

TROY SCHOOL DISTRICT

Troy, MI

Synthetic Turf Replacement TSD Bid # 9651

Specifications Prepared By:



3269 Coolidge Hwy.
Berkley, MI 48072
(248) 547-7757

RELEASE DATE: **January 20, 2010**

BIDS DUE: **February 4, 2010 @ 3:00 P.M.** **SET # _____**

PROJECT MANUAL

PROJECT:

Troy High School
4777 Northfield Parkway
Troy, MI 48098

Troy Athens High School
4333 John R
Troy, MI 48085

OWNER:

Troy School District
4400 Livernois Road
Troy, MI 48098

LANDSCAPE ARCHITECT:

Foresite Design, Inc.
3269 Coolidge Hwy.
Berkley, Michigan, 48072
(248) 547-7757

RELEASE DATE:

January 20, 2010

BIDS DUE:

February 4, 2010 @ 3:00 p.m.

LOCATION:

Troy School District Purchasing Office
1140 Rankin, Troy MI 48083

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SECTION 00 1113
ADVERTISEMENT FOR BID

The Troy School District will receive sealed bid proposals until 3:00 P.M. on February 4, 2010 at the Purchasing Department, 1140 Rankin, Troy, MI 48083. Bids will be opened and publicly read aloud immediately following the deadline for submission for the following bid package:

Troy School District
Synthetic Turf Replacement
Bid # 9651

*** Remove and replace synthetic turf fields at Troy High School
and Troy Athens High School*

1. All bids must be addressed to:

Troy School District Purchasing Department
1140 Rankin
Troy, Michigan 48083
REF: Synthetic Turf Replacement TSD Bid # 9651

2. Sealed bids will be publicly opened and read aloud:

Place: Troy School District Purchasing Office
1140 Rankin
Troy, Michigan 48083

Date: February 4, 2010

Time: 3:00 p.m.

3. Questions may be addressed to:

- a. Foresite Design, Inc.
Bruce Lemons, R.L.A. (248) 547-7757
- b. All questions must be submitted in writing utilizing "01 2619 CLARIFICATION REQUEST" form.
Clarifications requested orally will not be accepted.

4. Bidding Documents may be viewed:

- Places:
- a. McGraw Hill Dodge Plan Room
 - b. Construction Association of Michigan Plan Room
 - c. <ftp://ftp.foresitedesign.com>

Date: January 20, 2010

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ADVERTISEMENT FOR BID

5. Voluntary Pre-Bid Meeting

Place: Troy School District Purchasing Office
1140 Rankin
Troy, Michigan 48083

Date: January 25, 2010

Time: 1:00 p.m.

6. Bidding Documents may be obtained:

Place: Foresite Design, Inc.
3269 Coolidge Highway
Berkley, MI 48072

Deposit: \$50.00 (NON-REFUNDABLE) **Make check payable to: Foresite Design, Inc.

Mailing Fee: \$15.00

7. Bonding is required as follows:

Bid Bond: 5% of the Bid Amount

Performance Bond and Labor & Material Bond: 100% of the Contract Price

8. The Bid Bond

Bid Security or Cashier's Check, or Certified Check in the amount of five percent (5%) of the bid amount shall be submitted with the "Bid Proposal Packet" and shall be made payable to Troy School District and be submitted with the understanding that if his/her bid is accepted, he/she will enter into a formal contract with the Owner in accordance with the form of agreement AIA A101 and that the required Performance and Payment Bonds will be given. Bidders shall agree not to withdraw proposals for a period of sixty (60) days after date for receipt of bids.

9. The Performance Bond & Labor and Material Payment

Accepted bidders will be required to furnish in the amount of one hundred percent (100%) of the Contract Price, satisfactory Performance Bond and Labor and Material Payment Bond by a T-listed bonding company, acceptable to Troy School District within (ten) 10 days of notifications of intent to enter into a contract with Troy School District. Failure to do so will result in forfeiture of the proposal guarantee.

10. Additional Pertinent Information

All applicable insurance policies will be required of each accepted bidder.

This project is not tax exempt from State Sales Tax and/or Use Tax. All materials and supplies incorporated and used in construction of the work and becoming a permanent part of this project will not be exempt from State Sales Tax and/or Use Tax. State Sales Tax/Use Tax shall be included in the bid price. All other taxes, fees, permits, etc. and shipping costs shall also be included.

SECTION 00 1113
ADVERTISEMENT FOR BID

11. Bidding Submittal Requirements

The Bid Proposal Packet shall be on forms furnished in these documents.

THE BID PROPOSAL PACKET MUST BE SUBMITTED IN DUPLICATE.

The following Bid Proposal Packet information and Additional Information must be submitted in the following order.

1. Proposal Form
2. Unit Price Form
3. Material Compliance Form
4. Bid Security
5. Familial Disclosure Statement
6. Non-Collusive Affidavit
7. Hold Harmless Agreement
8. Sample Warranty and Insurance Policy
9. Product Samples

12. Tentative Construction Schedule:

Begin Construction for Proposal A:	Troy High School	-	May 20, 2010
	Troy Athens High School	-	June 21, 2010
Completion of Proposal A:	Troy High School	-	July 8, 2010
	Troy Athens High School	-	August 9, 2010

All bidders must provide familial disclosure in compliance with MCL 380.1267. The bid proposal will be accompanied by a sworn and notarized statement disclosing any familial relationship that exists between the owner or any employee of the bidder and any member of the Troy School District or Troy School District Board of Education. A bid that does not include the Familial Disclosure Statement will not be read publicly nor will the Troy School District accept a bid proposal that does not include this sworn and notarized disclosure statement.

No bid(s) will be accepted after the above time and date. Bids received after the deadline will be returned unopened. Delivery of the bids is the responsibility of the bidder, whether by mail or in person. Also, the District is not responsible for delays or failures of any other party.

The Owner reserves the right to accept or reject any or all bids and further reserves the right to award each proposal separately and to evaluate any or all bids on factors including but not limited to low bid and to the best advantage of the Troy School District.

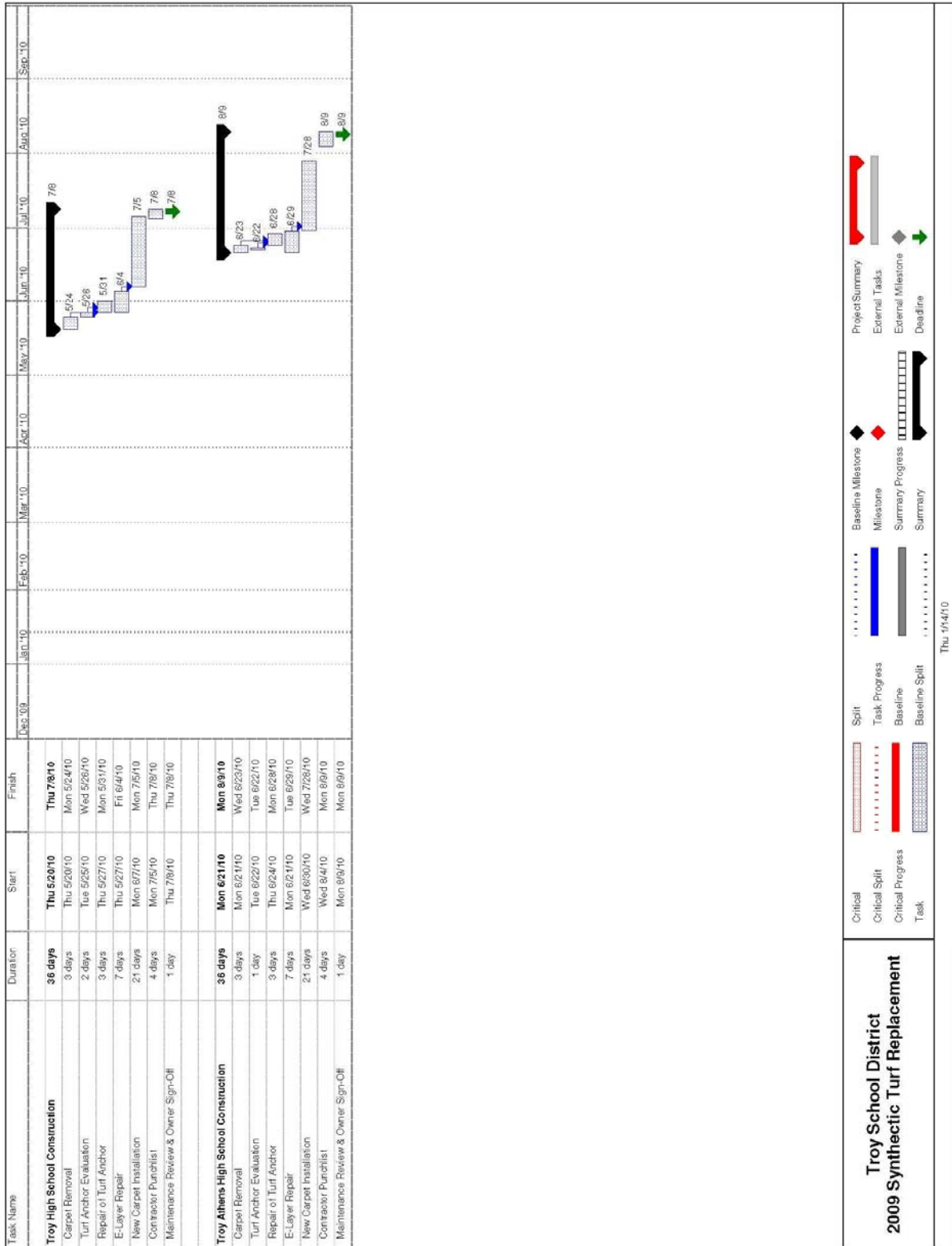
All contracts to be entered into by the Troy School District must and will comply with the prevailing wage and equal opportunity laws of the State of Michigan and Troy School District.

END OF SECTION 00 1113

SECTION 00 1113
ADVERTISEMENT FOR BID

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SECTION 00 1114
SCHEDULE



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SECTION 00 1200
SCOPE OF WORK

PROPOSAL A:

CM Supplementary Conditions
General Conditions
Division 1 General Requirements
Specification Section 02 4113 Demolition
Specification Section 06 1050 Turf Anchoring
Specification Section 31 1000 Site Preparation/Clearing
Specification Section 31 2010 Earthwork (Turf)
Specification Section 32 1123 Aggregate Drainage Layer (Turf)
Specification Section 32 1815 Synthetic Turf Sand/Rubber
Specification Section 32 1817 Synthetic Turf Monofilament
Specification Section 32 1850 E-Layer
Specification Section 32 9227 General Lawn Restoration

General Scope of Work:

1. Provide engineering and layout as required to complete this work. Contractor shall coordinate layout points of reference prior to commencement of work.
2. Contractor shall provide accessibility to the field and protection of the existing track.
3. Remove existing synthetic turf and infill and dispose off site.
4. Contractor shall provide an allowance of 300 lineal feet for complete repair of wolmanized wood nailer using the Unit Prices included with Bid. Unit Price shall include but not limited to the removal and disposal of aggregate drainage stone and existing nailer, installation of new nailer, new aggregate stone, and compaction. Provide supporting documentation related to cost incurred for wood nailer repair. Unused monies will revert back to Owner.
5. Contractor shall provide an allowance of 1,500 square feet of E-Layer repair complete using the Unit Prices included with Bid. Unit Price shall include but not limited to the removal and disposal of existing E-Layer and installation of new. Provide supporting documentation related to cost incurred for E-Layer repair. Unused monies will revert back to Owner.
6. Furnish and install synthetic turf, logos, field lettering, inlaid soccer lines, football and lacrosse "corner dots" and sand/rubber infill.
7. Contractor shall provide one-time synthetic turf painting of football hash marks, team/coaches box, restraining line, and men's/women's lacrosse lines. Refer to plans for layout.
8. Clean up and remove from site all debris associated with this work. Include sweeping of parking lots and public/private streets.
9. Provide five sets of material submittal for approval. If submittals comply with specifications, "Material Compliance Certificate" may be used.
10. Note: Milestone Schedule. This trade will be required to confirm a detailed schedule prior to award of this contract.

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SECTION 00 2113
INSTRUCTIONS TO BIDDERS

STANDARD FORM

The Standard Form of Instructions to Bidders, AIA Document A701, 1997 edition, issued by the American Institute of Architects, is part of this specification. Copies are on file and may be obtained at the office of the Architect.

TABLE OF ARTICLES

- | | |
|----------------------------|---|
| 1. Definitions | 6. Post-Bid Information |
| 2. Bidder's Representation | 7. Performance Bond and Payment Bond |
| 3. Bidding Documents | 8. Form of Agreement Between Owner and Contractor |
| 4. Bidding Procedures | 9. Description of Work |
| 5. Consideration of Bids | 10. Warranty & Indemnity |

The following includes modifications or additions to the above standard form which are applicable to this project.

ARTICLE 1DEFINITIONS

- 1.1 All definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201, are applicable to these Instructions to Bidders.
- 1.2 Bidding Documents included the Advertisement for Bids, Instructions to Bidders, Supplementary and General Conditions, Alternates, General Requirements, The Proposal Form and the Technical Specifications including any Addenda issued prior to receipt of bids.
- 1.3 Addenda are written or graphic instruments issued prior to the execution of the Contract which modify or interpret the bidding documents, including Drawings and Specifications, by additions, deletions, clarifications or corrections. Addenda will become part of the Contract Documents when the Construction Contract is executed. All changes in cost resulting from addenda shall be included in proposals.

ARTICLE 2BIDDER'S REPRESENTATION

- 2.1 Each bidder, by making his bid, represents that he has read and understands the bidding documents.
 - 2.1.3 Each bidder, by making his bid, represents that he has visited the site and familiarized himself with the local conditions under which the work is to be performed. No claims for extra compensation shall be allowed due to failure of any Bidder to examine the conditions that exist at the building site nor for conditions or difficulties encountered in the execution of the work which may have been avoided by such examination.

SECTION 00 2113
INSTRUCTIONS TO BIDDERS

In submitting his proposal, the Bidder also:

- represents that he has reviewed the work outlined in the Description of Work and fully understands the scope of the work required by interfacing Bid Categories as well as that required by Bid Categories covered in his proposal;
- acknowledges that the scope of the work is not necessarily restricted to a single trade, specification division, or section and that his proposal includes the work of all trades within the Bid Category or Categories covered in his proposal;
- agrees that his proposal, if accepted by the Owner, will be the basis for a contract directly with the Owner and to enter into such contract in accordance with the intent of the Contract Documents.

- 2.1.5 The Bidder shall familiarize himself, prior to bidding, with the work requirements of all other contractors which precede, interface, follow, or are concurrent with the work of this Category.

ARTICLE 3

BIDDING DOCUMENTS

3.3 SUBSTITUTIONS

- 3.3.1 Each Bidder represents that his bid is based upon the materials and equipment described in the Bidding Documents.
- 3.3.2 The successful Contractor must include without approved substitution, all materials and equipment which are specifically identified by manufacturer's name, model or catalog number in the respective Specification Section. Where more than one (1) product or material manufacturer is specified, the Bidder may use the one of his choice in his base bid. It is required that Bidder indicated his choice of material by identifying same in check list attached to his proposal together with the cost attributed to such material. This cost shall be a part of Base Bid, not in addition thereto.

Other substitutions will be considered only when:

- A. Request of substitution by the Bidder is made seven (7) days prior to the bid opening and approval for such request is given in the form of an Addendum.
- B. Offered as a voluntary alternate presented on the Bidder's letterhead together with the amount to be deducted from his base proposal. The Owner may accept or reject such voluntary alternate based upon his best judgment.
- 3.3.2.1 Each such request shall include a complete description of their proposed substitute, the name of the material or equipment for which it is to be substituted, drawings, cuts, performance and test data and any other data or information necessary for a complete evaluation.
- 3.3.2.2 The Owner shall receive the benefit of all cost differences resulting from any substitution.

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INSTRUCTIONS TO BIDDERS

- 3.3.2.3 Any revisions necessary after substitutions of equipment or materials have been approved shall be the full responsibility of the Contractor without extra cost to the Owner.
- 3.3.2.4 If the Architect approves any proposed substitution, such approval will be set forth in an Addendum.
- 3.3.2.5 Refer to Article 3.19 of Supplementary Conditions regarding substitutions after Award of Contract.

ARTICLE 4

BIDDING PROCEDURES

4.1 PREPARATION OF BIDS

- 4.1.1 All bids must be prepared on the forms provided by the Architect and submitted in accordance with the Instructions to Bidders.
- 4.1.2 All blank spaces must be filled in by the Bidder.

4.2 BID SECURITY

- 4.2.2 ANY BID NOT ACCOMPANIED BY A BID BOND, CERTIFIED OR CASHIER'S CHECK MAY BE REJECTED.
 - 4.2.2.1 Either a CERTIFIED OR CASHIER'S CHECK on an open, solvent bank or a BID BOND issued by an approved bonding company payable to Troy School District in an amount equal to five percent (5%) of the bid shall be submitted with each proposal as liquidated damages if successful Bidder fails to sign contract and file necessary general insurance within fifteen (15) days after Notice of Award from Architect or Owner.
 - 4.2.2.2 The bonding company on issuing a bid bond thereby obligates themselves to furnish a Performance, Labor and Material Bond within (10) ten days, in the full amount of the contract should subject Bidder be Low Bidder.
 - 4.2.2.3 The bid deposit of all except the three (3) lowest responsible bidders will be returned within three (3) days after the opening of bids. The bid deposit of the three (3) lowest responsible bidder will be returned within 48 hours after the contract and their required bonds have been finally approved by the Owner.
- 4.2.3 (d) Contractor fails to provide required bonding and submit post-bid information required to determine contract award.

4.3 SUBMISSION OF BIDS

- 4.3.2.1 Proposals shall be addressed as follows:

Troy School District Purchasing Department
1140 Rankin
Troy, Michigan 48083

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INSTRUCTIONS TO BIDDERS

REF: Synthetic Turf Replacement TSD Bid # 9651

- 4.3.3 A bid is invalid if it has not been deposited at the designated location prior to the time and date for receipt of any bids indicated in the Advertisement for Bids, or prior to any extension thereof issued to the bidders.
- 4.3.5 The contractor shall include in the bid and contract price all Sales Taxes and Use Taxes currently imposed by Legislative enactment and as administered by the Department of Revenue on the Bid Date. If the Contractor is not required to pay or bear the burden, or obtains a refund or drawback in whole or in part of any Sales or Use Tax, Interest or Penalty thereon, which was required to be and was deemed to have been included in the bid and contract price, the contract price shall be reduced by the amount thereof and the amount of such a reduction whether as a refund or otherwise, shall insure solely to the benefit of the Owner.
- 4.3.6 If required, a Bidder shall submit to the Architect a properly executed Contractor's qualification statement prior to receipt of proposals. Requested material may include the following:
- Bidder's performance record, list of construction equipment, financial statement covering a period of two (2) years and any additional information required to satisfy the Owner that the Contractor is qualified to fulfill the Contract.
- 4.3.7 Within one (1) hour after the completion of the opening of the bids, the General Contractors who submitted the three lowest bids must submit a list of the names of each subcontractor who will provide labor or a portion of the work or improvement to the Contractor for which he will be paid an amount exceeding 5 percent of the prime Contractor's total bid or \$40,000 whichever is greater. If the General Contractor fails to submit such a list within the required time, his bid shall be deemed not responsive.

4.4 MODIFICATION OR WITHDRAWAL OF BID

- 4.4.1 Unless otherwise provided in any supplement to these Instructions to Bidders, no Bidder shall modify, withdraw or cancel his bid or any part thereof for sixty (60) days after the time designated for the receipt of bids in the Advertisement for Bids.
- 4.4.2.1 Prior to receipt of the bids, Addenda will be mailed or delivered to each person or firm recorded by the Architect as having received the bidding documents and will be available for inspection wherever the bidding documents are kept available for that purpose. Addenda issued after receipt of bids will be mailed or delivered only to the selected bidder.

ARTICLE 5

CONSIDERATION OF BIDS

5.2 REJECTION OF BIDS

- 5.2.1 The Bidder acknowledges the right of the Owner to reject any or all bids and to waive any informality or irregularity in any bid received. In addition, the Bidder recognizes the right of the Owner to reject a bid if the Bidder failed to furnish any required BID SECURITY, or to

SECTION 00 2113
INSTRUCTIONS TO BIDDERS

submit the data required by the Bidding Documents, or if the bid is in any way incomplete or irregular.

5.3 ACCEPTANCE OF BID (AWARD)

- 5.3.1 Emphasis is placed upon the fact that the Owner's decision regarding award of contracts will be influenced by such factors as quality, completion time, construction features, his best judgment of value, etc., and not entirely upon cost, and further, shall reserve the right to accept or reject any or all bids and to waive irregularities in proposals.
- 5.3.2 Contracts will be awarded based upon proposals received for one Bid Category only or for all work combined under a single proposal.
- 5.3.3 Time is the essence of the Contract. It is understood that the work is to be carried through to completion with the utmost speed, consistent with good workmanship. The work of all trades shall be complete on days indicated except for minor replacement, correction or adjustment items which will not interfere with the complete operation and utilization of all parts of the contract work. The time of completion will be an important factor in determining award of the contract. Failure to comply with the construction document will result in rejection of the bid and/or cancellation of award.
- 5.3.4 Amounts entered in Proposal for Breakdowns or Unit Costs are subject to award, unless specifically noted otherwise.

ARTICLE 6

SUBMISSION OF POST BID INFORMATION

- 6.1.1 Upon request by the Architect, the selected Bidder, within seven (7) days thereafter, shall submit the following:
 - 6.1.1.1 A statement of costs for each major item or work included in the bid or in detail as requested by the Architect.
 - 6.1.1.2 A designation of the work to be performed by the Bidder with his own forces.
 - 6.1.1.3 A list of names of the Sub-Contractors or other persons or organizations (including those who are to furnish the materials or equipment fabricated to a special design) proposed for such portions of the work as may be designated, the names of the Sub-Contractors proposed for the principal portion of the work. The Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the proposed Sub-Contractors to furnish and perform the work described in the divisions of the Specifications pertaining to such proposed Sub-Contractor's respective trades. Prior to the Award of Contract, the Architect will notify the Bidder in writing if either the Owner or the Architect, after due investigation, has reasonable and substantial objection to any person or organizations on such list and refuses in writing to accept such person or organization. The Bidder may, at this option, withdraw his bid without forfeiture of bid security, notwithstanding anything to the contrary contained in Paragraph 4.3.3. If the Bidder submits an acceptable substitute with an increase in his bid price to cover the difference in cost occasioned by such substitution the Owner may, at his discretion, accept the increased bid price or he may disqualify the Bidder. Sub-

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INSTRUCTIONS TO BIDDERS

Contractors, manufacturers, material suppliers and other persons and organizations proposed by the Bidder and accepted by the Owner and Architect must be used on the work for which they were proposed and accepted and shall not be changed except with written approval of the Owner or Architect. Failure to provide the information, as stated, will result in rejection of bid and/or cancellation of award(post-award).

ARTICLE 7

PERFORMANCE BOND AND PAYMENT BOND

7.1 BOND REQUIREMENTS

7.1 The Owner shall require the Bidder to furnish bonds covering the faithful performance of the Contract and the payment of all obligations arising there under in such form and amount as the Owner may prescribe and with such sureties secured through the Bidder's usual sources as may be agreeable to the parties. Premiums shall be paid by the Bidder. The Bidder shall deliver the required bonds to the Owner not later than (10) ten days from the date of intent to enter the contract, or if the work is commenced prior thereto in response to a letter of intent or Notice of Award, the Bidder shall, prior to commencement of the work, submit evidence satisfactory to the Owner that such bonds will be issued. The bonding companies are to be limited to those listed on U.S. Department of Treasury Circular 570. All surety bonds will be checked for validity before an Award will be made. If for any reason the bonds are not valid, the selected Contractor's Proposal will be null and void.

7.1.1. All successful Bidders, except those noted above, shall be required to furnish Performance and Labor and Material Bonds in the following amounts:

1. Performance Bond in the full amount of the contract insuring the faithful performance of all provisions of the contract and the satisfactory completion of the work embraced there under within the time agreed upon, and the covering of guarantees herein provided for. This bond shall also insure the Owner against defective material or workmanship in any work under the contract for a period of one (1) year after completion and acceptance of the project.
2. Payment Bond in the full amount of the contract for the protection of sub-contractors, labor and material men.

7.2 TIME OF DELIVERY AND FORM OF BONDS

7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of his Power of Attorney indicating the monetary limit of such power.

ARTICLE 9

DESCRIPTION OF WORK

PROPOSAL A – Synthetic Turf

1. Track Protection
2. Removal of Existing Synthetic Turf and Infill
3. E-Layer and Wood Nailer Repair

SECTION 00 2113
INSTRUCTIONS TO BIDDERS

4. Installation of New Synthetic Turf and Infill
5. Installation of Centerfield Logo and all inlays
6. Painting of Football and Lacrosse Lines and Indicated
7. General Clean-Up

ARTICLE 10

WARRANTY AND INDEMNITY

10.1 WARRANTY

- 10.1 All work shall be guaranteed in writing against defects in workmanship and materials for one (1) year from issuance by the Board of Education's architect of the Certificate of Substantial Completion, or approval, acceptance and final payment by the Board of Education, whichever occurs first.

10.2 INDEMNITY

- 10.2 Contractor shall indemnify, defend and hold the Troy School District harmless from any damages to property or personal injuries resulting from or reasonable attributable to any defects in supplies or services provided by contractor hereunder.

END OF SECTION 00 2113

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SUBMITTED BY: _____

Date: _____

TO: **Troy School District**
Purchasing Department
1140 Rankin
Troy, Michigan 48083
Ref: Synthetic Turf Replacement TSD Bid #9651

I have carefully examined the bidding documents which include the Instructions to Bidders, all General Conditions and Supplemental Conditions, all drawings title Troy School District and all various addenda numbered _____ to _____ as prepared by FORESITE DESIGN, INC. which cover the general and architectural trades, as well as the premises and conditions affecting this work.

The undersigned proposes to furnish all labor, materials and equipment, all utilities, transportation services and taxes for the general construction as indicated under each proposal in accordance with said documents for the sum or sums of:

Within one (1) hour after the completion of the opening of the bids, the General Contractors who submitted the three lowest bids must submit a list of the names of each subcontractor who will provide labor or a portion of the work or improvement to the Contractor for which he will be paid an amount exceeding 5 percent of the prime Contractor's total bid or \$40,000 whichever is greater. If the General Contractor fails to submit such a list within the required time, his bid shall be deemed not responsive.

PROPOSAL A**PROPOSAL A:** Synthetic Turf

SCOPE OF WORK

1. Track Protection
2. Removal of Existing Synthetic Turf and Infill
3. E-Layer and Wood Nailer Repair
4. Installation of New Synthetic Turf and Infill
5. Installation of Centerfield Logo and all inlays
6. Painting of Football and Lacrosse Lines and Indicated
7. General Clean-Up

PROPOSAL A: BASE BID \$ _____

Dollars**ALTERNATE A-1: 4" Black Outline Around Field Numbers at Troy and Troy Athens High School****ADD TO BASE BID** \$ _____

Dollars

ALTERNATE A-2: "REDHAWK" Centerfield Logo in Lieu of "Split A" Centerfield Logo at Troy Athens**ADD TO BASE BID** \$ _____

Dollars**ALTERNATE A-3: Provide Monofilament Synthetic Turf in Lieu of Parallel Slit Synthetic Turf****ADD TO BASE BID** \$ _____

Dollars

If notified of acceptance of this proposal, the undersigned agrees to execute a contract for the above work, for the above stated compensation, in form of the standard form of the AIA.

The undersigned understands and agrees that time is of the essence and that all services, the installation of all work and materials, provided for in the contract must be fully completed on or before the following dates:

Begin Construction for Proposal A:	Troy High School	-	May 20, 2010
	Troy Athens High School	-	June 21, 2010

Completion of Proposal A:	Troy High School	-	July 8, 2010
	Troy Athens High School	-	August 9, 2010

The Contractor shall be back-charged an observation fee of \$1000.00 per day for each day that the Contractor fails to meet the projected deadlines, weather permitting, and through no fault of the Owner, or Foresite Design, Inc. Observation Fee shall be paid by the Owner to Foresite Design, Inc.

In submitting this bid, it is understood that the right is reserved by the Owner to accept or reject any or all bids or to accept any bid or bids that will be in the opinion of the Owner such that it may be to their best interest. It is agreed that this bid or bids may not be withdrawn for a period of 60 days from the date of opening.

FIRM NAME : _____

ADDRESS: _____

SIGNED: _____

NAME: _____

TITLE: _____

TELEPHONE: _____

FAX: _____

EMAIL: _____

DATE: _____

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SECTION 00 4244
UNIT PRICE FORM

Each unit price requested shall include all charges for incidental expense, applicable taxes, insurance, labor, equipment, fittings, overhead and profit. These shall govern for net additions to the work and net deductions from the work.

Contract Pricing

1. Parallel Slit Synthetic Turf w/Infill	\$ _____ /SF
2. E-Layer Repair	\$ _____ /SY
3. 2"x4" Wood Nailer	\$ _____ /LF
4. Remove/Dispose Syn. Turf Complete	\$ _____ /SF

If notified of acceptance of this proposal, the undersigned agrees to execute a contract for the above work, for the above stated compensation, in form of the standard form of the AIA.

The undersigned understands and agrees that time is of the essence and that all services, the installation of all work and materials, provided for in the contract must be fully completed on or before the following dates:

Begin Construction for Proposal A:	Troy High School	-	May 20, 2010
	Troy Athens High School	-	June 21, 2010

Completion of Proposal A:	Troy High School	-	July 8, 2010
	Troy Athens High School	-	August 9, 2010

FORESITE DESIGN, INC shall be paid, by the Contractor, a \$1000.00 per day observation fee for each day that the Contractor fails to meet the projected deadlines, weather permitting, and through no fault of the Owner, or Foresite Design, Inc.

END OF SECTION 00 4244

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SECTION 00 4336
LIST OF SUBCONTRACTORS

TO BE COMPLETED BY BIDDER:

Project:
☐ Proposal A – Synthetic Turf _____

COMPLETE LIST OF SUBCONTRACTORS BIDDER WILL BE USING:

_____ Company Name	_____ Company Name
_____ Contact Name	_____ Contact Name
_____ Address	_____ Address
_____ City, State Zip	_____ City, State Zip
_____ Phone #	_____ Phone #
_____ Fax #	_____ Fax #
_____ Company Name	_____ Company Name
_____ Contact Name	_____ Contact Name
_____ Address	_____ Address
_____ City, State Zip	_____ City, State Zip
_____ Phone #	_____ Phone #
_____ Fax #	_____ Fax #
_____ Company Name	_____ Company Name
_____ Contact Name	_____ Contact Name
_____ Address	_____ Address
_____ City, State Zip	_____ City, State Zip
_____ Phone #	_____ Phone #
_____ Fax #	_____ Fax #

(USE ADDITIONAL SHEETS AS REQUIRED)

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SECTION 00 4343
PREVAILING WAGE RATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.

1.2 QUALITY ASSURANCE

- B. To verify compliance with prevailing wage rates, contractor shall provide certified payroll forms, copies or signed payroll checks (both front and back). Workers will be audited periodically to ensure compliance.

SECTION 00 4343
PREVAILING WAGE RATES



STATE OF MICHIGAN

JENNIFER M. GRANHOLM
GOVERNOR

DEPARTMENT OF ENERGY, LABOR & ECONOMIC GROWTH
LANSING

STANLEY "SKIP" PRUSS
DIRECTOR

**REQUIREMENTS OF THE PREVAILING WAGES ON STATE PROJECTS ACT, PUBLIC ACT
166 OF 1965**

The Michigan Department of Labor & Economic Growth determines prevailing rates pursuant to the Prevailing Wages on State Projects Act, Public Act 166 of 1965, as amended. The purpose of establishing prevailing rates is to provide minimum rates of pay that must be paid to workers on construction projects for which the state or a school district is the contracting agent and which is financed or financially supported by the state. By law, prevailing rates are compiled from the rates contained in collectively bargained agreements which cover the locations of the state projects. The official prevailing rates provide an hourly rate which includes wage and fringe benefit totals for designated construction mechanic classifications. The overtime rates also include wage and fringe benefit totals. Please pay special attention to the overtime and premium pay requirements. Prevailing wage is satisfied when wages plus fringe benefits paid to a worker are equal to or greater than the required rate.

State of Michigan responsibilities under the law:

- The department establishes the prevailing rate for each classification of construction mechanic **requested by a contracting agent** prior to contracts being let out for bid on a state project.

Contracting agent responsibilities under the law:

- If a contract is not awarded or construction does not start within 90 days of the date of the issuance of rates, a re-determination of rates must be requested by the contracting agent.
- Rates for classifications needed but not provided on the Prevailing Rate Schedule, **must** be obtained **prior** to contracts being let out for bid on a state project.
- The contracting agent, by written notice to the contractor and the sureties of the contractor known to the contracting agent, may terminate the contractor's right to proceed with that part of the contract, for which less than the prevailing rates have been or will be paid, and may proceed to complete the contract by separate agreement with another contractor or otherwise, and the original contractor and his sureties shall be liable to the contracting agent for any excess costs occasioned thereby.

Contractor responsibilities under the law:

- Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing rates prescribed in a contract.
- Every contractor and subcontractor shall keep certified payrolls, as used in the industry, of each and every construction mechanic, and verification of such certified payroll in writing by either a representative or auditor/certified accountant at the end of such a

DELEG is an equal opportunity employer/program.

Auxiliary aids, services and other reasonable accommodations are available upon request to individuals with disabilities.

WAGE & HOUR DIVISION
P.O. BOX 30476 • LANSING, MICHIGAN 48909-7976
www.michigan.gov/wagehour • (517) 335-0400 • FAX (517) 335-0077

SECTION 00 4343
PREVAILING WAGE RATES

certified payroll. These records should include the occupation and indicate the hours worked on each project for each classification and the actual wages and benefits paid. This record shall be available for reasonable inspection by the contracting agent or the department.

- Each contractor or subcontractor is separately liable for the payment of the prevailing rate to its employees.
- The prime contractor is responsible for advising all subcontractors of the requirement to pay the prevailing rate prior to commencement of work.
- The prime contractor is secondarily liable for payment of prevailing rates that are not paid by a subcontractor.
- A construction mechanic shall only be paid the apprentice rate if registered with the United States Department of Labor, Bureau of Apprenticeship and Training and the rate is included in the contract.

Enforcement:

A person who has information of an alleged prevailing wage violation on a state project may file a complaint with the Wage & Hour Division. The department will investigate and attempt to resolve the complaint informally. During the course of an investigation, if the requested records and posting certification are not made available in compliance with Section 5 of Act 166, the investigation will be concluded and a referral to the Office of Attorney General for civil action will be made. The Office of Attorney General will pursue costs and fees associated with a lawsuit if filing is necessary to obtain records.

A violation of Act 166 may result in the contractor's name being added to the Prevailing Wage Act Violators List published on the division's website, updated monthly. This list includes the names and addresses of contractors and subcontractors the division has found in violation of Act 166 based on complaints from individuals and third parties. The Prevailing Wage Act Violators List is intended to inform contracting agents of contractors that have violated Act 166 for use in determining who should receive state-funded projects.

SECTION 00 4343
PREVAILING WAGE RATES



JENNIFER M.
GRANHOLM
GOVERNOR

Michigan Department of Energy, Labor & Economic
Growth

Wage & Hour Division

PO Box 30476

Lansing, MI 48909-7976

517.335.0400

www.michigan.gov/wagehour



STANLEY "SKIP" PRUSS
DIRECTOR

Informational Sheet: Prevailing Wages on State Projects
General Information Regarding Fringe Benefits

Certain fringe benefits may be credited toward the payment of the Prevailing Wage Rate:

- o If a fringe benefit is paid directly to a construction mechanic
- o If a fringe benefit contribution or payment is made on behalf of a construction mechanic
- o If a fringe benefit, which may be provided to a construction mechanic, is pursuant to a written contract or policy
- o If a fringe benefit is paid into a fund, for a construction mechanic

When a fringe benefit is not paid by an hourly rate, the hourly credit will be calculated based on the annual value of the fringe benefit divided by 2080 hours per year (52 weeks @ 40 hours per week).

The following is an example of the types of fringe benefits allowed and how an hourly credit is calculated:

Vacation	40 hours X \$14.00 per hour = \$560/2080 =	\$.27
Dental insurance	\$31.07 monthly premium X 12 mos. = \$372.84 /2080 =	\$.18
Vision insurance	\$5.38 monthly premium X 12 mos. = \$64.56/2080 =	\$.03
Health insurance	\$230.00 monthly premium X 12 mos. = \$2,760.00/2080 =	\$1.33
Life insurance	\$27.04 monthly premium X 12 mos. = \$324.48/2080 =	\$.16
Tuition	\$500.00 annual cost/2080 =	\$.24
Bonus	4 quarterly bonus/year x \$250 = \$1000.00/2080 =	\$.48
401k Employer Contribution	\$2000.00 total annual contribution/2080 =	\$.96
Total Hourly Credit		\$3.65

Other examples of the types of fringe benefits allowed:

- Sick pay
- Holiday pay
- Accidental Death & Dismemberment insurance premiums

The following are examples of items that **will not** be credited toward the payment of the Prevailing Wage Rate

- o Legally required payments, such as:
 - Unemployment Insurance payments
 - Workers' Compensation Insurance payments
 - FICA (Social Security contributions, Medicare contributions)
- o Reimbursable expenses, such as:
 - Clothing allowance or reimbursement
 - Uniform allowance or reimbursement
 - Gas allowance or reimbursement
 - Travel time or payment
 - Meals or lodging allowance or reimbursement
 - Per diem allowance or payment
- o Other payments to or on behalf of a construction mechanic that are not wages or fringe benefits, such as:
 - Industry advancement funds
 - Financial or material loans

SECTION 00 4343
PREVAILING WAGE RATES

Michigan Department Energy, Labor & Economic Growth
Wage & Hour Division
Overtime Provisions for MICHIGAN PREVAILING WAGE RATE
COMMERCIAL SCHEDULE

1. Overtime is represented as a nine character code. Each character represents a certain period of time after the first 8 hours Monday thru Friday.

	Monday thru Friday	Saturday	Sunday & Holidays	Four 10s
First 8 Hours		4	8	9
9th Hour	1	5		
10th Hour	2	6		
Over 10 hours	3	7		

Overtime for Monday thru Friday after 8 hours:

the 1st character is for time worked in the 9th hour (8.1 - 9 hours)

the 2nd character is for time worked in the 10th hour (9.1 - 10 hours)

the 3rd character is for time worked beyond the 10th hour (10.1 and beyond)

Overtime on Saturday:

the 4th character is for time worked in the first 8 hours on Saturday (0 - 8 hours)

the 5th character is for time worked in the 9th hour on Saturday (8.1 - 9 hours)

the 6th character is for time worked in the 10th hour (9.1 - 10 hours)

the 7th character is for time worked beyond the 10th hour (10.01 and beyond)

Overtime on Sundays & Holidays

The 8th character is for time worked on Sunday or on a holiday

Four Ten Hour Days

The 9th character indicates if an optional 4-day 10-hour per day workweek can be worked *between Monday and Friday* without paying overtime after 8 hours worked, unless otherwise noted in the rate schedule. To utilize a 4 ten workweek, notice is required from the employer to employee prior to the start of work on the project.

2. Overtime Indicators Used in the Overtime Provision:

H - means TIME AND ONE-HALF due

X - means TIME AND ONE-HALF due after 40 HOURS worked

D - means DOUBLE PAY due

Y - means YES an optional 4-day 10-hour per day workweek can be worked without paying overtime after 8 hours worked

N - means NO an optional 4-day 10-hour per day workweek *can not* be worked without paying overtime after 8 hours worked

3. EXAMPLES:

HHHHHHHDN - This example shows that the 1½ rate must be used for time worked after 8 hours Monday thru Friday (characters 1 - 3); for all hours worked on Saturday, 1½ rate is due (characters 4 - 7). Work done on Sundays or holidays must be paid double time (character 8). The N (character 9) indicates that 4 ten-hour days is not an acceptable workweek at regular pay.

XXXHHHHHDY - This example shows that the 1½ rate must be used for time worked after 40 hours are worked Monday thru Friday (characters 1-3); for hours worked on Saturday, 1½ rate is due (characters 4 - 7). Work done on Sundays or holidays must be paid double time (character 8). The Y (character 9) indicates that 4 ten-hour days is an acceptable alternative workweek.

(REV 09/29/09)

SECTION 00 4343
PREVAILING WAGE RATES

ENGINEERS - CLASSES OF EQUIPMENT LIST

UNDERGROUND ENGINEERS	HAZARDOUS WASTE ABATEMENT ENGINEERS
<p>CLASS I Backfiller Tamper, Backhoe, Batch Plant Operator, Ciam-Shell, Concrete Paver (2 drums or larger), Conveyor Loader (Euclid type), Crane (crawler, truck type or pile driving), Dozer, Dragline, Elevating Grader, End Loader, Gradall (and similar type machine), Grader, Power Shovel, Roller (asphalt), Scraper (self propelled or tractor drawn), Side Broom Tractor (type D-4 or larger), Slope Paver, Trencher (over 8' digging capacity), Well Drilling Rig, Mechanic, Slip Form Paver, Hydro Excavator.</p> <p>CLASS II Boom Truck (power swing type boom), Crusher, Hoist, Pump (1 or more 6" discharge or larger gas or diesel powered by generator of 300 amps or more, inclusive of generator), Side Boom Tractor (smaller than type D-4 or equivalent), Tractor (pneu-tired, other than backhoe or front end loader), Trencher (8' digging capacity and smaller), Vac Truck.</p> <p>CLASS III Air Compressors (600 cfm or larger), Air Compressors (2 or more less than 600 cfm), Boom Truck (non-swinging, non-powered type boom), Concrete Breaker (self-propelled or truck mounted, includes compressor), Concrete Paver (1 drum, ½ yard or larger), Elevator (other than passenger), Maintenance Man, Mechanic Helper, Pump (2 or more 4" up to 6" discharge, gas or diesel powered, excluding submersible pump), Pumpcrete Machine (and similar equipment), Wagon Drill Machine, Welding Machine or Generator (2 or more 300 amp or larger, gas or diesel powered).</p> <p>CLASS IV Boiler, Concrete Saw (40HP or over), Curing Machine (self-propelled), Farm Tractor (w/attachment), Finishing Machine (concrete), Firemen, Hydraulic Pipe Pushing Machine, Mulching Equipment, Oiler (2 or more up to 4", exclude submersible), Pumps (2 or more up to 4" discharge if used 3 hrs or more a day-gas or diesel powered, excluding submersible pumps), Roller (other than asphalt), Stump Remover, Vibrating Compaction Equipment (6' wide or over), Trencher (service) Sweeper (Wayne type and similar equipment), Water Wagon, Extend-a-Boom Forklift.</p>	<p>CLASS I Backhoe, Batch Plant Operator, Ciamshell, Concrete Breaker when attached to hoe, Concrete Cleaning Decontamination Machine Operator, Concrete Pump, Concrete Paver, Crusher, Dozer, Elevating Grader, Endloader, Farm Tractor (90 h.p. and higher), Gradall, Grader, Heavy Equipment Robotics Operator, Hydro Excavator, Loader, Pug Mill, Pumpcrete Machines, Pump Trucks, Roller, Scraper (self-propelled or tractor drawn), Side Boom Tractor, Slip Form Paver, Slope Paver, Trencher, Ultra High Pressure Waterjet Cutting Tool System Operator, Vactors, Vacuum Blasting Machine Operator, Vertical Lifting Hoist, Vibrating Compaction Equipment (self-propelled), and Well Drilling Rig.</p> <p>CLASS II Air Compressor, Concrete Breaker when not attached to hoe, Elevator, End Dumps, Equipment Decontamination Operator, Farm Tractor (less than 90 h.p.), Forklift, Generator, Heater, Mulcher, Pigs (Portable Reagent Storage Tanks), Power Screens, Pumps (water), Stationary Compressed Air Plant, Sweeper, Water Wagon and Welding Machine.</p> <p>Revised: 05/23/08</p>

(REV 02/13/01)

SECTION 00 4343
PREVAILING WAGE RATES

State of Michigan
Department of Energy, Labor and Economic Growth

Wage and Hour Division
7150 Harris Dr.
PO Box 30476
Lansing, MI 48909-7976
Telephone: 517-322-1825
Fax: 517-322-6352
www.michigan.gov/wagehour

Official Request #: 64
Requestor: TROY SCHOOL DISTRICT
Project Description: Synthetic Turf Replacement
Project Number: Troy High School & Athens High School

Oakland County
Official 2010 Prevailing Wage Rates for State Funded Projects

Issue Date: 1/15/2010

Contract must be awarded by: 4/15/2010

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Classification			Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description						
=====							
Asbestos & Lead Abatement Laborer		MLDC	8/6/2009	\$35.55	\$47.67	\$59.78	H H H X X X X D Y
Asbestos & Lead Abatement Laborer							
4 ten hour days @ straight time allowed Monday-Saturday, must be consecutive calendar days							
Asbestos & Lead Abatement, Hazardous Material Handler		AS207	11/4/2009	\$35.55	\$48.15	\$60.75	H H H X X X X D Y
Asbestos and Lead Abatement, Hazardous Material Handler							
4 ten hour days @ straight time allowed Monday-							
Boilermaker		BO169	8/14/2009	\$54.70	\$81.08	\$107.45	H H H H H H H D Y
Boilermaker							
Apprentice Rates:							
1st 6 months				\$40.31	\$59.49	\$78.67	
2nd 6 months				\$41.45	\$61.21	\$80.95	
3rd 6 months				\$42.57	\$62.88	\$83.19	
4th 6 months				\$43.69	\$64.57	\$85.43	
5th 6 months				\$44.81	\$66.24	\$87.67	
6th 6 months				\$49.53	\$73.40	\$97.26	
7th 6 months				\$49.32	\$73.01	\$96.69	
8th 6 months				\$51.58	\$76.40	\$101.21	
Bricklayer		BR1	12/4/2008	\$50.18	\$75.27	\$100.36	H H D H D D D D N
Bricklayer, stone mason, pointer, cleaner, caulker							
Apprentice Rates:							
First 6 months				\$30.22	\$45.33	\$60.44	
2nd 6 months				\$32.07	\$48.10	\$64.14	
3rd 6 months				\$33.92	\$50.88	\$67.84	
4th 6 months				\$35.77	\$53.66	\$71.54	
5th 6 months				\$37.62	\$56.43	\$75.24	
6th 6 months				\$39.47	\$59.20	\$78.94	
7th 6 months				\$41.32	\$61.98	\$82.64	
8th 6 months				\$43.17	\$64.76	\$86.34	

Official Request 64
Requestor: TROY SCHOOL DISTRICT
Project Description: Synthetic Turf Replacement

Project Number: Troy High School & Athens High School
County: Oakland

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

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SECTION 00 4343
PREVAILING WAGE RATES

Official 2010 Prevailing Wage Rates for State Funded Projects

Issue Date: 1/15/2010

Contract must be awarded by: 4/15/2010

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Classification	Name	Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
=====							
Carpenter							
	CA1045	Carpet and Resilient Floor Layer, (does not include installation of prefabricated formica & parquet flooring which is to be paid carpenter rate)	2/2/2009	\$43.24	\$61.36	\$79.47	H H H H D D D D N
Apprentice Rates:							
		1st 6 months		\$21.10	\$28.15	\$35.19	
		2nd 6 months		\$25.12	\$34.17	\$43.23	
		3rd 6 months		\$26.93	\$36.89	\$46.85	
		4th 6 months		\$28.75	\$39.62	\$50.49	
		5th 6 months		\$30.56	\$42.34	\$54.11	
		6th 6 months		\$32.37	\$45.06	\$57.73	
		7th 6 months		\$34.17	\$47.75	\$61.33	
		8th 6 months		\$35.99	\$50.48	\$64.97	
Carpenter	CA687Z1		1/29/2009	\$48.05	\$68.47	\$88.89	H H D H D D D D Y
Apprentice Rates:							
		1st Year		\$29.68	\$40.91	\$52.15	
		3rd 6 months		\$31.72	\$43.98	\$56.23	
		4th 6 months		\$33.75	\$47.02	\$60.29	
		5th 6 months		\$35.80	\$50.09	\$64.39	
		6th 6 months		\$37.85	\$53.17	\$68.49	
		7th 6 months		\$39.89	\$56.24	\$72.57	
		8th 6 months		\$41.93	\$59.29	\$76.65	
Piledriver	CA687Z1P		1/29/2009	\$48.05	\$68.47	\$88.89	H H D H D D D D Y
Apprentice Rates:							
		1st 6 months		\$29.68	\$40.91	\$52.15	
		2nd 6 months		\$33.75	\$47.02	\$60.29	
		3rd 6 months		\$37.85	\$53.17	\$68.49	
		4th 6 months		\$41.93	\$59.29	\$76.65	
Subdivision of county							
Cement Mason							
	brlcm		12/30/2009	\$45.50	\$64.36	\$83.22	H H D H H H D N
Apprentice Rates:							
		1st 6 months		\$26.41	\$35.85	\$45.29	
		2nd 6 months		\$28.28	\$38.66	\$49.03	
		3rd 6 months		\$32.06	\$44.33	\$56.59	
		4th 6 months		\$35.82	\$49.97	\$64.11	
		5th 6 months		\$37.71	\$52.80	\$67.89	
		6th 6 months		\$41.48	\$58.46	\$75.43	

Official Request 64
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Official Rate Schedule
Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

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SECTION 00 4343
PREVAILING WAGE RATES

Official 2010 Prevailing Wage Rates for State Funded Projects

Issue Date: 1/15/2010

Contract must be awarded by: 4/15/2010

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Classification			Last	Straight	Time and	Double	Overtime
Name	Description		Updated	Hourly	a Half	Time	Provision
Cement Mason		CE514		\$44.36	\$62.68	\$80.99	H H D H H H D N
			9/25/2009				
	Apprentice Rates:						
	1st 6 months			\$24.89	\$34.06	\$43.22	
	2nd 6 months			\$26.71	\$36.79	\$46.86	
	3rd 6 months			\$30.38	\$42.30	\$54.20	
	4th 6 months			\$34.03	\$47.77	\$61.50	
	5th 6 months			\$35.87	\$50.53	\$65.18	
	6th 6 months			\$39.53	\$56.02	\$72.50	
Drywall		PT-22-D		\$41.70	\$54.58	\$67.45	H H D H D D D D N
Drywall Taper			10/15/2009				
	Apprentice Rates:						
	First 3 months			\$28.83	\$35.27	\$41.71	
	Second 3 months			\$31.40	\$39.13	\$46.85	
	Second 6 months			\$33.97	\$42.98	\$51.99	
	Third 6 months			\$36.55	\$46.85	\$57.15	
	4th 6 months			\$37.84	\$48.79	\$59.73	
Electrician		EC-17		\$45.37	\$65.63	\$85.90	H H H H H H H D Y
Road Way Electrical Work			11/19/2007				
Double time due after 16 hours on any calendar day and							
all hours Sunday.							
	Apprentice Rates:						
	1st 6 months			\$29.17	\$41.34	\$53.50	
	2nd 6 months			\$31.19	\$44.36	\$57.54	
	3rd 6 months			\$33.21	\$47.40	\$61.58	
	4th 6 months			\$35.23	\$50.43	\$65.62	
	5th 6 months			\$37.25	\$53.46	\$69.66	
	6th 6 months			\$41.32	\$59.57	\$77.80	
<u>Subdivision of county</u>	Holly not included	EC-58-IW		\$53.62	\$71.49	\$89.36	H H H H H H H D N
Inside Wireman			1/7/2008				
	Apprentice Rates:						
	0-1000 hours			\$32.18	\$39.33	\$46.48	
	1000-2000 hours			\$33.97	\$42.02	\$50.06	
	2000-3500 hours			\$35.75	\$44.68	\$53.62	
	3500-5000 hours			\$37.54	\$47.38	\$57.20	
	5000-6500 hours			\$41.12	\$52.74	\$64.36	
	6500-8000 hours			\$44.68	\$58.08	\$71.48	

Official Request 64
Requestor: TROY SCHOOL DISTRICT
Project Description: Synthetic Turf Replacement
Project Number: Troy High School & Athens High School
County: Oakland

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

SECTION 00 4343
PREVAILING WAGE RATES

Official 2010 Prevailing Wage Rates for State Funded Projects

Issue Date: 1/15/2010

Contract must be awarded by: 4/15/2010

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Classification			Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description						
Sound and Communication Installer/Technician	EC-58-SC		1/7/2008	\$32.54	\$44.20	\$55.86	H H H H H H H D N
Apprentice Rates:							
Period 1				\$20.88	\$26.71	\$32.54	
Period 2				\$22.04	\$28.46	\$34.86	
Period 3				\$23.21	\$30.21	\$37.20	
Period 4				\$24.38	\$31.96	\$39.54	
Period 5				\$25.55	\$33.72	\$41.88	
Period 6				\$26.71	\$35.46	\$44.20	
Lineman/Technician outside utility and commercial power and high voltage pipe type cable work and electrical underground.	EC-876		11/18/2009	\$47.05	\$68.11	\$89.17	H H H H H H H D Y
Four 10s allowed Monday-Thursday with Friday makeup or Tuesday-Friday with Monday makeup.							
Apprentice Rates:							
1st period				\$30.20	\$42.69	\$55.26	
2nd period				\$32.32	\$46.02	\$59.70	
3rd period				\$34.42	\$49.16	\$63.90	
4th period				\$36.53	\$52.33	\$68.12	
5th period				\$38.63	\$55.47	\$72.32	
6th period				\$40.74	\$58.64	\$76.54	
7th period				\$42.84	\$61.79	\$80.74	
<u>Subdivision of county</u>	Holly Township only						
Elevator Constructor	EL 36		8/7/2007	\$56.46		\$94.99	D D D D D D D D Y
Elevator Constructor							
Elevator Constructor							
Apprentice Rates:							
1st Year Apprentice				\$37.74		\$58.93	
2nd Year Apprentice				\$41.90		\$66.94	
3rd Year Apprentice				\$43.98		\$70.95	
4th Year Apprentice				\$48.14		\$78.96	

Official Request 64
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Project Description: Synthetic Turf Replacement

Project Number: Troy High School & Athens High School
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Official Rate Schedule

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SECTION 00 4343
PREVAILING WAGE RATES

Official 2010 Prevailing Wage Rates for State Funded Projects

Issue Date: 1/15/2010

Contract must be awarded by: 4/15/2010

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Classification						
Name	Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
=====						
Glazier						
Glazier	GL-357	6/10/2009	\$45.20	\$59.80		H H H H H H H Y
If a four 10 hour day workweek is scheduled, four 10s must be consecutive, M-F.						
Apprentice Rates:						
	1st 6 months		\$31.29	\$38.59		
	2nd 6 months		\$32.82	\$40.85		
	3rd 6 months		\$35.89	\$45.38		
	4th 6 months		\$37.42	\$47.64		
	5th 6 months		\$38.96	\$49.91		
	6th 6 months		\$40.49	\$52.17		
	7th 6 months		\$42.02	\$54.43		
	8th 6 months		\$45.09	\$58.96		
Heat and Frost Insulator						
Spray Insulation	AS25S	3/5/2007	\$20.14	\$29.14		H H H H H H H H
Heat and Frost Insulator and Asbestos Worker						
Heat and Frost Insulators and Asbestos Workers	AS25	8/14/2009	\$53.15	\$68.54	\$83.92	H H H H H H H D Y
Four 10s must be worked for a minimum of 2 weeks consecutively, Monday thru Thursday. All hours worked in excess of 10 will be paid at double time. All hours worked on the fifth day, Monday thru Friday will paid at time and one-half.						
Apprentice Rates:						
	1st Year		\$39.30	\$47.76	\$56.22	
	2nd Year		\$42.38	\$52.38	\$62.38	
	3rd Year		\$43.92	\$54.69	\$65.46	
	4th Year		\$47.00	\$59.31	\$71.62	
Ironworker						
Fence, Sound Barrier & Guardrail erection/installation and Exterior Signage work	IR-25-F1	8/13/2009	\$30.80	\$42.63	\$54.45	X X H X X X D D Y
Four ten hour work days may be worked during Monday-Saturday.						
Apprentice Rates:						
	60% Level		\$21.10	\$28.19	\$35.29	
	65% Level		\$22.31	\$30.00	\$37.68	
	70% Level		\$23.53	\$31.81	\$40.09	
	75% Level		\$24.74	\$33.61	\$42.48	
	80% Level		\$25.95	\$35.41	\$44.87	

Official Request 04
Requestor: TROY SCHOOL DISTRICT
Project Description: Synthetic Turf Replacement

Project Number: Troy High School & Athens High School
County: Oakland

Official Rate Schedule

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Classification Name Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Siding, Glazing, Curtain Wall 4 tens may be worked Monday thru Thursday @ straight time. If bad weather, Friday may be a make up day. If holiday celebrated on a Monday, 4 10s may be worked Tuesday thru Friday. Work in excess of 12 hours per day must be paid @ double time.	IR-25-GZ2 8/14/2009	\$41.86	\$52.62	\$63.37	H H H H H D D Y
Apprentice Rates:					
Level 1		\$25.93	\$32.38	\$38.84	
Level 2		\$27.99	\$34.98	\$41.97	
Level 3		\$30.06	\$37.59	\$45.12	
Level 4		\$32.13	\$40.20	\$48.26	
Level 5		\$34.19	\$42.80	\$51.40	
Level 6		\$36.26	\$45.40	\$54.54	
Pre-engineered Metal Work	IR-25-PE-Z1-Z2 5/8/2008	\$41.69	\$52.37	\$63.04	X X H X X X X D Y
Apprentice Rates:					
1st level		\$23.47	\$28.51	\$33.55	
2nd level		\$25.12	\$30.85	\$36.58	
3rd level		\$26.78	\$33.19	\$39.61	
4th level		\$28.44	\$35.55	\$42.66	
5th level		\$30.10	\$37.90	\$45.70	
6th level		\$31.36	\$39.65	\$47.93	
Reinforced Iron Work	IR-25-RF 8/14/2009	\$51.36	\$73.35	\$95.34	H H D H D D D D N
Apprentice Rates:					
Level 1		\$31.67	\$43.52	\$55.36	
Level 2		\$34.21	\$47.33	\$60.44	
Level 3		\$36.74	\$51.12	\$65.50	
Level 4		\$39.28	\$54.93	\$70.58	
Level 5		\$41.81	\$58.73	\$75.64	
Level 6		\$44.35	\$62.54	\$80.72	
Rigging Work	IR-25-RIG 8/14/2009	\$56.98	\$85.28	\$113.58	H H H H H H D N
Apprentice Rates:					
Level 1 & 2		\$32.28	\$48.17	\$64.05	
Level 3		\$35.11	\$52.41	\$69.71	
Level 4		\$37.93	\$56.64	\$75.35	
Level 5		\$40.76	\$60.89	\$81.01	
Level 6		\$43.59	\$65.13	\$86.67	

Official Request 64
Requestor: TROY SCHOOL DISTRICT
Project Description: Synthetic Turf Replacement
Project Number: Troy High School & Athens High School
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Official Rate Schedule

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Classification Name Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Decking 4 tens may be worked Monday thru Thursday @ straight time. If bad weather, Friday may be a make up day. If holiday celebrated on a Monday, 4 10s may be worked Tuesday thru Friday. Work in excess of 12 hours per day must be paid @ double time.	IR-25-SD 8/14/2009	\$48.94	\$73.16	\$97.37	H H H H H D D Y
Structural, ornamental, conveyor, welder and pre-cast 4 tens may be worked Monday thru Thursday @ straight time. If bad weather, Friday may be a make up day. If holiday celebrated on a Monday, 4 10s may be worked Tuesday thru Friday. Work in excess of 12 hours per day must be paid @ double time.	IR-25-STR 8/14/2009	\$57.11	\$85.41	\$113.71	H H H H H D D Y
Apprentice Rates:					
Levels 1 & 2		\$32.28	\$48.17	\$64.05	
Level 3		\$35.11	\$52.41	\$69.71	
Level 4		\$37.93	\$56.64	\$75.35	
Level 5		\$40.76	\$60.89	\$81.01	
Level 6		\$43.58	\$65.12	\$86.65	
Level 7		\$46.41	\$69.37	\$92.31	
Level 8		\$49.24	\$73.60	\$97.97	
Industrial Door erection & construction	IR-25-STR-D 3/28/2008	\$35.72	\$47.34	\$58.96	H H D H H D D Y
Laborer Construction Laborer, Mason Tender, Carpenter Tender, Drywall Handler, Concrete Laborer, Cement Finisher tender, concrete chute and concrete Bucket Handler, Concrete Laborer, Demolition Laborer	L1076-A-A 11/9/2009	\$38.76	\$54.96	\$71.15	H H D H D D D D Y
Apprentice Rates:					
0-1,000 work hours		\$32.99	\$46.30	\$59.61	
1,001-2,000 work hours		\$34.14	\$48.02	\$61.91	
2,001-3,000 work hours		\$35.30	\$49.76	\$64.23	
3,001-4,000 work hours		\$37.61	\$53.23	\$68.85	
Signal man (on sewer & caisson work); air,electric or gasoline tool operator (including concrete vibrator operator,acetylene torch & air hammer operator); scaffold builder, caisson worker	L1076-A-B 7/10/2009	\$39.02	\$55.35	\$71.67	H H D H D D D D Y
Lansing Burner, Blaster & Powder Man	L1076-A-C 7/10/2009	\$39.51	\$56.08	\$72.65	H H D H D D D D Y
Furnance battery heater tender, burning bar & oxy-acetylene gun, expediter man, top man and/or bottom man (blast furnace work)	L1076-A-D 7/10/2009	\$39.26	\$55.71	\$72.15	H H D H D D D D Y

Official Request 64

Requestor: TROY SCHOOL DISTRICT

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Classification			Last	Straight	Time and	Double	Overtime
Name	Description		Updated	Hourly	a Half	Time	Provision
Cleaner/ sweeper laborer, furniture laborer	L1076-A-E	7/10/2009		\$33.31	\$46.78	\$60.25	H H D H D D D D Y
Demolition Laborer	L1076-D	7/10/2009		\$38.76	\$54.96	\$71.15	H H D H D D D D Y
Plasterer Tender, Plastering Machine Operator	LPT-1	8/6/2009		\$40.14	\$57.03	\$73.91	H H D H D D D D N
Apprentice Rates:							
0 - 1,000 hours				\$32.99	\$46.30	\$59.61	
1,001 - 2,000 hours				\$34.14	\$48.02	\$61.91	
2,001 - 3,000 hours				\$35.30	\$49.76	\$64.23	
3,001 - 4,000 hours				\$37.61	\$53.23	\$68.85	
Laborer - Hazardous							
Class A Laborer - performing work in conjunction with site preparation and other preliminary work prior to actual removal, handling, or containment of hazardous waste substances not requiring use of personal protective equipment required by state or federal regulations; or a laborer performing work in conjunction with the removal, handling, or containment of hazardous waste substances when used of personal protective equipment level "D" is required.	LHAZ-Z2-A	11/14/2008		\$38.76	\$54.89	\$71.01	H H H H H H H D Y
Apprentice Rates:							
0-1,000 work hours				\$32.88	\$46.07	\$59.25	
1,001-2,000 work hours				\$34.05	\$47.82	\$61.59	
2,001-3,000 work hours				\$35.23	\$49.60	\$63.95	
3,001-4,000 work hours				\$37.58	\$53.12	\$68.65	
Class B Laborer - performing work in conjunction with the removal, handling, or containment of hazardous waste substances when the use of personal protective equipment levels "A", "B" or "C" is required.	LHAZ-Z2-B	11/14/2008		\$39.76	\$56.39	\$73.01	H H H H H H H D Y
Apprentice Rates:							
0-1,000 work hours				\$33.62	\$47.18	\$60.73	
1,001-2,000 work hours				\$34.85	\$49.02	\$63.19	
2,001-3,000 work hours				\$36.08	\$50.87	\$65.65	
3,001-4,000 work hours				\$38.53	\$54.54	\$70.55	

Official Request 64
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Classification	Name	Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
=====							
Laborer Underground - Tunnel, Shaft & Caisson							
Class I - Tunnel, shaft and caisson laborer, dump man, shanty man, hog house tender, testing man (on gas), and watchman.	LAUCT-Z1-1		9/10/2009	\$34.54	\$45.23	\$55.91	H H H H H H D Y
Apprentice Rates:							
0-1,000 work hours				\$29.72	\$38.00	\$46.27	
1,001-2,000 work hours				\$30.69	\$39.45	\$48.21	
2,001-3,000 work hours				\$31.65	\$40.89	\$50.13	
3,001-4,000 work hours				\$33.58	\$43.78	\$53.99	
Class II - Manhole, headwall, catch basin builder, bricklayer tender, mortar man, material mixer, fence erector, and guard rail builder.	LAUCT-Z1-2		9/10/2009	\$34.65	\$45.39	\$56.13	H H H H H H D Y
Apprentice Rates:							
0-1,000 work hours				\$29.81	\$38.13	\$46.45	
1,001-2,000 work hours				\$30.77	\$39.57	\$48.37	
2,001-3,000 work hours				\$31.74	\$41.02	\$50.31	
3,001-4,000 work hours				\$33.68	\$43.94	\$54.19	
Class III - Air tool operator (jack hammer man, bush hammer man and grinding man), first bottom man, second bottom man, cage tender, car pusher, carrier man, concrete man, concrete form man, concrete repair man, cement invert laborer, cement finisher, concrete shoveler, conveyor man, floor man, gasoline and electric tool operator, gunnite man, grout operator, welder, heading dinky man, inside lock tender, pea gravel operator, pump man, outside lock tender, scaffold man, top signal man, switch man, track man, tugger man, utility man, vibrator man, winch operator, pipe jacking man, wagon drill and air track operator and concrete saw operator (under 40	LAUCT-Z1-3		9/10/2009	\$34.71	\$45.48	\$56.25	H H H H H H D Y
Apprentice Rates:							
0-1,000 work hours				\$29.85	\$38.19	\$46.53	
1,001-2,000 work hours				\$30.82	\$39.64	\$48.47	
2,001-3,000 work hours				\$31.79	\$41.10	\$50.41	
3,001-4,000 work hours				\$33.74	\$44.02	\$54.31	
Class IV - Tunnel, shaft and caisson mucker, bracer man, liner plate man, long haul dinky driver and well point	LAUCT-Z1-4		9/10/2009	\$34.89	\$45.75	\$56.61	H H H H H H D Y
Apprentice Rates:							
0-1,000 work hours				\$29.99	\$38.40	\$46.81	
1,001-2,000 work hours				\$30.97	\$39.87	\$48.77	
2,001-3,000 work hours				\$31.95	\$41.34	\$50.73	
3,001-4,000 work hours				\$33.91	\$44.28	\$54.65	

Official Request 64
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Classification Name Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Class V - Tunnel, shaft and caisson miner, drill runner, keyboard operator, power knife operator, reinforced steel or mesh man (e.g. wire mesh, steel mats, dowel bars)	LAUCT-Z1-5 9/10/2009	\$35.14	\$46.13	\$57.11	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		\$30.17	\$38.67	\$47.17	
1,001-2,000 work hours		\$31.17	\$40.17	\$49.17	
2,001-3,000 work hours		\$32.16	\$41.66	\$51.15	
3,001-4,000 work hours		\$34.15	\$44.64	\$55.13	
Class VI - Dynamite man and powder man.	LAUCT-Z1-6 9/10/2009	\$35.47	\$46.62	\$57.77	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		\$30.42	\$39.04	\$47.67	
1,001-2,000 work hours		\$31.43	\$40.56	\$49.69	
2,001-3,000 work hours		\$32.44	\$42.08	\$51.71	
3,001-4,000 work hours		\$34.46	\$45.10	\$55.75	
Class VII - Restoration laborer, seeding, sodding, planting, cutting, mulching and topsoil grading and the restoration of property such as replacing mail boxes, wood chips, planter boxes and flagstones.	LAUCT-Z1-7 9/10/2009	\$28.75	\$36.54	\$44.33	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		\$25.38	\$31.48	\$37.59	
1,001-2,000 work hours		\$26.05	\$32.49	\$38.93	
2,001-3,000 work hours		\$26.73	\$33.51	\$40.29	
3,001-4,000 work hours		\$28.08	\$35.54	\$42.99	
Landscape Laborer Landscape Specialist includes air, gas, and diesel equipment operator, lawn sprinkler installer on landscaping work where seeding, sodding, planting, cutting, trimming, backfilling, rough grading or maintenance of landscape projects occurs.	LLAN-Z1-A 7/9/2009	\$25.38	\$35.06	\$44.74	X X H X X X H D Y
Sundays paid at time & one half. Holidays paid at double					
All work pertaining to landscaping where seeding, sodding, planting, cutting, trimming, backfilling, rough grading or maintaining of landscape projects occurs which may include small power tool operator, lawn sprinkler installer helper, material mover, & truck driver. Sundays paid at time & one half. Holidays paid at double time.	LLAN-Z1-B 7/9/2009	\$21.16	\$28.73	\$36.30	X X H X X X H D Y

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Classification			Last	Straight	Time and	Double	Overtime
Name	Description		Updated	Hourly	a Half	Time	Provision
=====							
Marble Finisher							
Marble Finisher		BR1-MF		\$41.37	\$51.86	\$62.34	H H D H D D D D Y
A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.			8/11/2009				
Apprentice Rates:							
Level 1				\$18.11	\$24.00	\$29.89	
Level 2				\$19.25	\$25.71	\$32.17	
Level 3				\$25.69	\$32.40	\$39.12	
Level 4				\$27.09	\$34.50	\$41.92	
Level 5				\$28.53	\$36.15	\$43.77	
Level 6				\$30.07	\$38.06	\$46.06	
Level 7				\$31.68	\$39.73	\$47.79	
Level 8				\$33.10	\$41.42	\$49.74	
Marble Mason							
Marble Mason		BR1-MM		\$47.85	\$61.58	\$75.30	H H D H D D D D Y
A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.			8/11/2009				
Apprentice Rates:							
Level 1				\$23.92	\$31.19	\$38.47	
Level 2				\$26.83	\$34.85	\$42.87	
Level 3				\$31.79	\$40.02	\$48.26	
Level 4				\$34.40	\$43.55	\$52.69	
Level 5				\$36.55	\$45.94	\$55.33	
Level 6				\$40.04	\$51.10	\$62.16	
Level 7				\$40.67	\$51.90	\$63.14	
Level 8				\$41.56	\$53.24	\$64.92	
Operating Engineer							
Crane with boom & jib or leads 120' or longer		EN-324-A120		\$51.81	\$68.75	\$85.68	H H D H D D D D Y
Four ten hour days may be scheduled Monday-Thursday. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours. Hours in excess of 40 must be paid time and one half.			9/29/2009				
Crane with boom & jib or leads 140' or longer		EN-324-A140		\$52.63	\$69.98	\$87.32	H H D H D D D D Y
Four ten hour days may be scheduled Monday-Thursday. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours. Hours in excess of 40 must be paid time and one half.			9/29/2009				

Official Request 64
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Classification										
Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision			
Crane with boom & jib or leads 220' or longer		EN-324-A220	9/29/2009	\$52.93	\$70.43	\$87.92	H H D H D D D D Y			
Four ten hour days may be scheduled Monday-Thursday. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours. Hours in excess of 40 must be paid time and one half.										
Crane with boom & jib or leads 300' or longer		EN-324-A300	9/29/2009	\$54.43	\$72.68	\$90.92	H H D H D D D D Y			
Four ten hour days may be scheduled Monday-Thursday. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours. Hours in excess of 40 must be paid time and one half.										
Crane with boom & jib or leads 400' or longer		EN-324-A400	10/1/2009	\$55.93	\$74.93	\$93.92	H H D H D D D D Y			
Four ten hour days may be scheduled Monday-Thursday. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours. Hours in excess of 40 must be paid time and one half.										
Compressor or welding machine		EN-324-CW	9/29/2009	\$40.96	\$52.47	\$63.98	H H D H D D D D Y			
Four ten hour days may be scheduled Monday-Thursday. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours. Hours in excess of 40 must be paid time and one half.										
Forklift, lull, extend-a-boom forklift		EN-324-FL	9/29/2009	\$48.27	\$63.44	\$78.60	H H D H D D D D Y			
Four ten hour days may be scheduled Monday-Thursday. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours. Hours in excess of 40 must be paid time and one half.										
Fireman or oller		EN-324-FO	9/29/2009	\$39.93	\$50.93	\$61.92	H H D H D D D D Y			
Four ten hour days may be scheduled Monday-Thursday. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours. Hours in excess of 40 must be paid time and one half.										
Regular crane, job mechanic, concrete pump with boom		EN-324-RC	9/29/2009	\$50.95	\$67.46	\$83.96	H H D H D D D D Y			
Four ten hour days may be scheduled Monday-Thursday. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours. Hours in excess of 40 must be paid time and one half.										

Official Request 64
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Classification										
Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision			
Regular engineer, hydro-excavator, remote controlled concrete breaker	EN-324 RE		9/29/2009	\$49.98	\$66.00	\$82.02	H H D H D D D D Y			

Four ten hour days may be scheduled Monday-Thursday.
When bad weather or holiday occurs during this time,
Friday may be scheduled for a minimum of 8 hours.
Hours in excess of 40 must be paid time and one half.

Apprentice Rates:

0-999 hours	\$39.87	\$51.09	\$62.30
1,000-1,999 hours	\$41.48	\$53.50	\$65.52
2,000-2,999 hours	\$43.07	\$55.89	\$68.70
3,000-3,999 hours	\$44.67	\$58.29	\$71.90
4,000-4,999 hours	\$46.27	\$60.68	\$75.10
5,000-5,999 hours	\$47.88	\$63.10	\$78.32

Operating Engineer - Marine Construction

Diver/Wet Tender, Engineer (hydraulic dredge)	GLF-1		1/5/2010	\$57.10	\$74.85	\$92.60	X X H H H H H D Y
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Holiday pay= \$110.35 per hour

<u>Subdivision of county</u>	all Great Lakes, islands therein, & connecting & tributary waters						
Crane/Backhoe Operator, 70 ton or over Tug Operator, Mechanic/Welder, Assistant Engineer (hydraulic dredge), Leverman (hydraulic dredge), Diver Tender	GLF-2		1/5/2010	\$55.60	\$72.60	\$89.60	X X H H H H H D Y

Holiday pay = \$106.60 per hour

<u>Subdivision of county</u>	All Great Lakes, islands therein, & connecting & tributary waters						
Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs or more), Tug/Launch Operator, Loader, Dozer on Barge, Deck Machinery	GLF-3		1/5/2010	\$51.85	\$66.98	\$82.10	X X H H H H H D Y

Holiday pay = \$97.22 per hour

<u>Subdivision of county</u>	All Great Lakes, islands therein, & connecting & tributary waters						
Deck Equipment Operator, (Machineryman/Fireman), (4 equipment units or more), Off Road Trucks, Deck Hand, Tug Engineer, & Crane Maintenance 50 ton capacity and under or Backhoe 115,000 lbs or less, Assistant Tug Operator	GLF-4		1/5/2010	\$46.75	\$59.33	\$71.90	X X H H H H H D Y

Subdivision of county All Great Lakes, islands therein, & connecting & tributary waters

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Requestor: TROY SCHOOL DISTRICT
Project Description: Synthetic Turf Replacement

Project Number: Troy High School & Athens High School
County: Statewide

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

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Classification									
Name	Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision			
=====									
Operating Engineer Hazardous Waste Class I									
Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HWCI-Z1A	10/1/2009	\$49.74	\$65.66	\$81.57	H H H H H H D Y			

Four 10 hour days may be worked Monday-Thursday

Apprentice Rates:

1st 6 months	\$39.70	\$50.85	\$61.99
2nd 6 months	\$41.28	\$53.22	\$65.15
3rd 6 months	\$42.87	\$55.60	\$68.33
4th 6 months	\$44.47	\$58.01	\$71.53
5th 6 months	\$46.06	\$60.38	\$74.71
6th 6 months	\$47.66	\$62.79	\$77.91

Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HWCI-Z1B	10/1/2009	\$48.79	\$64.23	\$79.67	H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Apprentice Rates:

1st 6 months	\$39.02	\$49.82	\$60.63
2nd 6 months	\$40.57	\$52.15	\$63.73
3rd 6 months	\$42.11	\$54.46	\$66.81
4th 6 months	\$43.65	\$56.77	\$69.89
5th 6 months	\$45.20	\$59.10	\$72.99
6th 6 months	\$46.75	\$61.42	\$76.09

Level D - Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWCI-Z1D	10/2/2009	\$47.49	\$62.28	\$77.07	H H H H H H D Y
--	-----------------	-----------	---------	---------	---------	-----------------

Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Apprentice Rates:

1st 6 months	\$38.11	\$48.46	\$58.81
2nd 6 months	\$39.59	\$50.69	\$61.77
3rd 6 months	\$41.08	\$52.92	\$64.75
4th 6 months	\$42.55	\$55.12	\$67.69
5th 6 months	\$44.03	\$57.34	\$70.65
6th 6 months	\$45.50	\$59.54	\$73.59

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Classification						
Name	Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWCI-Z1DCL	10/2/2009	\$47.24	\$61.91	\$76.57	H H H H H H D Y

Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Apprentice Rates:

1st 6 months	\$37.94	\$48.21	\$58.47
2nd 6 months	\$39.40	\$50.40	\$61.39
3rd 6 months	\$40.87	\$52.60	\$64.33
4th 6 months	\$42.34	\$54.81	\$67.27
5th 6 months	\$43.80	\$56.99	\$70.19
6th 6 months	\$45.26	\$59.19	\$73.11

Operating Engineer Hazardous Waste Class II
Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.

EN-324-HWCI-Z1A	\$45.51	\$59.31	\$73.11	H H H H H H D Y
10/1/2009				

Four 10 hour days may be worked Monday-Thursday

Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.

EN-324-HWCI-Z1B	\$44.56	\$57.89	\$71.21	H H H H H H D Y
10/2/2009				

Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Level D - Coveralls, safety boots, glasses or chemical splash goggles and hard hats.

EN-324-HWCI-Z1D	\$43.26	\$55.94	\$68.61	H H H H H H D Y
10/2/2009				

Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.

EN-324-HWCI-Z1DCL	\$43.01	\$55.56	\$68.11	H H H H H H D Y
10/2/2009				

Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

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Classification						
Name	Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
=====						
Operating Engineer Hazardous Waste Crane w/ Boom & Jib leads 140' or longer						
Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HW140-Z1A 10/1/2009	\$52.39	\$69.63	\$86.87	H H H H H H H D Y	
Four 10 hour days may be worked Monday-Thursday						
Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HW140-Z1B 10/1/2009	\$51.44	\$68.21	\$84.97	H H H H H H H D Y	
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.						
Level D Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW140-Z1D 10/2/2009	\$50.14	\$66.26	\$82.37	H H H H H H H D Y	
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.						
Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats. Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.	EN-324-HW140-Z1DCL 10/2/2009	\$49.89	\$65.88	\$81.87	H H H H H H H D Y	
Operating Engineer Hazardous Waste Crane w/ Boom & Jib leads 220' or longer						
Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HW220-Z1A 10/1/2009	\$52.69	\$70.08	\$87.47	H H H H H H H D Y	
Four 10 hour days may be worked Monday-Thursday						
Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HW220-Z1B 10/1/2009	\$51.74	\$68.66	\$85.57	H H H H H H H D Y	
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.						

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Classification						
Name	Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Level D Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW220-Z1D	10/2/2009	\$50.44	\$66.71	\$82.97	H H H H H H H D Y
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.						
Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW220-Z1DCL	10/2/2009	\$50.19	\$66.33	\$82.47	H H H H H H H D Y
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.						
Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, Power Shovel Operator and Concrete Pump with boom						
Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWRC-Z1DCL	10/2/2009	\$47.59	\$62.43	\$77.27	H H H H H H H D Y
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.						
Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, Power Shovel Operator and Concrete Pump with Boom Operator						
Level D - Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWRC-Z1D	10/2/2009	\$48.46	\$63.74	\$79.01	H H H H H H H D Y
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.						
Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, Power Shovel Operator and Concrete Pump with booms						
Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HWRC-Z1B	10/1/2009	\$49.76	\$65.69	\$81.61	H H H H H H H D Y
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.						

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Classification									
Name	Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision			
=====									
Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, Power Shovel Operators and Concrete Pump with booms									
Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HWRC-Z1A	10/1/2009	\$50.71	\$67.11	\$83.51	H H H H H H D Y			
Four 10 hour days may be worked Monday-Thursday									
Operating Engineer Steel Work									
Forklift, 1 Drum Hoist	EN-324-ef	6/2/2009	\$54.06	\$71.85	\$89.63	H H D H H H D D Y			
Crane w/ 120' boom or longer	EN-324-SW120	6/2/2009	\$56.51	\$75.52	\$94.53	H H D H H H D D Y			
Crane w/ 120' boom or longer w/ Oiler	EN-324-SW120-O	6/2/2009	\$57.51	\$77.02	\$96.53	H H D H H H D D Y			
Crane w/ 140' boom or longer	EN-324-SW140	6/2/2009	\$57.69	\$77.29	\$96.89	H H D H H H D D Y			
Crane w/ 140' boom or longer W/ Oiler	EN-324-SW140-O	6/2/2009	\$58.69	\$78.79	\$98.89	H H D H H H D D Y			
Boom & Jib 220' or longer	EN-324-SW220	6/2/2009	\$57.96	\$77.70	\$97.43	H H D H H H D D Y			
Crane w/ 220' boom or longer w/ Oiler	EN-324-SW220-O	6/2/2009	\$58.96	\$79.20	\$99.43	H H D H H H D D Y			
Boom & Jib 300' or longer	EN-324-SW300	6/2/2009	\$59.46	\$79.95	\$100.43	H H D H H H D D Y			
Crane w/ 300' boom or longer w/ Oiler	EN-324-SW300-O	6/2/2009	\$60.46	\$81.45	\$102.43	H H D H H H D D Y			
Boom & Jib 400' or longer	EN-324-SW400	6/2/2009	\$60.96	\$82.20	\$103.43	H H D H H H D D Y			
Crane w/ 400' boom or longer w/ Oiler	EN-324-SW400-O	6/2/2009	\$61.96	\$83.70	\$105.43	H H D H H H D D Y			
Crane Operator, Job Mechanic, 3 Drum Hoist &	EN-324-SWCO	6/2/2009	\$56.15	\$74.98	\$93.81	H H D H H H D D Y			
Apprentice Rates:									
0-999 hours			\$44.35	\$57.53	\$70.71				
1,000-1,999 hours			\$46.23	\$60.35	\$74.47				
2,000-2,999 hours			\$48.12	\$63.19	\$78.25				
3,000-3,999 hours			\$50.01	\$66.02	\$82.03				
4,000-4,999 hours			\$51.89	\$68.84	\$85.79				
5,000 hours			\$53.77	\$71.66	\$89.55				

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Classification Name Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Crane w/ Oiler	EN-324-SWCO-O 6/2/2009	\$57.15	\$76.48	\$95.81	H H D H H H D D Y
Compressor or Welder Operator	EN-324-SWCW 6/2/2009	\$48.70	\$63.81	\$78.91	H H D H H H D D Y
Hoisting Operator, 2 Drum Hoist, & Rubber Tire Backhoe	EN-324-SWHO 6/2/2009	\$55.51	\$74.02	\$92.53	H H D H H H D D Y
Oiler	EN-324-SWO 6/2/2009	\$47.29	\$61.69	\$76.09	H H D H H H D D Y
Tower Crane & Derrick where work is 50' or more above first level	EN-324-SWTD50 6/2/2009	\$57.24	\$76.62	\$95.99	H H D H H H D D Y
Tower Crane & Derrick 50' or more w/ Oiler where work station is 50' or more above first level	EN-324-SWTD50-O 6/2/2009	\$58.24	\$78.12	\$97.99	H H D H H H D D Y
Operating Engineer Underground Class I Equipment	EN-324A1-UC1 9/10/2009	\$47.24	\$61.88	\$76.52	H H H H H H H D Y
Apprentice Rates:					
0-999 hours		\$37.95	\$48.20	\$58.44	
1,000-1,999 hours		\$39.43	\$50.42	\$61.40	
2,000-2,999 hours		\$40.89	\$52.61	\$64.32	
3,000-3,999 hours		\$42.35	\$54.80	\$67.24	
4,000-4,999 hours		\$43.81	\$56.98	\$70.16	
5,000-5,999 hours		\$45.28	\$59.19	\$73.10	
Class II Equipment	EN-324A1-UC2 9/10/2009	\$42.51	\$54.79	\$67.06	H H H H H H H D Y
Class III Equipment	EN-324A1-UC3 9/10/2009	\$41.78	\$53.69	\$65.60	H H H H H H H D Y
Class IV Equipment	EN-324A1-UC4 9/10/2009	\$41.21	\$52.84	\$64.46	H H H H H H H D Y
Master Mechanic	EN-324A1-UMM 9/10/2009	\$47.49	\$62.26	\$77.02	H H H H H H H D Y

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Classification									
Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision		
=====									
Painter									
Painter (8 hours of repaint work performed on Sunday shall be paid time & one half rate)	PT-22-P	10/15/2009		\$39.86	\$52.22	\$64.57	H H D H D D D D Y		
Four 10s allowed Monday-Thursday with Friday makeup day if job down due to weather, holiday or other conditions beyond the control of the employer.									
Apprentice Rates:									
First 6 months				\$27.51	\$33.69	\$39.87			
Second 6 months				\$31.21	\$39.24	\$47.27			
Third 6 months				\$32.45	\$41.10	\$49.75			
Fourth 6 months				\$33.68	\$42.95	\$52.21			
Fifth 6 months				\$34.92	\$44.81	\$54.69			
Final 6 months				\$36.15	\$46.65	\$57.15			
Pipe and Manhole Rehab									
General Laborer for rehab work or normal cleaning and cctv work-top man, scaffold man, CCTV assistant, jetter-vac assistant	TM247	6/16/2009		\$26.00	\$34.90		H H H H H H H H N		
Tap cutter/CCTV Tech/Grout Equipment Operator: unit driver and operator of CCTV; grouting equipment and tap cutting equipment	TM247-2	6/16/2009		\$30.50	\$41.65		H H H H H H H H N		
CCTV Technician/Combo Unit Operator: unit driver and operator of cctv unit or combo unit in connection with normal cleaning and televising work	TM247-3	6/16/2009		\$29.25	\$39.77		H H H H H H H H N		
Boiler Operator: unit driver and operator of steam/water heater units and all ancillary equipment associated	TM247-4	6/16/2009		\$31.00	\$42.40		H H H H H H H H N		
Combo Unit driver & Jetter-Vac Operator	TM247-5	6/22/2009		\$31.00	\$42.40		H H H H H H H H N		
Pipe Bursting & Slip-lining Equipment Operator	TM247-6	6/22/2009		\$32.00	\$43.90		H H H H H H H H N		

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Classification			Last	Straight	Time and	Double	Overtime
Name	Description		Updated	Hourly	a Half	Time	Provision
Pipefitter							
Pipefitter		PF-636	7/9/2009	\$59.71	\$79.56	\$95.91	H H D H D D D D N
	Apprentice Rates:						
	1st & 2nd periods			\$26.33	\$34.68	\$41.68	
	3rd period			\$28.33	\$37.68	\$45.68	
	4th period			\$29.58	\$39.56	\$48.18	
	5th period			\$30.83	\$41.43	\$50.68	
	6th period			\$32.08	\$43.30	\$53.18	
	7th period			\$33.33	\$45.18	\$55.68	
	8th period			\$34.33	\$46.68	\$57.68	
	9th period			\$35.33	\$48.18	\$59.68	
	10th period			\$36.76	\$50.32	\$62.54	
Plasterer							
Plasterer		BR1P	12/16/2008	\$43.84	\$65.76	\$87.68	H H H H H H H D N
	Apprentice Rates:						
	1st 6 months			\$22.41	\$33.62	\$44.82	
	2nd 6 months			\$25.99	\$38.99	\$51.98	
	3rd 6 months			\$29.56	\$44.34	\$59.12	
	4th 6 months			\$33.13	\$49.70	\$66.26	
	5th 6 months			\$36.70	\$55.05	\$73.40	
	6th 6 months			\$40.27	\$60.41	\$80.54	
Plasterer							
Plasterer		PL67	6/4/2007	\$42.87	\$58.16	\$73.45	H H H X D D D D N
	Apprentice Rates:						
	1st 6 months			\$24.52	\$30.63	\$36.75	
	2nd 6 months			\$27.58	\$35.23	\$42.87	
	3rd 6 months			\$30.64	\$39.81	\$48.99	
	4th 6 months			\$33.70	\$44.41	\$55.11	
	5th 6 months			\$36.75	\$48.98	\$61.21	
	6th 6 months			\$39.81	\$53.57	\$67.33	

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Classification										
Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision			
=====										
Plumber										
Plumber		PL-98	8/18/2009	\$57.58	\$74.45	\$89.31	H H D H D D D D N			
	Apprentice Rates:									
	Period 1			\$17.76	\$24.31	\$30.86				
	Period 2			\$17.76	\$24.31	\$30.86				
	Period 3			\$30.79	\$39.88	\$48.96				
	Period 4			\$31.42	\$40.82	\$50.22				
	Period 5			\$32.58	\$42.56	\$52.54				
	Period 6			\$33.73	\$44.28	\$54.84				
	Period 7			\$34.88	\$43.61	\$54.74				
	Period 8			\$36.05	\$47.76	\$59.48				
	Period 9			\$37.20	\$49.49	\$61.78				
	Period 10			\$38.35	\$51.22	\$64.08				
Roofer										
Commercial Roofer		RO-149-WOM	8/18/2008	\$48.46	\$62.29	\$76.62	H H D H H H D D N			
Straight time is not to exceed ten (10) hours per day or forty (40) hours per week.										
	Apprentice Rates:									
	Apprentice 1			\$32.62	\$39.86	\$48.04				
	Apprentice 2			\$36.80	\$44.80	\$53.30				
	Apprentice 3			\$38.22	\$46.93	\$56.14				
	Apprentice 4			\$39.25	\$48.48	\$58.20				
	Apprentice 5			\$40.47	\$50.30	\$60.64				
	Apprentice 6			\$41.87	\$52.40	\$63.44				
Sewer Relining										
Class I-Operator of audio visual CCTV system including remote in-ground cutter and other equipment used in conjunction with CCTV system.		SR-I	11/10/2009	\$40.32	\$54.65	\$68.97	H H H H H H H D N			
Class II-Operator of hot water heaters and circulation system; water jetters; and vacuum and mechanical debris removal systems and those assisting.		SR-II	11/10/2009	\$38.79	\$52.35	\$65.91	H H H H H H H D N			
Sheet Metal Worker										
Sheet Metal Worker		SHM-80	8/18/2009	\$57.23	\$74.59	\$91.94	H H D H D D D D Y			
A 4 10 schedule may be worked during Monday thru										
	Apprentice Rates:									
	First Year			\$39.07	\$47.92	\$56.75				
	Second Year			\$40.39	\$49.89	\$59.39				
	Third Year			\$41.75	\$51.93	\$62.11				
	Fourth Year			\$44.42	\$55.93	\$67.45				
	Fifth Year			\$47.12	\$59.99	\$72.85				

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County: Oakland

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Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

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SECTION 00 4343
PREVAILING WAGE RATES

Official 2010 Prevailing Wage Rates for State Funded Projects

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Classification Name Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Siding & Decking	SHM-80-SD 9/2/2009	\$39.32	\$51.57	\$63.82	H H H H H H D Y
Sprinkler Fitter Sprinkler Fitter 4 ten hour days allowed Monday-Friday only in those weeks containing a holiday and the preceding or succeeding the holiday week	SP 704 12/29/2009	\$59.87	\$78.91	\$97.95	H H D H D D D D Y

Apprentice Rates:

1st Period	\$23.00	\$31.49	\$39.11
2nd Period	\$38.93	\$47.50	\$56.07
3rd Period	\$40.83	\$50.35	\$59.87
4th Period	\$42.73	\$53.20	\$63.67
5th Period	\$44.64	\$56.07	\$67.49
6th Period	\$46.54	\$58.91	\$71.29
7th Period	\$48.45	\$61.78	\$75.11
8th Period	\$50.35	\$64.63	\$78.91
9th Period	\$52.25	\$67.48	\$82.71
10th Period	\$54.16	\$70.35	\$86.53

Terrazzo

Terrazzo Finisher A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.	BR1-TRF 8/11/2009	\$41.84	\$52.56	\$63.28	H H D H D D D D Y
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Apprentice Rates:

Level 1	\$18.11	\$24.00	\$29.89
Level 2	\$19.25	\$25.71	\$32.17
Level 3	\$25.69	\$32.40	\$39.12
Level 4	\$27.00	\$34.50	\$41.92
Level 5	\$28.53	\$36.15	\$43.77
Level 6	\$30.07	\$38.06	\$46.06
Level 7	\$31.68	\$39.73	\$47.79
Level 8	\$33.10	\$41.42	\$49.74

Official Request 64
Requestor: TROY SCHOOL DISTRICT
Project Description: Synthetic Turf Replacement

Project Number: Troy High School & Athens High School
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Classification Name Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Terrazzo Worker A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.	BR1-TRW 8/11/2009	\$47.31	\$60.77	\$74.22	H H D H D D D D Y
Apprentice Rates:					
Level 1		\$23.92	\$31.19	\$38.47	
Level 2		\$26.83	\$34.85	\$42.87	
Level 3		\$31.79	\$40.02	\$48.26	
Level 4		\$34.40	\$43.55	\$52.69	
Level 5		\$36.55	\$45.94	\$55.33	
Level 6		\$40.04	\$51.10	\$62.16	
Level 7		\$40.67	\$51.90	\$63.14	
Level 8		\$41.56	\$53.24	\$64.92	
Tile Tile Finisher A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.	BR1-TF 8/11/2009	\$41.39	\$51.89	\$62.38	H H D H D D D D Y
Apprentice Rates:					
Level 1		\$18.11	\$24.00	\$29.89	
Level 2		\$19.25	\$25.71	\$32.17	
Level 3		\$25.69	\$32.40	\$39.12	
Level 4		\$27.09	\$34.50	\$41.92	
Level 5		\$28.53	\$36.15	\$43.77	
Level 6		\$30.07	\$38.06	\$46.06	
Level 7		\$31.68	\$39.73	\$47.79	
Level 8		\$33.10	\$41.42	\$49.74	
Tile Layer A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.	BR1-TL 8/11/2009	\$47.26	\$60.69	\$74.12	H H D H D D D D Y
Apprentice Rates:					
Level 1		\$23.92	\$31.19	\$38.47	
Level 2		\$26.83	\$34.85	\$42.87	
Level 3		\$31.79	\$40.02	\$48.26	
Level 4		\$34.40	\$43.55	\$52.69	
Level 5		\$36.55	\$45.94	\$55.33	
Level 6		\$40.04	\$51.10	\$62.16	
Level 7		\$40.67	\$51.90	\$63.14	
Level 8		\$41.56	\$53.24	\$64.92	
Truck Driver on all trucks of 8 cubic yard capacity or less	TM-RB1 9/17/2009	\$36.84	\$36.44		H H H H H H H H Y

Official Request 64
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Classification Name Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
of all trucks of 8 cubic yard capacity or over	TM-RB1A 9/17/2009	\$36.94	\$36.59		H H H H H H H H Y
on euclid type equipment	TM-RB1B 9/17/2009	\$37.09	\$36.81		H H H H H H H H Y
Underground Laborer Open Cut, Class I Construction Laborer	LAUC-Z1-1 9/10/2009	\$34.39	\$45.00	\$55.61	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		\$29.61	\$37.83	\$46.05	
1,001-2,000 work hours		\$30.57	\$39.27	\$47.97	
2,001-3,000 work hours		\$31.52	\$40.70	\$49.87	
3,001-4,000 work hours		\$33.43	\$43.56	\$53.69	
Underground Laborer Open Cut, Class II Mortar and material mixer, concrete form man, signal man, well point man, manhole, headwall and catch basin builder, guard rail builders, headwall, seawall, breakwall, dock builder and fence erector.	LAUC-Z1-2 9/10/2009	\$34.50	\$45.17	\$55.83	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		\$29.69	\$37.95	\$46.21	
1,001-2,000 work hours		\$30.65	\$39.39	\$48.13	
2,001-3,000 work hours		\$31.62	\$40.84	\$50.07	
3,001-4,000 work hours		\$33.54	\$43.72	\$53.91	
Underground Laborer Open Cut, Class III Air, gasoline and electric tool operator, vibrator operator, drillers, pump man, tar kettle operator, bracers, rodger, reinforced steel or mesh man (e.g. wire mesh, steel mats, dowel bars, etc.), cement finisher, welder, pipe jacking and boring man, wagon drill and air track operator and concrete saw operator (under 40 h.p.), windlass and tugger man, and directional boring man.	LAUC-Z1-3 9/10/2009	\$34.55	\$45.24	\$55.93	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		\$29.73	\$38.01	\$46.29	
1,001-2,000 work hours		\$30.69	\$39.45	\$48.21	
2,001-3,000 work hours		\$31.66	\$40.90	\$50.15	
3,001-4,000 work hours		\$33.59	\$43.80	\$54.01	
Underground Laborer Open Cut, Class IV Trench or excavating grade man.	LAUC-Z1-4 9/10/2009	\$34.63	\$45.36	\$56.09	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		\$29.79	\$38.10	\$46.41	
1,001-2,000 work hours		\$30.76	\$39.56	\$48.35	
2,001-3,000 work hours		\$31.73	\$41.01	\$50.29	
3,001-4,000 work hours		\$33.66	\$43.90	\$54.15	

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Classification Name Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
=====					
Underground Laborer Open Cut, Class V					
Pipe Layer	LAUC-Z1-5	\$34.69	\$45.45	\$56.21	H H H H H H D Y
	9/10/2009				
Apprentice Rates:					
0-1,000 work hours		\$29.83	\$38.16	\$46.49	
1,001-2,000 work hours		\$30.81	\$39.63	\$48.45	
2,001-3,000 work hours		\$31.78	\$41.08	\$50.39	
3,001-4,000 work hours		\$33.72	\$44.00	\$54.27	
Underground Laborer Open Cut, Class VI					
Grouting man, top man assistant, audio visual television	LAUC-Z1-6	\$32.14	\$41.63	\$51.11	H H H H H H D Y
operations and all other operations in connection with	9/10/2009				
closed circuit television inspection, pipe cleaning and pipe					
relining work and the installation and repair of water					
service pipe and appurtenances.					
Apprentice Rates:					
0-1,000 work hours		\$27.92	\$35.30	\$42.67	
1,001-2,000 work hours		\$28.77	\$36.57	\$44.37	
2,001-3,000 work hours		\$29.61	\$37.83	\$46.05	
3,001-4,000 work hours		\$31.30	\$40.36	\$49.43	
Underground Laborer Open Cut, Class VII					
Restoration laborer, seeding, sodding, planting, cutting,	LAUC-Z1-7	\$28.76	\$36.56	\$44.35	H H H H H H D Y
mulching and topsoil grading and the restoration of	9/10/2009				
property such as replacing mail boxes, wood chips, planter					
boxes, flagstones etc.					
Apprentice Rates:					
0-1,000 work hours		\$25.39	\$31.50	\$37.61	
1,001-2,000 work hours		\$26.00	\$32.50	\$38.95	
2,001-3,000 work hours		\$26.74	\$33.52	\$40.31	
3,001-4,000 work hours		\$28.09	\$35.55	\$43.01	

Official Request 64
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END OF SECTION 00 4343

SECTION 00 4511
INDEMNITY & HOLD HARMLESS AGREEMENT

INDEMNITY & HOLD HARMLESS AGREEMENT

In consideration of the installation for Troy School District, of a

_____ By _____,
(Artificial Turf System) (System Installer/Manufacturer)

manufacturer of the turf system, hereby agrees to hold harmless and indemnify the Troy School District, against any judgment or damages and all defense costs arising out of any claim of patent

infringement pertaining to the installation of an athletic turf. It is understood that in the course of defending the Troy School District against any such claim, _____

(System Installer/Manufacturer)

reserves the right to determine the firm or firms of attorneys which represent the Troy School District interest.

System Installer/Manufacturer

By: _____
(Owner, Co-Owner or Principal)

Date: _____

END OF SECTION 00 4511

SECTION 00 4511
INDEMNITY & HOLD HARMLESS AGREEMENT

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SECTION 00 4519
NON-COLLUSIVE AFFIDAVIT

STATE OF _____) ss

COUNTY OF _____)

_____, being first duly sworn, deposes and says:

That he is (a partner or officer, etc.) of the firm of, _____ the party making the foregoing proposal or bid, that such proposal or bid is genuine and not collusive or sham; that said bidder has not colluded, conspired, connived or agreed, directly or indirectly, with any bidder or person, to put in sham bid or to refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference, with any person, to fix the bid price of affiant or of any other bidder, or to fix any overhead, profit or cost element of said bid price, or of that of any bidder, or to secure any advantage against the Troy School District _____ or any person interested in the proposed contract; and that all statements in said proposal or bid are true.

Signature of:

Bidder, if bidder is an individual:

Partner, if the bidder is a partnership;

Officer, if the bidder is a Corporation.

Subscribed and sworn to before me this ____ day of _____ 20____

My commission expires:

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SECTION 00 4550
STATEMENT REGARDING FAMILIAL RELATIONSHIP
MCL 380.1267 (d)

I am the _____ of _____, a bidder on a
(Title) (Company Name)

construction project for _____ that involves, at least in part,
(Name of School District)

construction of a new school building or an addition to or repair or renovation of an existing school building.

1. I have personal knowledge and/or I have personally verified that the following are all of the familial relationships existing between the owner(s) and employees(s) of the aforementioned contractor and the school district's superintendent and/or board members

☐ **The following are the familial relationship(s):**

	<u>Owner/Employee Name</u>	<u>Related to:</u>	<u>Relationship</u>
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____

(Attach additional pages if necessary to disclose familial relationships.)

2. I have personal knowledge and/or I have personally verified that the following are all of the familial relationships existing between the owner(s) and employees(s) of the aforementioned contractor and the school district's superintendent and/or board members
3. I have authority to bind the aforementioned contractor with the representations contained herein, and I am fully aware that the school district will rely on my representations in evaluating bids for the construction project.

☐ **There is no familial relationship that exists** between the owner(s) and employees(s) of the aforementioned contractor and the school district's superintendent and/or board members.

BIDDER'S FIRM NAME _____

BY (SIGNATURE) _____

PRINTED NAME AND TITLE _____

Subscribed and sworn before me, this _____

Seal:

Day of _____, 20____, a Notary Public

In and for _____ County, _____

Signature
NOTARY PUBLIC

My Commission expires _____

SECTION 00 4550
STATEMENT REGARDING FAMILIAL RELATIONSHIP
MCL 380.1267 (d)

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PROPOSAL A – Synthetic Turf

LIST SPECIFICATION #, ITEM, MANUFACTURER AND MODEL #

[illegible]

Signature: _____

Print Name: _____

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SECTION 00 6540
WARRANTY AND GUARANTEE

PART 1 - GENERAL

1.1 Warranty

- A. System Installer/Manufacturer ("_____") hereby warrants to Troy School District subject to the limitations and conditions set forth below, that its entire synthetic turf installation described as _____, is free from defects in material workmanship, meets or exceeds the specifications, and shall **(for a period of EIGHT (8) YEARS from the date of final acceptance)** remain acceptable for multiple sports activities.
- B. System Installer/Manufacturer warrants to Troy School District that its synthetic turf system shall not unevenly fade, shall not fail, shrink, expand, flood, tear, bubble and shall not reflect unusual excessive wear and shall meet specified Gmax values, for a period of EIGHT (8) YEARS from the date of final acceptance. In the event that the synthetic turf shall unevenly fade, fail, shrink, expand, flood, tear, bubble or reflect excessive water, System Installer/Manufacturer shall replace such areas of the synthetic turf that are affected. System Installer/Manufacturer further warrants that the synthetic turf located along the players and coaches areas, along both sides of the fields, will stay attached at the seams for an additional two (2) years after the eight (8) year term of this warranty expires. This in no way implies that the color fastness of the synthetic turf will be warranted for these same additional two (2) years.
- C. System Installer/Manufacturer warrants to Troy School District that the installation of the entire synthetic turf and all associated turf components (i.e. Inlays and seams) shall be performed in a professional manner under the supervision of highly-trained employees familiar in the installation of their tufted synthetic turf system. The supervisor and key installers shall have installed synthetic turf systems for at least three (3) previous system installations.
- D. System Installer/Manufacturer warrants that the finished synthetic turf system shall have an initial G-max (shock attenuation) value of approximately 85-110 G's and shall not become harder than 175 G's over the life of the system at any point on the field of play. The manufacturer shall make only the necessary repairs if, at any time during the warranty period, the G-max force at any point exceeds the specified 175 G's.
- E. The term "not fade" in the context of the warranty shall mean that the synthetic turf shall remain uniformly true in color without unsightly or uneven change, except as affected by changes in texture resulting from normal wear and tear.
- F. The term "not fail" or "excessive wear" as used in the context of this warranty shall mean that the length and weight of the face yarn or pile material in the synthetic turf shall not have decreased by more than 2% per year (according to ASTM D-418) not to exceed 25% (averaged over the entire field) anytime during the EIGHT-YEAR warranty period. Any panels where face yarn has decreased more than 2% per year or more than 25% during the EIGHT-YEAR warranty period will be replaced.
- G. System Installer/Manufacturer shall warrant seams against separation, puncturing, bubbling, etc., for any reason.
- H. This warranty does not cover any defect, failure, damage or undue wear in or to the synthetic turf system caused by or connected with abuse, neglect, deliberate act, Act of God, casualty, static or dynamic loads exceeding recommended levels, footwear having metal cleats, spikes, or similar projections (other than conventional football, baseball, soccer or rugby shoes having cleats of not more than ½" in length).

SECTION 00 6540
WARRANTY AND GUARANTEE

- I. System Installer/Manufacturer shall be allowed to examine the synthetic turf system regarding any claim which Troy School District makes, to be present at and to analyze the results of all tests conducted by Troy School District or others, and to conduct such tests incurred by Troy School District or others with respect to such tests.
- J. All claims made by Troy School District under this warranty must be made in writing to System Installer/Manufacturer.
- K. This warranty, when signed and notarized by all parties, shall constitute a contract made in the State of Michigan and shall be governed by the laws thereof.
- L. Contractor shall provide an independent 3rd party insurance policy to cover all items identified above.

OWNER: Troy School District

DATE: _____

BY: _____

CONTRACTOR:

DATE: _____

BY: _____

MANUFACTURER:

DATE: _____

BY: _____

END OF SECTION 00 6540

SECTION 00 7300
SUPPLEMENTARY CONDITIONSSTANDARD FORM

The Standard Form of General Conditions of the Contract for Construction, AIA Document A201 - 1997, issued by the American Institute of Architects, is a part of this specification. Copies are on file and may be obtained at the office of the Architect.

TABLE OF ARTICLES

1.	General Provisions	8.	Time
2.	Owner	9.	Payments and Completion
3.	Contractor	10.	Protection of Persons and Property
4.	Administration of the Contract	11.	Insurance and Bonds
5.	Sub-Contractors	12.	Uncovering and Correction of Work
6.	Separate Contracts	13.	Miscellaneous Provisions
7.	Changes in the Work	14.	Termination of Contract

The following supplements modify, change, delete from or add to the above named documents. Where any article of the General conditions is modified or any paragraph, subparagraph or clause thereof is modified or deleted by these supplements, the unaltered provisions of that article, paragraph, subparagraph or clause shall remain in effect.

ARTICLE 1GENERAL PROVISIONS1.1 DEFINITIONS

1.1.2 The Contract

- 1.1.2.1 The work shall be performed under separate or combined contracts. It is the duty of each Contractor to coordinate his work with that of each other Contractor. A complete set of drawings and specifications will be made a part of the Contract Documents for each Contractor.

1.1.4 The Project

The work covered in this project manual consists of construction and other related items, as set forth in the Instruction to Bidders, all pursuant to completion of Troy School District.

1.1.6.1 The Specifications

The term "product" as used in these Supplementary Conditions includes material, systems and equipment.

1.1.7 The Project Manual

The term "Project Manual" as used in these Supplementary Conditions is the volume which includes the Bidding Requirements, Conditions of Contract and the Specifications.

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

- 1.2.3.1 No responsibility either direct or implied is assumed by the Architect for omission or duplications by the Contractor or his Sub-contractor due to real or alleged error in arrangements of matter in these Contract Documents.
It is the intent that the Drawings and Specifications include everything necessary for the completion of the project and to be consistent with each other. It is hereby agreed and understood that work shown on the Drawings and not mentioned in the Specifications, or vice versa, is to be included the same as if it were mentioned in both the Drawings and the Specifications, with no extra charge to the Owner. If any part of the Drawings and/or Specifications are inconsistent, incorrect, or obscured in their meaning, these discrepancies shall be brought to the attention of the Architects in writing before execution of the Contract. Where there is conflict regarding the quality of any equipment or material, the one having the better quality shall be used unless directed by the Architect.

In submitting his proposal, the Contractor agrees to furnish all labor and supervision necessary to produce the construction required by the Contract Documents and all materials and equipment incorporated or to be incorporated in such construction.

- 1.2.4 The organization of the Specifications is done with the intent of defining the work for multiple Contract performance. The extent of responsibility for Contractor performance is overlapping from one technical section to another. It is the responsibility of each Contractor to cooperate and coordinate his work with other Contractors as necessary to meet all interface conditions standard to the industry and obvious to the intended extent of the work on this particular project.

1.6 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

- 1.6.1.1 Drawings and Specifications provided to those not party to the contract are to be returned immediately upon request of the Architect.

ARTICLE 2

OWNER

2.1 GENERAL

- 2.1.1 The Owner of this Project is:

Troy School District
4400 Livernois
Troy, Michigan 48098

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

- 2.2.3 The Owner shall obtain and pay for those items described (if any) set forth in the General Requirements.

- 2.2.4.1 The Owner shall issue all instruction to the Contractor through the Architect.

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

2.4 OWNER'S RIGHTS TO CARRY OUT THE WORK

- 2.4.1 Delete reference to two (2) "seven (7) day written notices" and insert two (2) "forty-eight (48) hour notices" prior to Owner's carrying out the work. The method of notification is distributed via a fax transmittal and the original will be sent 1st Class Mail.

ARTICLE 3

CONTRACTOR

3.7 PERMITS, FEES AND NOTICES

- 3.7.1.1 The individual contractor will be responsible for securing and paying for permits pertaining to their area of work, and other items as set forth in the general requirements. Costs and arrangements for governmental inspection shall be the responsibility of the Contractor.

3.9 SUPERINTENDENT

- 3.9.1 The contractor shall provide adequate supervision over the work involved in his portion of the project. The Contractor shall designate a representative through which all communications shall be made. This representative shall work closely with the Architect in the performance of the work and his communications shall be binding on the part of the Contractor. Important communications shall be confirmed in writing.
- 3.9.2 All work shall be of the highest quality and in strict accordance with Manufacturer's published specifications and to Owner's satisfaction. Unacceptable workmanship will not be tolerated or permitted to continue.

3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

- 3.10.1 The Contractor and all Sub-Contractors, suppliers and manufacturers shall schedule materials, deliveries and installation expeditiously, and provisions to this effect shall be included in all subcontracts.
- 3.10.3 The Projected Construction Schedule as endorsed or modified by the Contractor, is part of the Contract Documents. This schedule constitutes the Contractor's commitment to expedient performance.
- 3.10.4 Modification to the Schedule as a result of allowable time extensions or increased scope of work shall be accepted by the Contractor as inherent to the construction process and shall not qualify as a basis for extra compensation from the Owner.

3.11 DOCUMENTS AND SAMPLES AT THE SITE

- 3.11.1 The Contractor shall maintain at the site for the Owner one record copy of all drawings, specifications, addenda, approved shop drawings, change orders and other modifications, in good order and marked to record all changes and underground installation applicable to the work made during construction. The Architect shall be advised by the Contractor of all changes on a current basis.

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

- 3.11.1.1 The drawings marked to record all changes and of underground installations made during construction, shall be delivered to the Architect upon completion of the work. Receipt of as-built drawings by the Architect is a condition for Final Payment.
- 3.11.1.2 The prints for record drawings will be a set of black and white prints provided by the Architect at start of construction. The Contractor shall maintain the set in good condition and shall use colored pencils to mark up the set in a legible manner to show:
 - 3.11.1.2.A Significant deviations made during construction.
 - 3.11.1.2.B Significant details not previously shown on drawings.

3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- 3.12.4 Shop drawings and samples shall be submitted to the Architect, dated and marked to show the names of the project, Architect, Contractor, originating Sub-contractor, Manufacturer or Supplier, and separate Retailer if pertinent. Shop drawings shall completely identify Specification section and locations at which materials or equipment are to be installed. Reproductions of Contract Drawings are acceptable as Shop Drawings only when specifically authorized in writing by the Architect.

Submission of shop drawings and samples shall be accompanied by a transmittal letter containing Project name, Contractor's name, number of drawings and samples, titles and other pertinent data.

- 3.12.4.1 Submission of shop drawings for approval shall consist of five (5) prints. One (1) print will be returned to the Contractor marked per Paragraph 3.12.11.1 following.
- 3.12.4.1 Unless otherwise specified, the number of shop drawings and the number of samples which the Contractor shall submit for record is the number that the Contractor requires to be returned plus five (5) copies for drawings and three (3) for samples which will be retained by the Architect/Owner.

If the shop drawing affects the work of another contractor(s) the Contractor shall provide additional copies as directed by the Architect.

- 3.12.5 Each Contractor shall provide the necessary record drawing information in timely and efficient manner.
 - 3.12.8.1 The Contractor shall conscientiously supply all information required when submitting Shop Drawings and Samples. Information pertaining to delivery and expediting will be part of his submittal. This data is vital to field performance; consequently, the submittal will be returned unless complete information is provided.

- 3.12.11 Grading of shop drawings shall be as follows:

- A. No Exception Taken: No corrections, no marks.
- B. Reviewed and Noted: Minor amount of corrections; all items can be fabricated without further correction; checking is complete and all corrections are obvious without ambiguity.

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

- C. Re-submit: Minor amount of corrections; noted items must not be fabricated without further corrections, checking is not complete, details of items noted by checker are to be further clarified before full approval can be given; items not noted to be corrected can be fabricated under this stamp.
- D. Disapproved: Drawing or equipment is not in accordance with the contract. Submit new drawings covering equipment which meets specifications. Drawings will be returned unstamped with notification on letter of transmittal.

3.13 USE OF SITE

- 3.13.1 The control of the site will be by the Owner. The Contractor shall cooperate with him in all matters involving use of the site.

3.14 CUTTING & PATCHING

- 3.14.2 Where cutting of existing work is necessary, same shall be straight, true and of proper size. No excessive cutting will be permitted nor shall any piers or other structural members be cut without the consent of the Architect. The Contractor shall not endanger any work by cutting, excavating or otherwise and shall not cut or alter the work of any other Contractor without the consent of the Architect.
 - 3.14.2.1 The cutting of all existing work shall be performed by the Contractor requiring same except that the cutting of openings shall be performed by workmen skilled relative to the material being cut.
 - 3.14.2.2 The patching of all exposed work shall be performed by workmen skilled relative to the material being patched.
 - 3.14.2.3 All patching shall be done in a neat, workmanlike manner with materials to match existing.
 - 3.14.2.4 Where cutting or patching is required of one Contractor because of negligence of another Contractor then the cost for same shall be borne by the negligent Contractor.

3.15 CLEANING UP

- 3.15.2 If the Contractor fails to clean up within 7 days after receipt of notice by the Architect, the Owner may do so and the cost thereof shall be charged to the Contractor.
 - 3.15.2.1 Each Contractor shall perform clean up of his own work including knocked down boxes and other containers. Debris shall not be buried on the site.

3.17 ROYALTIES, PATENTS AND COPYRIGHTS

- 3.17.1 The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of patent rights and shall hold the Owner and Architect harmless from loss on account thereof.

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

3.19 SUBSTITUTIONS

3.19.1 After the contract has been executed, the Architect will consider a formal request for substitution of products for those specified, under the following conditions:

- A. The request is accompanied by complete data on the proposed substitution substantiating compliance with the Contract Documents including product identification and description, performance and test data, references and samples where applicable, and an itemized comparison or proposed substitution with the products specified or named by Addenda, with data relating to Contract time schedule, design and artistic effect where applicable, and its relationship to separate contracts.
- B. The request is accompanied by accurate cost data on the proposed substitution in comparison with the product specified, whether or not modification of the Contract Sum is to be a consideration.

3.19.2 Requests for substitution based on Clause 3.19.1 above, when forwarded by the Contractor to the Architect, are understood to mean that the Contractor:

- A. Represents that he has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified.
- B. will provide the same guarantee for the substitution that he would for that specified.
- C. certifies that the cost data presented is complete and includes all related costs under this contract, but excludes costs under separate contracts and the Architect's redesign costs, and that he waives all claims for additional costs related to the substitution which subsequently became apparent; and
- D. will coordinate the installation of accepted substitute, making such changes as may be required for the work to be complete in all respects.

Substitutions will not be considered if:

- A. They are indicated or implied on the shop drawings submissions without the formal request required in Clause 3.19 above; or
- B. For their implementation they require a substantial revision of the Contract Documents in order to accommodate their use.

ARTICLE 4

ADMINISTRATION OF THE CONTRACT

4.1 THE ARCHITECT

4.1.1 Requests concerning interpretations during the construction period shall be made to the Landscape Architect. The term "Architect" means the Landscape Architect or the Landscape Architect's representative.

4.1.1.1 The Landscape Architect for this project is Foresite Design, Inc., 3269 Coolidge Highway, Berkley, MI 48072. (248) 547-7757.

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

4.2 ARCHITECT'S ADMINISTRATION OF THE CONTRACT

4.2.1 The Architect will provide general administration of the Construction Contract, including the performance of the functions hereinafter describe.

4.5 MEDIATION

4.5.1 Binding mediation will be entered into only if mutually agreed upon by both the Owner and Contractor.

ARTICLE 6

CONSTRUCTION BY OWNER OR
BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION
AND TO AWARD SEPARATE CONTRACTS

6.1.1 Delete:

"...and waiver of subrogation."

6.1.3.1 A pre-construction conference will be held to review schedule, in the event separate contracts are issued all work must be completed as outlined in the bidding documents. Contractor shall coordinate their Work with other trades in a manner that is in the best interest of the Owner and the overall project.

ARTICLE 8

TIME

8.2 PROGRESS AND COMPLETION

8.2.4 During the course of the work, the Architect will condone reduced crew size or even total absence on the part of the Contractor, providing such reduced activity is mutually agreed to and will not slow down or interfere with the overall progress of the work. However, when work is available and is required to maintain the Construction Schedule or assist an interface situation, performance by the Contractor is mandatory. If performance is not maintained by the contractor, the Owner will give the Contractor forty-eight (48) hours notice before taking over completion of work as covered in Article 2.4.1.

8.2.4.1 The Contractor will keep accurate daily records of performance on all Contracts involved in the project. The comparison of these records with the Contractor's commitment to the Construction Schedule will determine his effort in pursuit or total project completion.

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 If a delay on the part of one Contractor directly affects the progress of others, then time extensions shall be granted to those directly affected. Necessarily, however, the granting of time extensions shall not increase the required working time span for any Contractor, only the completion date.

8.3.2 All claims for extension of time shall be made in writing to the Architect no more than seven (7) days after the occurrence of the delay; otherwise, they shall be waived. In the case of a

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

continuing cause of delay, only one claim is necessary.

ARTICLE 9

PAYMENTS & COMPLETION

9.2 SCHEDULE OF VALUES

- 9.2.1 The Architect shall review the schedule of values, submitted by the Contractor. The schedule of values shall be prepared in such a manner that each major item of work and each subcontracted item of work is shown as a single line item on AIA Document G702, Application and Certificate for Payment, Continuation Sheet, G703.

9.3 APPLICATIONS FOR PAYMENT

- 9.3.1 Substitute the following:

No later than the 15th day of each month, the Contractor shall submit to the Architect an itemized Application for Payment, supported by such data substantiating the contractor's right to payment as the Owner and Architect may require. Payment by the Owner will be made on or before the 20th day of the following month.

- 9.3.1.3 Until final payment, the Owner will pay ninety percent (90%) of the amount due to the Contractor on account of progress payments. If the manner of completion of the work and its progress are, and remain, satisfactory to the Architect, and in the absence of other good and sufficient reasons and shown to be fifty percent (50%) or more complete in the Application retainage, on presentation by the Contractor of Consent of Surety for each application, the landscape architect shall certify any remaining progress payments to be paid in full.

- 9.3.1.4 The full contract retainage may be reinstated if the manner of completion of the work and its progress do not remain satisfactory to the Architect, or if the surety withholds his consent, or for other good and sufficient reasons.

- 9.3.1.5 The form of Application for Payment shall be AIA Document G702, Continuation Sheet, G703.

- 9.3.1.6 At the time the payment is submitted, the Contractor will present to the Architect in triplicate and original, a Sworn Statement and a Waiver of Lien in the amount of the payment. Waivers from Sub-contractors, and Suppliers representing major expenditures shall also be required. **If these documents are not attached, the pay application will not be processed.**

- 9.3.1.7 Final payment will be made within 30 days after the Contractor has achieved final completion as determined by Owner and supplied necessary submittals/warranties/guarantees as may be required elsewhere in the contract document. 10% of value of Work completed and acceptable will be retained by Owner until final payment.

9.6 PROGRESS PAYMENTS

- 9.6.1 The Owner shall make payment to the Contractor on or before the twentieth (20th) day of the month following the Contractor's submission of Application for Payment and after the Architect has issued a Certificate for Payment.

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

9.8 SUBSTANTIAL COMPLETION

9.8.1 The Architect will prepare a Certificate of Substantial Completion when he determines that the work of each individual Contract is substantially complete.

9.10 FINAL COMPLETION AND FINAL PAYMENT

9.10.1 The Architect will issue a final Certificate for Payment after he finds the work acceptable under Contract Documents and the Contract fully performed.

9.10.2 Final payment, covering each individual Contract, will be made by the Owner to the Contractor thirty days after Substantial Completion of the work unless otherwise stipulated in the Certificate of Substantial Completion, provided the work has then been completed, the Contract fully performed, and a final Certificate for Payment has been issued by the Architect.

ARTICLE 10

PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

10.1.1 Contractor shall adequately protect building, service drives, lawn, shrubs, trees etc. from damage, including water damage, during the process of performing required Work. Contractor shall repair or be responsible for the costs to repair, all property damaged during the performance of this Contract. Damages to the building will be addressed immediately and sent to Contractor in writing by Owner.

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.8 Contractor shall be responsible for all means and methods as they relate to safety and shall comply with all applicable local, state and federal requirements that are safety related. Safety shall be the responsibility of the Contractors. All contractor related personnel shall be instructed daily to be ever mindful of the full time requirement to maintain a totally safe environment for the facilities' occupants including students, staff, visitors and the occurrence of the general public on or near the site.

ARTICLE 11

INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.1 In the first line following the word "maintain", insert the words "In a company or companies licensed to do business in the state in which the Project is located."

11.1.1.6 Liability insurance shall include all major divisions of coverage and be on a comprehensive basis including:

1. Premises - Operations (including X-C-U). (For underground work only)
2. Independent Contractor's protective
3. Products and completed operations
4. Contractual - including specified provisions for the Contractor's obligations under Paragraph 3.18.
5. Owned, non-owned and hired motor vehicles.

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

6. Broad form coverage for property damage.

Add the following:

11.1.2.1 Add the following minimum limits:

1. Worker's Compensation & Employers' Liability

A.	Each Accident	\$	500,000
B.	Disease-Policy Limit	\$	500,000
C.	Disease-Each Employee	\$	500,000

2. Comprehensive General Liability

A.	Bodily Injury		
	Each Person	\$	500,000
	Each Occurrence	\$	1,000,000
B.	Personal Injury		
	Each Person	\$	500,000
	Aggregate	\$	2,000,000
	General Aggregate	\$	2,000,000
C.	Property Damage		
	Each Person	\$	500,000
	Each Occurrence	\$	500,000
	Aggregate	\$	2,000,000

3. Automobile Liability

A.	Bodily Injury		
	Each Person	\$	500,000
	Each Occurrence	\$	500,000
B.	Property Damage		
	Each Occurrence	\$	100,000

4. Independent Contractors
Same limits as above

5. Products and Completed Operations
Same limits as above

11.1.2.2 The Contractor will require all Sub-contractors to maintain similar insurance coverage.

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

- 11.1.2.3 In addition to the General Liability coverage required by Article 11.1.2.1, the Contractor will maintain during the period of this Contract Umbrella Liability Insurance covering the risk of losses of \$ 1,000,000.00 in excess of the limits stated in Article 11.1.2.1.
- 11.1.3.1 Furnish one (1) copy of Certificates herein required for each copy of the Agreement; specifically set forth evidence of all coverage required by Subparagraph 11.1.1. and 11.1.2. Furnish the Owner copies of any endorsements that are subsequently issued amending coverage or limits.
- 11.1.3.2 All Certificates for insurance shall name the Owner and Architect as additionally insured.
- 11.1.3.3 The following language shall be indicated on all certificates of insurance from successful bidder: Troy School District its elected or appointed officials, employees and volunteers are included as insured with regards to damages and defense of claims arising from: (a) activities performed by or on behalf of the named insured, or (b) products and completed operations of the named insured, or (c) premises owned, leased, or used by the named insured".

11.3 PROJECT MANAGEMENT PROTECTIVE LIABILITY INSURANCE

- 11.3.2 Delete the last sentence in its entirety:

"The policy shall provide for such waivers of subrogation by endorsement or otherwise."

11.4 PROPERTY INSURANCE

- 11.4.5 Delete the last sentence in its entirety:

"All separate policies shall provide this waiver of subrogation by endorsement or otherwise."

- 11.4.7 Delete this section in its entirety:

"Waivers of Subrogation. The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.4 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged."

- 11.4.9 Add the following sentence:

In waiving rights of recovery under terms of this Subparagraph, the term "Owner" shall be

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

deemed to include his employees, the Architect, and their employees as the Owner's representative as provided in the Contract Documents.

11.4.11 If the Owner finds it necessary to occupy or use a portion or portions of the work prior to Substantial Completion, such occupancy shall not commence prior to a time mutually agreed to by the Owner and the Contractor and concurred with by the insurance company or companies. This insurance shall not be canceled or lapsed on account of such partial occupancy.

11.6 OWNER'S PROTECTIVE INSURANCE

11.6.1 The Contractor shall provide Owner's Protective Insurance on same limits as specified in 11.1.1 and 11.1.2 above, naming the Architect as additionally insured.

ARTICLE 13

MISCELLANEOUS PROVISIONS

13.3 WRITTEN NOTICE

13.3.2 Written notice shall be deemed to have been duly served if delivered or sent via the telephone facsimile machine to the last known number to the party giving notice.

13.5 TESTS AND INSPECTIONS

13.5.1 The Owner shall pay for all testing.

13.8 NO SMOKING

13.8.1 No smoking is permitted in the building or on school grounds.

13.9 SECURITY

13.9.1 Contractors shall observe the following procedure when working in a school building, unless otherwise instructed:

1. Proceed to the office, identify yourself, state reason for being in the building, and receive visitors pass.
2. Complete work, then revisit the office to check out prior to leaving the building/premises.

13.10 ENVIRONMENTAL SAFETY/RESPONSIBILITY

13.10.1 It shall be the responsibility of the Contractor or sub-contractor to pay any and all costs incurred from the clean up related to any environmental hazard created by means of contamination caused by accident or neglect of the Contractor or sub-contractor.

It shall be the responsibility of the Contractor or sub-contractor to dispose of any environmentally hazardous product(s) and/or material in accordance with the EPA, DNR, and local applicable laws and regulations.

It shall be the responsibility of the Contractor or sub-contractor, if required, to purchase permits and notify the proper authorities prior to commencing said project or, should a "release" take place, to notify proper authorities of any such release.

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

It shall be the responsibility of the Contractor or sub-contractor to maintain on site a blood borne pathogen plan and all necessary safety supplies associated with any spill or clean up that may occur.

13.11 RIGHT TO KNOW

13.11.1 In accordance with **MIOSHA** regulations pertaining to the "**Michigan Right to Know Law**" the owner has posted Material Safety Data Sheets for any hazardous chemicals in their workplace. The Contractor shall designate a coordinator to oversee the institution and maintenance of a similar program for the areas in which the construction work will take place. The program must encompass all **MIOSHA** Regulations with regards to the "**Michigan Right to Know Law**" for all hazardous chemicals which will be used on site during the course of construction.

13.12 ASBESTOS FREE CERTIFICATION

No asbestos containing material shall be purchased or installed as a part of this project. The Contractor shall be required to certify that no asbestos containing materials have been replaced in this project. **Approved certification shall be on file with the Owner prior to consideration for final payment.**

13.13 AFFIRMATIVE ACTION

Troy School District is an Equal Opportunity Affirmative Action Employer, Complies with the federal and state laws prohibiting discrimination, including Title IV and Title VII (with amendments) of the 1964 Civil Rights Act, Title IX of the Educational Amendment of 1972, Section 504 of the Rehabilitation Act of 1973 and Veterans Readjustment Act of 1974 as amended 38 USC20-12 and the Americans With Disabilities Act of 1990. It is the policy of the school board that no person, on the basis of race, sex, height, weight, color, religion, nation origin or ancestry, age, marital status, disability or veteran status, shall be discriminated against in employment, educational programs and activities, or admission.

END OF SECTION 00 7300

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SECTION 01 2300
ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates as proposed by the Landscape Architect.

- 1. **Voluntary Alternates or Substitutions proposed by Bidders will not form the Base Bid Proposal Price**

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Proposal Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment or installation methods described in the Contract Documents.
 - 1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the work, No other adjustments are made to the Contract Sum.
- B. Voluntary Alternate: Bidders proposing voluntary alternates and substitutions will not be recognized as part of the Base Bid Price. Owner may review voluntary proposal with the successful Bidder.

1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into the project.
 - 1. Include as part of each alternate, miscellaneous products, equipment, and similar items incidental to or required for a complete installation whether or not indicated as part of the alternate.
- B. Notification: Immediately following award of Contract, notify each party involved of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. **Alternate A - 1: 4" Black Outline Around Field Numbers at Troy and Troy Athens High School**
 - 1. Furnish and install 4" black outline field numbers at both sites.
 - 2. Base Bid is solid white field number 4' wide by 6' tall
- B. **Alternate A - 2: "Redhawk" Centerfield Logo at Troy Athens in lieu of "Split A"**
 - 1. Furnish and install Redhawk logo (Sheet D-3, Detail #5)
 - 2. Base Bid is "Split A" logo (Sheet D-3, Detail #4)
- C. **Alternate A - 3: Monofilament Synthetic Turf Fiber in lieu of Parallel Slit Synthetic Turf Fiber**
 - 1. Furnish and install monofilament fiber (Specification Section 32 1817)
 - 2. Base Bid is Parallel Slit Fiber (Specification Section 32 1815)

END OF SECTION 01 2300

SECTION 01 2619
CLARIFICATION REQUEST

DATE: _____

Project:

☐

Proposal A – Synthetic Turf

To: Foresite Design Inc.
3269 Coolidge Hwy.
Berkley, MI 48072
Office: (248) 547-7757
Fax: (248) 547-0218

FROM:

Company Name

Contact Name

Address

City, State Zip

Phone #

Fax #

CLARIFICATION:

1. _____

2. _____

3. _____

RESPONSE:

1. _____

2. _____

3. _____

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SECTION 01 3523
SAFETY REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Safety is the responsibility of each individual Contractor. Each Contractor shall comply with all local safety ordinances and MI-OSHA regulations and requirements while performing the Work.
- B. Each Contractor is required to submit Material Safety Data Sheets (MSDS) to the Construction Manager, to be used for reference only, prior to transporting the material/chemical on site. In addition, it is the responsibility of each Contractor to maintain an accessible MSDS file for their employees, subcontractors, and suppliers on site.
- C. Each Contractor shall submit evidence of an Employer Safety Program that complies with current MI-OSHA regulations and requirements prior to beginning any contract Work.
- D. The Contractor, their Sub-Contractor(s) and suppliers shall take all necessary precautions to ensure the safety of the public and of workers on the job, and to prevent accidents or injury to any persons, on about, or adjacent to the premises where the Work is being performed. The Contractor and the Sub-Contractor(s) and suppliers shall comply with Federal or State OSHA regulations and all other laws, codes, ordinances, and regulations relative to safety and the prevention of accidents.
- E. The Contractor shall designate a responsible representative at the job site as a Safety Representative who shall be responsible for the promotion of safety and prevention of accidents, and shall enforce all applicable laws, ordinances, codes, rules, regulations and standards pertaining to safety and prevention of accidents.
- F. Each Contractor shall submit their Experience Modification Rating (EMR) to the Construction Manager. In addition, the Contractor is responsible to provide to the Construction Manager a listing of any MIOSHA violations or citations they have received in the past 5 years.
- G. Upon award of Contract, Contractor must provide Construction Manager with a 'Safety Manual'. Record copy of safety manuals will be retained onsite. Safety Manual shall include the following, but not limited to:
 - Loss Control Program
 - Hazard Communication Program
 - Respiratory Protection Program
 - Necessary Forms Needed to Adequately Perform Job

END OF SECTION 01 3523

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SECTION 01 4100
REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 PERMITS AND INSPECTION FEES

- A. The Owner will secure and pay for all general building permits.
- B. All soil erosion and DEQ permits, mechanical, and electrical permits shall be applied for, secured, and paid for by the Contractor requiring such permits.
- C. Any other specialized permits or inspection fees (i.e. utility taps or fees) shall be applied for, secured, and paid by the Contractor requiring such permits.

1.2 INSPECTIONS

- A. Any Contractor requiring special inspection by the State or other agency shall arrange and schedule the inspection and give a minimum of 48 hour notice to the Construction Manager, Architect, or Engineer.
- B. Partial occupancy permits may be applied for by the Owner. All Contractors will cooperate and assist in securing and maintaining partial occupancy permits.
- C. Mechanical and electrical Contractors shall review their specifications to comply with all special testing and inspections.
- D. Where the Contract Documents require inspections, tests or approvals of the Work to be made by an independent testing agency or laboratory or an independent professional consultant, the independent testing agency or laboratory or independent professional consultant shall be satisfactory to the Architect, Engineer and Construction Manager.
- E. Each contractor shall inspect work of others which will receive or is adjacent to their work before commencing their work. Do not proceed until conditions which would result in a less than satisfactory installation are corrected. Commencing work shall constitute as acceptance of the work or others by the contractor as satisfactory to receive their work.

END OF SECTION 01 4100

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SECTION 02 4113
DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Work Included:
 - 1. Removal of existing synthetic turf and infill.

1.2 SCOPE

- A. The work under this section of the specifications shall consist of the removal and disposal of all items as indicated on the drawings. Contractor shall furnish all labor, materials and equipment to complete the work according to the drawings and specifications.
- B. All other facilities and items that are indicated shall remain and be protected from construction damage. Areas damaged to known fault of the Contractor during construction shall be repaired or replaced at the expense of the Contractor. Lawns and pavings damaged during construction shall be restored to the condition which existed prior to commencement of Contractor's work.

PART 2 - PRODUCTS

N/A

PART 3 - EXECUTION

3.1 EXECUTION

- A. General
 - 1. Contractor shall not, for any reason, dump or leave any excavated materials on property.
 - 2. Contractor shall remove all items as indicated on drawings.
- B. Removal of Debris
 - 1. Promptly remove cleared debris from the site.
 - 2. Burning of debris on site is not permitted, unless permission is obtained from applicable regulatory authority.
 - 3. Obtain permission from applicable regulatory authority for disposal of debris to waste disposal site.

END OF SECTION 02 4113

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SECTION 06 1050
TURF ANCHOR

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.

1.2 SCOPE

- A. Provide all material, labor, and equipment necessary to install the timber and cleanup as detailed on the drawings and herein.
- B. Work includes:
 - 1. Removal of Existing Synthetic Turf
 - 2. Excavation
 - 3. Installation of Aggregate Drainage Stone
 - 4. Grading
 - 5. Installation of Wood Nailer
 - 6. E-Layer Repair
 - 7. Restoration and Clean-Up

PART 2 - PRODUCTS

2.1 TIMBER EDGING

- A. Southern Pine or Douglas Fir pressure preservative treated with alkaline copper quaternary (ACQ) or Copper Azole (CA) preservatives in accordance with American Wood Preservers Associates (AWPA) standard C17 for ground contact use. Provide lumber sizes as indicated on drawings.
- B. All hardware shall meet a minimum requirement established ASTM standard A153 and ASTM standard A653 (Class G-185).

2.2 WOODEN NAILERS FASTENERS

- A. Nails 16 d Hot Dipped Galvanized
- B. ¼ x 2 ¾" Stainless Steel Tapcon Masonry Screws
- C. DEC-King Exterior Wood Screw with Climacoat
- D. Wood to-Metal TEKS with Grey Spex
- E. Tapcon Concrete Anchor with Blue Climaseal and White Ultrashield
- F. Roofgrip with Spex or Blue Climaseal

SECTION 06 1050
TURF ANCHOR

- G. GYP-FAST Nail with Climacoat
- H. Maxi-set Tapcon White UltraShield
- I. Ramguard Drive Pin

PART 3 - EXECUTION

3.1 DEMOLITION, EXCAVATION AND REMOVALS

- A. Remove existing synthetic turf. Existing wood nailer will be evaluated by Landscape Architect for replacement. Contractor shall remove existing e-layer material and aggregate as needed for installation of new wood nailer. Stockpile sufficient material for restoration of perimeter area. Legally dispose of excess material off site.

3.2 GRADING

- A. Grade area to match existing grades. Grade shall be such that when finished grade is established, the work area and the perimeter shall be free of standing water.

3.3 INSTALLATION OF TIMBER EDGING

- A. Install wood nailer using only the specified fasteners listed in Section 2.02 above.
- B. Fasteners shall be placed in the middle (vertical) of nailer board. Fastener shall be no closer than 6" from end of board.
- C. Fasteners spacing shall not be more than 2.5'
- D. Contractor shall maximize use of treated lumber and minimize cuts to corners.

3.4 RESTORATION AND CLEAN UP

- A. Clean-up all excess materials and remove from site. Adjoining areas to be the same as prior to construction, and properly graded to allow water to drain away from surface.

END OF SECTION 06 1050

SECTION 31 1000
SITE PREPARATION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. The work under this Division consists of furnishing all labor, materials and equipment required for:
 - 1. Track protection
 - 2. Turf Removal and disposal
 - 3. E-layer and wood nailer repair
 - 4. Installation of new synthetic turf
 - 5. Installation of painted field markings
 - 6. Landscape Restoration
 - 7. General Clean Up
- C. Bidders shall visit the sites before submitting proposals and fully inform themselves as to the job and site conditions and other conditions under which the work of this section must be conducted. Contractors shall familiarize themselves with the existing conditions that may be adjusted for this project. Submission of proposals implies that the Bidder has visited the site and is fully aware of these conditions.
- D. A pre-construction conference shall be held on the job site with all intended Contractors and Sub-contractors prior to the start of any work.

PART 2 - PRODUCTS

N/A

PART 3 - EXECUTION

3.1 SURVEY REQUIREMENTS

- A. The Contractor shall provide all survey work required to locate lines and grades for the construction of this project as herein specified and shown on drawings. The Contractor shall employ a registered engineer or surveyor for this layout.
- B. The Contractor upon entering the site and before any other work is underway, shall establish and set control points as indicated on the drawings and verify all finish grades.
- C. Existing survey as shown on the drawings is for information only and accurate at time taken. Contractor shall verify field conditions and notify the Landscape Architect or Owner before bid date of any discrepancies found in the survey or site conditions.
- D. The Contractor shall provide a complete "as built" survey of the site within the site limits, noting all grades, locations, etc. if final constructed project should vary from bid documents.

SECTION 31 1000
SITE PREPARATION

- E. All work under this section shall be coordinated with the Landscape Architect so as to verify their understanding of the plans and intended layout.

END OF SECTION 31 1000

SECTION 31 2010
EARTHWORK (TURF)

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the provisions of the other parts.
- B. Section Includes:
 - 1. Excavation
 - 2. Grading
 - 3. Backfill and Compaction

1.2 SCOPE

- A. Furnish approved labor, materials, equipment, transportation, and services required to complete all earthwork as indicated on the drawings and specified herein. The Base Bid includes all earthwork and grading to provide a subgrade for other improvements. Adjustment of grades will be permitted, providing the overall grading concept and the positive drainage swales are maintained.

1.3 QUALITY ASSURANCE

- A. Excavation team shall be established and experienced with a minimum of 5 years experience constructing athletic fields.

1.4 EXAMINATION OF SITE

- A. The contractor is expected to visit the site to determine all conditions to be encountered, protect improvements on adjoining properties, as well as those on the owner's property, and to restore any improvements damaged by his work to their original condition, as acceptable to the owner or other parties or authorities having jurisdiction.

1.5 SAFETY CODES AND STANDARDS

- A. Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

1.6 LINES AND GRADES

- A. The plans indicate lines, grades and elevations of the finish work. In general, areas to be turfed shall be excavated and/or filled, and graded to the bottom elevations of drainage aggregate.

1.7 DEWATERING

- A. The contractor shall perform all work so as to permit the site to be free draining at all times and to prevent ponding. Contractor shall provide positive drainage for the entire site during the course of construction to eliminate standing water in excavated areas.

1.8 DEBRIS

- A. All debris is to be disposed off Owner's property unless otherwise directed.

SECTION 31 2010
EARTHWORK (TURF)

- B. Debris may not be buried over existing sewers or water mains.
- C. All debris must be removed on a daily basis.

PART 2 - PRODUCTS

2.1 BACKFILL AND FILL MATERIALS

- A. Backfill shall be excavated soil material, free of rock or gravel larger than 2" in any dimension, debris, waste, frozen materials, vegetable matter, and other deleterious matter. Existing materials may be used for backfill, provided no silt is mixed with material. Backfill consists of placement of acceptable soil material in layers, in excavations, to required subgrade elevation, for each area classification listed below.
- B. Fill Material: Fill material shall be clean, hard, durable, uncoated particles of sand or sand gravel mixture, provided that there shall be a substantial excess of sand-screenings.

PART 3 - EXECUTION

3.1 EXCAVATION

- A. Excavation consists of removal of material encountered to obtain required subgrade elevations.
 - 1. Excavation for Trench: Cut trench to cross-sections and grades as shown. Deposit excavated materials a sufficient distance from the edge of trench to prevent cave-ins or material from sliding into ditch. Keep trench free of leaves, sticks, and other debris until final acceptance of work.
 - 2. Removal of Unsatisfactory Soil Materials: Excavate unsatisfactory soil materials encountered that extend below required elevations, to additional depth directed by the Landscape Architect. See geotechnical evaluation report.
 - 3. Material Storage: Place excavated materials classified as unsatisfactory fill materials where directed by Owner's geotechnical consultant.
 - 4. Stability: Slope sides of excavations over five feet (5') deep to angle of repose of material excavated; otherwise shore and brace where sloping is not possible either because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in a safe condition until completion of backfill by scaling, benching, shelving, or bracing. Take precautions to prevent slides or cave-ins when excavations are made in locations adjacent to backfill excavations, and when sides of excavations are subjected to vibrations from vehicular traffic or the operation of machinery or any other source. Remove soft or unstable soil below finish grade elevations and backfill such voids with compacted fill material.

3.2 BACKFILL AND FILL MATERIALS

- A. Surface Preparation
 - 1. Remove vegetation, debris, unsatisfactory soil materials, obstruction and deleterious materials from ground surface prior to placement of fills. Plow, strip, or break up sloped surfaces steeper than one (1) vertical to four (4) horizontal so that fill material will bond with existing surface. When the existing ground surface has a density less than that specified under "Compaction" (3.2 A 2) for the particular area classification, break up ground surface, pulverize, and compact to the required depth

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EARTHWORK (TURF)

and percentage of maximum density.

2. **Compaction:** Perform compaction of soil materials for fills and backfills using suitable soil compaction equipment for materials to be compacted and work area locations. Control soil compaction during construction for compliance with percentages of maximum density specified for each classification. All compaction tests shall be in accordance with ASTM D1557 or AASHTO T180 C Modified Proctor Method.
3. **Placement And Compaction:** Place backfill materials in layers not more than eight inches (8") in loose depth. Before compaction, moisten or aerate each layer, as necessary, to provide the optimum moisture content. Compact each layer to required percentage of maximum density for each area classification. Do not place backfill or fill material on surfaces that are muddy, or frozen, or contain frost or ice. Thoroughly compact all fill and backfill by rolling each layer, following spreading, as closely as possible. Roll the areas in equal amounts in two directions. Provide compaction equipment or type best suited to achieve the desired results with the type of soil. In general, use sheeps foot and/or tamping type rollers on soils of a cohesive type; pneumatic wheeled or vibrating rollers on granular fill material, all as approved by the Landscape Architect. Operate compacting equipment on each layer until the entire area has been thoroughly and uniformly compacted to the required density.
4. **Maximum Density Requirements:** Provide not less than the following percentages of maximum density of the same soil material compacted at optimum moisture content, for the actual density of each layer of soil material in place. Any soils found unsuitable for specified compaction requirements shall be removed as directed by Owner.
5. **Lawn or Unpaved Areas:** Compact top six inches (6") of subgrade and each layer of backfill or fill material at eighty-five percent (85%) maximum density.
6. **Grading: Preparation of subgrade:** Rough grade all areas within the limits of site grading under this section, including adjacent transition areas. The rough grade shall be compacted as required. Shape the surface of future lawn areas to the line grade and cross-section with the surface not more than 0.10 feet above or below a subgrade elevation. Take extreme care in the grading of swale areas to insure free movement of surface runoff. Ponding shall be non-existent or at a minimum.

3.3 FINISH GRADING:

A. Sub-Soil Preparation:

1. Fine grade sub-soil systematically to eliminate uneven areas and low spots. Remove debris, roots, branches, stones, etc., in excess of two inches (2") in size. Remove sub-soil which has been contaminated with petroleum products.
2. Bring sub-soil to required levels, profiles and contours suitable for receiving the required finish surfaces. Make changes in grade gradual; blend slopes into level areas. Maximum slope 4:1 unless otherwise indicated.
3. Cultivate sub-grade to a depth of six inches (6") where topsoil is to be placed. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted sub-soil.
4. Compact sub-soil at the following percentages to a depth of 12 inches:
a 85% Modified Proctor where topsoil is to be placed.

SECTION 31 2010
EARTHWORK (TURF)

END OF SECTION 31 2010

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SECTION 32 1123
AGGREGATE DRAINAGE LAYER

PART 1 - GENERAL

1.1 GENERAL

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 - 1. Section 31 2010 Earthwork

1.2 SCOPE

- A. The work under this section of the specification shall consist of furnishing all labor, materials and equipment to produce, place, spread, compact and finish to proper grade and cross section all aggregate base courses according to the drawings and specifications.

1.3 QUALITY ASSURANCE

- A. Contractor shall have previously installed ten (10) artificial infill turf bases for turf fields larger than 80,000 square feet in the last three (3) years.
 - 1. The contractor is responsible for subgrade fine grading, installation of geotextile fabric, installation of field drainage system, installation of the perimeter nailing system, installation of field irrigation system, and installation of the dynamic stone base.
- B. Firms must have been in business under the same ownership for at least three years, and shall have been installing similar sports fields for that entire period.

1.4 SUBMITTALS

- A. Submit to the Architect a sieve analysis of the proposed stone to be installed.

1.5 ACCEPTABILITY OF THE WORK

- A. Grade: Grade conformance tests shall be conducted on the entire surface. The surface shall have positive drainage of 0.01% inclination.
- B. Planarity: After completion of the compacting operations, the compacted aggregate base shall be tested with a 10' straightedge. Measurements shall be made perpendicular to and across the field at a distance not to exceed 25' feet. The grade will not vary by 1/8" from proposed grades, elevations and slopes provided.
- C. The grade of the aggregate base shall be evaluated with a "string test". The contractor shall identify, with paint, every 5 yd line, in-bound lines, side line, touch line and end lines.
- D. Aggregate shall be tested as per ASTM F1551-03 at a minimum of 8 locations after final grade as been achieved and accepted.

SECTION 32 1123
AGGREGATE DRAINAGE LAYER

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aggregate base material shall conform to specifications for 100% crushed limestone and shall be placed and compacted to the minimum depth shown on plans. Crushed concrete, slag, etc. shall not be allowed. DOT standard classifications do not conform. Modifications of standard DOT aggregate classification may be required to meet specification.

<u>Aggregate Sieve Analysis</u>	<u>Percent Passing</u>	
	Base Material	Finishing Stone
1 1/2"	90-100	
1"	75-100	
3/4"	65-95	100
3/8"	40-75	85-100
1/4"	25-65	75-100
No. 4	15-60	60-90
No. 8	0-40	35-75
No. 16	0-20	10-55
No. 30	0-7	0-40
No. 60	0-5	0-15
No. 100	0-3	0-8
No. 200	3-7	0-2

Or

<u>Aggregate Sieve Analysis</u>	<u>Percent Passing</u>
1 1/2"	100
1"	90-100
3/4"	60-80
1/2"	35-65
No. 8	10-25
No. 30	5-18
LBW	6.0-max

- B. The hydraulic conductivity of the aggregate shall be such that is capable of draining the entire synthetic surface at a minimum of 10"/hr for the carpet and 14"/hr including aggregate drainage stone with perforated under drain system acting as the main water displacement conductor. The aggregate shall maintain its finished grade elevations migration of fines and subsequent loss of finished tolerances will not be accepted.
- C. Material shall be tested by a testing agency selected by the Owner to ensure compliance with the submitted documentation (ASTM D422 particle size analysis and ASTM F1551-03/DIN 18-035:6, permeability to water). A minimum of 8 tests shall be performed at random locations selected by Owner's representative.

SECTION 32 1123
AGGREGATE DRAINAGE LAYER

PART 3 - EXECUTION**3.1 SUB-GRADE CONSTRUCTION**

- A. The sub-grade shall be so constructed as to have uniform stability for a width at least equal to that of the proposed pavement plus of the proposed anchoring system. It shall be brought to an elevation and cross section such that, after being rolled, the surface will be at the required elevation. At the time the sub-grade is prepared, the fill area shall have been constructed to the full width and to at least the elevation of the finished sub-grade.
- B. The material present in the next six (6) inches below the elevation of the sub-grade shall be scarified, mixed and recompact, or otherwise treated to produce a uniform condition. Stones over four (4) inches in size shall be removed from the loosened portion of the sub-grade and disposed as directed by the project representative.
- C. Depressions that develop during the following shall be filled with suitable material, and the rolling shall continue until the sub-grade is uniformly firm, properly shaped and substantially true to grade and cross section. It shall be so maintained until the pavement is place.
- D. Material, other than sand, which will not compact readily under roller shall be removed and replaced with material which will compact readily and that portion of the sub-grade shall be rolled again.
- E. The rolling of the sub-grade shall extend for at least twelve (12) inches outside of each edge of the proposed turf boundaries when possible. Piles or ridges of earth or material that would seriously interfere with the operations of finishing the pavement shall not be left on the shoulders.
- F. During the process of construction sub-grade, the soil shall be maintained in a condition sufficiently moist to facilitate compaction and produce a firm, compact surface.
- G. If, in the preparation of the sub-grade, it becomes necessary to excavate below the elevation of the earth shoulders, ditches or drains shall be provided at frequent intervals to permit ready drainage of surface water from sub-grade to side ditches.
- H. If ruts or other objectionable irregularities form in the sub-grade during construction, the Contractor shall reshape and re-roll the sub-grade before the pavement is laid. The material used for filling ruts or other depressions shall be of such character as to make it equally desirable for sub-grade purposes as the material presented in the sub-grade.
- I. When the sub-grade is being prepared for placement as an aggregate base course, the elevation of the most finished surface, at the time the next layer is placed, shall not vary by more than 0.02 foot above or below the prescribed elevation at any point where measurement is made.

3.2 AGGREGATE BASE COURSE

- A. Base course construction shall proceed as follows only after the Architect has approved the sub-grade construction and the gravel tests.
- B. The base shall be constructed in layers of not more than three (3) inches (75mm) compacted thickness when conventional rolling equipment is used.
- C. If vibratory or other approved special equipment is used, the thickness of every compacted layer may be increased to a maximum of eight (8) inches (200mm).
- D. The finished surface of any aggregate base course shall not vary more than 0.02 foot (5mm) from the elevations, grades and cross sections on the drawings.

SECTION 32 1123
AGGREGATE DRAINAGE LAYER

- E. Compacted stone base dimensions shall be a minimum of 8".
- F. It shall be the contractor's responsibility to maintain a uniform consistent stone base gradation during the installation process. This shall include but not limited to keeping aggregate base at optimum moisture content (5%, \pm 1%) and/ or providing, placing, and compacting a ½ " layer of stone chips.
- G. Installation shall be accomplished using automated laser grade control, equipment, with dual-slope capabilities.
- H. Once stone base has been established, Landscape Architect shall verify grade. Contractor shall have on-site, prior to Landscape Architect arrival, the following equipment:
 - 1. Plate compactor
 - 2. 25 ton 3/8" stone chips.
 - 3. Two (2) 48"/38" aluminum landscape rakes.
 - 4. 24" wide broom.
 - 5. There must be enough personnel to operate all equipment simultaneously.
- I. It will be the contractor's obligation and responsibility to have all of the above items in place prior to grade verification by Landscape Architect.

3.3 COMPACTION REQUIREMENTS

- A. Sub-grade shall be compacted to not less than ninety-two percent (92%) of maximum density at not less than seventy-five percent (75%) of optimum moisture content.
- B. Aggregate base course shall be compacted to not less than ninety-five percent (95%) of maximum density. Using conventional rolling equipment, moisture content shall not be less than ninety percent (90%) nor more than one hundred-ten percent (110%) of optimum moisture content. Using vibrating equipment, moisture content shall not be less than seventy-five (75%) of optimum moisture content.
- C. Maximum density shall be determined in accordance with AASHTO Modified Method of Test for the Compaction and Density of Soil, Designation T-180, and the optimum moisture content shall be that corresponding to the maximum density in the above test.
- D. Contractor shall maintain optimum moisture content during the installation, (placement, grading, compacting, etc.) of the aggregate base materials.

END OF SECTION 32 1123

SECTION 32 1815
SYNTHETIC TURF SAND/RUBBER

PART 1 - GENERAL**1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents, including General and Supplementary Conditions, Drawings and shall be coordinated with the applicable provisions of the other parts.
- B. Furnish all labor, materials, tools and equipment necessary to install, in-place, a parallel slit polyethylene fiber tufted into a fiber reinforced polyester-polypropylene backing with a secondary backing of polyurethane synthetic turf athletic field as shown on the plans and as specified. Work to include but not limited to:
 - 1. Provide and install a parallel slit polyethylene turf carpet, infill system shall be recyclable SBR rubber and silica sand. Infill to be provided by the turf manufacturer, along with additional components including inlaid game lines, markings and logos as indicated, for a complete system.
 - 2. Manufacturer/Installer shall provide +/- 2000 lbs of additional rubber infill material to the Owner.
 - 3. Manufacturer/Installer shall provide +/- 300 sf of each color of the synthetic turf installed.
 - 4. Manufacturer/Installer shall provide +/- 200 lf of each 4" line color of the synthetic turf installed. Color: Yellow and White
 - 5. Manufacturer/Installer shall provide +/- 15 lf of each 4" field marking "corner dot" color for men's and women's lacrosse. Color: Maroon and Blue
- C. Installer/Manufacturer must submit tests results, from an independent lab, of 5 random rolls manufactured specifically for this project. These test results must be sent and approved prior to product arriving on-site. Any test result not meeting specification minimums is grounds for rejection of entire product.

1.2 SCOPE

- A. The work under this section shall consist of furnishing all labor, materials and equipment, necessary to install, in place, all synthetic turf materials as indicated on the plans and as specified herein. The installation of all new materials shall be performed in strict accordance with these specifications, the manufacturer's instructions and in accordance with all details and shop drawings. The scope of work shall include the following:
 - 1. Artificial Turf System
 - 2. Inlaid Football Inbound Lines, Field Numbers, Football Kick-Off, and Soccer Lines
 - 3. Painting of Football Hash Marks, Team/Coaches Box, Restraining Line, and Men's and Women's Lacrosse Lines
 - 4. Maintenance Equipment
 - 5. Manufacturer Warranty - Guarantee (8 Years).

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SYNTHETIC TURF SAND/RUBBER

6. 3rd Party Insured Warranty

7. Review and certification of previous work performed by site work contractor, relating to the grade work in Section 32 1123.

1.3 QUALITY ASSURANCE

- A. The synthetic turf manufacturer's product quality control program will be evaluated with the system. An independent third party testing agency or laboratory experienced with synthetic turf shall perform testing for compliance and acceptance.
 - 1. Test sample shall be from 5 random rolls manufactured for this project. Proof of documentation must be provided upon delivery of carpet to the job site.
 - 2. Test results shall identify manufacturer, date of test(s), lab technician, project, lot number, etc.
- B. INSTALLER: Must be a member in good standing of the Synthetic Turf Council (STC). Installation team shall be established and experienced in the field with a minimum of 5 years experience with 15 foot wide materials. On-Site superintendent shall have at least 10 installations similar with this type of material and infill.
- C. RESUMES: Bidder shall submit, upon request, resumes detailing level of experience of each installation foreman or supervisor.
- D. MANUFACTURER'S INSTRUCTIONS: Comply with the manufacturer's applicable instructions and recommendations for installation to whatever extent these are more stringent or explicit than indicated in the contract documents.
- E. MATERIALS: All supplied and installed materials and products will meet or exceed the minimum specifications designated in this section. Contractor shall submit test results, from an independent lab of 5 random rolls of carpet intended for this project, before shipping to the site.
- F. INSPECTION: Inspect delivered field surface fabric components immediately prior to installation. Any damaged or defective items shall be rejected. Installed artificial system shall be inspected for, but not limited to the following: acceptable seams, glue bonding, uniformity of product and color, surface bubbles, field markings, and field edge installation. The pile height of each roll supplied fabric shall be measured. Any material(s) that does not meet minimum height and thickness specifications shall be rejected. Pile height shall be measured in its finished position. Manufacturer shall provide evidence of random samplings obtained during the manufacturing process that the carpet meets or exceeds the specifications below.
- G. Certification prior to work: The synthetic turf manufacturer and/or installation contractor shall perform an inspection of the field base onto which the synthetic turf system is to be installed and to examine the finished surface for required compaction and grade tolerances. The turf installer will accept the aggregate stone base in writing when the Owner's representative provides test results for compaction, permeability and planarity that are in compliance with the project plans and specifications. After any discrepancies between the required materials, application and tolerance requirements noted have been corrected, the synthetic turf installer should submit a written certification of acceptance of the base for installation of subsequent layers of the synthetic turf system. The acceptance of the base construction should be included in the certification for warranty validation.

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SYNTHETIC TURF SAND/RUBBER

- H. **VERIFY DIMENSIONS:** Re-check field size and markings measurements and dimensions to verify conformity to specifications and standards.
- I. **SUBMITTALS:**
1. Shop Drawings - Submit complete and detailed shop drawings including layout of all components, parts and materials installed under this section. Shop drawings shall show proposed locations of all seams in fabric surfacing.
 2. Field Lining and Marking - Submit a complete scale and dimensional drawing of inlaid, tufted, and painted field linings and marking boundaries.
 3. All submittals shall be provided within 14 days after Notice to Proceed.
 4. Test results from the 5 random rolls of carpet, intended for this project, prior to shipping.
 - a. Test results shall identify manufacturer, date of test(s), lab technician, project, lot number, etc
 6. Rubber, with certification of availability, from supplier guaranteeing product supply reserved for the Troy School District.
 7. Silica sand, with certification of availability, from supplier guaranteeing product supply reserved for the Troy School District.
 8. Provide test reports, conducted by an independent (third-party) laboratory, on 5 random carpet rolls. Reports shall comply with the ASTM tests as follows:
 - a. ASTM D418 or D5848 - Pile Height, Face Width & Total Fabric Weight,
 - b. ASTM D418 or D5848 - Primary & Secondary Backing Weights,
 - c. ASTM D1335 - Tuft Bind,
 - d. ASTM D1682 or D5034 - Grab Tear Strength,
 - e. ASTM D2859 - Pill Burn Test
 9. The Turf Contractor and the Turf Manufacturer (if different from the company) shall provide a sample copy of warranty and insurance policy information with Bid Proposal Form.
 10. The Turf Contractor shall provide maintenance equipment submittals.
- J. **REFERENCES:** The Manufacturer/Installer team shall provide information to demonstrate a minimum of 5 years of successful experience in the installation of systems similar to that of covered by this specification.
- K. **TEST RESULTS:** The following test results, certified by a licensed independent testing laboratory, shall be submitted upon request.
1. Mandatory and minimum specifications as shown in Section 2.
 2. Dynamic Cushioning Test, according to:
 - ASTM F-355-95, Procedure A
 - Standard F-1936-98.

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SYNTHETIC TURF SAND/RUBBER

- L. SAMPLES: The Manufacturer/Installer shall provide the following samples of the artificial turf selected for this project within 14 calendar days after the Notice to Proceed.
1. (4) 1'x 1' samples each of turf
 2. Submit one sample of the "Knitted, or Inlaid Lines and Markings", applied to one of the 1'x 1' samples described above, utilizing the manufactures recommended product.
- M. MAINTENANCE AND OPERATIONAL DATA: At the completion of the project, submit 5 complete sets, in manual form, of all the manufacturer's recommended procedures and materials for, but not limited to:
1. One year after initial installation, Installer may be required to return to supplement rubber and perform maintenance.
 2. General Maintenance
 3. Lining/ Marking Installation
 4. Lines and Mark Removal
 5. Small Repair Procedures
 6. Cleaning
 7. A list of all procedures required to maintain the surface condition and activities and/or procedures to be avoided in order to prolong the life and maintain the warranty- including static and dynamic load limits, snow clearing, etc.
 8. Installer shall provide training session for Owner and their selected representatives.
- N. *WARRANTY SAMPLES: Submit 3 "sample copies" of the "PROPOSED WARRANTY" which is to be provided at the completion of the Contract. Warranty period shall be for not less than eight (8) years after final acceptance and incorporate all components. Warranty shall be provided by system installer who shall be responsible for carpet, inlays and infill. Maintenance is an essential element in the performance and life cycle of each system. The maintenance procedures and equipment as specified by the manufacturer and required for the system shall be evaluated during the selection process so that the appropriate budget resources (manpower & equipment) may be allocated.
1. All turf warranties shall be full, non-prorated, limited to repair or replacement of the affected areas, at the option of the Manufacturer, and shall include all necessary materials, labor, transportation costs, etc. to complete said repairs. All warranties are contingent on the full payment by the Owner of all pertinent invoices.
 2. The artificial grass field turf must maintain an ASTM 1936 G-max between 85-175 for the life of the Warranty.
 - * Warranties for the synthetic turf field systems shall address the following:
 - Acceptable uses for the field
 - Fading
 - Color match within specifications
 - Excessive fiber wear

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SYNTHETIC TURF SAND/RUBBER

- Wrinkling and panel movement
- Shock absorbency (G-max)
- Seam Integrity
- Drainage (of Carpet and Infill only)
- Flammability
- Response time for required repairs/replacement

3. Results of G-max shall not vary by more than 10%. See chart below.

<u>Football Field</u>	<u>6 pts</u>
Average Initial G-max (w/o e-layer)	130-140
Average Initial G-max (w/ e-layer)	85-110
Deviation factor	10%

4. Contractor shall provide an independent 3rd party insurance policy to cover all items identified above.

O. TESTING: After the installation and initial testing of the turf, the Contractor will submit not later than June 15 every two (2) years the Warranty-Guarantee is in effect, a test report from a qualified independent testing laboratory. The testing will be conducted no sooner than May 15 and will be submitted not later than June 15. Test site locations will be along the hash mark areas, through the center of the football Field, and along the sidelines every 50 feet. The test procedure will be ASTM 1936, Procedure A. (See Detail #5, Sheet D-1)

P. ASTM Standard Test Methods

- | | |
|------------|---|
| F1551-03 - | Standard Test Method for Comprehensive Characteristics of Synthetic Turf Playing Surfaces and Materials |
| D5848-98 - | Standard Test Method for Mass Per Unit Area of Pile Yarn Floor Covering |
| D418 - | Standard Test Method for Testing Pile Yarn Floor Covering Construction (Withdrawn) |
| D1335 - | Standard Test Method for Bind of Pile Yarn Floor Coverings |
| D638-03 - | Standard Method of Test for Textile Properties of Plastics |
| D5034 - | Standard Test Method of Breaking Strength and Elongation of Textile Fabrics (Grab Test) |
| F1015-03 - | Standard Test Method for Relative Abrasiveness of Synthetic Turf Playing Surfaces |
| D2256-02 | Standard Test Method for Tensile Properties of Yarns by the Single Strand Method |
| D2157-02 | Standard Specification for Synthetic Surface Running Tracks |
| F2117 | Standard Test Method for Vertical Rebound Characteristics of Sports Surfaces/Ball Systems; Acoustical Measurement |
| D4491 - | Standard Test Methods for Water Permeability of Geotextiles by Permittivity |
| D2859-04 - | Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials |
| F355 - | Standard Test Method for Shock-Absorbing Properties of Playing Surfaces. |
| F1936- | Standard Test Method for Shock-Absorbing Properties of North American Football Field Playing Systems as Measured in the Field |
| D1557 - | Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort. |

Q. MAINTENANCE EQUIPMENT

1. The Turf Contractor/Manufacturer shall supply and assemble, as part of the Base Bid, one (1) Sweeper to each site for routinely brushing the field.

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SYNTHETIC TURF SAND/RUBBER

- a. Sweeper unit shall be:
 - "Litter Kat" by Pioneer Athletics (800) 877-1500

R. CARPET REMNANTS

1. Installation crews shall provide a minimum of 300sf of each color installed on the field. This shall be from the remnants generated during installation.
2. Manufacturer/Installer shall provide +/- 200 lf of each 4" line color of the synthetic turf installed. Color: Yellow and White
3. Manufacturer/Installer shall provide +/- 15 lf of each 4" field marking "corner dot" color for men's and women's lacrosse. Color: Maroon and Blue

- S. Infill shall be evaluated and accepted during initial installation. Contractor shall provide shipping receipts verifying specified rubber quantity was delivered. If the field lacks sufficient material to properly support P.E. fiber, contractor shall provide and install additional rubber as needed at no additional cost to the owner. Contractor shall inspect the field after one year to provide and install sufficient amount of rubber to support ½ of the turf fiber at the expense of the Contractor.

- T. PRE-SHIPMENT QUALITY CONTROL report shall include the following physical data:

PHYSICAL PROPERTIES

Test Property	ASTM
Pile Height	ASTM D418
Denier	ASTM D1557-01
Pile Ribbon Wt	ASTM D5848-05
Primary Backing Wt	ASTM D5848-05
Secondary Backing Wt.	ASTM D5848-05
Tuft Bind	ASTM D1335-98
Yarn Elongation	ASTM D2265
Grab Tear Strength	ASTM D5034
Flammability	ASTM D2859

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SYNTHETIC TURF SAND/RUBBER

PART 2 - PRODUCTS

2.1 MANUFACTURERS

The following list of manufacturers are considered to be acceptable or (approved equal):

- | | | | |
|----|--------------------------------|-----|---|
| A. | Premiere XP | By: | ATurf
PO Box 157
Williamsville, NY 14231
(888) 777-6910 |
| B. | AstroTurf Gameday
Grass XPE | By: | Astroturf/General Sports Venue
400 Water Street
Rochester Hills, MI 48307
(248) 601-2200 |
| C. | MondoTurf PF-Classic | By: | Kiefer
2910 Falling Waters Blvd
Lindenhurst, IL 60046
800-322-5448 |
| D. | Field Turf MonoGrass | By | Fieldturf
5050 Para Street
Suite 280
Montreal, Quebec
Canada, H4P 1P3 |
| E. | Infinity SR | By | Prograss
960 Penn Avenue
Pittsburgh, PA 15222
(866) 270-6003 |
| F. | Omni Grass 41 | By | Sportexe
201 E. John W. Carpenter Fwy, Suite 301-A
Irving, TX 75062
(866) 703-4004 |
| G. | Polytan | By | Polytan USA
1640 Powers Ferry Road
Building 14, Suite 360
Marietta, GA 30067
(770) 563-9292 |

2.2

PRODUCT

- A. The turf system shall consist of an artificial grass-like surface pile, which shall be tufted into a primary backing and coated with a secondary backing to lock in the tufted fibers.
- B. The entire system shall be resistant to weather, insects, rot, mildew, and fungus growth, and will be non-allergic and non-toxic.
- C. The entire system shall be constructed for porous standards as specified.

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- D. The pile surface shall provide good traction in all types of weather with the use of conventional sneakers type shoes, composition mold sole athletic shoes, baseball spikes, and screw-on football cleats.
- E. In addition to the tufted lines, inlaid lines and logos, the pile surface shall be suitable for both temporary and permanent line markings using paint specifically developed for this use and as recommended by the turf manufacturer.
- F. The fabric surface will be installed in 15 foot width (recommended).
- G. All synthetic turf seams shall be sewn with a double-lock stitch.
- H. The dynamic cushioning of combined turf and infill material supplied shall not exceed an average maximum value of 110 G's, at 70°F upon initial installation, utilizing ASTM Test F-1936-95, not to exceed 175 G's over warranty period.
- I. The entire system will be constructed to maximize dimensional stability, to resist damage, resistant to ultraviolet radiation, and sustain normal wear and tear for its designated uses.
- J. All adhesives used in bonding the inlaid markings to the adjacent carpet shall be resistant to moisture, bacteria and fungus attacks, and resistant to ultraviolet radiation.
- K. Rubber will be either ambient ground or cryogenic produced (supplier to submit verification) and be sized to allow a system infiltration of water at a rate of 10" per hour.
- L. Custom Logos can be provided in AutoCad format to expedite construction.

2.3 SYNTHETIC TURF PHYSICAL CHARACTERISTICS

- A. The synthetic turf material and resilient infill shall be in accordance with the following:
 - 1. The fiber shall be an 8,000 denier, 100 micron thickness 100% polyethylene, low friction fiber, measuring not less than 2 inches high, as manufactured by Bonar, TTC/Polylom. The low-friction fiber shall be specifically designed to virtually eliminate abrasion.
 - 2. The fiber weight shall not be less than 42 ounces per square yard. The overall product weight must not be less than 74 ounces per square yard. The low friction non-abrasive fiber shall be 100% polyethylene, treated with a UV inhibitor.
 - 3. The primary backing shall consist of a one part, three component polyester/polypropylene backing with a minimum weight of 8 ounces per square yard. The secondary backing shall consist of an application of porous polyurethane (minimum of 24 ounces per square yard), heat activated to permanently lock fibers in place. Products using latex based secondary backings will not be acceptable. The synthetic grass system shall be perforated with 1/4" holes every four (4") inches in both directions or the secondary backing can be applied to the tufted fiber rows, to provide for maximum drainage. Complete synthetic grass system shall drain in excess of 10" per hour.
 - 4. The carpet shall be delivered in 15-foot wide rolls with the four 4 inch white, 5-yard lines tufted into each roll. The rolls shall be of sufficient length to go from sideline to sideline. The perimeter white line shall also be tufted into the individual sideline. Head seams between the sidelines of the football field will not be acceptable. The perimeter white line shall also be tufted into the individual sideline rolls.

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SYNTHETIC TURF SAND/RUBBER

5. All field lines, numbers and markings on plans shall be installed as indicated.
6. The fiber shall be Field green in color to simulate natural grass as closely as possible and treated with UV inhibitor, guaranteed a minimum of eight years.
7. The rubber infill shall consist of a non-compacting mixture of uniformly sized ambient and/or cryogenic recycled SBR crumb rubber.
 - a. The Crumb Rubber Infill (CRI) material used shall be derived from whole, vulcanized highway vehicle tires manufactured in the United States.
 - b. Tires more than 10 (ten) years old from date of production are not allowed.
 - c. No factory tires rejects are allowed.
 - d. The Crumb Rubber shall have a specific gravity range from 1.1 minimum to 1.2 maximum as determined by ASTM D 297.
 - e. The CRI used as infill shall conform to the following chemical analysis:

<u>TEST</u>	<u>ASTM TEST METHOD</u>	<u>MAX.</u>	<u>MIN.</u>
Acetone Extract	D 297	16.0%	-
Ash Content	D 297	4.0%	-
Rubber Hydrocarbon	D 297	55.0%	40%
SBR Content	D 297	-	75%

8. Rubber Mesh

a.	*Mesh (ASTM E-11)	
	Sieve Size	Percent Retained
	8	
	12	1.3%
	16	58.8%
	20	38.2%
	30	1.0%
	40	0.0%
	50	0.0%
	PAN	Not-to-exceed 0.004%

- b. Provide a minimum 3.0 pounds per square foot.

9. Synthetic Turf Physical Characteristics:

<u>Physical Properties:</u>	<u>Minimum Specification Requirements</u>
Pile Ht	2.0"
Pile Ribbon Wt	42 oz./sy
Primary Backing Wt	8 oz./sy
Secondary Backing Wt.	24 oz./sy
Total Face weight	74 oz/sy
Denier	8,000

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Fiber Thickness	100 Micron
Primary Backing Material	Polypropylene
Secondary Backing	Polyurethane
Tuft Bind	8 lbs w/o infill
Fiber Composition	Polyethylene, Parallel-slit
Yarn Supplier	<ul style="list-style-type: none"> • Bonar Yarns & Fabrics • TTC/ Polyloom
Yarn Elongation	50%
Grab Tear Strength - Width	300 lbs/force
Grab Tear Strength - Length	180 lbs/force
Flammability	Pass
Carpet Drainage	4" on-center, both ways or tufted fiber rows only

10. Silica Sand

- a. Round, uniformly-sized pure silica sand
- b. Sized between US Sieve 20 to 40
- c. Provide a minimum 3.0 pounds per square foot

PART 3 - EXECUTION

3.1 CERTIFICATION OF BASE CONSTRUCTION

- A. GENERAL: A written "Certification of Acceptance of the Base Construction" is required from the artificial turf/surfacing system prior to proceeding with any installation work under this section of the specifications.
- B. SCOPE: This certification shall include but not be limited to the acceptance of:
 1. The base construction finish surface is completely acceptable for the application of work specified under this section.
 2. The materials and method of installation for the aggregate stone base construction is in conformance with the manufacturer's current recommendations for the application of the turf to be installed under this section.
 3. The aggregate stone base construction is totally suitable for work to proceed with the assurance that the final installation of the work under this section will result in a high quality athletic sub-base. In order to provide these assurances and the Certificate of Acceptance, the turf system installer shall cooperate and communicate fully, at all times, with the construction manager. This contractor shall inspect the base construction work and verify that conditions and tolerances required for application of the artificial turf system are being met and that the Owner's representative has provided test results for compaction, porosity and planarity.
 4. All discrepancies between the required materials, application and tolerance requirements noted by the installer shall be brought immediately to the attention of the Contractor and Landscape Architect. Failure to immediately inform the contractor and Landscape Architect of any prior work which does not meet the required specifications for installation of the artificial turf surfacing system shall be considered an acceptance by the installer of the non-

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conforming work. Any additional work later required to bring the base to acceptable conditions shall be preformed by this installer at no additional cost to the Owner. Any discrepancies in the prior work which does not meet the specifications and noted in writing to the Owner and Landscape Architect shall be preformed immediately at no additional cost to the Owner.

3.2 INSTALLATION OF THE TURF

- A. GENERAL: All installation shall be done in strict accordance with the manufacturer's current printed installation instructions approved by the Landscape Architect.
- B. REPLACEMENT: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Landscape Architect at no additional cost to the Owner.
- C. ENVIRONMENTAL CONDITIONS: Weather conditions are important for the successful installation of the systems. No work under this section will proceed when:
 - 1. Ambient air temperatures are below 40 degrees F.
 - 2. Material temperatures are below 40 degrees F.
 - 3. Surfaces are wet or damp
 - 4. Rain is imminent or falling
 - 5. Conditions exist or are imminent, which will be unsuitable to installation requirements of the systems specified herein. Humidity levels will be inside the limits recommended by the adhesive manufacturer to obtain optimum bonding characteristics of the surfaces.
- D. BONDING OF MATERIAL SURFACES
 - 1. The adhesive bonding of all system material components shall provide a permanent, tight, secure and hazard free athletic playing surface.
 - 2. The following components, at a minimum, shall meet the bonding requirements of the following:
 - a. Turf to turf sewn
 - b. All turf terminal edges shall be stapled/nailed.
 - c. Turf inlays as indicated on the drawings shall be glued
- E. WORK QUALITY: The bonding design and work shall be such that all surface joint and seams shall remain as required above throughout the duration of the warranty period at a minimum.
- F. SEAM SPACINGS
 - 1. All seams widths are to be held to the absolute minimum and as approved.
 - 2. All seams (butt joints) shall be traverse to the field direction; i.e. run across the field.
 - 3. All lateral seams are to be sewn with a double-lock stitch.

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G. EDGES: Turf edges will be shown on details and specified herein.

1. The perimeter of the field shall be firmly secured to the edge anchors, for the life of the warranty and as detailed, using stainless steel or hot dipped galvanized fastener space \pm 18" oc.

H. TURF SYSTEM DRAINAGE: Turf system shall include, upon completion of turf, perforation of same for drainage. Method of porosity shall be reviewed prior to award of any contract. System shall provide a minimum rate of infiltration of 10" per hour.

3.3 FIELD LINING AND MARKINGS

A. GENERAL: A complete field "Lining, Marking and Field Boundary" system will be provided with the installation of the surfacing system specified herein.

B. INLAYS: Shave and hot-glue or cut and glue.

C. LAYOUT: Striping layouts shall be accurately surveyed by the Contractor before installation of inlays.

D. WORKMANSHIP: All seams shall be flat, tight, and permanent with no separation or fraying. Inlaid markings shall be adhered to a special tape with a two-part, high strength polyurethane adhesive applied per the Turf Manufacturer's standard procedures for outdoor applications.

E. LINE MARKINGS: Painted Line marks shall be installed using Pioneer Athletics Products, (800) 877-1500.

1. Products: GameLine Removable Synthetic Turf Marking Paint by Pioneer Athletics

3.4 SITE TESTING

A. Site testing shall be at ambient shaded air temperature of 40 - 100°F. Laboratory testing shall be at ambient indoor temperature unless otherwise specified by the test method. Unless otherwise specified, field test measurements shall be made at a minimum of 5 locations. Test locations shall conform as closely as possible to the test sites specified in ASTM F1936 (field used primarily for North American Football).

3.5 ENVIRONMENTAL CONDITIONS

A. Weather conditions are important for the successful installation of the systems. No work should proceed when:

1. Conditions exist or are imminent, which will be unsuitable to installation requirements of the systems specified herein.
2. Humidity levels will be inside the limits recommended by the adhesive manufacturer to obtain optimum bonding characteristics of the surfaces.
3. Ambient air temperatures are below 50°F.
4. Material temperatures are below 50°F.
5. Surfaces are wet or damp.
6. Rain is imminent or falling.

END OF SECTION 32 1815

SECTION 32 1817
SYNTHETIC TURF – MONOFILAMENT
ALTERNATE A-3

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section is a part of the entire set of Contract Documents, including General and Supplementary Conditions, Drawings and shall be coordinated with the applicable provisions of the other parts.
- B. Furnish all labor, materials, tools and equipment necessary to install, in-place, an extruded polyethylene monofilament synthetic turf athletic field as shown on the plans and as specified. Work to include but not limited to:
 - 1. Provide and install the extruded monofilament turf carpet, infill system shall be recyclable SBR rubber and silica sand. Infill to be provided by the turf manufacturer, along with additional components including inlaid game lines, markings and logos as indicated, for a complete system.
 - 2. Manufacturer/Installer shall provide +/- 2000 lbs of additional rubber infill material to the Owner.
 - 3. Manufacturer/Installer shall provide +/- 300 sf of each color of the synthetic turf installed.
 - 4. Manufacturer/Installer shall provide +/- 200 lf of each 4" line color of the synthetic turf installed. Color: Yellow and White
 - 5. Manufacturer/Installer shall provide +/- 15 lf of each 4" field marking "corner dot" color for men's and women's lacrosse. Color: Maroon and Blue
- C. Installer/Manufacturer must submit tests results, from an independent lab, of 5 random rolls manufactured specifically for this project. These test results must be sent and approved prior to product arriving on-site. Any test result not meeting specification minimums is grounds for rejection of entire product.

1.2 SCOPE

- A. The work under this section shall consist of furnishing all labor, materials and equipment, necessary to install, in place, all synthetic turf and pad materials as indicated on the plans and as specified herein. The installation of all new materials shall be preformed in strict accordance with these specifications, the manufacturer's instructions and in accordance with all details and shop drawings. The scope of work shall include the following:
 - 1. Artificial Turf System
 - 2. Inlaid Football Inbound Lines, Field Numbers, Football Kick-Off, and Soccer Lines
 - 3. Painting of Football Hash Marks, Team/Coaches Box, Restraining Line, and Men's and Women's Lacrosse Lines
 - 4. Maintenance Equipment
 - 5. Manufacturer Warranty - Guarantee (8 Years)
 - 6. 3rd Party Insured Warranty
 - 7. Review and certification of previous work preformed by other sub-contractors, relating to the

SECTION 32 1817
SYNTHETIC TURF – MONOFILAMENT
ALTERNATE A-3

grade work of Section 32 11 23.

1.3 QUALITY ASSURANCE

- a. The synthetic turf manufacturer's product quality control program will be evaluated with the system. An independent third party testing agency or laboratory experienced with synthetic turf shall perform testing for compliance and acceptance.
 - 1. Test sample shall be from 5 random rolls manufactured for this project. Proof of documentation must be provided upon delivery of carpet to the job site.
 - 2. Test results shall identify manufacturer, date of test(s), lab technician, project, lot number, etc.
- B. INSTALLER: Must be a member in good standing of the Synthetic Turf Council (STC). Installation team shall be an established and experienced in the field with a minimum of 5 years experience with 15 foot wide materials. On-Site superintendent shall have at least 10 installations similar with this type.
- C. RESUMES: Bidder shall submit, upon request, resumes detailing level of experience of each installation foreman or supervisor.
- D. MANUFACTURER'S INSTRUCTIONS: Comply with the manufacturer's applicable instructions and recommendations for installation to whatever extent these are more stringent or explicit than indicated in the contract documents.
- E. MATERIALS: All supplied and installed materials and products will meet or exceed the minimum specifications designated in this section. Contractor shall submit test results, from an independent lab of 5 random rolls of carpet intended for this project, before shipping to the site.
- F. INSPECTION: Inspect delivered field surface fabric components immediately prior to installation. Any damaged or defective items shall be rejected. Installed artificial system shall be inspected for, but not limited to the following: acceptable seams, glue bonding, uniformity of product and color, surface bubbles, field markings, and field edge installation. The pile height of each roll supplied fabric shall be measured. Any material(s) that does not meet minimum height and thickness specifications shall be rejected. Pile height shall be measured in its finished position. Manufacturer shall provide evidence of random samplings obtained during the manufacturing process that the carpet meets or exceeds the specifications below for product to be delivered to this job site.
- G. Certification prior to work: The synthetic turf manufacturer and/or installation contractor shall perform an inspection of the field base onto which the synthetic turf system is to be installed and to examine the finished surface for required compaction, permeability and grade tolerances. The turf installer will accept the aggregate stone base in writing when the Owner's representative provides test results for compaction, permeability and planarity that are in compliance with the project plans and specifications. After any discrepancies between the required materials, application and tolerance requirements noted have been corrected, the synthetic turf installer should submit a written certification of acceptance of the base for installation of subsequent layers of the synthetic turf system. The acceptance of the base construction should be included in the certification for warranty validation.
- H. VERIFY DIMENSIONS: Re-check field size and markings measurements and dimensions to verify conformity to specifications and standards.

SECTION 32 1817
SYNTHETIC TURF – MONOFILAMENT
ALTERNATE A-3

I. SUBMITTALS:

1. Shop Drawings - Submit complete and detailed shop drawings including layout of all components, parts and materials installed under this section. Shop drawings shall show proposed locations of all seams in fabric surfacing.
2. Field Lining and Marking - Submit a complete scale and dimensional drawing of inlaid or ed-in field linings and marking boundaries.
3. All submittals shall be provided within 14 days after Notice to Proceed.
4. Test results from an independent laboratory of one installation.
5. Test results from the 5 random rolls of carpe, intended for this project, prior to shipping.
 - a. Test results shall provide manufacturer, project, lot number, etc. identifying intended project.
6. Rubber, with certification of availability, from supplier guaranteeing product supply reserved for the Troy School District.
7. Silica sand, with certification of availability, from supplier guaranteeing product supply reserved for the Troy School District.
8. Provide test reports, conducted by an independent (third-party) laboratory, on 5 random carpet rolls. Reports shall comply with the ASTM tests as follows:
 - a. ASTM D418 or D5848 - Pile Height, Face Width & Total Fabric Weight
 - b. ASTM D418 or D5848 - Primary & Secondary Backing Weights
 - c. ASTM D1335 - Tuft Bind
 - d. ASTM D1682 or D5034 - Grab Tear Strength
 - e. ASTM D2859 - Pill Burn Test
9. The Turf Contractor and the Turf Manufacturer (if different from the company) shall provide a sample copy of warranty and insurance policy information with Bid Proposal Form.
10. The Turf Contractor shall provide maintenance equipment submittals.

J. REFERENCES: The Manufacturer/Installer team shall provide information to demonstrate a minimum of 5 years of successful experience in the installation of systems similar to that of covered by this specification.

K. TEST RESULTS: The following test results, certified by a licensed independent testing laboratory, shall be submitted upon request.

1. Mandatory and minimum specifications as shown in Section 2.
2. Dynamic Cushioning Test, according to:
 - ASTM F-355-95, Procedure A
 - Standard F-1936-98.

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SYNTHETIC TURF – MONOFILAMENT
ALTERNATE A-3

- L. **SAMPLES:** The Manufacturer/Installer shall provide the following samples of the artificial turf selected for this project within 14 calendar days after the Notice to Proceed.
1. (4) 1'x 1' samples each of turf
 2. Submit one sample of the "Knitted, or Inlaid Lines and Markings", applied to one of the 1'x 1' samples described above, utilizing the manufacturers recommended product.
- M. **MAINTENANCE AND OPERATIONAL DATA:** At the completion of the project, submit 5 complete sets, in manual form, of all the manufacturer's recommended procedures and materials for, but not limited to.
1. Six months after initial installation Installer may be required to return to supplement rubber and perform maintenance.
 2. General Maintenance
 3. Lining/ Marking Installation
 4. Lines and Mark Removal
 5. Small Repair Procedures
 6. Cleaning
 7. A list of all procedures required to maintain the surface condition and activities and/or procedures to be avoided in order to prolong the life and maintain the warranty- including static and dynamic load limits, snow clearing, etc.
 8. Installer shall provide training session for Owner and their selected representatives.
- N. ***WARRANTY SAMPLES:** Submit 3 "sample copies" of the PROPOSED WARRANTY" to be provided at the completion of the Contract. Warranty period shall be for not less than eight (8) years after final acceptance and incorporate all components. Warranty shall be provided by system installer who shall be responsible for carpet, inlays and infill. Maintenance is an essential element in the performance and life cycle of each system. The maintenance procedures and equipment as specified by the manufacturer and required for the system shall be evaluated during the selection process so that the appropriate budget resources (manpower & equipment) may be allocated.
1. All turf warranties shall be full, non-prorated, limited to repair or replacement of the affected areas, at the option of the Manufacturer, and shall include all necessary materials, labor, transportation costs, etc. to complete said repairs. All warranties are contingent on the full payment by the Owner of all pertinent invoices.
 2. The artificial grass field turf must maintain an ASTM 1936 G-max between **85-175** for the life of the Warranty.
 - * Warranties for the synthetic turf field systems shall address the following:
 - Acceptable uses for the field
 - Fading
 - Color match within specifications
 - Excessive fiber wear
 - Wrinkling and panel movement
 - Shock absorbency (G-max)

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ALTERNATE A-3

- Seam Integrity
- Drainage (of Carpet and Infill only)
- Flammability
- Response time for required repairs/replacement

3. Results of G-max shall not vary by more than 10%. See chart below.

<u>Football Field</u>	<u>6 pts</u>
Average Initial G-max (w/o e-layer)	130-140
Average Initial G-max (w/ e-layer)	85-110
Deviation factor	10%

4. Contractor shall provide an independent 3rd party insurance policy to cover all items identified above.

O. TESTING: After the installation and initial testing of the turf, the Contractor will submit not later than June 15 every two (2) years the Warranty-Guarantee is in effect, a test report from a qualified independent testing laboratory. The testing will be conducted no sooner than May 15 and will be submitted not later than June 15. Test site locations will be along the hash mark areas, through the center of the football Field, and along the sidelines every 50 feet. The test procedure will be ASTM 1936, Procedure A. (See Detail #5, Sheet D-1).

P. ASTM Standards

1. ASTM Standard Test Methods:

- | | |
|------------|---|
| F1551-03 - | Standard Test Method for Comprehensive Characteristics of Synthetic Turf Playing Surfaces and Materials |
| D5848-98 - | Standard Test Method for Mass Per Unit Area of Pile Yarn Floor Covering |
| D418 - | Standard Test Method for Testing Pile Yarn Floor Covering Construction (Withdrawn) |
| D1335 - | Standard Test Method for Bind of Pile Yarn Floor Coverings |
| D638-03 - | Standard Method of Test for Textile Properties of Plastics |
| D5034 - | Standard Test Method of Breaking Strength and Elongation of Textile Fabrics (Grab Test) |
| F1015-03 - | Standard Test Method for Relative Abrasiveness of Synthetic Turf Playing Surfaces |
| D2256-02 | Standard Test Method for Tensile Properties of Yarns by the Single Strand Method |
| D2157-02 | Standard Specification for Synthetic Surface Running Tracks |
| F2117 | Standard Test Method for Vertical Rebound Characteristics of Sports Surfaces/Ball Systems; Acoustical Measurement |
| D4491 - | Standard Test Methods for Water Permeability of Geotextiles by Permittivity |
| D2859-04 - | Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials |
| F355 - | Standard Test Method for Shock-Absorbing Properties of Playing Surfaces. |
| F1936- | Standard Test Method for Shock-Absorbing Properties of North American Football Field Playing Systems as Measured in the Field |
| D1557 - | Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort. |

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ALTERNATE A-3

Q. MAINTENANCE EQUIPMENT

1. The Turf Contractor/Manufacturer shall supply, as part of the Base bid the following equipment to each site. Contractor shall provide one (1) Sweeper for routinely brushing the field to be a single unit of putting green quality.
 - a. Sweeper unit shall be:
 - “Litter Kat” by Pioneer Athletics (800) 877-1500

R. CARPET REMNANTS

1. Installation crews shall provide a minimum of 300sf of each color installed on the field. This shall be from the remnants generated during installation.
2. Manufacturer/Installer shall provide +/- 200 lf of each 4” line color of the synthetic turf installed. Color: Yellow and White
3. Manufacturer/Installer shall provide +/- 15 lf of each 4” field marking “corner dot” color for men’s and women’s lacrosse. Color: Maroon and Blue

- S. Infill shall be evaluated and accepted during initial installation. Contractor shall provide shipping receipts verifying specified rubber quantity was delivered. If the field lacks sufficient material to properly support P.E. fiber, contractor shall provide and install additional rubber as needed at no additional cost to the owner. Contractor shall inspect the field after 1 year to provide and install sufficient amount of rubber to support ½ of the turf fiber.

- T. PRE-SHIPMENT QUALITY CONTROL report shall include the following physical data:

PHYSICAL PROPERTIES

Test Property	ASTM
Denier	ASTM D418
Pile Ribbon Wt	ASTM D5848
Primary Backing Wt	ASTM D5848
Secondary Backing Wt.	ASTM D5848
Tuft Bind	ASTM D1335
Yarn Elongation	ASTM D2265
Grab Tear Strength	ASTM D5034
Flammability	ASTM D2859

PART 2 - PRODUCTS**2.1 MANUFACTURERS**

The following list of manufacturers are considered to be acceptable or (approved equal):

A. Mono-RS45	By: ATurf PO Box 157 Williamsville, NY 14231 (888) 777-6910
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ALTERNATE A-3

- | | | | |
|----|-------------------------------|-----|---|
| B. | AstroTurf Gameday
Grass MT | By: | Astroturf/General Sports Venue
400 Water Street
Rochester Hills, MI 48307
(248) 601-2200 |
| C. | MondoTurf MF4560 | By: | Kiefer
2910 Falling Waters Blvd
Lindenhurst, IL 60046
800-322-5448 |
| D. | Field Turf MonoGrass | By | Fieldturf
5050 Para Street
Suite 280
Montreal, Quebec
Canada, H4P 1P3 |
| E. | GameTurf SR | By | Prograss
960 Penn Avenue
Pittsburgh, PA 15222
(866) 270-6003 |
| F. | PowerBlade HP | By | Sportexe
201 E. John W. Carpenter Fwy,
Irving, TX 75062
(866) 703-4004 |
| G. | Polytan | By | Polytan USA
1640 Powers Ferry Road
Building 14, Suite 360
Marietta, GA 30067
(770) 563-9292 |

2.2 PRODUCT

- A. The turf system shall consist of a monofilament artificial grass-like surface pile, which shall be tufted into a primary backing and coated with a secondary backing to lock in the tufted fibers.
- B. The entire system shall be resistant to weather, insects, rot, mildew, and fungus growth, and will be non-allergic and non-toxic.
- C. The entire system shall be constructed for porous standards as specified.
- D. The pile surface shall provide good traction in all types of weather with the use of conventional sneakers type shoes, composition mold sole athletic shoes, baseball spikes, and screw-on football cleats.
- E. In addition to the tufted lines, inlaid lines and logos, the pile surface shall be suitable for both temporary and permanent line markings using paint specifically developed for this use and as recommended by the turf manufacturer.
- F. The fabric surface will be installed in 15 foot width (recommended).
- G. All synthetic turf seams shall be sewn with a double-lock stitch.

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ALTERNATE A-3

- H. The dynamic cushioning of combined turf and pad system supplied shall not exceed an average maximum value less than 110 G's, at 70°F upon installation, utilizing ASTM Test F-1936-95, not to exceed 175 G's over warranty period.
- I. The entire system will be constructed to maximize dimensional stability, to resist damage, resistant to ultraviolet radiation, and sustain normal wear and tear for its designated uses.
- J. All adhesives used in bonding the inlaid markings to the adjacent carpet shall be resistant to moisture, bacteria and fungus attacks, and resistant to ultraviolet radiation.
- K. Rubber will either ambient ground or cryogenic produced (supplier to submit verification) and be sized to allow a system infiltration of water at a rate of 10" per hour.
- L. Custom Logos may be provided in AutoCAD format to expedite construction.

2.3 Synthetic Turf Physical Characteristics

- A. The synthetic turf material and resilient infill shall be in accordance with the following:
 - 1. The fiber shall be an 8,000 denier, 100 micron thickness 100% polyethylene extruded thru a spinneret fiber, measuring not less than 2 inches high, as manufactured by Bonar, TTC/Polylom. The fiber shall be specifically designed to virtually eliminate abrasion. Pseudo-monofilament (i.e. mono-tapes) shall not be accepted.
 - 2. The fiber weight shall not be less than 42 ounces per square yard. The overall product weight must not be less than 74 ounces per square yard.
 - 3. The primary backing shall consist of a one part, three component polyester/polypropylene backing with a minimum weight of 8 ounces per square yard. The secondary backing shall consist of an application of porous polyurethane (minimum of 24 ounces per square yard), heat activated to permanently lock fiber s in place. Products using latex based secondary backings will not be acceptable. The monofilament synthetic grass system shall be perforated with 1/4" holes every four (4") inches in both directions to provide for maximum drainage. Complete synthetic grass system (including base pad) shall drain in excess of 10" per hour.
 - 4. The carpet shall be delivered in 15-foot wide rolls with the four 4 inch white, 5-yard lines tufted into each roll. The rolls shall be of sufficient length to go from sideline to sideline. The perimeter white line shall also be tufted into the individual sideline. Head seams between the sidelines of the football field will not be acceptable. The perimeter white line shall also be tufted into the individual sideline rolls.
 - 5. All field lines, numbers and markings indicated on plans can be permanently inlaid.
 - 6. The rubber infill shall consist of a non-compacting mixture of uniformly sized ambient and/or cryogenic recycled SBR crumb rubber.
 - a. The Crumb Rubber Infill (CRI) material used shall be derived from whole, vulcanized highway vehicle tires manufactured in the United States.
 - b. Tires more than 10 (ten) years old from date of production are not allowed.

SECTION 32 1817
SYNTHETIC TURF – MONOFILAMENT
ALTERNATE A-3

- c. No factory tires rejects are allowed.
- d. The Crumb Rubber shall have a specific gravity range from 1.1 minimum to 1.2 maximum as determined by ASTM D 297.
- e. The CRI used as infill shall conform to the following chemical analysis:

<u>TEST</u>	<u>ASTM TEST METHOD</u>	<u>MAX.</u>	<u>MIN.</u>
Acetone Extract	D 297	16.0%	-
Ash Content	D 297	4.0%	-
Rubber Hydrocarbon	D 297	55.0%	40%
SBR Content	D 297	-	75%

7. Rubber Infill

Rubber Mesh	
*Mesh (ASTM E-11)	
Sieve Size	Percent Retained
8	
12	1.3%
16	58.8%
20	38.2%
30	1.0%
40	0.0%
50	0.0%
PAN	Not-to-exceed 0.004%

- b. Provide a minimum 3.0 pounds per square foot
- 1. The primary yarn fiber shall be Field Green in color to simulate natural grass as closely as possible and treated with UV inhibitor, guaranteed a minimum of eight years.
- 2. Synthetic Turf Physical Characteristics

<u>Physical Properties:</u>	<u>Minimum Specification Requirements</u>
Pile Ht	2.25"
Pile Ribbon Wt	45 oz./sy
Primary Backing Wt	7 oz./sy
Secondary Backing Wt.	22 oz./sy
Total Face weight	74 oz/sy (min) (+/- 5%)
Denier	11,000 (+/- 10%)
Fiber Thickness	230 Micron (+/- 5%)
Primary Backing Material	Polypropylene
Secondary Backing	Polyurethane
Tuft Bind	12 lbs w/o infill (min)
Fiber Composition	Extruded Polyethylene Monofilament
Yarn Supplier	●Bonar Yarns & Fabrics
	●TTC/ Polyloom
Yarn Elongation	50%

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ALTERNATE A-3

Grab Tear Strength - Width	300 lbs/force
Grab Tear Strength - Length	180 lbs/force
Flammability	Pass
	4" on-center, both ways or tufted fiber
Carpet Drainage	rows only

3. Silica Sand

- a. Round, uniformly-sized pure silica sand
- b. Sized between US Sieve 20 to 40
- c. Provide a minimum 3.0 pounds per square foot

PART 3 - EXECUTION

3.1 CERTIFICATION OF BASE CONSTRUCTION

- A. GENERAL: A written "Certification of Acceptance of the Base Construction" is required from the artificial turf/surfacing system prior to proceeding with any installation work under this section of the specifications.
- B. SCOPE: This certification shall include but not be limited to the acceptance of:
 1. The base construction finish surface is completely acceptable for the application of work specified under this section.
 2. The materials and method of installation for the aggregate stone base construction is in conformance with the manufacturer's current recommendations for the application of the turf to be installed under this section.
 3. The aggregate stone base construction is totally suitable for work to proceed with the assurance that the final installation of the work under this section will result in a high quality athletic surface fully warranted for the period and conditions specified herein. In order to provide these assurances and the Certificate of Acceptance, the turf system installer shall cooperate and communicate fully, at all times, with the construction manager. This subcontractor shall be responsible for reviewing all related work, materials and procedures herein. He shall inspect each process of the base construction work and certify that conditions and tolerances required for application of the artificial turf system are being met.
 4. All discrepancies between the required materials, application and tolerance requirements noted by the installer shall be brought immediately to the attention of the Contractor and Landscape Architect. Failure to immediately inform the contractor and Landscape Architect of any prior work which does not meet the required specifications for installation of the artificial turf surfacing system shall be considered an acceptance by the installer of the non-conforming work. Any additional work later required to bring the base to acceptable conditions shall be preformed by this installer at no additional cost to the Owner. Any Discrepancies in the prior work which does not meet the specifications and noted in writing to the Owner and Landscape Architect shall be preformed immediately at no additional cost to the Owner.

3.2 INSTALLATION OF THE TURF

- A. GENERAL: All installation shall be done in strict accordance with the manufacturer's current printed

SECTION 32 1817
SYNTHETIC TURF – MONOFILAMENT
ALTERNATE A-3

installation instructions approved by the Landscape Architect.

- B. REPLACEMENT: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Landscape Architect at no additional cost to the Owner.
- C. ENVIRONMENTAL CONDITIONS: Weather conditions are important for the successful installation of the systems. No work under this section will proceed when:
1. Ambient air temperatures are below 40 degrees F.
 2. Material temperatures are below 40 degrees F
 3. Surfaces are wet or damp
 4. Rain is imminent or falling
 5. Conditions exist or are imminent, which will be unsuitable to installation requirements of the systems specified herein. Humidity levels will be inside the limits recommended by the adhesive manufacturer to obtain optimum bonding characteristics of the surfaces.
- D. BONDING OF MATERIAL SURFACES
1. The adhesive bonding of all system material components shall provide a permanent, tight, secure and hazard free athletic playing surface.
 2. The following components, at a minimum, shall meet the bonding requirements noted below:
 - a. Turf to turf sewn.
 - b. All turf terminal edges shall be stapled/nailed.
 - c. Turf inlays as indicated on the drawings shall be glued
- E. WORK QUALITY: The bonding design and work shall be such that all surface joint and seams shall remain as required above throughout the duration of the warranty period at a minimum.
- F. SEAM SPACINGS
1. All seams widths are to be held to the absolute minimum and as approved.
 2. All seams (butt joints) shall be traverse to the field direction; i.e. run across the field.
 3. All lateral seams are to be sewn with a double-lock stitch.
- G. EDGES: Turf edges will be shown on details and specified herein.
1. The perimeter of the field shall be firmly secured to the edge anchors, for the life of the warranty and as detailed, using stainless steel or hot dipped galvanized fastener space \pm 18" oc. Anchor/nailer installed by others.
- H. TURF SYSTEM DRAINAGE: Turf system shall include, upon completion of turf, perforation of same for drainage. Method of porosity shall be reviewed prior to award of any contract. System shall provide a minimum rate of infiltration of 10" per hour.

SECTION 32 1817
SYNTHETIC TURF – MONOFILAMENT
ALTERNATE A-3

3.03 FIELD LINING AND MARKINGS

- A. GENERAL: A complete field "Lining, Marking and Field Boundary" system will be provided with the installation of the surfacing system specified herein.
- B. INLAYS: Shave and hot-glue or cut and glue.
- C. LAYOUT: Striping layouts shall be accurately surveyed by the Contractor before installation of inlays.
- D. WORKMANSHIP: All seams shall be flat, tight, and permanent with no separation or fraying. Inlaid markings shall be adhered to a special tape with a two-part, high strength polyurethane adhesive applied per the Turf Manufacturer's standard procedures for outdoor applications.
- E. LINE MARKINGS: Painted Line marks shall be installed using Pioneer Athletics Products, (800) 877-1500.
 - 1. Products: GameLine Removable Synthetic Turf Marking Paint by Pioneer Athletics

3.04 SITE TESTING

- A. Site testing shall be at ambient shaded air temperature of 40 - 100°F. Laboratory testing shall be at ambient indoor temperature unless otherwise specified by the test method. Unless otherwise specified, field test measurements shall be made at a minimum of 5 locations. Test locations shall conform as closely as possible to the test sites specified in ASTM F1936 (field used primarily for North American Football)

3.05 ENVIRONMENTAL CONDITIONS

- A. Weather conditions are important for the successful installation of the systems. No work should proceed when:
 - 1. Conditions exist or are imminent, which will be unsuitable to installation requirements of the systems specified herein.
 - 2. Humidity levels will be inside the limits recommended by the adhesive manufacturer to obtain optimum bonding characteristics of the surfaces.
 - 3. Ambient air temperatures are below 50°F.
 - 4. Material temperatures are below 50°F.
 - 5. Surfaces are wet or damp.
 - 6. Rain is imminent or falling.

END OF SECTION 32 1817

PART 1 - GENERAL

1.1 GENERAL

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 - 1. Section 06 1050 Turf Anchor
 - 2. Section 31 2000 Earthwork
 - 3. Section 32 1813 Synthetic Turf

1.2 SCOPE

- A. The work under this section of the specification shall consist of furnishing all labor, materials and equipment to produce, place, spread, compact and finish to proper grade and cross section all e-layer material according to the drawings and specifications.

1.3 SUBMITTALS

- A. Submit to the Architect a sample of the proposed product to be installed.
 - 1. Each Bidder shall submit one (1) sample, not less than 6" X 6" with each surface being bid. All samples shall represent the exact surface being bid. These samples will be used to determine the most qualified surface.
 - 2. Each Bidder shall submit a complete installation specification with the bid and any items that are regarded as technical guidelines for the installation of the surface that varies from the specification, include maintenance instructions and recommendations.
 - 3. Each Bidder shall submit a list of facilities that have been installed under this product name. List to include four (4) to five (5) year old surface installations with contact person, and telephone number.
 - 4. Contractor must submit copies, in triplicate, of the Material Data Safety Sheets (MSDS) for all products to be used, before materials are delivered to the site.

1.4 THICKNESS

- A. Base Bid shall not be less than 19mm total thickness.

1.5 TESTING

- A. The Owner shall reserve the right to submit the surface to an independent testing lab to determine the surface performance.
 - 1. Test results shall provide manufacturing shipping, project, lot number, etc. identifying the intended project.
- B. The sample size shall be approximately one (1) square foot.

1.6 CONTRACTOR'S RESPONSIBILITY

- A. Protection of the surface until it has fully cured.
- B. Removal of all excess rubber crumb and binder on the inside and outside edges.
- C. All material used shall be handled, shipped and installed as outlined in the Material Safety Data Sheets and according to current O.A.S.H.A. Standards.
- D. Disposal of all products as per current EPA Regulations.
- E. Inspection and acceptance of the asphalt surface, prior to manning the site.
- F. Submission of an affidavit acknowledging each crew member, to be assigned to this project has read the Material Safety Data Sheets and is familiar with all safety procedures and the proper handling of all materials.
- G. Submission of the Material Safety Data Sheets prior to the material arrival. Submission shall be in triplicate and the job superintendent shall maintain a copy on the site at all times.

PART 2 - PRODUCTS

1.1 SHOCK ABSORBING ELASTIC-LAYER

- A. Pad shall be a 19mm elastic-layer comprised of SBR rubber, pea stone and polyurethane binder. The system shall be installed in a single lift and non-laminated to ensure sturdy construction.
 - B. Average nominal depth of pad shall be 19 mm.
 - C. Will provide excellent shock absorbency in all temperatures, and will remain shock absorbent throughout the life of the turf system. The elastic-layer will be mixed and installed by experienced elastic-layer technicians.
1. The Shock pad shall be a 19mm in nominal thickness, energy absorbing, and elastic-layer. Composition to be 1 – 5 mm SBR rubber, mineral aggregate and moisture cured polyurethane binder. Elastic-layer system shall have demonstrated resistance to rot, mildew, water, freeze-thaw and compression set associated with normal athletic field use.

<u>Material</u>	<u>Lbs. / Sq. Yd.</u>
1-5 mm SBR Rubber Granules	18.0
Pea Gravel	18.0
Binder	<u>2.9</u>
Total:	38.9 Lbs. / Sq. Yd

2. Shock pad shall possess these physical characteristics:

Thickness	19mm
Density	52 lbs./cu.ft.
Weight	38.9 lbs./sq.yd.

PART 3 - EXECUTION

1.2 E-LAYER

- A. The E-layer shall consist of a mixture of one hundred percent (100%) polyurethane and synthetic materials, and peastone. The combination shall be of polyurethane and elastomeric granules consisting of Ethylene Propylene Diene Monomer (EPDM) granules. The E-layer shall be free draining when cured. Granule shall consist of ambient ground EPDM rubber crumb not less than 1mm and not more than 3mm. Dust and the No. 200 sieve shall not exceed four percent (4%) of the total volume of rubber. The binder shall be a diphenylmethane diisocyanate based (100% MDI). Manufacture of the polyurethane binder shall submit the Materials Safety Data Sheet (MSDS) prior to commencement of the work.
- B. The E-layer shall be thoroughly mixed in one container. No evidence of water may exist during the mixing of the materials. All containers shall be completely empty to assure the proper ratio of mixture. The mixture shall be at the ratio of not less than seven and one-half percent (7.5%) by weight binder to forty-six percent (46%) granules to forty-six percent (46%) peastone. These proportions shall be based on total combined mixture.
- C. No solvents or emulsifier agent shall be used in the binding to extend the curing of the mixture. The contractor shall submit all shipment documents and proper material volumes.
- D. The E-layer shall be applied by mechanically operated screed equipment which shall be electrically heated. No fuel heater shall be allowed. All hand rollers shall be electrically heated if used.
- E. The Pot Life of the E-layer shall not be less than forty-five (45) minutes from the time of the completed mix. All trowel work shall be done within this time. Any areas that are rough, high, uneven or open in texture shall be sanded and filled prior to any finish work.
- F. All joint work shall be flush with the adjacent mat and shall have all edges primed with the binder material if the joint has cured.

END OF SECTION 32 1850

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SECTION 32 9227
GENERAL LAWN RESTORATION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Section Includes:
 - 1. Seed
 - 2. Pre-plant and post fertilizer
 - 3. Maintaining lawns until acceptance
- C. Related Sections:
 - 1. Section 31 2000 Earthwork

1.2 QUALITY ASSURANCE

- A. Submit to Landscape Architect for prior approval, samples and certified analysis of fertilizer.
- B. Grass seed shall meet the tolerance for germination and purity of the Official Seed Analysis of North America.

1.3 DELIVERY, STORAGE AND HANDLING

- A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging and location of packaging. Damaged packages are not acceptable.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.4 EXISTING CONDITIONS

- A. Lawn work Contractor shall inspect finish grade for acceptability. Beginning work means acceptance of existing conditions.

PART 2 - PRODUCTS

2.1 SEED

- A. Seed shall be provided from one of the following suppliers
 - Lesco - (248) 689-5005
 - Rhino Seed & Supply - (800) 482-3130
 - Michigan State Seed Solutions - (800) 647-8873
- B. Contractors shall seed all areas disturbed during construction and not otherwise developed or indicated to be sodded. Topsoiling, finish grading and fertilization is to remain the same. *Seed shall be new crop, cleaned, and comprising of the following varieties:
 - 1. Athletic Field Seed blend shall consist of a minimum of 3 of the listed bluegrass varieties & 2 or 3 of the Perennial Ryegrass varieties. Blend shall be 80% Kentucky Bluegrass and 20%

SECTION 32 9227
GENERAL LAWN RESTORATION

Perennial Ryegrass by weight. Premium Blends

2. General Seeding Areas: Blend shall be 50% Kentucky Bluegrass and 50% Perennial Ryegrass by weight for irrigated fields. A blend of tall fescue, bluegrass and ryegrass for non-irrigated fields.

3. Athletic Fields

<u>Seed Varieties</u>	<u>Purity</u>	<u>Germination</u>
• Adelphi Kentucky Bluegrass	95%	85%
• Indigo Kentucky Bluegrass	95%	85%
• Cannon Kentucky Bluegrass	95%	85%
• Geronimo Kentucky Bluegrass	95%	85%
• Midnight Kentucky Bluegrass	95%	85%
• SR2100 Kentucky Bluegrass	95%	85%
• Touchdown Kentucky Bluegrass	95%	85%
• Brightstar Perennial Ryegrass	95%	85%
• SR4010 Perennial Ryegrass	95%	85%
• Manhattan 3 Perennial Ryegrass	95%	85%

4. General Seeding Areas

<u>Seed Variety</u>	<u>Purity</u>	<u>Germination</u>
• Banff Kentucky Bluegrass	98%	85%
• Merit Kentucky Bluegrass	98%	85%
• Touchdown Kentucky Bluegrass	98%	85%
• Fiesta II Per. Rye	98%	90%
• Victory Fescue	98%	85%

2.2 COMMERCIAL FERTILIZER

- A. Fertilizer shall be uniform in composition, free-flowing and suitable for application with approved spreader, granular or pelleted with 50 percent (50%) of total nitrogen derived from A. natural organic material in a slowly available form, delivered in original unopened containers with the analysis, type and trade name attached to each container. The composition shall be:

1. Pre-plant Fertilizer composition shall be:
 - 5% Nitrogen (N)
 - 10% Phosphoric Acid (P_2O_5)
 - 5% Potash (K_2O)
2. Post Seeding Fertilizer composition shall be:
 - 12% Nitrogen (N)
 - 10% Phosphoric Acid (P_2O_5)
 - 10% Potash (K_2O)

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect existing underground improvements from damage.
- B. Remove all foreign materials, plants, roots, stones, and debris larger than 1" in any dimension from site. Do not bury foreign material.
- C. Loosen soil to a depth of four inches (4") in lawn areas by approved method of scarification and grade to remove ridges and depressions. Remove all stones or foreign matter from top two inches (2") of soil.

SECTION 32 9227
GENERAL LAWN RESTORATION

- D. If above steps have had rain in sufficient quantity to cause soil to recompact, entire steps are to be done prior to seeding.
- E. Where no grades are shown, areas shall have a smooth and continual grade between existing or fixed controls and elevations shown on plans. Roll, scarify, rake and level as necessary to obtain true, even lawn surfaces. All finish grades shall meet approval of the Owner.
- F. Grade lawn areas to finish grades, filling as needed or removing surplus dirt and floating areas to a smooth, uniform grade as indicated on grading plans. All lawn areas shall slope to drain.

3.2 PREPLANT FERTILIZING

- A. Incorporate fertilizer into topsoil at a rate of 4 lbs./1000 S.F.

3.3 SEEDING

A. Dates of Seeding:

- 1. Grass seed shall be sown in the fall from August 15th until October 15th or in the spring between March 1st and May 15th or at such other times as approved by the Landscape Architect. All seeding is to be done in dry or moderately dry soil and at times when the wind does not exceed a velocity of five (5) miles per hour.
- 2. If special conditions exist, which may warrant a variance in the above dates, submit a written request to the Landscape Architect stating the conditions and proposed variance. Permission for the variance will be given if, in the opinion of the Landscape Architect, the variance is warranted.

B. Seed Application:

- 1. Immediately before sowing the seed, the earth surface shall be re-worked until it is a fine, pulverized, smooth seedbed, showing not more than 1/4" variance from grade.
- 2. Apply seed mixture, as specified, at a rate of six (6) lbs./1000 sq. ft., using a cultipacker type seeder such as Brillion (or equal). Seed shall be uniformly spread over the previously fine graded and fertilized topsoil. **Hydro-seeding is not acceptable.**
- 3. Mulching: Apply and crimp clean straw mulch uniformly at a rate of 90 lb./1000 sq. ft.

C. Summer Seeding:

- 1. If seeding is authorized between June 1 and August 15, annual rye shall be sown separately in addition to specified seed mix. Sow at the rate of (one) 1 lbs./1000 sq. ft.
- 2. Cultipacker or approved similar equipment may be used to cover the seed and to firm the seed bed in one operation. In areas inaccessible to cultipacker, the seeded ground shall be lightly raked and rolled in two directions with a water ballast roller. Extreme care shall be taken during seeding and raking to insure that the seed is not raked from one spot to another.
- 3. The seeded areas are to be protected, watered, mowed and otherwise maintained until Owner Acceptance.

- D. Post Seeding Fertilizer: Supply 12-10-10 fertilizer when grass reaches height of one (1) inch. Rate of application shall be indicated by manufacturer.

SECTION 32 9227
GENERAL LAWN RESTORATION

E. Maintenance

1. Maintenance of all lawns consist of mowing, watering and repairing erosion. Maintenance of lawns shall commence when any portion of the seeding has been completed. Seeded lawns shall never reach a height of three (3) inches prior to a cutting and shall be cut to a height of two (2) inches.
2. If, for reasons beyond the Sub-contractor's control, the height of the grass has exceeded three (3) inches, the mower blades shall be raised so that at no time will more than 1/3 of the grass leaf surface be removed. The Owner will accept the lawns after three (3) cuttings if the Landscape Architect has determined a uniform cover of grass is established.
3. Contractor shall notify the Owner through the Landscape Architect in writing one (1) week in advance of the final lawn cutting to allow the Owner and the Landscape Architect to inspect the lawns and schedule his maintenance work.
4. If an infestation of weeds or crab grass develops prior to acceptance of the lawn, the Contractor shall treat the infestation by hand weeding or chemical control. The chemical control shall be furnished and installed by the contractor as recommended by the manufacturer and approved by the Landscape Architect. At least two weeks shall elapse after chemical control is applied before a request or inspection for acceptance is made to the Landscape Architect.

F. Guarantee

1. Seeded Lawns:
 - a. It is the responsibility of the Contractor to establish a dense lawn of permanent grasses, free from lumps, depressions and settlement. Any part of the area that fails to show a uniform germination shall be re-seeded and such re-seeding shall continue until a dense lawn is established. Damage to seeded areas resulting from erosion shall be repaired by the Contractor.
 - b. This guarantee shall extend for one year from the date of acceptance of the lawn.
2. Excavation Areas:
 - a. It is the responsibility of the Contractor to repair all areas.

3.4 CLEAN UP AND DISPOSAL

- A. Remove from the site all equipment, materials, and debris resulting from construction work including this section. Leave work area neat and clean and in a condition acceptable by the Landscape Architect and Owner. All work shall be complete, ready for use, at the time of final acceptance.

END OF SECTION 32 9227

ADDENDUM

ADDENDUM No: #1

PAGES: 07

PROJECT: Troy School District Bid #9651 – Synthetic Turf Replacement

DATE: February 1, 2010

TO: All Bidders

This Addendum is issued prior to the Bid Opening to clarify or change the Bid Documents. All requirements contained in the Contract Documents shall apply to this Addendum. All incidental work necessary to complete the work shall be included in the Contractor's Quotation even though not particularly mentioned. Parts of the Specifications and Drawings referred to herein supersede previously issued data and shall form a part of the Bid Documents.

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents issued January 20, 2010, as noted below. Receipt of this Addendum should be noted on the proposal form; failure to do so may subject Bidder to disqualification.

Item #1: Meeting Attendance Sheet from Pre-Bid Meeting held on January 25, 2010 enclosed.

Item #2: Current Planholder's List as of February 1, 2010 enclosed.

Item #3: The last day of school for the Troy School District is June 21, 2010. The construction schedule, both start and completion dates, will remain as indicated in the bidding documents.

Item #4: Specification Section "32 1817 Synthetic Turf - Monofilament", Part 2 Products, 2.3 Synthetic Turf Physical Characteristics, A, 1:

Delete: "...measuring not less than 2 inches high..."

Insert: "...measuring not less than 2 ¼" high..."

Item #5: Specification Section "32 1817 Synthetic Turf - Monofilament", Part 2 Products, 2.3 Synthetic Turf Physical Characteristics, A, 7, b, 2:

Delete: "Pile Ribbon Wt. = 45 oz./sy"

Insert: "Pile Ribbon Wt. = 42 oz./sy"

Delete: "Primary Backing Wt. = 7 oz./sy"

Insert: "Primary Backing Wt. = 8 oz./sy"

Delete: "Secondary Backing Wt. = 22 oz./sy"

Insert: "Secondary Backing Wt. = 24 oz./sy"

Item #6: Specification Section 00 1200 Scope of Work, General Scope of Work, Item 4:

Delete: “#4 in its entirety”

Insert: ”4. Contractor shall provide an allowance of \$7,500.00 per site for wood nailer repair using the Unit Prices included with Bid. Amount of repair to be made will be determined by Landscape Architect. Unit Price shall include but not limited to removal and disposal of aggregate drainage stone and existing nailer, installation of new nailer, new aggregate stone and compaction. Provide supporting documentation related to costs incurred. Unused monies will revert back to Owner.”

Item #7: Specification Section 00 1200 Scope of Work, General Scope of Work, Item 5:

Delete: “#5 in its entirety”

Insert: ”5. Contractor shall provide an allowance of \$15,000.00 per site for e-layer repair using the Unit Prices included with Bid. Amount of repair to be made will be determined by Landscape Architect. Unit Price shall include but not limited to removal and disposal of existing e-layer and installation of new. Provide supporting documentation related to costs incurred. Unused monies will revert back to Owner.”





Pre-Bid Meeting Attendance

Project Name: Troy and Troy Athens High School -
2010 Synthetic Turf Replacement

Date: 1/25/2010
Time: 1:00 p.m.

Location: Troy School District Purchasing Office

Name	Company	Phone No.	Fax No.	E-mail	Present
Kenneth Miller	Troy School District	248-825-4067			X
Bruce Lemons	Foresite Design, Inc.	248-547-7757	248-547-0218	blemons@foresitedesign.com	X
Mike Sims	Foresite Design, Inc.	248-547-7757	248-547-0218	mike@foresitedesign.com	X
John McSweeney	Astroturf/GSV	248-910-1017	734-307-3144	jmcsweeney@astroturf.com	X
Rich Jordan	Astroturf/GSV	248-601-2200	248-608-2455	rjordan@astroturf.com	X
Michael Foster	Foster Specialty Floors	248-669-5311	248-669-4426	mfoster@sportsfloor.org	X
Bob Suvada	Shaw Sportexe	224-545-4937	847-240-1772	bob.suvada@shawsportexe.com	X
Mike Vincent	Fieldturf USA Inc.	248-977-4388	248-977-4361	m.vincent@fieldturf.com	X
Bruce Abbott	Cornerstone Rec.	734-678-2378	517-592-5111	bruce.cornerstonerec@hotmail.com	X
Todd DeWolfe	Prograss LLC	248-840-8074	412-391-2270	tdewolfe@prograssturf.com	X
Chuck Albright	A-Turf	269-876-9715		calbric@msn.com	X

Troy School District

Troy and Troy Athens High School

Synthetic Turf Replacement

Release Date: 01/20/10

Due Date: 02/04/10

@3:00 p.m.

Page 1 of 4

Set No.	Planholder	Date Sent:	Addendum:	Comments
1-2	Ken Miller Troy School District 1140 Rankin St. Troy, MI 48083 Phone: (248) 823-4050 Fax: (248) 823-4051	1/20/10		Delivered
3-4	Foresite Design 3269 Coolidge Hwy Berkley, MI 48072 Phone: (248) 547-7757 Fax: (248) 547-0218	1/20/10		
5	Rick Kryzstof A-Turf 505 Aero Dr Cheektowaga, NY 14225 Phone: (888) 777-6910 Fax: (716) 204-0189	1/20/10		Mailed FedEx
6	Cy Chauvin C.A.M. 43636 Woodward Ave P.O. Box 3204 Bloomfield Hills, MI 48302 Phone: (248) 972-1000 Fax: (248) 972-1136	1/21/10		Picked Up
7	Tanya Fredricks Builders Exchange of Michigan 4461 Cascade Rd SE Grand Rapids, MI 49546 Phone: (616) 949-8650 Fax: (616) 949-6831	1/21/10		Mailed UPS

Troy School District

Troy and Troy Athens High School

Synthetic Turf Replacement

Release Date: 01/20/10

Due Date: 02/04/10

@3:00 p.m.

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Set No.	Planholder	Date Sent:	Addendum:	Comments
ftp	Rich Jordan Astroturf 400 Water St. Suite 250 Rochester, MI 48307 Phone: (248) 601-2200 Fax: (248) 608-2455	1/21/10		
ftp	Cathy Kraus Pro Grass LLC 960 Penn Avenue Pittsburgh, PA 15222 Phone: (412) 434-6003 Fax: (412)391-2270	1/21/10		
ftp	Mike Vincent FieldTurf 895 North Updyke, Suite D Auburn Hills, MI 48326 Phone: (248) 977-4388 Fax: (248) 977-4361	1/21/10		
ftp	Jake Maynard Mondo USA 2910 Falling Waters Blvd. Linderhurst, IL 60046 Phone: (847) 872-0120 Fax: (847) 872-9575	1/21/10		
ftp	Denny Aspen Corporation 2015 Ayrsley Town Blvd. Charlotte, NC 28273 Phone: (704) 280-8498 Fax: (704) 280-8301	1/22/10		

Troy School District

Troy and Troy Athens High School

Synthetic Turf Replacement

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Set No.	Planholder	Date Sent:	Addendum:	Comments
8-10	John McSweeney Astroturf 247 Dwight Street Trenton, MI 48183 Phone: (248) 910-1017 Fax: (248) 307-3144	1/25/10		Picked Up at Pre-Bid
11	Mike Foster Foster Specialty Floors 30681 Wixom Road PO Box 930382 Wixom, MI 48393 Phone: (248) 669-5311 Fax: (248) 669-4426	1/25/10		Picked Up at Pre-Bid
12	Chuck Albright A-Turf 505 Aero Drive Cheektowaga, NY 14225 Phone: (716) 204-0748 Fax: (716) 204-0189	1/25/10		Picked Up at Pre-Bid
13	Bruce Abbott Cornerstone Rec. 18621 Melvin Livonia, MI 48152 Phone: (734) 678-2378 Fax: (517) 592-5111	1/25/10		Picked Up at Pre-Bid
14	Todd DeWolfe Prograss LLC 960 Penn Avenue Suite 810 Pittsburgh, PA 15222 Phone: (866) 270-6003 Fax: (412) 391-2270	1/25/10		Picked Up at Pre-Bid

Troy School District

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Synthetic Turf Replacement

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@3:00 p.m.

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15	Kari King Hellas Construction 2825 Ridge Drive Allison Park, PA 15101 Phone: (412) 302-8634 Fax: (770) 487-0133	1/29/10		Mailed FedEx
16	Contact Company Address Phone: Fax:			
17	Contact Company Address Phone: Fax:			
18	Contact Company Address Phone: Fax:			
19	Contact Company Address Phone: Fax:			
20	Contact Company Address Phone: Fax:			

**Troy School District
2010 Synthetic Turf Replacement
Bid # 9651**

Bids Due: 02/04/10 @ 3:00 P.M.

BIDDER:	BID SECURITY		ADD. 1	FAMILIAL DSCL.		Proposal A - Synthetic Turf				REMARKS
						BASE BID <i>Synthetic Turf</i>	ALT. A-1 <i>4" Black Outline Around Numbers</i> Add	ALT. A-2 <i>"Redhawk" Centerfield Logo (Troy Athens)</i> Add	ALT. A-3 <i>Monofilament Turf in lieu of Parallel Slit</i> Add	
General Sports Venue/Astroturf	BB	CC	1	Y	N	\$691,977.00	\$3,056.00	\$917.00	\$16,104.00	
A-Turf, Inc.	BB	CC	1	Y	N	\$754,752.00	\$4,000.00	\$5,000.00	\$14,000.00	
Shaw/Sportexe	BB	CC	1	Y	N	\$774,115.00	\$2,900.00	\$1,800.00	\$61,513.00	
FieldTurf USA, Inc	BB	CC	1	Y	N	\$784,760.00	\$10,000.00	\$4,000.00	(\$8,353.00)	
Prograss LLC	BB	CC	1	Y	N	\$789,084.00	\$0.00	\$8,000.00	\$29,135.00	
Mondo USA, Inc.	BB	CC	1	Y	N	\$802,300.00	\$11,000.00	\$12,300.00	\$93,210.00	
Hellas Construction, Inc.	BB	CC	1	Y	N	\$895,500.00	\$12,000.00	\$20,000.00	\$32,000.00	
Aspen Corporation	BB	CC	1	Y	N	\$901,410.00	\$5,000.00	\$13,320.00	\$27,030.00	
Foster Specialty Floors	BB	CC	1	Y	N	\$956,950.00	\$3,150.00	\$3,500.00	\$0.00	

****Bold Indicates Apparent Low Bidder**