

PROJECT MANUAL

OAK KNOLL ELEMENTARY SCHOOL and LAUREL ELEMENTARY SCHOOL ELC PLAYGROUNDS

INFORMAL BID
#004-2019-03

MENLO PARK CITY SCHOOL DISTRICT



LIST OF DRAWINGS

DRAWINGS:

Oak Knoll Elementary School:
Gates + Associates Plans dated May 24, 2019 (12 sheets)

Laurel Elementary School:
Gates + Associates Plans dated May 24, 2019 (6 sheets)

TECHNICAL SPECIFICATIONS: *(Attached in the following order)*

Oak Knoll Elementary School:

01 71 13	Mobilization
03 30 00	Site Concrete Work
05 70 00	Decorative Metal
12 93 00	Site Furnishings and Accessories
31 10 00	Clearing, Grubbing, and Miscellaneous Demolition
32 18 16	Synthetic Poured-in-Place Play Surfacing
32 18 16.13	Synthetic Turf Surfacing
32 90 00	Standard Planting
32 91 13	Landscape Soil Preparation
32 91 19	Earthwork and Grading

Laurel Elementary School:

01 56 39	Tree Preservation and Pruning
01 71 13	Mobilization
05 70 00	Decorative Metal
12 93 00	Site Furnishings and Accessories
31 10 00	Clearing, Grubbing, and Miscellaneous Demolition
32 18 16.13	Synthetic Turf Surfacing
32 91 19	Earthwork and Grading

REFERENCE DOCUMENTS:

- None

INSTRUCTIONS TO BIDDERS

Bidders shall follow the instructions in this document, and shall submit all documents, forms, and information required for consideration of a Bid.

Menlo Park City School District ("District" or "Owner") will evaluate information submitted by the apparent low Bidder and, if incomplete or unsatisfactory to District, Bidder's bid may be rejected at the sole discretion of District.

1. **Project.** Bids are requested for a general construction contract, or work described in general, for the following project ("Project" or "Contract"):

Bid #004-2019-03:

Oak Knoll Elementary School and Encinal Elementary School

ELC Playgrounds

2. **Sealed Bids.** District will receive sealed Bids from Bidders as indicated in the Notice to Bidders and each Bidder shall ensure that its Bid:
 - a. Is sealed and marked with name and address of the Bidder, the Project name and number, the bid number and bid package (if applicable), and the date for opening bids;
 - b. Contains all documents as required herein; and
 - c. Is submitted by date and time shown in the Notice to Bidders.
3. **Bid Opening.** Bids will be opened at or after the time indicated for receipt of bids.
4. **Bid Form.** Bidders must submit Bids on the Bid Form and all other required District forms. Bids not submitted on the District's required forms shall be deemed non-responsive and shall not be considered. Additional sheets required to fully respond to requested information are permissible. Bidders shall not modify the Bid Form or qualify their Bids. Bidders shall not submit scanned, re-typed, word-processed, or otherwise recreated versions of the Bid Form or other District-provided documents.
5. **Complete Bids.** Bidders must supply all information required by each Bid Document. Bids must be full and complete. District reserves the right in its sole discretion to reject any Bid as non-responsive as a result of any error or omission in the Bid. Bidders must complete and submit all of the following documents with the Bid Form:
 - Bid Bond or other security
 - Designated Subcontractors List
 - Site-Visit Certification, if a site visit was required
 - Noncollusion Declaration
 - a. **Bid Bond or Other Security.** Bidders must submit their Bid Form with cash, a cashier's check or a certified check payable to District, or a bid bond by an admitted surety insurer of not less than ten percent (10%) of their base Bid amount, including all additive alternates. Required form of corporate surety, Bid Bond, is provided by District and must be used and fully completed by Bidders choosing to provide a Bid Bond as security. The Surety on Bidders' Bid Bond must be an insurer admitted in the State of California and authorized to issue surety bonds in the State of California. Bids submitted without necessary bid security will be deemed non-responsive and will not be considered.
 - b. **Designated Subcontractors List.** Bidders must submit with the Bid the Designated Subcontractors List for those subcontractors who will perform any portion of Work, including labor, rendering of service, or specially fabricating and installing a portion of the Work or improvement according to detailed

drawings contained in the plans and specifications, in excess of one half of one percent (0.5%) of total Bid. Failure to submit this list when required by law shall result in Bid being deemed non-responsive and the Bid will not be considered.

- c. **Site Visit Certification.** If a mandatory pre-bid conference and site visit ("Site Visit") is requested as referenced in the Notice to Bidders, then Bidders must submit the Site-Visit Certification with their Bid. District will transmit to all prospective Bidders of record such Addenda as District in its discretion considers necessary in response to questions presented at the Site Visit. Oral statements shall not be relied upon and will not be binding or legally effective. Addenda issued by the District as a result of the Site Visit, if any, shall constitute the sole and exclusive record and statement of the results of the Site Visit.
 - d. **Noncollusion Declaration.** Bidders shall submit the Noncollusion Declaration with their Bids. Bids submitted without the Noncollusion Declaration shall be deemed non-responsive and will not be considered.
6. **Erasures.** Bids shall be clearly written without erasure or deletions. District reserves the right to reject any Bid containing erasures or deletions.
 7. **Words / Numerals.** Discrepancies between written words and figures, or words and numerals, will be resolved in favor of written words.
 8. **Prevailing Wages.** Pursuant to sections 1770 et seq. of the California Labor Code, Bidder and all Subcontractors under the Bidder shall pay all workers on all work performed pursuant to the Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the State of California Department of Industrial Relations (DIR) for the type of work performed and the locality in which the work is to be performed within the boundaries of the District. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by the DIR are available from the District or on the internet (<http://www.dir.ca.gov>).
 9. **Contractor Registration.** Bidder shall ensure that it and its Subcontractors comply with the registration and compliance monitoring provisions of Labor Code section 1771.4, including furnishing its CPRs to the Labor Commissioner, and are registered pursuant to Labor Code section 1725.5. Bidder and its subcontractors shall comply with Labor Code section 1725.5 to be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of the Contract.
 10. **Bidder Diligence.** Submission of Bid signifies careful examination of the Contract Documents and a complete understanding of the nature, extent, and location of Work to be performed. Bidders must complete the tasks listed below as a condition to bidding, and submission of Bid shall constitute the Bidder's express representation to District that Bidder has fully completed the following:
 - a. Bidder has visited the Project Site, if required, and has examined thoroughly and understood the nature and extent of the Contract Documents, Work, Site, locality, actual conditions, as-built conditions, and local conditions and federal, state and local laws, and regulations that in any manner may affect cost, progress, performance, or furnishing of Work or that relate to any aspect of the means, methods, techniques, sequences, or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto;
 - b. Bidder has conducted or obtained and has understood all examinations, investigations, explorations, tests, reports, and studies that pertain to the subsurface conditions, as-built conditions, underground facilities, and all other physical conditions at or contiguous to the Site or otherwise that may affect the cost, progress, performance, or furnishing of Work, as Bidder considers necessary for the performance or furnishing of Work at the Contract Price, within the Contract Time, and in accordance with the other terms and conditions of Contract Documents, including specifically the provisions of the General

Conditions; and no additional examinations, investigations, explorations, tests, reports, studies, or similar information or data are or will be required by Bidder for such purposes;

- c. Bidder has correlated its knowledge and the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Contract Documents;
- d. Bidder has given the District prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the Contract Documents and the actual conditions, and the written resolution thereof by the District is acceptable to Bidder;
- e. Bidder has made a complete disclosure in writing to the District of all facts bearing upon any possible interest, direct or indirect, that Bidder believes any representative of the District or other officer or employee of the District presently has or will have in this Contract or in the performance thereof or in any portion of the profits thereof;
- f. Bidder must, prior to bidding, perform the work, investigations, research, and analysis required by the Instructions to Bidders and that Bidder represented in its Bid Form and the Agreement that it performed prior to bidding. Bidder is charged with all information and knowledge that a reasonable bidder would ascertain from having performed this required work, investigation, research, and analysis. Bid prices must include entire cost of all work "incidental" to completion of the Work.
- g. **Conditions Shown on the Contract Documents:** Information as to underground conditions, as-built conditions, or other conditions or obstructions, indicated in the Contract Documents, e.g., on Drawings or in Specifications, has been obtained with reasonable care, and has been recorded in good faith. However, District only warrants, and Bidder may only rely, on the accuracy of limited types of information.
 - (1) As to above-ground conditions or as-built conditions shown or indicated in the Contract Documents, there is no warranty, express or implied, or any representation express or implied, that such information is correctly shown or indicated. This information is verifiable by independent investigation and Bidder is required to make such verification as a condition to bidding. In submitting its Bid, Bidder shall rely on the results of its own independent investigation. In submitting its Bid, Bidder shall not rely on District-supplied information regarding above-ground conditions or as-built conditions.
 - (2) As to any subsurface condition shown or indicated in the Contract Documents, Bidder may rely only upon the general accuracy of actual reported depths, actual reported character of materials, actual reported soil types, actual reported water conditions, or actual obstructions shown or indicated. District is not responsible for the completeness of such information for bidding or construction; nor is District responsible in any way for any conclusions or opinions of Bidder drawn from such information; nor is District responsible for subsurface conditions that are not specifically shown (for example, District is not responsible for soil conditions in areas contiguous to areas where a subsurface condition is shown).
- h. **Conditions Shown in Reports and Drawings Supplied for Informational Purposes:** Reference is made to the document entitled Geotechnical Data, and the document entitled Existing Conditions, for identification of:
 - (1) Subsurface Conditions: Those reports of explorations and tests of subsurface conditions at or contiguous to the Project Site that have been utilized by Architect in preparing the Contract Documents; and Physical Conditions: Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Project Site that has been utilized by Architect in preparing the Contract Documents.

- ① These reports and drawings are **not** Contract Documents and, except for any “technical” data regarding subsurface conditions specifically identified in Geotechnical Data and Existing Conditions, and underground facilities data, Bidder may not in any manner rely on the information in these reports and drawings. Subject to the foregoing, Bidder must make its own independent investigation of all conditions affecting the Work and must not rely on information provided by District.
11. **As-Builts.** Bidders may examine any available “as-built” drawings of previous work by giving District reasonable advance notice. District will not be responsible for accuracy of “as-built” drawings. The document entitled Existing Conditions applies to all supplied “as-built” drawings.
12. **Questions.** All questions about the meaning or intent of the Contract Documents are to be directed in writing to the District. Interpretations or clarifications considered necessary by the District in response to such questions will be issued in writing by Addenda faxed, mailed, or delivered to all parties recorded by the District as having received the Contract Documents. Questions received less than **SEVEN (7)** calendar days prior to the date for opening Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
13. **Addenda.** Addenda may also be issued to modify parts of the Contract Documents as deemed advisable by the District. Bidder must acknowledge each Addendum in its Bid Form by number or its Bid may be considered non-responsive. Each Addenda shall be part of the Contract Documents. A complete listing of Addenda may be obtained from the District.
14. **Substitution for Specified Items.** Bids shall be based on products and systems specified in Contract Documents or listed by name in Addenda. All requests must comply with the requirements specified in the Special Conditions, the Specifications and the following:
- a. **Request for Substitution Prior to Bid.**
- ① District must receive any request for substitution a minimum of **SEVEN (7)** calendar days prior to the date of bid opening.
- ② The District’s denial of a substitution request prior to the date of bid opening shall be conclusive, requiring Bidders to list only approved items. The District is not responsible and/or liable in any way for a Bidder’s damages and/or claims related, in any way, to that Bidder’s basing its bid on any requested substitution that the District has not approved. Bidder’s Bid shall be deemed non-responsive if it identifies a product or manufacturer of a non-approved substitution.
- ③ Approved substitutions shall be listed in Addenda.
- ④ District reserves the right not to act upon submittals of substitutions until after the date of bid opening.
- b. **Request for Substitution after Bid Award.** Substitutions may be requested after Contract has been awarded only if indicated in and in accordance with requirements specified in the Special Conditions.
15. **Information with Request.** Requests for substitutions shall contain sufficient information to assess acceptability of the product or system and impact to Project, including, without limitation, the requirements specified in the Special Conditions and the Specifications. Insufficient information shall be grounds for rejection of substitution.
16. **Alternates.** The Contract may include alternates. Alternates are defined as alternate products, materials, equipment, systems, methods, or major elements of the construction, that may, at the District’s option and under terms established in the Contract and pursuant to section 20103.8 of the

Public Contract Code, be selected for the Work. The District shall award the Contract, if it awards it at all, to the lowest responsive responsible bidder based on the criteria as indicated in the Notice to Bidders.

17. **Notice of Award.** The Bidder awarded the Contract shall execute and submit the following documents by 5:00 p.m. of the **SEVENTH (7th)** calendar day following the date of the Notice of Award. Failure to properly and timely submit these documents entitles District to, among other remedies, make a claim against Bidder's Bid Bond or deposit Bidder's cash, cashier's check, or certified check. The proceeds thereof may be retained by District as liquidated damages, in District's sole discretion.
 - a. Agreement: To be executed by successful Bidder. Submit four (4) copies, each bearing an original signature.
 - b. Performance Bond (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
 - c. Payment Bond (100%) (Contractor's Labor and Material Bond): On the form provided in the Contract Documents and fully executed as indicated on the form.
 - d. Insurance Certificates and Endorsements as required.
 - e. Workers' Compensation Certification.
 - f. Prevailing Wage and Related Labor Requirements Certification.
 - g. Hazardous Materials Certification.
 - h. Lead-Based Materials Certification.
 - i. Criminal Background Investigation/Fingerprinting Certification.
18. **Notice to Proceed.** District may issue a Notice to Proceed within **THREE (3)** months from the date of the Notice of Award. Upon receipt of the Notice to Proceed, Contractor shall complete the Work within the period of time indicated in the Contract Documents. It is further expressly understood by Contractor that Contractor shall not be entitled to any claim of additional compensation or additional time when the Notice to Proceed is issued within the 3-month period.
 - a. The District may postpone issuing the Notice to Proceed beyond the 3-month period, upon reasonable notice to Contractor.
 - b. It is further expressly understood by Contractor that Contractor shall not be entitled to any claim of additional compensation as a result of the postponement of the issuance of the Notice to Proceed beyond the 3-month period. If the Contractor believes that a postponement of issuance of the Notice to Proceed will cause a hardship to Contractor, the Contractor may terminate the Contract. Contractor's termination due to a postponement beyond the 3-month period shall be by written notice to District within **SEVEN (7)** calendar days after receipt by Contractor of District's notice of postponement.
 - c. It is further understood by Contractor that in the event Contractor terminates the Contract as a result of postponement by the District, District shall only be obligated to pay Contractor for the Work that Contractor had performed at the time of notification of postponement and which the District had in writing authorized Contractor to perform prior to issuing a Notice to Proceed.
 - d. Should Contractor terminate the Contract as a result of a notice of postponement, District shall have the authority to award the Contract to the next lowest responsive responsible bidder.

19. **Bid Protests.** Any bid protest by any Bidder regarding any other bid on this Project must be submitted in writing to the District, before 5:00 p.m. of the **SECOND (2nd)** Business Day following the date of bid opening.
- a. The protest must contain a complete statement of any and all bases for the protest.
 - b. The protest must refer to the specific portions of all documents that form the bases for the protest.
 - c. The protest must include the name, address and telephone number of the person representing the protesting party.
 - d. The party filing the protest must concurrently transmit a copy of the protest and any attached documentation to all other parties with a direct financial interest that may be adversely affected by the outcome of the protest. Such parties shall include all other bidders or proposers who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
 - e. The procedure and time limits set forth in this paragraph are mandatory and are each bidder's sole and exclusive remedy in the event of bid protest. Failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a Government Code Claim or legal proceedings.
20. **Rejection of Bids.** District reserves the right to reject any or all bids, including without limitation the right to reject any or all nonconforming, non-responsive, unbalanced, or conditional bids, to re-bid, and to reject the bid of any bidder if District believes that it would not be in the best interest of the District to make an award to that bidder, whether because the bid is not responsive or the bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by District. District also reserves the right to waive inconsequential deviations not involving price, time, or changes in the Work. For purposes of this paragraph, an "unbalanced bid" is one having nominal prices for work item(s) that represent substantive work and/or overly-enhanced prices for nominal work item(s).
21. **Bidder Responsibility.** Prior to the award of Contract, District reserves the right to consider the responsibility of the Bidder. District may conduct investigations as District deems necessary to assist in the evaluation of any bid and to establish the responsibility, including, without limitation, qualifications and financial ability of Bidders, proposed subcontractors, suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to District's satisfaction within the prescribed time.

END OF OCUMENT

MENLO PARK CITY SCHOOL DISTRICT

BID FORM FOR

PROJECT: BID# 004-2019-03
OAK KNOLL ELEMENTARY SCHOOL and LAUREL ELEMENTARY SCHOOL
ELC PLAYGROUNDS

Contractor will perform the Work defined in the Contract Documents and fully understands the scope of Work required in this bid and accepts in full payment for that Work the following total lump sum amount, all taxes included:

A. OAK KNOLL ELEMENTARY SCHOOL:

_____ dollars	\$ _____
<i>OAK KNOLL ELEMENTARY SCHOOL BASE BID</i>	

B. OAK KNOLL – ALTERNATE #1:

_____ dollars	\$ _____
<i>OAK KNOLL ELEMENTARY SCHOOL – ALTERNATE #1</i>	

C. OAK KNOLL – ALTERNATE #2:

_____ dollars	\$ _____
<i>OAK KNOLL ELEMENTARY SCHOOL – ALTERNATE #2</i>	

D. LAUREL ELEMENTARY SCHOOL:

_____ dollars	\$ _____
<i>LAUREL ELEMENTARY SCHOOL BASE BID</i>	

E. OAK KNOLL ELEMENTARY SCHOOL and LAUREL ELEMENTARY SCHOOL:

_____ dollars	\$ _____
<i>TOTAL BASE BID (Sum of Line Item A. + Line Item D above.)</i>	

1. Work. Contractor has reviewed the Work outlined in the Contract Documents and fully understands the scope of Work required in this bid, understands the construction and project management function(s) is described in the Contract Documents.
2. Schedule. Contractor agrees to commence work under this Contract on the date established in the Contract Documents and to complete all Work within the time specified in the Contract Documents.

3. **Subcontractors.** Contractor shall identify the **name, location** of the place of business, California Contractor State License Number, DIR Registration Number, and kind of work of each subcontractor that will perform work or labor or render service in or about the construction of the Work or improvement in an amount in excess of one-half of 1 percent (0.5%) of the Contractor's total bid. Use extra sheets/extra space as needed.

[Name]: _____ [Location]: _____ [CSLB Lic. #] and [DIR Reg. #]: _____ [Kind of Work]: _____

4. **Bid Bond.** Contractor shall provide with its bid a certified or cashier's check or bidder's bond for an amount not less than ten percent (10%) of the bid amount. The certified or cashier's check or bid bond shall be made payable to the order of the District. If a bid bond accompanies the bid/proposal, the bond shall be secured by an admitted surety company, licensed in the State of California, satisfactory to the District and in the form attached hereto. The certified or cashier's check or bond shall be given as a guarantee that Contractor will enter into the Contract if awarded the Work, and in the case of refusal or failure to enter into the Contract, the District shall have the right to award to another bidder. If Contractor fails or refuses to timely enter into the contract, the District reserves the right to declare the bid bond forfeited and to pursue all other remedies in law or equity relating to such breach including, but not limited to, seeking recovery of damages for breach of contract. Failure to provide bid security, or bid security in the proper amount, will result in rejection of the bid.
5. **Noncollusion Declaration.** Contractor shall provide with its bid the Noncollusion Declaration in the form attached hereto.
6. **License.** Contractor certifies that it is, at the time of bidding, and shall be throughout the period of the Contract, licensed by the State of California to do the type of Work required under the terms of the Contract Documents. Contractor further certifies that it is regularly engaged in the general class and type of work called for in the Contract Documents.
7. **Prevailing Wages.** Pursuant to sections 1770 et seq. of the California Labor Code, Contractor and all Subcontractors under the Contractor shall pay all workers on all work performed pursuant to the Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the State of California Department of Industrial Relations (DIR) for the type of work performed and the locality in which the work is to be performed within the boundaries of the District. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by the DIR are available from the District or on the internet (<http://www.dir.ca.gov>). In addition, if awarded a contract, Contractor shall comply with Labor Code § 1777.5 pertaining to prevailing wage compensation to apprentices for preemployment activities.
8. **Contractor Registration.** Contractor shall ensure that it and its Subcontractors comply with the registration and compliance monitoring provisions of Labor Code section 1771.4, including furnishing its CPRs to the Labor Commissioner, and are registered pursuant to Labor Code section 1725.5. Contractor and its subcontractors shall comply with Labor Code section 1725.5 to be qualified to bid, be listed in a bid or proposal, subject to the requirements of Section 4104 of the Public Contract Code or engage in the performance of the Contract.
9. **Bid Protests.** Any bid protest by any Contractor regarding any other bid on this Project must be submitted in writing to the District to: **Ahmad Sheikholeslami** at the District office located at **181 Encinal Avenue, Atherton, CA 94027** before **5:00 p.m.** of the **SECOND (2ND)** business day following the date of bid opening, or the

BID BOND (SECURITY)

(Note: If Bidder is providing a bid bond as its bid security, Bidder must use this form, NOT a surety company form.)

KNOW ALL PERSONS BY THESE PRESENTS:

That the undersigned, as _____ as Principal ("Principal"),

and _____ as Surety ("Surety"),

a corporation organized and existing under and by virtue of the laws of the State of _____ and authorized to do business as a surety in the State of California, are held and firmly bound unto the **Menlo Park City School District** ("District"), State of California as Obligee, in the sum of

_____ (\$ _____)

lawful money of the United States of America, for the payment of which sum well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted a bid to the District for all Work specifically described in the accompanying bid;

NOW, THEREFORE, if the Principal is awarded the Contract and, within the time and manner required under the Contract Documents, after the prescribed forms are presented to Principal for signature, enters into a written contract, in the prescribed form in accordance with the bid, and files two bonds, one guaranteeing faithful performance and the other guaranteeing payment for labor and materials as required by law, and meets all other conditions to the contract between the Principal and the Obligee becoming effective, or if the Principal shall fully reimburse and save harmless the Obligee from any damage sustained by the Obligee through failure of the Principal to enter into the written contract and to file the required performance and labor and material bonds, and to meet all other conditions to the Contract between the Principal and the Obligee becoming effective, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect. The full payment of the sum stated above shall be due immediately if Principal fails to execute the Contract within seven (7) days of the date of the District's Notice of Award to Principal.

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

In the event suit is brought upon this bond by the Obligee and judgment is recovered, the Surety shall pay all costs incurred by the Obligee in such suit, including a reasonable attorneys' fee to be fixed by the Court.

If the District awards the bid, the security of unsuccessful bidder(s) shall be returned within sixty (60) days from the time the award is made. Unless otherwise required by law, no bidder may withdraw its bid for ninety (90) days after the date of the bid opening.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety above named, on the _____ day of _____, 20_____.

Principal

By

Surety

By

Name of California Agent of Surety

Address of California Agent of Surety

Telephone Number of California Agent of Surety

Bidder must attach Power of Attorney and Certificate of Authority for Surety and a Notarial Acknowledgment for all Surety's signatures. The California Department of Insurance must authorize the Surety to be an admitted Surety Insurer.

END OF DOCUMENT

SITE-VISIT CERTIFICATION

PROJECT: **Bid #004-2019-03**
 Oak Knoll Elementary School and Laurel Elementary School
 ELC Playgrounds

Check whichever option applies:

_____ I certify that I visited the Site of the proposed Work and became fully acquainted with the conditions relating to construction and labor. I fully understand the facilities, difficulties, and restrictions attending the execution of the Work under contract.

_____ I certify that _____(Bidder's representative) visited the Site of the proposed Work and became fully acquainted with the conditions relating to construction and labor. The Bidder's representative fully understood the facilities, difficulties, and restrictions attending the execution of the Work under contract.

Bidder fully relieves and releases the Menlo Park City School District, its Architect, its Engineer, its Construction Manager, and all of their respective officers, agents, employees, and consultants from any liability for any monetary or other damage(s), related to conditions that could have been identified during my visit and/or the Bidder's representative's visit to the Site.

I certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Date: _____

Proper Name of Bidder: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

NONCOLLUSION DECLARATION
Public Contract Code Section 7106

TO BE EXECUTED BY CONTRACTOR AND SUBMITTED WITH BID FORM

The undersigned declares:

I am the _____ **[PRINT YOUR TITLE]**

of _____ **[PRINT FIRM NAME]**,

the party making the foregoing Contract.

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

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

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on the following date:

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

(ATTACH NOTARIAL ACKNOWLEDGMENT FOR THE ABOVE SIGNATURE)

CONTRACT FOR
BID #004-2019-03
OAK KNOLL ELEMENTARY SCHOOL and LAUREL ELEMENTARY SCHOOL
ELC PLAYGROUNDS

THIS CONTRACT is made and entered into this _____ day of _____, 20____ (“Contract”), by and between _____ (“Contractor”) and **Menlo Park City School District** (“District”). Contractor and District may be referred to herein individually as a “Party” or collectively as the “Parties.”

1. **Contract Price & Services.** After the District has issued a Notice to Proceed, the Contractor shall furnish to the District for a total price of _____ Dollars (\$ _____) (“Contract Price”), the following repairs, maintenance or construction services (“Services” or “Work”):

**ELC Playgrounds at Oak Knoll Elementary School and Laurel Elementary School
per Bid #004-2019-03 Contract Documents**

2. **Payment.** Payment for the Work shall be made in accordance with the Terms and Conditions attached hereto.
3. **Site.** Contractor shall perform the Work at **Oak Knoll Elementary School and Laurel Elementary School** (“Premises” or “Site”). The Project is the scope of Work performed at the Site.
4. **Contract Time & Liquidated Damages.** Work shall be completed by **December 6, 2019**, one hundred fifty-one (**151**) consecutive calendar days from the date specified in the District’s Notice to Proceed. (“Contract Time”) Contractor agrees that if the Work is not completed within the Contract Time and/or pursuant to the completion schedule, construction schedule, or project milestones developed pursuant to provisions of the Contract, it is understood, acknowledged, and agreed that the District will suffer damage which is not capable of being calculated. Pursuant to Government Code section 53069.85, Contractor shall pay to the District, as fixed and liquidated damages for these incalculable damages, the sum of **One Thousand Dollars (\$1,000.00)** per day for each and every calendar day of delay beyond the Contract Time or beyond any completion schedule, construction schedule, or Project milestones established pursuant to the Contract.
5. **Bonds & Insurance.**
 - a. **Payment Bond & Performance Bond:** Contractor shall not commence the Work until it has provided to the District, a Payment (Labor and Material) Bond and a Performance Bond, in the forms attached hereto, each in an amount equivalent to one hundred percent (100%) of the Contract Price issued by a surety admitted to issue bonds in the State of California and otherwise acceptable to the District.
 - b. **Insurance:** Contractor shall have and maintain in force during the term of this Contract, with the minimum indicated limits, the following insurance:

Commercial General Liability , with Products and Completed Operations Coverage	\$1,000,000 per occurrence; \$2,000,000 aggregate
Automobile Liability, Any Auto , Combined Single Limit	\$1,000,000 per occurrence; \$2,000,000 aggregate
Workers Compensation	Statutory limits pursuant to State law
Employers’ Liability	\$1,000,000
Builder’s Risk (Course of Construction)	Issued for the value and scope of work.

Contractor shall provide to the District certificate(s) of insurance and endorsements satisfactory to the District. The policy(ies) shall not be amended or modified and the coverage amounts shall not be reduced without thirty (30) days written notice to the District prior to cancellation. Except for worker’s compensation insurance, the District, the Architect, and the Project Manager shall be named as an additional insured on all policies. Contractor’s policy(ies) shall be primary; any insurance carried by the District shall only be secondary and supplemental. Contractor shall not allow any subcontractor, employee, or agent to commence Work on this Contract or any subcontract until the insurance required of Contractor, subcontractor, or agent has been obtained.

- 6. **Project Oversight.** Inspection and acceptance of the Work shall be performed by **Ahmad Sheikholeslami, Chief Business and Operations Officer** of the Menlo Park City School District. The architect for the Project is **Gates + Associates** (“Architect”).
- 7. **Terms & Conditions.** The Contractor agrees to comply with the Terms and Conditions.
- 8. **Contract Documents.** The Contract Documents include only the following documents, as indicated:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Bid Form | <input checked="" type="checkbox"/> Drug-Free Workplace Certification |
| <input checked="" type="checkbox"/> Bid Bond | <input checked="" type="checkbox"/> Lead-Product(s) Certification |
| <input checked="" type="checkbox"/> Notice to Proceed | <input type="checkbox"/> Roofing Contract Financial Interest Certification |
| <input checked="" type="checkbox"/> Terms and Conditions to Contract | <input checked="" type="checkbox"/> Insurance Certificates and Endorsements |
| <input checked="" type="checkbox"/> Noncollusion Declaration | <input checked="" type="checkbox"/> Performance Bond |
| <input checked="" type="checkbox"/> Prevailing Wage Certification | <input checked="" type="checkbox"/> Payment Bond |
| <input checked="" type="checkbox"/> Workers’ Compensation Certification | <input type="checkbox"/> Exhibit A (“Scope of Work”) |
| <input checked="" type="checkbox"/> Criminal Background Investigation Certification | <input checked="" type="checkbox"/> Plans |
| <input checked="" type="checkbox"/> Asbestos & Other Hazardous Materials Certification | <input checked="" type="checkbox"/> Work Specifications |
| <input checked="" type="checkbox"/> Tobacco-Free Certification | <input type="checkbox"/> _____[Other] |

- 9. **Notice.** Any notice required or permitted to be given under this Agreement shall be deemed to have been given, served, and received if given in writing and either personally delivered or sent by overnight delivery service addressed as follows:

Menlo Park City School District
Attn: Ahmad Sheikholeslami
Chief Business and Operations Officer
 181 Encinal Avenue
 Atherton, CA 94027

Contractor: _____

Attn: _____

Any notice personally given shall be effective upon receipt. Any notice sent by overnight delivery service shall be effective the business day next following delivery thereof to the overnight delivery service.

ACCEPTED AND AGREED on the date indicated below. By signing this Contract, Contractor certifies, under penalty of perjury, that all the information provided in the Contract Documents is true, complete, and correct:

Dated: _____, 20__

Dated: _____, 20__

Menlo Park City School District

_____ Contractor

By: _____

By: _____

Print Name: _____

Print Name: _____

Print Title: _____

Print Title: _____

Information regarding Contractor:

Type of Business Entity:

- ___ Individual
- ___ Sole Proprietorship
- ___ Partnership
- ___ Limited Partnership
- ___ Corporation
- ___ Limited Liability Company
- ___ Other: _____

Employer Identification and/or Social Security Number

NOTE: United States Code, title 26, sections 6041 and 6109 require non-corporate recipients of \$600 or more to furnish their taxpayer identification number to the payer. The United States Code also provides that a penalty may be imposed for failure to furnish the taxpayer identification number. In order to comply with these rules, the District requires your federal tax identification number or Social Security number, whichever is applicable.

TERMS AND CONDITIONS TO CONTRACT

1. NOTICE TO PROCEED: District shall provide a Notice to Proceed to Contractor pursuant to the Contract at which time Contractor shall proceed with the Work.

2. SITE EXAMINATION: Contractor has examined the Site and certifies that it accepts all measurements, specifications and conditions affecting the Work to be performed at the Site. By submitting its quote, Contractor warrants that it has made all Site examination(s) that it deems necessary as to the condition of the Site, its accessibility for materials, workers and utilities, and Contractor's ability to protect existing surface and subsurface improvements. No claim for allowance of time or money will be allowed as to any other undiscovered condition on the Site.

3. EQUIPMENT AND LABOR: The Contractor shall furnish all tools, equipment, apparatus, facilities, transportation, labor, and material necessary to furnish the Services, the Services to be performed at such times and places as directed by and subject to the approval of the authorized District representative indicated in the Work specifications attached hereto.

4. SUBCONTRACTORS: Contractor shall comply with the Subletting and Subcontracting Fair Practices Act (Public Contract Code, section 4100 et. seq.) Contractor shall identify by name and location of the place of business of each subcontractor who will perform work or labor or render service in or about the construction of the Project in an amount in excess of one-half of 1 percent of the Contractor's contract price or ten thousand dollars (\$10,000) whichever is greater. Subcontractors, if any, engaged by the Contractor for any Service or Work under this Contract shall be subject to the approval of the District. Contractor agrees to bind every subcontractor by the terms of the Contract as far as such terms are applicable to subcontractor's work, including, without limitation, all indemnification, insurance, bond, and warranty requirements. If Contractor subcontracts any part of this Contract, Contractor shall be fully responsible to the District for acts and omissions of its subcontractor and of persons either directly or indirectly employed by itself. Nothing contained in the Contract Documents shall create any contractual relations between any subcontractor and the District.

5. TERMINATION: If Contractor fails to perform the Services and Contractor's duties to the satisfaction of the District, or if Contractor fails to fulfill in a timely and professional manner Contractor's obligations under this Contract, or if Contractor violates any of the Terms or Provisions of this Contract, the District shall have the right to terminate this Contract effective immediately upon the District giving written notice thereof to the Contractor. District shall also have the right in its sole discretion to terminate the Contract for its own convenience. Termination shall have no effect upon any of the rights and obligations of the parties arising out of any transaction occurring prior to the effective date of termination. Upon termination, Contractor shall provide the District with all documents produced maintained or collected by Contractor pursuant to this Contract, whether or not such documents are final or draft documents.

6. SAFETY AND SECURITY: Contractor is responsible for

maintaining safety in the performance of this Contract. Contractor shall be responsible for complying with the District's rules and regulations pertaining to safety, security, and driving on school grounds, particularly when children are present.

7. CHANGE IN SCOPE OF WORK: Any change in the scope of the Work, method of performance, nature of materials or price thereof, or any other matter materially affecting the performance or nature of the Work shall not be paid for or accepted by District unless such change, addition, or deletion is approved in advance and in writing by a valid change order executed by the District. Contractor specifically understands, acknowledges, and agrees that the District shall have the right to request any alterations, deviations, reductions, or additions to the Project or Work, and the cost thereof shall be added to or deducted from the amount of the Contract Price by fair and reasonable valuations. Contractor also agrees to provide the District with all information requested to substantiate the cost of any change order and to inform the District whether the Work will be done by the Contractor or a subcontractor. In addition to any other information requested, Contractor shall submit, prior to approval of any change order, its request for a time extension (if any), as well as all information necessary to substantiate Contractor's belief that such change will delay the completion of the Work. If Contractor fails to submit its request for a time extension or the necessary supporting information, it shall be deemed to have waived its right to request such extension.

8. TRENCH SHORING: If this Contract is in excess of \$25,000 and is for the excavation of any trench deeper than five (5) feet, Contractor must submit and obtain District's approval and acceptance, in advance of excavation, of a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If the plan varies from the shoring system standards, the plan shall be prepared by a registered civil or structural engineer.

9. EXCAVATIONS OVER FOUR FEET: If this Contract includes excavations over four (4) feet, Contractor shall promptly, and before the following conditions are disturbed, notify the District, in writing, of any: (1) Material that the Contractor believes may be material that is hazardous waste, as defined in Section 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 provisions of existing law; (2) Subsurface or latent physical conditions at the Site differing from those indicated; or (3) Unknown physical conditions at the Site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract. The District shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work shall issue a change order under the procedures described in the Contract. In the event that a dispute arises between the District and the

Contractor regarding whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all Work. Contractor shall retain any and all rights provided either by Contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

10. LEAD-BASED PAINT: Pursuant to the Lead-Safe Schools Protection Act (Education Code Section 32240 et seq.) and other applicable law, no lead-based paint, lead plumbing and solders, or other potential sources of lead contamination shall be utilized on this Project, and only trained and state-certified contractors, inspectors and workers shall undertake any action to abate existing risk factors for lead. Contractor must execute the Lead-Based Paint Certification, if applicable.

11. WORKERS: Contractor shall at all times enforce strict discipline and good order among its employees and the employees of its subcontractors and shall not employ or work any unfit person or anyone not skilled in work assigned to him or her. Any person in the employ of the Contractor or a subcontractor whom the District may deem incompetent or unfit shall be dismissed from the Site and shall not again be employed at the Site without written consent from the District.

12. DRUG-FREE / TOBACCO FREE / SMOKE FREE POLICY: No drugs, alcohol, tobacco, and/or smoking are allowed at any time in any buildings and/or grounds on District property. No students, staff, visitors, consultants or contractors are to use drugs on these sites.

13. FINGERPRINTING: Contractor shall comply at all times with the provisions of Education Code section 45125.2 regarding the submission of employee fingerprints to the California Department of Justice and the completion of criminal background investigations of its employees, its subcontractor(s), and its subcontractors' employees. Verification of compliance with this section shall be provided in writing to the District prior to each individual's commencement of employment or performing any portion of the Services and prior to permitting contact with any student.

14. CORRECTION OF ERRORS: Contractor shall perform, at its own cost and expense and without reimbursement from the District, any work necessary to correct errors or omissions which are caused by the Contractor's failure to comply with the standard of care required herein.

15. FAILURE TO PERFORM. If the District at any time believes that the Contractor is behind schedule, is failing to construct the Project pursuant to the Contract Documents or is otherwise failing to perform any provisions of this Contract, the District, after FORTY-EIGHT (48) hours written notice to the Contractor, may take any action necessary or beneficial to the District to complete the Project, takeover the Work of the Contract, terminate or suspend the Contract as indicated herein, or any combination or portion of those actions. The Contractor shall be liable to the District for any cost incurred by the District in those actions and the District has the right to deduct the cost thereof from any payment then or thereafter due the Contractor.

16. SUBSTITUTIONS: No substitutions of material from those

specified in the Work Specifications shall be made without the prior written approval of the District.

17. CONTRACTOR SUPERVISION: Contractor shall provide competent supervision of personnel employed on the job Site, use of equipment, and quality of workmanship.

18. CLEAN UP: Debris shall be removed from the Premises. The Site shall be in order at all times when work is not actually being performed and shall be maintained in a reasonably clean condition.

19. ACCESS TO WORK: District representatives shall at all times have access to the Work wherever it is in preparation or in progress. Contractor shall provide safe and proper facilities for such access.

20. PROTECTION OF WORK AND PROPERTY: Contractor shall erect and properly maintain at all times, as required by conditions and progress of the Work, all necessary safeguards, signs, barriers, lights, and security persons for protection of workers and the public and shall post danger signs warning against hazards created by the Work. In an emergency affecting life and safety of life or of Work or of adjoining property, Contractor, without special instruction or authorization from District, is permitted to act at his discretion to prevent such threatened loss or injury.

21. ASSIGNMENT OF CONTRACT: Contractor shall not assign or transfer in any way any or all of its rights, burdens, duties, or obligations under this Contract without the prior written consent of the District.

22. TIME IS OF THE ESSENCE: Time is of the essence in the performance of and compliance with each of the provisions and conditions of this Contract.

23. OCCUPANCY: District reserves the right to occupy buildings at any time before formal Contract completion and such occupancy shall not constitute final acceptance or approval of any part of the Work covered by this Contract, nor shall such occupancy extend the date specified for completion of the Work.

24. FORCE MAJEURE CLAUSE: Contractor shall be excused from performance hereunder during the time and to the extent that it is prevented from obtaining delivery, or performing by act of God, fire, strike, loss, or shortage of transportation facilities, lock-out, commandeering of materials, product, plant, or facilities by the government, when satisfactory evidence thereof is presented to the District, provided that it is satisfactorily established that the non-performance is not due to the fault or neglect of Contractor.

25. INDEMNIFICATION / HOLD HARMLESS CLAUSE: To the furthest extent permitted by California law, Contractor shall defend, indemnify, and hold free and harmless the District, its agents, representatives, officers, Contractors, employees, trustees, and volunteers ("the indemnified parties") from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage or injury of any kind, in law or equity, including without limitation the payment of all consequential damages, arising out of, pertaining to or relating to, in whole or in part, the negligence, recklessness, errors or omissions, or willful misconduct of Contractor, its officials, officers, employees, subcontractors, Contractors, or agents directly or indirectly arising out of, connected with, or resulting from the performance of the Services or from any activity, work, or thing done, permitted, or suffered by the Contractor in conjunction with

this Contract, unless the claims are caused wholly by the sole negligence or willful misconduct of the indemnified parties. The District shall have the right to accept or reject any legal representation that Contractor proposes to defend the indemnified parties.

26. PAYMENT: On a monthly basis, Contractor shall submit an application for payment based upon the estimated value for materials delivered or Services performed under the Contract as of the date of submission ("Application for Payment"). Within thirty (30) days after District's approval of the Application for Payment, Contractor shall be paid a sum equal to ninety-five percent (95%) of the value of the Work performed (as verified by Architect and Inspector and certified by Contractor) up to the last day of the previous month, less the aggregate of previous payments and amount to be withheld. The District may deduct from any payment an amount necessary to protect the District from loss because of: (1) liquidated damages which have accrued as of the date of the application for payment; (2) any sums expended by the District in performing any of Contractor's obligations under the Contract which Contractor has failed to perform or has performed inadequately; (3) defective Work not remedied; (4) stop notices as allowed by state law; (5) reasonable doubt that the Work can be completed for the unpaid balance of the Total Contract price or by the scheduled completion date; (6) unsatisfactory prosecution of the Work by Contractor; (7) unauthorized deviations from the Contract; (8) failure of the Contractor to maintain or submit on a timely basis proper and sufficient documentation as required by the Contract or by District during the prosecution of the Work; (9) erroneous or false estimates by the Contractor of the value of the Work performed; (10) any sums representing expenses, losses, or damages, as determined by the District, incurred by the District for which Contractor is liable under the Contract; and (11) any other sums which the District is entitled to recover from Contractor under the terms of the Contract or pursuant to state law, including section 1727 of the California Labor Code. The failure by the District to deduct any of these sums from a progress payment shall not constitute a waiver of the District's right to such sums. The District shall retain five percent (5%) from all amounts owing as retention. Retention shall be paid pursuant to Public Contract Code sections 7107 and 7200.

27. PERMITS AND LICENSES: Contractor and all of its employees, agents, and subcontractors shall secure and maintain in force, at Contractor's sole cost and expense, all licenses and permits as are required by law, in connection with the furnishing of materials, supplies, or Services herein listed.

28. INDEPENDENT CONTRACTOR STATUS: While engaged in carrying out the Services of this Contract, the Contractor is an independent contractor, and not an officer, employee, agent, partner, or joint venture of the District. Contractor shall be solely responsible for its own Worker's Compensation insurance, taxes, and other similar charges or obligations. Contractor shall be liable for its own actions, including its negligence or gross negligence, and shall be liable for the acts, omissions, or errors of its agents or employees.

29. ANTI-DISCRIMINATION: It is the policy of the District that in

connection with all work performed under contracts there be no discrimination against any employee engaged in the work because of race, color, ancestry, national origin, or religious creed, and therefore the Contractor agrees to comply with applicable Federal and California laws including, but not limited to the California Fair Employment Practice Act beginning with Government Code Section 12900 and Labor Code Section 1735. In addition, the Contractor agrees to require like compliance by all its subcontractor(s).

30. DISABLED VETERAN BUSINESS ENTERPRISES: Section 17076.11 of the Education Code requires school districts using funds allocated pursuant to the State of California School Facility Program for the construction or modernization of a school building (SFP Funds) to have a participation of at least three percent (3%), per year, of the overall dollar amount expended each year by the school district, for disabled veteran business enterprises (DVBE). If this Contract uses School Facilities Program Funds, Contractor must submit, with its executed Contract, appropriate documentation to the District identifying the steps Contractor has taken to solicit DVBE participation in conjunction with this Contract.

31. WARRANTY/QUALITY: Unless a longer warranty is called for elsewhere in the Contract, Contractor, manufacturer, or their assigned agents shall guarantee the workmanship, product or Services performed against defective workmanship, defects or failures of materials for a minimum period of one (1) year from District's written approval of the Work. All workmanship and merchandise must be warranted to be in compliance with applicable California energy, conservation, environmental, and educational standards.

32. CONFIDENTIALITY: Contractor shall maintain the confidentiality of all information, documents, programs, procedures, and all other items that Contractor encounters while performing the Contractor's Services to the extent allowed by law. This requirement shall be ongoing and shall survive the expiration or termination of this Contract and specifically includes all student, parent, and disciplinary information.

33. COMPLIANCE WITH LAWS: Contractor shall give all notices and comply with all laws, ordinance, rules and regulations bearing on conduct of the Work as indicated or specified. If Contractor observes that any of the Work required by this Contract is at variance with any such laws, ordinance, rules or regulations, Contractor shall notify the District, in writing, and, at the sole option of the District, any necessary changes to the scope of the Work shall be made and this Contract shall be appropriately amended in writing, or this Contract shall be terminated effective upon Contractor's receipt of a written termination notice from the District. If Contractor performs any work that is in violation of any laws, ordinances, rules or regulations, without first notifying the District of the violation, Contractor shall bear all costs arising therefrom.

34. DISPUTES/CLAIMS: Public Contract Code § 9204. Claims between the District and the Contractor shall be resolved in accordance with the procedures established in Public Contract Code § 9204.

§ Claim. The term "Claim" means a written demand by the Contractor sent by registered mail or certified mail with return

receipt requested for:

- (1) An extension of the Contract Time, including relief from damages or penalties assessed by the District for delay;
- (2) Payment of money or damages arising from work done by, or on behalf of, the Contractor pursuant to the Contract and payment that is not otherwise expressly provided for in the Contract Documents or to which the Contractor is not otherwise entitled; or
- (3) Payment of an amount that is disputed by the District.

§ Submission of Claim. A Claim arises upon the District's rejection of a request by the Contractor for a Change Order. The Contractor shall submit the Claim by registered mail or certified mail with return receipt requested to the District's Director of construction and Modernization, with a copy to the Project Manager/Construction Manager. The Contractor shall submit its Claim in writing, together with all Supporting Documentation no later than the earlier of either: (1) thirty (30) days after the date the Claim arises; or (2) sixty (60) days after the date of Completion. It is the intent of the District to evaluate and resolve Claims with the Contractor as close to the events giving rise to such Claims as possible and to avoid stale or late Claims, including late notice and documenting of Claims, and to timely mitigate the issue, event, condition, circumstance and/or cause of the Claim and any adverse impacts or damages related thereto.

§ Contents of Claim. A Claim must include all Supporting Documentation and a statement identifying it as a Claim signed by an authorized agent or officer of the Contractor under penalty of perjury and including the following language immediately above or before the Contractor's signature: "I declare under penalty of perjury under the laws of the State of California that the information provided and statements made in this Claim are true and correct, substantiated and of merit." The Contractor recognizes and acknowledges that this requirement is not a mere formality but is intended to ensure that the Contractor only submits Claims that it believes are true and correct, substantiated and have merit.

§ Subcontractor Claims. Pursuant to Public Contract Code § 9204(d)(5), a Subcontractor may request in writing, either on its own behalf or on behalf of a lower tier Subcontractor, that the Contractor submit to the District a claim for work which was performed by the Subcontractor or by a lower tier Subcontractor on behalf of the Subcontractor. The Subcontractor requesting that the claim be submitted to the District shall furnish reasonable documentation to support the claim. Regardless of whether or not the Contractor decides to submit the Subcontractor's claim to the District, Contractor shall provide a copy of the Subcontractor's written request, including all supporting documentation, to the Project Manager/Construction Manager within ten (10) days of Contractor's receipt of the request. In the event the Contractor agrees to submit a Subcontractor's claim to the District, the Contractor shall submit such claim as a request for a Change Order, unless such claim was previously submitted to the District as a request for a Change Order. Within forty-five (45)

days of receipt of the Subcontractor's written request, the Contractor shall notify the Subcontractor in writing as to whether the Contractor submitted the claim to the District and, if the Contractor did not submit the claim, the Contractor shall provide the Subcontractor with a written statement of the reasons for not having done so and shall concurrently provide a copy of such written statement to the Project Manager/Construction Manager. In the event the Contractor includes supporting documentation with such written statement, the Contractor shall concurrently provide a copy of such supporting documentation to the Project Manager/Construction Manager. If the Contractor submits a Claim on behalf of a Subcontractor, the Claim shall include a statement in writing and signed by an authorized agent or officer of the Contractor under penalty of perjury that includes the following language immediately above or before the Contractor's signature: "I declare under penalty of perjury under the laws of the State of California that [insert name of Contractor] has thoroughly evaluated the claim of [insert name of Subcontractor] and determined that the information provided and statements made in the claim are true and correct, substantiated and of merit."

§ District Review of Claim. Upon receipt of a Claim, the District shall review the Claim and, within a period not to exceed forty-five (45) days, shall provide Contractor a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Upon receipt of a Claim, the District and the Contractor may, by mutual written agreement, extend the forty-five (45) day time period. The District shall process and make payment of any undisputed portion of a Claim within sixty (60) days after the District issues its written statement. Failure by the District to provide a written statement in response to a Claim from the Contractor within the forty-five (45) day time period, or within an agreed upon extended time period, shall result in the Claim being deemed rejected in its entirety. A Claim that is rejected by reason of the District's failure to respond, or failure to timely respond, to the Claim shall not constitute an adverse finding regarding the merits of the Claim or the claimant's responsibility or qualifications.

§ Meet and Confer Meeting. If the Contractor disputes the District's written response, or if the District fails to respond within the time frame prescribed above, the Contractor, within fifteen (15) days of the District's written response or, if the District fails to respond, within fifteen (15) days after the District's response was due, may demand, in a writing sent to the District's Superintendent by registered mail or certified mail, return receipt requested, with a copy to the District's Director of Construction and Modernization, and Project Manager/Construction Manager, an informal conference to meet and confer for settlement of the issues in dispute. The District shall schedule a meet and confer conference within thirty (30) days of its receipt of the Contractor's written demand.

§ Mediation. Within ten (10) business days following the conclusion of the meet and confer conference, if the Claim or

any portion of the Claim remains in dispute, the District shall provide the Contractor a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the Claim shall be processed and made within sixty (60) days after the District issues its written statement. Any disputed portion of the Claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation. The expenses and fees of the mediator and the administrative fees shall be divided among the parties equally. Each party shall pay its own legal fees, witness fees, and other expenses. The District and the Contractor shall mutually agree to a mediator within ten (10) business days after the disputed portion of the Claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. The foregoing notwithstanding, pursuant to Public Contract Code § 9204(f), the parties may mutually agree in writing to waive mediation.

§ Pending resolution of the dispute, Contractor agrees it will neither rescind the Contract nor stop the progress of the Work but will allow determination by the court of the State of California, in the county in which the District's administration office is located, having competent jurisdiction of the dispute.

§ Nothing in this Article shall prevent the Parties from resolving any disputes or claims pursuant to Public Contract Code section 20104, et seq., if applicable.

§ Nothing in this Contract, waives, modifies or tolls the Contractor's obligation to present a timely claim under Government Code § 910, et seq. Therefore, in addition to complying with the contractual Claims procedures, the Contractor is required to present claims to the District pursuant to Government Code § 910, et seq.

35. LABOR CODE REQUIREMENTS: Provided that the Contract Price is more than \$1,000, and the Work is a "public works" under the Labor Code, the parties agree as follows:

§ The Work is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

§ District hereby provides notice of the requirements described in Labor Code § 1771.1(a) that a contractor or subcontractor shall not be qualified to bid on, be listed in a bid or proposal, or engage in the performance of any contract for public work, unless currently registered and qualified to perform public work pursuant to Labor Code § 1725.5.

§ Contractor acknowledges that all or a portion of the Services under this Contract are a public work, and that it and its subcontractors have complied with Labor Code § 1725.5, including, without limitation, the registration requirements thereof.

§ Contractor shall post all required job site notices and shall comply with all applicable requirements prescribed thereby, including but not limited to Labor Code § 1771.4.

§ Contractor shall comply with all applicable provisions of the Labor Code, Division 3, Part 7, Chapter 1, Articles 1-5, including, without limitation, the payment of the general prevailing per diem wage rates for public work projects of more than one thousand dollars (\$1,000).

§ Copies of the prevailing rate of per diem wages are on file with the District.

§ Contractor and each subcontractor shall comply with Chapter 1 of Division 2, Part 7 of the Labor Code, beginning with § 1720, and including §§ 1735, 1777.5 and 1777.6, forbidding discrimination, and §§ 1776, 1777.5 and 1777.6 concerning the employment of apprentices by Contractor or subcontractors. Willful failure to comply may result in penalties, including loss of the right to bid on or receive public works contracts. Contractor shall comply with Labor Code § 1777.5 pertaining to prevailing wage compensation to apprentices for preemployment activities.

36. PAYROLL RECORDS: Contractor and its subcontractor(s) shall keep accurate certified payroll records of employees and make them available to the District immediately upon request.

37. AUDIT: Contractor shall establish and maintain books, records, and systems of account, in accordance with generally accepted accounting principles, reflecting all business operations of Contractor transacted under this Contract. Contractor shall retain these books, records, and systems of account during the Term of this Contract. Contractor shall permit the District, its agent, other representatives, or an independent auditor to audit, examine, and make excerpts, copies, and transcripts from all books and records, and to make audit(s) of all billing statements, invoices, records, and other data related to the Services covered by this Contract. Audit(s) may be performed at any time, provided that the District shall give reasonable prior notice to Contractor and shall conduct audit(s) during Contractor's normal business hours, unless Contractor otherwise consents.

38. ANTI-TRUST CLAIM: Contractor and its subcontractor(s) agree to assign to the District all rights, title, and interest in and to all causes of action they may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the Contract or a subcontract. This assignment shall be made and become effective at the time the District tenders final payment to the Contractor, without further acknowledgment by the Parties.

39. GOVERNING LAW: This Contract shall be governed by and construed in accordance with the laws of the State of California with venue of any action in a in the county in which the District's administration office is located.

40. PROVISIONS REQUIRED BY LAW DEEMED INSERTED: Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein and this Contract shall be read and enforced as though it were included therein.

41. BINDING CONTRACT: This Contract shall be binding upon the Parties hereto and upon their successors and assigns, and shall

inure to the benefit of the Parties and their successors and assigns.

42. DISTRICT WAIVER: District's waiver of any term, condition, covenant or waiver of a breach of any term, condition or covenant shall not constitute the waiver of any other term, condition or covenant or the waiver of a breach of any other term, condition or covenant.

43. INVALID TERM: If any provision of this Contract is declared or determined by any court of competent jurisdiction to be illegal, invalid or unenforceable, the legality, validity or enforceability of

the remaining parts, terms and provisions shall not be affected thereby, and said illegal, unenforceable or invalid part, term or provision will be deemed not to be a part of this Contract.

44. ENTIRE CONTRACT: This Contract sets forth the entire Contract between the Parties hereto and fully supersedes any and all prior agreements, understanding, written or oral, between the Parties hereto pertaining to the subject matter thereof. This Contract may be modified only by a writing evidencing the Parties' mutual consent.

PREVAILING WAGE CERTIFICATION

I hereby certify that I will conform to the State of California Public Works Contract requirements regarding prevailing wages, benefits, on-site audits with 48-hours notice, payroll records, and apprentice and trainee employment requirements, for all Work on the above Project.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

WORKERS' COMPENSATION CERTIFICATION

Labor Code section 3700 in relevant part provides:

Every employer except the State shall secure the payment of compensation in one or more of the following ways:

- a. By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this state.
- b. By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees.

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

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

(In accordance with Article 5 - commencing at section 1860, chapter 1, part 7, division 2 of the Labor Code, the above certificate must be signed and filed with the awarding body prior to performing any Work under this Contract.)

CRIMINAL BACKGROUND INVESTIGATION /FINGERPRINTING CERTIFICATION

The undersigned does hereby certify to the governing board of the District that (1) he/she is a representative of the Contractor, (2) he/she is familiar with the facts herein certified, (3) he/she is authorized and qualified to execute this certificate on behalf of Contractor; and (4) that the following is true and correct:

1. **Education Code.** Contractor has taken at least one of the following actions with respect to the Project (check all that apply):

_____ The Contractor has complied with the fingerprinting requirements of Education Code section 45125.1 with respect to all Contractor's employees and all of its subcontractors' employees who may have contact with District pupils in the course of providing services pursuant to the Contract, and the California Department of Justice has determined that none of those employees has been convicted of a felony, as that term is defined in Education Code section 45122.1. A complete and accurate list of Contractor's employees and of all of its subcontractors' employees who may come in contact with District pupils during the course and scope of the Contract is attached hereto; and/or

_____ Pursuant to Education Code section 45125.2, Contractor has installed or will install, prior to commencement of work , a physical barrier at the Project site, that will limit contact between Contractor's employees and District pupils at all times; and/or

_____ Pursuant to Education Code section 45125.2, Contractor certifies that all employees will be under the continual supervision of, and monitored by, an employee of the Contractor who the California Department of Justice has ascertained has not been convicted of a violent or serious felony. The name and title of the employee who will be supervising Contractor's employees and its subcontractors' employees is:

Name: _____

Title: _____

_____ The Work on the Contract is at an unoccupied school site and no employee and/or subcontractor or supplier of any tier of Contract shall come in contact with the District pupils.

2. **Megan's Law (Sex Offenders).** I have verified and will continue to verify that the employees of Contractor that will be on the Project site and the employees of the Subcontractor(s) that will be on the Project site are **not** listed on California's "Megan's Law" Website (<http://www.meganslaw.ca.gov/>).

Contractor's responsibility for background clearance extends to all of its employees, subcontractors, and employees of subcontractors coming into contact with District pupils regardless of whether they are designated as employees or acting as independent contractors of the Contractor.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

ASBESTOS & OTHER HAZARDOUS MATERIALS CERTIFICATION

Contractor hereby certifies that no Asbestos, or Asbestos-Containing Materials, polychlorinated biphenyl (PCB), or any material listed by the federal or state Environmental Protection Agency or federal or state health agencies as a hazardous material, or any other material defined as being hazardous under federal or state laws, rules, or regulations "New Material Hazardous", shall be furnished, installed, or incorporated in any way into the Project or in any tools, devices, clothing, or equipment used to affect any portion of Contractor's work on the Project for District. Asbestos and/or asbestos-containing material shall be defined as all items containing but not limited to chrysotile, crocidolite, amosite, anthophyllite, tremolite, and actinolite. Any or all material containing greater than one-tenth of one percent (.1%) asbestos shall be defined as asbestos-containing material.

Contractor further certifies that it has instructed its employees with respect to the above-mentioned standards, hazards, risks, and liabilities.

Any disputes involving the question of whether or not material is New Hazardous Material shall be settled by electron microscopy or other appropriate and recognized testing procedure, at the District's determination. The costs of any such tests shall be paid by Contractor if the material is found to be New Hazardous Material.

All Work or materials found to be New Hazardous Material or Work or material installed with "New Hazardous Material" containing equipment will be immediately rejected and this Work will be removed at Contractor's expense at no additional cost to the District.

Contractor shall comply with all the provisions outlined herein.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

TOBACCO-FREE ENVIRONMENT CERTIFICATION

Pursuant to, without limitation, 20 U.S.C section 6083, Labor Code section 6400 et seq., Health & Safety Code section 104350 et seq. and District Board Policies, all District sites, including the Project site, are tobacco-free environments. Smoking and the use of tobacco products by all persons is prohibited on or in District property. District property includes school buildings, school grounds, school owned vehicles and vehicles owned by others while on District property.

I acknowledge that I am aware of the District's policy regarding tobacco-free environments at District sites, including the Project site and hereby certify that I will adhere to the requirements of that policy and not permit any of my firm's employees, agents, subcontractors, or my firm's subcontractors' employees or agents to use tobacco and/or smoke on the Project site.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

DRUG-FREE WORKPLACE CERTIFICATION

This Drug-Free Workplace Certification form is required from the successful Bidder pursuant to Government Code section 8350 et seq., the Drug-Free Workplace Act of 1990. The Drug-Free Workplace Act of 1990 requires that every person or organization awarded a contract or grant for the procurement of any property or service from any state agency must certify that it will provide a drug-free workplace by doing certain specified acts. In addition, the Act provides that each contract or grant awarded by a state agency may be subject to suspension of payments or termination of the contract or grant, and the contractor or grantee may be subject to debarment from future contracting, if the contracting agency determines that specified acts have occurred.

The District is not a "state agency" as defined in the applicable section(s) of the Government Code, but the District is a local agency and public school district under California law and requires all contractors on District projects to comply with the provisions and requirements of Government Code section 8350 et seq., the Drug-Free Workplace Act of 1990.

Contractor shall certify that it will provide a drug-free workplace by doing all of the following:

1. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace and specifying actions which will be taken against employees for violations of the prohibition;
2. Establishing a drug-free awareness program to inform employees about all of the following:
 - a. The dangers of drug abuse in the workplace.
 - b. The person's or organization's policy of maintaining a drug-free workplace.
 - c. The availability of drug counseling, rehabilitation, and employee-assistance programs.
 - d. The penalties that may be imposed upon employees for drug abuse violations.
3. Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required above, and that, as a condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

I, the undersigned, agree to fulfill the terms and requirements of Government Code section 8355 listed above and will publish a statement notifying employees concerning (a) the prohibition of controlled substance at the workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the contract be given a copy of the statement required by section 8355(a), and requiring that the employee agree to abide by the terms of that statement.

I also understand that if the District determines that I have either (a) made a false certification herein, or (b) violated this certification by failing to carry out the requirements of section 8355, that the Contract awarded herein is subject to termination, suspension of payments, or both. I further understand that, should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of section 8350 et seq.

I acknowledge that I am aware of the provisions of Government Code section 8350 et seq. and hereby certify that I will adhere to the requirements of the Drug-Free Workplace Act of 1990.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

LEAD-PRODUCT(S) CERTIFICATION

California Occupational Safety and Health Administration (CalOSHA), Environmental Protection Agency (EPA), California Department of Health Services (DHS), California Department of Education (CDE), and the Consumer Product Safety Commission (CPSC) regulate lead-containing paint and lead products. Because the Contractor and its employees will be providing services for the District, and because the Contractor's work may disturb lead-containing building materials, **CONTRACTOR IS HEREBY NOTIFIED** of the potential presence of lead-containing materials located within certain buildings utilized by the District. All school buildings built prior to 1993 are presumed to contain some lead-based paint until sampling proves otherwise.

The CDE mandates that school districts utilize DHS lead-certified personnel when a lead-based hazard is identified. Examples of lead-certified personnel include: project designers, inspectors, and abatement workers. Furthermore, since it is assumed by the district that all painted surfaces (interior as well as exterior) within the District contain some level of lead, it is imperative that the Contractor, its workers and subcontractors fully and adequately comply with all applicable laws, rules and regulations governing lead-based materials (**Including Title 8, California Code of Regulations, Section 1532.1**). Any and all Work which may result in the disturbance of lead-containing building materials must be coordinated through the District.

The California Education Code also prohibits the use or import of lead-containing paint, lead plumbing and solders, or other potential sources of lead contamination in the construction of any new school facility or in the modernization or renovation of any existing school facility. The Contractor shall provide the District with any sample results prior to beginning Work, during the Work, and after the completion of the Work. The District may request to examine, prior to the commencement of the Work, the lead training records of each employee of the Contractor.

If failure to comply with these laws, rules, and regulations results in a site or worker contamination, the Contractor will be held solely responsible for all costs involved in any required corrective actions, and shall defend, indemnify and hold harmless the District, pursuant to the indemnification provisions of the Contract, for all damages and other claims arising therefrom. If lead disturbance is anticipated in the Work, only persons with appropriate accreditation, registrations, licenses and training shall conduct this Work.

It shall be the responsibility of the Contractor to properly dispose of any and all waste products, including but not limited to, paint chips, any collected residue, or any other visual material that may occur from the prepping of any painted surface. It will be the responsibility of the Contractor to provide the proper disposal of any hazardous waste by a certified hazardous waste hauler. This company shall be registered with the Department of Transportation (DOT) and shall be able to issue a current manifest number upon transporting any hazardous material from any school site within the District.

THE UNDERSIGNED HEREBY ACKNOWLEDGES, UNDER PENALTY OF PERJURY, THAT HE OR SHE HAS RECEIVED NOTIFICATION OF POTENTIAL LEAD-BASED MATERIALS ON THE OWNER'S PROPERTY, AS WELL AS THE EXISTENCE OF APPLICABLE LAWS, RULES AND REGULATIONS GOVERNING WORK WITH, AND DISPOSAL OF, SUCH MATERIALS WITH WHICH IT MUST COMPLY. THE UNDERSIGNED ALSO WARRANTS THAT HE OR SHE HAS THE AUTHORITY TO SIGN ON BEHALF OF AND BIND THE CONTRACTOR.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

PERFORMANCE BOND

PERFORMANCE BOND (100% of Contract Price)

(Note: Contractors must use this form, NOT a surety company form.)

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the **Menlo Park City School District** ("District") and _____
_____, ("Principal") have entered into a contract for the furnishing of all materials and labor, services and transportation,
necessary, convenient, and proper to perform the following project:

_____ (Project Name)
("Project" or "Contract")

which Contract dated _____, 20____, and all of the Contract Documents attached to or forming a part of the Contract,
are hereby referred to and made a part hereof, and

WHEREAS, said Principal is required under the terms of the Contract to furnish a bond for the faithful performance of the Contract;

NOW, THEREFORE, the Principal and _____ ("Surety") are held and firmly bound
unto the Board of the District in the penal sum of:

_____ DOLLARS

(\$ _____), lawful money of the United States, for the payment of which sum well and truly to be made we bind
ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents, to:

- Perform all the work required to complete the Project; and
- Pay to the District all damages the District incurs as a result of the Principal's failure to perform all the Work required to complete the Project.

The condition of the obligation is such that, if the above bounden Principal, his or its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in the Contract and any alteration thereof made as therein provided, on his or its part to be kept and performed at the time and in the intent and meaning, including all contractual guarantees and warranties of materials and workmanship, and shall indemnify and save harmless the District, its trustees, officers and agents, as therein stipulated, then this obligation shall become null and void, otherwise it shall be and remain in full force and virtue.

As a condition precedent to the satisfactory completion of the Contract, the above obligation shall hold good for a period equal to the warranty and/or guarantee period of the Contract, during which time Surety's obligation shall continue if Contractor shall fail to make full, complete, and satisfactory repair, replace, and totally protect the District from loss or damage resulting from or caused by defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the District's rights or the Contractor's or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

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

Any claims under this bond may be addressed to the Surety at the following address. This cannot be the Contractor's broker for this bond, but must be an employee of the Surety or the Surety's legal counsel:

Attention: _____

Telephone No.: (____) ____-_____

Fax No.: (____) ____-_____

E-mail Address: _____

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the ____ day of _____, 20__.

Principal

Surety

(Name of Principal)

(Name of Surety)

(Signature of Person with Authority)

(Signature of Person with Authority)

(Print Name)

(Print Name)

(Name of California Agent of Surety)

(Address of California Agent of Surety)

(Telephone Number of California Agent of Surety)

Contractor must attach a Notarial Acknowledgment for all Surety's signatures and a Power of Attorney and Certificate of Authority for Surety. The California Department of Insurance must authorize the Surety to be an admitted surety insurer.

PAYMENT BOND

PAYMENT BOND -- Contractor's Labor & Material Bond (100% of Contract Price)

(Note: Contractors must use this form, NOT a surety company form.)

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the **Menlo Park City School District** ("District") and _____
_____, ("Principal)" have entered into a contract for the furnishing of all materials and labor, services and transportation,
necessary, convenient, and proper to

_____ (Project Name)
("Project" or "Contract")

which Contract dated _____, 20____, and all of the Contract Documents attached to or forming a part of the Contract,
are hereby referred to and made a part hereof, and

WHEREAS, pursuant to law and the Contract, the Principal is required, before entering upon the performance of the work, to file a
good and sufficient bond with the body by which the Contract is awarded in an amount equal to 100 percent (100%) of the Contract
price, to secure the claims to which reference is made in sections 3179 through 3214 and 3247 through 3252 of the Civil Code of
California, and division 2, part 7, of the Labor Code of California.

NOW, THEREFORE, the Principal and _____ ("Surety") are held and firmly bound
unto the Board of the District in the penal sum of:

_____ DOLLARS

(\$ _____), lawful money of the United States, being a sum not less than the total amount payable by the terms of
Contract, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators,
successors, or assigns, jointly and severally, by these presents.

The condition of this obligation is that if the Principal or any of his or its subcontractors, of the heirs, executors, administrators,
successors, or assigns of any, all, or either of them shall fail to pay for any labor, materials, provisions, provender, or other supplies,
used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for
amounts due under the Unemployment Insurance Act with respect to such work or labor, that the Surety will pay the same in an
amount not exceeding the amount herein above set forth, and also in case suit is brought upon this bond, will pay a reasonable
attorney's fee to be awarded and fixed by the Court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies, and
corporations entitled to file claims under sections 3179 through 3214 and 3247 through 3252 of the Civil Code, so as to give a right
of action to them or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void; otherwise it shall be and
remain in full force and affect.

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

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the ____ day of _____, 20____.

Principal

Surety

(Name of Principal)

(Name of Surety)

(Signature of Person with Authority)

(Signature of Person with Authority)

(Print Name)

(Print Name)

(Name of California Agent of Surety)

(Address of California Agent of Surety)

(Telephone Number of California Agent of Surety)

Contractor must attach a Notarial Acknowledgment for all Surety's signatures and a Power of Attorney and Certificate of Authority for Surety. The California Department of Insurance must authorize the Surety to be an admitted surety insurer.

SECTION 01 71 13
MOBILIZATION

PART 1 - GENERAL

The General Conditions of the Contract, including General and Special Provisions and General Requirements apply to the work in this section.

1.01 COOPERATION

- A. There are other construction activities scheduled during the time of the ELC Playgrounds project construction:
 - 1. The construction of the Oak Knoll Elementary School Lighting & Ceiling Upgrades.
 - 2. The construction of the Oak Knoll Elementary School Lighting, Ceiling, and ELC Restrooms Upgrade.
- B. The Contractor shall cooperate and coordinate as it may be required with the contractors of the above listed construction projects.
- C. If, in the opinion of the Engineer, the Contractor's operations in the critical path are delayed by reason caused by the construction on projects listed above the Contractor shall not be assessed liquidation damages for such delays.

1.02 TEMPORARY FENCING

- A. Prior to commencing work, Contractor shall provide and install a six (6) foot high, temporary chain link perimeter fence with posts driven into the ground and fabric screen as a barrier around construction area. Contractor shall provide and maintain temporary enclosures to prevent public entry and to protect persons using other buildings and portions of the Site and/or Premises. Contractor shall maintain fence throughout the project replacing damaged fencing, posts and gates, as required, to prevent possible unauthorized access on-site at any time.
- B. Contractor shall remove the temporary fence upon completion of the project, and repair holes, or any other damage to existing conditions resulting from construction of fence. Removed facilities shall become the property of the Contractor and shall be removed from the site of the work, except as otherwise provided in this section.

END OF SECTION 01 71 13

SECTION 03 30 00
SITE CONCRETE WORK

PART 1 - GENERAL

1.01 SCOPE

- A. Provide concrete walks complete and in place, as shown and specified. The work includes but is not limited to:
1. Final subgrade preparation and paving base
 2. Concrete curbs, walks, paving, walls, driveways, roadway.
 3. Concrete footings for site mechanical, carpentry, and electrical items as shown.

1.02 RELATED DOCUMENTS

- A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Divisions 1 Specifications Sections, apply to this section.
- B. Related Work:
1. Section 32 91 19: Earthwork and Grading
 2. Section 31 10 00: Clearing, Grubbing and Miscellaneous Demolition
 3. Section 32 84 00: Irrigation System

1.03 QUALITY ASSURANCE

- A. Materials and methods of construction shall comply with the following standards:
1. American Society of Testing and Materials, (ASTM).
 2. American Concrete Institute, (ACI).
 3. California Building Code (CBC)
 4. State Standard Specifications, California Department of Transportation.
 5. American National Standards Institute, (ANSI).
 6. Bay Area Air Quality Management District, Sandblasting Guidelines.
- B. Installer Qualifications: An experienced installer who has completed concrete work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- C. Source Limitations: Obtain each type of cement of the same brand from the same manufacturer's plant, each aggregate from one source and each admixture from the same manufacturer.
- D. Maintain field records of time, date of placing, curing and removal of forms of concrete in each portion of work.
- E. Samples:

1. Sample panel for concrete walk, precast wall: Before ordering material for concrete, provide sample panel, minimum 2' X 2' of each color and finish, using specified materials. Show color, texture, pattern, edging, and joint treatments.
 - a. Where applicable, the approved sample panel may be a portion of the work and remain in place. Location as directed by the Owner's Representative. Contractor will be required to provide additional panels as necessary, until approved.

1.04 SUBMITTALS

- A. Submit concrete mix designs to Owner's Representative. Obtain approval before placing concrete.
- B. Product data:
 1. Submit complete materials list of items proposed for the work. Identify materials source.
 2. Submit admixture, curing compound, retarder, and accessory item product data, if used.
 3. Submit material certificates for aggregates, reinforcing, and joint fillers.
- C. Submit concrete delivery tickets. Show the following:
 1. Batch number.
 2. Mix by class or sack content with maximum size aggregate.
 3. Admixtures.
 4. Slump.
 5. Time of loading.
- D. Submit concrete test reports.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Work notification: Notify District at least 24 hours prior to installation of concrete.
- B. Establish and maintain required lines and grade elevations. All concrete shall slope to drain with no ponding of water.
- C. Do not install concrete work over wet, saturated, muddy, or frozen subgrade.
- D. Do not install concrete when air temperature is below 40 degrees F. Use of calcium chloride, salt, or any other admixture to prevent concrete from freezing is prohibited.
- E. When temperatures is between 85 and 90 degrees F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when temperatures is above 90 degrees F, reduce mixing and delivery to 60 minutes.
- F. Protect adjacent work.
- G. Provide temporary barricades and warning lights as required for protection of project work and public safety.

PART 2 - PRODUCTS

2.01 FORMWORK

- A. Furnish formwork and form accessories according to ACI 301-10.
- B. Wood or metal formwork shall be of sufficient strength to resist concrete placement pressure and to maintain horizontal and vertical alignment during concrete placement. Provide forms straight, free of defects and distortion, and height equal to full depth of concrete work.
 - 1. Provide 2" nominal thickness, surfaced plank wood forms for straight sections. Use flexible metal, 1" lumber or plywood forms to form radius bends.

2.02 STEEL REINFORCEMENT

- A. Reinforcing steelbar: ASTM A615, A616, or A617, Grade 60, new domestic deformed steel bars.
- B. Welded Wire Fabric: ASTM A185, welded plain cold-drawn steel wire fabric as indicated.
- C. Steel Dowels: ASTM A615

2.03 CONCRETE MATERIALS

- A. Portland Cement: ASTM C150, Type 1, natural color, unless otherwise noted.
- B. Aggregate: Provide ASTM C33 normal weight aggregates, 3/4" maximum size, clean, uncoated crushed stone or gravel coarse aggregate free of materials which cause staining or rust spots; fine aggregate shall be clean natural sand.
- C. Water: Clean, fresh, and potable.

2.04 ADMIXTURES

- A. Calcium Chloride: Do not use calcium chloride in concrete, unless specifically specified by Engineer.
- B. Water-reducing admixture: ASTM C494.
- C. All admixtures, if used, shall conform to C.B.C. Vol. 2, Section 1905A.2. Use of additional admixtures is accepted based upon approval by Engineer.

2.05 CONCRETE MIXES

- A. Provide Class A ready-mixed concrete. Batch mixing at site not acceptable.
 - 1. For all other site concrete: Use Portland Cement Concrete containing not less than 564 pounds of Portland Cement per cubic yard, with a compressive strength of not less than 3000 p.s.i. at 28 days.

- B. Indicate water added to mix at job site on each delivery ticket. Show quantity of water added. Site water tempered mixes exceeding specified slump range will be rejected as not complying with specification requirements.
- C. Retempering of concrete will not be permitted.

2.06 INTEGRAL COLOR

- A. Concrete Color as indicated in contract drawings, details and these specifications.

2.07 GLARE REDUCING AGENTS

- A. Lampblack in dry form, in accordance with the requirements of ASTM D209-81 “Standard Specifications for Lampblack”, in proportion from $\frac{1}{2}$ to $\frac{3}{4}$ of a pound per cubic yard of concrete.
- B. An approved liquid or semi-paste black colorant intended for use integrally in concrete mixes. The proportion required generally from 10 to 40 ounces liquid measure per cubic yard of concrete, may be affected by the colorant used. Curing, in this case, shall be by the pigmented curing compound method.

2.08 ACCESSORIES

- A. Granular base: Class II Aggregate Base, clean and uncoated.
- B. Joint Filler: ASTM D1751, premolded non-extruding asphalt-impregnated fiberboard, thickness indicated.
- C. Curing compound: ASTM C309, non-yellowing, non-staining liquid membrane-forming type containing a fugitive dye. Chlorinated rubber compounds not acceptable for exterior use.
- D. Joint Sealants: Two-component polysulfide or polyurethane elastomeric type complying with Federal Specifications TT-S-00227, self-leveling, designed for foot traffic in pedestrian areas.
- E. Form release agent: Non-staining chemical form release agent free of oils, waxes, and other materials harmful to concrete.
- F. Reveals/Chamfer strips: Shall be plastic or polyvinyl coated for easy release. Available from Barker Steel, www.barker.com, or approved equal
- G. Provide all stirrups, ties, anchors, shown or required to be cast into precast members.
- H. Bolts, Nuts, and Washers: ASTM A307. Provide hot-dip galvanized fasteners for exterior use. Paint to match adjacent metal work.
- I. Waterproofing at walls shall be Tremco 250-GC, or approved equal.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Examine subgrades and installation conditions. Immediately inform the Owner's Representative of any discrepancy between the Drawings and Specifications and actual conditions and secure approval to proceed. Do not start concrete work until unsatisfactory conditions are corrected.

3.02 PREPARATION

- A. Proof roll the subgrade and do all necessary rolling and compacting to obtain firm, even subgrade surface. Fill and consolidate depressed areas. Remove uncompactable materials, replace with clean fill and compact to 90% of the maximum dry density in accordance with ASTM D1557-70.
- B. Provide minimum 4" depth of compacted base material at walks. Compact base to 95% of the maximum dry density in accordance with ASTM D1557-70
- C. Remove loose material and debris from base surface before placing concrete.
- D. Install, align, and level forms. Stake and brace forms in place. Maintain following grade and alignment tolerances:
 - 1. Top of form: Maximum 1/8" in 10'-0".
 - 2. Vertical face: Maximum 1/2" in 10'-0".
- E. Coat form surfaces in contact with concrete with form release agent. Clean forms after each use and coat with form release agent as necessary to assure separation from concrete without damage.
- F. Install, set, and build-in work furnished under other specification sections. Provide adequate notification for installation of necessary items.
- G. Install pipe sleeves for irrigation system furnished under Section 32 84 00. Stake location of irrigation sleeves.

3.03 PLACING REINFORCEMENT

- A. Place all reinforcement as shown on the drawings. Place accurately and securely fasten and support reinforcement to prevent displacement before or during pouring. Hang footing bars from forms. Support wire mesh with suitable metal cradles.
- B. Clean, bend and place reinforcement in accordance with current requirements of the ACI Manual of Concrete Practice.
- C. Reinforcement Splices:
 - Welded wire fabric - one mesh minimum.
 - Reinforcing bars - 24 bar diameter minimum, except as otherwise noted.

3.04 TESTING

- A. Provide slump test on first load of concrete delivered each day and whenever requested due to changes in consistency or appearance of concrete.

3.05 INSTALLATION

A. Concrete placement:

1. Comply with ACI 304 "Guide for Measuring, Mixing, Transporting, and Placing Concrete", and as specified.
2. Protect concrete from physical damage or reduced strength due to weather extremes during mixing, placing, and curing. In cold weather comply with ACI 306, "Cold Weather Concreting". In hot weather comply with ACI 305, "Hot Weather Concreting".
3. Moisten base to provide a uniform dampened condition at the time concrete is placed. Verify structures are at required finish elevation and alignment before placing concrete.
4. Place and spread concrete to the full depth of the forms. Use only square-end shovels or concrete rakes for hand-spreading and consolidating operations to prevent segregation of aggregate and dislocation of reinforcement.
5. Place concrete in a continuous operation between expansion joints. Provide construction joints where sections cannot be placed continuously.
6. Place concrete as indicated on the plans in one course, monolith construction, for the full width and depth of concrete work.
7. Strike-off and bull-float concrete after consolidating. Level ridges and fill voids. Check surface with a 10'-0" straightedge. Fill depressions and refloat repaired areas. Darby the concrete surface to provide a smooth level surface ready for finishing.

B. Joints:

1. Provide expansion joints using premolded joint filler at concrete work abutting curbs, walls, structures, walks, and other fixed objects.
 - a. Expansion joints shall be formed provided at the location and intervals as shown on the plans and details.
 - b. Approved joint material shall be placed with top edge 1/4 inch below the paved surface, and shall be securely held in place to prevent movement. Joint and other edges shall be formed in the fresh concrete using an edging tool to provide a smooth uniform impression. All edges shall be struck before and after brooming.
 - c. After the curing period, expansion joints shall be carefully cleaned and filled with approved joint sealant to just below adjacent paved surface in such a manner as to avoid spilling on paved surfaces or overflow from joint.
 - d. Install joint fillers full-width and depth of joint. Recess top edge below finish grade for joint sealants.
 - e. Provide joint fillers in single lengths for the full slab width, whenever possible. Fasten joint filler sections together when multiple lengths are required.
 - f. Protect the top edge of the joint filler during concrete placement.
2. Score Joints:

- a. Score joints shall be formed in the fresh concrete using a jointer to cut the groove so that a smooth uniform impression is obtained. All joints shall be struck before and after brooming. See plans and details for size and locations.
- C. Dowels:
 - 1. All new concrete walkways shall be doweled into new and existing concrete walk ways and curbing. See plans and details for size and location.
- D. Finishes:
 - 1. Broom Finish: Shall be obtained by drawing a stiff bristled broom across a floated finish. Direction of brooming to be perpendicular to direction of work or otherwise shown on drawings.
- E. Curing:
 - 1. Cure concrete with a clear, non-staining liquid membrane-forming compound. Spray apply in accordance with manufacturer's recommended coverage rate. Apply curing compound immediately after completing surface finish.

3.06 TOLERANCES

- A. Comply with ACI 117, "Specifications for Tolerances for Concrete Construction and Materials"

3.07 PROTECTION

- A. Protect concrete work from damage due to construction and vehicular traffic until Final acceptance. Exclude construction and vehicular traffic from concrete pavements for at least 14 days.
- B. Protection: Protect precast concrete items from chipping, spalling, cracking, or other damage until the Work is accepted by the Owner.

3.08 CLEANING

- A. Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, debris, and equipment. Repair damage resulting from concrete operations.
- B. Sweep concrete sidewalks and pavement; wash free of stains, discoloration, dirt, and other foreign material immediately prior to final acceptance.

END OF SECTION 03 30 00

SECTION 05 70 00
DECORATIVE METAL

PART 1 - GENERAL

1.01 SUMMARY

- A. Work included: Furnish materials and perform labor required to execute this work as indicated on the drawings, as specified, and as necessary to complete the Contract, including, but not limited to, these major items:
 - 1. Shapes, sleeves, anchors, connectors, plates, rails, edges, items embedded in concrete required, but which are not specified in other sections.
 - 2. Metal handrail.
 - 3. Metal trellis posts.
 - 4. Primer for metal items which are not galvanized.
 - 5. Welding.

- B. Examine all drawings and specifications and include all miscellaneous metal which is specified in other sections. Provide all connections, anchors, bolts, and other fastenings as required. Do all cutting, punching, drilling and tapping required for proper assembly of the work.

1.02 REFERENCES

- A. ASTM A123 - Zinc (Hot Galvanized) coatings on Products fabricated from rolled, pressed and forged shapes, plates, bars, and strip.

- B. ASTM A153 - Zinc coating (Hot Dip) on iron and steel hardware.

- C. ASTM A386 - Zinc coating (Hot Dip) on assembled steel products.

1.03 SUBMITTALS

- A. Submit under provisions of Section 01300.

- B. Shop Drawings: Indicate profiles, edge and joint conditions, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories.

1.04 QUALITY ASSURANCE

- A. References:
 - 1. American Society of Testing and Materials (ASTM)
 - 2. American Welding Society (AWS)
 - 3. American Institute of Steel Construction (AISC)

- B. Field measurement: Verify drawing dimensions with actual field conditions. Inspect related work and adjacent surfaces. Report to the City Representative all conditions, which prevent proper execution of this work.
- C. Shop assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordination of installation.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Steel shapes: conform to ASTM A36.
- B. Steel pipe: conform to ASTM A53, Grade B, Schedule 40.
- C. Malleable iron castings: conform to ASTM A47.
- D. Welding rods: conform to requirements of AWS for intended use.
- E. Steel plate: conform to ASTM A283, Grade A.
- F. Steel tubing: conform to ASTM A501.
- G. Bolts, Nuts, and Washers: ASTM A325 and A307, galvanized as follows:
 - For A307 items: Zinc electroplated per ASTM B633.
- H. Touch-up for galvanized surfaces: All State #321 Galvanizing Powder (30% tin, 30% zinc, 40% lead and flux).
- I. Miscellaneous material: as indicated or specified.

2.02 FABRICATION

- A. Fit and shop assemble in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured. On finished surfaces, grind all welds smooth and flush with base metal
- C. Exposed Mechanical Fastenings: Flush countersunk stainless steel screws or bolts; concealed where possible; consistent with design of component, except where specifically noted otherwise.
- D. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise. Where items are to be embedded in concrete or masonry, provide welded-on anchors or lugs as indicated or required
- E. Assemble to give ample strength and stiffness.

- F. Scribe and fit for best appearance where exposed.

2.03 GALVANIZING

- A. Galvanize all metal items so specified or indicated on plans. Use the hot dip process, conforming to ASTM A123. Galvanizing shall be done after fabrication.
- B. Average weight of zinc coating per square foot of actual surface: Not less than 2.0 ounces, with no individual specimen showing less than 1.8 ounces (One ounce of zinc corresponds to a coating thickness of 0.0017).

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.
- B. Beginning of installation means erector accepts existing conditions.

3.02 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects and securely and rigidly attached to supporting construction and as detailed.
- B. Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Connections and anchors shall be adequate to sustain normal loads, which may be imposed, securely welded or bolted, conforming to AISC standards. Excess length of bolts where exposed to view to be cut off and ground smooth. Use spacer washers when fastening through finish materials.
- D. All welding shall conform to requirements of the Committee for Standard Tests for Welds of the American Welding Society. All welding shall be electric arc process. Welds exposed in finish work shall be filled out flush, ground and dressed. Welders for structural shall be certified.
- E. After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.

END OF SECTION 05 70 00

SECTION 12 93 00
SITE FURNISHINGS AND ACCESSORIES

PART 1 - GENERAL

1.01 SUMMARY

- A. The General Conditions and all other Contract Documents for this project are complementary and applicable to this Section of the Specifications.
- B. Work Included: Furnish all labor, materials, equipment and services necessary to provide and construct, repair, or install the site elements, complete in place, as shown and specified, including, but not limited to:
 - 1. Play Equipment and Accessories
- C. Related Work:
 - 1. Section 32 18 16: Synthetic Turf Surfacing

1.02 SUBMITTALS

- A. Submit shop drawings where noted to the City for approval before installing any manufactured items. Plans shall include dimensions, color, finish, structural design (custom items), and connection details.
- B. Submit catalog cuts, samples and manufacturers literature of all manufactured items in this section to the City for approval before installation.
 - 1. Provide color samples, brushouts, or charts for all items. Final colors to be selected by City and a sample submitted for approval.

PART 2 - PRODUCTS

2.01 MANUFACTURED ITEMS

- A. All play apparatus shall be as noted on plans.
- B. Filter Fabric:
 - 1. Product shall be 100% polyester nonwoven needle-pinched engineering geotextile fabric; Fibar felt or approval equal. Weight: min. 3.5 ox./sq. yd. Install with 12" overlap on all seams.
- C. Play Equipment and Accessories: per plans
- D. Sand Backfill for Play Area shall be Olympia #2 clean, washed sand from Lyngso Garden Supply, 19 Harbor Boulevard, Redwood City, CA, (415) 364-1730, or approved equal that meets the following standards:

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Examination: Verify that conditions are satisfactory for installation of each item of site elements. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

- B. Play Apparatus Installation: Install products in conformance with the manufacturer's recommendations and approved shop drawings, and as indicated.
 - 1. Install products square, plumb, level, accurately aligned, and securely anchored.
 - 2. Repair abraded areas of shop-applied coating, and areas of welds where shop-applied coating has been damaged, using a primer or galvanized repair compound compatible with the shop coating. Repair paint surface per manufacturer's specifications to match undamaged finish.
 - 3. Completion: Completed installation shall be securely anchored, and free from defects and damage in material and finish.
 - 4. After installation, contractor shall have playground manufacturer representative inspect the apparatus and provide in writing affirmation that playground was installed correctly and meets safety and ADA standards and requirements.

- C. Wood Fiber Surfacing
 - 1. The wood fiber surface shall be spread to uniform depth, installed to allow for settling and natural compaction. To allow for compaction, the following formulas must be used to determine the correct number of cubic yards: 12" deep: Sq. ft. of playground x 0.05.
 - 2. The Contractor shall provide a written statement indemnifying the City against any legal action arising as a result of patent infringement due to use of the Fibar product, or approved equal.
 - 3. The Contractor shall provide a Certificate of Insurance which provides coverage for product liability per City Standards.
 - 4. The Contractor shall provide copies of flammability testing procedures and results for the wood fiber surfacing using (i) Section 1500.44 of the Federal Hazardous Substance Act, Title 16, Chapter II, Subchapter C, for rigid and pliable solids, and (ii) 16 CFR Part 1630 Standard for the Surface Flammability of Carpets and Rugs (FF 1-70), Modified Procedure. Testing should be performed by an independent testing laboratory.
 - 5. The Contractor shall provide copies of testing procedures and results of (i) new wood fiber, and (ii) wood fiber not less than five (5) years old taken from an existing site, performed by an independent testing source using the ASTM F1292-91 playground safety surfacing standard.

3.02 GUARANTEE

- A. At completion of project, Contractor shall provide City with written guarantee from each manufacturer identifying the nature of warranty for each product component.

- B. Contractor shall provide City with two (2) bound maintenance manuals identifying each piece of equipment on manufacturer's recommended maintenance program including, but not limited to, daily, weekly, and monthly check lists.

- C. Contractor to provide City with minimum of two (2) gallons each type and color of paint used on apparatus with recommended surface preparation and application guidelines.

END OF SECTION 12 93 00

SECTION 31 10 00
CLEARING, GRUBBING AND MISCELLANEOUS DEMOLITION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. The General Conditions of the Contract, including General and Special Provisions and General Requirements apply to the work in this section.

1.02 DESCRIPTION

- A. Work Included: Furnish all labor, materials, equipment, facilities, transportation and services to complete all clearing and demolition and related work as shown on the drawings and/or specified herein.
 - 1. Clearing and Grubbing
 - 2. Removal and Disposal of Miscellaneous Construction Items and Debris

PART 2 - MATERIALS

2.01 EQUIPMENT

- A. Equipment shall be suitable for the work to be done and shall be in first-class condition. Equipment operators and workmen to be skilled in operations and to be supervised by a competent superintendent.

PART 3 - EXECUTION

3.01 GENERAL

- A. Clear and grub future planting and paved areas as shown on Plans or as specified herein. Grubbing shall include clearing the entire root systems of all plants, weeds, and grasses.
- B. Remove and dispose of wire mesh fencing; including posts and footings, and miscellaneous deleterious materials, such as, asphalt, aggregate base, concrete, where shown on plans. Contractor shall finish off edges at limit of fence to remain as directed by the City inspector.
- C. Dust Control: At all times during the operations, prevent the formation of an airborne dust nuisance by watering and/or treating the site of the work in such a manner that will confine dust particles to the immediate area of the work.
- D. Debris:
 - 1. Remove debris as it accumulates, except as otherwise specified. Do not store or permit debris to accumulate on the site. If contractor fails to remove excess debris promptly, the City reserves the right to cause same to be removed at Contractor's expense.

2. Materials requiring removal and demolition shall become the property of the contractor and shall be removed completely from site, unless noted otherwise on plans, and shall be disposed of at an approved site outside the city limits.
3. If unforeseen items are encountered during clearing and demolition work, the Contractor shall notify the City Inspector prior to removal or demolition.

END OF SECTION 31 10 00

SECTION 32 18 16
SYNTHETIC POURED-IN-PLACE PLAY SAFETY SURFACING

PART 1 - GENERAL

1.01 SUMMARY

- A. The General Conditions and all other Contract Documents for this project are complementary and applicable to this Section of the Specifications.
- B. Work Included: Furnish all labor, materials, equipment, rentals, facilities, transportation, incidentals, excavations, footings, and services to complete all Synthetic Resilient Surfacing and related work as shown on the drawings and/or specified herein and as necessary for a complete installation.
- C. Poured-in-place surfacing shall consist of a polyurethane binder mixed with 100% recycled, shredded tire material which will make up the Impact Attenuating layer. The Impact Attenuating layer is capped with a TPV rubber granules mixed with a polyurethane binder creating the wear course. Playground safety surfacing shall comply with ADA and CPSC guidelines, ASTM standards and certified by IPEMA.
- D. Related Work:
 - 1. Section 03 30 00 Site Concrete Work
 - 2. Section 12 93 00: Site Furnishing and Accessories

1.02 REFERENCES

The publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by basic designation only.

- A. American Society for Testing and Materials (ASTM)
 - 1. ASTM D 412 (1992) Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension.
 - 2. ASTM C 136 (1984a; R 1993) Sieve Analysis of Fine and Coarse Aggregates
 - 3. ASTM D 1682 (1964; R 1975) Breaking Load and Elongation of Textile Fabrics
 - 4. ASTM D 2240 (1991; R 1993) Rubber Property—Durometer Hardness
 - 5. ASTM D 3776 (1985; R 1990) Mass per Unit Area (Weight) of Woven Fabric
 - 6. ASTM D 4491 (1989; R 1992) Water Permeability of Textiles by Permeability
 - 7. ASTM D 4533 (1985; R 1991) Trapezoid Tearing Strength of Geotextiles
 - 8. ASTM D 4632 (1991) Grab Breaking Load and Elongation of Geotextiles
 - 9. ASTM D 5199 (1991; R 1992) Measuring Nominal Thickness of Geotextiles and Geomembranes
 - 10. ASTM D 624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.

11. ASTM D 2047 Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine.
 12. ASTM D 2859 Standard Test Method for Flammability of Finished Textile Floor Covering Materials.
 13. ASTM E 303 Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester.
 14. ASTM F 1292 (1995) Impact Attenuation of Surface Systems Under and Around Playground Equipment
 15. ASTM F 1487 (1995) Playground Equipment for Public Use
 16. ASTM F 1951 Standard Specification for Determination of Accessibility of Surface Systems
- B. Code of Federal Regulations (CFR) CFR 28 Part 36 (1991) Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities, Final Rule
- C. U.S. Consumer Product Safety Commission (CPSC) PSC (1991) Handbook for Public Playground Safety or current edition, U.S. Consumer Product Safety Commission, Washington, D.C. 20207, 301-504-0494

1.03 PERFORMANCE REQUIREMENTS

- A. Material Performance Requirements: Provide a 2 layer rubber-urethane playground surfacing system which has been designed, manufactured and installed to meet the following criteria:
1. Shock Attenuation (ASTM F1292):
 - a. Gmax: Less than 200.
 - b. Head Injury Criteria: Less than 1000.
 2. Flammability (ASTM D2859): Pass.
 3. Tensile Strength (ASTM D412): 60 psi (413 kPa).
 4. Tear Resistance (ASTM D624): 140%.
 5. Water Permeability: 0.4 gal/yd²/second.
 6. Accessibility: Comply with requirements of ASTM F1951.
- B. Installer Performance Requirements:
1. Installer Qualifications: Engage an experienced installer or applicator that has specialized for a minimum of 5 years in installing the specific site furnishings required for this Project and who is acceptable to Manufacturer of primary materials. Installer must provide a minimum of 3 documented and inspectable installations within 25 mile radius of the subject project at least 5 years old with project names, dates, and owner contracts provided with the submittal. The Contractor shall furnish a list of projects using either specified material or equivalent that they have installed during the last three years. Information shall include project name, square footage, owner contact name with owner's address and phone number. Also, the contractor shall furnish resumes detailing the experience of key personnel, including supervisors and mechanics. The Contractor shall be approved in writing by the material manufacturer for the system being installed.
 2. Assign a full-time employee to the job as supervisor for the duration of the Contract with a minimum of four (4) years experience in site furnishing installation.

3. Labor Force: Provide installation and maintenance force thoroughly familiar with, and trained in, the work to be accomplished to perform the task in a competent, efficient manner, acceptable to the District.

C. Manufacturer's Services

1. Services of a manufacturer's representative, or manufacturer's certified or authorized installer, who is experienced in installation of the specified playground safety surface, shall be provided. The representative shall supervise or inspect the installation to ensure that the safety surfacing meets the impact attenuation requirements as specified herein.
2. The manufacturer's representative shall certify that, regardless of the installer, the installation complies with the manufacturer's instructions and specifications, as specified in paragraph 1.4.A.

1.04 REGULATORY REQUIREMENTS

- A. Conform to all federal, state, district, local codes and requirements for installation and disabled accessibility as referenced herein and as applicable

1.05 SUBMITTALS

A. General

1. Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

- B. Product Data: Submit manufacturer's product data, color sample and installation instructions, including IPEMA certification.

- C. Verification Samples: Submit manufacturer's standard verification samples of 9" x 9" (229 x 229 mm) minimum.

- D. Quality Assurance/Control Submittals: Submit the following:

1. Certificate of qualifications of the playground surfacing installer.
2. Manufacturer recommended cleaning and maintenance instructions.

- E. Submit shop drawings showing depth of the safety surfacing system, including depths of material, sub-base materials, hardware, edge details, and drainage.

- F. Submit a list of materials and components to be installed as part of the system, by weight and/or volume and recommended coverage, including manufacturer's name, shipment date, storage requirements, and precautions, and that shall state chemical composition and test results to which material has been subjected in compliance with these Specifications.

- G. Proposed substitutions for specified products: Submit a listing of at least five (5) installations where products similar to those proposed for use have been installed and have been in successful service for a minimum period of three (3) years. This list shall include owner or purchaser; address of installation; service or maintenance organization; date of installation; contact person; and phone number of the contact person.

<OR>

- H. An official authorized to certify on behalf of the synthetic safety surfacing shall sign a statement attesting that the surfacing meets the requirements of ASTM F 1292 for a head-first fall from the highest accessible portion of installed play equipment. The impact attenuating qualities of the surfacing system shall not be diminished in the surface areas covering hardware. Testing of product shall include tests conducted over hardware. The statement shall be dated after the award of the Contract, shall state the Contractor's name and address, and shall name the project and location. The statement shall also provide the name, address, and telephone number of the testing company, the date of the test, and the test results.
- I. The authorized manufacturer's representative shall certify upon completion of the installation that the safety surfacing has been installed in accordance with manufacturer's instructions and complies with all specifications.
- J. A Certificate of Insurance shall be provided by manufacturer of safety surfacing, covering both product and general liability, of not less than \$5,000,000. The issuing underwriter shall be AA rated.

1.06 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in the manufacture of products specified in the Section with a minimum of five years documented experience.
- B. Installer:
 - 1. Company specializing in applying the work of the Section with minimum three years documented experience, approved by manufacturer.
 - 2. International Play Equipment Manufacturers Association (IPEMA) certified.

1.07 MAINTENANCE DATA

- A. Submit maintenance data under provisions and as follows:
 - 1. Prepare and deliver to the District, ten (10) days prior to completion of construction, all required and necessary descriptive material in complete detail and sufficient quantity, properly prepared in two (2) individually bound copies of the operation and maintenance manual.
 - 2. The manual shall describe the material installed and shall be in sufficient detail to permit operating personnel to understand and maintain installation. Each complete, 3-ring binder manual shall include the following information:
 - a. Index sheet stating Contractor's address and telephone number.
 - b. Duration of guarantee period.
 - c. List of components with names and addresses of local manufacturer's representative.
 - d. Complete maintenance instructions.
 - 3. Include maintenance information on regular cleaning, damage and stain removal.

1.08 WARRANTY

- A. Safety surfacing shall maintain required impact attenuation characteristics and be guaranteed against defects in workmanship and materials for the following time periods dating from final acceptance by the District, a minimum of seven (7) years or as specified and agreed upon per alternate contract.
- B. Project Warranty: Refer to Conditions of the Manufacturer's Contract for project warranty provisions.
- C. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under contract documents.
- D. Proper drainage is critical to the longevity of the Poured-in-Place surfacing system. Inadequate drainage will cause premature breakdown of the poured system in affected areas; and void the warranty.

1.09 DELIVERY, STORAGE, AND HANDLING

- A. Materials and equipment shall be delivered in manufacturer's original, unopened, undamaged containers with identification labels in tact and stored, if necessary, in accordance with the manufacturer's recommendations, in an area as directed by the Owner.
- B. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at a minimum temperature of 40 degrees F (4 degrees C) and a maximum temperature of 90 degrees F (32 degrees C).

PART 2 - PRODUCTS

2.01 GENERAL

- A. Safety: Safety surfacing within playground equipment use zones shall meet or exceed the performance requirements of CPSC and ASTM F 1292 that a surface yield both a peak deceleration of no more than 200 G-max, and a Head Injury Criteria (HIC) value of no more than 1,000 g, for a head-first fall from the highest accessible portion of play equipment being installed. The highest accessible portion of playground equipment being installed as shown in drawings. The contractor is responsible for obtaining a determination from the safety surfacing manufacturer of the product depth required to meet performance requirements for all play equipment.
 - 1. The impact attenuation performance of the synthetic safety surfacing and manufactured wood fiber proposed for installation shall be documented by certificates of compliance, as specified in paragraphs 1.5 submittals, F and G.
 - 2. Accessibility: Safety surfaces intended to serve as accessible paths of travel for persons with disabilities shall be firm, stable and slip resistant and shall meet the requirements of FEDSTD 795, 28 CFR Part 36 ASTM F 1487, 1292, 1951 and the Architectural and Engineering Instructions (9AEI) Design Criteria.

2.02 CRITICAL FALL HEIGHTS

1. Safety Surfacing depth is based upon Critical Fall heights established for each Play structure/apparatus. See Spec Section 12 93 00 Site Furnishings. It is the Contractor's responsibility to verify critical fall heights of play structures prior to determining depth requirements for safety surfacing. Contact manufacturer of play structures for more information.

2.03 SYNTHETIC POURED-IN-PLACE SURFACING

Synthetic surfacing shall be a poured-in-place system, consisting of an impact attenuating substrate and a wear surface bonded to produce a uniform material. Surfacing shall be by Surface America or approved equal.

Surface America Contact: PO Box 157, Williamsville, NY 14231; Telephone: (800) 999-0555, (716) 632-8413; Fax: (716) 632-8324; E-mail: info@surfaceamerica.com; website: <http://www.surfaceamerica.com>.

- A. Proprietary Products/Systems. Poured-in-place playground surfacing system, including the following:
 1. PlayBound Poured-In-Place Primer:
 - a. Material: Urethane.
 2. PlayBound Poured-in-Place Basemat:
 - a. Material: Blend of 100% recycled SBR (styrene butadiene rubber) and urethane.
 - b. Thickness: Per plans.
 - c. Formulation Components: Blend of strand and granular material.
 3. PlayBound Poured-In-Place Top Surface:
 - a. Material: Blend of recycled EPDM (ethylene propylene diene monomer) rubber and aromatic or aliphatic urethane binder.
 - b. Thickness: Nominal 1/2" (12.7 mm), minimum 3/8" (9.5 mm), maximum 5/8" (15.9 mm).
 - c. Color: Per plans.
 - d. Binder: Aliphatic Urethane (Extreme-10).
 - e. Dry Static Coefficient of Friction (ASTM D2047): 1.0.
 - f. Wet Static Coefficient of Friction (ASTM D2047): 0.9.
 - g. Dry Skid Resistance (ASTM E303): 89.
 - h. Wet Skid Resistance (ASTM E303): 57.
 4. Mixes
 - a. Required mix proportions by weight:
 - 1) Basemat: 16+% urethane (as ratio: 14% urethane divided by 86% rubber). 14% urethane, 86% rubber (based on entire rubber & urethane mix).
 - 2) Top Surface: 22% urethane (ratio: 18% urethane divided by 82% rubber). 18% urethane, 82% rubber (based on entire rubber & urethane mix).
 5. Color: As shown in Landscape Plans

- B. Substitutions: No substitutions permitted.

PART 3 - EXECUTION

3.01 GENERAL

- A. **SITE CONDITIONS:** Synthetic safety surfacing shall be installed on dry subsurfaces. Temperatures and weather conditions shall be as recommended by the manufacturer, with no prospect of rain within the initial drying period.
- B. **SEQUENCING AND SCHEDULING:** Safety surfacing shall be installed after the playground equipment is installed. The installation shall be coordinated with playground equipment and site element installation.

3.02 PREPARATION

- A. **Finished Grade:** Verify that finished grade elevations are as indicated on the drawings, that the appropriate subgrade has been established for the specified safety surfacing. To conform to ADA, final finished grade of play surface is no more than 2%.
- B. **Subsurface:** The appropriate subgrade elevation shall be as established for the particular safety surfacing to be installed. The subsurface shall be installed in a true, even plane, and sloped to drain. Subsurface irregularities shall be corrected. Subsurface: Tolerance of concrete or bituminous subsurface shall be within 1/8 inch (3.0 mm) in 10 feet (3050 mm). Tolerance of aggregates sub base shall be within 3/8 inch (10mm) in 10 feet (3050mm). Verify that aggregate sub base has been fully compacted in 2" watered lifts to 95% or greater.
 - 1. Substrate preparation must be in accordance with surfacing manufacturer's specification. New concrete must be fully cured – up to 7 days.
- C. **Drainage**
 - 1. The Contractor shall verify that subsurface drainage, including piped drainage systems, if required, has been installed to provide positive drainage.
 - 2. Proper drainage is critical to the longevity of the Poured-in-Place surfacing system. Inadequate drainage will cause premature breakdown of the poured system in affected areas; and void the warranty.

3.03 COORDINATION

- A. Coordinate with work of other sections to insure appropriate sequencing of events.

3.04 SYNTHETIC POUR-IN-PLACE SURFACING INSTALLATION

- A. Preparation and installation shall be in accordance with manufacturer's specifications and directions.
- B. Do not proceed with playground surfacing installation until all applicable site work, including substrate preparation, fencing, playground equipment installation and other relevant work, has been completed.

C. Poured-in-Place System: Components of the poured-in-place safety surface system shall be mixed mechanically on site in accordance with manufacturer's recommendations to ensure a uniform distribution of binder. Hand-mixing shall not be allowed. Installation of poured-in-place surfacing shall be seamless and completely bonded to subsurface. Material shall cover all foundations and fill around all elements penetrating the surface. Manufacturer's Services: For safety surfacing, service of the manufacturer's representative who is experienced in installation of playground safety surface shall be provided. The representative shall supervise the installation to ensure that the safety surfacing meets the impact attenuation requirements as specified herein.

1. Thickness:

- a. Construction methods, such as use of measured screeds 1 mm (1/16") thicker than the required surfacing depth, shall be employed to ensure full depth of specified surfacing material is installed.
- b. Surfacing system thickness throughout the playground equipment use zone shall be as required to meet the impact attenuation requirements for a head-first fall from the highest accessible portion of installed play equipment.
- c. Critical Fall Height of Play Area based on highest accessible part of the equipment. See website by Surface America for Poured-in-Place thickness and critical fall heights: <http://www.surfaceamerica.com>.

Critical Fall Height Thickness of Surfacing

XX" X" min.

<INSERT CRITICAL FALL HEIGHT!!!>

D. Surface Preparation: Using a brush or short nap roller, apply primer to the substrate perimeter and any adjacent vertical barriers such as playground equipment support legs, curbs or slabs that will contact the surfacing system at the rate of 300 ft²/gal (7.5 m²/L).

E. Basemat Installation:

1. Using screeds and hand trowels, install the basemat at a consistent density of 29 pounds, 1 ounce per cubic foot (466 kg/m³) to the specified thickness.
2. Allow basemat to cure for sufficient time so that indentations are not left in the basemat from applicator foot traffic or equipment.
3. Do not allow foot traffic or use of the basemat surface until it is sufficiently cured.

F. Primer Application: Using a brush or short nap roller, apply primer to the basemat perimeter and any adjacent vertical barriers such as playground equipment support legs, curbs or slabs that will contact the surfacing system at the rate of 300 ft²/gal (7.5 m²/L).

G. Top Surface Installation:

1. Using a hand trowel, install top surface at a consistent density of 58 pounds, 9 ounces per cubic foot (938 kg/m³) to a nominal thickness of 1/2" (12.7 mm).
2. Allow top surface to cure for a minimum of 48 hours.
3. At the end of the minimum curing period, verify that the top surface is sufficiently dry and firm to allow foot traffic and use without damage to the surface.

H. Do not allow foot traffic or use of the surface until it is sufficiently cured UV Protective Sealer: Apply per manufacturer's recommendations.

- I. Clean-up: Do not allow adhesives on adjacent surfaces. Immediately clean up spills or excess adhesive.
- J. Protection: The synthetic safety surfacing shall be allowed to fully cure in accordance with manufacturer's instructions. The surface shall be protected from all traffic during the curing period for forty-eight (48) hours or as instructed by the manufacturer. Protect from damage at all times, until final acceptance of the Work. If damage occurs to any safety surfacing prior to final acceptance, Contractor shall, at his own expense, make repair or replacement to satisfaction of the Owner.

3.05 CLEANING

- A. Prior to final acceptance clean safety surface in accordance with manufacturer's directions.

END OF SECTION 32 18 16

**SECTION 32 18 16.13
SYNTHETIC TURF SURFACING**

PART 1 - GENERAL

1.1 SUMMARY

- A. Furnish all labor, materials, tools and equipment necessary for the complete installation of a playground protective synthetic grass surfacing system that meets the requirements of ASTM F 1292-09 and IPEMA Certification of conformance as a safe public play surface as indicated on the plans and as specified herein; including components and accessories required for a complete installation, including but not limited to:
1. Acceptance of prepared sub-base.
 2. Coordination with related trades to ensure a complete, integrated, and timely installation: aggregate base course, sub-base material (tested for permeability), grading and compacting, piping and drain components (when required); as provided under its respective trade section.

1.2 RELATED SECTIONS

- A. Section 32 91 19 – Earthwork & Grading

1.3 REFERENCE STANDARDS

- A. ASTM – American Society for Testing and Materials.
1. D1577 - Standard Test Method for Linear Density of Textile Fiber.
 2. D5848 - Standard Test Method for Mass Per Unit Area of Pile Yarn Floor Covering.
 3. D1338 - Standard Test Method for Tuft Bind of Pile Yarn Floor Covering.
 4. D1682 - Standard Method of Test for Breaking Load and Elongation of Textile Fabrics.
 5. D5034 - Standard Test Method of Breaking Strength and Elongation of Textile Fabrics (Grab Test).
 6. D4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
 7. F1292-09 - Standard Test Method for Impact Attenuation or Critical Fall Height of Surfacing Materials Under and Around Playground Equipment.
 8. F1951-09: Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.
 9. D2859 - Standard Test Method for Ignition Characteristics of Finished

Textile Floor Covering Materials.

B. IPEMA – International Play Equipment Manufacturers Association

1. Public Play Surfacing Certified to ASTM F1292-09 - Standard Test Method for Impact Attenuation or Critical Fall Height of Surfacing Materials Under and Around Playground Equipment.

1.4 PERFORMANCE REQUIREMENTS

A. Completed playground protective synthetic grass surfacing system shall be capable of meeting the following performance requirements:

1. IPEMA Public Play Surfacing Certified.
2. ASTM F1292-09: Impact attenuation. Playground protective surface shall meet performance requirements for the impact attenuation of playground surfacing materials installed within the use zone of playground equipment, as specified by Architect.
3. ASTM D4491: Water permeability test. Synthetic grass surface shall drain at a rate of 250 inches or more, of water per hour.
4. ASTM D1338: Tuft bind. Synthetic grass surfacing shall have a tuft bind, without infill material of 8 pounds or more.
5. F1951-09: Standard Specification for Determination of Accessibility of Surface Systems under and Around Playground Equipment.

1.5 SUBMITTALS

A. Substitutions: Other products are acceptable if in compliance with all requirements of these specifications. Submit alternate products to Architect for approval prior to bidding in accordance Section 01 25 13, Product Substitution Procedures.

1. Provide substantiation that proposed system does not violate any other manufacturer's patents, patents allowed or patents pending.
2. Provide a sample copy of insured, non-prorated warranty and insurance policy information.

B. Comply with Section 01 33 00, Submittals Procedures. Submit for approval prior to fabrication.

C. Product Data:

1. Submit manufacturer's catalog cuts, material safety data sheets (MSDS), brochures, specifications; preparation and installation instructions and recommendations.
2. Submit fiber manufacturer's name, type of fiber and composition of fiber.
3. Submit shock absorbing pad manufacturer's name.
4. Submit data in sufficient detail to indicate compliance with the contract

documents.

5. Submit manufacturer's instructions for installation.
 6. Submit manufacturer's IPEMA Certificate to indicate compliance with certified public play surfacing.
- D. Samples: Submit samples, illustrating details of finished product in amounts as required by General Requirements, or as requested by Architect.
- E. List of existing installations: Submit list including respective Owner's representative and telephone number.
- F. Warranties: Submit warranty and ensure that forms have been completed in Owner's name and registered with approved manufacturer.

1.6 QUALITY ASSURANCE

- A. Comply with Section 01 43 00, Quality Assurance.
- B. Manufacturer Qualifications: Engaged in manufacturing synthetic grass surfacing products for a minimum of fifteen (15) years.
1. The Manufacturer shall be experienced in the manufacturing and installation of specified type of playground protective synthetic grass surfacing system. This includes use of a ridged monofilament fiber, texturized monofilament fiber, backing, the backing coating, shock absorbing playground pad and the installation method.
 2. The Manufacturer shall own and operate its own manufacturing plant. Manufacturing the fiber, tufting of the fibers into the backing materials and coating of the synthetic grass system must be done in-house by manufacturer.
 3. The Manufacturer must hold ISO 9001, ISO 14001 and OHSAS 18001 certifications demonstrating its manufacturing efficiency with regards to quality, environment and safety management systems.
 4. The Manufacturer must hold IPEMA certification for specified synthetic grass product.
- C. Installer/Contractor Qualifications: Company shall specialize in performing the work of this section.
1. The Company shall provide competent workmen skilled in this specified type of playground protective synthetic grass system installation.
 2. The designated Supervisory Personnel on the project shall be certified, in writing by the manufacturer, as competent in the installation of specified type of synthetic grass system, including gluing seams and proper installation of the shock absorbing playground pad and infill material.
 3. The Company shall be certified by the manufacturer and licensed (if

required).

- D. Pre-Installation Conference: Conduct conference at project site at time to be determined by Architect. Review methods and procedures related to installation including, but not limited to, the following:
 - 1. Inspect and discuss existing conditions and preparatory work performed under other contracts.
 - 2. In addition to the Contractor and the installer, arrange for the attendance of installers affected by the Work, The Owner's representative, and the Architect.
- E. The Installer/Contractor shall verify special conditions required for the installation of the playground protective synthetic grass system if required.
- F. The Installer/Contractor shall notify the Architect of any discrepancies.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Comply with Section 01 60 00, Product Requirements.
- B. Deliver and store components with labels intact and legible.
- C. Store materials/components in a secure manner, under cover and elevated above grade.
- D. Protect from damage during storage, handling and installation. Protect from damage by other trades.
- E. Inspect all delivered materials and products to ensure they are undamaged and in good condition.

1.8 SEQUENCING AND SCHEDULING

- A. Coordinate the Work with installation of work of related trades as the Work proceeds.
- B. Sequence the Work in order to prevent deterioration of the sub-base and the installed system.

1.9 WARRANTY

- A. See Section 01 78 00, Closeout Submittals, for Additional Warranty Requirements.
- B. The Installer/Contractor shall provide a warranty to the Owner that covers defects in materials and workmanship of the synthetic grass product for a period of eight (8) years from the date of completion. The synthetic grass manufacturer must verify that their representative has inspected the installation and that the work conforms to the manufacturer's requirements. The manufacturer's warranty shall include general wear and damage caused from UV degradation. The warranty shall specifically exclude vandalism, and acts of God beyond the control of the Owner or the manufacturer. The warranty shall be fully third party insured; pre-paid for the entire 8 year term and be non-prorated. The Installer/Contractor shall provide a warranty to the Owner that covers defects in the installation workmanship, and further warrant that the installation was done in accordance with both the manufacturer's recommendations and any

written directives of the manufacturer's representative. The insurance policy must be underwritten by an "AM Best" A rated carrier and must reflect the following values:

1. Pre-Paid 8-year insured warranty.
2. Maximum per claim coverage amount of \$32,000,000.
3. Minimum of thirty-two million dollar (\$32,000,000) annual aggregate.
4. Must cover full 100% replacement value of total square footage installed.
5. Policies that include self-insurance or self-retention clauses shall not be considered.
6. Policy cannot include any form of deductible amount.
7. Sample policy must be provided at time of bid to prove that policy is in force. A letter from an agent or a sample Certificate of Insurance will not be acceptable.

PART 2 - PRODUCTS

2.1 MANUFACTURERS AND DISTRIBUTORS

- A. Approved Manufacturer: FieldTurf USA, Inc. 175 N. Industrial Blvd, Calhoun, GA 30701
- B. Approved Distributor: EasyTurf, Inc. 2750 La Mirada Drive, Vista, CA 92051
Contact: National Accounts Manager – Johnny Kane 760-440-0665.

2.2 MATERIALS AND PRODUCTS

- A. Playground Protective Synthetic Grass Surfacing system shall consist of the following:
 1. Synthetic grass surfacing made with a combination of ridged monofilament polyethylene fibers and texturized monofilament fibers, tufted into a fibrous, non-perforated, porous backing.
 2. Shock absorbing playground pad.
 3. Anchoring device to secure perimeter edge of synthetic grass.
 4. Infill: Graded dust-free silica sand that partially covers the synthetic grass. Graded dust-free acrylic coated silica sand may be substituted for silica sand as requested by Architect.
 5. Glue, thread, seaming fabric and other materials used to install and mark the synthetic grass.
- B. Synthetic grass surfacing system shall have the following properties:

Standard	Property	Specification
ASTM D1577	Fiber Denier	10800
ASTM D1577	Secondary Fiber Denier	5600

ASTM D5823	Pile Height	1.625"
ASTM D5793	Stitch Gauge	3/8"
ASTM D5848	Pile Weight	65 oz/square yard
ASTM D5848	Primary Backing	7 oz/square yard
ASTM D5848	Secondary Backing	20 oz/square yard
ASTM D5848	Total Weight	92 oz/square yard
ASTM D1338	Tuft Bind (Without Infill)	9 lbs
ASTM D4491	Turf Permeability	250 inches/hour
N/A	Infill Component	2.75 lbs/square foot

- C. Synthetic grass surfacing product shall consist of soft spined monofilament fibers and texturized monofilament fibers tufted into a primary backing with a secondary backing.
- D. Backing:
 - 1. Primary backing shall be a double-layered polypropylene fabric treated with UV inhibitors.
 - 2. Secondary backing shall consist of an application of porous urethane to permanently lock the fiber tufts in place.
 - 3. Perforated (with punched holes), backed turf is unacceptable.
 - 4. Turf with attached scrim in lieu of porous urethane is unacceptable.
- E. Primary fiber shall be 10,800 denier, low friction, and UV-resistant fiber measuring not less than 1.625 inches high. Secondary fiber shall be 5,600 denier.
- F. Shock absorbing playground pad shall be manufactured from recycled, non-contaminated postindustrial cross link, closed cell polyethylene foam. Pad should drain vertically and laterally without absorbing water or other liquids. Shock absorbing pad in 2.125" and a Double Layer of 2.125" pad measuring a total of 4.250" to meet specified use zone critical fall height requirements as requested by Architect.
- G. Synthetic grass surfacing shall be anchored into an exterior grade nailer strip: pressure treated lumber or approved composite board.
- H. Infill materials shall be approved by the manufacturer.
 - 1. Infill shall consist of graded dust-free silica sand. Graded dust-free acrylic coated silica sand or volcanic ash may be substituted for silica sand as requested by Architect.
 - 2. Glue and seaming fabric, for seaming of synthetic grass shall be as recommended by the synthetic grass manufacturer.

2.3 QUALITY CONTROL IN MANUFACTURING

- A. The manufacturer shall own and operate its own manufacturing plant in North America. Both tufting of the fibers into the backing materials and coating of the turf system must be done in-house by the synthetic grass manufacturer. Outsourcing of either is unacceptable.
- B. The manufacturer shall have full-time certified in-house inspectors at their manufacturing plant that are experts with industry standards.

- C. The manufacturer's full-time in-house certified inspectors shall perform pre-tufting fiber testing on tensile strength, elongation, tenacity, and denier, upon receipt of fiber spools from fiber manufacturer.
- D. Primary backing shall be inspected by the manufacturer's full-time certified in-house inspectors before tufting begins.
- E. The manufacturer's full-time in-house certified inspectors shall verify "pick count", yarn density in relation to the backing, to ensure the accurate amount of face yarn per square inch.
- F. The manufacturer's full-time, in-house, certified inspectors shall perform product inspections at all levels of production including during the tufting process and at the final stages before the synthetic grass is loaded onto the truck for delivery.
- G. The manufacturer shall have its own, in-house laboratory where samples of synthetic grass are retained and analyzed, based on standard industry tests, performed by full-time, in-house, certified inspectors.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that all sub-base leveling is complete prior to installation.
- B. Installer/Contractor shall examine the surface to receive the shock absorbing playground pad and accept the sub-base planarity in writing prior to the beginning of installation.
 - 1. Acceptance is dependent upon the Owner's test results indicating compaction and planarity are in compliance with manufacturer's specifications.
 - 2. The surface shall be accepted by Installer as "clean" as installation commences and shall be maintained in that condition throughout the process.
- C. Compaction of the aggregate base shall be a minimum of 90%, in accordance with ASTM D1557 (Modified Proctor procedure); and the surface tolerance shall not exceed 0-1/4 inch over 10 feet and 0-1/2 inch from design grade.
- D. Correct conditions detrimental to timely and proper completion of Work.
- E. Do not proceed until unsatisfactory conditions are corrected.
- F. Beginning of installation means acceptance of existing conditions.

3.2 PREPARATION

- A. Prior to the beginning of installation, inspect the sub-base for tolerance to grade.
- B. Sub-base acceptance shall be subject to receipt of test results (by others) for compaction and planarity that sub-base is in compliance with manufacturer's specifications and recommendations.

- C. When requested by Architect, installed sub-base shall be tested for porosity prior to the installation of the synthetic grass system. A sub base that drains poorly is an unacceptable substrate.

3.3 INSTALLATION

- A. The finished surface shall appear as mowed grass with no irregularities and shall be required to meet applicable ASTM, CPSC and ADA standards for the maximum fall height, as requested by the Architect.
- B. The installation shall be performed in full compliance with approved Shop Drawings.
- C. Only trained technicians, skilled in the installation of synthetic grass systems working under the direct supervision of the approved installer supervisors, shall undertake any cutting, sewing, gluing, shearing, top-dressing or brushing operations.
- D. The designated Supervisory personnel on the project must be certified, in writing by the manufacturer, as competent in the installation of this material, including gluing seams and proper installation of the Infill material.
- E. Install at location(s) indicated, to comply with final shop drawings, manufacturers'/installer's instructions.
- F. The Installer/Contractor shall strictly adhere to specified procedures. Any variance from these requirements shall be provided in writing, by the manufacturer's on-site representative, and submitted to the Architect and/or Owner, verifying that the changes do not in any way affect the Warranty. Infill materials shall be approved by the manufacturer and installed in accordance with the manufacturer's standard procedures.
- G. Shock absorbing playground pad shall be installed directly over the properly prepared aggregate base. Extreme care shall be taken to avoid disturbing the aggregate base, both in regard to compaction and planarity.
 - 1. Repair and properly compact any disturbed areas of the aggregate base as recommended by manufacturer.
- H. Playground protective synthetic grass system shall be installed directly over the shock absorbing playground pad.
 - 1. Seams shall be flat, tight, and permanent with no separation or fraying.
- I. Anchoring Device:
 - 1. Secure edges around perimeter to nailer board material, and where noted on drawings, at a maximum of every 12" with staples or spikes per manufacturer's written instructions.
- J. Infill Materials:
 - 1. Infill materials shall be applied in thin lifts. The turf shall be brushed as the material is applied. The infill material shall be installed to a depth determined by the manufacturer.
 - 2. Infill material shall be installed in a systematic order.

3. Infill materials shall be installed to fill the voids between the fibers and allow the fibers to remain vertical and non-directional. The Infill installation consists of graded dust-free silica sand. Graded dust-free acrylic coated silica sand may be substituted for silica sand as requested by Architect.
4. The Infill materials shall be installed to a depth of approximately $\frac{3}{4}$ ". Infill density shall consist of 2.75 pounds of graded silica sand per square foot.
5. The Installer/Contractor shall keep area clean throughout the project and clear of debris. Upon completion of installation, the finished project shall be inspected by the installation crew and an installation supervisor.

3.4 PROTECTION

- A. Protect completed playground protective synthetic grass surfacing system throughout construction process until project completed.

END OF SECTION

SECTION 32 90 00
LANDSCAPE PLANTING

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work to be Included:

1. Furnish all labor, materials, equipment, rentals, facilities, transportation, incidentals, excavations, submittals and services for installation of plant material and related work as shown on the drawings and/or specified herein including all topsoil, compost, headers, fertilizer, organic materials, plant materials, plant labels, tree stakes, mulch, maintenance, warranties and all other incidentals to planting work and as necessary for a complete and full installation of Landscape Planting.

B. Related Work:

1. Section 31 00 00 -- Earthwork: Close coordination shall be maintained with those Contractors performing rough grade operations and installing utilities and pavement to insure proper timing of the work.
2. Section 31 10 00 – Site Clearing
3. Section 32 30 30 – Site Concrete Work
4. Section 32 84 00 – Irrigation: Irrigation system shall be installed and operative before beginning planting operation

1.02 RELATED DOCUMENTS

A. The General and Supplementary Conditions and General Requirements apply to the work herein specified.

B. References:

1. Nomenclature: "Western Garden Book," Sunset Publishing Co., Menlo Park, CA, 2001 edition or current edition.
2. Plant Material Standards: "American Standard for Nursery Stock", American Nursery & Landscape Association, 1000 Vermont Avenue, NW Suite 300, Washington, DC, or current edition.
3. Staking and guying procedures: "Staking Landscape Trees", University of California Extension, Publication #2576, or current publication.
4. Pruning procedures: "Tree Pruning Guidelines", International Society of Arboriculture, Savoy, IL, 1995 or current edition, conforms to ANSI-A300-1995 tree pruning specifications and guidelines.
5. Manufacturer's recommendations.

1.03 PERFORMANCE REQUIREMENTS

- A. Supervision: Assign a full-time employee to the job as Foreman for the duration of the Contract with a minimum of four (4) years experience in landscape installation. Foreman to be present during the entire installation. Notify Owner's Representative of all changes in supervision.

1.04 QUALITY ASSURANCE

- A. Personnel:
 - 1. All planting and turf work shall be performed by competent and efficient personnel familiar with planting and turf procedures under the supervision of a Qualified Foreman.
 - 2. Installing contractor shall have successfully completed within the last 3 years at least 3 planting applications similar in type and size to that of this project.
- B. Plant Material Standards:
 - 1. Plant Certification: All plants must meet specifications of Federal, State, and County laws requiring inspection for plant disease and insect infestations. Inspection certifications required by law shall accompany each shipment, invoice and order for stock.
 - 2. Codes and Standards: Nursery stock shall meet the standards of the current edition of the "American Standard for Nursery Stock", "Agricultural Code of California" and the "Regulations of the Director of Agriculture Pertaining to Nursery Stock". They shall be true to type and name in accordance with "Standardized Plant Names", Second Edition.
 - 3. Use only nursery-grown stock that is free from insect pests and diseases. Any required clearances shall be obtained prior to shipment of plant material.
 - 4. Plants shall be subject to inspection and approval of the Landscape Architect at place of growth or upon delivery for conformity to specifications. Such approval shall not impair the right of inspection and rejection during progress of the work. Wherever the terms "approve", "approval" or "approved" are used herein they mean approval of the Landscape Architect in writing.
 - 5. Contract Grown Plants: Contract grown plant material does not relieve the landscape contractor of providing materials which do not match or exceed standard nursery stock. Plants which do not meet standards shall be rejected and the Contractor shall provide nursery grown stock as required at no additional cost to the Owner or contract.

1.05 SUBSTITUTIONS

- A. Substitutions: Substitutions of plant materials will not be permitted unless authorized in writing by Owner's Representative. If proof is submitted that any plant specified is not obtainable, a proposal will be considered for use of the nearest equivalent size or variety with corresponding adjustment of Contract price. Such proof shall be substantiated and submitted in writing to Owner's Representative.
- B. The Contractor shall submit a list of un-available plants per project plant list and a list of all nurseries and plant brokers contacted a maximum of **15** days after Notice to Proceed.
- C. The Landscape Architect reserves the right to require the Contractor to replace at the Contractor's cost any plants which the Contractor has installed without the Landscape Architect's approval.

1.06 PROOF OF PLANT AVAILABILITY

- A. These provisions shall not relieve Contractor of the responsibility of obtaining specified materials in advance if special growing conditions or other arrangements must be made in order to supply specified materials. Contractor shall secure all material and provide proof of such within **30** days of Notice to Proceed in order to guarantee plant availability at time of planting. .
- B. Payment for the procurement of plant material, including possible incidentals such as storage and maintenance at nursery after purchase or contract growing plants, is the full responsibility of the Contractor.

1.07 SUBMITTALS

All submittal data shall be forwarded in a single package to the Owner's Representative within 15 days of award of contract.

- A. Furnish 6 copies of manufacturers' literature for the following items:
 - 1. Plant Supplier's List:
 - a. Submit documentation to the Owner's Representative within **30** days of Notice to Proceed, that all plants listed on the plans have been ordered. Substitution of size or species due to unavailability must be requested in writing within **15** days of Notice to Proceed.
 - 2. Erosion Control Netting
 - 3. Fertilizer
 - 4. Fertilizer Tablets
 - 5. Filter Fabric
 - 6. Iron and Sulfate Amendment
 - 7. Light Weight Soil
 - 8. Organic Amendment
 - 9. Pre-Emergence Weed Killer
 - 10. Root Control Barriers
 - 11. Sod Stakes
 - 12. Storm Water/Retention/Bioswale/Rain Garden Soil Mix
 - 13. Top Mulch
 - 14. Tree Guying
 - 15. Tree Support Poles
 - 16. Tree Ties
 - 17. Turf Sod
 - 18. Vegetable Planter Soil Mix
- B. Soil Testing: Provide soil analysis from an approved testing laboratory. Soil analysis using Saturate Media Analysis will not be allowed and rejected outright for soil analysis. Soil analysis shall include pH, salinity, sodium hazard, boron hazard, lime content, organic matter, soil texture and available nutrient levels. Submit test results, analysis, and recommendations for:
 - 1. Existing site topsoil (1 sample per acre)

Top Soil Analysis: After approval of rough grading and topsoil placement, obtain one representative samples of topsoil taken from approved site locations and submit to approved testing agency for “agricultural suitability” analysis report, including evaluation of physical and chemical properties of soil and recommendations for adding amendment and fertilizers to the soil. Upon approval of the Laboratory’s report by the Owner's Representative, the report recommendations become a part of the Specifications. Adjust the quantities of soil amendment, fertilizer and other additives to conform to the report.

2. Import top soil

Imported Top Soil Analysis: Submit sample to approved testing agency for “agricultural suitability” analysis report, including evaluation of physical and chemical properties of soil and recommendations for adding amendment and fertilizers to the soil. Upon approval of the Laboratory’s report by the Owner's Representative, the soil and report recommendations become a part of the Specifications. Adjust the quantities of soil, soil amendment, fertilizer and other additives to conform to the report.

3. Imported Soil Fill

Imported Soil Fill shall fall within acceptable tolerances for plant fertility and suitability and shall have a pH value between 6 and 7.5. Imported soil fill that exceed acceptable levels for Macro and Micro – Nutrients for plants as indicated in soil laboratory testing will be rejected and shall not be used for project.

4. Storm Water/Retention/bioswale/Rain Garden Soil Mix.

5. Organic Amendment.

C. Submit one (1) quart sample each of mulch and organic amendment.

D. Certificates of Compliance, receipts, and /or delivery tickets for the following:

1. Soil amendment, chemical and physical properties. Do not deliver amendment to the site without approval of submittals by Owner's Representative.
2. Storm Water Soil Mix. Do not deliver soil mix to the site without approval of submittals by Owner’s Representative.
3. Quantity of soil amendment delivered to site for incorporation into soil.
4. Sod: Submit information from sod farm company, including type and percentage of seed mixture for approval by Owner's Representative.
5. Grass Seed Mixes.
6. Vegetable Planter Soil Mix – sand and amendment analysis.
7. All other soil amendments, soils, compost, and mulch delivered to the site.

1.08 ADDITIONAL SAMPLES AND TESTS

- A. Owner's Representative reserves the right to take and analyze samples of materials for conformity to specifications at any time. Contractor shall furnish samples upon request by Owner's Representative. Rejected materials shall be immediately removed from the site at Contractor's expense. Cost of testing of materials not meeting specifications shall be paid by Contractor.

1.09 SELECTION AND TAGGING OF PLANT MATERIAL

- A. Contractor shall select and tag all plant material within **30** days of Notice to Proceed. Plant material which is not available, or not possible to contract grow shall be noted to the Landscape

Architect within **15** days of Notice to Proceed so substitutions may be selected. Contractor shall source material from out of state or thru a plant broker if not locally available. Contractor shall submit lists of all nurseries and plant brokers contacted for availability.

- B. Plants shall be subject to inspection and approval by Owner's Representative at place of growth if the Owner's Representative so chooses, and upon delivery for conformity to specifications. Such approval shall not impair the right of inspection and rejection during progress of the work. Submit written request for inspection of plant material at place of growth to Owner's Representative. Written request shall state the place of growth and quantity of plants to be inspected. Owner's Representative reserves right to refuse inspection at this time if, in his judgment, a sufficient quantity of plants is not available for inspection.

1.10 PROJECT SITE CONDITIONS

- A. Site Visit: At beginning of work, visit and walk the site with the Owner's Representative to clarify scope of work and understand existing project site conditions. Identify location of utilities and other improvements. Notify Owner's Representative of conflicts prior to start of work for resolution.
- B. Access: Inspect project site and become familiar with the accessing requirements and restrictions. At time of submitting bid, provide written notice of any conditions that would prevent installation of the specified plant material.

1.11 JOB CONDITIONS

- A. Delivery:
 - 1. Deliver manufactured materials in original containers with brand and maker's name marked thereon. Materials in broken containers or showing evidence of damage will be rejected and must be immediately removed from the site. Odorous materials shall not be brought to the site until they are to be used. Deliver quantities necessary to complete the work shown on the Drawings. Any discrepancy in the quantities given on the plans shall not entitle Contractor to additional remuneration.
 - 2. Deliver Bulk materials to the job site and store to deter mixing with other bulk materials, saturation by rainwater, contamination and/or contact with other deleterious substances or materials.
 - 3. Deliver plants with identification labels.
 - a. Labels should state correct name and size.
 - b. Use durable, water-proof labels with water resistant ink that will remain legible for at least 60 days.
 - 4. Protect plant materials during transport to prevent damage to rootball or desiccation of leaves.
 - 5. Remove unacceptable plant materials immediately from job site.
 - 6. Contractor shall endeavor to coordinate delivery with installation schedule so that plant material is installed on the same day.
- B. Storage:
 - 1. Plants: Maintain plant material in healthy growing condition at all times. Protect plants from drying winds, vandals and animals. Keep plants that cannot be installed immediately

in the shade, if shade plants and in the sun, if sun plants. Water and feed as necessary. Owner's Representative reserves the right to reject plants that decline in quality after delivery to site.

- C. Under no circumstances shall any work be performed if the temperature exceeds 90 degrees or is below 40 degrees. No planting shall be done with the soil saturated with water.

1.12 PROTECTION OF EXISTING PLANTS TO REMAIN

- A. Do not store materials or equipment, permit burning, or operate or park equipment under the branches of any existing plant to remain except as actually required for construction in those areas.
- B. Provide barricades, fences or other barriers as necessary at the drip line to protect existing plants to remain from damage during construction.
- C. Notify Owner's Representative in any case where Contractor feels grading or other construction called for by Contract Documents may damage existing plants to remain.
- D. If existing plants to remain are damaged during construction, Contractor shall replace such plants of the same species and size as those damaged at no cost to Owner. Determination of extent of damage and value of damaged plant shall rest solely with Owner's Representative.

PART 2 - PRODUCTS

2.01 SOIL AMENDMENTS

- A. The following organic amendments, soil amendments, and fertilizer rates and quantities are to be used for bid basis only. Contractor shall arrange and pay for testing by an accredited soils laboratory of existing site soil after rough grading operations are complete, and shall amend the soils according to said laboratory's recommendations. The soils recommendations shall be considered a part of this specification.
- B. Topsoil: Provide topsoil as required to complete landscape work. Topsoil to be furnished shall be fertile and friable, possessing characteristics of representative productive soils on the site. It shall not contain toxic substances which may be harmful to plant growth. If herbicide contamination is suspected then a radish/rye grass growth trial must be performed. Consult with Owner's Representative prior to decision to test. It shall be uniformly textured and free of all objectionable foreign materials, oil, or chemicals which may be injurious to plant growth. Natural topsoil shall possess a pH factor between 5.5 and 7.5, a sodium adsorption ratio (SAR) of less than 8, a boron concentration of the saturation extract of less than 1 ppm, and salinity of the saturation extract at 25 degrees C. of less than 4.0 millimhos per centimeter.

Obtain topsoil from naturally well- drained sites where topsoil occurs in a depth of not less than 4 inches; do not obtain from bogs or marshes. Topsoil from the project stockpile which meets the requirements is acceptable.
- C. Fertilizer:
 - 1. Turf and groundcover areas:

- a. 6N-20P-20K, 25 lbs. per 1,000 square feet or 6N-24P-24P, 15 lbs per 1,000 square feet.
 - b. Starting one month after planting, on a monthly basis until start of Maintenance Period, apply 12N-8P-16K fertilizer. 7 lbs. per 1,000 square feet.
2. Shrubs and trees:
- a. 21 gram tablet 20N-10P-5K slow release fertilizer tablets as manufactured by Agriform or approved equal. Apply according to Manufacturer's instructions and as follows:
 - 1) 36" Box shall receive 36 tablets
 - 2) 24" Box shall receive 24 tablets
 - 3) 15 Gallon shall receive 10 tablets
 - 4) 5 Gallon shall receive 3 tablets
 - 5) 1&2 Gallon shall receive 2 tablets
 - b. Starting one month after planting, on a monthly basis until start of maintenance Period, apply 12N-8P-16K fertilizer 7 lbs. per 1,000 square feet.

2.02 TOP MULCH

- A. Recycled Pro-Chip Decorative Mulch, dark brown Available from Earth Tones Mulch, 1-800-536-6702, or approved equal.

2.03 TURF SOD

- A. Sod shall be one year old and dense with grass, having been mowed at 1 in. height before lifting from field. All grown on fumigated soil. Sod shall be in vigorous condition, dark green in color, free of disease and harmful insects.
 - 1. Sod shall be grown of seed mix of the following proportions by weight:
 - a. Dwarf Tall Fescue:
 - 80% Bonsai
 - 20% Pixie

2.04 GROUNDCOVERS, TREES, AND SHRUBS

- A. All plant materials shall be nursery grown in accordance with the best known horticulture practices and under climatic conditions similar to those in the locality of the project. Container stock shall have grown in the containers in which delivered for at least six (6) months, but not over two years. No container plants that have cracked or broken balls of earth when taken from container shall be planted except upon special approval by Owner's Representative.
- B. Roots to be healthy and extend to the bottoms and sides the container with no signs of restriction due to kinked, circular or distorted growth or deformed or circling roots at the liner stage. Rooting to be extensive enough to hold the rootball together during planting, but not as dense as to discourage root establishment into surrounding soils. No plants with roots that have encircled themselves will be accepted. In case of any unsatisfactory root system, a total group of plants may be rejected.

- C. Plants shall be vigorous and shall have a normal habit of growth. Plants shall be free of damage by insects, pests, diseases or wind; burns from insecticides or fertilizer; and stunted growth due to lack of water, lack of food, diseases, or other causes. Plants shall be in conformity with the sizes shown on the drawings.
- D. Trees: Unless otherwise specified, tree trunks shall be straight with leader intact, undamaged, and uncut. All old abrasions and cuts are acceptable only if completely callused over.
- E. Quantities: Quantities necessary to complete the work as shown on the drawings shall be furnished.

2.05 EROSION CONTROL NETTING

- A. New, with a uniform, open plain-weave, flame-retardant mesh. The mesh shall be [natural brown-tan] and made from unbleached single jute yarn. The yarn shall be of loosely twisted construction and shall not vary in thickness by more than one-half its normal diameter. Furnish jute mesh in rolled strips to meet the following requirements:
 1. Width: 48 inches, with tolerance of one-inch wider or narrower.
 2. Not less than 78 warp ends per width.
 3. Not less than 41 weft ends per yard.
 4. Weight shall average 1.22 pounds per liner yard, with tolerance of 5 percent heavier or lighter.
- B. Install jute mesh loosely up and down the slope in accordance with manufacturer's specifications and as follows. Fit the soil surface contour and hold in place with 12 inch long, 11-gauge (minimum) steel wire staples driven vertically into the soil at 18-24 inch spacing, Jute mesh strips shall overlap along all edges at least 6 inches. Ends of side stripes shall be buried into the soil at least 6 inches. Drive staples along to securely anchor mesh to ground.

2.06 WATER SOURCE

- A. Water source shall be provided by Owner. Contractor shall provide transport as required.

2.07 ROOT CONTROL BARRIERS

- A. Root barrier CP 24-2, min. thickness .080", Century Products (714) 632-7083. Root barrier shall be used on all trees 5' or closer to pavement, utilities, curbs, etc. Or approved equal.

2.08 PRE-EMERGENCE WEED KILLER

- A. Clean non-staining as recommended by a licensed pest control specialist and as approved by Owner's Representative in compliance with the Owner's Representative's Integrated Pest Management Policy.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

- A. Inspections by the Landscape Contractor:
1. Before proceeding with the work: Carefully inspect all areas and verify all dimensions and quantities.
 2. In the event of discrepancy, immediately notify the Owner's Representative. Do not proceed with this installation in areas of discrepancies until all such discrepancies have been fully resolved.
 3. Planting operations shall be performed only during periods when beneficial results can be obtained. When excessive moisture or other unsatisfactory conditions prevail, the work shall be stopped until conditions are satisfactory.
 4. Inspect trees, shrubs and ground cover plants for injury, insect infestations, and proper pruning.
 5. General contractor shall coordinate rough grading of site to ensure the Landscape Contractor shall receive all planting areas graded to ± 0.10 ft. of finish grades shown on the Drawings. Allow for depth of soil amendments and mulch in determining the difference between finished subgrade in groundcover and shrub beds. Verify that subgrades are not compacted. Do not proceed until detrimental conditions are corrected. Contractor shall take precautions during the excavation of all planting areas to not undermine or damage all adjacent pavements, footings and their associated subgrades.

3.02 FIELD QUALITY CONTROL/INSPECTIONS

- A. Progress observations: In addition to the installation observations specified below, the Owner's Representative may make periodic progress observations.
- B. Installation observations: Request at least 4 working days in advance:
1. Observation of finish grading.
 2. Observation of plant material upon delivery to site.
 3. Observation of layout and placement of plant material at time of planting.
 4. Observation of any planting drainage problems, as identified by Contractor.

The above shall be considered check points and the Contractor shall only proceed with the work after the Owner's Representative has visited the site and determined that the work is proceeding satisfactorily.

- C. Maintenance Observations: For the purpose of establishing the start of Maintenance Period and observing completion of the Work of this Section through Final Acceptance. Request at least 7 working days in advance:
1. Observation for Maintenance Period commencement.
 2. Observation for Final Acceptance.

3.03 REVIEW AND ACCEPTANCE OF PLANT MATERIAL

- A. Upon plant delivery, arrange material so that canopies or branch tips are not touching so that Owner's Representative can review plant material at project site.
- B. Do not install material that has not been reviewed and accepted by Owner's Representative.
- C. Arrange and pay for permits and inspections required for delivery of plant material.

3.04 FINE GRADING AND SOIL PREPARATION

- A. General Fine Grading and Soil Preparation
 - 1. The Contractor shall prepare the site for landscaping. In the areas designated for landscaping on the plans, he shall inspect planting areas and remove all base rock and other foreign material.
 - 2. Rip in two directions all planting areas full depth of compacted fill (to a minimum of 12 inches) into undisturbed native soil prior to backfilling. Uniformly distribute and spread planting soil backfill in planting areas in layers not to exceed 18" and compact to a maximum of 85% relative compaction.
 - 3. When the planting soil differs in clay and silt content from the subsoil it is to be placed upon, install a 4-inch thick lift of planting soil on the subgrade and rototill into the subgrade 6 inches deep before installing the remaining required planting soil.
 - 4. Do not work planting soil in a wet or muddy condition or dump or spread in areas where subgrade is not in proper condition.
 - 5. Water settling, puddling, and jetting of fill and backfill materials, as a compaction method is not acceptable.
 - 6. Maintain moisture content of materials during compaction operations within required moisture range to obtain indicated compaction density.
- B. The Contractor shall alleviate compacted soils before planting, for all landscaped areas that cannot be protected during construction.
 - 1. Scarification: Scarify all planting areas prior to fine grading in order to ensure relative compaction of 85% or less. Any planting areas which become compacted in excess of 85% due to construction activities shall be thoroughly cross-ripped to the maximum depth feasible to alleviate that condition, taking care to avoid all existing drainage and subsurface utility lines. See plans.
 - 2. Scarification of any planting area that cannot be accomplished with a tractor shall be accomplished by an alternative method approved by the Owner's Representative to the specified depth to ensure proper drainage.
- C. Drag to a smooth, even surface. Grade to form all swales, pitch to catch basins, streets, curb, etc. to ensure uniform surface drainage. Areas requiring grading include adjacent transition areas that shall be uniformly level or sloped between finish elevations. Provide surface drainage of planted area. Correct drainage conditions that may be detrimental to the growth of plant material or which will result in excessive retention of water in tree pits. Minimum slope in landscape areas shall be two percent (2%) or as shown on drawings. Slope away from building.
- D. Cultivation and Placement of Amendment:

1. Hold finish grade and/or mulch surface in planting areas 1/2-inch below adjacent pavement surfaces, tops of curbs, manholes, etc.
 2. Spread soil amendment, fertilizers and other additives evenly over installed and rough graded topsoil in all planting areas including turf, ground cover and shrub areas at the rates specified in the soils analysis report. For bid basis, use the following rates (Do not apply fertilizer to areas to be hydroseeded):
 3. In areas to be planted with shrubs cultivate to a depth of 18". In turf and groundcover areas, cultivate soil to a depth of 8". Incorporate 6 cubic yards per 1000 square feet of organic amendment. Prior to planting incorporate to a depth of 6" the following fertilizers, per 1000 square feet:
 - a. 6N-20P-20K at 25 lbs/1000 sq. ft. or 6N-24P-24K at 15 lbs/1000 sq. ft.
 - b. Iron Sulfate: 2.5 lbs. per 1,000 square feet.
 - c. Soil Sulfur: 15 lbs per 1,000 square feet.
 - d. Agricultural Gypsum: 25 lbs per 1000 square feet
 4. Areas within the driplines of existing trees shall be hand cultivated.
- E. Finish Preparation in Turf Areas:
1. Roll to compact amended soil to not more than 85% compaction. Finish grade shall be 1" below adjacent paving, curbs, or walls unless otherwise shown on drawings. Finish out smoothing, even surfacing conforming to established grades after settlement. Rake immediately prior to planting.
 2. If rain is likely between completion of soil preparation and planting, precautions shall be taken to prevent erosion of the soil.
- F. Soil Mix for Backfill of Shrubs, Trees and Ground Covers: The following ingredients shall be tumbled to achieve a homogeneous mix:
1. Organic amendment 1 cubic yard
 2. Topsoil 3 cubic yards
- G. Contractor to remove any lime treated soil from planting areas and over excavate for drainage prior to the placement of top soil and import soil backfill.
- H. Soil Mix for Backfill of Pots: The following ingredients shall be tumbled to achieve a homogeneous mix:
1. Organic amendment 1 cubic yard
 2. Topsoil 3 cubic yards
- Top dress each pot with one pound of Osmacost 17-7-12 fertilizer.

3.05 HANDLING OF PLANTS

- A. Prevent damage to plant material. Lift and handle plants only from bottom of rootball.
- B. Do not plant material that has not been reviewed by Owner's Representative upon delivery to the project site, or that has been rejected for any reason. Do not plant under unfavorable weather conditions.
- C. The Contractor shall protect all utilities, vegetation, and structures during work.

- D. Trees shall be located a minimum of 3' from walls, overheads, walks, headers, and other trees within the project. If conflicts arise between size of areas and plans, Contractor shall contact Owner's Representative for resolution. Failure to make such conflicts known to the Owner's Representative will result in Contractor's liability to relocate the materials.

3.06 SHRUBS AND TREES

A. Preparation:

- 1. Owner's Representative will review, for conformance to design intent, locations of all plants in the field prior to planting. Notify Owner's Representative and schedule layout review sufficiently in advance of planting to allow for review and adjustment without disrupting construction schedule.
- 2. Stake layout of trees in field before installing irrigation. Mark tree and shrub locations on site using stakes, gypsum or similar approved means and secure location approval by the Owner's Representative before plant holes are dug. Adjust as necessary prior to planting. Owner's Representative reserves the right to make minor adjustments in the layout of all plant material; adjust irrigation system as necessary.

B. Excavation:

- 1. Excavate container grown tree, shrub, groundcovers and vine pits as follows. If rocks, underground construction work, tree roots or other unknown obstructions are encountered in the excavation of plant holes; Owner's Representative may select alternate locations. Report all such conditions in writing to the Owner's Representative. Where locations cannot be changed, submit a written proposal and cost estimate for removing the obstructions to a depth of not less than 6 inches below the required hole's depth. Obtain Owner's Representative's instructions prior to proceeding with the work affected.

<u>Excavation for</u>	<u>Width</u>	<u>Depth</u>
Boxed Trees	Box + 24"	Box + 12"
Canned Trees/Shrubs (15 gal) or larger	Can + 24"	Can + 12"
Canned Shrubs/Vines (2.5 to 5 gal)	Can + 18"	Can + 8"
Canned Shrubs/Groundcover/Vines (1 gal)	Can + 12"	Can + 6"

All plant pits shall be dug with vertical walls. The sides and bottoms of all planting pits shall be thoroughly scarified to ensure root penetration.

C. Percolation Testing:

- 1. Contractor shall verify water drainage of all planting pits with a percolation test prior to planting.
- 2. Fill full sized planting pit with water and observe in 24 hours.
- 3. Notify Owner's Representative if planting pit has not fully drained before proceeding with the planting operation for all areas not draining, and all soil conditions considered detrimental to growth of plant material. State condition, and proposal and cost estimate for correcting the condition.
- 4. Obtain Owner's Representative's instructions prior to proceeding with work affected.
- 5. Repeat drainage testing and correction of conditions until tests are passed.
- 6. Failure to perform drainage tests, or to notify Owner's Representative in writing of conditions specified above, renders Contractor responsible for all plant failure that occurs

as a result of inadequate drainage or detrimental soil conditions, as determined by Owner's Representative.

D. Plants in Containers:

1. Plants shall be removed carefully from their containers after the containers have been cut on two sides minimum; fifteen-gallon containers shall be opened in three places. In the case of boxed plant specimens, the wood shall be removed at the sides and at the bottom of the box.
2. After removing plant material from its container, stimulate root growth by making four or five vertical cuts 1" deep around the circumference of the root ball.
3. Do not lift or handle plants by the top, stems, or trunk at any time. All plants shall be lifted in such a manner that the root ball is supported from the underside.
4. The Contractor shall check all plants for adequate root systems. If the root system is defective, he shall remove deficient plants from the site and replace them with new ones.

E. Planting:

1. Carefully remove and set plants and trees without damaging the rootball. Do not install plants or trees with damaged rootballs. Cutting or scoring of rootballs to be done only if species is known to be tolerant of such treatment. Superficially cut tolerant plants' edge roots vertically on three sides using a knife.
2. For trees remove sides of boxes after positioning the plant and partially backfilling.
3. Center plant in pit or trench over tamped mound.
4. Face for best effect.
5. Set plant plumb and hold rigidly in position.
6. All plants shall be set in the ground so that the root ball will be flush with the finish grade. All plants that settle below the finish grade within 30 days of acceptance of the work shall be replanted in the proper position. In case a total section of planting area settles, the Contractor shall lift the plants, import additional soil mix, regrade, and replant, at no additional cost to the Owner.
7. Back fill:
 - a. Backfill plant holes with soil mix as specified, free from rocks, clods or lumpy material. Backfill native soil free of soil amendments under rootball and foot tamp to prevent settlement.
 - b. Set plants in backfill with top of the rootball 2 inches above finished grade. Backfill remainder of hole and soak thoroughly by jetting with a hose and pipe section. Water backfill until saturated the full depth of the hole. Thoroughly water all plants immediately after planting, eliminating air pockets. Prevent erosion.
 - c. The filled pit shall be flush with surrounding grade when complete.
8. When the plant pit has been approximately one half filled, place planting tablets according to the manufacturer's schedule and per Section 2.01 Subsection K Fertilizer, paragraph 2.
9. Build 6" high watering basin berms around trees and shrubs to drain through rootball. Basins are not required around trees in turf areas.
10. Apply post-planting fertilizer.
11. Planting operation for plants in raised concrete planters is same as above except that finish grade of soil mix shall be 1 1/2" below top of planter walls. Planters may be backfilled

with excess topsoil up to the depth specified for plant pits above which backfill shall be soil mix.

12. Planting operations for plants in precast planters is the same as stated in paragraph 11 above. Fill entire planter with soil mix. Place planters as shown on planting plans.

3.07 GROUND COVER AREAS

A. Planting:

1. Plant in neat, straight, parallel and staggered rows as indicated on plan. Plant first row one-half required ground cover spacing behind adjacent curbs, structures, or other plant bed limits. Plant ground cover to edge of water basins of adjacent trees and shrubs.
2. Space plants equally and uniformly at spacing indicated on the Drawings, which are the maximum and in a triangular pattern.
3. Plant pits shall be sufficiently large so that the root can be freely suspended in the pit. After backfilling the pit, firm the soil so that there will be no air space around the roots.
4. Apply post-planting fertilizer.
5. Mulch all ground cover areas with 3" layer of mulch.

3.08 TURF SOD

A. Inspection:

1. Upon the completion of the placing of the soil and prior to placing sod, the Contractor shall call for an inspection of the turf irrigation system. The sod shall be placed after the Owner's Representative has satisfied himself that the irrigation system is operating satisfactorily and finish grade is in accord with the Drawings.

B. Laying Sod:

1. Remove all rubble, sticks, rocks and stones 1" or larger from top 2" amended soil.
2. Arrange for delivery of sod in the morning to insure same-day installation.
3. Lightly roll surface and re-shape to level humps and hollows. Secure Owner's Representative's approval prior to sodding. Do not sod on dry soil.
4. Lay first strip of sod along a straight line (use a string in irregular areas). Butt joints tightly, do not overlap edges. On second strip, stagger joints. Use a sharp knife to cut sod to fit curves, edges and sprinkler heads.
5. When a conveniently large area has been sodded, water lightly to prevent drying. Continue to sod and to water until installation is complete. Lay sod without stretching. Stagger end seams and butt edges as close as possible to each other. Roll with sod roller perpendicular to direction it was laid.
6. After laying all sod, roll lightly to eliminate irregularities and to form good contact between sod and soil. Avoid a heavy roller and excessive initial watering.
7. Thoroughly water the completed sod surface to at least 8 inches deep. Repeat sprinkling at regular intervals to keep sod moist at all times until rooted. After sod is established, decrease frequency and increase amount of water per application.
8. Protect turf areas by erecting fences, barriers and signs necessary to prevent trespass. Keep barriers neat and well maintained.
9. Apply post-planting fertilizer.

- C. At the time of final inspection the turfs shall be dense, green, and weed free. It is the Contractor's responsibility to eliminate any bare spots, dead areas and weeds.

3.09 TOP MULCH

- A. Except where rock mulch is required, mulch all shrub and ground cover areas with organic mulch to a 3 inch depth. Mulch ring at trees in turf areas to be 3 foot diameter for up to 36 inch box. Do not pile mulch around crowns of plants. Keep root crown free of mulch.

3.10 EROSION CONTROL NETTING

- A. Install jute mesh loosely up and down the slope in accordance with manufacturer's specifications and as follows. Fit the soil surface contour and hold in place with 12 inch long, 11-gauge (minimum) steel wire staples driven vertically into the soil at 18 - to 24 inch spacing. Jute mesh strips shall overlap along all edges at least 6 inches. Ends of side strips shall be buried into the soil at least 6 inches. Drive staples along edges to securely anchor mesh to ground.

3.11 WATERING

- A. Water all trees, shrubs and ground cover immediately after planting. Apply water to all plants as often and in sufficient amount as conditions may require to keep the plants in a healthy vigorous growing condition until completion of the Contract. Do supplemental hand watering of trees and shrubs during the first 3 weeks of plant establishment as necessary.

3.12 CLEAN UP

- A. Keep all areas of work clean and neat at all times. Upon completion of planting, all cans, boxes, and other debris that is a part of the planting operation shall be removed from the site.
- B. All pavements shall be washed off, and site shall be left in an absolutely clean condition. All planting areas shall be cultivated and weed free before final inspection. Clean-up operations shall take place throughout the course of work so that walks and drives are clean at all time.

3.13 PRE-MAINTENANCE/PLANT ESTABLISHMENT PERIOD REVIEW AND APPROVAL OF PLANTING

- A. Notify the Owner's Representative a minimum of five (5) days prior to requested Punch List and for Final Acceptance Review. Before the reviews, complete the following:
 1. Complete all work per Specifications and Plans.
 2. Present all planted areas neat and clean with all weeds removed and all plants installed and appearing healthy.
 3. Turf sod all areas per plans.
 4. Settlement: Reset plants that have shift or settled.
- B. Punchlist Inspection:
 1. At this time the Contractor shall have completed all phases of the Plans and Specifications for planting and irrigation. Any discrepancies shall be noted at that time and the Contractor

shall make appropriate corrections before the Final Acceptance of the work and the beginning of Maintenance Period is established.

2. No partial approvals will be given.

C. Final Acceptance

1. Should it be determined at the Final Acceptance visit that any punchlist item is incomplete, any further review of the site will be terminated until all items are guaranteed, in writing, to be complete by the Contractor. The cost of additional site visits by the Owner's Representative to verify completion of work shall be paid for by the Contractor.

3.14 PLANT ESTABLISHMENT MAINTENANCE PERIOD

A. The planting establishment maintenance period required shall be 90 calendar days after all planting is complete, turf is seeded, and installation approved.

B. Maintenance period shall not start until all elements of construction, planting, and irrigation for the entire project are complete. Project will not be segmented into maintenance phases, unless specifically authorized in writing by the Owner's authorized representative.

C. A longer plant establishment – maintenance period may be required if the turf is not thick, vigorous and even, or if the plant material is not acceptably maintained during the maintenance period. The maintenance period may be suspended at any time upon written notice to the Contractor that the landscaping is not being acceptably maintained, and the day count suspended until the landscape is brought up to acceptable standards as determined by the Owner's Representative.

D. Contractor shall furnish all labor, material, equipment, and services required to maintain the landscape in a healthy and attractive condition for a period of 90 days.

E. Maintenance shall include fertilization, watering, insect and disease control, weed control, weekly trash removal, mulching, restaking trees, tightening of guys, resetting plants to proper grades or upright position, and restoration of watering basins.

F. Maintenance of grass areas shall consist of fertilizing, watering, weeding, mowing, repair of all erosion, and reseeding as necessary to establish a uniform stand of the specified grasses. Areas and parts of areas which fail to show a uniform stand of grass for any reason shall be (reseeded or) resodded until all areas are covered with a satisfactory stand of grass. (Mulch reseeded areas with 1/4 in. of specified peat moss).

G. The Contractor's maintenance period will be extended if the provisions required within the plans and specifications are not filled.

H. General Requirements:

1. Keep all walks and paved areas clean. Keep the site clear of debris resulting from landscape work or maintenance.
2. Repair all damaged planted areas, and replace plants and reseed or resod grass immediately upon discovery of damage or loss.
3. Check sprinkler system at each watering; adjust coverage and clean heads immediately. Adjust timing of sprinkler controller to prevent flooding.

4. Keep Contract area free from weeds by cultivating, hoeing or hand pulling. Use of chemical weed killers will not relieve the Contractor of the responsibility of keeping areas free of weeds over 1-inch high at all times.
 5. Settlement: Reset plants that shift or settle before end of maintenance period. Crowns of trees shall be at the following minimum height above surrounding finish grade at end of maintenance period: 24 inch box and smaller - 2 inches.
 6. Protect all areas against damage, including erosion and trespass, and provide proper safeguards. Maintain and keep all temporary barriers erected to prevent trespass.
- I. Tree, Shrub and Ground Cover Maintenance:
1. Maintain during the entire establishment period by regular watering, cultivating, weeding, repair of stakes and ties, and spraying for insect pests. Prune when requested by the Owner's Representative.
 2. Keep watering basins in good condition and weed-free at all times.
 3. Replace all damaged, unhealthy or dead trees, shrubs, vines and ground covers with new stock immediately, size as indicated on the drawings.
- J. Turf:
1. Maintain during the entire establishment period. Cut as frequently as growth of grass requires. Cut to a height of two inches (2"), unless otherwise directed by the Owner's Representative.
 2. Maintain appropriate soil moisture at all times for healthy and vigorous turf grass.
 3. Trim edges of turf at paving and header boards at time of second cutting, and at each later cutting.
 4. Keep the designated area under trees free of turf at all times. Do not create low area around base of tree.
 5. Keep turf areas free of undesirable weeds and grasses by the application of suitable selective weed killers or hand pulling.
 6. Reseed all damaged areas as soon as evident.
 7. Repair any hollow, settled or eroded areas by filling, rolling and resodding.
- K. Non-irrigated Erosion Control Areas: To be watered by winter rains.
- L. Watering:
1. All plants shall be kept watered as often as it is necessary to keep them in optimum, vigorous growth. The turf shall, at no time, show a lack of fresh green color or a loss of resilience due to lack of water. Watering shall be done preferably during the early morning hours.
 2. Water shall be controlled so that there will be no excessive run-off, ponding, or overwatering.
- M. Root Growth: Periodically the Contractor shall check the progress of the root growth within the back fill area. As the root growth increases beyond the root ball, the frequency of watering shall be reduced so that the roots are encouraged to grow to a lower soil depth. Watering then shall be less frequent, but applications shall be very slow and the Contractor shall assure himself that water does penetrate to the depth of the former plant pit.
- N. Weed Control:

1. Weeds shall be kept under control, either by hand or by the application of herbicides designed for use on any type of weeds invading the planting areas.
2. All equipment used for herbicides shall be properly cleaned before it is used on this project. Herbicides shall be applied at temperatures recommended by the manufacturers. Herbicides shall not be used during windy or gusty days. All possible precautions shall be taken to protect vegetation which is susceptible to damage from the particular herbicides to be used.
3. The bases of all plants shall be kept completely free of weeds. Periodically, the base of the trees and shrubs shall be cultivated in order to allow better penetration of water, but such cultivation shall be carefully done in order not to destroy surface roots.

O. Mowing:

1. All mowing shall be done in a neat and orderly manner. Equipment shall be moved onto and off the area to be mowed in such a manner that it will not leave tracks or marks that detract from the finish turf. Timber shall be provided to move equipment over curbs, stairs, or similar constructions.
2. Mowing equipment shall be kept in optimum operating condition. The equipment shall be washed before initial use on the project so that there will be no chance of introducing foreign seeds or diseases onto the project.
3. Frequency of mowing shall be determined by the rate of growth of the grass. During seasons of peak growth mowing may have to be done every five days to six days; under normal conditions once a week should be adequate.
4. The average mowing height shall be 1-1/2". The grass blades must be cut sharply and cleanly. The turf must be cut evenly so that no ridges remain in the finish cut. The direction of mowing shall be alternated each time.

P. Spraying:

1. All shrubs and trees shall be inspected at least twice a month during the growing period to determine the need for spraying to control insect damage, fungus development or any other disease that might be attacking the plants. Preventative spraying shall be done only with the approval of the Owner's Representative.
2. Operators of spray equipment shall take all reasonable precautions to protect themselves, other people and buildings from spray. The Contractor shall have all permits and licenses required for such an operation. Where applicable, dormant spray shall be applied to shrubs and trees during the winter period.
3. All equipment shall be properly washed before and after use.
4. No spraying shall take place during windy or gusty days.

Q. Staking and Guying: Stakes and guys shall be inspected a minimum of two times a month to assure that the wires and ties are tight and no damage has occurred to the tree trunk or branches.

R. Fertilizing:

1. Upon approval and after submitting fertilizer delivery tags, top dress all turf and ground cover areas by broad-casting 12-8-16 fertilizer at the rate of 7 lbs. per 1,000 square feet evenly throughout, and reapply every forty-five (45) days until acceptable or as appropriate to prevailing climatic conditions and type of plant or turf grass.
2. Apply ammonium sulfate fertilizer as necessary to maintain vigorous, green grass between fertilizing mentioned above.

- S. Litter:
 - 1. The Contractor shall remove promptly after pruning, trimming, and weeding or other work required under the contract, all debris generated by his performance of the work. Immediately after working in the areas of public walks, driveways or paved areas, they shall be vacuumed clean with suitable equipment. All areas covered by this contract shall be kept free of the following items: bottles, cans, paper cardboard or metallic items. Common debris and litter shall be disposed of in an appropriate manner.
- T. Pruning:
 - 1. Prune as necessary to remove injured twigs and branches, dead wood, and suckers.

3.15 FINAL PLANTING REVIEW AND WRITTEN ACCEPTANCE (TURN OVER ACCEPTANCE)

- A. Final Review: At the conclusion of the planting establishment period, schedule a final review for Final Written Acceptance/Turn Over Acceptance. The conference shall include the Owner. Any discrepancies shall be noted at that time and the Contractor shall make appropriate corrections before the Final Written Acceptance of the work and the beginning of Guarantee Period is established.
- B. Final Written Acceptance/Turn Over Inspection: A conference including the Owner shall be held at the completion of all project improvements and all corrective work. The Contractor shall continue to maintain the project at his own expense until all deficiencies have been corrected. Once completed, the Contractor shall request the Owner's Representative and Owner to visit the site and approve the project as complete. The Owner's Representative will accept the landscape project in writing. The date of the Final Written Acceptance letter shall be the first day of the guarantee period.
- C. Prior to either review, weed and rake all planted areas, repair plant basins, mow and edge turf, plumb tree stakes, clear the site of all debris and present in a neat, orderly manner.
- D. Submit written notice requesting review at least 5 days before the anticipated review.

3.16 GUARANTEE AND REPLACEMENT

- A. Guarantee period shall be extended for a period of one year from the date of Final Written Acceptance.
- B. All plants shall be guaranteed to be alive and healthy as determined by the Owner's Representative at the end of the guarantee period.
- C. Plant materials supplied by Owner shall be under similar warranty against defective workmanship during the planting operations. Plant material exhibiting conditions which are determined by the Owner's Representative as being unacceptable, due to workmanship by the Contractor, shall be replaced at no additional cost to the Owner.
- D. The Contractor shall replace, in accordance with the Drawings and Specifications throughout the guarantee period, any plants that die, or in opinion of the Owner's Representative, are in an unhealthy or unsightly condition, and or have lost their natural shape due to dead branches, excessive pruning, inadequate or improper maintenance, or any other causes due to the

Contractor's negligence. The Contractor shall not be held responsible for acts of vandalism occurring after the beginning of the guarantee period.

END OF SECTION 32 90 00

SECTION 32 91 13
LANDSCAPE SOIL PREPARATION

PART 1 - GENERAL

1.01 SCOPE

- A. Furnish and install all landscape soil preparation as shown and specified including but not necessarily limited to, the following: topsoil placement, organic amendment and fertilizer placement, and finish grading.
- B. Related work specified elsewhere.
 - 1. Landscape Planting – Section 32 90 00

1.02 QUALITY CONTROL

- A. Reviews: Contractor shall specifically request at least two days in advance the following reviews prior to progressing with the work:
 - 1. Verification of amendment incorporation depths
 - 2. Finish grade
- B. Certification: Written certificates stating quantity, type, and composition, weight and origin for all amendments; chemicals shall be delivered to the Resident Engineer before the material is used on the site.
- C. Test Samples: Contractor shall provide two (2) one-quart samples to Soil and Plant Laboratory of Santa Clara (408) 727-0330 for their testing for conformance to this specification. Sample one shall be the proposed import topsoil and sample two shall be from below existing paving. No material shall be delivered to the site until the Resident Engineer approves the material. Testing costs shall be paid by Contractor. Testing costs for the initial samples and costs for any additional samples due to non-compliance by the Contractor shall be paid by the Contractor.
- D. Amendment Testing: Contractor shall provide a one-quart sample of each proposed amendment to Soil and Plant Laboratory of Santa Clara (408) 727-0330 for their testing for conformance to this specification. No material shall be delivered to the site until the Resident Engineer approves the material. Testing costs shall be paid by the Contractor.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Import Topsoil: Shall be a homogeneous mineral soil classified as sandy loam, or fine sand. Particle size data shall be based upon standard USDA methodology. Of the material falling in the sand category, a minimum of 80% shall fall in the fine sand range (.05 – 5mm). Gravel content (greater than 2.0mm) shall be less than 15%. Import topsoil shall not contain more silt and clay than the on-site native soil. The sum of silt plus clay shall be less than 25%; the soil shall be

nonsaline as determined on the saturation extract. Salinity shall not exceed 3.0 mmhos/cm, boron shall not exceed 1.0 ppm and the sodium absorption ration (SAR) shall not exceed 6.0. Soil reaction as determined on a saturated paste shall fall between 5.5 and 7.5. The soil shall be free of organic herbicides, or other growth restricting chemicals. Contamination may be tested by greenhouse trials using rye grass and radish as test crops using the existing import soil as substrate. These trails require four to five weeks for completion.

- B. Fertilizer: Shall be determined from soils analysis results. For purposes of bidding only, assume the use of 6-20-20 commercial fertilizer, 20-10-5 planting tablets by Agriform International Chemicals, Inc., and iron sulfate.
- C. Organic Amendment: Nitrogen-treated organic amendment conforming to:
 - 1. Physical Properties: 95%-100% passing, sieve size 6.35mm ¼", 80%-100% passing, sieve size 2.38mm No. 8, 8 mesh and 0%-30% passing, sieve size 500 micron No. 35, 32 mesh.
 - 2. Chemical Properties: Nitrogen Content dry weight basis – 0.4-0.6% iron content – minimum 0.08% dilute acid soluble Fe on dry weight basis, soluble salts – maximum 3.5 milliohms/centimeter @ 25 degrees C. as determined by saturation extract method; ash – 0-6.0%.

PART 3 - EXECUTION

3.01 LIMITS AND GRADES

- A. Prior to commencing soil preparation operations, Contractor shall request a review by the Resident Engineer to verify specified limits and grades of work completed to date and soil preparation work to commence. Contractor shall complete the rough grading as necessary to round the top and toe of all slopes, providing naturalized contouring to integrate newly graded areas with the natural topography. Finish grading under this section shall be completed in accordance with the section shown on the landscape drawings.

3.02 TOPSOIL PLACEMENT

- A. Cross rip topsoil to a depth of ten inches. Then incorporate the amendments to a homogeneously blended soil depth of six inches. Compact all soil in place to 85% compaction.

3.03 ORGANIC AMENDMENT AND FERTILIZER INCORPORATION

- A. Materials determined from the soils test should be uniformly distributed throughout all irrigated planting areas and incorporated to a homogeneously blended soil depth of six inches. For bidding purposes, assume per 1000 square feet:

- 30 pounds Commercial Fertilizer (6-20-20)
 - 5 cubic yards Nitrogen Stabilized Organic Amendment
 - 10 pounds Ammonium Sulfate

3.04 TREE AND PLANT PITS

- A. Tree pits shall have their sides and bottoms loosened or otherwise broken to prevent glazed or compacted surfaces. Contractor shall auger for each tree a minimum of three 18” diameter holes as appropriate for trees size and as shown on the planting notes and detail.
- B. Plant pits shall have their sides and bottoms loosened or otherwise broken to prevent glazed or compacted surfaces, and shall be as shown on the planting detail.

3.05 BACKFILL

- A. Backfill for plant pits shall be the prepared soil per parts 3.2 of this section, taken from adjacent prepared areas. Spread excavated material onto adjacent areas as replacement. Only unamended soil shall be used beneath the root ball; cultivate bottom of plant pit to improve porosity. Should additional backfill be necessary, a mixture of one-third organic amendment/fertilizer mix (per Soil and Plant Laboratory) and two-thirds topsoil may be used.

3.06 PLANT TABLETS

- A. All container plants shall receive plant tablets as follows:

One-gallon plants:	two 21-gram tablets
Five-gallon plants:	five 21-gram tablets
Fifteen-gallon plants:	twelve 21-gram tablets
Box trees:	eighteen 21-gram tablets

Space the tablets evenly around the root ball halfway up backfill touching side of root ball. The Resident Engineer may require excavation of plants selected at random for conformance review.

3.07 FINISH GRADING

- A. Contractor shall finish grade all irrigated planting areas unless otherwise noted, and shall remove all rocks and clods over one and one-half cubic inches. All areas shall be smooth and uniformly graded. All erosion damage during the construction period shall be repaired by the Contractor.
- B. Unless otherwise noted, all soil finish grades shall be one inch below finish grade of walks, pavements and curbs.

END OF SECTION 32 91 13

SECTION 32 91 19
EARTHWORK AND GRADING

PART 1 - GENERAL

The provisions of the Standard Specifications for Public Works Construction (SSWC) 1997 edition apply except as modified herein. Available through *Building News Publications*, Telephone #: (714) 517-0970.

1.01 SCOPE OF WORK

- A. Rough grading including over excavation and compaction.
 - 1. Finish grading of the site.
- B. Excavation and backfill for all footings, structures, walls, etc. and compaction.
 - 1. Stockpiling and placing topsoil.
 - 2. Soil compaction as required.
 - 3. Protective measures.
 - 4. Dust and noise abatement.
 - 5. Obtaining construction water.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Site Preparation.

1.03 WATER

- A. Contractor shall make arrangements with the local Water Department to obtain construction water.

PART 2 - EXECUTION

2.01 CUT AND FILL

- A. Contractor shall export all excess site soil as needed. Exporting shall include excavation, removing, hauling, and disposing of soil in a legal manner off site. Contractor shall pay all fees and charges to remove export soil. Area to receive fill where landscape is to occur is to receive topsoil from excavated area.

2.02 ROUGH GRADING

- A. The site shall be graded to the limit lines and elevations shown on the drawings with such allowances as may be required for the construction of walks, and other intended site improvements. Tolerance for rough grading is 1/10th of a foot, plus or minus, at paved areas. At

all other areas, functional use and appearance shall be the governing factors as determined by the City Representative.

2.03 UNSUITABLE MATERIALS

- A. Unsuitable soils, large rocks or boulders, broken concrete/asphalt and other deleterious material may be buried on site if the location, depth and method of burial is approved by the City Representative. Only material that can not be accepted for on-site disposal shall be removed from the site by the Contractor.

2.04 FILL

- A. Fill shall be placed in level layers not to exceed six inches in depth and mechanically compacted using optimum amount of moisture to achieve a 90% minimum degree of compaction.

2.05 EXCAVATION

- A. The Contractor shall make all necessary excavation for footings and slabs and do any additional excavation necessary to provide ample room for installation of concrete forms where required.
- B. Footings may be poured in trenches against undisturbed soil where approved by City Representative.
- C. Bottom of excavations shall be level, free from loose material and brought to the indicated or required levels in undisturbed earth. All excavations shall be kept free from standing water. The Contractor shall do all pumping or draining that may be necessary in carrying on the work.
- D. Should excavations for footings, through error, be excavated to a greater depth than indicated or required, such additional depth shall be filled with concrete, as specified for footings, at the Contractor's expense. Excavations that have been dug wider than required shall be formed to conform with plans and specifications. Filling with concrete can only be accepted with the approval of the City Representative.

2.06 FINISH GRADING

- A. Finish grades shall slope to drain without water pockets or irregularities and shall conform to the intent of all plans and sections - after thorough settlement and compaction of the soil. Finish grades shall meet all existing or established controls of sidewalks, curbs and walls and shall be of uniform slope and grade between points of fixed elevations or elevation controls and from such points to established grades. Tolerance for finish grading is 1/10 foot, plus or minus, adjacent to fixed elevations or gradients. At all other areas, functional use and appearance shall be the governing factor.

2.07 BACKFILLING

- A. After the foundations and walls have been placed, forms removed, and concrete work approved, the excavation shall be backfilled with earth to the required grade.

- B. Select site material shall be used for backfill and shall be free from large stones and clods. Material shall be approved by the City Representative.
- C. Backfill shall be deposited in layers of 6" thickness.
- D. Layers of backfill shall be moistened with water, the amount to be rigidly controlled to insure optimum moisture conditions for the type of fill material used. Excess water causing saturated earth beneath footings will not be permitted.
- E. Backfill shall be compacted by suitable means to 90% density.
- F. All trenches for other work shall be backfilled in accordance with this section, and may be tested at the discretion of the City Representative.

2.08 PROTECTIVE MEASURES

- A. All excavations shall be protected and guarded against danger of life, limb and property.
- B. Existing improvements and trees within contract limits or areas of activity shall be properly protected.

2.09 DUST AND NOISE ABATEMENT

- A. During the entire period of construction, site areas shall be kept sprinkled.

END OF SECTION 32 91 19

SECTION 01 56 39
TREE PRESERVATION AND PRUNING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Included: Furnish all labor, materials, equipment and apparatus not specifically mentioned herein or noted on the plans, but which are incidental and necessary to complete the work specified for the protection, preservation and/or repair of trees, including care, pruning, and trimming (limbs and roots) as required to construct improvements.
- B. Contractor shall protect from damage all existing vegetation determined by the District to remain on the project site and also on adjacent property (for trees overhanging the project site). Contractor shall be responsible for the repair any damage, including that to the adjacent property resulting from failure to comply with the requirements of the Contract Documents or failure to exercise reasonable care in performing the Work. If Contractor fails or refuses to repair the damage promptly and according to the **District** directions, the **District** may have the necessary work performed and charge the cost to Contractor.
1. Tree and Plant Protection includes, but is not limited to the following:
 - a. The protection of the above and below-ground portions of trees including roots, trunks, branches and foliage. Protection of roots includes reduction and/or prevention of soil compaction caused by vehicles, equipment, materials or foot traffic.
 - b. Protective Fencing and Signage surrounding the Tree Protection Zone around the tree or group of trees.
 - c. Pre-Demolition and Construction meetings on site with the **District**.
 - d. Pre-work Clearance Pruning for demolition and construction
 - e. Organic mulch placed in tree protection zones
 - f. Irrigation of trees before and during demolition and construction.
 - g. Dealing with protection and preservation of tree roots relative to soil grubbing, grading, structure or pavement removal, excavations, etc.
 - h. Ongoing updating and consultation with the **District** regarding site work and potential tree impacts
- C. Related Work:
1. Section 31 10 00 – Clearing, Grubbing and Misc. Demolition
 2. Section 32 90 00 – Landscape Planting
 3. Section 31 00 00 – Earth Works

1.02 RELATED DOCUMENTS

- A. The General and Supplementary Conditions and General Requirements apply to the work herein specified.

B. References:

1. Arboriculture: The care of trees and shrubs by Dr. Richard Harris
2. Best Management Practices, Tree Pruning. 2008. International Society of Arboriculture, PO Box 3129, Champaign, IL 61826-3129. 217-355-9411
3. ANSI A300 Pruning Standards. 2008 Edition. Ibid. (Covers tree care methodology).
4. ANSI Z133.1 Safety Requirements for Arboricultural Operations. 2006 Edition. Ibid. (Covers safety).

1.03 DEFINITIONS

1. **Certified Arborist**: An Arborist certified through the ISA (International Society of Arboriculture) after passing a test demonstrating basic knowledge about urban trees and their management, fulfilling an ongoing continuing education requirement and paying regularly scheduled certification fees.
2. **Dripline (tree)**: The area under the total branch spread of the tree, all around the tree.
3. **Existing tree**: The trees existing on property prior to any demolition or construction for a project.
4. **Qualified Tree Service**: A tree service with a supervising arborist who has the minimum certification level of ISA (International Society of Arboriculture) Certified Arborist, in a supervisory position on the job site during execution of the tree work. The tree service shall adhere to the most current of the following arboricultural industry tree care standards.
5. **Tree**: a woody perennial plant usually having one dominant trunk and a mature height greater than 15 feet. Multiple-trunk trees have more than one trunk.
6. **Tree Protection Zone (TPZ)**: The area inside the Tree Protection Fencing on a District project, containing the tree or tree trunks and below some or the entire canopy of the tree or beyond the canopy. The TPZ and Tree Protection Fencing remain in place prior to any work on site (including demolition) until the construction project is fully completed.
7. **Tree Service**: A company that performs tree pruning and tree removals as their main business.

1.04 QUALITY ASSURANCE

- A. All tree protection, preservation and pruning performed shall be executed by a Qualified Tree Service company having, in full-time employment, an Arborist certified by the International Society of Arboriculture (ISA). Certification must be verified. The Arborist must be directly responsible for decisions made and should visit the work sites daily when trimming of tree limbs and roots are to be performed.
- B. Pruning shall be performed to the standards of the International Society of Arborists Pruning guidelines, and to ANSI A-300.
- C. Tree pruning shall not occur without first securing a pruning permit.
- D. Preconstruction Tree Preservation Meeting
 1. Contractor to provide 36 hour notice for Preconstruction Tree Preservation Meeting at Project site with the Project Manager and Landscape Architect prior to start of construction, including demolition.

1.05 SUBMITTALS

- A. Arborist certification
- B. Tree Pruning Schedule (provided by Qualified Tree Service Contractor): Written schedule detailing scope and extent of pruning of trees to remain and that interfere with or are affected by demolition or construction.

1.06 TAGGING OF TREES TO BE PRESERVED

- A. All preserved trees shall be flagged with a distinctive colored ribbon prior to Preconstruction Tree Preservation Meeting. After flagging and prior to commencement of any work, the Contractor shall notify the Arborist who will verify that the correct trees are flagged.

1.07 JOB CONDITIONS

- A. The Contractor will be held responsible for any damage to trees or other plants, which are to remain during construction, including limb or branch breakage, tearing of bark along trunk or excessive root damage. Large roots greater than 3” in diameter and less than 12” below ground level shall not be cut without the District’s approval.
- B. The following practices are prohibited within Tree Protection Zones:
 - 1. Storage of construction materials, debris, or excavated material.
 - 2. Parking vehicles or equipment.
 - 3. Placement of outhouses
 - 4. Foot traffic.
 - 5. Erection of sheds or structures.
 - 6. Impoundment of water.
 - 7. Equipment wash down.
 - 8. Grubbing of soil surface to remove organic matter.
 - 9. Disposal of chemicals, petroleum products, or other detrimental substances.
 - 10. Excavation, grading or other soil disturbance unless otherwise indicated.
 - 11. Attachment of signs to or wrapping materials around trees unless otherwise indicated on plans.

PART 2 - PRODUCTS

2.01 TREE PROTECTION-ZONE FENCING

Fencing fixed in position and meeting the following requirements: Match detail

- A. Chain-Link Protection-Zone Fencing: Galvanized-steel fencing fabricated from minimum 2-inch (50-mm) opening, 0.148-inch-(3.76-mm-) diameter wire chain-link fabric; with pipe posts, minimum 2-3/8-inch-(60-mm-) OD line posts, and 2-7/8-inch-(73-mm-) OD corner and pull

posts; with 1-5/8-inch-(42-mm-) OD top rails and 0.177-inch-(4.5-mm-) diameter bottom tension wire; with tie wires, hog ring ties, and other accessories for a complete fence system.

<OR>

- A. Height of Fencing: 6-foot high metal cyclone mesh attached to 2-inch steel posts driven 18-24 inches into the ground and spaced no farther than 10 feet apart.

<OR>

- A. Snow Fencing Protection-Zone Fencing: Orange plastic fencing, 4' height with steel stake posts with tie wires, hog ring ties, and other accessories for a complete fence system.

2.02 MULCH

- A. Per planting specifications

PART 3 - EXECUTION

3.01 EXAMINATION AND PREPARATION

- A. If at any time the Contractor judges that the protection of a tree designated to be saved is incompatible with work required, or if operations necessary threaten the health or structural stability of a tree, notify immediately the District and do no further work affecting the tree until a written agreement is reached concerning acceptable procedures.
- B. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion-and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree protection zones.
- C. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.
- D. Contractor shall install 8 or 9 inch diameter straw wattling roll on the uphill side of the protective fence to divert runoff from the construction site to the protected trees. The wattle shall be maintained until protective fence is removed from the project site.
- E. Under no circumstances shall the Contractor remove existing trees that are indicated not to be removed.
- F. Tree removal may not damage existing trees or vegetation to remain; consult with Owner's Representative regarding any conflicts.

3.02 TREE PROTECTION ZONES

- A. Protection-Zone Fencing: Install Tree Protection Fencing along edges of Tree Protection Zones in a manner that will prevent people from easily entering protected area except for arborist

inspection and tree maintenance. An 18-inch wide gap for arborist access and tree maintenance will be provided in each fenced off area.

1. Chain-Link Fencing: Install to comply with ASTM F 567 and with manufacturer's written instructions.
 2. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to District.
 3. Access Gap in Fencing: Provide an 18-inch wide gap, with a standard steel post on each side of the gap, overlap fence fabric to close gap.
- B. Protection-Zone Signage: Install District-specified Tree Protection Signs every 25 feet or in each cardinal direction, whichever is more, 6 inches from the top of the fence. Signs must be securely attached to fence with 4 plastic wire ties; one tie in each corner. Tree Protection Signs must be aluminum or corrugated plastic.
- C. Contractor shall repair or replace protected trees, and other vegetation indicated to remain or be relocated that are damaged by construction operations at no additional cost to contract or District. The District Representative shall specify any repair work or replacement value for damaged trees.
- D. Maintain Tree Protection Fencing and signage in good condition as acceptable to District Arborist and remove when construction operations are complete and equipment and materials have been removed from the site. At sites where the excavation has taken place near trees to remain, and many living roots remain exposed to the air, the Contractor shall cover the exposed roots within 2 hours with sand, soil, moist burlap or other means acceptable to the District.
- E. Construction materials, debris, and supplies shall not be stored within the drip line or protective fencing area under any tree.
- F. Vehicles shall not be parked within the drip line or protective fencing area.
- G. Woodchips or another cushioning surface material approved by the District shall be placed over areas where roots are present and construction traffic occurs.

3.03 EXCAVATION

- A. General: Hand or air spade excavate at edge of Tree Protection Zones for grading, trenches and other soil disturbance adjacent to existing trees.
- B. No rototilling or other soil disturbance shall take place within Tree Protection Zones, before, during, or after demolition or construction, unless designated within construction documents.
- C. Trenching near Trees: Where utility trenches are required within or adjacent to Tree Protection Zones, air spade or hand excavate under or around tree roots or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut *large* (e.g. 2 inches in diameter or greater) roots; cut only smaller roots that interfere with installation of utilities.
- D. Open trenches are not to be routed beneath the dripline of trees that are to be preserved unless this is impossible to avoid; in which case damage may be reduced by careful placement by air

spading or hand-digging of trenches to avoid large roots by tunneling under rather than cutting roots greater than 2 inches or greater in diameter.

3.04 TREE PRUNING

- A. Remove branches that are in the path of temporary and permanent construction, or within the work zone margin beyond that construction. Where trees are concerned, minimize the work zone margin to the minimum possible to accomplish demolition or construction work. Any pruning will be completed by a Qualified Tree Service, but it is the contractor's responsibility to notify the District of any pruning that is necessary.
- B. Tree pruning shall be performed to balance the crown and eliminate hazards. The main work performed shall be to reduce the sail effect through thinning, reducing end weights, shortening long heavy limbs, removing deadwood, weak limbs and sucker growth. Limbs shall be pruned back to an appropriate lateral branch.
- C. All final cuts shall be made at the outer edge of the branch collar. The pruning work shall be performed in a safe and proper manner, adhering to CAL-OSHA and ANSI Standards
- D. The Contractor shall be responsible for the preservation of all public and private property. Pruning includes the cutting of limbs, cleanup, removal and disposal of cuttings and debris. Elm logs must be properly disposed of per State Quarantine. Work shall be performed by a two-person crew with one climber, one ground person, a dumping chipper truck and chipper, and any other necessary saws, lines, tools and safety equipment. The work area shall have appropriate cones and signs for safe pedestrian and vehicle traffic.

3.05 ROOT PRUNING

- A. Tree roots greater than 3" in diameter and less than 12" below ground level shall not be cut without approval of the District.
- B. Roots shall be cut clearly, as far from the trunk of the tree as possible. Root pruning shall be to a depth of 18".
- C. Root pruning shall be performed using a Vermeer Root Cutting Machine. Alternate equipment or techniques must be approved by the District.
- D. Root pruning shall be completed prior to base or subgrade preparation, or to any excavation adjacent to the tree.
- E. Root Pruning
 - 1. Prior to root cutting air spade or hand dig a trench along the edge of the excavation facing the protected tree(s), to the depth of the excavation. The trench must be at least 12 inches wide. Cut exposed roots that need to be removed cleanly back to the trench wall with sharp pruning tools. Do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots. Heavy equipment may be used to continue soil work but the equipment must not contact the roots that have been cut at the edge of the trench, or any soil or roots on the tree-side of the trench.

2. Exposed roots must be covered with 2 layers of natural burlap or organic mulch that is kept moist until backfilled. The exposed trench wall must be sprayed with water and thoroughly moistened with water prior to placement of burlap.
3. Backfill as soon as possible according to requirements in Section 02300/31 00 00 -- Earth Work. Wet the backfill soil thoroughly as it is placed in the trench.

3.06 REGRADING

- A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- B. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

3.07 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove excess excavated material, displaced trees, trash and debris, and legally dispose of them off District's property.

END SECTION 01 56 39

SECTION 01 71 13
MOBILIZATION

PART 1 - GENERAL

The General Conditions of the Contract, including General and Special Provisions and General Requirements apply to the work in this section.

1.01 COOPERATION

- A. The Contractor shall cooperate and coordinate as it may be required with the contractors of any other construction projects.
- B. If, in the opinion of the Engineer, the Contractor's operations in the critical path are delayed by reason caused by the construction on another project on site, the Contractor shall not be assessed liquidation damages for such delays.

1.02 TEMPORARY FENCING

- A. Prior to commencing work, Contractor shall provide and install a six (6) foot high, temporary chain link perimeter fence with posts driven into the ground and fabric screen as a barrier around construction area. Contractor shall provide and maintain temporary enclosures to prevent public entry and to protect persons using other buildings and portions of the Site and/or Premises. Contractor shall maintain fence throughout the project replacing damaged fencing, posts and gates, as required, to prevent possible unauthorized access on-site at any time.
- B. Contractor shall remove the temporary fence upon completion of the project, and repair holes, or any other damage to existing conditions resulting from construction of fence. Removed facilities shall become the property of the Contractor and shall be removed from the site of the work, except as otherwise provided in this section.

END OF SECTION 01 71 13

SECTION 05 70 00
DECORATIVE METAL

PART 1 - GENERAL

1.01 SUMMARY

- A. Work included: Furnish materials and perform labor required to execute this work as indicated on the drawings, as specified, and as necessary to complete the Contract, including, but not limited to, these major items:
 - 1. Shapes, sleeves, anchors, connectors, plates, rails, edges, items embedded in concrete required, but which are not specified in other sections.
 - 2. Metal handrail.
 - 3. Metal trellis posts.
 - 4. Primer for metal items which are not galvanized.
 - 5. Welding.

- B. Examine all drawings and specifications and include all miscellaneous metal which is specified in other sections. Provide all connections, anchors, bolts, and other fastenings as required. Do all cutting, punching, drilling and tapping required for proper assembly of the work.

1.02 REFERENCES

- A. ASTM A123 - Zinc (Hot Galvanized) coatings on Products fabricated from rolled, pressed and forged shapes, plates, bars, and strip.

- B. ASTM A153 - Zinc coating (Hot Dip) on iron and steel hardware.

- C. ASTM A386 - Zinc coating (Hot Dip) on assembled steel products.

1.03 SUBMITTALS

- A. Submit under provisions of Section 01300.

- B. Shop Drawings: Indicate profiles, edge and joint conditions, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories.

1.04 QUALITY ASSURANCE

- A. References:
 - 1. American Society of Testing and Materials (ASTM)
 - 2. American Welding Society (AWS)
 - 3. American Institute of Steel Construction (AISC)

- B. Field measurement: Verify drawing dimensions with actual field conditions. Inspect related work and adjacent surfaces. Report to the City Representative all conditions, which prevent proper execution of this work.
- C. Shop assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordination of installation.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Steel shapes: conform to ASTM A36.
- B. Steel pipe: conform to ASTM A53, Grade B, Schedule 40.
- C. Malleable iron castings: conform to ASTM A47.
- D. Welding rods: conform to requirements of AWS for intended use.
- E. Steel plate: conform to ASTM A283, Grade A.
- F. Steel tubing: conform to ASTM A501.
- G. Bolts, Nuts, and Washers: ASTM A325 and A307, galvanized as follows:
 - For A307 items: Zinc electroplated per ASTM B633.
- H. Touch-up for galvanized surfaces: All State #321 Galvanizing Powder (30% tin, 30% zinc, 40% lead and flux).
- I. Miscellaneous material: as indicated or specified.

2.02 FABRICATION

- A. Fit and shop assemble in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured. On finished surfaces, grind all welds smooth and flush with base metal
- C. Exposed Mechanical Fastenings: Flush countersunk stainless steel screws or bolts; concealed where possible; consistent with design of component, except where specifically noted otherwise.
- D. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise. Where items are to be embedded in concrete or masonry, provide welded-on anchors or lugs as indicated or required
- E. Assemble to give ample strength and stiffness.

- F. Scribe and fit for best appearance where exposed.

2.03 GALVANIZING

- A. Galvanize all metal items so specified or indicated on plans. Use the hot dip process, conforming to ASTM A123. Galvanizing shall be done after fabrication.
- B. Average weight of zinc coating per square foot of actual surface: Not less than 2.0 ounces, with no individual specimen showing less than 1.8 ounces (One ounce of zinc corresponds to a coating thickness of 0.0017).

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.
- B. Beginning of installation means erector accepts existing conditions.

3.02 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects and securely and rigidly attached to supporting construction and as detailed.
- B. Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Connections and anchors shall be adequate to sustain normal loads, which may be imposed, securely welded or bolted, conforming to AISC standards. Excess length of bolts where exposed to view to be cut off and ground smooth. Use spacer washers when fastening through finish materials.
- D. All welding shall conform to requirements of the Committee for Standard Tests for Welds of the American Welding Society. All welding shall be electric arc process. Welds exposed in finish work shall be filled out flush, ground and dressed. Welders for structural shall be certified.
- E. After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.

END OF SECTION 05 70 00

SECTION 12 93 00
SITE FURNISHINGS AND ACCESSORIES

PART 1 - GENERAL

1.01 SUMMARY

- A. The General Conditions and all other Contract Documents for this project are complementary and applicable to this Section of the Specifications.
- B. Work Included: Furnish all labor, materials, equipment and services necessary to provide and construct, repair, or install the site elements, complete in place, as shown and specified, including, but not limited to:
 - 1. Play Equipment and Accessories
- C. Related Work:
 - 1. Section 32 18 16: Synthetic Turf Surfacing

1.02 SUBMITTALS

- A. Submit shop drawings where noted to the City for approval before installing any manufactured items. Plans shall include dimensions, color, finish, structural design (custom items), and connection details.
- B. Submit catalog cuts, samples and manufacturers literature of all manufactured items in this section to the City for approval before installation.
 - 1. Provide color samples, brushouts, or charts for all items. Final colors to be selected by City and a sample submitted for approval.

PART 2 - PRODUCTS

2.01 MANUFACTURED ITEMS

- A. All play apparatus shall be as noted on plans.
- B. Filter Fabric:
 - 1. Product shall be 100% polyester nonwoven needle-pinched engineering geotextile fabric; Fibar felt or approval equal. Weight: min. 3.5 ox./sq. yd. Install with 12" overlap on all seams.
- C. Play Equipment and Accessories: per plans
- D. Sand Backfill for Play Area shall be Olympia #2 clean, washed sand from Lyngso Garden Supply, 19 Harbor Boulevard, Redwood City, CA, (415) 364-1730, or approved equal that meets the following standards:

Sand backfill shall have an infiltration rate of 20" per hour after compaction. Contractor shall furnish the engineer with 4 copies of the gradation curves for approval. Sand shall meet the following grading criteria:

<u>Sieve Size</u>	<u>% Passing</u>
#4100	
898	+/- 2
1689	+/- 3
3055	+/- 6
5019	+/- 3
1008	+/- 6
2001	+/- 0.5

In addition to permeability, the sand will be reviewed for color and texture.

Contractor shall provide engineer with source of sand and quantity available. Prior to approval for use, Contractor shall submit a 1-gallon sample to the City and to the soils testing laboratory for complete analysis. Contractor shall be responsible for furnishing material consistent with the approved sample.

- E. Wood Fiber Surfacing:
 1. Surfacing shall be a mix of random-sized wood fibers. Standard wood chips or bark mulch will not be acceptable.
 2. Contractor shall guarantee sieve analysis of wood fiber as follows: Greater than 85% passing 3/8" sieve. Less than 50% passing #60 sieve.
 3. Wood fiber shall have no twigs, bark, leaf debris or other organic material incorporated within.
 4. Product used shall be Fibar wood fiber, available from Play Grounds Plus (408) 354 1389, Play it Safe available from: MJB Associates (530) 272 8005, or approved equal.

2.02 NON-MANUFACTURED ITEMS

- A. Infield Mix: Infield mixes shall be free of rocks, debris, vegetation, and foreign materials with 10% passing of 9 mm screen and 85% passing of 6 mm screen. Infield mixes shall be sterilized to eliminate the possibility of any growth of vegetation. The composition of mixes shall be as follows:
 1. Infield fines mix:
 - 70% 1/8" volcanic cinders
 - 20% Wilder clay (ground)
 - 10% Manteca clay loam
 2. Infield clay mix
 - 50% Wilder Clay
 - 50% Manteca clay loam

Note: Install 2" infield fines over infield clay at base pads and pitcher's mound where identified by City in field.

2.03 MISCELLANEOUS MATERIALS

- A. All other materials for site elements shall be as specified on the plans and these specifications.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Examination: Verify that conditions are satisfactory for installation of each item of site elements. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

- B. Play Apparatus Installation: Install products in conformance with the manufacturer's recommendations and approved shop drawings, and as indicated.
 - 1. Install products square, plumb, level, accurately aligned, and securely anchored.
 - 2. Repair abraded areas of shop-applied coating, and areas of welds where shop-applied coating has been damaged, using a primer or galvanized repair compound compatible with the shop coating. Repair paint surface per manufacturer's specifications to match undamaged finish.
 - 3. Completion: Completed installation shall be securely anchored, and free from defects and damage in material and finish.
 - 4. After installation, contractor shall have playground manufacturer representative inspect the apparatus and provide in writing affirmation that playground was installed correctly and meets safety and ADA standards and requirements.

- C. Wood Fiber Surfacing
 - 1. The wood fiber surface shall be spread to uniform depth, installed to allow for settling and natural compaction. To allow for compaction, the following formulas must be used to determine the correct number of cubic yards: 12" deep: Sq. ft. of playground x 0.05.
 - 2. The Contractor shall provide a written statement indemnifying the City against any legal action arising as a result of patent infringement due to use of the Fibar product, or approved equal.
 - 3. The Contractor shall provide a Certificate of Insurance which provides coverage for product liability per City Standards.
 - 4. The Contractor shall provide copies of flammability testing procedures and results for the wood fiber surfacing using (i) Section 1500.44 of the Federal Hazardous Substance Act, Title 16, Chapter II, Subchapter C, for rigid and pliable solids, and (ii) 16 CFR Part 1630 Standard for the Surface Flammability of Carpets and Rugs (FF 1-70), Modified Procedure. Testing should be performed by an independent testing laboratory.
 - 5. The Contractor shall provide copies of testing procedures and results of (i) new wood fiber, and (ii) wood fiber not less than five (5) years old taken from an existing site, performed by an independent testing source using the ASTM F1292-91 playground safety surfacing standard.

3.02 GUARANTEE

- A. At completion of project, Contractor shall provide City with written guarantee from each manufacturer identifying the nature of warranty for each product component.

- B. Contractor shall provide City with two (2) bound maintenance manuals identifying each piece of equipment on manufacturer's recommended maintenance program including, but not limited to, daily, weekly, and monthly check lists.

- C. Contractor to provide City with minimum of two (2) gallons each type and color of paint used on apparatus with recommended surface preparation and application guidelines.

END OF SECTION 12 93 00

SECTION 31 10 00
CLEARING, GRUBBING AND MISCELLANEOUS DEMOLITION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. The General Conditions of the Contract, including General and Special Provisions and General Requirements apply to the work in this section.

1.02 DESCRIPTION

- A. Work Included: Furnish all labor, materials, equipment, facilities, transportation and services to complete all clearing and demolition and related work as shown on the drawings and/or specified herein.
 - 1. Clearing and Grubbing
 - 2. Removal and Disposal of Miscellaneous Construction Items and Debris

PART 2 - MATERIALS

2.01 EQUIPMENT

- A. Equipment shall be suitable for the work to be done and shall be in first-class condition. Equipment operators and workmen to be skilled in operations and to be supervised by a competent superintendent.

PART 3 - EXECUTION

3.01 GENERAL

- A. Clear and grub future planting and paved areas as shown on Plans or as specified herein. Grubbing shall include clearing the entire root systems of all plants, weeds, and grasses.
- B. Remove and dispose of wire mesh fencing; including posts and footings, and miscellaneous deleterious materials, such as, asphalt, aggregate base, concrete, where shown on plans. Contractor shall finish off edges at limit of fence to remain as directed by the City inspector.
- C. Dust Control: At all times during the operations, prevent the formation of an airborne dust nuisance by watering and/or treating the site of the work in such a manner that will confine dust particles to the immediate area of the work.
- D. Debris:
 - 1. Remove debris as it accumulates, except as otherwise specified. Do not store or permit debris to accumulate on the site. If contractor fails to remove excess debris promptly, the City reserves the right to cause same to be removed at Contractor's expense.

2. Materials requiring removal and demolition shall become the property of the contractor and shall be removed completely from site, unless noted otherwise on plans, and shall be disposed of at an approved site outside the city limits.
3. If unforeseen items are encountered during clearing and demolition work, the Contractor shall notify the City Inspector prior to removal or demolition.

END OF SECTION 31 10 00

**SECTION 32 18 16.13
SYNTHETIC TURF SURFACING**

PART 1 - GENERAL

1.1 SUMMARY

- A. Furnish all labor, materials, tools and equipment necessary for the complete installation of a playground protective synthetic grass surfacing system that meets the requirements of ASTM F 1292-09 and IPEMA Certification of conformance as a safe public play surface as indicated on the plans and as specified herein; including components and accessories required for a complete installation, including but not limited to:
 - 1. Acceptance of prepared sub-base.
 - 2. Coordination with related trades to ensure a complete, integrated, and timely installation: aggregate base course, sub-base material (tested for permeability), grading and compacting, piping and drain components (when required); as provided under its respective trade section.

1.2 RELATED SECTIONS

- A. Section 32 91 19 – Earthwork & Grading

1.3 REFERENCE STANDARDS

- A. ASTM – American Society for Testing and Materials.
 - 1. D1577 - Standard Test Method for Linear Density of Textile Fiber.
 - 2. D5848 - Standard Test Method for Mass Per Unit Area of Pile Yarn Floor Covering.
 - 3. D1338 - Standard Test Method for Tuft Bind of Pile Yarn Floor Covering.
 - 4. D1682 - Standard Method of Test for Breaking Load and Elongation of Textile Fabrics.
 - 5. D5034 - Standard Test Method of Breaking Strength and Elongation of Textile Fabrics (Grab Test).
 - 6. D4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
 - 7. F1292-09 - Standard Test Method for Impact Attenuation or Critical Fall Height of Surfacing Materials Under and Around Playground Equipment.
 - 8. F1951-09: Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.
 - 9. D2859 - Standard Test Method for Ignition Characteristics of Finished

Textile Floor Covering Materials.

B. IPEMA – International Play Equipment Manufacturers Association

1. Public Play Surfacing Certified to ASTM F1292-09 - Standard Test Method for Impact Attenuation or Critical Fall Height of Surfacing Materials Under and Around Playground Equipment.

1.4 PERFORMANCE REQUIREMENTS

A. Completed playground protective synthetic grass surfacing system shall be capable of meeting the following performance requirements:

1. IPEMA Public Play Surfacing Certified.
2. ASTM F1292-09: Impact attenuation. Playground protective surface shall meet performance requirements for the impact attenuation of playground surfacing materials installed within the use zone of playground equipment, as specified by Architect.
3. ASTM D4491: Water permeability test. Synthetic grass surface shall drain at a rate of 250 inches or more, of water per hour.
4. ASTM D1338: Tuft bind. Synthetic grass surfacing shall have a tuft bind, without infill material of 8 pounds or more.
5. F1951-09: Standard Specification for Determination of Accessibility of Surface Systems under and Around Playground Equipment.

1.5 SUBMITTALS

A. Substitutions: Other products are acceptable if in compliance with all requirements of these specifications. Submit alternate products to Architect for approval prior to bidding in accordance Section 01 25 13, Product Substitution Procedures.

1. Provide substantiation that proposed system does not violate any other manufacturer's patents, patents allowed or patents pending.
2. Provide a sample copy of insured, non-prorated warranty and insurance policy information.

B. Comply with Section 01 33 00, Submittals Procedures. Submit for approval prior to fabrication.

C. Product Data:

1. Submit manufacturer's catalog cuts, material safety data sheets (MSDS), brochures, specifications; preparation and installation instructions and recommendations.
2. Submit fiber manufacturer's name, type of fiber and composition of fiber.
3. Submit shock absorbing pad manufacturer's name.
4. Submit data in sufficient detail to indicate compliance with the contract

documents.

5. Submit manufacturer's instructions for installation.
 6. Submit manufacturer's IPEMA Certificate to indicate compliance with certified public play surfacing.
- D. Samples: Submit samples, illustrating details of finished product in amounts as required by General Requirements, or as requested by Architect.
- E. List of existing installations: Submit list including respective Owner's representative and telephone number.
- F. Warranties: Submit warranty and ensure that forms have been completed in Owner's name and registered with approved manufacturer.

1.6 QUALITY ASSURANCE

- A. Comply with Section 01 43 00, Quality Assurance.
- B. Manufacturer Qualifications: Engaged in manufacturing synthetic grass surfacing products for a minimum of fifteen (15) years.
1. The Manufacturer shall be experienced in the manufacturing and installation of specified type of playground protective synthetic grass surfacing system. This includes use of a ridged monofilament fiber, texturized monofilament fiber, backing, the backing coating, shock absorbing playground pad and the installation method.
 2. The Manufacturer shall own and operate its own manufacturing plant. Manufacturing the fiber, tufting of the fibers into the backing materials and coating of the synthetic grass system must be done in-house by manufacturer.
 3. The Manufacturer must hold ISO 9001, ISO 14001 and OHSAS 18001 certifications demonstrating its manufacturing efficiency with regards to quality, environment and safety management systems.
 4. The Manufacturer must hold IPEMA certification for specified synthetic grass product.
- C. Installer/Contractor Qualifications: Company shall specialize in performing the work of this section.
1. The Company shall provide competent workmen skilled in this specified type of playground protective synthetic grass system installation.
 2. The designated Supervisory Personnel on the project shall be certified, in writing by the manufacturer, as competent in the installation of specified type of synthetic grass system, including gluing seams and proper installation of the shock absorbing playground pad and infill material.
 3. The Company shall be certified by the manufacturer and licensed (if

required).

- D. Pre-Installation Conference: Conduct conference at project site at time to be determined by Architect. Review methods and procedures related to installation including, but not limited to, the following:
 - 1. Inspect and discuss existing conditions and preparatory work performed under other contracts.
 - 2. In addition to the Contractor and the installer, arrange for the attendance of installers affected by the Work, The Owner's representative, and the Architect.
- E. The Installer/Contractor shall verify special conditions required for the installation of the playground protective synthetic grass system if required.
- F. The Installer/Contractor shall notify the Architect of any discrepancies.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Comply with Section 01 60 00, Product Requirements.
- B. Deliver and store components with labels intact and legible.
- C. Store materials/components in a secure manner, under cover and elevated above grade.
- D. Protect from damage during storage, handling and installation. Protect from damage by other trades.
- E. Inspect all delivered materials and products to ensure they are undamaged and in good condition.

1.8 SEQUENCING AND SCHEDULING

- A. Coordinate the Work with installation of work of related trades as the Work proceeds.
- B. Sequence the Work in order to prevent deterioration of the sub-base and the installed system.

1.9 WARRANTY

- A. See Section 01 78 00, Closeout Submittals, for Additional Warranty Requirements.
- B. The Installer/Contractor shall provide a warranty to the Owner that covers defects in materials and workmanship of the synthetic grass product for a period of eight (8) years from the date of completion. The synthetic grass manufacturer must verify that their representative has inspected the installation and that the work conforms to the manufacturer's requirements. The manufacturer's warranty shall include general wear and damage caused from UV degradation. The warranty shall specifically exclude vandalism, and acts of God beyond the control of the Owner or the manufacturer. The warranty shall be fully third party insured; pre-paid for the entire 8 year term and be non-prorated. The Installer/Contractor shall provide a warranty to the Owner that covers defects in the installation workmanship, and further warrant that the installation was done in accordance with both the manufacturer's recommendations and any

written directives of the manufacturer's representative. The insurance policy must be underwritten by an "AM Best" A rated carrier and must reflect the following values:

1. Pre-Paid 8-year insured warranty.
2. Maximum per claim coverage amount of \$32,000,000.
3. Minimum of thirty-two million dollar (\$32,000,000) annual aggregate.
4. Must cover full 100% replacement value of total square footage installed.
5. Policies that include self-insurance or self-retention clauses shall not be considered.
6. Policy cannot include any form of deductible amount.
7. Sample policy must be provided at time of bid to prove that policy is in force. A letter from an agent or a sample Certificate of Insurance will not be acceptable.

PART 2 - PRODUCTS

2.1 MANUFACTURERS AND DISTRIBUTORS

- A. Approved Manufacturer: FieldTurf USA, Inc. 175 N. Industrial Blvd, Calhoun, GA 30701
- B. Approved Distributor: EasyTurf, Inc. 2750 La Mirada Drive, Vista, CA 92051
Contact: National Accounts Manager – Johnny Kane 760-440-0665.

2.2 MATERIALS AND PRODUCTS

- A. Playground Protective Synthetic Grass Surfacing system shall consist of the following:
 1. Synthetic grass surfacing made with a combination of ridged monofilament polyethylene fibers and texturized monofilament fibers, tufted into a fibrous, non-perforated, porous backing.
 2. Shock absorbing playground pad.
 3. Anchoring device to secure perimeter edge of synthetic grass.
 4. Infill: Graded dust-free silica sand that partially covers the synthetic grass. Graded dust-free acrylic coated silica sand may be substituted for silica sand as requested by Architect.
 5. Glue, thread, seaming fabric and other materials used to install and mark the synthetic grass.
- B. Synthetic grass surfacing system shall have the following properties:

Standard	Property	Specification
ASTM D1577	Fiber Denier	10800
ASTM D1577	Secondary Fiber Denier	5600

ASTM D5823	Pile Height	1.625"
ASTM D5793	Stitch Gauge	3/8"
ASTM D5848	Pile Weight	65 oz/square yard
ASTM D5848	Primary Backing	7 oz/square yard
ASTM D5848	Secondary Backing	20 oz/square yard
ASTM D5848	Total Weight	92 oz/square yard
ASTM D1338	Tuft Bind (Without Infill)	9 lbs
ASTM D4491	Turf Permeability	250 inches/hour
N/A	Infill Component	2.75 lbs/square foot

- C. Synthetic grass surfacing product shall consist of soft spined monofilament fibers and texturized monofilament fibers tufted into a primary backing with a secondary backing.
- D. Backing:
1. Primary backing shall be a double-layered polypropylene fabric treated with UV inhibitors.
 2. Secondary backing shall consist of an application of porous urethane to permanently lock the fiber tufts in place.
 3. Perforated (with punched holes), backed turf is unacceptable.
 4. Turf with attached scrim in lieu of porous urethane is unacceptable.
- E. Primary fiber shall be 10,800 denier, low friction, and UV-resistant fiber measuring not less than 1.625 inches high. Secondary fiber shall be 5,600 denier.
- F. Shock absorbing playground pad shall be manufactured from recycled, non-contaminated postindustrial cross link, closed cell polyethylene foam. Pad should drain vertically and laterally without absorbing water or other liquids. Shock absorbing pad in 2.125" and a Double Layer of 2.125" pad measuring a total of 4.250" to meet specified use zone critical fall height requirements as requested by Architect.
- G. Synthetic grass surfacing shall be anchored into an exterior grade nailer strip: pressure treated lumber or approved composite board.
- H. Infill materials shall be approved by the manufacturer.
1. Infill shall consist of graded dust-free silica sand. Graded dust-free acrylic coated silica sand or volcanic ash may be substituted for silica sand as requested by Architect.
 2. Glue and seaming fabric, for seaming of synthetic grass shall be as recommended by the synthetic grass manufacturer.

2.3 QUALITY CONTROL IN MANUFACTURING

- A. The manufacturer shall own and operate its own manufacturing plant in North America. Both tufting of the fibers into the backing materials and coating of the turf system must be done in-house by the synthetic grass manufacturer. Outsourcing of either is unacceptable.
- B. The manufacturer shall have full-time certified in-house inspectors at their manufacturing plant that are experts with industry standards.

- C. The manufacturer's full-time in-house certified inspectors shall perform pre-tufting fiber testing on tensile strength, elongation, tenacity, and denier, upon receipt of fiber spools from fiber manufacturer.
- D. Primary backing shall be inspected by the manufacturer's full-time certified in-house inspectors before tufting begins.
- E. The manufacturer's full-time in-house certified inspectors shall verify "pick count", yarn density in relation to the backing, to ensure the accurate amount of face yarn per square inch.
- F. The manufacturer's full-time, in-house, certified inspectors shall perform product inspections at all levels of production including during the tufting process and at the final stages before the synthetic grass is loaded onto the truck for delivery.
- G. The manufacturer shall have its own, in-house laboratory where samples of synthetic grass are retained and analyzed, based on standard industry tests, performed by full-time, in-house, certified inspectors.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that all sub-base leveling is complete prior to installation.
- B. Installer/Contractor shall examine the surface to receive the shock absorbing playground pad and accept the sub-base planarity in writing prior to the beginning of installation.
 - 1. Acceptance is dependent upon the Owner's test results indicating compaction and planarity are in compliance with manufacturer's specifications.
 - 2. The surface shall be accepted by Installer as "clean" as installation commences and shall be maintained in that condition throughout the process.
- C. Compaction of the aggregate base shall be a minimum of 90%, in accordance with ASTM D1557 (Modified Proctor procedure); and the surface tolerance shall not exceed 0-1/4 inch over 10 feet and 0-1/2 inch from design grade.
- D. Correct conditions detrimental to timely and proper completion of Work.
- E. Do not proceed until unsatisfactory conditions are corrected.
- F. Beginning of installation means acceptance of existing conditions.

3.2 PREPARATION

- A. Prior to the beginning of installation, inspect the sub-base for tolerance to grade.
- B. Sub-base acceptance shall be subject to receipt of test results (by others) for compaction and planarity that sub-base is in compliance with manufacturer's specifications and recommendations.

- C. When requested by Architect, installed sub-base shall be tested for porosity prior to the installation of the synthetic grass system. A sub base that drains poorly is an unacceptable substrate.

3.3 INSTALLATION

- A. The finished surface shall appear as mowed grass with no irregularities and shall be required to meet applicable ASTM, CPSC and ADA standards for the maximum fall height, as requested by the Architect.
- B. The installation shall be performed in full compliance with approved Shop Drawings.
- C. Only trained technicians, skilled in the installation of synthetic grass systems working under the direct supervision of the approved installer supervisors, shall undertake any cutting, sewing, gluing, shearing, top-dressing or brushing operations.
- D. The designated Supervisory personnel on the project must be certified, in writing by the manufacturer, as competent in the installation of this material, including gluing seams and proper installation of the Infill material.
- E. Install at location(s) indicated, to comply with final shop drawings, manufacturers'/installer's instructions.
- F. The Installer/Contractor shall strictly adhere to specified procedures. Any variance from these requirements shall be provided in writing, by the manufacturer's on-site representative, and submitted to the Architect and/or Owner, verifying that the changes do not in any way affect the Warranty. Infill materials shall be approved by the manufacturer and installed in accordance with the manufacturer's standard procedures.
- G. Shock absorbing playground pad shall be installed directly over the properly prepared aggregate base. Extreme care shall be taken to avoid disturbing the aggregate base, both in regard to compaction and planarity.
 - 1. Repair and properly compact any disturbed areas of the aggregate base as recommended by manufacturer.
- H. Playground protective synthetic grass system shall be installed directly over the shock absorbing playground pad.
 - 1. Seams shall be flat, tight, and permanent with no separation or fraying.
- I. Anchoring Device:
 - 1. Secure edges around perimeter to nailer board material, and where noted on drawings, at a maximum of every 12" with staples or spikes per manufacturer's written instructions.
- J. Infill Materials:
 - 1. Infill materials shall be applied in thin lifts. The turf shall be brushed as the material is applied. The infill material shall be installed to a depth determined by the manufacturer.
 - 2. Infill material shall be installed in a systematic order.

3. Infill materials shall be installed to fill the voids between the fibers and allow the fibers to remain vertical and non-directional. The Infill installation consists of graded dust-free silica sand. Graded dust-free acrylic coated silica sand may be substituted for silica sand as requested by Architect.
4. The Infill materials shall be installed to a depth of approximately $\frac{3}{4}$ ". Infill density shall consist of 2.75 pounds of graded silica sand per square foot.
5. The Installer/Contractor shall keep area clean throughout the project and clear of debris. Upon completion of installation, the finished project shall be inspected by the installation crew and an installation supervisor.

3.4 PROTECTION

- A. Protect completed playground protective synthetic grass surfacing system throughout construction process until project completed.

END OF SECTION

SECTION 32 91 19
EARTHWORK AND GRADING

PART 1 - GENERAL

The provisions of the Standard Specifications for Public Works Construction (SSWC) 1997 edition apply except as modified herein. Available through *Building News Publications*, Telephone #: (714) 517-0970.

1.01 SCOPE OF WORK

- A. Rough grading including over excavation and compaction.
 - 1. Finish grading of the site.
- B. Excavation and backfill for all footings, structures, walls, etc. and compaction.
 - 1. Stockpiling and placing topsoil.
 - 2. Soil compaction as required.
 - 3. Protective measures.
 - 4. Dust and noise abatement.
 - 5. Obtaining construction water.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Site Preparation.

1.03 WATER

- A. Contractor shall make arrangements with the local Water Department to obtain construction water.

PART 2 - EXECUTION

2.01 CUT AND FILL

- A. Contractor shall export all excess site soil as needed. Exporting shall include excavation, removing, hauling, and disposing of soil in a legal manner off site. Contractor shall pay all fees and charges to remove export soil. Area to receive fill where landscape is to occur is to receive topsoil from excavated area.

2.02 ROUGH GRADING

- A. The site shall be graded to the limit lines and elevations shown on the drawings with such allowances as may be required for the construction of walks, and other intended site improvements. Tolerance for rough grading is 1/10th of a foot, plus or minus, at paved areas. At

all other areas, functional use and appearance shall be the governing factors as determined by the City Representative.

2.03 UNSUITABLE MATERIALS

- A. Unsuitable soils, large rocks or boulders, broken concrete/asphalt and other deleterious material may be buried on site if the location, depth and method of burial is approved by the City Representative. Only material that can not be accepted for on-site disposal shall be removed from the site by the Contractor.

2.04 FILL

- A. Fill shall be placed in level layers not to exceed six inches in depth and mechanically compacted using optimum amount of moisture to achieve a 90% minimum degree of compaction.

2.05 EXCAVATION

- A. The Contractor shall make all necessary excavation for footings and slabs and do any additional excavation necessary to provide ample room for installation of concrete forms where required.
- B. Footings may be poured in trenches against undisturbed soil where approved by City Representative.
- C. Bottom of excavations shall be level, free from loose material and brought to the indicated or required levels in undisturbed earth. All excavations shall be kept free from standing water. The Contractor shall do all pumping or draining that may be necessary in carrying on the work.
- D. Should excavations for footings, through error, be excavated to a greater depth than indicated or required, such additional depth shall be filled with concrete, as specified for footings, at the Contractor's expense. Excavations that have been dug wider than required shall be formed to conform with plans and specifications. Filling with concrete can only be accepted with the approval of the City Representative.

2.06 FINISH GRADING

- A. Finish grades shall slope to drain without water pockets or irregularities and shall conform to the intent of all plans and sections - after thorough settlement and compaction of the soil. Finish grades shall meet all existing or established controls of sidewalks, curbs and walls and shall be of uniform slope and grade between points of fixed elevations or elevation controls and from such points to established grades. Tolerance for finish grading is 1/10 foot, plus or minus, adjacent to fixed elevations or gradients. At all other areas, functional use and appearance shall be the governing factor.

2.07 BACKFILLING

- A. After the foundations and walls have been placed, forms removed, and concrete work approved, the excavation shall be backfilled with earth to the required grade.

- B. Select site material shall be used for backfill and shall be free from large stones and clods. Material shall be approved by the City Representative.
- C. Backfill shall be deposited in layers of 6" thickness.
- D. Layers of backfill shall be moistened with water, the amount to be rigidly controlled to insure optimum moisture conditions for the type of fill material used. Excess water causing saturated earth beneath footings will not be permitted.
- E. Backfill shall be compacted by suitable means to 90% density.
- F. All trenches for other work shall be backfilled in accordance with this section, and may be tested at the discretion of the City Representative.

2.08 PROTECTIVE MEASURES

- A. All excavations shall be protected and guarded against danger of life, limb and property.
- B. Existing improvements and trees within contract limits or areas of activity shall be properly protected.

2.09 DUST AND NOISE ABATEMENT

- A. During the entire period of construction, site areas shall be kept sprinkled.

END OF SECTION 32 91 19