.7 Arbitration. It is expressly agreed, under Code of Civil Procedure § 1296, that in any arbitration to resolve a dispute relating to this Contract, the arbitrator's award must be supported by law and substantial evidence.

12.8 Burden of Proof and Limitations. Contractor bears the burden of proving entitlement to and the amount of any claimed damages. Contractor is not entitled to damages calculated on a total cost basis, but must prove actual damages. Contractor is not entitled to speculative, special, or consequential damages, including home office overhead or any form of overhead not directly incurred at the Project site or any other Worksite; lost profits; loss of productivity; lost opportunity to work on other projects; diminished bonding capacity; increased cost of financing for the Project; extended capital costs; non-availability of labor, material or equipment due to delays; or any other indirect loss arising from the Contract. The Eichleay Formula or similar formula will not be used for any recovery under the Contract. The City will not be directly liable to any Subcontractor or supplier.

12.9 Legal Proceedings. In any legal proceeding that involves enforcement of any requirements of the Contract Documents, the finder of fact will receive detailed instructions on the meaning and operation of the Contract Documents, including conditions, limitations of liability, remedies, claim procedures, and other provisions bearing on the defenses and theories of liability. Detailed findings of fact will be requested to verify enforcement of the Contract Documents. All of the City's remedies under the Contract Documents will be construed as cumulative, and not exclusive, and the City reserves all rights to all remedies available under law or equity as to any dispute arising from or relating to the Contract Documents or performance of the Work.

12.10 Other Disputes. The procedures in this Article 12 will apply to any and all disputes or legal actions, in addition to Claims, arising from or related to this Contract, including disputes regarding suspension or early termination of the Contract, unless and only to the extent that compliance with a procedural requirement is expressly and specifically waived by City. Nothing in this Article is intended to delay suspension or termination under Article 13.

Article 13 - Suspension and Termination

13.1 Suspension for Cause. In addition to all other remedies available to City, if Contractor fails to perform or correct Work in accordance with the Contract Documents, including non-compliance with applicable environmental or health and safety Laws, City may immediately order the Work, or any portion of it, suspended until the circumstances giving rise to the suspension have been eliminated to City's satisfaction.

(A) **Notice of Suspension.** Upon receipt of City's written notice to suspend the Work, in whole or in part, except as otherwise specified in the notice of suspension, Contractor and its Subcontractors must promptly stop Work as specified in the notice of suspension; comply with directions for cleaning and securing the Worksite; and protect the completed and in-progress Work and materials. Contractor is solely responsible for any damages or loss resulting from its failure to adequately secure and protect the Project.

(B) **Resumption of Work.** Upon receipt of the City's written notice to resume the suspended Work, in whole or in part, except as otherwise specified in the notice to resume, Contractor and its Subcontractors must promptly re-mobilize and resume the Work as specified; and within ten days from the date of the notice to resume, Contractor must submit a recovery schedule, prepared in accordance with the Contract Documents, showing how Contractor will complete the Work within the Contract Time.

(C) **Failure to Comply.** Contractor will not be entitled to an increase in the Contract Time or Contract Price for a suspension occasioned by Contractor's failure to comply with the Contract Documents.

(D) **No Duty to Suspend.** City's right to suspend the Work will not give rise to a duty to suspend the Work, and City's failure to suspend the Work will not constitute a defense to Contractor's failure to comply with the requirements of the Contract Documents.

13.2 Suspension for Convenience. City reserves the right to suspend, delay, or interrupt the performance of the Work in whole or in part, for a period of time determined to be appropriate for City's convenience. Upon notice by City pursuant to this provision, Contractor must immediately suspend, delay, or interrupt the Work and secure the Project site as directed by City except for taking measures to protect completed or in-progress Work as directed in the suspension notice, and subject to the provisions of Section 13.1(A) and (B), above. If Contractor submits a timely request for a Change Order in compliance with Articles 5 and 6, the Contract Price and the Contract Time will be equitably adjusted by Change Order pursuant to the terms of Articles 5 and 6 to reflect the cost and delay impact occasioned by such suspension for convenience, except to the extent that any such impacts were caused by Contractor's failure to comply with the Contract Documents or the terms of the suspension notice or notice to resume. However, the Contract Time will only be extended if the suspension causes or will cause unavoidable delay in Final Completion. If Contractor disputes the terms of a Change Order issued for such equitable adjustment due to suspension for convenience, its sole recourse is to comply with the Claim procedures in Article 12.

13.3 Termination for Default. City may declare that Contractor is in default of the Contract for a material breach of or inability to fully, promptly, or satisfactorily perform its obligations under the Contract.

(A) **Default.** Events giving rise to a declaration of default include Contractor's refusal or failure to supply sufficient skilled workers, proper materials, or equipment to perform the Work within the Contract Time; Contractor's refusal or failure to make prompt

payment to its employees, Subcontractors, or suppliers or to correct defective Work or damage; Contractor's failure to comply with Laws, or orders of any public agency with jurisdiction over the Project; evidence of Contractor's bankruptcy, insolvency, or lack of financial capacity to complete the Work as required within the Contract Time; suspension, revocation, or expiration and nonrenewal of Contractor's license or DIR registration; dissolution, liquidation, reorganization, or other major change in Contractor's organization, ownership, structure, or existence as a business entity; unauthorized assignment of Contractor's rights or duties under the Contract; or any material breach of the Contract requirements.

(B) **Notice of Default and Opportunity to Cure.** Upon City's declaration that Contractor is in default due to a material breach of the Contract Documents, if City determines that the default is curable, City will afford Contractor the opportunity to cure the default within ten days of City's notice of default, or within a period of time reasonably necessary for such cure, including a shorter period of time if applicable.

(C) **Termination.** If Contractor fails to cure the default or fails to expediently take steps reasonably calculated to cure the default within the time period specified in the notice of default, City may issue written notice to Contractor and its performance bond surety of City's termination of the Contract for default.

(D) **Waiver.** Time being of the essence in the performance of the Work, if Contractor's surety fails to arrange for completion of the Work in accordance with the Performance Bond within seven calendar days from the date of the notice of termination pursuant to paragraph (C), City may immediately make arrangements for the completion of the Work through use of its own forces, by hiring a replacement contractor, or by any other means that City determines advisable under the circumstances. Contractor and its surety will be jointly and severally liable for any additional cost incurred by City to complete the Work following termination, where "additional cost" means all cost in excess of the cost City would have incurred if Contractor had timely completed Work without the default and termination. In addition, City will have the right to immediate possession and use of any materials, supplies, and equipment procured for the Project and located at the Project site or any Worksite on City property for the purposes of completing the remaining Work.

(E) **Compensation.** Within 30 days of receipt of updated as-builts, all warranties, manuals, instructions, or other required documents for Work installed to date, and delivery to City of all equipment and materials for the Project for which Contractor has already been compensated, Contractor will be compensated for the Work satisfactorily performed in compliance with the Contract Documents up to the effective date of the termination pursuant to the terms of Article 8, Payment, subject to City's rights to withhold or deduct sums from payment otherwise due pursuant to Section 8.3, and excluding any costs Contractor incurs as a result of the termination, including any cancellation or restocking charges or fees due to third parties. If Contractor disputes the amount of compensation determined by City, its sole recourse is to comply with the Claim Procedures in Article 12, by submitting a Claim no later than 30 days following notice from City of the total compensation to be paid by City.

(F) **Wrongful Termination.** If Contractor disputes the termination, its sole recourse is to comply with the Claim procedures in Article 12. If a court of competent jurisdiction or an arbitrator later determines that the termination for default was wrongful, the termination will be deemed to be a termination for convenience, and Contractor's damages will be strictly limited to the compensation provided for termination for convenience under Section 13.4, below. Contractor waives any claim for any other damages for wrongful termination including special or consequential damages, lost

opportunity costs, or lost profits, and any award of damages is subject to Section 12.8, Burden of Proof and Limitations.

13.4 Termination for Convenience. City reserves the right, acting in its sole discretion, to terminate all or part of the Contract for convenience upon written notice to Contractor.

(A) **Compensation to Contractor.** In the event of City's termination for convenience, Contractor waives any claim for damages, including for loss of anticipated profits from the Project. The following will constitute full and fair compensation to Contractor, and Contractor will not be entitled to any additional claim or compensation:

(1) **Completed Work.** The value of its Work satisfactorily performed as of the date notice of termination is received, based on Contractor's schedule of values and unpaid costs for items delivered to the Project site that were fabricated for incorporation in the Work;

(2) **Demobilization.** Demobilization costs specified in the schedule of values, or if demobilization costs were not provided in a schedule of values pursuant to Section 8.1, then based on actual, reasonable, and fully documented demobilization costs; and

(3) **Termination Markup.** Five percent of the total value of the Work performed as of the date of notice of termination, including reasonable, actual, and documented costs to comply with the direction in the notice of termination for convenience, and demobilization costs, which is deemed to cover all overhead and profit to date.

(B) **Disputes.** If Contractor disputes the amount of compensation determined by City pursuant to paragraph (A), above, its sole recourse is to comply with the Claim procedures in Article 12, by submitting a Claim no later than 30 days following notice from City of total compensation to be paid by City.

13.5 Actions Upon Termination for Default or Convenience. The following provisions apply to any termination under this Article, whether for default or convenience, and whether in whole or in part.

(A) **General.** Upon termination, City may immediately enter upon and take possession of the Project and the Work and all tools, equipment, appliances, materials, and supplies procured or fabricated for the Project. Contractor will transfer title to and deliver all completed Work and all Work in progress to City.

(B) **Submittals.** Unless otherwise specified in the notice of termination, Contractor must immediately submit to City all designs, drawings, as-built drawings, Project records, contracts with vendors and Subcontractors, manufacturer warranties, manuals, and other such submittals or Work-related documents required under the terms of the Contract Documents, including incomplete documents or drafts.

(C) **Close Out Requirements.** Except as otherwise specified in the notice of termination, Contractor must comply with all of the following:

(1) Immediately stop the Work, except for any Work that must be completed pursuant to the notice of termination and comply with City's instructions for cessation of labor and securing the Project and any other Worksite(s).

(2) Comply with City's instructions to protect the completed Work and materials, using best efforts to minimize further costs.

(3) Contractor must not place further orders or enter into new subcontracts for materials, equipment, services or facilities, except as may be necessary to complete any portion of the Work that is not terminated.

(4) As directed in the notice, Contractor must assign to City or cancel existing subcontracts that relate to performance of the terminated Work, subject to any prior rights, if any, of the surety for Contractor's performance bond, and settle all outstanding liabilities and claims, subject to City's approval.

(5) As directed in the notice, Contractor must use its best efforts to sell any materials, supplies, or equipment intended solely for the terminated Work in a manner and at market rate prices acceptable to City.

(D) **Payment Upon Termination.** Upon completion of all termination obligations, as specified herein and in the notice of termination, Contractor will submit its request for Final Payment, including any amounts due following termination pursuant to this Article 13. Payment will be made in accordance with the provisions of Article 8, based on the portion of the Work satisfactorily completed, including the close out requirements, and consistent with the previously submitted schedule of values and unit pricing, including demobilization costs. Adjustments to Final Payment may include deductions for the cost of materials, supplies, or equipment retained by Contractor; payments received for sale of any such materials, supplies, or equipment, less re-stocking fees charged; and as otherwise specified in Section 8.3, Adjustment of Payment Application.

(E) **Continuing Obligations.** Regardless of any Contract termination, Contractor's obligations for portions of the Work already performed will continue and the provisions of the Contract Documents will remain in effect as to any claim, indemnity obligation, warranties, guarantees, submittals of as-built drawings, instructions, or manuals, record maintenance, or other such rights and obligations arising prior to the termination date.

Article 14 - Miscellaneous Provisions

- 14.1 Assignment of Unfair Business Practice Claims.** Under Public Contract Code § 7103.5, Contractor and its Subcontractors agree to assign to City all rights, title, and interest in and to all causes of action it may have under section 4 of the Clayton Act (15 U.S.C. § 15) or under the Cartwright Act (Chapter 2 (commencing with § 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the Contract or any subcontract. This assignment will be effective at the time City tenders Final Payment to Contractor, without further acknowledgement by the parties.
- 14.2 Provisions Deemed Inserted.** Every provision of law required to be inserted in the Contract Documents is deemed to be inserted, and the Contract Documents will be construed and enforced as though such provision has been included. If it is discovered that through mistake or otherwise that any required provision was not inserted, or not correctly inserted, the Contract Documents will be deemed amended accordingly.
- 14.3 Waiver.** City's waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of the Contract Documents will not be effective unless it is in writing and signed by City. City's waiver of any breach, failure, right, or remedy will not be deemed a waiver of any other breach, failure, right, or remedy, whether or not similar, nor will any waiver constitute a continuing waiver unless specified in writing by City.

- 14.4 Titles, Headings, and Groupings.** The titles and headings used and the groupings of provisions in the Contract Documents are for convenience only and may not be used in the construction or interpretation of the Contract Documents or relied upon for any other purpose.
- 14.5 Statutory and Regulatory References.** With respect to any amendments to any statutes or regulations referenced in these Contract Documents, the reference is deemed to be the version in effect on the date that bids were due.
- 14.6 Survival.** The provisions that survive termination or expiration of this Contract include Contract Section 11, Notice, and subsections 12.1, 12.2, 12.3, 12.4, 12.5, and 12.6 of Section 12, General Provisions; and the following provisions in these General Conditions: Section 2.2(J), Contractor's Records, Section 2.3(C), Termination, Section 3.7, Ownership, Section 4.2, Indemnity, Article 12, Dispute Resolution, and Section 11.2, Warranty.

END OF GENERAL CONDITIONS

Special Conditions

[Insert Project Special Conditions here, and, if applicable, add any of the optional special conditions provided below.]

Optional Special Conditions

Instructions for Use of Optional Special Conditions:

The following provisions are a limited menu of generic optional provisions for the Special Conditions, each of which may or may not be used, as applicable, in addition to any other Project-specific or City-specific provisions that should be included in the Special Conditions.

A brief explanation of each provision is included in *italics* before the provision itself. The explanation is strictly for internal use and should not be reproduced in the Special Conditions included with the Contract Documents. Only the provision itself should be copied and pasted into the Special Conditions. **Delete the explanations and notes (*in italics*) and any unused provisions.**

Since the ultimate numbering of these provisions will depend on which provisions are selected for use in the Special Conditions, blanks are provided as placeholders for the section numbers in the final document.

The following provision should be completed as indicated, and used to specify the days and times during which the Contractor is permitted to perform the Work. Cross-reference: General Conditions Section 5.2.

___. **Authorized Work Days and Hours.**

___.1 **Authorized Work Days.** Except as expressly authorized in writing by City, Contractor is limited to performing Work on the Project on the following days of the week, excluding holidays observed by City:

< _____ >

___.2 **Authorized Work Hours.** Except as expressly authorized in writing by City, Contractor is limited to performing Work on the Project during the following hours:

< _____ >

The following provision may be used to require a pre-construction conference, and should be adapted for the particular project.

___ **Pre-Construction Conference.** City will designate a date and time for a pre-construction conference with Contractor following Contract execution. Project administration procedures and coordination between City and Contractor will be discussed, and Contractor must present City with the following information or documents at the meeting for City's review and acceptance before the Work commences:

- ___**.1** Name, 24-hour contact information, and qualifications of the proposed on-site superintendent;
 - ___**.2** List of all key Project personnel and their complete contact information, including email addresses and telephone numbers during regular hours and after hours;
 - ___**.3** Staging plans that identify the sequence of the Work, including any phases and alternative sequences or phases, with the goal of minimizing the impacts on residents, businesses and other operations in the Project vicinity;
 - ___**.4** If required, traffic control plans associated with the staging plans that are signed and stamped by a licensed traffic engineer;
 - ___**.5** Draft baseline schedule for the Work as required under Section 5.2 of the General Conditions, to be finalized within ten days after City issues the Notice to Proceed;
 - ___**.6** Breakdown of lump sum bid items, to be used for determining the value of Work completed for future progress payments to Contractor;
 - ___**.7** Schedule with list of Project submittals that require City review, and list of the proposed material suppliers;
 - ___**.8** Plan for coordination with affected utility owner(s) and compliance with any related permit requirements;
 - ___**.9** Videotape and photographs recording the conditions throughout the pre-construction Project site, showing the existing improvements and current condition of the curbs, gutters, sidewalks, signs, landscaping, streetlights, structures near the Project such as building faces, canopies, shades and fences, and any other features within the Project area limits;
 - ___**.10** If requested by City, Contractor's cash flow projections; and
 - ___**.11** Any other documents specified in the Special Conditions or Notice of Potential Award.
-

This optional provision is intended for modifying the default insurance requirements under Section 4.3 of the General Conditions by modifying the CGL limits, waiving the pollution liability insurance, and/or waiving the builder's risk, as indicated in the separate sub-provisions.

___ **Insurance Requirements.** The insurance requirements under Section 4.3 of the General Conditions are modified for this Contract, as set forth below. Except as expressly stated below, all other provisions in Section 4.3 are unchanged and remain in full force and effect.

The following optional sub-provision may be used to adjust the default insurance limits for CGL coverage in Section 4.3 of the General Conditions, subject to prior consultation with and direction from the City's Risk Manager.

___ **Commercial General Liability ("CGL") Insurance.** The CGL insurance policy limits set forth in subsection 4.3(A)(1) of the General Conditions are modified for this Contract to require at least \$<_____> per occurrence and at least \$<_____> general aggregate.

The following optional sub-provision may be used if pollution liability insurance is not necessary for the project. Consult with the City's Risk Manager to confirm whether pollution liability insurance is needed for a project.

___ **Pollution Liability Insurance Waived.** The pollution liability insurance policy requirement set forth in subsection 4.3(A)(4) of the General Conditions is hereby waived and does not apply to this Contract.

The following optional sub-provision should only be used if builder's risk insurance is not applicable, such as for horizontal projects. Consult with the City's Risk Manager to confirm whether builder's risk insurance is required for a project.

___ **Builders Risk Insurance Waived.** The builder's risk insurance policy requirement set forth in subsection 4.3(A)(5) of the General Conditions is hereby waived and does not apply to this Contract.

The following provision may be most useful for longer projects which may extend into the rainy season. As stated, it is intended to supplement Sections 5.2 and 5.3 of the General Conditions. Using reliable data for the Project location, based on normal rainfall patterns over an extended period, e.g., 5-10 years, complete as indicated.

___ **Normal Weather Delay Days.** This provision is intended to supplement the requirements of General Conditions Section 5.2 on Schedule Requirements and Section 5.3 on Delays and Extensions of Contract Time. Based on historic records for the Project location, Contractor's schedule should assume the following number of normal Weather Delay Days for each month:

Month	# Normal Weather Delay Days
January	___

February	___
March	___
April	___
May	___
June	___
July	___
August	___
September	___
October	___
November	___
December	___

Weather Delay Days which do not occur during a given month based on the number of days allocated for that month (above) do not carry over to another month.

The following provision may be used when the Project is to be coordinated by a Construction Manager. The language should be tailored to align with the contract between the City and the Construction Manager, and also to reflect Project-specific procedures and requirements.

___ **Construction Manager Role and Authority.** < _____ > is the Construction Manager for this Project. The Construction Manager will assist City in the management of the construction of the Project. The Construction Manager may perform services in the areas of supervision and coordination of the work of Contractor and/or other contractors, scheduling the Work, monitoring the progress of the Work, providing City with evaluations and recommendations concerning the quality of the Work, recommending the approval of progress payments to Contractor, or other services for the Project in accordance with the Construction Manager's contract with City.

___ **.1 Communications.** Contractor must submit all notices and communications relating to the Work directly to the Construction Manager in writing, as follows:

<insert contact information>

With a copy to the Engineer:

<insert contact information>

___ **.2 On-Site Management and Communication Procedures.** The Construction Manager will provide and maintain a management team on the Project site to provide contract administration as an agent of City, and will establish and implement coordination and communication procedures among City, the Design Professional, Contractor, and others.

___ **.3 Contract Administration Procedures.** The Construction Manager will establish and implement procedures for reviewing and processing requests for clarifications and interpretations of the Contract Documents, Shop Drawings, samples, other submittals, schedule adjustments, Change Order proposals, written proposals for substitutions, payment applications, and maintenance of logs.

- ___4 **Pre-Construction Conference.** Contractor will attend the pre-construction conference, during which the Construction Manager will review the Contract administration procedures and Project requirements.
- ___5 **Contractor's Construction Schedule.** The Construction Manager will review Contractor's construction schedules and will verify that each schedule is prepared in accordance with the requirements of the Contract Documents.
-

*The following should be used for federally funded projects, as applicable. It contains those provisions required under Appendix II to Part 200 of Title 2 of the Code of Federal Regulations (as of 12/30/24) which are not already addressed elsewhere in the Contract Documents. Specific federal funding requirements may vary between federal agencies and may be revised from time to time. **These provisions should be used as needed to comply with applicable federal funding requirements.** Delete provisions that are not applicable. Consult the funding agency representative for further information and direction.*

___ **Federally Funded Projects.** This Project is funded in whole or in part by federal funds and subject to the following federal requirements under the terms of the funding agreement(s) between City and the federal agency or agencies providing federal funds, which are fully incorporated by this reference and made part of the Contract Documents. Copies of any funding agreement between City and a funding agency will be made available upon request.

___ **Equal Opportunity.** During the performance of this Contract, the Contractor agrees as follows:

(A) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action will include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(B) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(C) The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision will not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in

furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.

(D) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the labor union or workers' representatives of the Contractor's commitments under this Section, and will post copies of the notice in conspicuous places available to employees and applicants for employment.

(E) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the United States Secretary of Labor.

(F) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the United States Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by the administering agency and the United States Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(G) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of the rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further federal government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the United States Secretary of Labor, or as otherwise provided by law.

(H) The Contractor will include the portion of the sentence immediately preceding paragraph (A) and the provisions of paragraphs (A) through (H) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the United States Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each Subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the City or funding agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: *Provided*, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a Subcontractor or vendor as a result of such direction by the City or funding agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

— **Davis-Bacon Act.** Contractor must comply with the Davis-Bacon Act (40 U.S.C. § 3141 et seq.) and the requirements of 29 CFR Part 5 as may be applicable, including the provisions in 29 CFR § 5.5(a), which are attached hereto and incorporated herein by reference. Contractor will pay wages to laborers and mechanics, not less than once a week, and at a rate not less than the current federal prevailing wages specified in the Davis-Bacon Act Wage Determination attached hereto and incorporated herein. By entering into this Contract, Contractor accepts the attached Wage Determination. Contractor and

Subcontractors must insert the requirements in 29 CFR § 5.5(a) in full into subcontracts of any tier. *<The current Davis-Bacon Act Wage Determination, which may be accessed at <https://sam.gov/content/wage-determinations>, must be printed and included with the Contract Documents. Additionally, the current provisions at 29 CFR § 5.5(a), which may be accessed at <https://www.ecfr.gov/current/title-29/subtitle-A/part-5/subpart-A/section-5.5>, should be printed and included with the Contract Documents. Refer to the applicable Notice of Funding Opportunity or other program guidance and/or contact the federal funding agency representative for additional information on how to implement this requirement and any other required contract provisions for compliance with the Davis-Bacon Act and related acts and incorporate the federal agency-specific requirements, as appropriate.>*

—.— **Copeland “Anti-Kickback” Act.** Contractor will comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 CFR Part 3 as may be applicable, which are incorporated by reference into this Contract. Contractor and Subcontractors must insert this requirement into subcontracts of any tier. Contractor is responsible for compliance with these requirements by each Subcontractor of any tier.

—.— **Contract Work Hours and Safety Standards Act.** In addition to the California state law requirements in Article 9 of the General Conditions, Contractor and each Subcontractor must comply with the requirements of the federal Contract Work Hours and Safety Standards Act (“CWHSSA”), as set forth in 40 U.S.C. §§ 3701-3708, as supplemented by the regulations set forth in 29 CFR Part 5, including 29 CFR § 5.5(b), as may be amended from time to time, which are fully incorporated herein, including:

(A) **Overtime Requirements.** No Contractor or Subcontractor contracting for any part of the Work which may require or involve the employment of laborers or mechanics will require or permit any such laborer or mechanic in any workweek in which he or she is employed on such Work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(B) **Violation; Liability for Unpaid Wages; Liquidated Damages.** In the event of any violation of the clause set forth in (A), above, the Contractor and any Subcontractor responsible therefor will be liable for the unpaid wages and interest from the date of the underpayment. In addition, such Contractor and Subcontractor will be liable to the United States for liquidated damages. The liquidated damages will be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in (A) of this Section, in the sum of \$32 (or as otherwise set forth in 29 CFR § 5.5(b)) for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in (A) of this Section.

(C) **Withholding for Unpaid Wages and Liquidated Damages.**

(1) **Withhold Process.** The City may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor so much of

the accrued payments or advances as may be considered necessary to satisfy the liabilities of the Contractor or any Subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this Section, any other Federal contract with the same Contractor, or any other federally assisted contract subject to the CWHSSA that is held by the same Contractor (as defined in 29 CFR § 5.2). The necessary funds may be withheld from the Contractor under this Contract, any other Federal contract with the same Contractor, or any other federally assisted contract that is subject to the CWHSSA and is held by the same Contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

(2) *Priority to Withheld Funds.* The Department of Labor has priority to funds withheld or to be withheld in accordance with 29 CFR § 5.5(a)(2)(i) or 29 CFR § 5.5(b)(3)(i), or both, over claims to those funds by: (a) a contractor's sureties, including without limitation performance bond sureties and payment bond sureties; (b) a contracting agency for its re-procurement costs; (c) a trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate; (d) a contractor's assignee(s); (e) a contractor's successor(s); or (f) a claim asserted under the Prompt Payment Act (31 U.S.C. §§ 3901–3907).

(D) **Subcontracts.** Contractor and Subcontractors must insert in any subcontracts the clauses set forth in this Section and a clause requiring Subcontractors to include these clauses in any lower tier subcontracts. Contractor is responsible for compliance by any Subcontractor or lower tier Subcontractor with the clauses set forth in this Section. In the event of any violations of these clauses, the Contractor and any Subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier Subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

(E) **Anti-Retaliation.** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

(1) Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the CWHSSA or its implementing regulations in 29 CFR Part 5;

(2) Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or 29 CFR Part 5;

(3) Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or 29 CFR Part 5; or

(4) Informing any other person about their rights under CWHSSA or 29 CFR Part 5.

(F) **CWHSSA Required Records.** To the extent that the Contract is subject only to the CWHSSA and not to any of the other Laws referenced in 29 CFR § 5.1, Contractor and its Subcontractors must maintain regular payrolls and other basic records during the course of the Work and must preserve them for a period of three years after all the Work on the Contract is completed for all laborers and mechanics, including guards and watchpersons, working on the Contract. Such records must contain the name; last known address, telephone number, and email address; and social security number of each such worker; each worker's correct classification(s) of Work actually performed; hourly rates of wages paid; daily and weekly number of hours actually worked; deductions made; and actual wages paid. The records must be made available by the Contractor or Subcontractor for inspection, copying, or transcription by authorized representatives of the City and the Department of Labor, and the Contractor or Subcontractor will permit such representatives to interview workers during working hours on the job.

—.— **Rights to Inventions.** If the federal funding for this Contract meets the definition of “funding agreement” under 37 CFR § 401.2(a) and constitutes an agreement between the City and a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the requirements of 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency, will apply to this Contract and are fully incorporated into the Contract Documents by this reference.

—.— **Clean Air Act.** If the Contract is for an amount in excess of \$150,000, Contractor and each Subcontractor must comply with the requirements of the Clean Air Act, as amended (42 U.S.C. §§ 7401-7671q), and all applicable standards, orders, and regulations issued pursuant thereto, which are fully incorporated into the Contract Documents by this reference, including requirements for reporting violations to the City, federal awarding agency, and the applicable Regional Office for the Environmental Protection Agency. Contractor and Subcontractors must insert this requirement into subcontracts of any tier in excess of \$150,000.

—.— **Federal Water Pollution Control Act.** If the Contract is for an amount in excess of \$150,000, Contractor and each Subcontractor must comply with the requirements of the Federal Water Pollution Control Act (33 U.S.C. §§ 1251-1387), and all applicable standards, orders, and regulations issued pursuant thereto, which are fully incorporated into the Contract Documents by this reference, including requirements for reporting violations to the City, federal awarding agency, and the applicable Regional Office for the Environmental Protection Agency. Contractor and Subcontractors must insert this requirement into subcontracts of any tier in excess of \$150,000.

—.— **Suspension and Debarment.** This Contract is a covered transaction for purposes of 2 CFR Part 180 and 2 CFR Part 3000. Contractor is required to verify that none of its principals, as defined at 2 CFR § 180.995, or its affiliates, as defined at 2 CFR § 180.905, are excluded or disqualified, as defined at 2 CFR §§ 180.935 and 180.940. Contractor must comply with 2 CFR Part 180, subpart

C and 2 CFR Part 3000, subpart C, and must include a provision requiring compliance with these regulations in any subcontract of any tier. If it is later determined that the Contractor did not comply with the applicable subparts, in addition to remedies available to City, the federal government may pursue available remedies, including, but not limited to, suspension and/or debarment. By submitting a bid and entering into this Contract, Contractor agrees to comply with these requirements.

—.— **Byrd Anti-Lobbying Amendment.** If the Contract is for an amount in excess of \$100,000, Contractor must comply with the Byrd Anti-Lobbying Amendment (31 U.S.C. § 1352) and file the certification provided at 44 CFR Part 18, Appendix A, and any disclosures, with the City. Each tier certifies to the tier above that it will not and has not used federal-appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier will also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures will be forwarded from tier to tier up to the recipient who in turn will forward the disclosure(s) to the federal awarding agency.

—.— **Procurement of Recovered Materials.** The requirements of § 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 at 42 U.S.C. § 6962, apply to this Contract and are fully incorporated into the Contract Documents by this reference. For individual purchases of \$10,000 or more, Contractor will make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired (A) competitively within the Contract schedule, (B) in conformance with Contract performance requirements, or (C) at a reasonable price. Information on this requirement, including a list of EPA-designated items, is available at the EPA's Comprehensive Procurement Guidelines website:
<https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.

—.— **Prohibition on Covered Telecommunications.** Federal loan or grant funds must not be obligated or expended to procure or obtain covered telecommunications equipment or services, extend or renew a contract to procure or obtain covered telecommunications equipment or services, or enter into a contract (or extend or renew a contract) to procure or obtain covered telecommunications equipment or services, as further specified in 2 CFR § 200.216, which is fully incorporated into the Contract Documents by this reference. "Covered telecommunications equipment or services" means any of the following: telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities); video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities); telecommunications or video surveillance services provided by such entities or using such equipment; or telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country. The term "covered telecommunications equipment or services" also includes systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as

part of any system. Contractor will include this provision in all subcontracts or purchase orders in connection with the Work.

- ___ **Domestic Preferences for Procurements.** The City should, to the greatest extent practicable and consistent with Laws, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States, as further specified in 2 CFR § 200.322, which is fully incorporated into the Contract Documents by this reference, including, but not limited to, iron, aluminum, steel, cement, and other manufactured products, as specified therein. The requirements of 2 CFR § 200.322 must be included in all subcontracts and purchase orders for Work or products under the federal award. *<Consult the federal funding agency representative for additional requirements pertaining to domestic preferences under the Build America, Buy America Act, if applicable, and incorporate the federal agency-specific requirements, as appropriate.>*
-

*The following optional provision may be used to attach and incorporate federal contract requirements for projects administered under Caltrans' Local Assistance Procedures Manual ("LAPM"), as specified in Chapter 12 of the LAPM and exhibits thereto, including "Appendix E" to the Standard Title VI/Non-Discrimination Assurances (DOT Order No. 1050.2A), effective September 17, 2020, which may be downloaded from <https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/title-vi/appendix-e-of-the-title-v-i-assurances.pdf>. Federal law and LAPM requirements are frequently amended. **DELETE ATTACHMENT B IF NOT APPLICABLE.** Be sure to use the most current version of the LAPM, which may be downloaded from: <https://dot.ca.gov/programs/local-assistance/guidelines-and-procedures/local-assistance-procedures-manual-lapm>.*

- ___ **Federal Contract Requirements for Caltrans-Administered Project.** This Project is funded in whole or in part by federal funds administered under Caltrans' Local Assistance Procedures Manual ("LAPM"). LAPM contract requirements are provided in Attachment B - Federal Contract Requirements. Contractor must comply with the requirements set forth in Attachment B.
-

The following provision may be used to provide more detail on the Contractor's post-construction restoration requirements. This provision may be adapted by adding Project-Specific requirements or deleting requirements that are not applicable. Cross-reference: General Conditions Section 7.9(E).

- ___ **Close Out Requirements.** Contractor's close out requirements include the following, if applicable:

- ___ **.1** Contractor must replace, with thermoplastic, any existing striping within and adjacent to the Project site that is damaged during the Work. Partially damaged striping must be replaced in its entirety.
- ___ **.2** Contractor must replace any survey monuments that are damaged or removed during the Work, with a Record of Survey filed by a licensed land surveyor as required by California law.

- ___3 Before removing any traffic control or street signs on the Project site, Contractor must take photographs showing their original locations. Upon completion of each phase of construction, Contractor must temporarily reset the signs at those locations. Contractor must then replace the signs permanently upon completion of the Work and the cost of their removal and replacement must be included in the Bid Proposal.
- ___4 Contractor must maintain any rural mail boxes on the Project site and relocate them to their permanent locations as soon as possible in the course of the Work, to the satisfaction of the affected property owners and the postal service.
-

The following provision may be used to expressly limit circumstances under which a contractor may be entitled to share in the cost savings from value engineering proposed by the Contractor. Reference Public Contract Code § 7101.

___ **Value Engineering.** The Contractor may be entitled to additional compensation for cost reduction changes made pursuant to a value engineering proposal submitted by the Contractor, subject to the limitations of Public Contract Code § 7101, and in strict compliance with this Section ___. Contractor will not be entitled to any such additional compensation unless all of the following requirements have been met:

- ___1 The Contractor must submit a written proposal for changes to the Plans or Specifications for the Project, in which it:
- (A) Identifies the written proposal as a proposal for cost reduction changes with reference to this section;
- (B) Clearly and specifically identifies the proposed cost reduction changes by describing in detail each of the changes proposed with specific references to each of the Specifications and Plans involved in the proposed changes, and providing proposed revised Specifications and Plans as applicable; and
- (C) Estimates the net amount of the cost reduction and provides the basis for that estimate.
- ___2 The proposed changes have been identified and developed solely by the Contractor, and not, in whole or in part, by the City.
- ___3 The City accepts the proposed changes in whole or in part in a writing signed by the Engineer. The Contractor will only be entitled to additional compensation for those changes specifically accepted by the City. The Engineer will determine the net savings in construction costs from any such changes that are both accepted and implemented by the City. Contractor will not be entitled to more than 50% of the net savings as determined by the Engineer, acting in his or her sole discretion.
-

END OF SPECIAL CONDITIONS

[Insert Technical Specifications]

[Copy onto City letterhead]

Sent via

<Date>

<Contractor representative name and title>

<Contractor business name>

<Contractor address>

<Contractor email>

Re: **NOTICE OF POTENTIAL AWARD**
< > Project

Dear <Contractor representative name>:

I am pleased to inform you of the intent to recommend that the City Council or its authorized designee award the Contract for the above-referenced Project ("Project") to < _____ > ("Contractor") for the Contract Price of \$< _____ >, based on Contractor's Bid Proposal submitted on < _____ , 20 ____ >.

A copy of the Contract accompanies this Notice. Contractor must execute <___> copies of the enclosed Contract and return the wet-inked copies to my attention, accompanied by the required Payment Bond and Performance Bond, insurance certificates and endorsements, and valid Certificates of Reported Compliance for its fleet and its listed Subcontractors, as required under the California Air Resources Board's In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR § 2449 et seq.), if applicable, no later than ten days from the date of this Notice of Potential Award. above.

Failure to execute and return the enclosed Contract and required bonds, insurance documentation, and valid Certificates of Reported Compliance within the specified time could result in forfeiture of Contractor's bid security. This Notice of Potential Award does not bind the City to award the Contract. The City, acting through its City Council or authorized designee, reserves the right to reject any or all bids, and the right to decline to award the Contract, notwithstanding any staff recommendation.

Unless expressly authorized or required to engage in any pre-construction activities, such as preparing submittals, Contractor must not commence Work until directed by the Notice to Proceed and will not be entitled to compensation or credit for any Work performed before the date specified in the Notice to Proceed.

Please acknowledge receipt of this Notice of Potential Award by signing the attached Acknowledgement of Notice of Potential Award, as indicated, and transmitting the Acknowledgement to my office via email at: _____ <Email Address>. Do not hesitate to contact me if you have any questions in this regard.

Sincerely,

<Name>
<Title>

Enclosure

Acknowledgement of Notice of Potential Award

On behalf of <_____> ("Contractor"), I acknowledge receipt of the Notice of Potential Award for the <_____> Project:

s/ _____

Name: _____

Title: _____

Date: _____

[Copy onto City letterhead]

Sent via _____ <insert delivery method, e.g., certified mail or FedEx>

<Date>

<Contractor representative name and title>

<Contractor business name>

<Contractor address>

<Contractor email>

Re: **NOTICE TO PROCEED**

<_____> Project

Dear <Contractor representative name>:

By this letter, <_____> ("Contractor") is notified to proceed with its Work for the above-referenced Project ("Project"), as required by the Contract Documents. Contractor should start the Work on or before <_____, 20__> ("Start Date"), and must achieve Final Completion within <_____> calendar days from the Start Date.

[Optional: Contractor and its first-tier Subcontractors must attend a mandatory pre-construction conference on <date> at <time> at <address/location>. The following document(s) must be submitted to the Project Manager at _____ <email address>, no later than <_____, 20__>: _____ <list required documents, e.g., baseline schedule, subcontracts, submittal schedule, schedule of values, etc.>]

A copy of the fully executed Contract is enclosed for your files.

Please acknowledge receipt of this Notice to Proceed by signing the attached Acknowledgement of Notice to Proceed, as indicated, and transmitting the Acknowledgement to my office via email at: _____ <Email Address>. Do not hesitate to contact me if you have any questions in this regard.

Sincerely,

<Name>
<Title>

Enclosure

Acknowledgement of Notice to Proceed

On behalf of <_____> ("Contractor"), I acknowledge receipt of the Notice to Proceed for the <_____> Project:

s/ _____

Name: _____

Title: _____

Date: _____

Recording Requested By:
City of _____

When Recorded Mail To:

<name, title>
<street address>
<city, state and zip>

EXEMPT FROM RECORDING FEES PER
GOVERNMENT CODE § 27383

SPACE ABOVE THIS LINE IS FOR RECORDER'S USE

NOTICE OF COMPLETION
Civil Code §§ 9204 and 9208

NOTICE IS HEREBY GIVEN THAT:

1. The undersigned is the agent of the owner of the Project described below.
2. Owner's full name is _____ ("City")
3. City's address is _____
4. The nature of City's interest in the Project is:
___ Fee Ownership ___ Lessee ___ Other: _____
5. Construction work on the Project performed on City's behalf is generally described as follows:
< _____ >.
6. The name of the original Contractor for the Project is: < _____ > located at
< _____ >.
7. The Project was accepted as complete on: < _____, 20__ >.
8. The Project is located at: < _____ >.

Verification: In signing this document, I, the undersigned, declare under penalty of perjury under the laws of the State of California that I have read this notice, and I know and understand the contents of this notice, and that the facts stated in this notice are true and correct.

Date and Place

Signature

Name and Title

*EXEMPT FROM NOTARY ACKNOWLEDGMENT REQUIREMENTS PER
GOVERNMENT CODE § 27287 AND CIVIL CODE § 9208*

ATTACHMENT A
SCOPE OF WORK

CITYWIDE LIGHTING IMPROVEMENT PROJECT

Bid Item 1: Citywide Lighting Assessment

The Contractor shall perform a citywide lighting assessment and identify the necessary lighting improvements.

The Contractor shall:

- A. Perform a citywide lighting study to determine the lighting needs required in the City. As part of the study, the contractor shall prepare a report summarizing the findings and different lighting needs. The Contractor shall investigate and determine the corrective requirements for each streetlight including the upgrade of existing fixtures. The report shall be broken down per neighborhood and shall include lighting improvements at parks and trailheads. The corrective measures may include the upgrade of fixtures, the replacement of short mastarms with longer mastarms, the installation of streetlights and the associated electrical work, and the installation of solar lights. Additionally, the lighting assessment shall include the investigation of the Clarke Avenue Pedestrian overcrossing and the recommendation for improvements such as light poles or other lighting and security options along the overcrossing. The study shall review and provide recommendation for Park lighting and security systems. The entire study is to include a photometric analysis. The study shall also recommend smart controllers and smart lighting improvements where feasible.
- B. Following the lighting assessment, the contractor shall work with City staff to schedule the work. The Contractor shall then repair or replace equipment and components that have failed, deteriorated, or malfunctioned from the normal operation. Additionally, the contractor to install new streetlights where identified.
- C. Prepare shapefiles for all city lighting.

This bid item includes mobilization and traffic control.

Bid Item 2: Streetlight - Install Street Light with Pole

The installation of a streetlight with a stand-alone pole includes, but is not limited to, the following materials: Pole, Mast Arm, Conduit, Conductors, Photocontrol, and LED Light. Must be consistent with the Caltrans Standard ES-6A, included in Attachment B: Technical Specifications. The type 15 variation must be used. The final proposed product must be consistent with the existing style of lighting in the City. For parks, trails, public facilities, and similar pedestrian-focused areas, shorter poles with a height of around 20 feet are acceptable.

This bid item includes all necessary site preparation, foundation work, concrete work, pavement repair, and traffic control associated with the installation. This bid item also includes mobilization.

The final quantity may change based on the Citywide Lighting Assessment and field conditions.

Bid Item 3: Streetlight Mastarm (8ft) - Install Street Light on PG&E pole

The installation of an 8ft streetlight mast arm includes, but is not limited to, the following material: mast Arm, Conduit, Conductors, Photocontrol, and LED Light. The materials chosen must be, or equivalent to, those specified in Attachment B: Technical Specifications. Additionally, installation must be consistent with the PGE Standard provided once the locations are approved. Lights must be installed at a minimum of 30 feet in height, any variations in height must be approved by the Project Engineer. The final proposed product must be consistent with the existing lighting in the City.

This bid item includes all necessary site preparation and traffic control associated with the installation.

The final quantity may change based on the Citywide Lighting Assessment and field conditions.

Bid Item 4-5: Solar Streetlight Installation

The City is seeking the supply and installation of solar-powered streetlighting systems at designated locations. This includes off-grid solutions where traditional electrical infrastructure is limited or absent. Installation of a solar streetlight pole includes, but is not limited to, all material and equipment. The light pole shall be 30 ft for roadways.

For parks, trails, public facilities, and similar pedestrian-focused areas, shall be shorter poles with a height of around 20 feet .

This bid item includes all necessary site preparation, foundation work, concrete work, pavement repair, and traffic control associated with the installation. This bid item also includes mobilization.

The final quantity may change based on the Citywide Lighting Assessment and field conditions.

The specification are included in Attachment B: Technical Specifications; however, an equivalent or similar solar light from other suppliers is acceptable.

Bid Item 6: LED

This bid item includes all necessary site preparation, material, and traffic control associated with the installation. This bid item also includes mobilization.

This item requires that existing HPS or non-compliant LED lights be replaced with LED's. LED to be used is included in Attachment B: Technical Specifications. Light heads may need to be adapted for existing poles.

The final quantity may change based on the Citywide Lighting Assessment and field conditions.

Bid Item 7-8: Decorative Streetlight (Holophane MPL3)

The installation of a decorative, or an approved equivalent, shall include full compensation for furnishing all materials and performing all required and necessary street lighting work as specified in Attachment B: Technical Specifications.

This bid item includes all necessary site preparation, foundation work, concrete work, pavement repair, and traffic control associated with the installation. This bid item also includes mobilization.

The final quantity may change based on the Citywide Lighting Assessment and field conditions.

Bid Item 9: Sports Lighting Improvements – Martin Luther King Junior Park

The City plans to upgrade sports field lighting in public parks to modern LED or high-performance systems that meet current sports illumination standards. This includes lighting for fields, enhancing safety and playability for evening and night use. This bid item includes all necessary mobilization, site preparation, clearing and grubbing, foundation work, concrete work, pavement repair, and site control/traffic control associated with the installation. The layout/ lighting details are included in Attachment B: Technical Specifications; however, an equivalent from another suppliers is acceptable.

Bid Item 10: Operations Superintendent

This bid item includes Operations Superintendent work for the project. The Operations Superintendent will oversee the full execution of field operations for the lighting improvement project. This individual is responsible for ensuring safe, efficient, and high-quality work across all field teams, and maintaining coordination with city departments and contractors. All repair work associated with the project, both field and laboratory, would be subject to their approval and direction.

Bid Item 11: Streetlight Maintenance Worker

This bid item is associated with all work performed by a streetlight maintenance worker. Streetlight Maintenance Workers will be responsible for the hands-on inspection, repair, and installation of lighting equipment citywide, including poles, fixtures, wiring, and control systems.

Bid Item 12: Crew Leader

This bid item is associated with all work performed by a crew leader. Primary duties are to field troubleshoot and repair field wiring and perform routine duties of Preventive maintenance. The Crew Leader will lead field crews in the installation and maintenance of lighting infrastructure. This role requires technical expertise and supervisory ability to ensure work is performed efficiently and safely.

Bid Item 13: GIS Specialist: GIS Map and Database - Initial Set Up

This bid item is associated with all work performed by a GIS specialist during the initial set up phase. The GIS Specialist will set-up the spatial data related to the lighting infrastructure. This includes mapping existing assets, documenting upgrades, and integrating real-time project data into the city's GIS system.

Bid Item 14: GIS Specialist: GIS Map and Database - Ongoing Support

This bid item is associated with all work performed by a GIS specialist following the initial set-up, on an on-going basis. The GIS Specialist will manage the spatial data related to the lighting infrastructure. This includes mapping existing assets, documenting upgrades, and integrating real-time project data into the city's GIS system.

Bid Item 15: Project Management (Utility Coordination)

This bid item is associated with all work performed by a project manager. The project manager is expected to coordinate the submittal of PG&E permits and applications, meet/coordinate with PG&E when necessary online and in the field, and any other work associated with obtaining PG&E approval for lighting work.

Bid Item 16: Component and Equipment Repair

The Contractor shall investigate and determine the corrective requirements and lighting needs for each neighborhood. The Contractor shall repair or replace equipment and components, including poles, mast arms, and luminaires, which have failed, deteriorated or malfunctioned. Replacement of poles, mast arms, and luminaires will require approval of City staff prior to replacement.

The equipment and components shall include, but is not limited to the following elements:

- Lamps
- Sockets
- Ballasts
- Starters
- Photoelectric cells
- Fuses
- Fuse holders
- Conductors
- Wiring
- All other incidentals.

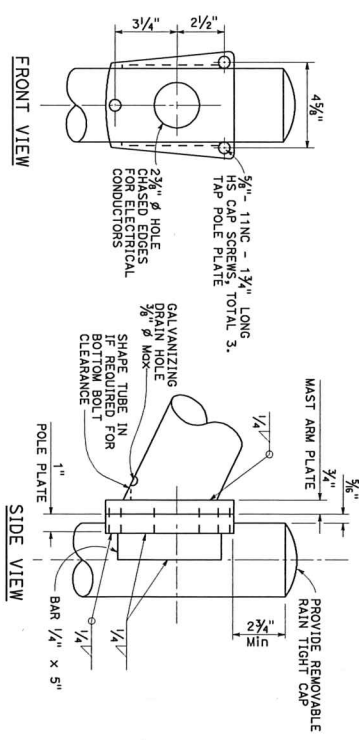
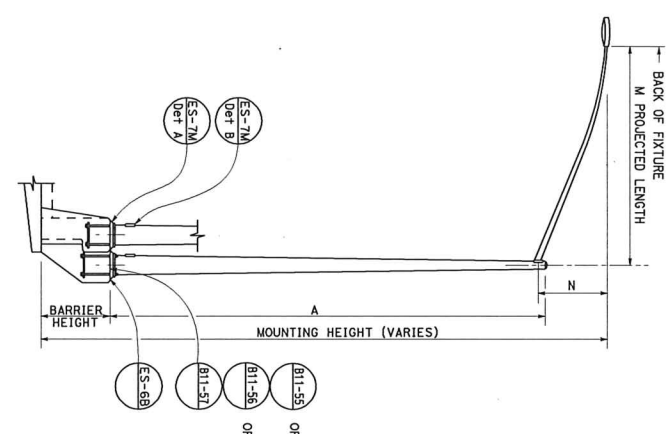
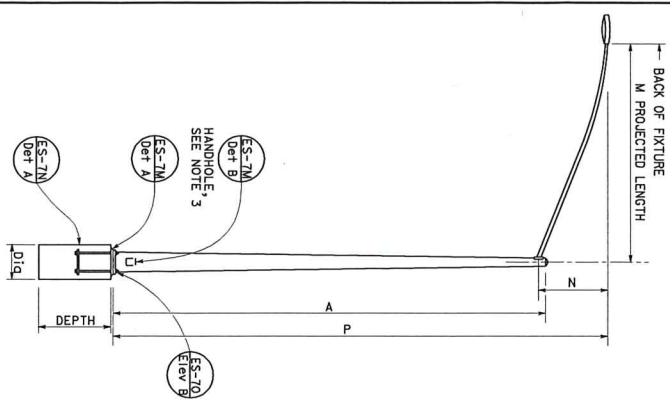
The Contractor shall submit a proposal to provide the required streetlight supplies, materials, and installed equipment for approval by the City prior to proceeding with installation. The City shall approve the sources of and prices for supplies, materials, and installed equipment prior to procurement. Replacement supplies, materials, and installed equipment will be manufactured by a reputable supplier approved by the City. Such approval shall not prevent subsequent disapproval or rejection of supplies, materials, and installed equipment by the City if the quality is less than required by the Contract or otherwise unsatisfactory. If discounts by suppliers are available to the Contractor, they shall be credited to the City. If supplies, materials, or installed equipment is obtained from supply or source owned by or in part by the Contractor, the price will not exceed current wholesale price for such materials and installed equipment. The City reserves the right to furnish supplies, materials, and installed equipment required for performance of the work.

Bid Item 17: Sports Lighting at Jack Farrell Park

The City plans to upgrade sports field lighting in public parks to modern LED or high-performance systems that meet current sports illumination standards. This includes lighting for fields, enhancing safety and playability for evening and night use. This bid item includes all necessary mobilization, site preparation, clearing and grubbing, foundation work, concrete work, pavement repair, and site control/traffic control associated with the installation. This item shall be constructed per the Little League Standards included in Attachment B: Technical Specifications. The contractor shall review the existing conditions at Jack Farrell Park and recommend the number of poles/ pole height/ fixture type.

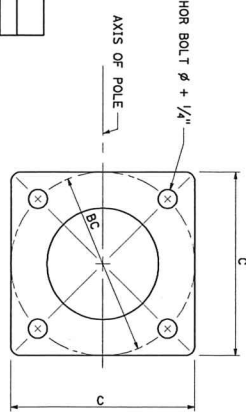
ATTACHMENT B
TECHNICAL SPECIFICATIONS

CITYWIDE LIGHTING IMPROVEMENT PROJECT



LUMINAIRE MAST ARM CONNECTION
DETAIL R

BOLT HOLE = ANCHOR BOLT $\phi + 1/4"$



BASE PLATE
DETAIL A

POLE TYPE	POLE DATA				BASE PLATE DATA				C/DH PILE FOUNDATION	
	A	HEIGHT	MIN OD	WALL THICKNESS	C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	DEPTH	
15	30'-0"	8"	3 3/4"	0.1196"	1'-0"	1'-0"	1 1/2"	1" ϕ x 36" *	2'-6"	6'-0"
21	35'-0"	8 3/4"	3 3/4"	0.1793"	1'-0"	1'-0"	2"	1 1/2" ϕ x 36" *	2'-6"	7'-0"

* FOR BARRIER RAIL BOLTS, SEE STANDARD PLAN ES-6B.

NOTES:

- Indicates mast arm length to be used unless otherwise noted on the plans.
- For Type 15-SB, use Type 15 standard with Type 30 slip base plate details, see Standard Plan ES-6F.
- Handhole shall be located on the downstream side of traffic.
- For additional notes and details, see Standard Plans ES-7M and ES-7N.

LUMINAIRE MAST ARM DATA			
PROJECTED LENGTH	N	RISE AT DOG	MIN AT DOG
6'-0"	2'-0"	3 3/4"	3 3/4"
8'-0"	2'-6"	3 3/4"	3 3/4"
10'-0"	3'-3"	3 3/4"	3 3/4"
12'-0"	4'-3"	3 3/4"	3 3/4"
15'-0"	4'-9"	4 1/4"	4 1/4"

LUMINAIRE MAST ARM DATA			
PROJECTED LENGTH	N	RISE AT DOG	MIN AT DOG
6'-0"	2'-0"	3 3/4"	3 3/4"
8'-0"	2'-6"	3 3/4"	3 3/4"
10'-0"	3'-3"	3 3/4"	3 3/4"
12'-0"	4'-3"	3 3/4"	3 3/4"
15'-0"	4'-9"	4 1/4"	4 1/4"

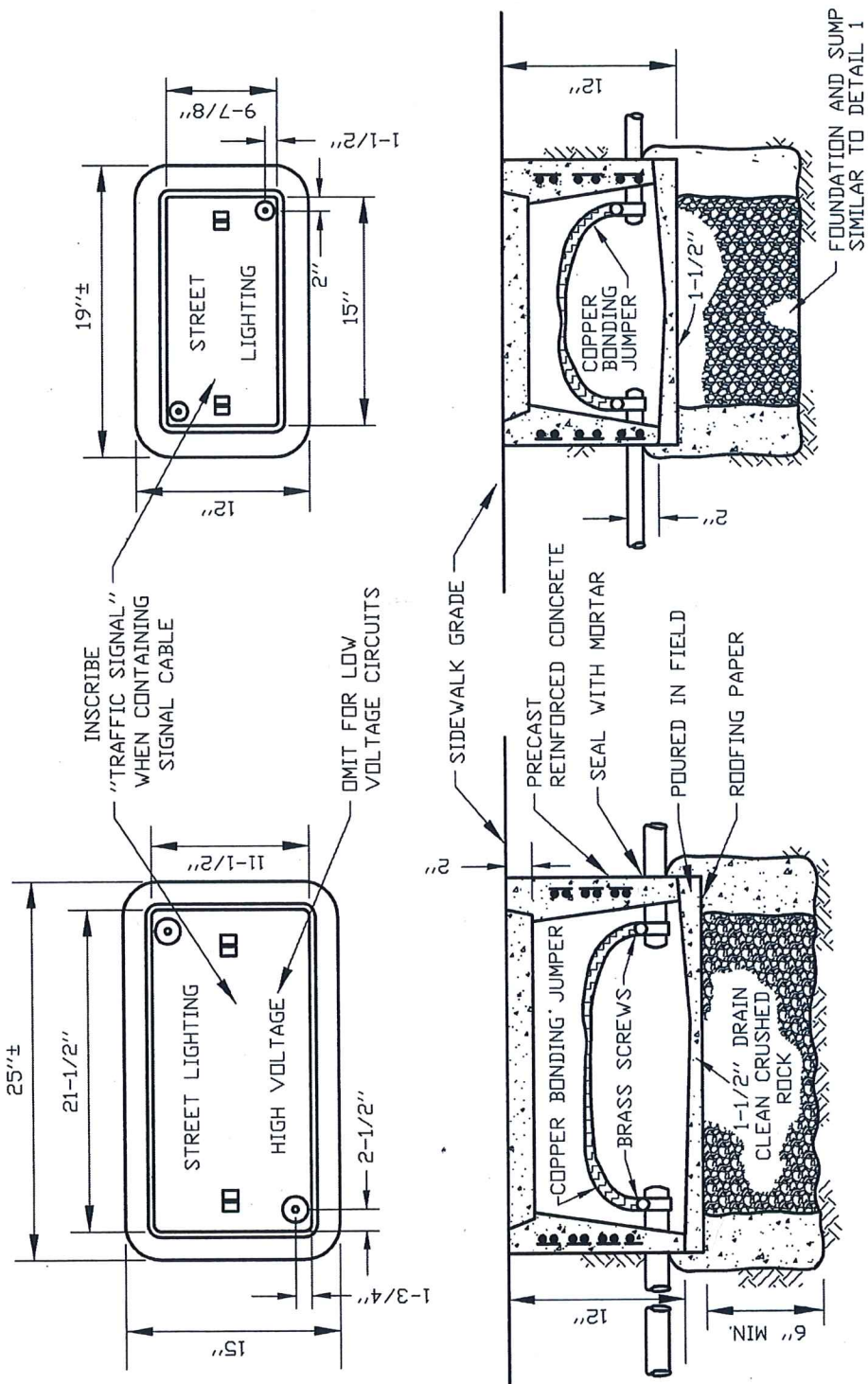
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(LIGHTING STANDARD,
TYPES 15 AND 21)
NO SCALE

ES-6A

01st COUNTY ROUTE PROJECT SHEET NO. 1 OF 1

REGISTERED PROFESSIONAL ENGINEER
May 31, 2018
No. 57793
Exp. 12-31-20
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR CONSEQUENCES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
No. 57793
Exp. 12-31-20
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR CONSEQUENCES OF THIS PLAN SHEET.



SECTION A-A

NOTE:
COPPER BONDING JUMPER TO BE USED WITH
METALLIC CONDUIT ONLY.

DETAIL NO.2
NO. 3-1/2 PULL BOX

DETAIL NO.1
NO. 5 PULL BOX

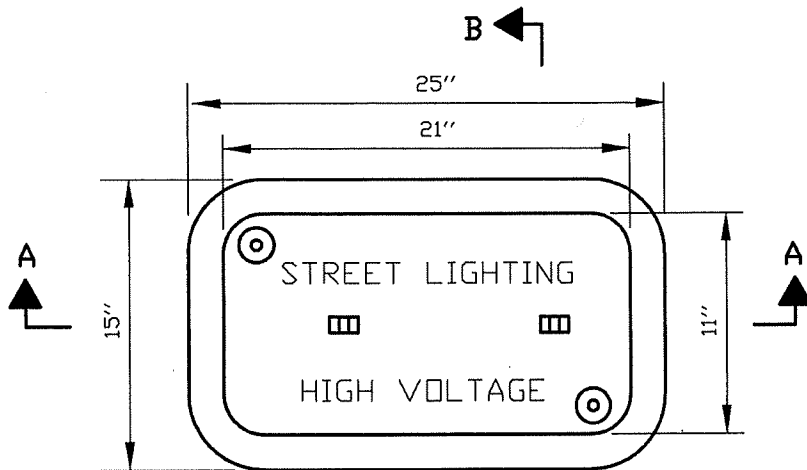


ENGINEERING DEPARTMENT

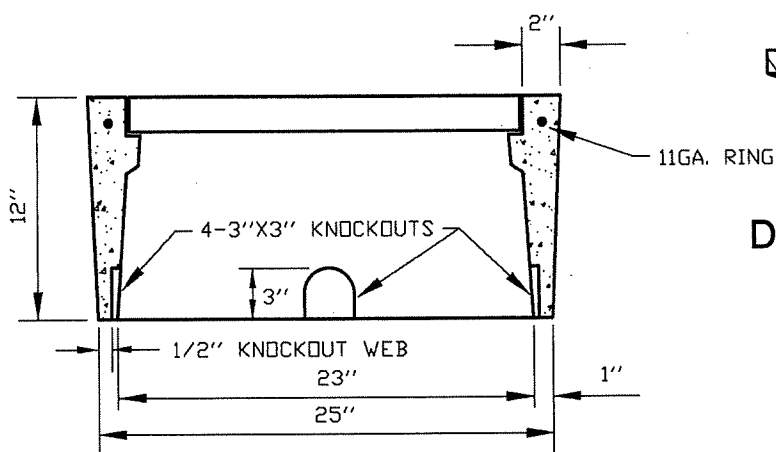
CALIFORNIA 94403

STANDARD PULL BOX INSTALLATION

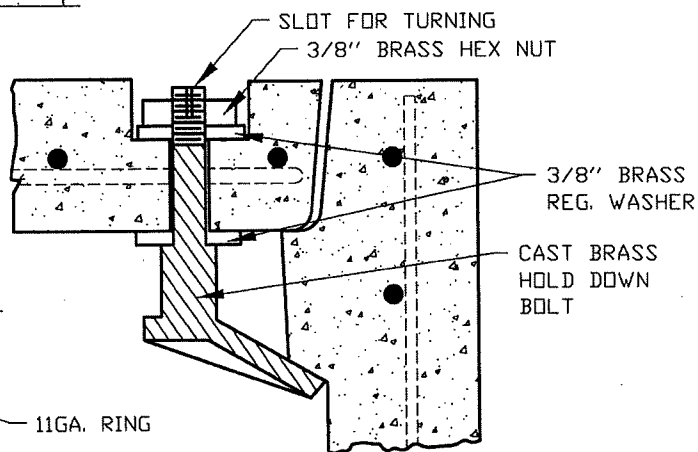
DATE	DRAWN BY	CHECKED BY	APPROVED	CASE	DRAWER	SET
2002	PC	OC	 CITY ENGINEER	3	1	165



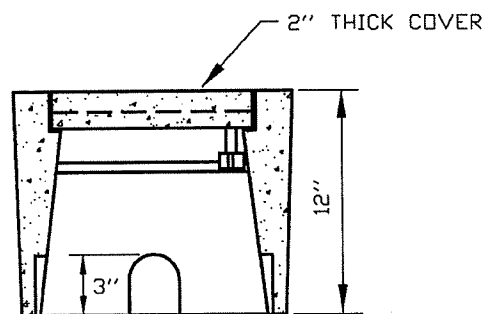
PLAN



SECTION A-A

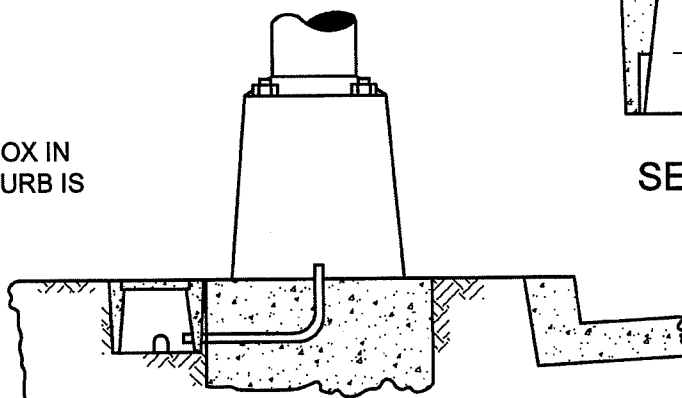


DETAIL OF COVER LOCK
(2 REQ'D.)



SECTION B-B

NOTE:
LOCATION OF BOX IN
RELATION TO CURB IS
VARIABLE.



TYPICAL INSTALLATION

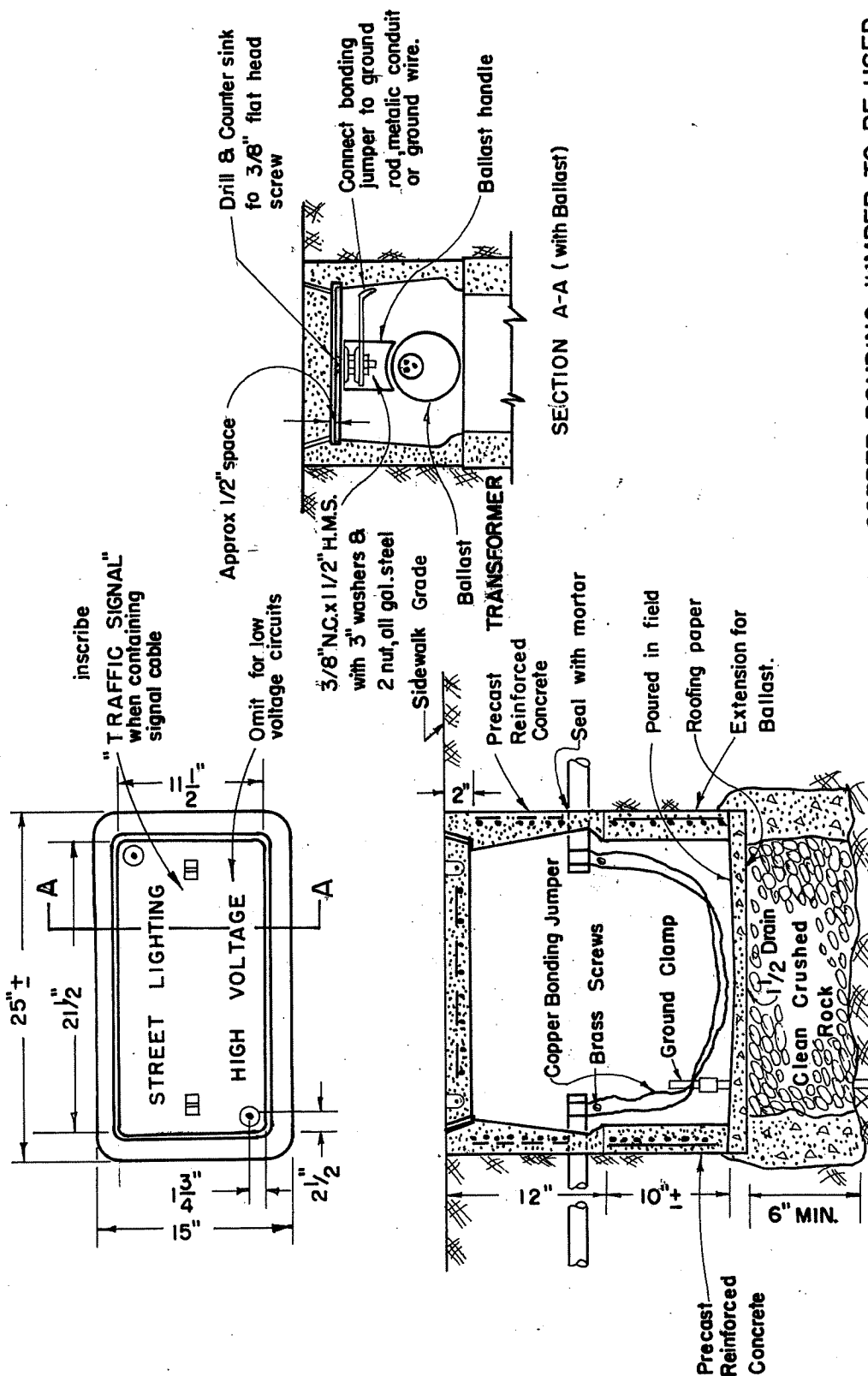


ENGINEERING DEPARTMENT

CALIFORNIA 94403

STANDARD NO. 5 PULL BOX

DATE	DRAWN BY	CHECKED BY	APPROVED	CASE	DRAWER	SET
2002	PC	OC	<i>[Signature]</i> CITY ENGINEER	3	1	166



NOTE: COPPER BONDING JUMPER TO BE USED WITH METALLIC CONDUIT ONLY.

NO. 5 PULL BOX (Extended)

COPPER Ground rod 8' LONG

REVISION JUNE 1, 1988

SAN MATEO

STANDARD NO. 5 (EXTENDED) PULL BOX INSTALLATION

CALIFORNIA

DATE	DRAWN BY	CHK. BY	APPROVED	PLAN CASE	DRAWER	SHEET
JAN. 1973	RUJ	T. T.		3	1	167

CITY ENGINEER



FEATURES & SPECIFICATIONS

INTENDED USE

For wood poles.

CONSTRUCTION

Aluminum: Body is schedule 10 (T14) or schedule 40 (T20) aluminum pipe 6063-T6. Welding follows industry standards best practices. Arms are pressure-washed after fabrication.

Steel: Body is galvanized steel tube (per ASTM A-123) constructed from A500 Grade B steel. Welding follows industry standards best practices. Arms are galvanized after fabrication.

Must specify finish. Optional polyester powder and red primer paint finishes available.

INSTALLATION

Mounting hardware is not included.

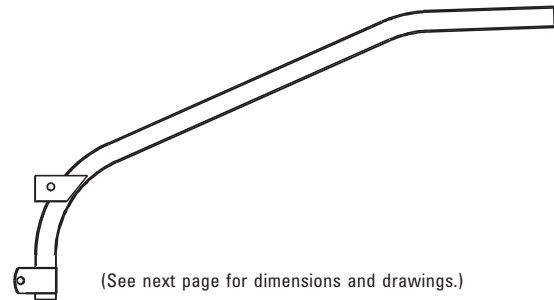
Installer to provide hardware based on pole size and type.

Catalog Number	
Notes	Type

Cantilever Arm

AMAW/SMAW

ALUMINUM (AMAW) OR STEEL (SMAW)
CANTILEVER ARM



(See next page for dimensions and drawings.)

ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Example: AMAW T20 US4 SA

Series	Pipe size	Arm length	Finish ³
AMAW SMAW	T14 1-2/3" O.D. (1-1/4" NPS) T20 2-3/8" O.D. (2" NPS)	US2-5 2-1/2' arm length US4 4' arm length US6 6' arm length ¹ US8 8' arm length ²	<u>Standard colors</u> DDB Dark bronze DWH White DBL Black DNA Natural aluminum SA Satin aluminum (AMAW only) GALV Galvanized steel (SMAW only) <u>Primer finish</u> DPRM Red primer <u>Architectural colors</u> (powder finish) ³

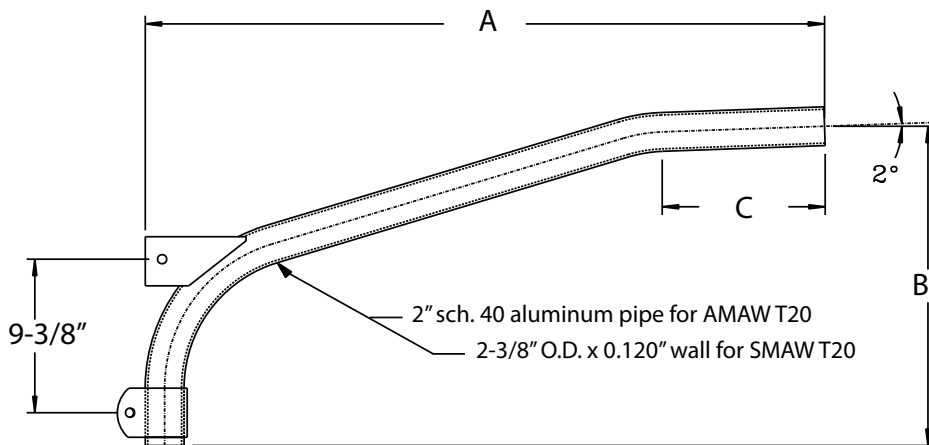
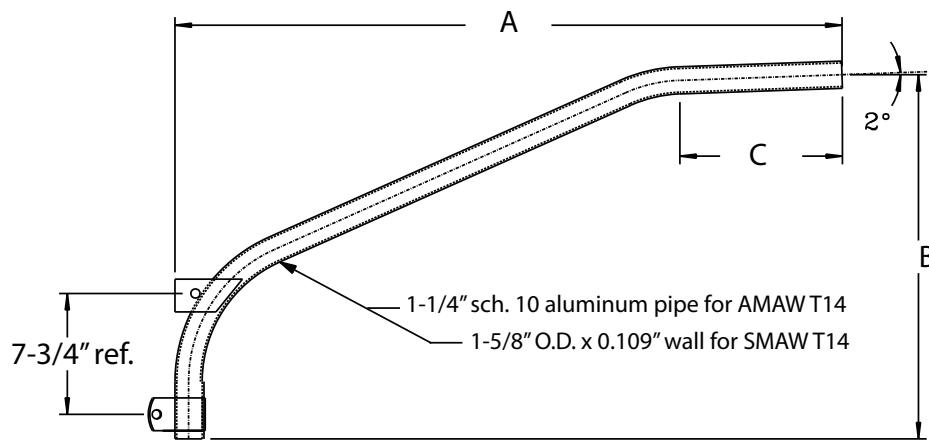
NOTES:

¹ AMAW T14 utilizes underbrace support.

² Not available with AMAW T14.

³ Finish must be specified. Additional colors available; see www.lithonia.com/archcolors or the Architectural Colors brochure (Form No. 794.3).

AMAW & SMAW Aluminum and Steel Cantilever Arm; Wood Poles



AMAW/SMAW (Cantilever Arm)

Lithonia Lighting Catalog Number	Nominal arm length (ft.)	Dimensions (inches)			Bracket weight (lbs)	Max. fixture EPA ft ² @ 80 mph w/1.3 gusts	Max. fixture weight (lbs)	ANSI C136.3 (1995) class rating @ 80 mph
		A	B	C				
AMAW T14 US2-5	2-1/2'	30"	15"	12"	3	2.4	35	B
AMAW T14 US4	4'	42"	22"	10"	4	2.4	35	B
AMAW T14 US6	6'	66"	30"	11"	6	2.4	80	-
AMAW T20 US2	2'	24"	12"	10"	5	2.4	80	E
AMAW T20 US2-5	2-1/2'	30"	15"	10"	6	2.4	80	E
AMAW T20 US4	4'	42"	10"	20"	7	2.4	80	E
AMAW T20 US6	6'	66"	26"	12"	10	2.4	80	-
AMAW T20 US8	8'	90"	30"	15"	12	2.4	80	-
SMAW T14 US2	2'	24"	14"	8"	7	2.4	80	E
SMAW T14 US2-5	2-1/2'	30"	15"	10"	9	2.4	80	E
SMAW T14 US4	4'	42"	19"	10"	11	2.4	80	E
SMAW T14 US6	6'	66"	29"	12"	15	2.4	80	E
SMAW T14 US8	8'	90"	30"	15"	20	2.4	50	C
SMAW T20 US2	2'	24"	12"	10"	14	2.4	80	E
SMAW T20 US2-5	2-1/2'	30"	15"	10"	15	2.4	80	E
SMAW T20 US4	4'	42"	19"	10"	18	2.4	80	E
SMAW T20 US6	6'	66"	24"	12"	24	2.4	80	E
SMAW T20 US8	8'	90"	30"	15"	30	2.4	80	E

IMPORTANT:

- These specifications are intended for general purposes only. Lithonia Lighting reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.

CAUTION:

- The arms described herein are designed for applications in areas of normal winds. Consult the factory prior to the design of systems to be mounted on structures such as bridges or buildings, or areas known to have abnormal winds such as airports or coastal areas. Failure to consider these factors in the system design could result in the failure of the pole or mast arm, and consequently personal injury or property damage.

LEDway® Series

LEDway® LED Street Light

Product Description

Luminaire housing is all aluminum construction. Standard luminaire utilizes terminal block for power input suitable for #2-#14 AWG wire. Luminaire is designed to mount on a 2" (51mm) IP, 2.375" (60mm) O.D. horizontal tenon and/or a 1.25" (32mm) IP, 1.66" (42mm) O.D. horizontal tenon (minimum 8" [203mm] in length) and is adjustable +/- 5° to allow for luminaire leveling (two axis T-level included).

Applications: Roadway, parking lots, walkways and general area spaces

Performance Summary

Patented NanoOptic® Product Technology

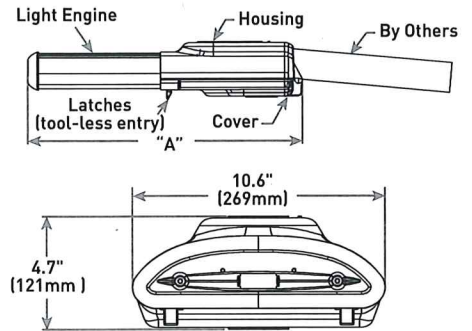
Made in the U.S.A. of U.S. and imported parts

CRI: Minimum 70 CRI

CCT: 4000K (+/- 300K), 5700K (+/- 500K) standard

Limited Warranty*: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

* See <http://lighting.cree.com/warranty> for warranty terms



Accessories

Field-Installed		
Bird Spikes for Light Engine XA-BRDSPK30 - 20-30 LED XA-BRDSPK60 - 40-60 LED XA-BRDSPK90 - 70-90 LED XA-BRDSPK120 - 100-120 LED	Bird Spikes for Housing XA-BRDSPKHSG	External Backlight Shield XA-XSLBLS30 - 20-30 LED XA-XSLBLS60 - 40-60 LED XA-XSLBLS90 - 70-90 LED XA-XSLBLS120 - 100-120 LED

LED Count (x10)	Dim. "A"	Weight
02	17.5" (443mm)	13.0 lbs. (5.9kg)
03	17.5" (443mm)	13.5 lbs. (6.1kg)
04	22.0" (559mm)	16.5 lbs. (7.5kg)
05	22.0" (559mm)	17.0 lbs. (7.7kg)
06	22.0" (559mm)	17.5 lbs. (7.9kg)
07	26.8" (681mm)	22.0 lbs. (10.0kg)
08	26.8" (681mm)	22.5 lbs. (10.2kg)
09	26.8" (681mm)	22.5 lbs. (10.2kg)
10	33.1" (842mm)	27.5 lbs. (12.5kg)
11	33.1" (842mm)	28.0 lbs. (12.7kg)
12	33.1" (842mm)	28.0 lbs. (12.7kg)

Ordering Information

Example: STR-LWY-2M-HT-02-E-UL-SV-700

STR-LWY	2MB	HT	06	E	UL	SV	700	
Product	Optic	Mounting	LED Count (x10)	Series	Voltage	Color Options*	Drive Current	Options
STR-LWY	2M Type II Medium 2S Type II Short 3M Type III Medium 4M Type IV Medium 5M Type V Medium	HT Horizontal Tenon	02 03 04 05 06 07 08 09 10 11 12	E	UL Universal 120-277V UH Universal 347-480V	BK Black BZ Bronze SV Silver	525 525mA 700 700mA	DIM 0-10V Dimming - Control by others - Refer to Dimming spec sheet for details R NEMA® Photocell Receptacle - 3-pin receptacle per ANSI C136.10 - Intended for downlight applications with maximum 45° tilt - Photocell and shorting cap by others UTL Utility - Includes exterior wattage label that reflects watts for the drive current selected. The ability to exceed selected drive current will be disabled 40K 4000K Color Temperature - Minimum 70 CRI - Color temperature per luminaire

* Light engine portion of extrusion is not painted and will remain natural aluminum regardless of color selection



US: lighting.cree.com

T (800) 236-6800 F (262) 504-5415

Rev. Date: V4 10/04/2018

Canada: www.cree.com/canada



T (800) 473-1234 F (800) 890-7507

LEDway® LED Street Light

Product Specifications

CONSTRUCTION & MATERIALS

- Housing is all aluminum construction
- Terminal block for power input suitable for #2-#14 AWG wire
- HT Mount is designed to mount on a 2" (51mm) IP, 2.375" (60mm) O.D. horizontal tenon and/or a 1.25" (32mm) IP, 1.66" (42mm) O.D. horizontal tenon (minimum 8" [203mm] in length) and is adjustable +/- 5° to allow for luminaire leveling (two axis T-level included)
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze, and silver are available
- Weight:** See Dimensions and Weight chart on page 1

ELECTRICAL SYSTEM

- Input Voltage:** 120-277V or 347-480V, 50/60Hz, Class 1 drivers
- Power Factor:** > 0.9 at full load
- Total Harmonic Distortion:** < 20% at full load
- Quick disconnect harness suitable for mate and break under load provided on power feed to driver for ease of maintenance
- Integral 10kV surge suppression protection standard
- To address inrush current, slow blow fuse or type C/D breaker should be used
- 10V Source Current:** 20-60 LED: 0.15mA; 80-120 LED: 0.30mA

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Meets CALTrans 611 Vibration testing and GR-63-CORE Section 4.4.1/5.4.2 Earthquake Zone 4
- Certified to ANSI C136.31-2001, 3G bridge and overpass vibration standards
- 10K surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Luminaire and finish are endurance tested to withstand 5,000 hours of elevated ambient salt fog as defined in ASTM Standard B 117
- Meets Buy American requirements within ARRA
- Meets FCC Part 15 standards for conducted and radiated emissions
- CA RESIDENTS WARNING:** Cancer and Reproductive Harm – www.p65warnings.ca.gov

Electrical Data*								
LED Count (x10)	System Watts 120-277V	System Watts 347-480V	Total Current (A)					
			120V	208V	240V	277V	347V	480V
525mA								
02	35	39	0.30	0.18	0.16	0.15	0.12	0.10
03	53	55	0.45	0.26	0.23	0.21	0.16	0.13
04	66	71	0.56	0.33	0.29	0.26	0.21	0.16
05	86	87	0.72	0.42	0.37	0.33	0.25	0.19
06	100	103	0.84	0.49	0.43	0.38	0.30	0.22
07	120	124	1.01	0.60	0.54	0.49	0.37	0.28
08	139	140	1.17	0.69	0.62	0.56	0.41	0.31
09	149	156	1.26	0.74	0.66	0.59	0.46	0.34
10	167	172	1.41	0.83	0.73	0.65	0.50	0.38
11	182	188	1.54	0.89	0.79	0.70	0.55	0.41
12	197	204	1.67	0.96	0.85	0.75	0.59	0.44
700mA								
02	47	51	0.39	0.23	0.21	0.19	0.15	0.12
03	70	73	0.59	0.34	0.30	0.27	0.21	0.16
04	91	93	0.77	0.45	0.39	0.35	0.27	0.20
05	113	115	0.96	0.55	0.48	0.43	0.33	0.25
06	134	135	1.13	0.65	0.57	0.50	0.39	0.29
07	163	165	1.37	0.80	0.71	0.63	0.48	0.36
08	182	186	1.54	0.90	0.79	0.70	0.54	0.40
09	203	207	1.72	0.99	0.87	0.78	0.60	0.45
10	227	229	1.92	1.11	0.97	0.86	0.67	0.49
11	248	250	2.10	1.21	1.05	0.93	0.73	0.53
12	267	274	2.26	1.30	1.13	1.00	0.80	0.58

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-480V +/-10%

Cree LEDway® Ambient Adjusted Lumen Maintenance¹

Ambient	Initial LMF	25K hr Projected² LMF	50K hr Projected² LMF	75K hr Calculated³ LMF	100K hr Calculated³ LMF
5°C (41°F)	1.04	1.01	0.99	0.98	0.96
10°C (50°F)	1.03	1.00	0.98	0.97	0.95
15°C (59°F)	1.02	0.99	0.97	0.96	0.94
20°C (68°F)	1.01	0.98	0.96	0.95	0.93
25°C (77°F)	1.00	0.97	0.95	0.94	0.92

¹Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors

²In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

³In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

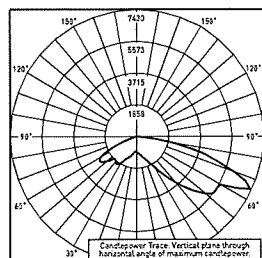


LEDway® LED Street Light

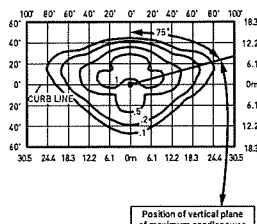
Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: <http://lighting.cree.com/products/outdoor/street-and-roadway/ledway-series>

2M



CESTL Test Report #: 2015-0025
STR-LWY-2M-**-06-E-UL-700-40K
Initial Delivered Lumens: 10,706



STR-LWY-2M-**-03-E-UL-700-40K
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 5,688
Initial FC at grade

Type II Medium Distribution				
LED Count (x10)	4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
525mA				
02	3,064	B1 U0 G1	3,182	B1 U0 G1
03	4,550	B1 U0 G1	4,725	B1 U0 G1
04	6,079	B2 U0 G2	6,313	B2 U0 G2
05	7,549	B2 U0 G2	7,839	B2 U0 G2
06	9,000	B2 U0 G2	9,346	B2 U0 G2
07	10,532	B2 U0 G2	10,937	B2 U0 G2
08	11,982	B3 U0 G3	12,443	B3 U0 G3
09	13,419	B3 U0 G3	13,935	B3 U0 G3
10	14,994	B3 U0 G3	15,571	B3 U0 G3
11	16,440	B3 U0 G3	17,072	B3 U0 G3
12	17,880	B3 U0 G3	18,568	B3 U0 G3
700mA				
02	3,830	B1 U0 G1	3,977	B1 U0 G1
03	5,688	B2 U0 G2	5,907	B2 U0 G2
04	7,598	B2 U0 G2	7,891	B2 U0 G2
05	9,436	B2 U0 G2	9,799	B2 U0 G2
06	11,250	B3 U0 G3	11,683	B3 U0 G3
07	13,165	B3 U0 G3	13,671	B3 U0 G3
08	14,978	B3 U0 G3	15,554	B3 U0 G3
09	16,774	B3 U0 G3	17,419	B3 U0 G3
10	18,742	B3 U0 G3	19,463	B3 U0 G3
11	20,550	B3 U0 G3	21,340	B3 U0 G3
12	22,351	B3 U0 G3	23,210	B3 U0 G3

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

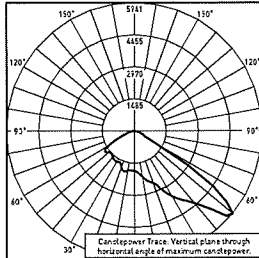
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>.

LEDway® LED Street Light

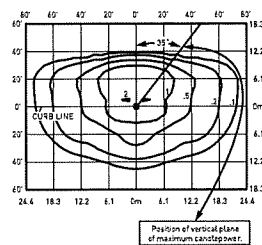
Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: <http://lighting.cree.com/products/outdoor/street-and-roadway/ledway-series>

25



CESTL Test Report #: 2013-0072
STR-LWY-2S-**-06-E-UL-700-40K
Initial Delivered Lumens: 12,087



STR-LWY-2S-**-03-E-UL-700
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 6,290
Initial FC at grade

Type II Short Distribution				
LED Count (x10)	4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
525mA				
02	3,263	B1 U0 G1	3,388	B1 U0 G1
03	4,846	B2 U0 G2	5,032	B2 U0 G2
04	6,473	B2 U0 G2	6,722	B2 U0 G2
05	8,039	B2 U0 G2	8,348	B2 U0 G2
06	9,585	B3 U0 G3	9,953	B3 U0 G3
07	11,216	B3 U0 G3	11,647	B3 U0 G3
08	12,760	B3 U0 G3	13,251	B3 U0 G3
09	14,290	B3 U0 G3	14,840	B3 U0 G3
10	15,967	B3 U0 G3	16,582	B3 U0 G3
11	17,508	B3 U0 G3	18,181	B3 U0 G3
12	19,042	B3 U0 G3	19,774	B3 U0 G3
700mA				
02	4,079	B1 U0 G1	4,235	B1 U0 G1
03	6,057	B2 U0 G2	6,290	B2 U0 G2
04	8,092	B2 U0 G2	8,403	B2 U0 G2
05	10,048	B3 U0 G3	10,435	B3 U0 G3
06	11,981	B3 U0 G3	12,442	B3 U0 G3
07	14,020	B3 U0 G3	14,559	B3 U0 G3
08	15,950	B3 U0 G3	16,564	B3 U0 G3
09	17,863	B3 U0 G3	18,550	B3 U0 G3
10	19,959	B3 U0 G3	20,727	B3 U0 G3
11	21,884	B3 U0 G3	22,726	B3 U0 G3
12	23,802	B3 U0 G3	24,717	B4 U0 G4

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit:
<https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>.

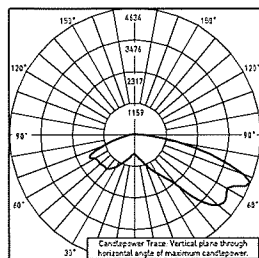


LEDway® LED Street Light

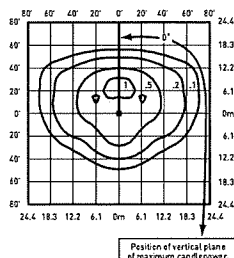
Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: <http://lighting.cree.com/products/outdoor/street-and-roadway/ledway-series>

3M



CESTL Test Report #: 2013-0068
STR-LWY-3M-**-06-E-UL-700-40K
Initial Delivered Lumens: 10,430



STR-LWY-3M-**-03-E-UL-700
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 5,600
Initial FC at grade

Type III Medium Distribution				
LED Count (x10)	4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
525mA				
02	2,905	B1 U0 G1	3,016	B1 U0 G1
03	4,314	B1 U0 G1	4,480	B1 U0 G1
04	5,763	B2 U0 G2	5,985	B2 U0 G2
05	7,156	B2 U0 G2	7,432	B2 U0 G2
06	8,533	B2 U0 G2	8,861	B2 U0 G2
07	9,985	B3 U0 G3	10,369	B3 U0 G3
08	11,360	B3 U0 G3	11,797	B3 U0 G3
09	12,722	B3 U0 G3	13,211	B3 U0 G3
10	14,215	B3 U0 G3	14,762	B3 U0 G3
11	15,586	B3 U0 G3	16,185	B3 U0 G3
12	16,952	B3 U0 G3	17,604	B3 U0 G3
700mA				
02	3,631	B1 U0 G1	3,771	B1 U0 G1
03	5,392	B2 U0 G2	5,600	B2 U0 G2
04	7,204	B2 U0 G2	7,481	B2 U0 G2
05	8,945	B2 U0 G2	9,290	B3 U0 G3
06	10,666	B3 U0 G3	11,076	B3 U0 G3
07	12,481	B3 U0 G3	12,961	B3 U0 G3
08	14,200	B3 U0 G3	14,746	B3 U0 G3
09	15,902	B3 U0 G3	16,514	B3 U0 G3
10	17,769	B3 U0 G3	18,452	B3 U0 G3
11	19,483	B3 U0 G3	20,232	B3 U0 G3
12	21,190	B3 U0 G3	22,004	B3 U0 G3

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

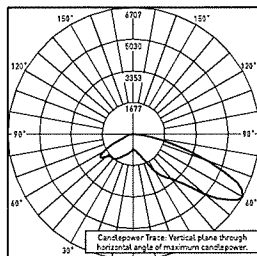
** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

LEDway® LED Street Light

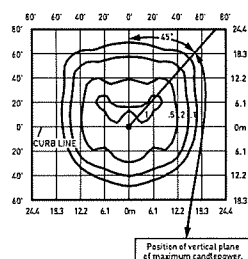
Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: <http://lighting.cree.com/products/outdoor/street-and-roadway/ledway-series>

4M



CESTL Test Report #: 2013-0028
STR-LWY-4M-**-06-E-UL-700-40K
Initial Delivered Lumens: 11,036



STR-LWY-4M-**-03-E-UL-700
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 5,907
Initial FC at grade

Type IV Medium Distribution				
LED Count (x10)	4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
525mA				
02	3,064	B1 U0 G1	3,182	B1 U0 G1
03	4,550	B2 U0 G1	4,725	B2 U0 G1
04	6,079	B2 U0 G1	6,313	B2 U0 G1
05	7,549	B2 U0 G2	7,839	B2 U0 G2
06	9,000	B2 U0 G2	9,346	B2 U0 G2
07	10,532	B2 U0 G2	10,937	B2 U0 G2
08	11,982	B3 U0 G2	12,443	B3 U0 G2
09	13,419	B3 U0 G3	13,935	B3 U0 G3
10	14,994	B3 U0 G3	15,571	B3 U0 G3
11	16,440	B3 U0 G3	17,072	B3 U0 G3
12	17,880	B3 U0 G3	18,568	B3 U0 G3
700mA				
02	3,830	B1 U0 G1	3,977	B1 U0 G1
03	5,688	B2 U0 G1	5,907	B2 U0 G1
04	7,598	B2 U0 G2	7,891	B2 U0 G2
05	9,436	B2 U0 G2	9,799	B2 U0 G2
06	11,250	B2 U0 G2	11,683	B3 U0 G2
07	13,165	B3 U0 G3	13,671	B3 U0 G3
08	14,978	B3 U0 G3	15,554	B3 U0 G3
09	16,774	B3 U0 G3	17,419	B3 U0 G3
10	18,742	B3 U0 G3	19,463	B3 U0 G3
11	20,550	B3 U0 G3	21,340	B3 U0 G3
12	22,351	B3 U0 G3	23,210	B4 U0 G3

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

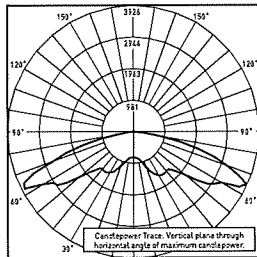


LEDway® LED Street Light

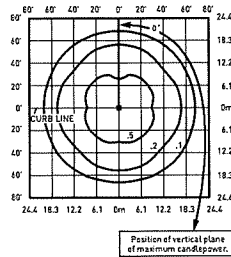
Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: <http://lighting.cree.com/products/outdoor/street-and-roadway/ledway-series>

5M



CESTL Test Report #: 2013-0019
STR-LWY-5M-**-06-E-UL-700-40K
Initial Delivered Lumens: 11,633



STR-LWY-5M-**-03-E-UL-700
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 6,214
Initial FC at grade

Type V Medium Distribution				
LED Count (x10)	4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
525mA				
02	3,223	B2 U0 G1	3,347	B2 U0 G1
03	4,787	B3 U0 G1	4,971	B3 U0 G1
04	6,395	B3 U0 G2	6,640	B3 U0 G2
05	7,941	B3 U0 G2	8,246	B3 U0 G2
06	9,468	B3 U0 G2	9,832	B3 U0 G2
07	11,079	B4 U0 G2	11,505	B4 U0 G2
08	12,605	B4 U0 G2	13,089	B4 U0 G2
09	14,116	B4 U0 G3	14,659	B4 U0 G3
10	15,773	B4 U0 G3	16,379	B4 U0 G3
11	17,294	B4 U0 G3	17,959	B4 U0 G3
12	18,809	B4 U0 G3	19,533	B4 U0 G3
700mA				
02	4,029	B2 U0 G1	4,184	B2 U0 G1
03	5,983	B3 U0 G2	6,214	B3 U0 G2
04	7,993	B3 U0 G2	8,301	B3 U0 G2
05	9,926	B3 U0 G2	10,308	B3 U0 G2
06	11,835	B4 U0 G2	12,290	B4 U0 G2
07	13,849	B4 U0 G3	14,381	B4 U0 G3
08	15,756	B4 U0 G3	16,362	B4 U0 G3
09	17,645	B4 U0 G3	18,324	B4 U0 G3
10	19,716	B4 U0 G3	20,474	B4 U0 G3
11	21,618	B4 U0 G3	22,449	B5 U0 G3
12	23,512	B5 U0 G3	24,416	B5 U0 G3

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens

** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>.

LEDway® LED Street Light

Luminaire EPA

Horizontal Tenon Mount							
LED Count (x10)	1 Luminaire	Single	2 @ 90°	2 @ 180°	3 @ 90°	3 @ 120°	4 @ 90°
	Horizontal Tenon Mount	Round External Mount / Square Internal Mount Horizontal Tenons with Luminaires					
		PT-1H/PD-1H4	PT-2H(90)/ PD-2H4(90)	PT-2H(180)/ PD-2H4(180)	PT-3H(90)/ PD-3H4(90)	PT-3H(120)	PT-4H(90)/ PD-4H4(90)
20-30	0.57	0.79	1.02	1.35	1.53	1.38	1.94
40-60	0.69	0.91	1.19	1.59	1.774	1.59	2.18
70-90	0.71	0.93	1.27	1.75	1.93	0.71	2.34
100-120	0.80	1.04	1.38	1.86	2.04	1.82	2.45

Tenon EPA

Part Number	EPA
PD Series Tenons	0.09
PT Series Tenons	0.10
WM-2L	0.13
XA-TMDA8	0.07

Tenons and Brackets* (must specify color)			
Square Internal Mount Horizontal Tenons (Aluminum) - Mounts to 4" (102mm) square aluminum or steel poles PD-1H4 - Single PD-3H4(90) - 90° Triple PD-2H4(90) - 90° Twin PD-4H4(90) - 90° Quad PD-2H4(180) - 180° Twin		Round External Mount Horizontal Tenons (Aluminum) - Mounts to 2.375" (60mm) O.D. round aluminum or steel poles or tenons PT-1H - Single PT-3H(90) - 90° Triple PT-2H(90) - 90° Twin PT-4H(90) - 90° Quad PT-2H(180) - 180° Twin	
Wall Mount Brackets - Mounts to wall or roof WM-2L - Standard		Direct Arm Pole Adaptor Bracket - Mounts to 3-6" (76-152mm) round or square aluminum or steel poles XA-TMDA8	

* Refer to the [Bracket and Tenons spec sheet](#) for more details

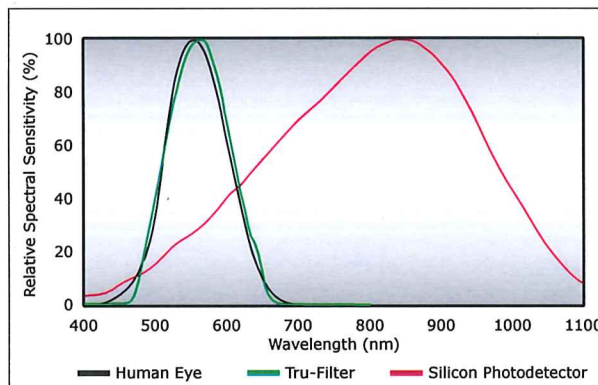
Twist-Lock Electronic Photocontrol **Tru-Filter®**



Ripley's line-up of exclusive **Tru-Filter® InfraRed Filtering Photocontrols**

- Greater control
- Greater accuracy
- Overall energy savings

A single infrared-filtering phototransistor in each Tru-Filter® photocontrol, **filters out all sources of infrared** to mirror the spectral sensitivity of the human eye, and provide highly accurate control across the entire visual light spectrum.



Tru-Filter® spectral sensitivity matches that of the Human Eye; while competitor's Silicon Photodetector comes nowhere close.

With True Filter®, Turn-ON / Turn-OFF events occur with much greater precision than that of competitor models utilizing silicon photodetectors and plastic infrared filters.

Plastic filters used by competitors only filter infrared that passes through the sensor window, not ALL sources—they eventually cause a shift of Turn-ON / Turn-OFF light levels—they fade over time due to UV

Other Exclusive Features:

Double-Sided Plated-Through Circuit Board (DSPT) for durability and reliability, Quad-Gate Technology for precision and consistency, Full Wave Rectification, Dual Zener Diodes, High Impact Thermoplastic Base, Solid Brass Contact Blades, UV Stabilized Permanent Color, High Impact Resistant Polypropylene Cover

Meets or exceeds rigid quality requirements of SouthConn Technologies Inc. and applicable ANSI C136.10, and C136.24 and C136.41

WARRANTY: 8 years from date of manufacture

Phone: 803-939-4700
Fax: 803-939-4777
E-mail: Sales@RipleyLC.com

www.RipleyLC.com

PS-6100-046
Tru-Filter Overview
020616
Rev. 2

TruFilter® models are available for 60 Hz Nominal Voltage applications, including: Multi-volt (120/208/240/277), 120 Volt, 240 Volt, 480 Volt, and 347 Volt

Refer to following page for specifications







Twist-Lock Electronic Photocontrol Tru-Filter® Model Selection



Tru-Filter® InfraRed-Filtering Photocontrols

Model Selection



	6390TF	6246TF	6372TF	6394TF	6395TF
Nominal Voltage 60 Hz	120/208/240/277	120	240	480	347
Voltage Range	105—305	105—135	200—300	432-528	312-382
Fail Mode	On (contacts normally closed)				
Load Rating	1000 Watt Tungsten / 1800 VA Ballast				
Operating Temperature	-40C to +70C (-40F to +158F)				
Photocell	Infrared Filtering Silicon Phototransistor *				
Dielectric Strength	5000 Volts between current carrying parts and metal surfaces				
Surge Protection	320 Joule MOV 10,000 amp surge current			530 Joule MOV 10,000 amp surge current	
Power Consumption	0.5 watts @ 120 V				
Time Delay Off (Instant On)	3 to 5 seconds				
Operating Light Levels (Standard Settings)	Turn On 1.5 FC ± .25 / Turn Off by 2.25 FC / (Off:On Ratio = 1.5:1)				
High Impact / High Temperature Thermoplastic Base Temperature Rating	125° C				
ANSI Color Coded Cover	Blue	Gray	Maroon	Yellow	Green
Options	Option Code 1 (Add to end of Model Number)				
430 Joule MOV / 13,000 amp	-X	-X	-X	N/A	N/A
Fail Off	-FO(Green)	-FO	-FO	N/A	N/A
ANSI Color Coded Cap Options	Option Code 2 (Add to end of Model Number, after Option Code 1)				
Green	-GN	-GN	-GN	N/A	N/A
Black	-BK	-BK	-BK	N/A	N/A
Brown	-BN	-BN	-BN	N/A	N/A
Orange	-ORN	-ORN	-ORN	N/A	N/A
Operating Light Levels Option	Option Code 3 (Add to end of Model Number, after Option Code 2)				
Denotes Turn On point in FC	Specify 0.3—5.0 FC (with Windows)				
Applicable with	<div> </div>				

* Premire Units are not Recommended or designed for LED Application
WARRANTY: 8 years from date of manufacture

Phone: 803-939-4700
Fax: 803-939-4777
E-mail: Sales@RipleyLC.com

www.RipleyLC.com

PS-6100-047
Tru-Filter Models
020616
Rev. 5



DECORATIVE ROADWAY STREET LIGHT WITH PEDESTRIAN SCALED LIGHT

SCALE: NTS

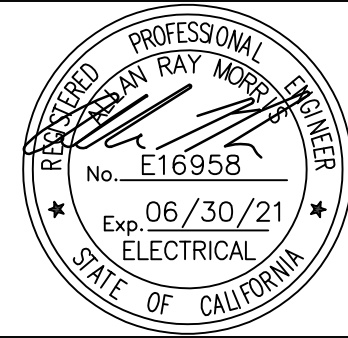
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77

AS BUILT
CONTRACT No. CIP-ST-05A-13
C.C.A. DATE 03-03-22
R.E. NAME SAIED SHAHMIRZAI, P.E.

DECORATIVE PEDESTRIAN SCALED LIGHT

SCALE: NTS

5
77

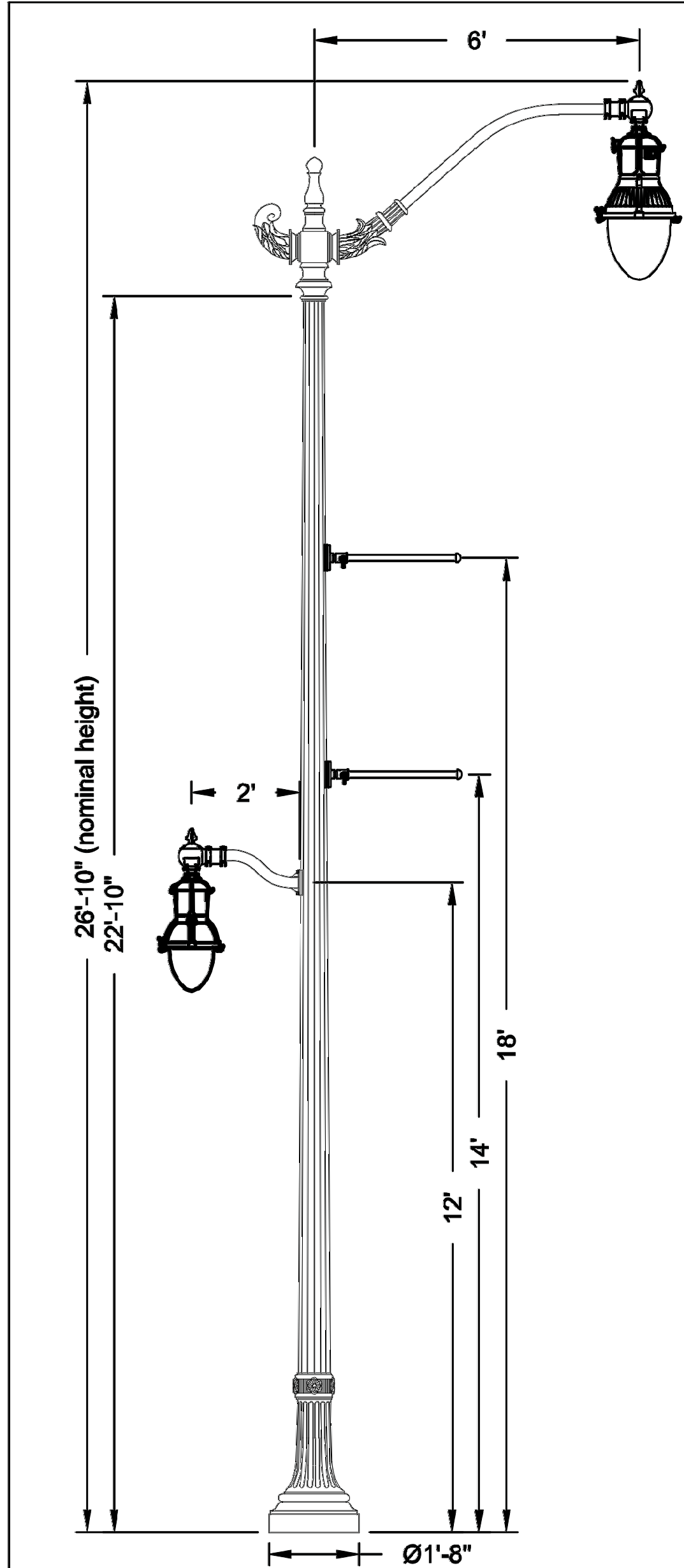


TITLE:

STREET LIGHTING DETAILS
BAY ROAD IMPROVEMENTS
EAST PALO ALTO CALIFORNIA

SHEET 77
OF 93

DATE: 10/08/18
JOB #: 320145



Specifications

POST DESCRIPTION

The lighting post shall be cast iron and steel construction consisting of a cast iron base and a 16 flute tapered steel shaft with a Ø3" x 9" tall tenon for arm mounting, two bolt on aluminum banner arms with breakaway couplings and an aluminum bolt on bent pipe luminaire arm with a clamp on 1-1/2" NPT luminaire fitter. Post top arm shall be all aluminum construction consisting of a cast post fitter with removable finial and a bent pipe arm with a clamp on 1-1/2" NPT luminaire fitter.

MATERIALS

The shaft shall be steel. The base shall be cast iron (heavy wall, ASTM A48, class 30). The arms shall be cast aluminum, (heavy wall, 356.1 alloy) and 6061-T6 pipe and bar. All hardware shall be tamper resistant, stainless steel. Anchor bolts shall be hot-dip galvanized steel.

DIMENSIONS

The post shall be 22'-10" in height with a Ø20" x 34" tall base and a Ø3" x 9" tenon. Post top arm shall be 2" schedule 40 pipe providing a 72" luminaire center. Bolt on arm shall be 2" schedule 40 pipe providing a 24" luminaire center to mounting plate distance. Banner arms shall be 1" x 24" schedule 80 pipe.

INSTALLATION

Post provided with (4)Ø3/4" hot dip galvanized steel L-type anchor bolts. A handhole is located in the shaft to provide wiring access.

FINISH

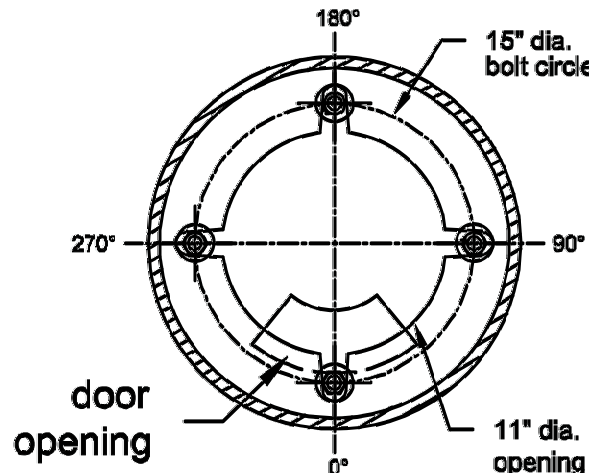
The post assembly shall be shipped with a black powder coat finish.

Accessory Mounting Detail

	Orientation	Height
BANNER ARM		18'-0"
BANNER ARM		14'-0"
BHC24 WIRE WAY		12'-0"

FILL OUT CHART DURING APPROVAL PROCESS

ANCHORAGE GUIDE



DO NOT USE TO SET ANCHOR BOLTS
CONTACT CUSTOMER SERVICE FOR TEMPLATE

Catalog #'s:

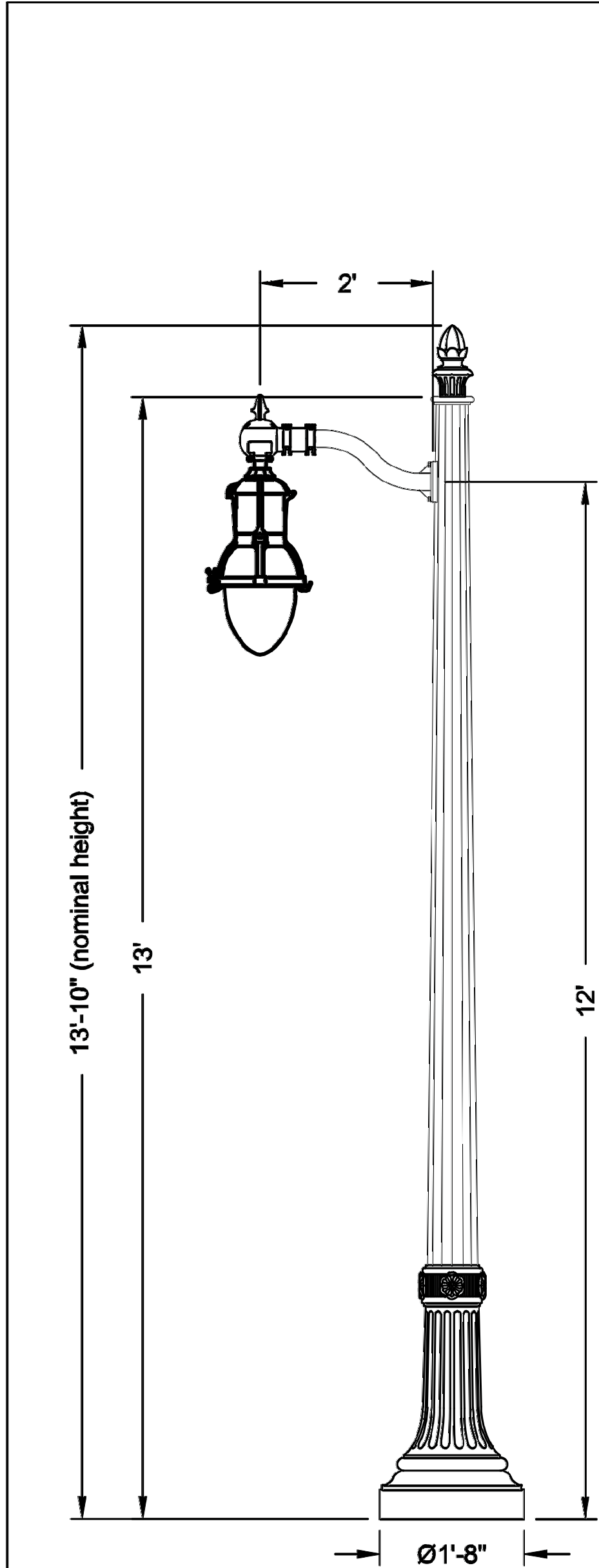
NY23/20CISU735D, WLC72/1, BHC24/1, (2)BBD24, FGIUS, AB-31-4 RFD170123
MSPL2 P10 40K AS S B 4 P5 PCS BHDF13 200 BK
MPL2 P30S 40K AS BK TG 3 S P5 PCLL BHDF13 200 BK

Customer Signature

Date



THIS DRAWING, WHEN APPROVED, SHALL BECOME THE COMPLETE SPECIFICATION FOR THE MATERIAL TO BE FURNISHED BY HOLOPHANE ON THE ORDER NOTED ABOVE. A UNIT OF SIMILAR DESIGN MAY BE SUPPLIED, BUT ONLY AFTER APPROVAL BY THE CUSTOMER IN WRITING. ON POLE ORDERS AN ANCHOR BOLT TEMPLATE PRINT WILL BE SUPPLIED WITH EACH ANCHOR BOLT ORDER TO MATCH THE POLE PROVIDED. THIS PRINT IS THE PROPERTY OF HOLOPHANE AND IS LOANED SUBJECT TO RETURN UPON DEMAND AND UPON EXPRESS CONDITION THAT IT WILL NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO OUR INTERESTS, AND ONLY IN CONNECTION WITH MATERIAL FURNISHED BY HOLOPHANE.



Specifications

POST DESCRIPTION

The lighting post shall be cast iron and steel construction consisting of a cast iron base and a 16 flute tapered steel shaft with a Ø3" tenon for finial mounting, an aluminum bolt on bent pipe luminaire arm with a clamp on 1-1/2" NPT luminaire fitter.

MATERIALS

The shaft shall be steel. The base shall be cast iron (heavy wall, ASTM A48, class 30). The arm shall be cast aluminum, (heavy wall, 356.1 alloy) and 6061-T6 pipe and bar. All hardware shall be tamper resistant, stainless steel. Anchor bolts shall be hot-dip galvanized steel.

DIMENSIONS

The post shall be 13'-0" in height with a Ø20" x 34" tall base and a Ø3" x 3" tenon. Bolt on arm shall be 2" schedule 40 pipe providing a 24" luminaire center to mounting plate distance.

INSTALLATION

Post provided with (4)Ø3/4" hot dip galvanized steel L-type anchor bolts. A handhole is located in the shaft to provide wiring access.

FINISH

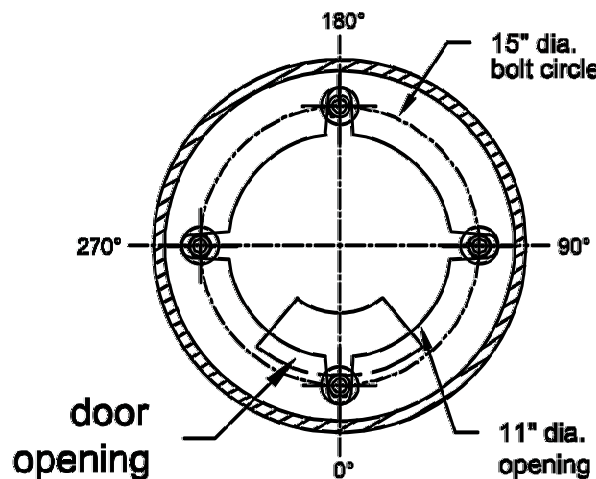
The post assembly shall be shipped with a black powder coat finish.

Accessory Mounting Detail

	Orientation	Height
BHC24 WIRE WAY		12'-0"

FILL OUT CHART DURING APPROVAL PROCESS

ANCHORAGE GUIDE



DO NOT USE TO SET ANCHOR BOLTS
CONTACT CUSTOMER SERVICE FOR TEMPLATE

Catalog #'s:

NY13/20CISU734D, AFCABKH, BHC24/1/BOU3820, FGIUS, AB-31-4 RFD170122
MSPL2 P30 40K AS S B 4 P5 PCS BHDF13 200 BK

Customer Signature

Date



THIS DRAWING, WHEN APPROVED, SHALL BECOME THE COMPLETE SPECIFICATION FOR THE MATERIAL TO BE FURNISHED BY HOLOPHANE ON THE ORDER NOTED ABOVE. A UNIT OF SIMILAR DESIGN MAY BE SUPPLIED, BUT ONLY AFTER APPROVAL BY THE CUSTOMER IN WRITING. ON POLE ORDERS AN ANCHOR BOLT TEMPLATE PRINT WILL BE SUPPLIED WITH EACH ANCHOR BOLT ORDER TO MATCH THE POLE PROVIDED. THIS PRINT IS THE PROPERTY OF HOLOPHANE AND IS LOANED SUBJECT TO RETURN UPON DEMAND AND UPON EXPRESS CONDITION THAT IT WILL NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO OUR INTERESTS, AND ONLY IN CONNECTION WITH MATERIAL FURNISHED BY HOLOPHANE.

AE6 ULTRON Version Solar Street Light

Leadsun integrates cutting-edge technology with highly efficient PV modules, powerful LiFePO4 batteries, and a smart controller into a sleek and compact design for the AE6 ULTRON version. Featuring a separate and flexible cut-off luminaire, the AE6 can be adapted to a variety of lighting angles, thereby improving product performance and efficiency. This design also aims to simplify installation and enhance the user experience.

CE | IP66 | IK08

LEADSUN®

"Bright Ideas For An Even Brighter Future."

Phone: +86-756-2289712
Email: sales@leadsunglobal.com
www.leadsunglobal.com





Rock Solid Mechanical Structure

The ULTRON series is equipped with a modular design, anti-corrosive aluminum alloy shell, toughened stainless steel components, and IP66 and IK08 rated covers, ensuring exceptional durability and robustness. This design allows it to withstand various environmental challenges, including rain, snow, and storms, making the AE6 ULTRON version a reliable choice for all weather conditions.

IP66

IK08

5-year Warranty



Intelligent Steady State Controller

Leveraging its extensive industry experience, Leadsun has independently developed intelligent controllers for solar street lights. The AE steady state controller not only enables smart control of lighting but also offers comprehensive protection for the entire system. Equipped with a waterproof programming connector, a charging connector, and a switch, the controller not only facilitates ease of use but also provides convenience for future maintenance needs.



**Efficient
Controller**



**Stable
Operation**

Type B USB
Female Connector

Type A USB
Female Connector

ON/OFF Button

Battery Management System

The ULTRON series adopts an environmentally friendly LiFePO4 battery that does not contain any harmful metal ingredients. The depth of discharge has been increased from 60% to 90% and the cycle life is 5 times that of lead-acid battery.

The battery also features an exclusive patented battery management technology that extends its lifespan to over 8 years. This technology ensures that the battery is charged and discharged optimally, preventing overcharging or over-discharging, which can damage the battery. As a result, the ULTRON series offers superior battery life, reliability, and performance, making it an excellent choice for solar street lighting applications.



**Battery
Management
System**



**8-Year
Life**

Freedom Classic LED Fixture

The AE6 series utilizes high-efficiency LEDs, achieving up to 180lm/W luminous efficiency (@25°C). The lights feature a sealing lens made of strong anti-ultraviolet PC, providing anti-aging and anti-impact performance for long-term usage.

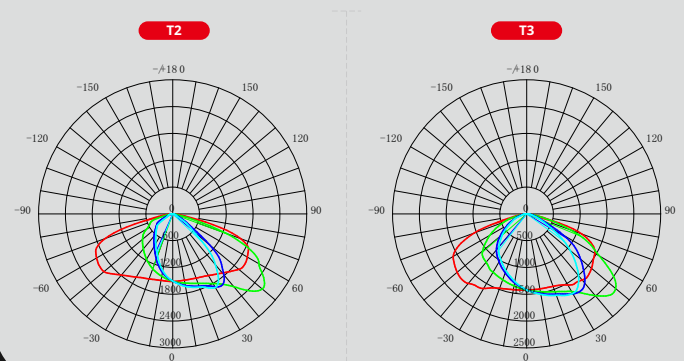
With a unique cutoff design, the optic lens eliminates lighting pollution, contributing to environmental preservation.



Bat Wing Light Distribution

The new lens design of the AE6 series enhances lighting effect and improves lighting uniformity.

This design also extends light coverage, providing more comprehensive illumination.



PIR Motion Detection System

PIR motion detection system can automatically regulate the light source from full bright to dim mode to increase battery autonomy.

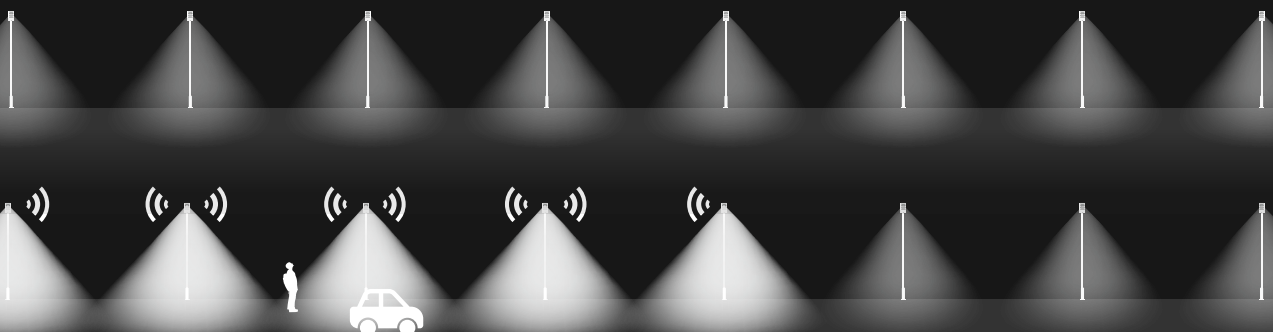
100% Brightness when motion is detected

30% Brightness when no motion is detected



Dynamic Intelligent Sensing System

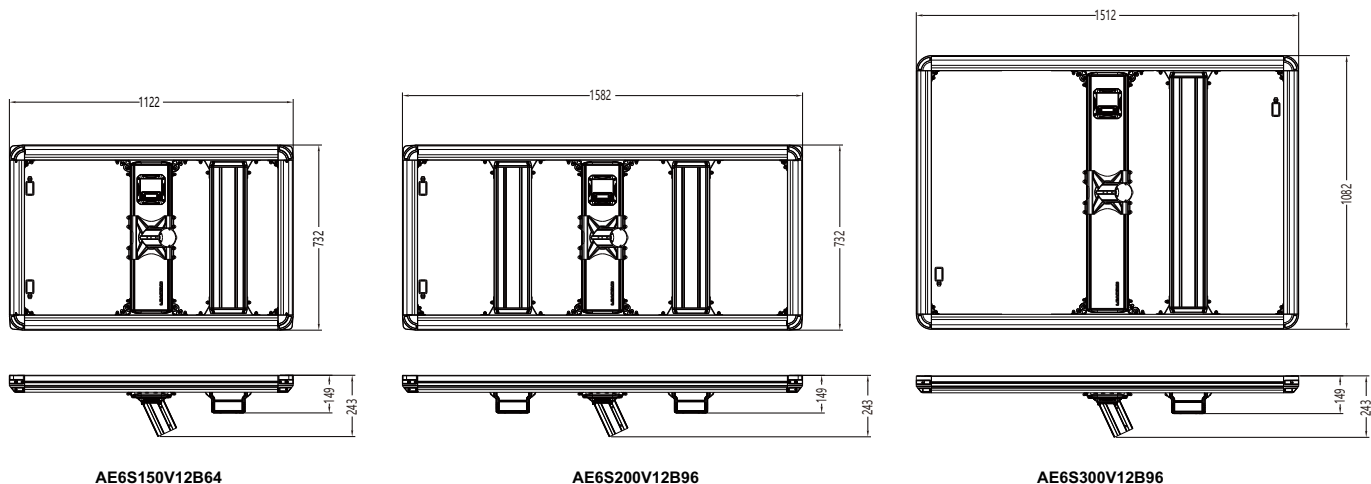
Leadsun has created an autonomous adaptive lighting control system which is achieved by sensing an approaching vehicle or pedestrian using PIR sensors and integrated 24Ghz wireless transmission modules, then switching ON a block of streetlights ahead of the vehicle with higher intensity lighting. As the vehicle passes by, the trailing lights turn dim automatically. When there are no vehicles detected, then all the lights will remain dim.



AE6 Solar Power Supply System Specifications

Model No.		AE6S150V12B64	AE6S200V12B96	AE6S300V12B96
Physical Parameters				
Power of PV Module (W)		150	200	300
Lithium Battery Capacity (Ah/Wh)		64Ah (820Wh)	96Ah (1229Wh)	96Ah (1229Wh)
Net Weight of Product (kg)		26	38	45
Dimension of Product (mm)		1122(L)×732(W)×149(T)	1582(L)×732(W)×149(T)	1512(L)×1082(W)×149(T)
Wireless Control Function (Optional)		√	√	√
Light Parameters				
Working Mode		100% brightness for 30s when motion is detected, 30% brightness when there is no detection.		
Light Photosensitivity (lx)		60~90	60~90	60~90
Packing Parameters				
Main Package	Carton Size (mm)	1178(L)×195(W)×828(T)	1638(L)×195(W)×828(T)	1580(L)×195(W)×1165(T)
	Gross Weight (kg)	29	41	49
Extra Package (for Bracket)	Carton Size (mm)	215×170×235	215×170×235	215×170×235
	Gross Weight (kg)	2.6	2.6	2.6
Environment Requirement				
Charge Temperature		0°C~51°C	0°C~51°C	0°C~51°C
Discharge Temperature		-20°C~60°C	-20°C~60°C	-20°C~60°C
Storage Temperature (<3 months)		-20°C~45°C	-20°C~45°C	-20°C~45°C
Storage Temperature (3~12 months)		-20°C~25°C	-20°C~25°C	-20°C~25°C
Mounting Recommendation				
EPA (Effective Projected Area) (ft ²)		4.49	6.33	8.86
APA (Actual Projected Area) (ft ²)		3.74	5.28	7.38
Wind Load Rate (mph)		160	160	130
Maximum Bracket Inner Diameter (mm)		90	90	90
Top of Pole or Tenon OD (mm)		80~89	80~89	80~89

Physical Dimensions (mm)

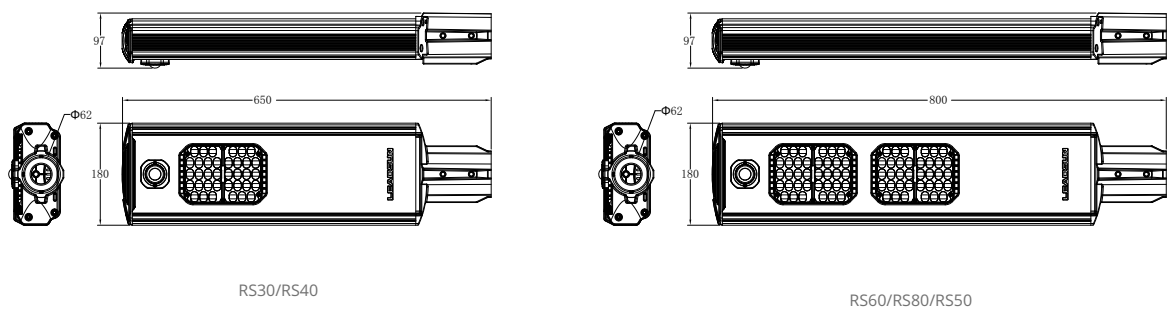


- * The light source contained in this luminaire shall only be replaced by the manufacturer or his service agent or a similar qualified person.
- * The torque setting for any bolts or screws used to secure the luminaire to the bracket is 14 N/m.
- * Use for outdoors only!

LED Light Head Technical Data Specifications

Model No.	RS30	RS40	RS50	RS60	RS80
LED Module Parameters					
Light Output (W)	30	40	50	60	80
Typical Luminous Flux (lm)	5550	7200	9500	11400	14800
Optional Distribution	T2/T3	T2/T3	T2/T3	T2/T3	T2/T3
Color Temperature (K)	5000K	5000K	5000K	5000K	5000K
Physical Parameters					
Qty. of LED Chips	36	36	2×36	2×36	2×36
Motion Sensor	PIR or DISS	PIR or DISS	PIR or DISS	PIR or DISS	PIR or DISS
Range of input Voltage (V)	22V	22V	22V	22V	22V
Net Weight (kg)	3.2	3.2	4	4	4
Dimension of Product (mm)	650×180×97	650×180×97	800×180×97	800×180×97	800×180×97
Visual Angle	140°×70°	140°×70°	140°×70°	140°×70°	140°×70°
Storage Temperature	-20℃~45℃	-20℃~45℃	-20℃~45℃	-20℃~45℃	-20℃~45℃
Packing Parameters					
Dimension of Carton (mm)*(2 Set)	680×240×210	680×240×210	830×240×210	830×240×210	830×240×210
Gross Weight of Package (kg)*(2 Set)	8	8	10	10	10
Mounting Recommendation					
EPA (Effective Projected Area) (ft²)	0.57	0.57	0.70	0.70	0.70
APA (Actual Projected Area) (ft²)	0.47	0.47	0.58	0.58	0.58
Wind Load Rate (mph)	160	160	160	160	160
Top of Pole or Tenon OD (mm)	60	60	60	60	60
Installation Height (m)	5~8	5~8	7~10	7~10	8~12
Installation Distance (m)	20~30	20~30	25~40	30~45	35~45

Physical Dimensions (mm)



- * The light source contained in this luminaire shall only be replaced by the manufacturer or his service agent or a similar qualified person.
- * The torque setting for any bolts or screws used to secure the luminaire to the bracket is 14 N/m.
- * Use for outdoors only!

Note: Only poles S1, S2, S4, A1 and A2 are included as part of the existing scope. Poles A3, A4, and B1 will be included as part of a seperate project.

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
A1	60'	60'	1	TLC-LED-1200	1.17 kW	B
		60'	3	TLC-LED-900	2.67 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
A2	60'	60'	1	TLC-LED-1200	1.17 kW	C
		60'	3	TLC-LED-900	2.67 kW	C
		16'	1	TLC-BT-575	0.58 kW	B
		60'	4	TLC-LED-900	3.56 kW	A
A3-A4	60'	16'	1	TLC-BT-575	0.58 kW	B
		60'	4	TLC-LED-900	3.56 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
		70'	3	TLC-LED-1200	3.51 kW	A
B1	70'	70'	3	TLC-LED-1200	3.51 kW	A
		70'	4	TLC-LED-1500	1.43 kW	A
		70'	4	TLC-LED-900	0.89 kW	A
		16'	4	TLC-BT-575	0.58 kW	A
S1	100'	100'	7	TLC-LED-1500	10.01 kW	B
		22'	2	TLC-BT-575	1.15 kW	B
		100'	2	TLC-LED-1200	2.34 kW	A
		100'	3	TLC-LED-1500	4.29 kW	A
		22'	1	TLC-BT-575	0.58 kW	A
S2	100'	100'	7	TLC-LED-1500	10.01 kW	B
		16'	2	TLC-BT-575	1.15 kW	B
S4	80'	80'	7	TLC-LED-1500	10.01 kW	B
		16'	2	TLC-BT-575	1.15 kW	B
8			59		64.19 kW	

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Softball 1	21.88 kW	22
B	Soccer/Softball 2	38.47 kW	33
C	Softball 2	3.84 kW	4

Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1500	LED 5700K - 75 CRI	1430W	160,000	>120,000	>120,000	>120,000	25
TLC-BT-575	LED 5700K - 75 CRI	575W	52,000	>120,000	>120,000	>120,000	12
TLC-LED-900	LED 5700K - 75 CRI	890W	89,600	>120,000	>120,000	>120,000	15
TLC-LED-1200	LED 5700K - 75 CRI	1170W	136,000	>120,000	>120,000	>120,000	7

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Canal Spill	Horizontal	0.04	0	0.09	0.00		A,B,C	59
Canal Spill	Max Candela (by Fixture)	3037	6.42	6769	1053.95	473.10	A,B,C	59
Canal Spill	Max Vertical Illuminance Metric	0.09	0	0.23	0.00		A,B,C	59
Football	Horizontal Illuminance	31.3	19	39	2.03	1.64	B	33
Property Spill	Horizontal	0.82	0	6.48	0.00		A,B,C	59
Property Spill	Max Candela (by Fixture)	16063	17.4	47578	2741.73	925.82	A,B,C	59
Property Spill	Max Vertical Illuminance Metric	1.20	0	7.47	0.00		A,B,C	59
Soccer	Horizontal Illuminance	31.1	19	44	2.31	1.64	B	33
Softball 1 (Infield)	Horizontal Illuminance	52	44	63	1.43	1.18	A	22
Softball 1 (Outfield)	Horizontal Illuminance	34.1	21	48	2.30	1.62	A	22
Softball 2 (Infield)	Horizontal Illuminance	50.8	35	59	1.67	1.45	B,C	37
Softball 2 (Outfield)	Horizontal Illuminance	30.6	20	46	2.26	1.53	B,C	37

From Hometown to Professional

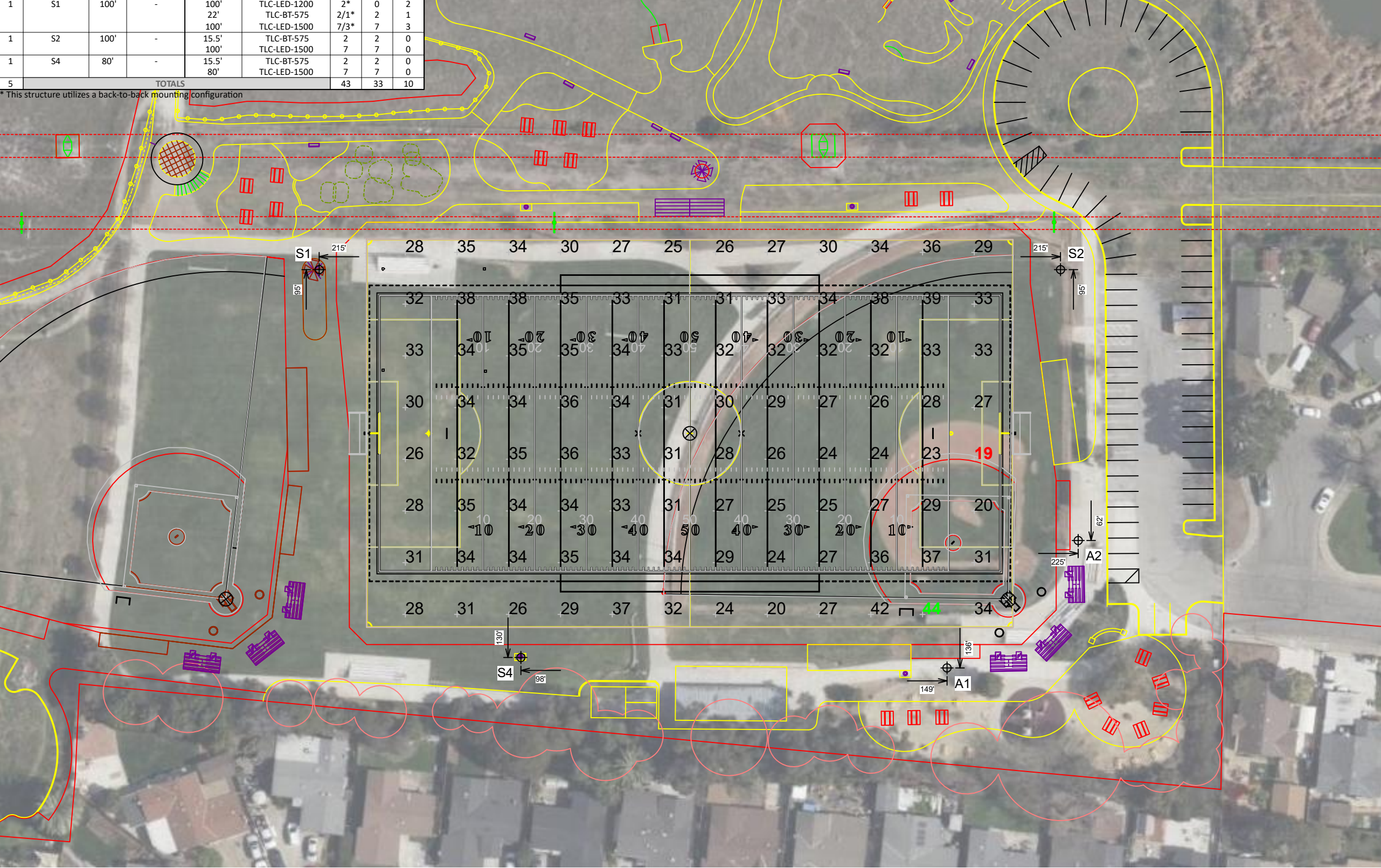


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EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A1	60'	-	60'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	3	3	0
1	A2	60'	-	60'	TLC-LED-1200	1	0	1
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	3	0	3
1	S1	100'	-	100'	TLC-LED-1200	2*	0	2
				22'	TLC-BT-575	2/1*	2	1
				100'	TLC-LED-1500	7/3*	7	3
1	S2	100'	-	15.5'	TLC-BT-575	2	2	0
				100'	TLC-LED-1500	7	7	0
1	S4	80'	-	15.5'	TLC-BT-575	2	2	0
				80'	TLC-LED-1500	7	7	0
5	TOTALS					43	33	10

* This structure utilizes a back-to-back mounting configuration



MLK Park
Palo Alto, CA

GRID SUMMARY	
Name:	Soccer
Size:	375' x 225'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	31.08
Maximum:	44
Minimum:	19
Avg / Min:	1.64
Guaranteed Max / Min:	2.5
Max / Min:	2.31
UG (adjacent pts):	1.54
CU:	0.65
No. of Points:	96
LUMINAIRE INFORMATION	
Applied Circuits:	B
No. of Luminaires:	33
Total Load:	38.47 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

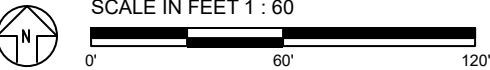
Installation Requirements: Results assume $\pm 3\%$ nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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ILLUMINATION SUMMARY



Pole location(s) ⚡ dimensions are relative to 0,0 reference point(s) ⊗

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	60'	-	60'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	3	3	0
1	S1	100'	-	100'	TLC-LED-1200	2*	0	2
				22'	TLC-BT-575	2/1*	2	1
				100'	TLC-LED-1500	7/3*	7	3
1	S2	100'	-	15.5'	TLC-BT-575	2	2	0
				100'	TLC-LED-1500	7	7	0
1	S4	80'	-	15.5'	TLC-BT-575	2	2	0
				80'	TLC-LED-1500	7	7	0
5	TOTALS					43	37	6

* This structure utilizes a back-to-back mounting configuration



MLK Park
Palo Alto, CA

GRID SUMMARY	
Name:	Softball 2
Size:	200'/200'/200' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY		
MAINTAINED HORIZONTAL FOOTCANDLES		
	Infield	Outfield
Guaranteed Average:	50	30
Scan Average:	50.78	30.58
Maximum:	59	46
Minimum:	35	20
Avg / Min:	1.44	1.49
Guaranteed Max / Min:	2	2.5
Max / Min:	1.67	2.26
UG (adjacent pts):	1.37	1.37
CU:	0.31	
No. of Points:	25	73
LUMINAIRE INFORMATION		
Applied Circuits:	B, C	
No. of Luminaires:	37	
Total Load:	42.31 kW	

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

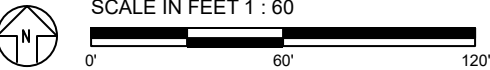
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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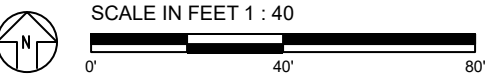
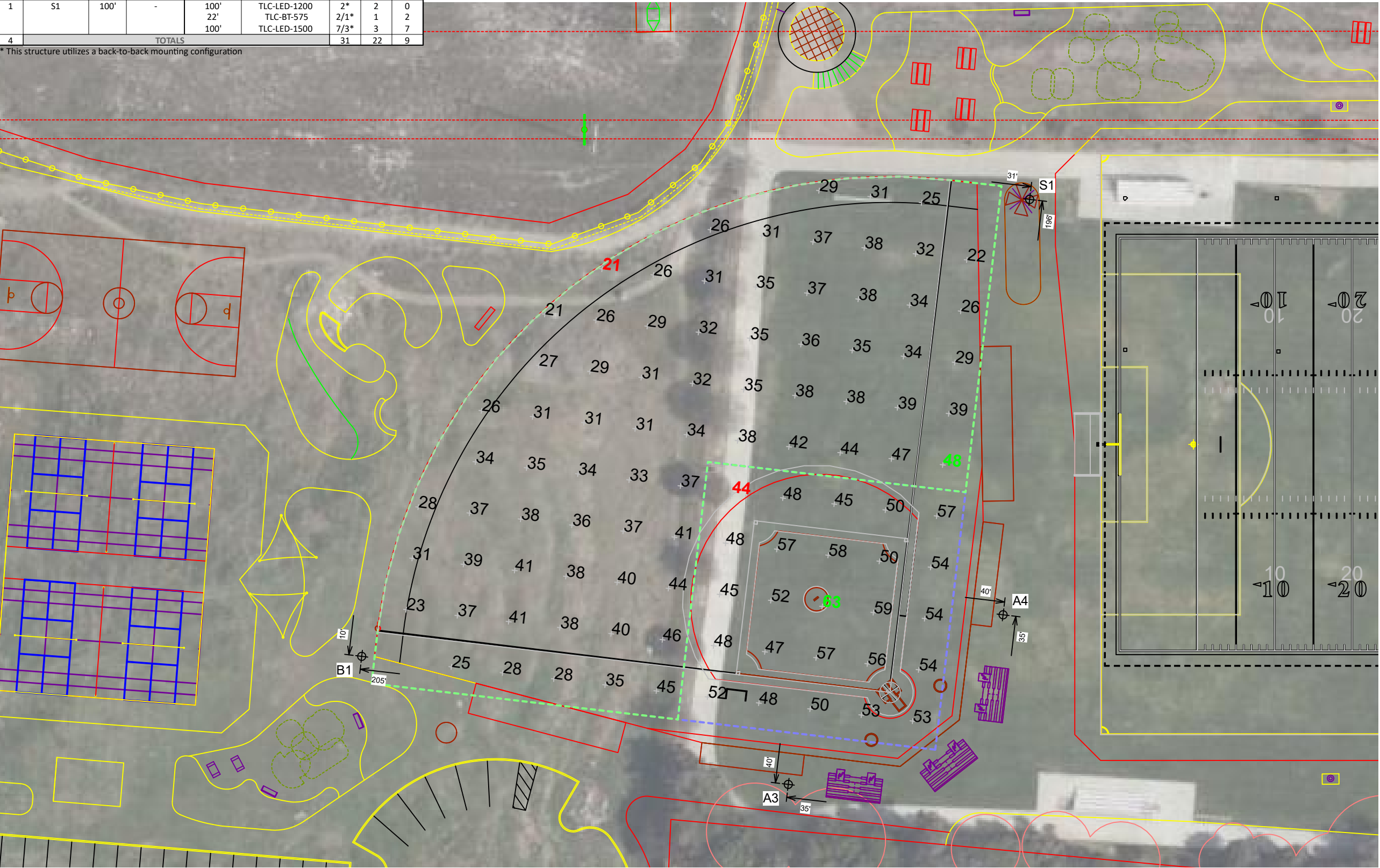
ILLUMINATION SUMMARY



Pole location(s) ⚡ dimensions are relative to 0,0 reference point(s) ⊗

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A3-A4	60'	-	15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	4	4	0
1	B1	70'	-	70'	TLC-LED-1200	3	3	0
				70'	TLC-LED-1500	1	1	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-900	1	1	0
						1	1	0
1	S1	100'	-	100'	TLC-LED-1200	2*	2	0
				22'	TLC-BT-575	2/1*	1	2
				100'	TLC-LED-1500	7/3*	3	7
4	TOTALS					31	22	9

* This structure utilizes a back-to-back mounting configuration



ENGINEERED DESIGN By: Bryce Miles · File #217515C · 17-Oct-22

MLK Park

Palo Alto, CA

GRID SUMMARY	
Name:	Softball 1
Size:	200'/200'/200' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY		
MAINTAINED HORIZONTAL FOOTCANDLES		
	Infield	Outfield
Guaranteed Average:	50	30
Scan Average:	51.98	34.07
Maximum:	63	48
Minimum:	44	21
Avg / Min:	1.19	1.62
Guaranteed Max / Min:	2	2.5
Max / Min:	1.43	2.30
UG (adjacent pts):	1.27	1.64
CU:	0.65	
No. of Points:	25	73
LUMINAIRE INFORMATION		
Applied Circuits:	A	
No. of Luminaires:	22	
Total Load:	21.88 kW	

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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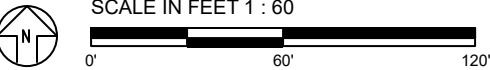
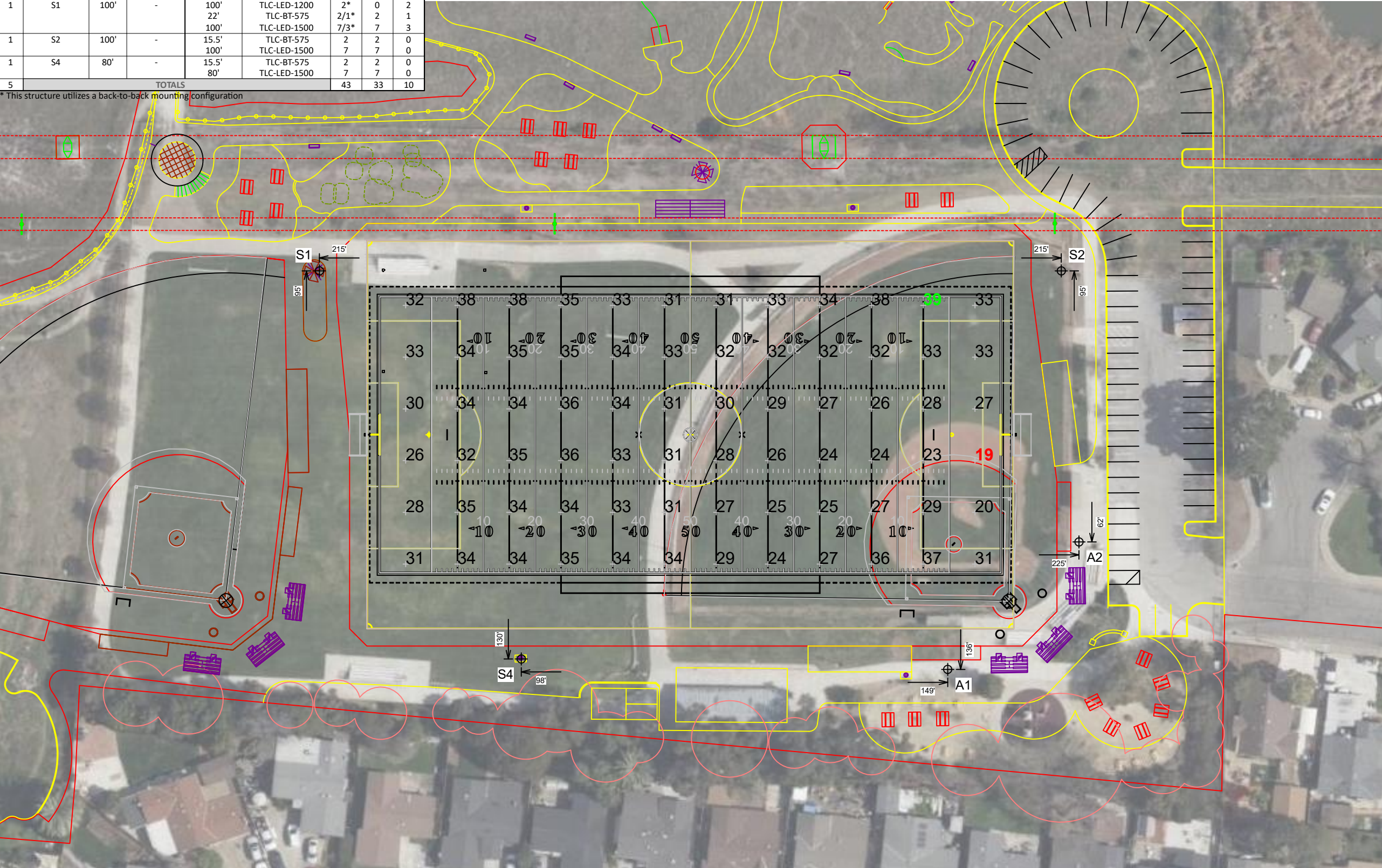
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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	A1	60'	-	60'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	3	3	0
1	A2	60'	-	60'	TLC-LED-1200	1	0	1
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	3	0	3
1	S1	100'	-	100'	TLC-LED-1200	2*	0	2
				22'	TLC-BT-575	2/1*	2	1
				100'	TLC-LED-1500	7/3*	7	3
1	S2	100'	-	15.5'	TLC-BT-575	2	2	0
				100'	TLC-LED-1500	7	7	0
1	S4	80'	-	15.5'	TLC-BT-575	2	2	0
				80'	TLC-LED-1500	7	7	0
5	TOTALS					43	33	10

* This structure utilizes a back-to-back mounting configuration



ENGINEERED DESIGN By: Bryce Miles · File #217515C · 17-Oct-22

MLK Park
Palo Alto, CA

GRID SUMMARY	
Name:	Football
Size:	360' x 160'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	31.25
Maximum:	39
Minimum:	19
Avg / Min:	1.64
Guaranteed Max / Min:	2.5
Max / Min:	2.03
UG (adjacent pts):	1.53
CU:	0.49
No. of Points:	72
LUMINAIRE INFORMATION	
Applied Circuits:	B
No. of Luminaires:	33
Total Load:	38.47 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

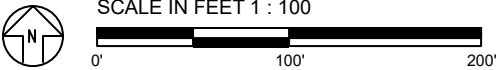
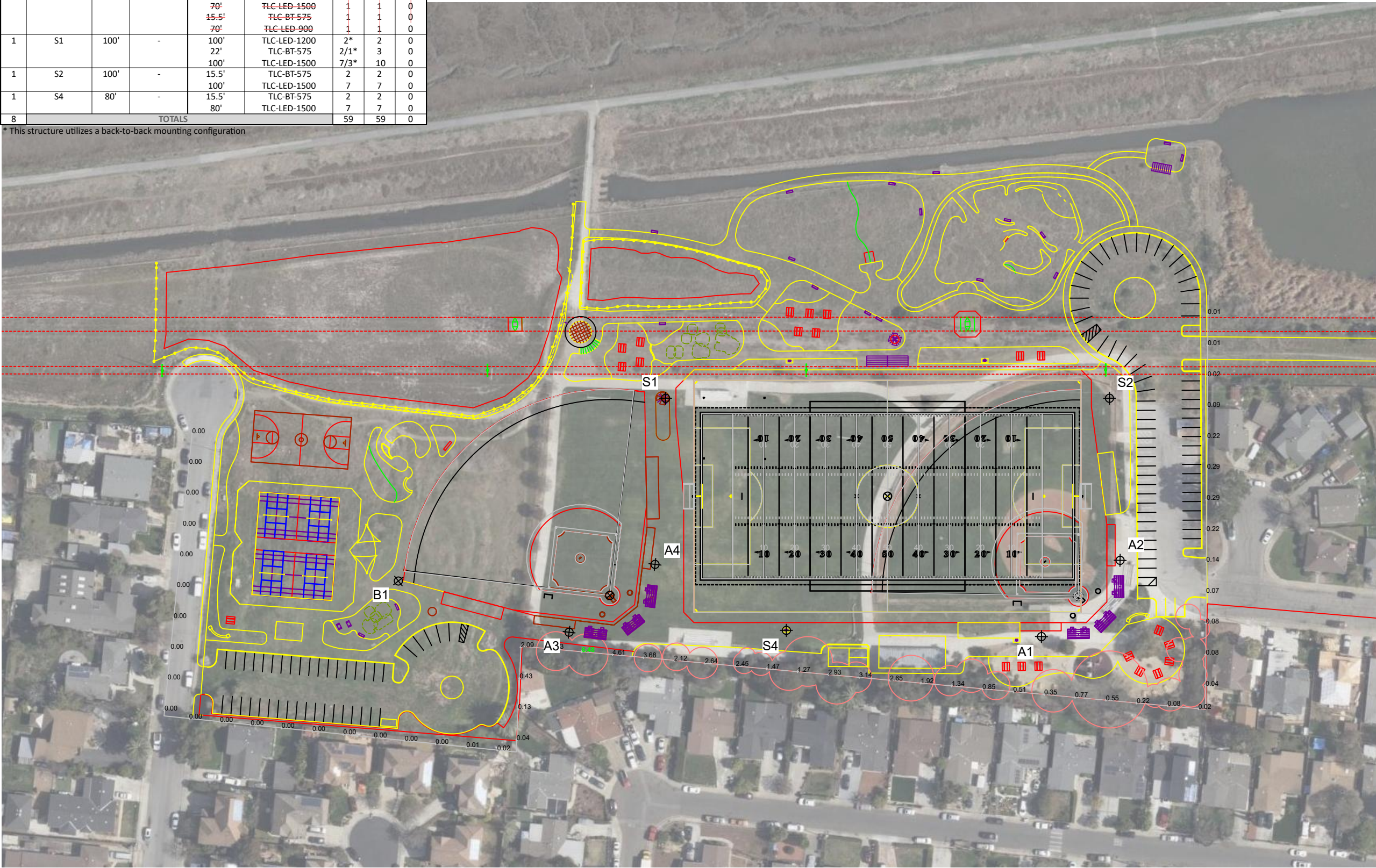


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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN									
Pole				Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS	
2	A1-A2	60'	-	60'	TLC-LED-1200	1	1	0	
				15.5'	TLC-BT-575	1	1	0	
				60'	TLC-LED-900	3	3	0	
2	A3-A4	60'	-	15.5'	TLC-BT-575	1	1	0	
				60'	TLC-LED-900	4	4	0	
				70'	TLC-LED-1200	3	3	0	
1	B1	70'	-	70'	TLC-LED-1500	1	1	0	
				15.5'	TLC-BT-575	1	1	0	
				70'	TLC-LED-900	1	1	0	
				100'	TLC-LED-1200	2*	2	0	
1	S1	100'	-	22'	TLC-BT-575	2/1*	3	0	
				100'	TLC-LED-1500	7/3*	10	0	
				15.5'	TLC-BT-575	2	2	0	
1	S2	100'	-	100'	TLC-LED-1500	7	7	0	
				15.5'	TLC-BT-575	2	2	0	
1	S4	80'	-	15.5'	TLC-BT-575	2	2	0	
				80'	TLC-LED-1500	7	7	0	
8	TOTALS					59	59	0	

* This structure utilizes a back-to-back mounting configuration



ENGINEERED DESIGN By: Bryce Miles · File #217515C · 17-Oct-22

MLK Park

Palo Alto, CA

GRID SUMMARY	
Name:	Property Spill
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
HORIZONTAL FOOTCANDLES	
Scan Average:	Entire Grid 0.8179
Maximum:	6.48
Minimum:	0.00
No. of Points:	60
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C
No. of Luminaires:	59
Total Load:	64.19 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume $\pm 3\%$ nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

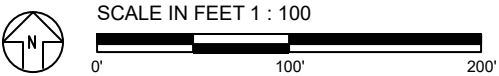
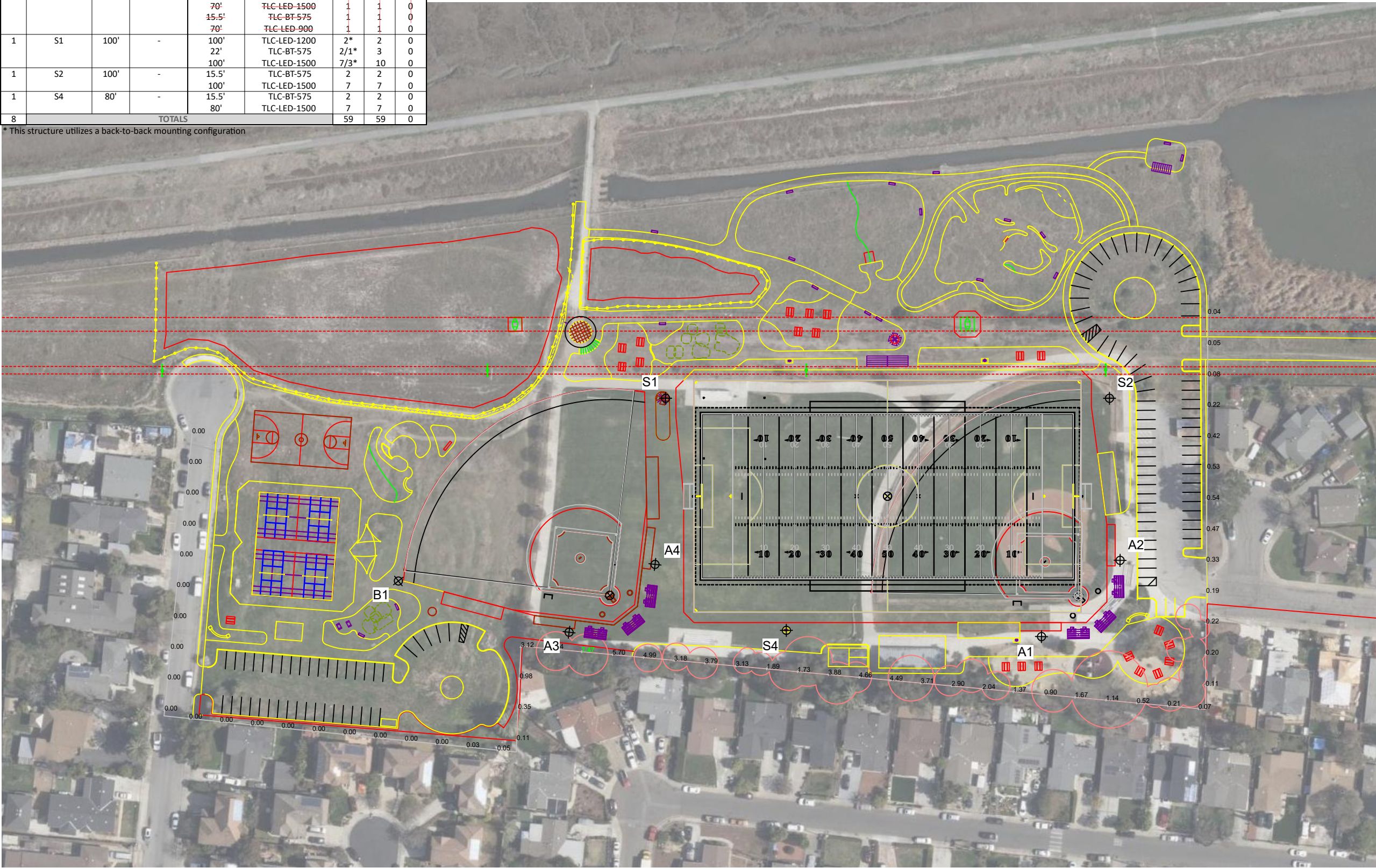


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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	60'	-	60'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	3	3	0
2	A3-A4	60'	-	15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	4	4	0
				70'	TLC-LED-1200	3	3	0
1	B1	70'	-	70'	TLC-LED-1500	1	1	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-900	1	1	0
				100'	TLC-LED-1200	2*	2	0
1	S1	100'	-	22'	TLC-BT-575	2/1*	3	0
				100'	TLC-LED-1500	7/3*	10	0
				15.5'	TLC-BT-575	2	2	0
1	S2	100'	-	100'	TLC-LED-1500	7	7	0
				15.5'	TLC-BT-575	2	2	0
1	S4	80'	-	15.5'	TLC-BT-575	2	2	0
				80'	TLC-LED-1500	7	7	0
8	TOTALS					59	59	0

* This structure utilizes a back-to-back mounting configuration



ENGINEERED DESIGN By: Bryce Miles · File #217515C · 17-Oct-22

MLK Park

Palo Alto, CA

GRID SUMMARY	
Name:	Property Spill
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAX VERTICAL FOOTCANDLES	
Scan Average:	Entire Grid 1.2019
Maximum:	7.47
Minimum:	0.00
No. of Points:	60
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C
No. of Luminaires:	59
Total Load:	64.19 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume $\pm 3\%$ nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



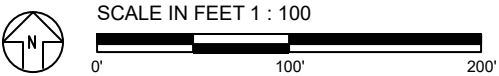
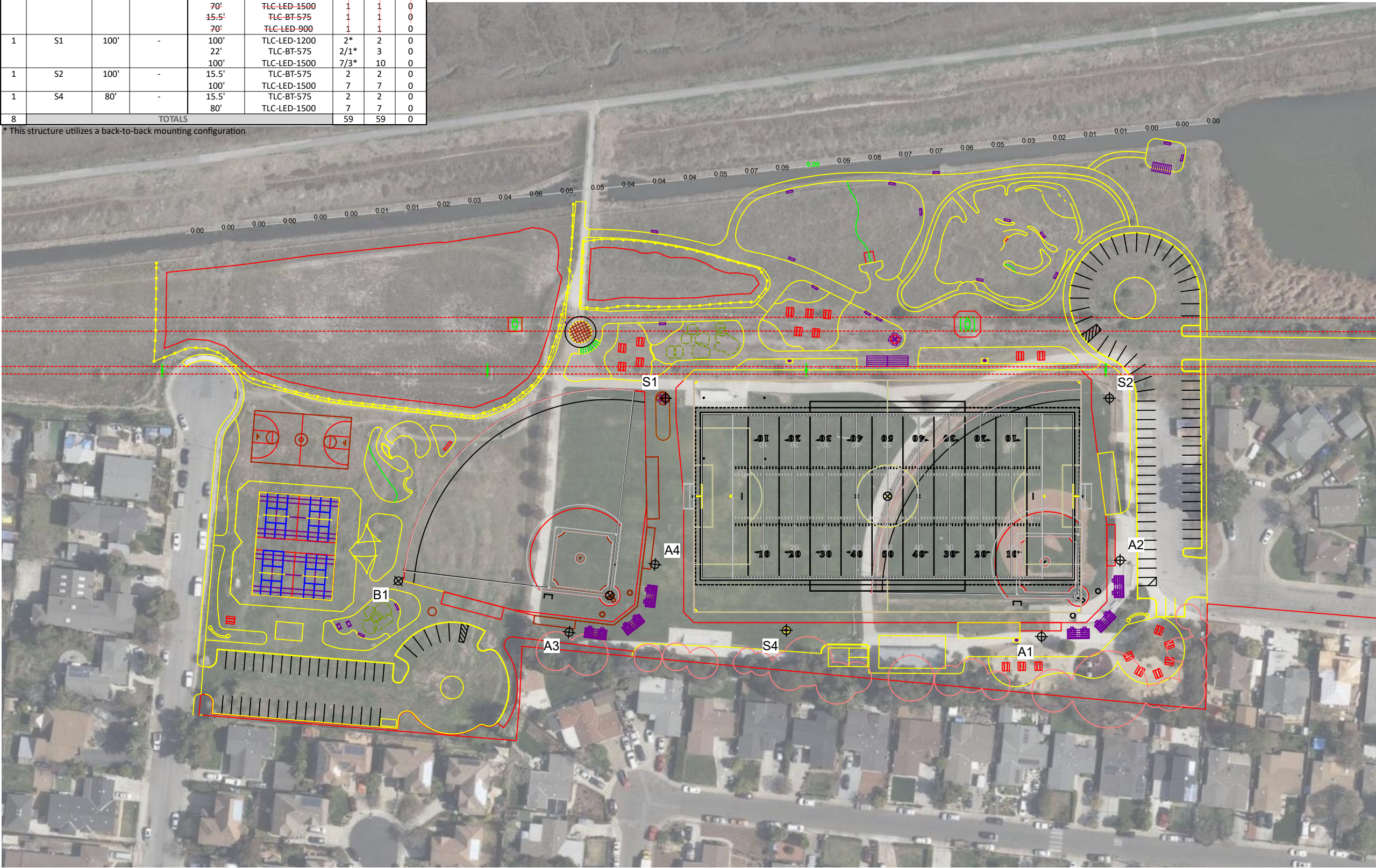
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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	60'	-	60'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	3	3	0
2	A3-A4	60'	-	15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	4	4	0
				70'	TLC-LED-1200	3	3	0
1	B1	70'	-	70'	TLC-LED-1500	1	1	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-900	1	1	0
				100'	TLC-LED-1200	2*	2	0
1	S1	100'	-	22'	TLC-BT-575	2/1*	3	0
				100'	TLC-LED-1500	7/3*	10	0
				15.5'	TLC-BT-575	2	2	0
1	S2	100'	-	100'	TLC-LED-1500	7	7	0
				15.5'	TLC-BT-575	2	2	0
1	S4	80'	-	15.5'	TLC-BT-575	7	7	0
				80'	TLC-LED-1500	7	7	0
8	TOTALS					59	59	0

* This structure utilizes a back-to-back mounting configuration



Pole location(s) ⚡ dimensions are relative to 0,0 reference point(s) ⊗

MLK Park

Palo Alto,CA

GRID SUMMARY	
Name:	Canal Spill
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
HORIZONTAL FOOTCANDLES	
Scan Average:	Entire Grid 0.0351
Maximum:	0.09
Minimum:	0.00
No. of Points:	34
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C
No. of Luminaires:	59
Total Load:	64.19 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



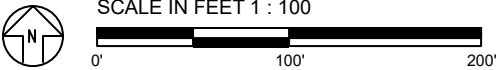
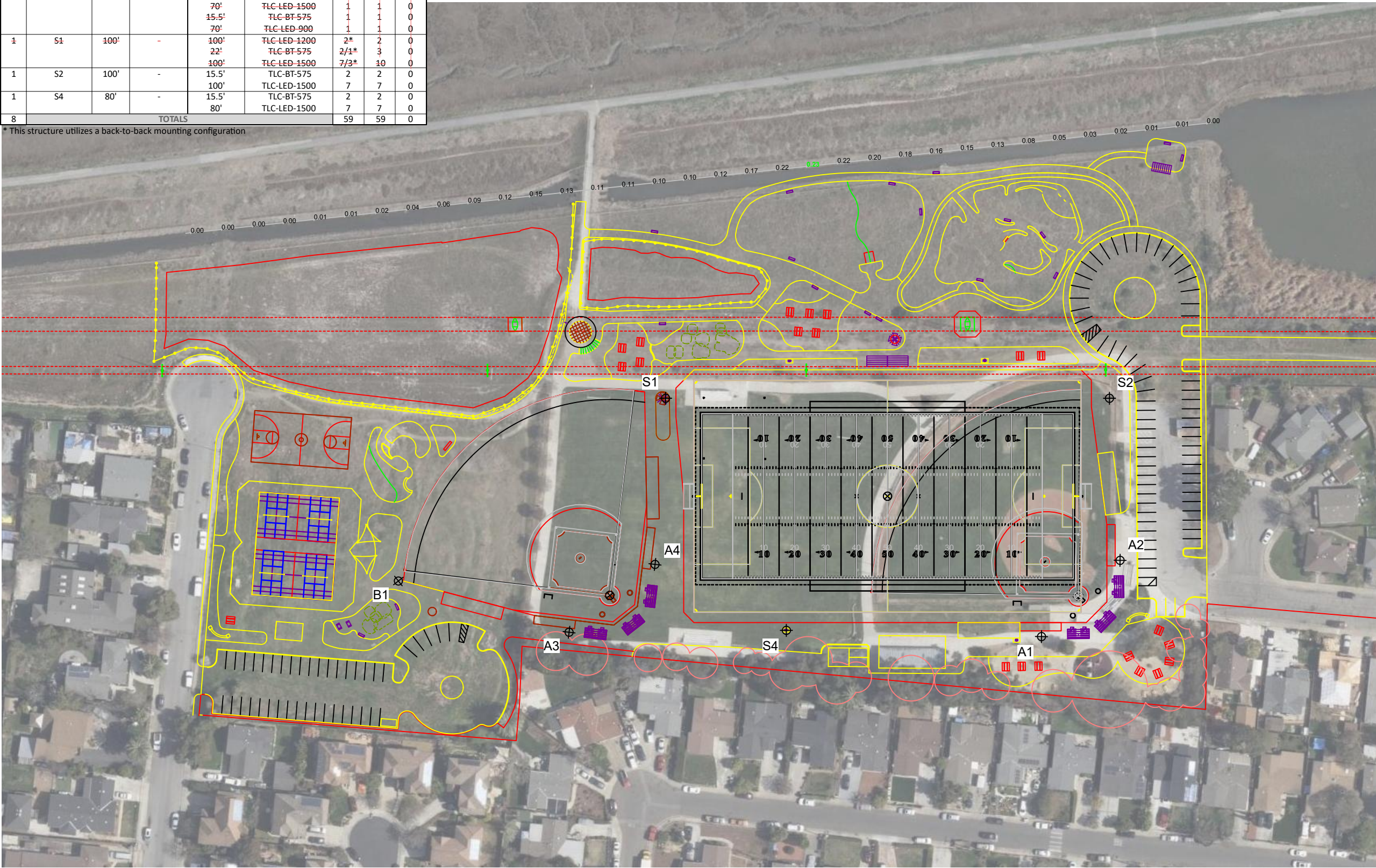
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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN									
Pole				Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS	
2	A1-A2	60'	-	60'	TLC-LED-1200	1	1	0	
				15.5'	TLC-BT-575	1	1	0	
				60'	TLC-LED-900	3	3	0	
2	A3-A4	60'	-	15.5'	TLC-BT-575	1	1	0	
				60'	TLC-LED-900	4	4	0	
				70'	TLC-LED-1200	3	3	0	
1	B1	70'	-	70'	TLC-LED-1500	1	1	0	
				15.5'	TLC-BT-575	1	1	0	
				70'	TLC-LED-900	1	1	0	
				100'	TLC-LED-1200	2*	2	0	
1	S1	100'	-	22'	TLC-BT-575	2/1*	3	0	
				100'	TLC-LED-1500	7/3*	10	0	
				15.5'	TLC-BT-575	2	2	0	
1	S2	100'	-	100'	TLC-LED-1500	7	7	0	
1	S4	80'	-	15.5'	TLC-BT-575	2	2	0	
8	TOTALS					59	59	0	

* This structure utilizes a back-to-back mounting configuration



ENGINEERED DESIGN By: Bryce Miles · File #217515C · 17-Oct-22

MLK Park

Palo Alto, CA

GRID SUMMARY	
Name:	Canal Spill
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAX VERTICAL FOOTCANDLES	
Scan Average:	Entire Grid 0.0896
Maximum:	0.23
Minimum:	0.00
No. of Points:	34
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C
No. of Luminaires:	59
Total Load:	64.19 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume $\pm 3\%$ nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

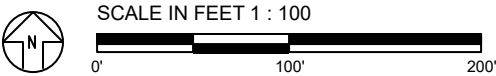
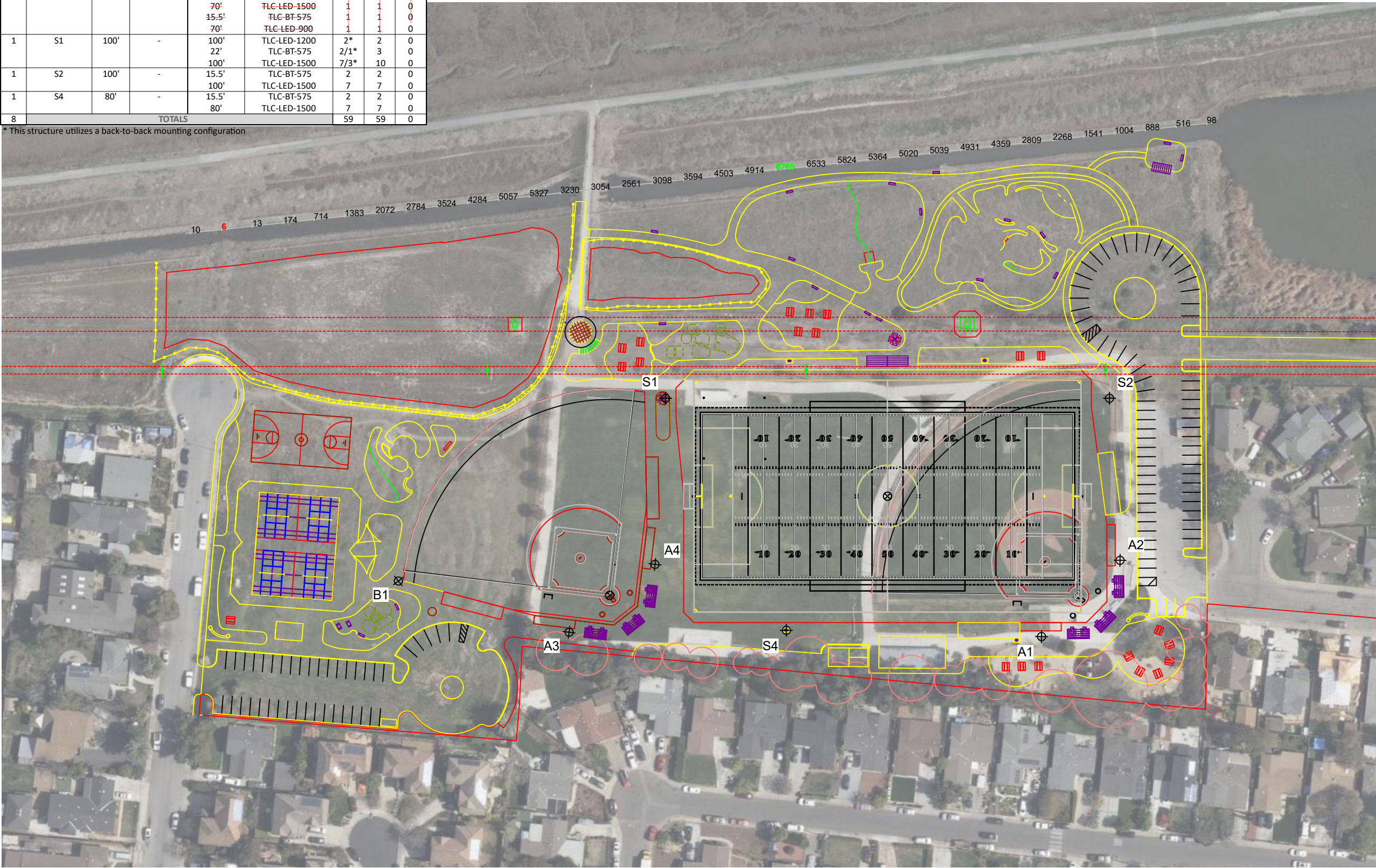


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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	60'	-	60'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	3	3	0
2	A3-A4	60'	-	15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	4	4	0
				70'	TLC-LED-1200	3	3	0
1	B1	70'	-	70'	TLC-LED-1500	1	1	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-900	1	1	0
				100'	TLC-LED-1200	2*	2	0
1	S1	100'	-	22'	TLC-BT-575	2/1*	3	0
				100'	TLC-LED-1500	7/3*	10	0
				15.5'	TLC-BT-575	2	2	0
1	S2	100'	-	100'	TLC-LED-1500	7	7	0
				15.5'	TLC-BT-575	2	2	0
1	S4	80'	-	15.5'	TLC-BT-575	2	2	0
				80'	TLC-LED-1500	7	7	0
8	TOTALS					59	59	0

* This structure utilizes a back-to-back mounting configuration



ENGINEERED DESIGN By: Bryce Miles · File #217515C · 17-Oct-22

MLK Park

Palo Alto, CA

GRID SUMMARY	
Name:	Canal Spill
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
CANDELA (PER FIXTURE)	
Scan Average:	Entire Grid 3037.2708
Maximum:	6768.86
Minimum:	6.42
No. of Points:	34
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C
No. of Luminaires:	59
Total Load:	64.19 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume $\pm 3\%$ nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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ILLUMINATION SUMMARY



MLK Park
Palo Alto, CA

EQUIPMENT LAYOUT

INCLUDES:

- Football
- Soccer
- Softball 1
- Softball 2

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
2	A1-A2	60'	-	60'	TLC-LED-1200	1
				15.5'	TLC-BT-575	1
				60'	TLC-LED-900	3
2	A3-A4	60'	-	15.5'	TLC-BT-575	1
				60'	TLC-LED-900	4
1	B1	70'	-	70'	TLC-LED-1200	3
				70'	TLC-LED-1500	1
				15.5'	TLC-BT-575	1
				70'	TLC-LED-900	1
1	S1	100'	-	100'	TLC-LED-1200	2*
				22'	TLC-BT-575	2/1*
				100'	TLC-LED-1500	7/3*
1	S2	100'	-	15.5'	TLC-BT-575	2
				100'	TLC-LED-1500	7
1	S4	80'	-	15.5'	TLC-BT-575	2
				80'	TLC-LED-1500	7
8	TOTALS					59

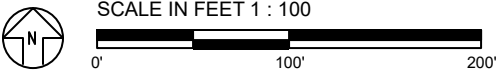
* This structure utilizes a back-to-back mounting configuration

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-1500	8.5	8.1	7.4	6.4	5.1	4.7	3.7
TLC-BT-575	3.4	3.2	2.9	2.5	2.0	1.8	1.5
TLC-LED-900	5.3	5.0	4.6	4.0	3.2	2.9	2.3
TLC-LED-1200	7.0	6.6	6.1	5.2	4.2	4.0	3.0



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Pole location(s) ⚡ dimensions are relative to 0,0 reference point(s) ⊗

The sports lighting improvements at Jack Farrell Park shall follow Little League Standards. The number of poles/ fixtures are to be recommended by the contractor.

2017 Little League[®] Lighting Standards & Safety Audit



Little League
Baseball



Little League
Softball

TABLE OF CONTENTS

Introduction	1
I. Required Minimum Standards	
Part 1 - General	
1.1 Lighting Performance	2
1.2 Environmental Light Control	4
1.3 Life-Cycle Costs	4
1.4 Warranty and Guarantee	4
Part 2 - Product	
2.1 Lighting System Construction	4
2.2 Structural Parameters	6
Part 3 - Execution	
3.1 Field Quality Control	6
3.2 Ongoing Quality Assurance	6
II. Desirable Features	
4.1 Control & Monitoring System	7
4.2 Auxiliary Brackets	7
4.3 Field Perimeter Lighting	7
III. Life-Cycle Operating Cost Evaluation	8
IV. Little League Lighting Standards Checklist	9
V. Facility Drawings	10–11
VI. Safety Audit	12–15

Lighting

Night games have been permitted in Little League® programs starting in 1957 with the second Little League International Congress in Chicago. Standards set by the Illuminating Engineering Society (IES) of North America were adopted by Little League Baseball in 1957, and have been updated with recommendations from the National Electric Code, the Uniform Building Code, and others.

Over the years, these standards have been refined and have been adopted by Little League Baseball, the National Recreation Society and other organizations. **THE IMPORTANCE OF ADHERING TO THESE STANDARDS CANNOT BE OVERSTATED, TO ENSURE THE UNIFORMITY OF LIGHTING LITTLE LEAGUE FIELDS. ALL LIGHTING SYSTEMS MUST COMPLY WITH LITTLE LEAGUE STANDARDS, WITHOUT REGARD TO WHO INSTALLS OR FINANCES THE SYSTEM** (such as city, county, private individual, etc.).

Many leagues operate in conjunction with other organizations or municipalities. This does not need to be a roadblock in making sure that standards are met. Instead, it is a matter of educating people at all levels on this vital aspect of league operations.

The District Administrator (and each local Little League President) are directly responsible for ensuring that any fields on which night games are played within his/her league or district are up to these standards. The potential liability risks we all face make compliance even more imperative.

As the Little League program grows and leagues charter more divisions, the demand for fields increases dramatically. For many leagues, a less costly alternative to constructing new fields is the installation of lighting, providing optimum use of available fields within the curfew limitations for each division. In planning for lights, it is most important that minimum lighting standards be attained. Every precaution should be taken to guard against mishaps that might result because of the installation of an inadequate lighting system. **The local district administrator must pre-approve plans for any new lighting system as being adequate and within minimum standards for play.** The District Administrator and President of the league must check the system after installation to determine that the installed system complies with the plans and meets or exceeds the minimum standards for play. Lighting systems must be checked once per year, and should be done before the season begins. Copies of project plans must be submitted to the District Administrator, for prior approval that the plans and installation comply with required standards.

The following standards have been adopted by Little League. They are divided into required minimum standards and desirable optional features. The minimum standards establish criteria which are important to the Little League activities. The desirable features are established to provide guidelines for adding important value to your lighting system.

Notice: Any upgrade or addition of lighting equipment to existing systems after July 1, 1992, must be done so that the systems will be in complete compliance with current standards.

Increasing field sizes – such as extending the outfield fence – and/or increasing the base path distances – such as from a 60-foot base path to a 70-foot base path – on a lighted Little League field involves many potential variables that need to be examined on a per-field basis. A lighting audit of such a field change must be performed to show the lighting on the increased area will still meet Little League standards. If it does not, any proposed update to the existing lighting system for a field should be done such that the manufacturer shows the Little League lighting standards will be maintained with the new design.

Standards for Lighting

I. Required Minimum Standards

These minimum standards are required for all lighting installations after the date of adoption of these standards. Any modification in existing lighting systems after this date should be done so as to result in a lighting system in compliance with these standards. To be in compliance, a system must meet all required minimum standards.

PART 1 – GENERAL

1.1 LIGHTING PERFORMANCE

A. Light Levels – Optic System Performance

The quantity of equipment needed to produce the target light levels on a field is determined by the efficiency of the lighting system.

Newest metal halide technology is capable of delivering equal or better results with as little as half the amount of equipment as common metal halide systems. This generation of lighting has high performance optic characteristics that enable reductions in the quantities of luminaires needed to meet design targets. The lighting designs for the specified field will show a reduced fixture count for systems using a high-performance optic system. Manufacturers should provide assurance that target light levels will be met over the life of the system.

As light emitting diode (LED) technology improves and costs decrease, LED lighting systems become more viable for sports facilities. LED light sources can have a much greater lifespan than metal halide light sources with significantly less lumen depreciation over typical sports lighting operating hours. For example, a metal halide light source may reach 70% lumen maintenance in as little as 2,100–3,000 hours while an LED light source may take 100,000 hours or more.

B. Light Levels – Sustaining Targets Over Time

The two methods of design to meet specified light levels are: to provide a constant light level during the guarantee period, or to apply a recoverable light loss factor to the initial design.

1. Constant Light Level Method

a. Metal Halide Light Source

The basics of this method are described under “Lumen Maintenance” in the IESNA Lighting Handbook Reference and Application, Tenth Edition, page 16-8: “Lumen maintenance control strategy calls for reducing the initial illumination of a new system to the designed minimum level. As lumen depreciation occurs, more power is applied to the lamps in order to maintain constant output.”

The term constant is intended to include any system that provides target light levels at 100 hours and maintains the target light levels throughout the system life. Light levels should be guaranteed with this technology.

Manufacturers should provide an independent test report signed by a licensed professional engineer certifying the lumen maintenance strategy and field performance of any constant light system.

b. Light Emitting Diode (LED) Light Source

Due to the increased lifespan of LED light sources the lumen maintenance strategy will need to be considered based on the expected operating hours. For low annual usage hours applying an appropriate recoverable factor to account of lumen maintenance is likely the preferred approach. For high annual usage hours applying a lumen maintenance strategy to adjust the power to the LEDs as depreciation occurs may be the better option to maintain constant light levels. When using lumen maintenance strategy based on power adjustments the TM-21-11 reports will not apply.

Level of Play/Description	Average Constant or Target Light Levels (Horizontal)	Maximum to Minimum Uniformity Ratio	Maximum Rate of Change
Standard — Competition	50 footcandles – Infield 30 footcandles – Outfield	2:1 – Infield 2.5:1 – Outfield	10% per 10 feet

2. Recoverable Light Loss Factor Method

a. Metal Halide Light Source

Computer designs are done using two sets of values. One shows the calculated “initial light levels” when lamps are new. The other predicts “target maintained light levels” after the lamps have passed through depreciation in light output. It is important to have the lighting designer use a maintenance factor adequate to account for this depreciation in light output throughout the life of the lamp.

According to best sports lighting practices, the recoverable light loss factor, or the value applied to the initial light level to predict the maintained light level values, should be in accordance with recommendations in the Pennsylvania State University report “Light Loss Factors for Sports Lighting,” published in IES’s Leukos, Vol. 6, No. 3, Jan., 2010, pages 183–201. The report’s findings show a recoverable light loss factor of 0.65 should be used if lamps will be replaced at 3000 hours. Quality manufacturers are willing to provide guarantees of lighting performance.

b. Light Emitting Diode (LED) Light Source

The life of an LED is significantly longer than metal halide, and depreciation is more gradual early in life. If the amount of lumen depreciation will impact the target light levels during the system life then an appropriate lumen maintenance factor should be applied. It is recommended to obtain the lumen maintenance report per TM-21-11, of the fixture being proposed.

Level of Play/Description	Initial Light Levels (Horizontal)	Average Constant or Target Light Levels (Horizontal)	Maximum to Minimum Uniformity Ratio	Maximum Rate of Change
Standard — Competition	77 footcandles – Infield 46 footcandles – Outfield	50 footcandles – Infield 30 footcandles – Outfield	2:1 – Infield 2.5:1 – Outfield	10% per 10 feet

C. Performance Requirements — Quantity

Playing surfaces shall be lit to an average target light level and uniformity as specified in the above charts. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified beginning on page 11 of these standards with the light meter held horizontally 36 inches above the field surface. Measured average illumination level shall be measured at the first 100 hours of operation.

D. Performance Requirements — Quality

The uniformity ratio of the lighting helps ensure the playing surface is uniform in appearance and there is the proper amount of light for the players. The comparison of the highest measure of quantity of light on the field to the lowest measurement shall not be greater than the ratios listed in the above charts. On the entire field area, the change in the quantity of horizontal footcandles should not occur at a greater rate than 10 percent per 10 feet, except for the outside perimeter readings which may change at a greater rate.

E. Glare for Participants

Pole heights, pole locations and fixture placements should be as shown on the layouts in the Appendix to enhance playability. Aiming angles are a function of both pole height and the distance from fixture to aiming point. Minimum pole heights and minimum aiming angles must be met to be in compliance.

1. Light fixtures which are set back from the foul lines between home plate to third base and between home plate to first base shall be mounted at a height above the playing surface such that a line from the lighting fixture to the point on the field where its maximum intensity is aimed is a line that is at least 25 degrees below horizontal.
2. Light fixtures positioned beyond the outfield fence or along the foul line beyond third base and first base shall be mounted at a height with a minimum aiming angle of 25 degrees below horizontal for fixtures aimed toward the infield and 21 degrees for fixtures aimed across the outfield.
3. Light fixtures should not be located in glare zones as indicated by Fig. A.

Certain situations (spill and glare control, enhanced playability, and/or physical obstructions) may result in the light fixtures being located in glare zones. These fixtures should still be aimed as described above but also include shielding such that the glare when viewed from home plate is less than 1000 candela per fixture (measured at 60 inches above the field surface).

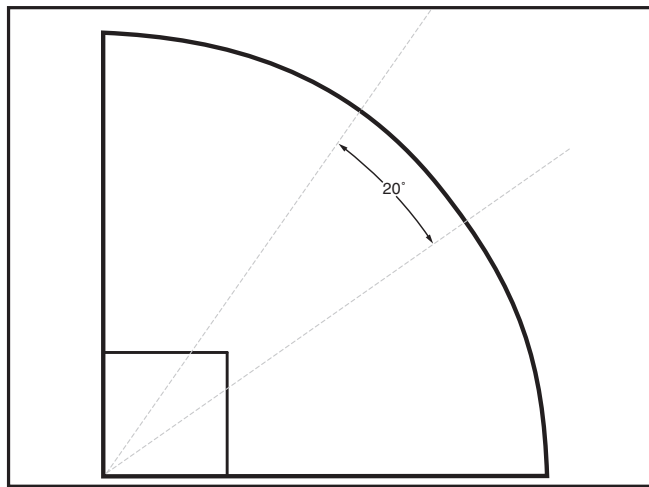


Fig. A.

1.2 ENVIRONMENTAL LIGHT CONTROL

Many facilities are located near residential or commercial properties or roadways, creating the possibility of spill and glare onto adjoining properties. Consideration should be given to this issue during the initial lighting design stage to minimize this effect. Some communities are implementing ordinances designed to minimize light pollution. Contact your local planning committee or zoning board.

The lighting equipment manufacturer can assist in assessing this issue and provide drawings showing maximum footcandles and candela at any points of concern on adjacent properties. Do not hesitate to investigate a manufacturer's reputation, abilities, and past experiences in working with local authorities and private property owners regarding glare and spill issues.

When considering lighting equipment that uses an LED light source, the off site light control should be at least as good as that of a metal halide source. Typically an LED light source can provide lower spill light values, but the glare from the fixture can end up being worse than a metal halide source if not properly designed.

1.3 LIFE-CYCLE COSTS

Leagues continue to struggle with operating budgets. Because the efficiency of lighting systems currently available can vary greatly, a life-cycle operating cost analysis should be considered when evaluating lighting systems. Owners should expect a quality lighting system to last many years. Regardless of source technology, the basics of lighting maintenance remain the same: relamping (metal halide), cleaning, monitoring, aiming alignment, and troubleshooting.

These standards provide a 10-year Life-Cycle Operating Cost Evaluation form to assist with the process. Items that should be included are energy consumption based upon the facility's expected usage, cost for spot relamping and maintenance, and any additional savings in energy or labor cost provided by automated on/off control systems. Contract price and life-cycle operating cost should both be considered in determining a lighting manufacturer for the project.

1.4 WARRANTY AND GUARANTEE

Product warranties are a good gauge of a manufacturer's confidence in their products. Prior generation equipment can range from 5 years to 10 years, and details of covered items and conditions vary greatly. New generation technology comes with warranty periods that may extend up to 25 years and includes guaranteed light levels, parts, on-site labor, lamp replacements, energy usage, monitoring and control services, spill light control, and structural integrity. The manufacturer should provide specially-funded reserves to ensure fulfillment of the warranty for the full term. It is highly recommended you consider these all-inclusive warranties to limit your league's future exposure to escalating costs and maintenance hassle.

LED products also range from 5 year to 10 year warranties. While the diodes themselves will typically outlast the length of the warranty, it is the other components that need to be covered in order to provide a system that will be operational for the length of the warranty. The basics of lighting maintenance remain the same: cleaning, monitoring, aiming alignment, and troubleshooting.

PART 2 – PRODUCT

2.1 LIGHTING SYSTEM CONSTRUCTION

A lighting system should consist of lighting, electrical, and structural components designed to work together as a system that is durable and provides safety features.

A. Outdoor lighting systems should consist of the following:

1. Galvanized steel poles and crossarm assembly. Wood poles are not allowed after September 1, 1994. Poles should be hot-dip galvanized to ASTM A123 standards. All accompanying hardware shall be galvanized or stainless steel. Direct burial of steel poles is not recommended because of the potential for deterioration at or below ground at critical stress points. If direct bury steel poles are used, leagues should have a foundation design completed by a structural engineer.
2. Reinforced concrete pole foundation. Foundations should provide for pole attachment a minimum of 18 inches above ground to avoid corrosive deterioration. Concrete should cure a minimum of 28 days to develop adequate strength before stress loads are applied unless a shorter cure time is approved by the structural engineer of record.
3. All ballasts, or drivers, and supporting electrical equipment shall be mounted onto the pole, away from the fixtures and crossarm to avoid problems of misalignment caused by the weight of these components. It is recommended that this equipment be placed in aluminum enclosures mounted remotely approximately 10 feet (3 meters) above grade. The enclosures shall be lockable and include safety disconnect and surge protection per circuit for each pole structure. Enclosures should be kept locked except during times of maintenance.
4. All wiring conductors above ground must be enclosed in rigid cover. It is recommended that the lighting system include a wire harness complete with an abrasion protection sleeve and strain relief.
5. The approved metal halide lamp for play is a 1500-watt ANSI code – M48/E.
6. For an efficient LED system the diodes should have a minimum color temperature of 5700 K and a CRI of 65+.

B. Manufacturing Requirements

It is recommended that all components be designed and manufactured as a system. All luminaires, wire

harnesses (if provided), ballast/driver and other enclosures should be factory assembled, aimed, wired and tested for reduced installation time and trouble-free operation.

C. Durability

It is recommended that all exposed components be constructed of corrosion resistant material and/or coated to help prevent corrosion. Look for items like hot dip galvanizing for steel poles, stainless steel fasteners, powder coat painted aluminum, and wiring enclosed within the crossarms, conduit, pole, or electrical enclosure.

D. Lightning Protection:

All outdoor structures need to be equipped with lightning protection meeting NFPA 780 standards. If lightning grounding is not integrated into the structure, it may be necessary to supplement with grounding electrodes, copper down conductors, and exothermic weld kits.

E. Safety

All system components need to be UL Listed for the appropriate application. All electrical conductor wires for distribution of power around the playing field should be buried underground at depths provided by local code.

F. Maximum total voltage drop

Voltage drop to the disconnect switch located on the poles should not exceed 3% of the rated voltage per IESNA RP-6-15, Annex D.

2.2 STRUCTURAL PARAMETERS

A. Location

Poles shall be located as shown on the drawings in the appendix to these standards. Whenever possible, poles should be located outside of fences to avoid causing an obstruction or safety hazard to the participants.

B. Foundation Strength

Project specific foundation drawings stamped by a licensed structural engineer shall be required, illustrating that the foundation design is adequate to withstand the forces imposed from the pole, fixtures, and other attachments to prevent the structure from leaning.

C. Wind Load Calculator

Wind load of poles and other support structures, fixtures, brackets, arms, bases, anchorages, and foundations shall be determined based on the 50-year mean recurrent isotach wind maps for the appropriate municipality per the state building code.

D. Structural Design

The stress analysis and safety factor of the poles shall conform to AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.

E. Soil Conditions

The design criteria for these specifications are based on soil design parameters as outlined in the geotechnical report. If a geotechnical report is not provided by the school, the foundation design shall be based on soils that meet or exceed those of a Class 5 material as defined by 2015 IBC, Table 1806.2.

PART 3 – EXECUTION

3.1 FIELD QUALITY CONTROL

A. Illumination Measurements

Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, League Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified. The illumination measurements shall be conducted in accordance with IESNA RP-6-15, Annex B.

B. Correcting Non-Conformance

If, in the opinion of the Owner or his appointed Representative, the actual performance levels including footcandles, uniformity ratios, and maximum kilowatt consumptions are not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be liable to any or all of the following:

1. Manufacturer shall, at his expense, provide and install any necessary additional fixtures to meet the minimum lighting standards. The Manufacturer shall also either replace the existing poles to meet the new wind load (EPA) requirements or verify by certification by a licensed structural engineer that the existing poles will withstand the additional wind load.
2. Manufacturer shall minimize the Owner's additional long term fixture maintenance and energy consumption costs created by the additional fixtures by reimbursing the Owner the amount of \$1,000 (one thousand dollars) for each additional fixture required.
3. Manufacturer shall remove the entire unacceptable lighting system and install a new lighting system to meet the specifications.

3.2 ONGOING QUALITY ASSURANCE

- #### **A.**
- Full light and safety audits should be performed every year. See Lighting Safety Audit at the back of these standards.

II. Desirable Features

The following practices are recommended for increasing the lighting system performance.

4.1 CONTROL AND MONITORING SYSTEM

A remote control and monitoring system will provide ease of operation and management for your facility.

Manufacturers providing systems with a long-term warranty of at least 10 years will use this system to ensure your lighting performs as required.

A. Remote Monitoring

Monitoring systems can check the lighting system each time it is turned on for luminaire outages.

When an outage is detected, the manufacturer should notify the owner so that appropriate maintenance can be scheduled.

B. Remote Lighting Control

Lighting control systems allow owners and users with a security code to schedule on/off system operation in a variety of methods including web sites, phone, app, fax, or email. Look for manufacturers that provide trained staff available 24/7 to provide scheduling support. Also evaluate features such as memory back up in the event of power outages.

C. Management Tools

Some manufacturers provide a web-based database of actual field usage and provide reports by facility and user group.

D. Communication Costs

Leagues should request that manufacturers include communication costs for operating the control and monitoring system for the life of the lighting system.

4.2 AUXILIARY BRACKETS

Sports lighting manufacturers can provide accommodations for mounting auxiliary equipment, such as speakers and security lights, on sport lighting poles. This ensures poles will be sized to accommodate the weight, dimensions, and EPA of the additional equipment. Brackets shall be welded to the pole and fabricated from hot-dip galvanized steel with a covered hand hole access and internal wiring in the pole.

4.3 FIELD PERIMETER LIGHTING

The parking areas, major areas utilized for passage, and areas immediately bordering the facilities should be lighted. The spill light from the playing field may provide illumination for some of these areas when the field is in use.

When a sports field is not in use its sports lights should be turned off. Then other security lighting would be needed. For appropriate levels, see local codes. Care should be taken to eliminate darkly shadowed areas.

For additional information, contact: Little League® International

PO Box 3485

Williamsport, PA 17701

570/326-1921

Fax: 570/326-1074

LIFE-CYCLE OPERATING COST EVALUATION

*This form will assist you in comparing 10-year life-cycle operating costs from multiple manufacturers.
Bid proposals should be evaluated based upon compliance with the specifications,
contract price, and the following life-cycle operating cost evaluation.*

BID ALTERNATE A:

A.	Energy consumption ____ Number of luminaires x ____ kW demand per luminaire x ____ kW rate x ____ annual usage hours x 10 years		
B.	Demand charges, if applicable	+	
C.	Spot relamping and maintenance over 10 years (relamping not applicable for LED) Assume ____ repairs at \$ ____ each if not included	+	
D.	Group relamps during 10 years (relamping not applicable for LED) ____ annual usage hours x 10 years / <u>lamp replacement hours</u> x \$125 lamp & labor x number of fixtures	+	
E.	Extra energy used without control system ____% x Energy Consumption in item A.	+	
F.	Extra labor without control system \$ ____ per hour x ____ hours per on/off cycle x ____ cycles over 10 years	+	
G.	TOTAL 10-Year Life-Cycle Operating Cost		

BID ALTERNATE B:

A.	Energy consumption ____ Number of luminaires x ____ kW demand per luminaire x ____ kW rate x ____ annual usage hours x 10 years		
B.	Demand charges, if applicable	+	
C.	Spot relamping and maintenance over 10 years (relamping not applicable for LED) Assume ____ repairs at \$ ____ each if not included	+	
D.	Group relamps during 10 years (relamping not applicable for LED) ____ annual usage hours x 10 years / <u>lamp replacement hours</u> x \$125 lamp & labor x number of fixtures	+	
E.	Extra energy used without control system ____% x Energy Consumption in item A.	+	
F.	Extra labor without control system \$ ____ per hour x ____ hours per on/off cycle x ____ cycles over 10 years	+	
G.	TOTAL 10-Year Life-Cycle Operating Cost		

LITTLE LEAGUE® LIGHTING STANDARDS CHECKLIST DESIGN SUBMITTAL DATA CHECKLIST AND CERTIFICATION

This form will assist you in comparing proposals from various lighting manufacturers. All items listed below should comply with your project's specifications and be submitted according to your pre-bid submittal requirements.

Included	Tab	Item	Description
	A	Letter/Checklist	Listing of all information being submitted must be included on the table of contents. List the name of the manufacturer's local representative and his/her phone number. Signed submittal checklist to be included.
	B	On Field Lighting Design	Lighting design drawing(s) showing: a. Field name, date, file number, prepared by, and other pertinent data b. Outline of field(s) being lighted, as well as pole locations referenced to home plate. Illuminance levels at grid spacing specified c. Pole height, number of fixtures per pole, as well as luminaire information including wattage, lumens and optics d. Height of meter above field surface should be 36 inches e. Summary table showing the number and spacing of grid points; average, minimum and maximum illuminance levels in foot candles (fc); uniformity including maximum to minimum ratio, coefficient of variance and uniformity gradient; number of luminaires, total kilowatts, average tilt factor; light loss factor. f. Manufacturers shall provide constant light level or provide both initial and maintained light scans using a maximum 0.65 Recoverable Light Loss Factor and lamp replacement interval at 3000 hours to calculate maintained values as shown in section 1.1.B.2.
	C	Off Field Lighting Design	Lighting design drawings showing spill light levels in footcandles and candela as specified.
	D	Photometric Report (glare concerns only)	Provide photometric report for a typical luminaire used showing candela tabulations as defined by IESNA Publication LM-35-02. Photometric data shall be certified by laboratory with current National Voluntary Laboratory Accreditation Program or an independent testing facility with over 5 years experience.
	E	Life Cycle Cost calculation	Document life cycle cost calculations as defined on the Life-Cycle Operating Cost Evaluation. Identify energy costs for operating the luminaires, maintenance cost for the system including spot lamp replacement, and group relamping costs. All costs should be based on 10 Years.
	F	Luminaire Aiming Summary	Document showing each luminaire's aiming angle and the poles on which the luminaires are mounted. Each aiming point shall identify the type of luminaire.
	G	Structural Calculations (if required)	Pole structural calculations and foundation design showing foundation shape, depth backfill requirements, rebar, and anchor bolts (if required). Pole base reaction forces shall be shown on the foundation drawing along with soil bearing pressures. Design must be stamped by a structural engineer licensed in the state where the project is located.
	H	Control and Monitoring (if required)	Manufacturer shall provide datasheet or schematics for automated control system to include monitoring. They shall also provide examples of system reporting, and access for user groups to operate the system.
	I	Electrical distribution plans	If bidding a system other than the base design, manufacturer must include a revised electrical distribution plan including changes to service entrance, panels, and wire sizing, signed by a licensed Electrical Engineer in the state where the project is located.
	J	Performance Guarantee	Provide written guarantee of illumination levels, including a commitment to undertake all corrections required to meet the performance noted in these specifications at no expense to the owner. Light levels must be guaranteed per the number of years specified.
	K	Warranty	Provide written warranty information including all terms and conditions.
	L	Project References	Manufacturer to provide a list of project references of similar products completed within the past three years.
	M	Product Information	Complete set of product brochures for all components, including a complete parts list and UL Listings.
	N	Non-Compliance	Manufacturer shall list all items that do not comply with Little League Lighting Standards.
	O	Compliance	Manufacturer shall sign off that all requirements of the specifications have been met at that the manufacturer will be responsible for any future costs incurred to bring their equipment into compliance for all items not meeting specifications and not listed in item N – Non-Compliance

Manufacturer: _____

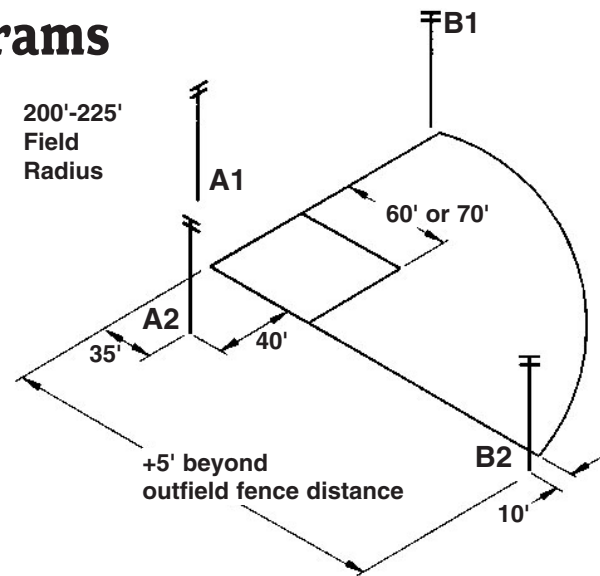
Signature: _____

Contact Name: _____

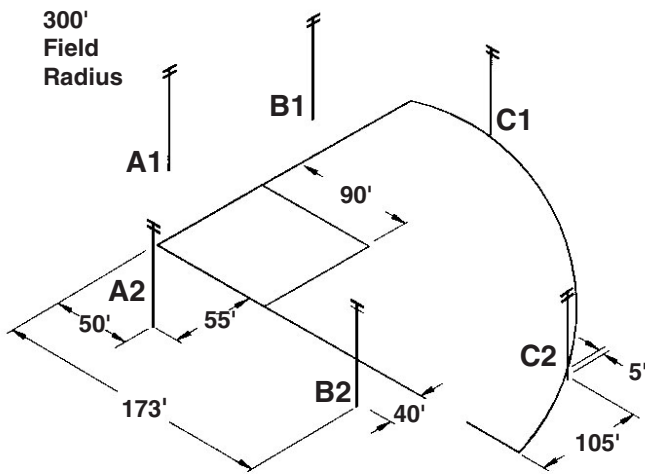
Date: ____/____/____

Recommended Lighting Diagrams

Pole Quantities, Heights			
Field Radius	Location	Minimum Quantity	Minimum Mtg. Ht. †
200'	A	2	60'
	B	2	60'
Total		4	
225'	A	2	70'
	B	2	70'
Total		4	
250' to 300'	A	2	70'
	B	2	70'
	C	2	60'
Total		6	



60- or 70-foot base lines;
outfield fence 200–225 feet from home plate.



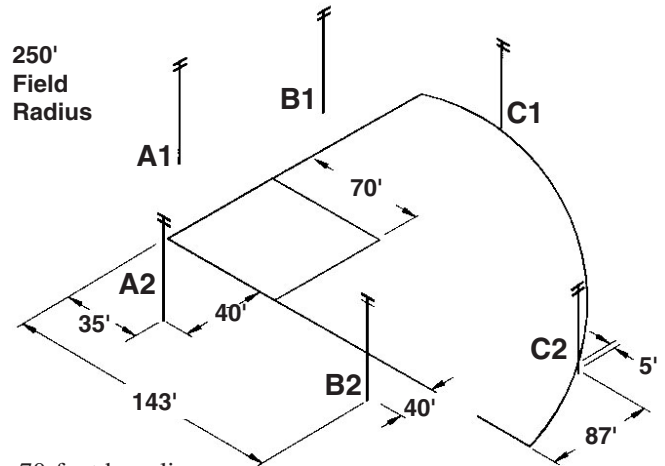
90-foot base lines;
outfield fence 300 feet from home plate.

NOTES:

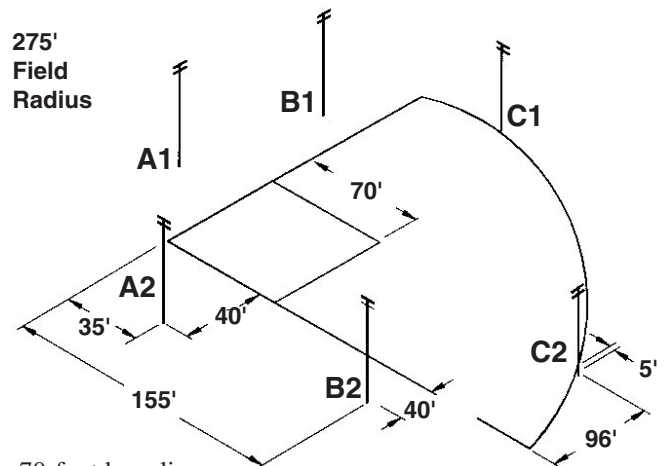
The number of fixtures necessary to meet minimum lighting requirements varies between manufacturers. Please be sure you are provided adequate documentation from the manufacturer showing Little League standards will be attained.

Increasing field sizes—such as extending the outfield fence—and/or increasing the base path distances—such as from a 60-foot base path to a 70-foot base path involves many potential variables that need to be examined on a per-field basis. A lighting audit of such a field change must be performed to show the lighting on the increased area will still meet Little League standards. If it does not, any proposed update to the existing lighting system for a field should be done such that the manufacturer shows the Little League lighting standards will be maintained with the new design.

† For glare control, higher fixture mounting heights may be required. Also, if obstructions or common poles for multiple fields require poles to be set back farther from the field, then taller poles may be required.



70-foot base lines;
outfield fence 250 feet from home plate.



70-foot base lines;
outfield fence 275 feet from home plate.

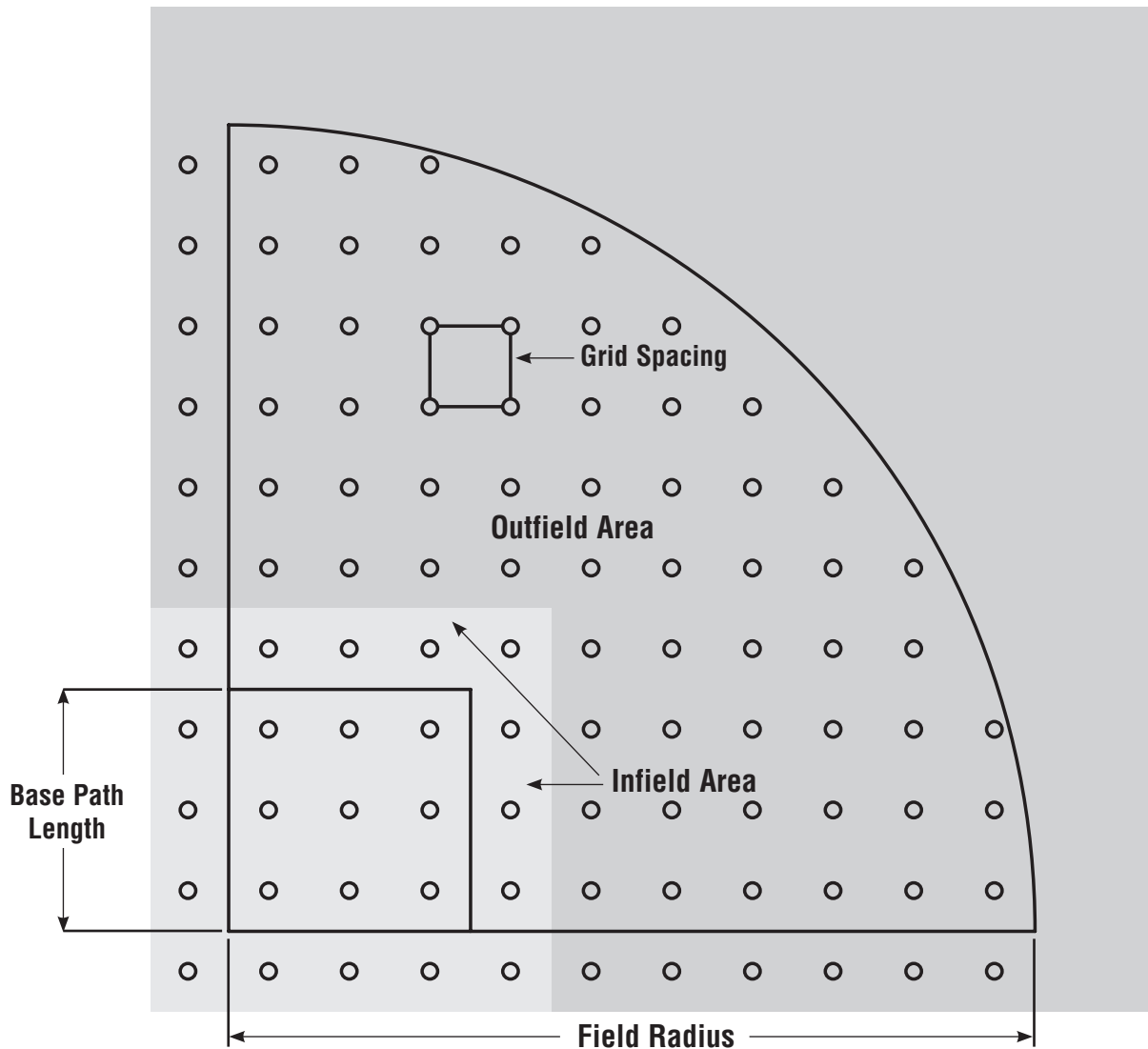


Fig. B4. Illuminance measuring points for baseball and softball. **Illuminating Engineering Society of North America Sports Lighting-RP-6-15**

Field Radius	Base Path Length	Grid Spacing	Total Number of Grid Points	
			Infield	Outfield
175 feet	60 feet	20 feet x 20 feet	25	54
200 feet	60 feet	20 feet x 20 feet	25	75
225 feet	60 feet	20 feet x 20 feet	25	96
225 feet	70 feet	25 feet x 25 feet	25	58
250 feet	70 feet	25 feet x 25 feet	25	75
275 feet	70 feet	25 feet x 25 feet	25	92
300 feet	90 feet	30 feet x 30 feet	25	73

Light meter should be held horizontally at 36 inches above the surface.



Little League[®]

Lighting Safety Audit

Little League requirements call for regular inspections of your lighting system. The following safety audit will:

1. Identify components that may need repair or replacement.
2. Help you determine whether the performance of the system meets Little League minimum standards as outlined in the Standards of Lighting section of the Little League Operating Manual.

A copy of this completed form must be sent to your District Administrator and the original should be retained in league records.

Important - Inspection, testing and repair must be done by qualified person prior to season play each year.

Plans for new lighting must be approved by local District Administrator as being within minimum standards.

For additional information contact your District Administrator or Little League Headquarters.

League Name	_____
Charter No.	____ _ - ____ _ - ____ _
Town	_____ State _____
Number teams in league	_____
Name of field	_____
Number leagues using field	_____
We share the field with	_____ League
Total # of fields	_____ # lighted _____
Date of Inspection	_____
Inspected by	_____
Testing & Repairs by	_____

Lighting Performance

This field has the following light levels and uniformity:

Infield _____ Average footcandles
 _____ :1 Uniformity

Outfield _____ Average footcandles
 _____ :1 Uniformity

Date lighting equipment installed or last upgraded

month / year

Readings are taken in the middle of each square represented on the chart below.

To obtain average footcandle value:

1. Record light readings within each numbered square.
2. Infield = Total of infield readings ÷ 25
3. Outfield = Total of outfield readings ÷ number of readings.

To obtain uniformity ratio for infield or outfield:

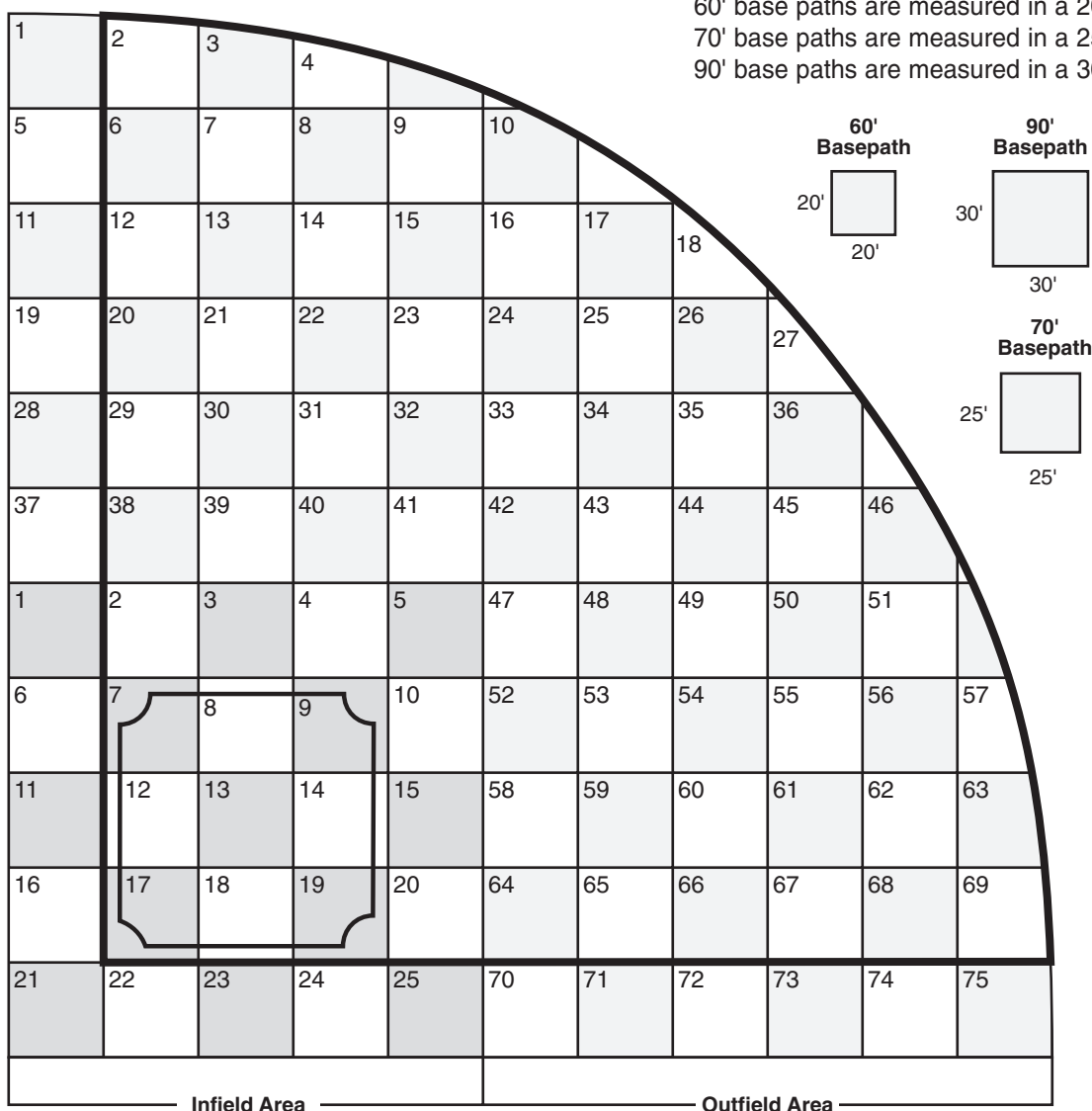
1. Divide highest (maximum) light level reading by the lowest (minimum) light level reading.

For example:

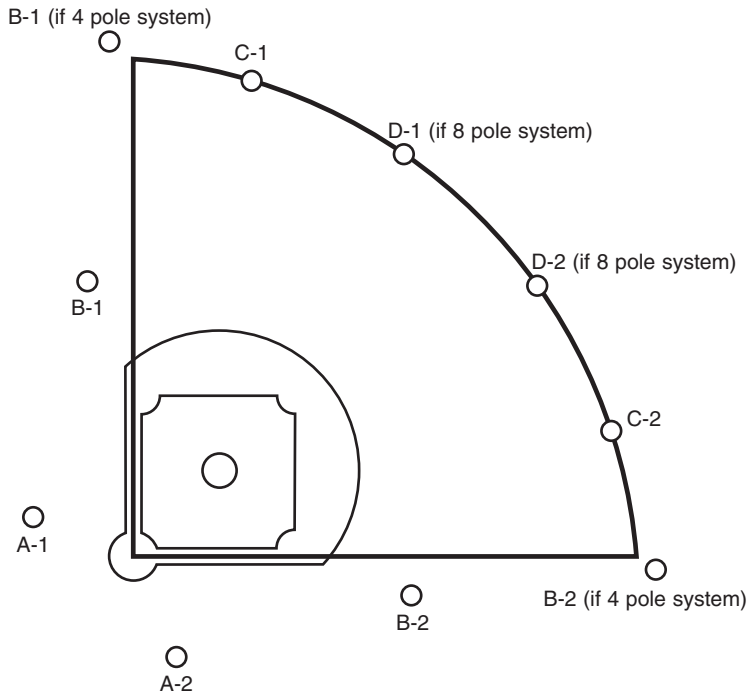
$$\frac{61 \text{ footcandles}}{\text{(infield maximum)}} \div \frac{31 \text{ footcandles}}{\text{(infield minimum)}} = 2:1$$

NOTE:

60' base paths are measured in a 20' x 20' grid;
 70' base paths are measured in a 25' x 25' grid;
 90' base paths are measured in a 30' x 30' grid.



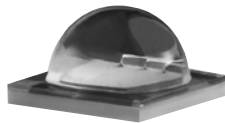
Equipment Listing



Lamp Type:



☐ Metal Halide



☐ LED

☐ OTHER _____

Lightning Grounding System Test

THREE POINT FALL OF POTENTIAL TEST* - This test measures the resistance of the ground rod to earth. This method also measures the effect of a variety of conditions such as soil composition, drought conditions, etc. A ground resistance tester is used for the following testing procedure:

- Two additional temporary grounds, consisting of short rods 2–3 feet long, must be driven in the ground at an appropriate distance from the ground being tested.
- The instrument is connected to all three grounds by means of insulated leads. A magneto or a battery in the instrument furnishes the necessary power for the test.
- The instrument reads the ground resistance directly in ohms.
- The process is repeated for a series of points and a resistance curve is plotted.

NOTE: The National Electrical Safety Code (NEC) implies that the ground resistance should be measured at the time of installing the ground and that the ground resistance must not exceed 25 ohms for a single, 8-foot long buried or driven electrode.

* See IEEE #81 — Recommended Guide for Measuring Ground Resistance and Potential Gradients in the Earth

- It is recommended that testing procedures for grounding be in accordance with local, state, or national code.
- Because connections can deteriorate over time, increasing resistance, it is recommended that the ground resistance tester be connected to the down conductor — not the electrode itself. This will provide a more accurate ground resistance reading.

Fill in the number of fixtures on each pole and mounting heights:

	Pole	Number of Fixtures
	A-1	_____
	A-2	_____
	B-1	_____
4 Pole System	B-2	_____
	C-1	_____
6 Pole System	C-2	_____
	D-1	_____
8 Pole System	D-2	_____
	Total	_____

Type of poles: ☐ steel ☐ concrete

Fixture height above field: _____

Base path length: ☐ 60' ☐ 70' ☐ 90'

Distance from home plate to foul pole:

☐ 175' ☐ 200' ☐ 225' ☐ 275'

☐ 300' ☐ other _____

System Operation

OK Needs Repair

Notes

WARNING!! Turn off electricity at power source and at safety disconnect on the pole.

Service Entrance & Pole Distribution Boxes			Notes
Check service panel for proper markings.	OK	Needs Repair	
• Emergency information should be visible.			
• Warning stickers, wiring diagrams, circuit labels, and other servicing information signs should be posted and clearly legible			
Test reset action on all service breakers.			
• Snap all breakers on and off to ensure firm contact.			
Check the wiring.*			
• Insulation around wiring should show no signs of deterioration.			
• Wiring should show no heat discoloration.			
Check all taped connections.*			
• Signs of wear should be replaced.			
Make sure no live parts are exposed.			
• Bare wires and exposed connections should be wrapped with insulated covering.*			
Padlocks for service entrance & distribution boxes should be in place and operational.			
Poles			Notes
Check that poles aren't leaning.	OK	Needs Repair	
Check wood poles for decay or twisting. Twisted pole may require re-aiming of fixtures.			
• Effective Sept. 1, 1994, wood poles are no longer approved on new installations.			
Check base-plate of steel poles for signs of deterioration.			
• Check anchor bolt for signs of corrosion.			
• Check grouting under pole to make sure proper drainage exists.			
Check bolts and fittings for tightness.			
• Check all metal parts for signs of corrosion.			
Check to see that wiring covers are in place.			
Check all cables and conduits.			
• Pull on conduit to check for looseness.			
• Check for loose fittings and damaged conduit.			
• All cables should be straight and properly strapped.*			
• If cables are exposed to the elements, make sure the insulation has the proper rating.*			
Check overhead wiring.			
• Wiring should be properly secured*			
• Check that new growth on tree branches and limbs won't obstruct or interfere with overhead wiring.			
Check pole climbing equipment (if provided)			
• Check inspection cards on climbing harness and pole equipment. Are inspections up to date?			
• Check for proper cable tension. Cable should not be loose.			
Luminaires			Notes
Check fixture housings.	OK	Needs Repair	
• Housings should show no sign of cracking, large dents, and/or water leakage.			
Check lenses.			
• Clean lenses.			
• Replace broken lenses.			
Replace burned-out lamps.			
Check luminaire fuses.			
• Fuses should be the correct size.			
• All fuses should be operational.			
Insulation covering on wiring should show no signs of wear or cracking.			
Ground wire connections must be secure.			
Check around ballasts for signs of blackening. (metal halide)			
Check that capacitors aren't bulging. (metal halide)			
Check aiming alignment of all fixtures.			
• On wooden poles, see if crossarms are still aligned with the field and horizontal.			
Ground			Notes
Check grounding connections.*	OK	Needs Repair	
Check nearby metal objects.			
• Make sure metal bleachers and other metal objects are located at least 6' from the electrical components.			
• Metal objects, such as bleachers, must have their own individual grounding system.			

* These tests and/or repairs require the services of a qualified electrician.

For additional information contact:
LITTLE LEAGUE® INTERNATIONAL
PO Box 3485
Williamsport, PA 17701
570/326-1921
Fax: 570/326-1074
