REQUEST FOR QUOTATION						RE	QUISITION			
No. 9410				TROY SCHOOL DISTRICT						
DUE DATE	NO LATER THAN			1140 RANKIN, TROY, MICHIGAN 48083						
5-2-07	5-2-07 <sub>3 p.m.</sub>			248-823-4052						
		FAX: 248-823-4077			DATE	4-16-07				
REQUEST FOR QUOTE – NOT AN ORDER										
THIS FORM MUST BE UTILIZED WHEN RESPONDING TO THIS REQUEST										
THE RFQ NUMBER MUST APPEAR ON ALL QUOTATIONS AND RELATED CORRESPONDENCE, THIS IS NOT AN ORDER										
Quantity				DESCRIPTION	UNIT PR	ICE	AMOUNT			
	Please supp REPLACEM	oly us with <b>IENTS</b> pe								
		www.								
	FACSIMILE BID IS NOT ACCEPTABLE									
	Bids will not be a bidders. The late Board of Education	accepted if sul e submission on. Delays in								
	Proposal for the s is not clearly note	submission o ed and descri								
	The Board of Education shall be the sole judge as to whether the proposed goods are "equal" or "approved". Quotations must be mailed or delivered to the Purchasing Office, 1140 Rankin, Troy, MI 48083 no later than 3 p.m. on the date shown above. Michigan State Sales and Use Taxes and Federal Excise Taxes do not apply unless otherwise indicated. Exemption certificates will be furnished when necessary. This request imposes no obligations on the buyer. The Board of Education reserves the right to accept or reject any or all bids or to split awards by items or to accept bids, which will best serve the Board of Education.									
THIS AREA MUST BE FILLED IN										
DELIVERY TIME	F	PRICES FIRM	M FOR	NAME OF COMPANY	TELEPHONE NO.					
TERMS				NO. & STREET	FAX #					
FOB DELIVERED	ALL DELIVERY CHARGES MUST BE INCLUDED IN PRICES SHOWN		HOWN	CITY, STATE & ZIP CODE	E-MAIL					
CONTACT PERSON (PLEASE PRINT)				SIGNATURE	DATE					

#### **AFFIDAVIT OF BIDDER**

The undersigned, t	he owner or auth	orized officer of	(the		
"Bidder), pursuant to the f (the "School District") ad as provided below, that no	amilial disclosur vertisement for c familial relation and	e requirement provide onstruction bids, here ships exist between th any member of the B	d in the by represent and warrant excep le over(s) or any employee of oard of Education of the Schoo		
District or the Superintend	lent of the Schoo	l District.			
<u>List any Familial F</u>	<u>Relationships</u> :				
		BI	DDER:		
		 D.:			
		By Its:	·		
STATE OF MICHIGAN COUNTY OF	) )ss. _)				
This instrument was ackno	owledged before	me on the da	y of, 2007, by		
			, Notary Public		
			County, Michigan		
	My Commission Expi				

Acting in the County of: \_\_\_\_\_

Troy School District Bid# 9410 Roof Replacement

The Troy School District is seeking qualified proposals for the replacement of roofing sections on various District owned buildings.

#### **ADVERTISEMENT TO BID**

The **Troy School District** is seeking bids for the replacement of roofing sections on various District owned buildings for Bid Package No. 9410. Bid Proposals will be received by the Troy School District, 1140 Rankin, Troy, MI 48098 delivery or mail, to the attention of <u>Frank Lams</u> by 3:00 p.m. local time on Wednesday, May 2nd. Proposals must be sealed with Bidder's name on the outside of the envelope and designated as follows:

Sealed Proposal Roof Replacement Bid Package No. 9410 Contractor Name, Address, Phone Number

Proposals shall be based on the requirements set forth below.

#### **BID PACKAGE NO. 9410 Roof Replacement**

Accepted Bidders will be required as a condition precedent to award of Contract, to furnish in the amount of 100% of the contract price, satisfactory Performance Bond and Payment bond and Certificates of Insurance as required.

Bid proposals will be publicly opened immediately following receipt of bids by the Troy School District, and evaluated by the District.

### The District shall not open, consider, or accept a Bid Proposal that is received after the date and time specified for bid submission in this Advertisement for Bids.

Bidding Documents will be available for examination and distribution on or after Thursday, April 12, 2007. Examination may be made at the following locations:

- Troy School District, Purchasing Dept, 1140 Rankin, Troy, MI 48083
- Construction Association of Michigan, 43636 Woodward Ave., Bloomfield MI 48302
- F.W. Dodge, 21415 Civic Center Drive, Suite 115, Southfield, MI 48076

Bid specifications will also be available for free download at the District's website: www.Troy.k12.mi.us/Purchasing/Items for bid.htm

Bid proposals shall be on forms furnished by Troy School District. Bidders will be required to submit with their Bid Proposals, a notarized Familial Relationship Disclosure From included within this bid document, a Bid Security by a qualified surety authorized to do business in the State of Michigan where the Project is located, an OSHA Form300 for the most recent completed year, their worker's compensation Experience Modification Rate (EMR) factor, and any other information required in the Instructions to Bidders. Bidder shall not withdraw a Bid Proposal for a period of **forty-five (45)** Days after date for receipt of Bid Proposals.

The right to accept or reject any or all Bid Proposals, either whole or in part, to waive any information or irregularities therein and to award the contract to other than the low bidder is reserved by Troy School District.

All Bid Proposals shall be accompanied by the sworn and notarized statement included, disclosing any familiar relationship that exists between the District or any employee of the bidder and any member of the School Board or the superintendent of the School District. Bid proposals that do not include this sworn notarized disclosure statement will <u>not</u> be considered accepted.

#### Site Review:

Contractors wishing to visually inspect the sites may do so on Monday April 23, 2007 at 9:00 am. This pre-bid meeting will be held at the Office of the Director of Maintenance, 1140 Rankin, Troy MI 48083. Supplemental site inspections may be made by contacting Mr. Mondo Belardi, Director of Maintenance at 248-823-4050. A minimum 48 hour lead time is required to inspect the site beyond the above scheduled date/time. Site inspection prior to submittal of proposal is desirable but not required. NO contractors will be allowed on site during scheduled school days or hours.

#### **Proposal Submittal:**

All proposals for the work outlined hereunder are due no later than 3:00 pm on Wednesday, May 2, 2007 at the Troy School District's Purchasing Office, 1140 Rankin, and Troy MI 48083. **NO PROPOSALS WILL BE ACCEPTED AFTER THIS TIME.** All proposals MUST be in a sealed envelope clearly marked "Roofing Replacement - TSD BID# 9410". Facsimile bids are NOT acceptable.

All proposals must include a signed and notarized "Statement of Familial Disclosure". Any proposal which does not include this statement signed and notarized will be considered incomplete and will be rejected.

#### **END OF ADVERTISEMENT**

Other Proposal Considerations:

The successful bidder and its subordinate parties shall comply with the Prevailing Wage requirements for all work as required by the State of Michigan Public Act 166 dated 1965 as amended. The prevailing wage and fringe benefit rates are included in Appendix A.

Electronic copies of CAD drawings of the requested work will not be provided by District for contractor's usage in preparing submittals.

#### **NOTES TO BIDDERS:**

Bidder has carefully read, reviewed and understands the bidding Documents and its bid Proposal is made in accordance therewith.

Bidder's Bid Proposal is based upon the materials, systems and equipment required by the Bidding Documents without exception.

Bidder certifies that it has examined the Project site, has carefully reviewed the Bidding and Contract Documents, has compared its examination of the Project site with the Bidding and Contract Documents, including the Drawings and Specifications, and is satisfied as to the condition of the Project site, any surface or subsurface obstruction, removal and demolition measurements and quantities involved in the Work, and is familiar with conditions of the Project area, and has taken account of all of these factors in preparing and presenting its Bid Proposal. Bidder further certifies that is has fully acquainted itself with the character and extent of the District' and other contractor's operations in the area of the Work, and it has taken account of coordination of operations of others its construction plans set forth in the Bid Proposal. No change orders will be issued to the **Contractor**, for, or on account of, costs or expenses occasioned by its failure to comply with the provisions of this paragraph, or by reason of error or oversight on the part of the **Contractor**, or on account of interferences by the District or other contractor's activities.

The Bidder, by submitting its bid Proposal, represents that it has carefully reviewed the project schedule, along with the related requirements Schedule and Phasing, and acknowledges that these are acceptable and have been taken into account in preparing its Bid Proposal.

Bidders may obtain Bidding Documents pursuant to the requirements in the Advertisement to Bid.

Bidders shall use complete sets of bidding Documents in preparing bid Proposals. The District shall NOT be responsible for errors, omissions or misinterpretations resulting from the bidder's use of partial sets of Bidding Documents.

Copies of the bidding Documents are being made available on the above terms for the purposes of obtaining Bid Proposals for the Work only. Bidders shall not use the bidding Documents for any other purpose. The District does not warrant the completeness of the Bidding Documents.

The Contractors shall be responsible to review bid Documents before start of construction and bring any items that could be considered errors or omissions to the attention of the District. Any error omission items discovered after start of construction shall be the responsibility of the Contractor if determined to be reasonable by the District.

Bidder shall promptly notify the District of all ambiguities, inconsistencies, or errors that it may discover upon examination of the bidding Documents or upon examination of the Project site and local conditions.

Bidders requesting clarification or interpretation of the bidding documents shall make a written request, which shall reach the District no later than Thursday, April 26. Direct all questions to:

Mr. Frank E. Lams 1140 Rankin Troy, MI 48083

Any Interpretation, correction, or change of the Bidding Documents will be made by Addendum, Interpretations, corrections, or changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon such interpretation, corrections, and changes. Addenda will be mailed, faxed or delivered to all who are known to have received the Bidding Documents.

Addenda will be mailed, faxed or delivered to all who are known by the District to have a complete set of Bidding Documents. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

No addenda will be issued later than **three (3)** days prior to the date for receipt of Bids except an Addendum withdrawing the request for bid Proposals.

Each Bidder shall ascertain prior to submitting its bid Proposal that it has received all Addenda issued, and it shall acknowledge its receipt in the proper location on the bid Proposal.

Each Bidder must bid on all Alternates listed in the Bid Proposal that are applicable to its Bid. Alternates will be fully considered in awarding the Agreement.

**Troy School District** shall be allowed a period of **forty-five** (45) Days after date of receipt of the Bid Proposals to exercise the right to accept or reject any or all Alternates submitted on the Bid Proposal.

Successful Bidder shall perform all Work required for complete execution of accepted Alternates, and the Bid Proposal shall include all overhead and profit for the Work required.

All Bid Proposals must be based upon the Contract documents. In addition to a Base bid Proposal, the submission of voluntary alternates is acceptable and encouraged.

If a voluntary Alternate is submitted for consideration, it shall be expressed on the bid form as an add or deduct amount from the Base Bid. If a voluntary Alternate is submitted, the Bidder shall also submit sufficient information in the form of drawings, specifications, test data, delivery dates, scheduling issue considerations, and all other information necessary and sufficient for analysis of the Alternate. The District reserve the right to unilaterally accept or reject voluntary Alternates and to determine if the voluntary Alternates will be considered in the awarding of the Agreement.

Successful Bidders shall perform all Work required for complete execution of accepted Unit Prices, and such Unit Prices shall include all overhead and profit for the Work required.

This Project is subject to state Sales Tax and/or Use Tax and the Bidder's Bid Proposal shall include all applicable sales and use tax.

All bidders shall ensure that employees and applicants for employment are not discriminated against because of their race, color, religion, sex, national origin, age, marital status, sexual orientation or disability and in conformance with local, state and federal laws, regulations and ordinances.

PREVAILING WAGES – The successful Bidder and its Subordinate Parties shall comply with the Prevailing Wage requirements.

Bid Proposals shall be submitted triplicate on the bid Proposal Form included.

All blanks on the Bid Proposal Form shall be filled.

Where so indicated by the makeup of the Bid Proposal Form, sums shall be expressed in both words and figures, and in case of discrepancy between the two, the amount written in words shall govern.

All interlinear marks, alterations or erasures shall be initialed by the signer of the Bid Proposal.

All requested Alternates and/or Unit Prices shall be bid. A dollar amount of each Alternate and/or Unit Price in both words and numerals, even if the amount is \$0.00, shall be included. Terminology such as "No Bid", "Not Applicable", "No Change" or "Does Not Apply" <u>shall not be used.</u> If the Alternate and/or Unit Price do not apply to the bidder, an amount of \$0.00 shall be included.

Each copy of the bid Proposal shall include the legal name of the bidder and a statement that the Bidder is a sole proprietor, a partnership, a corporation, or some other legal entity. Each copy shall be signed by a person or persons legally authorized to bind the Bidder to a contract of the size and scope of the Agreement. A Bid Proposal by a corporation or LLC shall further indicate the state of incorporation or registration. A Bid Proposal submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the bidder.

The Work of an individual Bid Category described in these documents is the sole responsibility of the successful Bidder that Bid Category. Bids will only be accepted on the full scope of Work outlined by this Bid package/Bid Category.

Each Bid Proposal received shall be in strict conformity with requirements of the bidding Documents, including, but not limited to, the Description of the Work/Special Provisions, Work Scopes and Scheduling information.

Bid security in the form of a bid bond issued by a qualified surety, certified check or casher's check in the amount of five percent (5%) of the Base bid amount will be required, at the time of submission of the Bid Proposal. Bid bonds, shall be duly executed by the Bidder, as principal and by a surety that is properly licensed and authorized to do business in the state in which the Work is to be performed.

All sureties providing bonds for the Project must be listed in the latest version of the Department of Treasury's Circular 570, entitled "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies", with the bond amount less than or equal to the underwriting limitation, and/or have an A.M. best rating of A-or better.

Bid bond shall pledge that the Bidder, with the understanding that if its Bid Proposal is accepted, will enter into the Agreement with the **Troy School District** for any of the bid Category(ies) accepted from its Bid Proposal and will, if required, furnish performance and payment bonds covering the faithful performance of the Agreement and payment of all obligations arising there under. The attorney-in-fact, who signs the surety bond, must submit along with the bond, a certified and effectively dated copy of his/her power of attorney.

Bid bond from AIA Document A301 is approved for use on the Project.

The bid security obliges shall be **Troy School District** and the amount of the bid security shall become **their** property in the event that the Bidder fails, within **Ninety (90)** days of notice of award or receipt of the Agreement form, to execute the Agreement and deliver the performance and payment bonds as described. In such case, the bid security shall be forfeited to **Troy School District** as liquidated damages, not as a penalty.

The District will have the right to retain the bid security

(ies) of Bidders to whom an award is being considered until either (1) the Agreement has been executed and bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bid Proposals may be withdrawn, or (c) all bid proposals have been rejected.

Bid security will be returned to successful Bidders after the Agreement has been executed and acceptance of required performance and payment bonds. The bid security of Bidders that are not under consideration for award of the Agreement will be returned to those bidders.

All copies of the Bid Proposal, the bid security and any other documents required to be submitted with the Bid Proposal shall be enclosed in a sealed opaque envelope.

The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address, if applicable, the designated portion of the Work for which the Bid Proposal is submitted. If the Bid proposal is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face of the envelope.

Bid Proposals shall be deposited at the designated location prior to the time and date for receipt of Bid Proposals indicated in the **Advertisement to Bid.** Bid Proposals received after the date and time for receipt of bids will be returned unopened.

The bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bid Proposals.

### Oral, telephonic, facsimile, emailed, or telegraphic Bid Proposals or bid securities are invalid and will not receive consideration.

A Bid Proposal may not be modified, withdrawn or canceled by the bidder after the stipulated time period and date designated for the receipt of Bid Proposals, and each bidder so agrees in submitting its Bid.

Prior to the time and date designated for receipt of Bid Proposals, and Bid Proposal submitted may be modified or withdrawn by notice to the party receiving bid Proposals at the place designated for their receipt. Such notice shall be in writing over the signature of the Bidder.

Withdrawn Bid Proposals may be resubmitted up to the time designated for the receipt of bids provided that they are then fully in conformance with these instructions to Bidders.

Bid Proposals received on time will be opened publicly.

Bid Proposals shall be held open and irrevocable for **Forty-five** (45) Days after the date of receipt of bids.

**Troy School District** shall have the right to reject any or all Bid Proposals and to reject a Bid Proposal not accompanied by the required bid security or by other information required by the Bidding Documents, or to reject a bid Proposal which is in any way incomplete or irregular.

Bid Proposals are considered irregular and may be rejected for any of the following reasons unless otherwise provided by law:

- 1. If Bid Proposal Form furnished is not used or is altered.
- 2. If there are unauthorized additions, qualified or conditional Bid Proposals or irregularities of any kind which may make the Bid Proposal incomplete, indefinite, or ambiguous as to its meaning.
- 3. If Bidder adds any provisions reserving right to accept or reject any award, or enter into the Agreement pursuant to an award.
- 4. If Unit or Lump Sum prices or Alternates contained in the Bid Proposal are obviously unbalanced either in excess of, or below, reasonable cost analysis values.
- 5. If Bidder fails to complete the Bid Proposal Form where information is requested so the Bid Proposal form cannot be properly evaluated.
- 6. Bidder is deemed to not be the Lowest Responsive, Responsible Bidder by definition and prevailing statues.
- 7. Bidder does not submit with its Bid Proposal a sworn and notarized statement of Familial Disclosure.

It is the intent of the **Troy School District** to award the Agreement to the Lowest Responsive and Responsible Bidder provided the Bid Proposal has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. **Troy School District** shall have the right to waive any informality or irregularity in any Bid Proposal received and to accept Bid Proposals, which in its judgment, are in its own best interest which includes not awarding to the low bidder. **Troy School District** reserves the right to reject any Bid Proposal in its sole discretion except where otherwise provided by law.

**Troy School District** shall have the right to accept Alternates in any order or combination and to determine the low bidder on the basis of the sum of the base bid, Voluntary Alternates, and Alternates accepted.

**Troy School District** shall have the right to accept combination bids from a Bidder for more than one Bid Category.

To the extent that theses instructions to Bidders and applicable public bidding laws, rules, regulations or ordinances conflict with each other, the provisions of the applicable bidding laws, rules, regulation or ordinances shall govern.

After the bids are received tabulated, and evaluated, the apparent low bidders if so requested by the District and/or Architect shall meet with the Architect at a post-bid meeting for the purpose of determining completeness of scope and any contract overlaps or omissions. If requested, the Bidder shall submit additional qualification forms or other information as required in the instructions to Bidders. The bidder will provide the following information at the post-bid meeting:

- 1. Designation of the Work to be performed by the Bidder with its own forces including manpower for the **Contractor** and that of its Subordinate Parties.
- 2. Detailed cost breakdown of the Bidder's Bid Proposal including labor, equipment and material unit prices
- 3. .
- 4. A list of names of the Subordinate Parties proposed for the principal portions of the Work.
- 5. The proprietary names and suppliers of principal items of systems of materials and equipment proposed for the Work.
- 6. The names and backgrounds of the Bidder's key staff members including superintendent and assistants. Bidder shall be requested to establish the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the bidding Documents.
- 7. Commitment to construction schedules, identification of items requiring long lead deliveries and manpower information.

#### **PERMITS:**

**Contractor** shall provide and pay for all permits, assessments, governmental fees, bonds, connection charges, licenses and inspection fees and any other charges necessary for the proper execution and completion of the **Contractor's** Work.

**Contractor** is to provide, pay for and coordinate all other permits, fees, inspections, and city, county, state, federal and governing authority approvals required for the successful completion of the Work.

#### INSTRUCTIONS TO BIDDERS

#### SECTION 1

#### 1. <u>Bids</u>

Contractors may pick up specifications and bid documents at the Purchasing Office, 1140 Rankin, Troy, Michigan 48083 between the hours of 8 am - 3 pm.

#### 2. Pre-Bid Meeting

A Pre-Bid Meeting will be held on <u>Monday</u>, <u>April 23, 2007 at 9 a.m.</u> at the Troy School District Maintenance Building, 1140 Rankin, Troy, Michigan 48083. All interested bidders should attend the Pre-Bid meeting to inspect the job site and ensure comprehension of the specifications. The plans and specifications will be discussed at this time. No allowance shall subsequently be made on behalf of the bidder if awarded the contract, by reason of any error, or neglect, on his part for having failed to follow the instructions hereby given.

#### 3. Explanations

Should a bidder find discrepancies in, or omissions from the Bid Forms or Specifications, or should be in doubt as to their true meaning, he should at once notify Mr. Frank Lams, Supervisor of Purchasing who will send written addenda to all bidders. All Such notices must be received by Wednesday, April 25, 2007.

#### 4. Bonds

A bid bond or certified check for an amount not less than five percent (5%) of the amount of the bid shall accompany each bid. The check or bond of each unsuccessful bidder will be returned within ten (10) days after the bid is awarded. Failure of any accepted bidder to enter into a contract to complete the specified work may cause forfeiture of his bid security.

The successful Contractor shall be required to furnish Performance, as well as Labor and Material Bonds within ten (10) days after official notification of award of contract. The premiums for these bonds shall be included in each Contractor's bid.

The forms of bonds and sureties shall be acceptable to the Owner and for the following amounts:

- A. A Performance Bond for the full amount of the contract, insuring the faithful performance of all provisions of the contract and the satisfactory completion of the specified work within the time agreed upon, and covering all guarantees against defective material or workmanship in any work under the contract for a period of one (1) year after the work has been accepted by the Troy School District hereafter known as the Owner.
- B. A Labor and Material Bond for the full amount of the contract shall be required for the protection of all sub-contractors and material suppliers. Bonds shall bear the same date as the contract.

#### 5. Insurance

The successful Contractor shall provide certificates evidencing Comprehensive General and Automobile Liability insurance, naming the Owner and General Contractor (if applicable) as additional named insured for a combined single limit of liability of not less than \$1,000,000 and including:

A. Products and Completed Operations: including endorsements for Broad Form Property Damage and Completed Operations.

- B. Personal Injury.
- C. Broad Form Contractual liability.
- D. Independent Contractors.
- E. Automobile and non-owned automobile liability.
- F. Owner's and Contractor's Protective liability.

Also, such insurance as is required to cover Workmen's Compensation, Employee's Liability of \$100,000, and any other municipal, state or federal insurance required by law.

#### 6. Start Date

Work to begin, <u>June 25, 2007</u>. Work MUST begin within fifteen (15) days of this date or as soon as weather conditions permit unless otherwise notified. Failure to begin this project in an expeditious manner may result in cancellation of this contract.

#### 7. Completion Date

All items must be delivered and completed by <u>August 17, 2007</u> or a date approved by the owner.

#### 8. Guarantee

- A. Roofs areas that receive new insulation and a new modified built-up roof system will carry a twenty-five (25) year Manufacturer's Guarantee which is inclusive, not prorated and carry no dollar limitations.
- B. The Roofing Contractor must submit a five (5) year Guarantee that will commence from date of acceptance by Owner before final payment is released. This Guarantee will cover all defects in workmanship and materials. Damages caused by storm, vandalism and other trades are not included in Guarantee. This contractor's guarantee is for covering his labor and material for Section A. above. This guarantee is in addition to the Manufacturer's Guarantee.
- C. Miscellaneous repairs will be inspected and a punch list generated. All items on the punch list will be completed to owner's approval, but no warranty is required.

#### 9. Envelopes

Envelopes containing bid should be clearly marked "Roofing Bid" Attention: Mr. Frank Lams, Purchasing Supervisor.

#### 10. Bid Due

All bids are due on May 2, 2007 by 3:00 p.m. at the office of the Purchasing Supervisor, 1140 Rankin, Troy, Michigan 48083. The Owner reserves the right to reject any and/or all bids and to accept that bid which, in its opinion, is in its best interest. No bid shall be withdrawn for a period of forty-five (45) days after the time set for the opening thereof. Prices quoted shall be based on F.O.B the job site.

#### 11. Competency of the Bidder

If requested by the Owner, the low bidder, in order to determine whether he is a responsible bidder, shall be required to furnish to the Owner the following information sworn to under oath by him or by a properly authorized representative of the bidder:

- A. The address and description of the bidder's plant and place of business.
- B. Assumed name and/or Articles of Co-Partnership or Incorporation.
- C. Itemized list of equipment available for use on the project.
- D. A certified or authenticated financial statement, dated within sixty (60) days prior to the opening of the bids. The Owner may require that any items of such statements be further verified.
- E. A list of present contracts including dollar value, percentage completion and owners involved.
- F. A list of recent projects including dollar value and owners involved.
- G. A statement regarding past, present or pending litigation with the Owner.
- H. Such additional information as may be required that will satisfy the Owner that the bidder is adequately prepared in technical experience, or otherwise to fulfill the contract.
- I. Sufficient documents to insure that the Contractor is in compliance with the current fair employment practice requirements of the Owner.

#### 12. Disqualification of Bidders

Any one or more of the following causes may be considered sufficient for the disqualification of a bidder and the rejection of his bid or bids:

- A. Evidence of collusion among bidders.
- B. Lack of competency as revealed by either financial, experience or plant equipment statements as submitted.
- C. Lack of responsibility as shown by past work, judged from the standpoint of workmanship and progress.
- D. Incomplete work under other contracts, which, in the judgment of the Owner, might hinder or prevent the prompt completion of additional work if awarded.
- E. Being in arrears on existing contracts, in litigation with the Owner, or having defaulted on a previous contract.

#### 13. Payments

- A. <u>Progress Payments</u> -- When a job in progress is interrupted for three (3) weeks or longer by causes beyond the Contractor' control such as strikes, weather, acts of God, etc., the Owner agrees to pay, upon request of the Contractor, a portion of the total contract price not to exceed ninety percent (90%) of the value of work completed at that time, provided all work completed conforms to the Specifications. A detailed accounting of labor expended and materials purchased will accompany the Progress Payment invoice. Invoices will be reviewed and payments made on a monthly basis following the Owner's regular meeting of the month following request.
- B. Final Payment -- The Owner requires a complete release of all claims from the Contractors including the release of liens of all subcontractors and proof or an affidavit that Contractor has paid all labor and materials and the Specifications are completed to the satisfaction of the Owner before Final Payment will be approved.

#### 14. Non-Compliance

Bidders are responsible for strict compliance with all provisions as stipulated in these Instructions and Specifications. Non-compliance will constitute rejection of bid.

#### TROY SCHOOL DISTRICT 2007 ROOF REPLACEMENT AND/OR RESTORATION SCOPE OF WORK

#### 1. BAKER MIDDLE SCHOOL (OLD)

ITEM 1: Tear-Off and Replace roof area "A" with a new HPR modified roof with slag aggregate cover.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace tectum and gypsum decking as necessary.
- 3. Install 43# base sheet over prepared deck with approved fasteners
- 4. Install a base course of 2" Polyisocyanurate insulation mopped to the base sheet in hot asphalt.
- 5. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 6. Install top layer of 1/2" high-density fiberboard insulation over the base layer on flat areas.
- 7. Install tapered Polyisocyanurate/fiberboard tapered insulation system over tapered areas, provided by Triangle Design. Note: The tapered insulation will be tapered to all existing drains, scuppers and new scupper locations.
- 8. Install new HPR modified built-up roof assembly.
- 9. Install new roof scupper and downspout on southeast corner next to pool area.
- 10. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 11. Flood coat roof in hot steep asphalt and cover with new roofing slag.

ITEM 2: Tear-Off and Replace roof area "B" with a new HPR modified roof with slag aggregate cover.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace tectum and gypsum decking as necessary.
- 3. Install 43# base sheet over prepared deck with approved fasteners
- 4. Install a base course of 2" Polyisocyanurate insulation mopped to the base sheet in hot asphalt.
- 5. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 6. Install top layer of 1/2" high-density fiberboard insulation over the base layer on flat areas.
- 7. Install tapered Polyisocyanurate/fiberboard tapered insulation system over tapered areas, provided by Triangle Design. Note: The tapered insulation will be tapered to all existing drains, scuppers and new scupper locations.

#### BAKER (OLD) SCOPE OF WORK - ITEM 2 CONTINUED

- 8. Install new HPR modified built-up roof assembly.
- 9. Install new roof scupper and downspout on southeast corner next to pool area.
- 10. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 11. Flood coat roof in hot steep asphalt and cover with new roofing slag.

ITEM 3: Tear-Off and Replace roof area "C" with a new HPR modified roof with slag aggregate cover.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace tectum and gypsum decking as necessary.
- 3. Install 43# base sheet over prepared deck with approved fasteners
- 4. Install a base course of 2" Polyisocyanurate insulation mopped to the base sheet in hot asphalt.
- 5. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 6. Install top layer of 1/2" high-density fiberboard insulation over the base layer on flat areas.
- Install tapered Polyisocyanurate/fiberboard tapered insulation system over tapered areas, provided by Triangle Design. Note: The tapered insulation will be tapered to all existing drains, scuppers and new scupper locations.
- 8. Install new HPR modified built-up roof assembly.
- 9. Install new roof scupper and downspout on southeast corner next to pool area.
- 10. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 11. Flood coat roof in hot steep asphalt and cover with new roofing slag.

ITEM 4: Tear-Off and Replace the 1986 modified roof over the original 1967 school with HPR modified roof.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace metal decking as necessary.
- 3. Install a base course of 2" Polyisocyanurate insulation mopped to the base sheet in hot asphalt.
- 4. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.

#### BAKER (OLD) SCOPE OF WORK - ITEM 4 CONTINUED

- 5. Install top layer of 1/2" high-density fiberboard insulation over the base layers.
- 6. Install new HPR modified built-up roof assembly.
- 7. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 8. Flood coat roof in hot steep asphalt and cover with new roofing slag.

ITEM 5: Tear-Off and Replace the 1986 modified roof over the original 1967 school with HPR modified roof.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace metal decking as necessary.
- 3. Install a base course of 2" Polyisocyanurate insulation mopped to the base sheet in hot asphalt.
- 4. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 5. Install top layer of 1/2" high-density fiberboard insulation over the base layers.
- 6. Install new HPR modified built-up roof assembly.
- 7. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 8. Flood coat roof in hot steep asphalt and cover with new roofing slag.

ITEM 6: Tear-Off and Replace the 1986 modified roof over the original 1967 school with HPR modified roof.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace metal decking as necessary.
- 3. Install a base course of 2" Polyisocyanurate insulation mopped to the base sheet in hot asphalt.
- 4. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 5. Install top layer of 1/2" high-density fiberboard insulation over the base layers.
- 6. Install new HPR modified built-up roof assembly.
- 7. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.

#### BAKER (OLD) SCOPE OF WORK - ITEM 6 CONTINUED

- 8. Flood coat roof in hot steep asphalt and cover with new roofing slag.
- 9.

ITEM 7: COMBINATION OF ITEMS 1A 2B 3C 4D 5E 6F



#### HAMILTON ELEMENTARY SCHOOL

ITEM 1: Peel-Off existing coal tar pitch BUR and replace with HPR modified roof.

- 1. Remove loose slag and Peel-Off existing coal tar pitch BUR leaving the original 3.5" Perlite/Urethane insulation in place.
- 2. Remove all areas defined wet by the infrared survey and damaged/wet areas discovered from peel-off with matching insulation.
- 3. Mechanically fasten new <sup>1</sup>/<sub>2</sub>"H.D. fiberboard insulation to repaired existing insulation following F.M. 1-60 fastening pattern.
- 4. Install second layer of <sup>1</sup>/<sub>2</sub>"H.D. fiberboard insulation over base layer in hot asphalt.
- 5. Install new HPR modified StressPly Plus BUR to top insulation course in hot asphalt.
- 6. Install 2-ply HPR modified flashing system to all walls, curbs and perimeters.
- 7. Install all penetration flashing with current N.R.C.A. approved details.
- 8. Install all other flashing and sheet metal work following enclosed N.R.C.A. details.
- 9. Install flood coat of hot asphalt and slag.



#### HILL ELEMENTARY SCHOOL

ITEM 1: Tear-Off and Replace the 1986 modified roof over the original 1967 school with a HPR modified roof.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace metal decking as necessary.
- 3. Install a base course of 2" Polyisocyanurate insulation mopped to the base sheet in hot asphalt.
- 4. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 5. Install top layer of 1/2" high-density fiberboard insulation over the base layers.
- 6. Install new HPR modified built-up roof assembly.
- 7. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 8. Flood coat roof in hot steep asphalt and cover with new roofing slag.

ITEM 2: Tear-Off leaking roof section between 1971 addition octagon roof and attached washroom area.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace metal decking as necessary.
- 3. Install a base course of 1.5" Polyisocyanurate insulation screwed to the deck following F.M 1-60 fastening pattern.
- 4. Install tapered insulation Polyisocyanurate/fiberboard panels over the base layer in hot steep asphalt.
- 5. Install new HPR modified built-up roof assembly.
- 6. Install new 2-ply modified flashing and metal work at perimeter including raised gravel stops, roof sumps, etc.
- 7. Flood coat roof in hot steep asphalt and cover with new roofing slag.



# HILL ELEMENTARY SCHOOL



#### NILES COMMUNITY HIGH SCHOOL

ITEM 1: Tear-Off and Replace roof areas #1, #5, #6, #7 & #8 with new HPR modified roof and slag.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Install rosin sheet dry on wood deck and nail 43# base sheet over tectum and wood decks.
- 3. Mop 2" Polyisocyanurate insulation to base sheet and second layer of <sup>1</sup>/<sub>2</sub>" H.D. fiberboard insulation in hot asphalt.
- 4. Install 1/8" tapered Polyisocyanurate/fiberoard insulation to 42'X30' area noted on roof plan.
- 5. Install HPR modified roof and flashing to tear-off areas. Install slag on flat areas and mineral-surfaced on sloped areas.
- 6. Install all new gutters, coping, gravel stop, scuppers and other metal work to new roof.
- 7. Install flood coat of hot asphalt and slag aggregate cover to flat areas.

#### ITEM 2: TOTAL ROOF AND FLASHING RESTORATION OF ROOF AREAS #2 & #9.

- 1. Wet vacuum all loose gravel, dirt and debris off of roof.
- 2. Tear-off and replace identified wet areas.
- 3. Spud-Off gravel from base of all flashings and gravel stops and prime cleaned roof.
- 4. Install new HPR modified flashing over all flashing and gravel stops.
- 5. Inspect and patch all defects in the roof field with membrane and mastic.
- 6. Apply WeatherScreen polymer coating to roof at 8 gallons per square and cover with 500# of slag.

ITEM 3: Spot repairs to roof areas #3 & #4.

- 1. Repair flashing, gutter edge, roof penetration etc.
- 2. Wet Vac loose gravel off of ponded areas and replace damaged roofing including wet insulation.
- 3. Reinforce ponded area on #3 and low trough area on #4 with Black Knight Cold CTP Elastomeric Coating and Slag.



#### SCHROEDER ELEMENTARY SCHOOL

ITEM 1: Tear-Off and replace the 1986 modified roof over the original 1970 school with a HPR modified roof.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace metal decking as necessary.
- 3. Install a base course of 2.5" Polyisocyanurate insulation screwed through the metal deck to F. M. 1-60.
- 4. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 5. Install top layer of 1/2" high-density fiberboard insulation over the base layers.
- 6. Install new HPR modified built-up roof assembly.
- 7. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 8. Flood coat roof in hot steep.



### NORTH

#### SCOPE OF WORK:

- ITEM 1: Tear-off and replace the roof over the original 1970 school with a HPR modified roof.
- 1. Tear-Off all roofing, insulation and flashing down to the metal deck.
- 2. Repair or replace metal deck as necessary.
- 3. Install a base course of 2.5"Polyisocyanurate insulation screwed through the metal deck to F.M. 1-60.
- 4. Install new fiberboard roof saddles beween the drains and the drains and the outside walls with a 1/2"slope to the drains. The tapered fiberboard overlayment roof saddles between the roof drains shal be designed so that the saddle width is equal to 1/4 their length.
- 5. Install top layer of 1/2"high-density fiberboard insulation over the base layers.
- 6. Install new HPR modified built-up roof assembly.
- 7. Instal new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stacks, new coping, roof sumps, etc.
- 8. Flood coat roof in hot asphalt and cover with new roofing slag.



#### SMITH MIDDLE SCHOOL

ITEM 1: Tear-Off and replace roof area "A" with a new HPR modified roof with slag aggregate cover.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace tectum and steel decking as necessary.
- 3. Install 43# base sheet over tectum deck with approved fasteners.
- 4. Install a base course of 2" Polyisocyanurate insulation over tectum areas mopped to the base sheet in hot asphalt.
- 5. Install a base course of 2" Polyisocyanurate insulation over steel areas screwed to the metal deck to meet F.M. 1-60 fastening patternt.
- 6. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 7. Install top layer of 1/2" high-density fiberboard insulation over the base layer on flat and saddled areas.
- 8. Install tapered Polyisocyanurate/fiberboard tapered insulation system over tapered areas, provided by Triangle Design. Note: The tapered insulation will be tapered to all existing drains, scuppers and new scupper locations.
- 9. Install new HPR modified built-up roof assembly.
- 10. Install new roof scupper and downspout on southeast corner next to pool area.
- 11. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 12. Flood coat roof in hot steep asphalt and cover with new roofing slag.





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ITEM 1: Tear-Off and replace roof area "A" with a new HPR modified roof with slag aggregate cover.

#### TROY UNION ELEMENTARY SCHOOL

ITEM 1: Tear-Off and Replace the 1982 modified roof over the east side of the original 1971 school with a HPR modified roof.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace metal decking as necessary.
- 3. Install a base course of 2.5" Polyisocyanurate insulation screwed through the metal deck to F. M. 1-60.
- 4. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 5. Install top layer of 1/2" high-density fiberboard insulation over the base layers.
- 6. Install new HPR modified built-up roof assembly.
- 7. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 8. Flood coat roof in hot steep asphalt and cover with new roofing slag.

ITEM 2: Tear-Off and Replace the 1986 modified roof over the west side of the original 1971 school with a HPR modified roof.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace metal decking as necessary.
- 3. Install a base course of 2.5" Polyisocyanurate insulation screwed through the metal deck to F. M. 1-60.
- 4. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 5. Install top layer of 1/2" high-density fiberboard insulation over the base layers.
- 6. Install new HPR modified built-up roof assembly.
- 7. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 8. Flood cost roof in hot steep asphalt and cover with new roofing slag.

## TROY UNION

# 2007 ROOF REPLACEMENT

ITEM 1: Tear-Off and Replace the 1982 modified roof over the east side of the original 1971 school with a HPR modified roof.



## TROY UNION

# 2007 ROOF REPLACEMENT

ITEM 1: Tear-Off and Replace the 1982 modified roof over the east side of the original 1971 school with a HPR modified roof.



Tear-Off and Replace the 1986 modified roof over the west side of the original 1971 school with a HPR modified roof. ITEM 2:

#### TROY SCHOOL DISTRICT 2007 ROOF REPLACEMENT SPECIFICATION

#### PART 1 GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

It is the intent of the Troy School District to get a fully protected, insulated, positive-sloped modified built-up roof system with slag aggregate cover and all required sheet metal and roof penetrations for a totally warranted 25 year No Dollar Limit roof system including the metal flashing and coping.

- A. This Section includes the following:
  - 1. Modified bituminous membrane roofing over prepared substrate.
  - 2. Roof Insulation.
  - 3. Tapered Insulation.
  - 4. Roof substrate board.
- B. Related Sections include the following:
  - 1. Division 6 Section "Miscellaneous Carpentry" for wood blocking and nails.
  - 2. Division 7 "Flashing and Sheet Metal" for metal roof penetration flashings, flashings, and counter-flashings..
  - 3. Division 7 "Roof Expansion Assemblies".
- C. Related Work Specified Elsewhere:
  - 1. Gravel Surface Built-Up Roof Restoration 07562

#### 1.3 REFERENCES

- A. American Society of Civil Engineers (ASCE):
  - 1. ASCE 7-02, Minimum Design Loads for Buildings and Other Structures.
- B. American Society for Testing and Materials (ASTM):
  - 1. ASTM D41 Standard Specification for Asphalt Primer Used in Roofing, Dampproofing and Waterproofing.
  - 2. ASTM D451 Standard Test Method for Sieve Analysis of Granular Mineral Surfacing For Asphalt Roofing Products.
  - 3. ASTM D1079 Terminology Relating to Roofing and Waterproofing.

- 4. ASTM D1227 Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing.
- 5. ASTM D1863 Standard Specification for Mineral Aggregate Used on Built-Up Roofs.
- 6. ASTM D2822 Standard Specification for Asphalt Roof Cement.
- 7. ASTM D2824 Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Nonfibered, Asbestos Fibered, and Fibered without Asbestos
- 8. <u>javascript:onClick=OpenLicense('LICENSE\_ASTM.htm');</u>ASTM D4601 Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing.
- 9. ASTM D5147 Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Material.
- 10. ASTM D6162 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements.
- 11.
   ASTM D6163
   Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.
- 12. ASTM E108 Standard Test Methods for Fire Tests of Roof Coverings.
- C. Factory Mutual Research (FM):
  - 1. Roof Assembly Classifications.
- D. National Roofing Contractors Association (NRCA):
  - 1. Roofing and Waterproofing Manual.
- E. Underwriters Laboratories, Inc. (UL):
  - 1. Fire Hazard Classifications.
- F. Warnock Hersey (WH):
  - 1. Fire Hazard Classifications.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. General: Provide and install a long-term, quality roof system that meets or exceeds all current NRCA guidelines as stated in the most recent edition of the NRCA Roofing and Waterproofing Manual.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

#### 1.5 SUBMITTALS FOR REVIEW

- A. Product Data: Provide manufacturer's technical product data for each type of roofing product specified. Include data substantiating that materials comply with specified requirements.
- B. Samples: Submit **two** (2) samples of the following:
  - 1. All Insulation boards.
  - 2. All Membranes, base sheets, ply sheets, modified flashing base and mineral cap, modified field cap sheet.
  - 3. Pre-painted metal flat stock
  - 4.  $\frac{1}{2}$  lb. sample of roofing slag aggregate for review.
- C. Specimen Warranty: Provide an unexecuted copy of the warranty specified for this Project, identifying the terms and conditions required of the Manufacturer and the Owner.
- D. The specifications must have been reviewed for structural content and stamped by a state licensed engineer.

#### 1.6 SUBMITTALS FOR INFORMATION

- A. Manufacturer's Installation Instructions: Submit installation instructions and recommendations indicating special precautions required for installing the membrane.
- B. Manufacturer's Certificate: Certify that roof system furnished is approved by Factory Mutual, Underwriters Laboratories, Warnock Hersey or approved third party testing facility in accordance with ASTM E108, Class A for external fire and meets local or nationally recognized building codes.
- C. Manufacturer's Certificate: Certify that the roof system is adhered properly to meet or exceed the requirements of FM **1-60**.
- D. Manufacturer's Certificate: Certify that the roof system furnished **is approved by** Factory Mutual Approval Standard 4470.
- E. Manufacturer's Certificate: Certify that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- F. Manufacturer's Certificate: Submit a certified copy of the roofing manufacturer's ISO 9001 compliance certificate.
- G. Test Reports: Submit test reports, prepared by an independent testing agency, for all modified bituminous sheet roofing, indicating compliance with ASTM D5147.
- H. Written certification from the roofing system manufacturer certifying the applicator is currently authorized for the installation of the specified roof system.
- I. Design Loads: Submit copy of manufacturer's minimum design load calculations according to ASCE 7-02, Method 2 for Components and Cladding, sealed by a registered professional engineer employed by the system manufacturer as a full-time staff engineer. In no case shall the design loads be taken to be less than those detailed in Design and Performance Criteria article.
- J. Design Loads: Submit copy of manufacturer's minimum design load calculations according to ASCE 7-02, Method 2 for Components and Cladding, sealed by a registered professional engineer employed by the system manufacturer as a full-time staff engineer. In no case shall the design loads be taken to be less than those detailed in Design and Performance Criteria article of this specification.
- K. Qualification data for firms and individuals identified in Quality Assurance Article below.

# 1.7 CONTRACT CLOSEOUT SUBMITTALS

- A. General: Comply with Requirements of Division 01 Section Closeout Submittals.
- B. Special Project Warranty: Provide specified warranty for the Project, executed by the authorized agent of the Manufacturer.
- C. Roofing Maintenance Instructions. Provide a manual of manufacturer's recommendations for maintenance of installed roofing systems.

## 1.8 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with not less than12 years documented experience and have ISO 9001 certification.
- B. Installer Qualifications: Company specializing in modified bituminous roofing installation with not less than **5** years experience and authorized by roofing system manufacturer as qualified to install manufacturer's roofing materials.
- C. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress. Maintain proper supervision of workmen.
  - 1. Maintain a copy of the Contract Documents in the possession of the Supervisor/Foreman and on the roof at all times.
- D. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer.

- 1. Upon request of the Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.
- E. Source Quality Control: Manufacturer shall have in place a documented, standardized quality control program such as ISO-9001 approval.

# 1.9 PRE-INSTALLATION CONFERENCE

- A. Pre-Installation Roofing Conference: Convene a pre-roofing conference approximately two (2) weeks before scheduled commencement of modified bituminous roofing system installation and associated work.
- B. Require attendance of installer of each component of associated work, installers of deck or substrate construction to receive roofing work, installers of rooftop units and other work in and around roofing which must precede or follow roofing work (including mechanical work if any), Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of the Work, including (where applicable) Owner's insurers, testing agencies and governing authorities.
- C. Objectives of conference include:
  - 1. Review foreseeable methods and procedures related to roofing work, including set up and mobilization areas for stored material and work area.
  - 2. Tour representative areas of roofing substrates (decks), inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work performed by others.
  - 3. Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
  - 4. Review roofing system requirements (drawings, specifications and other contract documents).
  - 5. Review required submittals both completed and yet to be completed.
  - 6. Review and finalize construction schedule related to roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
  - 7. Review required inspection, testing, certifying and material usage accounting procedures.
  - 8. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not mandatory requirement).
  - 9. Record discussion of conference including decisions and agreements (or disagreements) reached and furnish copy of record to each party attending. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.
  - 10. Review notification procedures for weather or non-working days.
- D. The Owner's Representative will designate one of the conference participants to record the proceedings and promptly distribute them to the participants for record.
- E. The intent of the conference is to resolve issues affecting the installation and performance of roofing work. Do not proceed with roofing work until such issues are resolved the satisfaction of the Owner and Engineer of Record. This shall not be construed as interference with the progress of Work on the part of the Owner or Engineer of Record.

# 1.10 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site with seals and labels intact, in manufacturer's original containers, dry and undamaged.
- B. Store and handle roofing sheets in a dry, well-ventilated, weather-tight place to prevent moisture exposure. Store rolls of felt and other sheet materials on pallets or other raised surface. Stand all roll materials on end. Cover roll goods with a canvas tarpaulin or other breathable material (not polyethylene).
- C. Do not leave unused materials on the roof overnight or when roofing work is not in progress unless protected from weather and other moisture sources.
- D. Secure all material and equipment on the job site. If any material or equipment is stored on the roof, load limits must be monitored to assure that the integrity of the deck is not compromised at any time. Damage to the deck caused by the Contractor's actions will be the sole responsibility of the Contractor and will be repaired or replaced at his expense.

# 1.11 MANUFACTURER'S INSPECTIONS

- A. When the project is in progress, the roofing system manufacturer will provide the following:
  - 1. Report progress and quality of the work as observed.
  - 2. Provide **daily** job site inspections.
  - 3. Report to the owner in writing any failure or refusal of the Contractor to correct unacceptable practices called to the Contractor's attention.
  - 4. Confirm after completion that manufacturer has observed no applications procedures in conflict with the specifications other than those that may have been previously reported and corrected.

## 1.12 PROJECT CONDITIONS

- A. Proceed with roofing work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.
- B. Do not apply roofing insulation or membrane to damp deck surface.
- C. Do not expose materials subject to water or solar damage in quantities greater than can be weatherproofed during same day.
- D. All slopes of greater than 1-1/2:12 require back-nailing to prevent slippage of the ply sheets. Use ring or spiral-shank one (1) inch cap nails, or screws and plates at a rate of one (1) fastener per ply (including the modified membrane) at each insulation stop. Place insulation stops at 16 ft o.c. for slopes less than 3:12 and four (4) ft o.c. for slopes greater than 3:12. On non-insulated systems, nail each ply directly into the deck at the rate specified above. When slope exceeds 1½:12, install all plies parallel to the slope (strapping) to facilitate backnailing. Install four (4) additional fasteners at the upper edge of the modified bitumen sheet when strapping the plies.

## 1.13 SEQUENCING AND SCHEDULING

- A. Sequence installation of roofing with related units of work specified in other sections to ensure that roof assemblies including roof accessories, flashing, trim and joint sealers are protected against damage from effects of weather, corrosion and adjacent construction activity.
- B. Complete all roofing field assembly work each day. Phased construction will not be accepted.

#### 1.14 WARRANTY

- A. Upon completion of installation, and acceptance by the Owner, the manufacturer will supply to the Owner the appropriate warranty.
- B. Installer will submit a five (5) year warranty to the membrane manufacturer with a copy directly to Owner.
- C. Upon completion of installation, and acceptance by the Owner, the manufacturer will supply to the Owner a **twenty-five** (25) year warranty which is inclusive, not prorated and carry no dollar limitations. The warranty will cover roof assembly, flashing details including metal flashing. Damages caused by storm, vandalism and other trades are not included in warranty. The standard N.R.C.A. or M.R.C.A. guarantee form is acceptable.

#### DESIGN AND PERFORMANCE CRITERIA

- A. Uniform Wind Uplift Load Capacity
  - 1. Installed roof system shall withstand negative (uplift) design wind loading pressures complying with the following criteria. Attachment shall be installed exactly as given in article 3.3 G.
    - a. Design Code: ASCE 7-02, Method 2 for Components and Cladding.
    - b. Category III Building with an Importance Factor of 1.15
    - c. Wind Speed: 90 mph
    - *d* Ultimate Pullout Value: Fasteners shall reach minimum allowable by manufacturer for each deck type
    - e. Exposure Category: B
    - f. Design Roof Height: 25 feet.
    - g. Minimum Building Width: 60 feet.
    - *h.* Roof Pitch: 1/4 inch per foot.
    - *i.* Topographic Factor: 1.00

# Roof Area

# Design Uplift Pressure:

23 nof

Zone 1 - Field of Fooj	25 psj
Zone 2 - Eaves<, ridges, hips,> and rakes	42 psf
Zone 3 - Corners	56 psf

- B. Snow Load: 25 psf.
- *C. Live Load:* 20 *psf, or not to exceed original building design.*

Zona 1 Field of roof

*D. The specifications are reviewed for structural content and stamped by a state licensed engineer.* 

### PART 2 - PRODUCTS

#### 2.1 PRODUCTS, GENERAL

- A. Refer to Division 01 Section "Common Product Requirements."
- B. Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.
- C. Substitutions: Products proposed as equal to the products specified in this Section shall be submitted in accordance with Bidding Requirements and Division 01 provisions.
  - 1. Proposals shall be accompanied by a copy of the manufacturer's standard specification section. That specification section shall be signed and sealed by a professional engineer licensed in the state in which the installation is to take place. Substitution requests containing specifications without licensed engineer certification shall be rejected for non-conformance.
  - 2. Include a list of three (3) projects of similar type and extent, located within a one hundred mile radius from the location of the project. In addition, the three projects must be at least five (5) years old and be available for inspection by the Architect, Owner or Owner's Representative.
  - 3. Equivalency of performance criteria, warranty terms, submittal procedures, and contractual terms will constitute the basis of acceptance.
  - 4. The Owner's decision regarding substitutions will be considered final. Unauthorized substitutions will be rejected.

#### 2.2 ACCEPTABLE MANUFACTURERS

A. The design is based upon roofing systems engineered and manufactured by The Garland Company or approved equals :

The Garland Company. 3800 East 91<sup>st</sup> Street Cleveland, Ohio 44105 Telephone: (800) 762-8225 Website: www.garlandco.com

### 2.3 DESCRIPTION

- A. Modified bituminous roofing work including but not limited to:
  - 1. Hot Bitumen: ASTM D312, Type III steep asphalt on roof with slopes up to (3) three inches in (12) twelve inches (3:12 slope) having the following characteristics:

a.	Softening Point	185°F - 205°F
b.	Flash Point	500°F
c.	Penetration @ 77°F	15-35 units

d. Ductility @ 77°F 2.5 cm

2. Hot Bitumen: ASTM D312, Type IV special steep asphalt with slopes **over** (3) three inches in (12) twelve inches (3:12 slope) having the following characteristics:

a.	Softening Point	210°F - 225°F
b.	Flash Point	500°F
c.	Penetration @ 77°F	15-25 units
d.	Ductility @ 77°F	1.5 cm

- 3. Base Flashing Backer Ply Modified Membrane: One (1) ply of 40 mil SBS base flashing ply covered by an additional layer of mineral-surfaced modified bitumen membrane and set in bitumen in the 2-ply flashing system.
- 4. Top Flashing Ply Modified Membrane: STRESSPLY EUV Mineral; 155 mil SBS and SIS (Styrene-Butadiene-Styrene and Styrene-Isoprene-Styrene) rubber modified membrane incorporating post consumer recycled rubber and reinforced with a super strong fiberglass and polyester composite scrim. Surfaced with the highly reflective Starburst<sup>TM</sup> white mineral. This top flashing ply covers the base ply backer sheet in the 2-ply flashing system.
- 5. Minimum three(3) piles of approved ASTM D2178, Type IV glass fiber roofing felt bonded to the prepared substrate with hot bitumen forms the base plies of all field roofing.
- 6. Modified Membrane: STRESSPLY PLUS; 105 mil SBS (Styrene-Butylene-Styrene) rubber modified roofing membrane incorporating recycled rubber and reinforced with a fiberglass and polyester composite scrim. This Modified cap sheet membrane is installed as the top ply over the three (3) base plies of fiberglass ply felts covering all flat (slopes up to 2-1/2:12) field roofing all set in hot bitumen.
- 7. Modified Membrane: STRESSPLY PLUS FR MINERAL Environmentally Friendly; 145 mil SBS (Styrene-Butylene-Styrene) mineral surfaced, rubber modified roofing membrane incorporating recycled rubber, fire retardant characteristics and reinforced with a fiberglass and polyester composite scrim. This Modified cap sheet membrane is installed as the top ply over the three (3) base plies of fiberglass ply felts covering all (slopes **over** 2-1/2:12) field roofing all set in hot bitumen.
- 8. Surfacing: Flood coat of hot bitumen and ASTM D1863 roofing aggregate consisting of new roofing slag at all flat areas up to two and one half inch (2-1/2") slope in twelve

(12)inches

9. Hot Surfacing Bitumen for slopes up to one and one-half (½) inch per foot: ASTM D312, Type III steep asphalt having the following characteristics:

a.	Softening Point	185°F - 205°F
b.	Flash Point	500°F
c.	Penetration @ 77°F	15-35 units
d.	Ductility @ 77°F	2.5 cm

Hot Surfacing Bitumen for slopes over one and one-half (1<sup>1</sup>/<sub>2</sub>) inch per foot and up to six
(6) inches per foot: ASTM D312, Type IV special steep asphalt having the following characteristics:

a.	Softening Point	210°F - 225°F
b.	Flash Point	500°F
c.	Penetration @ 77°F	15-25 units
d.	Ductility @ 77°F	1.5 cm

11. Cold Surfacing Bitumen for re-pouring and gravelling flat areas that pond water after Initial pour and slag: Coal tar based bitumen having the following characteristics:

Black•Knight Cold:

a.	Flash Point	105°F
b.	Viscosity (cps)	120,000
c.	Solids Content	89%vol
	DIALO	

## 2.4 BITUMINOUS MATERIALS

- A. Asphalt Primer: V.O.C. compliant, ASTM D41.
- B. Asphalt Roofing Mastic: V.O.C. compliant, ASTM D2822, Type II.
- C. Interply Adhesive and flood coat: ASTM D312, Type III (for up to a 1-1/2:12 slope).
- D. Interply Adhesive and flood coat: ASTM D312, Type IV. (for slopes between 1-1/2:12 and 6:12).
- E. Cold Applied Flood Coat Adhesive: heavy bodied, fiber-reinforced, coal tar pitch top coat for areas that pond water after initial flood coat of hot asphalt and slag aggregate cover. Performance Requirements:

1.	Non-Volatile Content	ASTM D-4479	30%
2.	Density	ASTM D-1475	9.0 lb./gal.
3.	V.O.C.	ASTM D-3960	Less than 270
4.	Viscosity Stroboscopic	ASTM D-4449	120,000 grams
5.	Flash Point	ASTM D 93	105°F

# 2.5 SHEET MATERIALS

- A. Felt Plies:
  - 1. Fiberglass Felts: ASTM D2178, Type IV

- B. Base Flashing Ply:
  - 1. 40 mil SBS modified membrane with woven fiberglass scrim reinforcement with the following minimum performance requirements according to ASTM D5147:

Properties (Finished Membrane):

Tensile Strength (A	ASTM D5147	)	
2 in/min. @73.4	3.6°F	MD 205 lbf/in	CMD 205 lbf/in
Tear Strength (AS)	ГM D5147)		
2 in/min. @ 73.4	3.6°F	MD 295 lbf	CMD 280 lbf
Elongation at Maxi	imum Tensile	e (ASTM D5147)	
2 in/min. @ 73.4	3.6°F	MD 4.5%	CMD 5.0%

# C. Modified Flashing Ply:

#### 1. STRESSPLY EUV MINERAL; ASTM D-6162, Type III Grade G

Tensile Strength (A 2 in/min. @ 73.4	ASTM D-5147) 3.6°F	MD 700 lbf/in	CMD 750 lbf/in
Tear Strength (AS <sup>2</sup> 2 in/min. @ 73.4	TM D-5147) 3.6°F	MD 1300 lbf	CMD 1400 lbf
Elongation at Max 2 in/min. @ 73.4	imum Tensile (A 3.6°F	ASTM D-5147) MD 6.0%	CMD 6.0%
Low Temperature	Flexibility (AST	ГМ D-5147):	Passes -30°F
Reflectivity (DNS	Method)		45-50%

# D. Modified Membrane Properties (Finished Membrane) Field Roofing:

1. STRESSPLY PLUS; ASTM D6162, Type III Grade S (up to slopes of 2" in 12 inches)

Tensile Strength (ASTM D5147)	)	
2 in/min. @ 73.4 3.6°F	MD 310 lbf/in	CMD 310 lbf/in
50 mm/min. @ 23 3°C	MD 54.25 kN/m	CMD 54.25 kN/m
Tear Strength (ASTM D5147)		
2 in/min. @ 73.4 3.6°F	MD 500 lbf	CMD 500 lbf
50 mm/min. @ 23 3°C	MD 2224 N	CMD 2224 N
Elongation at Maximum Tensile	(ASTM D5147)	
2 in/min. @ 73.4 3.6°F	MD 3.5%	CMD 3.5%
50 mm/min. @ 23 3°C	MD 3.5%	CMD 3.5%
Low Tomperature Flowibility (A)	TMD5147	Decrease $20^{\circ}\mathrm{E}(24^{\circ}\mathrm{C})$
Low remperature Flexibility (A.	51 M D 3147)	rasses - 50 r (- 54 C)

2. STRESSPLY PLUS FR MINERAL; ASTM D6162, Type III Grade G (for slopes over 2" in 12 inches)

Tensile Strength (A	STM D5147)		
2 in/min. @ 73.4	3.6°F	MD 310 lbf/in	CMD 310 lbf/in
50 mm/min. @ 23	3°C	MD 54.25 kN/m	CMD 54.25 kN/m
Tear Strength (AST	TM D5147)		
2 in/min. @ 73.4	3.6°F	MD 500 lbf	CMD 500 lbf
50 mm/min. @ 23	3°C	MD 2224 N	CMD 2224 N
Elongation at Maxi	mum Tensile (A	STM D5147)	
2 in/min. @ 73.4	3.6°F	MD 3.5%	CMD 3.5%
50 mm/min. @ 23	3°C	MD 3.5%	CMD 3.5%
Low Temperature I	Flexibility (AST	M D5147):	Passes -30°F (-34°C)

## 2.6 SURFACINGS

A. Roofing Aggregate: To conform to ASTM D-1863 for all smooth surfaced cap sheet field roofing.

a. Slag

- B. Mineral Surfaced Membranes Roofing Granules shall meet requirements of ASTM D-451 and/or be recommended by the membrane manufacturer. Loose granules for bleed out shall match size and color of granulated membrane sheet.
  - 1. Starburst<sup>TM</sup> Minerals

Initial Reflectance of Mineral Sheet	50% - 60%
Aged Reflectance of Mineral Sheet	> 50%
Bulk Mineral Reflectance	65% - 85%
Specific Gravity	> 2.5

C. Aluminum Trowel-Grade Mastic (Seal vertical laps in conjunction with Garmesh reinforcing membrane in a 3-course application): Silver Flash aluminum roof mastic has the following characteristics:

Flash Ponit	>103°F min.
Weight/Gallon	8.3 lbs./gal.
Reflectivity	>60%

D. Non-Fibered Aluminum Paint (Paint all asphalt spills and tracking on vertical flashing: Garla-Brite; non-fibered aluminum paint having the following characteristics:

Flash Point	103°F (39°C) min.
Weight/Gallon	7.9 lbs./gal. (1.0 g/cm3)

## 2.7 RELATED MATERIALS

- A. General: Provide preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated.
- B. <u>Polyisocyanurate Insulation:</u> shall be Polyisocyanurate foam insulation complying with physical properties of Federal Specification HH-I-1972/GEN. Insulation shall have a minimum 'R' Value of 5.8 per inch and compressive strength of minimum 16 psi per ASTM D-1621. The insulation shall be compatible to the roofing material manufacturer, with appropriate facing on surface.
   Manufacturers:
  - 1. Celotex Corporation.
  - 2. Firestone Building Products Company.
  - 3. GAF Materials Corporation.
  - 4. Johns Manville International, Inc.
- C. Provide preformed wood fiberboard or perlite saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated. Tapered Edge Strips and Cants: ASTM C 208-94, asphalt coated fiberboard, tapered edge strips tapered from 1-5/8 inch to 1/8 inch, size: 12" x 48". Cants 3 <sup>1</sup>/<sub>2</sub>" x 3 <sup>1</sup>/<sub>2</sub>"
- D. Tapered Insulation: Provide factory-tapered insulation boards fabricated to slope of 1/8 inch per 12 inches, unless otherwise indicated.
- E. Provide <sup>1</sup>/<sub>2</sub>" asphalt coated high density fiberboard substrate over foam insulation.
- F. All fasteners, nails and caps shall be per roofing manufacturer's installation specifications for specified insulation and corresponding to roofing deck materials are to be fastened to, and shall meet current FM Standard 4470 for corrosion resistance.
- G. Base Sheet: ASTM D4601, Type II; as recommended and furnished by the modified membrane manufacturer.
- H. Nails and Fasteners: Non-ferrous metal or galvanized steel, except that hard copper nails shall be used with copper; aluminum or stainless steel nails shall be used with aluminum; and stainless steel nails shall be used with stainless steel. Fasteners shall be self-clinching type of penetrating type as recommended by the manufacturer of the deck material. Nails and fasteners shall be flush-driven through flat metal discs of not less than one (1) inch diameter. Omit metal discs when one-piece composite nails or fasteners with heads not less than one (1) inch diameter are used.
- I. Metal Discs: Flat discs or caps of zinc-coated sheet metal not lighter than twenty eight (28) gauge and not less than one (1) inch in diameter. Form discs to prevent dishing. Bell or cup shaped caps are not acceptable.
- J. Walkway Pads: Factory formed recycled rubber, nonporous, with a slip-resisting surface texture, manufactured specifically for adhering to modified bituminous membrane roofing as a protection course for foot traffic, of the following thickness:
  - 1.  $\frac{3}{4}$ " thick for use in high traffic areas
  - 2. Products: Subject to compliance with requirements, provide one of the following:
    - a. Supplied by membrane manufacturer.

- K. Walkway Pad Adhesive: Adhesive used to adhere approved walk way pads as recommended and furnished by the membrane manufacturer
- L. Rust Inhibitive Paint: As recommended and furnished by the membrane manufacturer for mechanical units and other metal surfaces to control and prevent surface rust.
- M. Urethane Sealant: One part, non-sag sealant as recommended and furnished by the membrane manufacturer for moving joints.

1.	Tensile Strength (ASTM D412)	250 psi
2.	Elongation (ASM D412)	950%
3.	Hardness, Shore A (ASTM C920)	35
4.	Adhesion-in-Peel (ASTM C920)	30 pli

- N. Butyl Tape: 100% solids, asbestos free and compressive tape designed to seal as recommended and furnished by the membrane manufacturer.
- O. Non-Shrink Grout: Use an all weather fast setting chemical action concrete material to fill pitch pans.

1. Flexural Strength (ASTM C-78 (modified))	7 days 1100psi
2. High Strength (ASTM C-109 (modified))	24 days 8400lbs (3810kg)

P. Pitch Pocket Sealer: Two part, 100% solids, self leveling, polyurethane sealant for filling pitch pans as recommended and furnished by the membrane manufacturer.

1.	Durometer (ASTM D2240)	40-50 Shore
2.	Elongation (ASTM D 412)	250%
3.	Tensile Strength (ASTM D 412)	200 @ 100 mil

- Q. Flashing Boot: Neoprene pipe boot for sealing single or multiple pipe penetrations adhered in approved adhesives as recommended and furnished by the membrane manufacturer.
- R. Roof Drains: Drain system as recommended and furnished by the membrane manufacturer.
- S. Pitch pans, Rain Collar 24 gauge stainless or 20oz copper. All joints should be welded/soldered watertight. See details for design.
- T. Drain Flashings should be 4lb sheet lead formed and rolled

U. Plumbing stacks should be 4lb sheet lead formed and rolled.

# PART 3 - EXECUTION

# 3.1 EXECUTION, GENERAL

A. Comply with requirements of Division 01 Section "Common Execution Requirements."

## 3.2 PREPARATION

- A. Protect existing membrane roofing system that is indicated not to be re-roofed.
  - 1. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during re-roofing, by methods and with materials so as not to void existing roofing system warranty. Notify warrantor before proceeding.
  - 2. Limit traffic and material storage to areas of existing roofing membrane that have been protected
  - 3. Maintain temporary protection and leave in place until replacement roofing has been completed.
- B. Coordinate with Owner to shut down air intake equipment in the vicinity of the Work. Cover air intake louvers before proceeding with re-roofing work that could affect indoor air quality or activate smoke detectors in the ductwork.
- C. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- D. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.
  - 1. If roof drains will be temporarily blocked or unserviceable due to roofing system removal or partial installation of new membrane roofing system, provide alternative drainage method to remove water and eliminate ponding. Do not permit water to enter into or under existing membrane roofing system components that are to remain.
- E. Verify that rooftop utilities and service piping have been shut off before commencing Work
- F. Verify that openings, curbs, pipes, conduit, sleeves, ducts, and other items which penetrate the roof are set solidly, and that cant strips, nailing strips, and reglets are set in place.

## 3.3 ROOFING DEMOLITION

- A. General: Notify Owner each day of extent of roof tear-off proposed.
- B. Remove aggregate ballast from roofing membrane.

- C. Remove loose aggregate from aggregate-surfaced built-up bituminous roofing with a power broom.
- D. Roof Tear-Off: Remove existing roofing membrane and other membrane roofing system components down to the deck.
  - 1. Bitumen and felts that are firmly bonded to concrete decks are permitted to remain if authorized and the felts are dry. Remove unadhered bitumen and felts and wet felts.
  - 2. Remove excess asphalt from steel deck. A maximum of 15 lb/100 sq. ft. of asphalt is permitted to remain on steel decks.
  - 3. Remove fasteners from deck.

## 3.4 EXAMINATION

- A. Verify that deck surfaces and project conditions are ready to receive work of this section.
- B. Verify that deck is supported and secured to structural members.
- C. Verify that deck is clean and smooth, free of depressions, projections or ripples, and is properly sloped to drains.
- D. Verify that adjacent roof substrate components do not vary more than 1/4 inch in height.
- E. Verify that deck surfaces are dry. Verify that metal deck flutes are clean and dry.
- G. Verify that openings, curbs, pipes, conduit, sleeves, ducts, and other items which penetrate the roof are set solidly, and that cant strips, wood nailing strips and reglets are set in place.

#### 3.5 PREPARATION – METAL DECK

A. Verify that all welds are good, that the deck is in plane and that it is free from damage and deflection.

#### 3.6 PREPARATION – GYPSUM DECK

A. Inspect gypsum deck and replaced damaged panels with multiple layers of CDX plywood to match height of existing deck. This work will be covered under the unit price section of the Form of Proposal.

## 3.6 PREPARATION – WOOD DECK

- A. Verify that wood decking is flat and has tight joints.
- B. Seal plywood joints with tape.
- C. Fill knot holes with latex filler.

### 3.3 PREPARATION – TECTUM DECK

A. Inspect tectum deck and replaced damaged panels with multiple layers of CDX plywood match height of existing deck. This work will be covered under the unit price section of the Form of Proposal.

## 3.6 GENERAL INSTALLATION REQUIREMENTS

- A. Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing the roof system.
- B. Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.
- C. Protect other work from spillage of roofing materials and prevent materials from entering or clogging drains and conductors. Replace or restore other work damaged by installation of the modified bituminous roofing system.
- D. Coordinate installation of roofing system components so that insulation and roofing plies are not exposed to precipitation or left exposed overnight. Provide cut-offs at end of each day's work to cover exposed ply sheets and insulation with two (2) plies of #15 organic roofing felt set in full moppings of bitumen and with joints and edges sealed with roofing cement. Remove cut-offs immediately before resuming work.
- E. Asphalt Bitumen Heating: Heat and apply bitumen in accordance with the Equiviscous Temperature (EVT) Method as recommended by National Roofing Contractors Association (NRCA). Do not raise temperature above minimum normal fluid-holding temperature necessary to attain EVT (plus 5°F at point of application) more than one (1) hour prior to time of application. Determine flash point, finished blowing temperature, EVT, and fire-safe handling temperature of bitumen either from information by manufacturer or by suitable test.
  - 1. Do not exceed recommended temperature limits during bitumen heating. Do not heat to a temperature higher than twenty five degrees (25°) below flash point.
  - 2. Discard bitumen that has been held at temperature exceeding Finishing Blowing Temperature (FBT) for more than three (3) hours. Keep kettle lid closed except when adding bitumen.
- F. Bitumen Mopping Rate:
  - 1. Interply Mopping: Apply bitumen at the rate of approximately twenty five (25) lbs. of bitumen per roof square.
  - 2. Modified Membrane Mopping: Apply bitumen at the rate of approximately thirty (30) lbs. of bitumen per roof square.
  - 3. Flood Coat: Apply bitumen at the rate of approximately sixty (60) to seventy (70) lb of bitumen per square (plus or minus twenty five (25) percent on a total job average basis).
- G. Substrate Joint Penetrations: Prevent bitumen from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.
- H. Apply roofing materials as specified by manufacturer's instructions.
  - 1. Keep roofing materials dry before and during application.
  - 2. Do not permit phased construction.

- 3. Complete application of roofing plies, modified sheet and flashing in a continuous operation.
- 4. Begin and apply only as much roofing in one day as can be completed that same day.
- I. Cut-Offs (Waterstops): At end of each day's roofing installation, protect exposed edge of incomplete work, including ply sheets and insulation. Provide temporary covering of two (2) plies of #15 organic roofing felt set in full moppings of bitumen with joints and edges sealed.
- J. Raised Roof Areas with Mineral-Surfaced Cap Sheet, Broadcast minerals into the bleed out of bitumen while bitumen is at its recommended EVT temperature to achieve uniform color throughout.

# 3.7 VAPOR RETARDER AND BASE SHEET INSTALLATION

- A. Inspect metal decks with vapor retarders. Patch any damage to existing vapor retarder and replace in kind.
- B. Install 43# base sheet on prepared gypsum deck with approved gypsum fasteners installed according the current fastening patterns listed in the current N.R.C.A. manual.
- C. Install 43# base sheet on prepared tectum deck with Tub-Lok 2-piece nails installed according the current fastening patterns listed in the current N.R.C.A. manual.
- D. Install a red rosin sheet dry, followed by a 43# base sheet to the nailed to the wood deck with 1" capped nails.

## 3.8 INSULATION INSTALLATION

- A. Insulation: Install base layer of Polyisocyanurate insulation mechanically fastened to the steel deck according to the fastening patterns following FM I-60. <u>Note</u>: The thickness for the Polyisocyanurate insulation will be listed on the Scope of Work for each school. If the specific section is not listed than two (2) inch thickness as the base layer standard. Install second layer consisting of 1/2 inch High-Density Fiberboard set with off-set joints in hot steep asphalt.
- B. Tapered insulation will be Tapered Polyisocyanurate insulation and fiberboard saddles will be provided by Triangle Design as stated below:

#### PERFORMANCE SPECIFICATION FOR A COMPLETE TAPERED ROOF INSULATION SYSTEM

The contractor shall provide one single R=10 base insulation layer of  $1\frac{1}{2}$ " x 48" x 48" High Thermal Polyisocyanurate followed by a 1/8" per foot slope tapered asphalt impregnated fiberboard roof insulation system. Multiple thickness of Polyisocyanurate fill shall provide a minimum average thermal resistance factor of 20 @ 5.56/per inch. The tapered insulation system will be designed with a 2-way & 4-way slope as necessary to provide complete & positive drainage. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to  $\frac{1}{2}$ " @ the low point and a maximum perimeter thickness of 6  $\frac{1}{2}$ ". The design & engineering will be based upon job site field measurements & conditions. The contractor and the tapered insulation supplier will be solely responsible in writing for positive drainage. No more than  $\frac{1}{4}$ " of standing water will be acceptable within 24 hours after any rainfall. Without exception, all tapered asphalt impregnated fiberboard & Polyisocyanurate fill must be supplied in 48" x 48" panel sizes.

As part of the full system warranty requirements, the complete tapered roof insulation system assembly is to be designed, fabricated & supplied exclusively by Triangle Design, Inc. (800) 278-5447, Fax (616) 895-7350. No other insulation assemblies, alternates or manufacturers will be considered or accepted.

# 1.1A TAPERED ROOF INSULATION SADDLE PERFORMANCE SPECIFICATION

The contractor shall provide a tapered roof insulation saddle system as necessary to accomplish complete & positive drainage of all standing water. All saddles are to be twice the slope of the roof deck and efficiently designed in both width and slope to counter the installed structural deck slope.

All saddles will be manufactured with a vertical slope of not less than <sup>1</sup>/<sub>2</sub>" per foot and be designed with a total width of <sup>1</sup>/<sub>4</sub> their length. Saddles shall be installed in a one single layer composite thickness. Saddles shall be factory pre-cut, pre-laminated & pre-assembled. Field construction & assembly will not be accepted. The contractor & the tapered insulation supplier will be solely responsible in writing for positive drainage. No more than <sup>1</sup>/<sub>4</sub>" of standing water will be acceptable in any valley line within 24 hours of any rainfall.

Saddles are to be constructed of asphalt impregnated fiberboard & supplied in 48" x 48" panel sizes. Saddles are to be supplied as specified exclusively by Triangle Design, Inc. (800) 278-5447, Fax (616) 895-7350. No other insulation products, assemblies, alternates or manufacturers will be considered or accepted.

- C. Deck type: (Wood, Metal, Lightweight Concrete, Concrete or Gypsum) Insulation for each deck type will be attached according to the Scope of Work and Roof Diagram of each School.
- D. Base Sheet attachment: (base sheet type) should be attached with fastener type and pattern according to specified deck type per current N.R.C.A. standards.

# 3.9 FELT PLY INSTALLATION

- A. Fiberglass Plies: Install three (3) fiberglass ply sheets in twenty five (25) lbs per square of bitumen shingled uniformly to achieve three plies over the entire prepared substrate. Shingle in direction of slope of roof to shed water on each area of roof. Do not step on felt rolls until asphalt has cooled, fish mouths should be cut and patched.
- B. Lap ply sheet ends eight (8) inches (203mm). Stagger end laps twelve (12) inches (304mm) minimum.
- C. Lightly broom in fiberglass plies to assure complete adhesion.

- D. Extend plies two (2) inches (50mm) beyond top edges of cants at wall and roof projections and equipment bases.
- E. Install base flashing ply to all perimeter and projection details after membrane application.

#### 3.10 MODIFIED MEMBRANE APPLICATION

- A. Solidly bond the modified membrane to the base layers with specified asphalt at the rate of twenty five (25) to thirty (30) lbs per 100 square feet.
- B. The modified membrane roll must push a puddle of asphalt in front of it with asphalt slightly visible at all side laps. Exercise care during application to eliminate air entrapment under the membrane.
- C. Apply pressure to all seams to ensure that the laps are solidly bonded to substrate.
- D. Install subsequent rolls of modified membrane across the roof as above with a minimum of four (4) inch side laps and eight (8) inch end laps. Stagger the end laps. Apply the modified membrane in the same direction as the previous layers but stagger the laps so they do not coincide with the laps of the base layers.
- E. Apply asphalt no more than five (5) feet ahead of each roll being embedded.
- F. Extend membrane two (2) inches beyond top edge of all cants in full moppings of the specified asphalt as shown on the drawings.

#### 3.11 FLASHING MEMBRANE INSTALLATION

- A. Seal all curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
- B. Prepare all walls, penetrations, expansion joints to be flashed with asphalt primer at the rate of one hundred (100) square feet per gallon. Allow primer to dry tack free.
- C. Use the modified membrane as the flashing membrane. Adhere to the underlying base flashing ply with specified asphalt unless otherwise noted in these specifications. Nail off at a minimum of eight (8) inches (203mm) o.c. from the finished roof at all vertical surfaces.
- D. Solidly adhere the entire sheet of flashing membrane to the substrate. Tops of all flashings that are not run up and over curb shall be secured through termination bar 6" and sealed at top.
- E. Seal all vertical laps of flashing membrane with a three-course application of trowel-grade aluminized Silver-Flash mastic and fiberglass mesh.
- F. Metal Edge Detail No. MBH-10:
  - 1. Inspect the nailer to assure proper attachment and configuration.
  - 2. Run one ply over the edge. Ensure coverage of all wood nailers. Fasten plies with ring shank nails at eight (8) inches (203mm) o.c

- 3. Install continuous cleat and fasten at six (6) inches (152mm) o.c.
- 4. Install new metal edge hooked to continuous cleat and set in bed of roof cement. Fasten flange to wood nailer every three (3) inches (76mm) o.c. staggered.
- 5. Prime metal edge at a rate of one hundred (100) square feet per gallon and allow to dry. Seal outside edge with rubberized cement.
- 6. Strip in flange with base flashing ply covering entire flange in bitumen with six (6) inches (152mm) on to the field of roof. Ensure ply laps do not coincide with metal laps.
- 7. Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine (9) inches (228mm) on to the field of the roof.
- G. Raised Metal Edge Detail No. MBH-11:
  - 1. Inspect the nailer to assure proper attachment and configuration.
  - 2. Run one ply over the edge. Ensure coverage of all wood nailers. Fasten plies with ring shank nails at eight (8) inches (203mm) o.c.
  - 3. Install continuous cleat and fasten at six (6) inches (152mm) o.c.
  - 4. Install new metal edge hooked to continuous cleat and set in bed of roof cement. Fasten flange to wood nailer every three (3) inches (76mm) o.c. staggered.
  - 5. Prime metal edge at a rate of one hundred (100) square feet per gallon and allow to dry.
  - 6. Strip in flange with base flashing ply covering entire flange in bitumen with six (6) inches (152mm) on to the field of roof. Ensure ply laps do not coincide with metal laps.
  - Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine(9) inches (228mm)on to the field of the roof.
- H. Raised Metal Edge Cap Detail No. MBH-12:
  - 1. Inspect the nailer to ensure proper attachment and configuration.
  - 2. Run one ply over the edge. Ensure coverage of all wood nailers. Fasten plies with ring shank nails at eight (8) inches o.c.
  - 3. Install continuous cleat and fasten at six (6) inches o.c.
  - 4. Strip in cant dam with base flashing ply covering entire vertical area in bitumen with six (6) inches on to the field of the roof. Ensure ply laps do not coincide with metal laps.
  - 5. Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine (9) inches on to the field of the roof.

- 6. Install new metal edge hooked to continuous cleat and set in bed of roof cement.
- 7. Attach metal edge with approved fasteners and neoprene washers at eight (8) inches o.c.
- I. Roof Edge With Gutter Detail No. MBH-13:
  - 1. Inspect the nailer to assure proper attachment and configuration Increase slope at metal edge by additional degree of slope in first board.
  - 2. Run one ply over the edge. Ensure coverage of all wood nailers. Fasten plies with ring shank nails at eight (8) inches o.c.
  - 3. Install gutter and strapping.
  - 4. Install continuous cleat and fasten at six (6) inches o.c.
  - 5. Install new metal edge hooked to continuous cleat and set in bed of roof cement. Fasten flange to wood nailer every three (3) inches o.c. staggered.
  - 6. Prime metal edge at a rate of one hundred (100) square feet per gallon and allow to dry.
  - Strip in flange with base flashing ply covering entire flange in bitumen with six (6) inches
     onto the field of the roof. Ensure ply laps do not coincide with metal laps.
  - 8. Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine (9) inches on to the field of the roof.
- J. Scupper Through Roof Edge Detail No. MBH-14:
  - 1. Inspect the nailer to ensure proper attachment and configuration.
  - 2. Run one ply over the edge. ensure coverage of all wood nailers. Fasten plies with ring shank nails at eight (8) inches o.c.
  - 3. Install a scupper box in a ¼ inch bed of mastic. Ensure all box seams are soldered and

have a minimum four (4) inch flange. Make sure all corners are closed and soldered.

Prime scupper at a rate of one hundred (100) square feet per gallon and allow to dry.

- 4. Fasten flange of scupper box to nailer every three (3) inches o.c. staggered.
- 5. Strip in edge with base flashing ply covering entire area in bitumen with six (6) inches on to the field of the roof.
- 6. Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine(9) inches on to the field of the roof. Apply a three-course application of mastic and mesh at all seams.

- K. Scupper Through Wall Detail No. MBH-15:
  - 1. Inspect the nailer to assure proper attachment and configuration.
  - 2. Run one ply over nailer, into scupper hole and up flashing as in typical wall flashing detail. Ensure coverage of all wood nailers.
  - 3. Install a scupper box in a <sup>1</sup>/<sub>4</sub> inch bed of mastic. Assure all box seams are soldered and

have a minimum four (4) inch flange. Make sure all corners are closed and soldered.

Prime scupper at a rate of one hundred (100) square feet per gallon and allow to dry.

- 4. Fasten flange of scupper box every three (3) inches o.c. staggered.
- 5. Strip in flange of scupper box with base flashing ply covering entire area with six (6) inch overlap on to the field of the roof and wall flashing.
- 6. Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine (9) inches on to the field of the roof. Apply a three-course application of mastic and mesh at all seams.
- L. Scupper Through Wall (Overflow) Detail No. MBH-16:
  - 1. Inspect the nailer to ensure proper attachment and configuration.
  - 2. Run one ply over nailer up the overflow, into the scupper hole and up flashing as in typical wall flashing detail. Ensure coverage of all wood nailers.
  - 3. Install scupper box in a ¼ inch bed of mastic. Ensure all box seams are soldered and

have a minimum four (4) inch flange. Make sure all corners are closed and soldered.

Prime scupper at a rate of one hundred (100) square feet per gallon and allow to dry.

- 4. Fasten flange of scupper box every three (3) inches o.c. staggered.
- 5. Strip in flange scupper box with base flashing ply covering entire area with six (6) inch overlap on to the field of the roof and wall flashing.
- 6. Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine(9) inches on to the field of the roof. Apply a three-course application of mastic and mesh at all seams.

- M. Coping Cap Detail No. MBH-20:
  - 1. Minimum flashing height is eight (8) inches above finished roof height. Maximum flashing height is twenty four (24) inches. Prime vertical wall at a rate of one hundred (100) square feet per gallon and allow to dry.
  - 2. Set cant in bitumen. Run all field plies over cant a minimum of two (2) inches.
  - 3. Attach tapered board (do not use organic fiberboard or perlite) to top of wall.
  - 4. Install base flashing ply covering entire wall and wrapped over top of wall and down face with six (6) inches on to field of roof and set in hot asphalt. Nail membrane at eight (8) inches o.c.
  - 5. Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine (9) inches on to the field of the roof. Apply a three-course application of mastic and mesh at all seams and allow to cure and aluminize.
  - 6. Install continuous cleat and fasten at six (6) inches o.c. to outside wall.
  - 7. Install new metal coping cap hooked to continuous cleat.
  - 8. Fasten inside cap twenty four (24) inches o.c. with approved fasteners and neoprene washers through slotted holes which allow for expansion and contraction.
- N. Surface Mounted Counterflashing/Coping Cap Detail No. MBH-21:
  - 1/ Minimum flashing height is eight (8) inches above finished roof height. Prime vertical wall at a rate of one hundred (100) square feet per gallon and allow to dry.
  - 2. Set cant in bitumen. Run all field plies over cant a minimum of two (2) inches.
  - 3. Install base flashing ply covering wall set in bitumen with six (6) inches on to field of roof.
  - 4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine (9) inches on to the field of the roof. Apply a three-course application of mastic and mesh at all seams and allow to cure and aluminize.
  - 5. Apply butyl tape to wall behind flashing. Secure termination bar through flashing, butyl tape and into wall.
  - 6. Secure counterflashing set on butyl tape above flashing. Fasten eight (8) inches (203mm) o.c. and caulk top of counterflashing.
  - 7. Attach tapered board to top of wall (minimum slope <sup>1</sup>/<sub>4</sub>: 12).
  - 8. Cover tapered board and all exposed wood with base flashing ply. Fasten inside and out at eight (8) inches o.c.

- 9. Install continuous cleat and fasten at six (6) inches o.c. to outside wall.
- 10. Install new metal coping cap hooked to continuous cleat.
- 11. Fasten inside of cap twenty four (24) inches (609mm) o.c. with approved fasteners and neoprene washers.
- O. Surface Mounted Counterflashing Detail No. MBH-22:
  - 1. Minimum flashing height is eight (8) inches above finished roof height. Maximum flashing height is twenty four (24) inches. Prime vertical wall at a rate of one hundred (100) square feet per gallon and allow to dry.
  - 2. Set cant in bitumen. Run all field plies over cant a minimum of two (2) inches.
  - 3. Install base flashing ply covering wall set in bitumen with six (6) inches on to field of the roof.
  - 4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine (9) inches on to the field of the roof. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
  - 5. Apply butyl tape to wall behind flashing. Secure termination bar through flashing, butyl tape and into wall.
  - 6. Secure counterflashing set on butyl tape above flashing at eight (8) inches o.c. and caulk top of counterflashing.
- Q. Reglet Mounted Counterflashing Detail No. MBH-23:
  - 1. Minimum flashing height is eight (8) inches above finished roof height. Maximum flashing height is twenty four (24) inches. Prime vertical wall at a rate of one hundred (100) square feet per gallon and allow to dry.
  - 2. Set cant in bitumen. Run all field plies over cant a minimum of two (2) inches.
  - 3. Install base flashing ply covering wall set in bitumen with six (6) inches on to field of the roof.
  - 4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine (9) inches on to the field of the roof. Apply a three-course application of aluminum mastic and mesh at all vertical seams.
  - 5. Apply butyl tape to wall behind flashing. Secure termination bar through flashing, butyl tape and into wall.
  - 6. Cut reglet in masonry one joint above flashing.
  - 7. Secure reglet counterflashing with expansion fasteners and caulk reglet opening.

- R. Through Wall Counterflashing Detail No. MBH-24:
  - 1. Minimum flashing height is eight (8) inches above finished roof height. Prime vertical wall at a rate of one hundred (100) square feet per gallon and allow to dry
  - 2. Set cant in bitumen. Run all plies over cant a minimum of two (2) inches.
  - 3. Install base flashing ply covering wall with six (6) inches on to field of the roof.
  - Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine
    (9) inches on to the field of the roof. Apply a three-course application of aluminum mastic and mesh.
  - 5. Apply butyl tape to wall behind flashing. Secure termination bar through flashing, butyl tape and into wall at eight (8) inches o.c.
  - 6. Install counterflashing in through wall reglet.
- S. Base Flashing For Non-Supported Deck No. MBH-25:
  - 1. Inspect the nailer to assure proper attachment and configuration. The wood cant strip should be mechanically attached to the vertical and horizontal wood nailers.
  - 2. Install compressible insulation in neoprene cradle between wall and vertical wood nailer.
  - 3. Prime vertical wall at a rate of one hundred (100) square feet per gallon and allow to dry.
  - 4. Install base flashing ply covering entire wall and wrapped to top of wood nailer with six (6) inches on to field of the roof. Nail membrane at eight (8) inches o.c.
  - Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine
     (9) inches on to the field of the roof. Apply a three-course application of aluminized mastic and mesh at all vertical seams.
  - 6. Attach counterflashing through wall flashing at a spacing of twenty four (24) inches o.c.
- T. Manufactured Wall Panel W/Modified Roof/Flashing (Slip Flashing) Detail No. MBH-26:
  - 1. Minimum flashing height is eight (8) inches. Prime vertical wall at a rate of 100 square feet per gallon and allow to dry.
  - 2. Set cant in bitumen. Run all plies over cant a minimum of two (2) inches
  - 3. Install base flashing ply covering wall with six (6) inches on to field of the roof.
  - Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine
    (9) inches on to the field of the roof. Apply a three-course application of aluminized mastic and mesh at all vertical seams.
  - 5. Install manufacturer's standard hat channel into the top of the modified membrane to act as a termination bar.

- 6. Install hat channels at twenty four (24) inches o.c. vertically spaced up the wall.
- 7. Install the uppermost hat channel at the bottom edge of the coping cap. Insert rigid insulation between the hat channels. Place manufacturer's standard seam tape on top of all hat channels.
- 8. Fasten the first manufactured wall panel vertically plumb and fasten every six (6) inches o.c.
- 9. Install adjoining panels by engaging the opposing interlocking seam and fastening as described above.
- 10. Complete inside and outside corners by installing pre-fabricated corners or job site braking a full width panel to accommodate the corner, so that the sides engage the lock of the panels to the corner areas.
- 11. Trim excess seam tape and seam raw edges with manufacturer's recommended sealant.
- 12. Fasten slip flashing to existing coping cap with a waterproof rivet every twenty four (24) inches o.c. to act as a counterflashing over the manufactured wall panel.
- U. Manufactured Wall Panel W/Modified Bitumen Roof/Flashing Detail No. MBH-27:
  - 1. Minimum flashing height is eight (8) inches above finished roof height. Prime vertical wall at a rate of 100 square feet per gallon and allow to dry.
  - 2. Set cant in bitumen. Run all plies over cant a minimum of two (2) inches.
  - 3. Install base flashing ply covering wall with six (6) inches on to field of the roof.
  - 4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine (9) inches on to the field of the roof. Apply a three-course application of aluminized mastic and mesh at all vertical.
  - 5. Install manufacturer's standard hat channel into the top of the modified membrane to act as a termination bar.
  - 6. Install hat channels at twenty four (24) inches o.c. vertically spaced up the wall.
  - 7. Install the uppermost hat channel at the bottom edge of the coping cap. Insert rigid insulation between the hat channels. Apply manufacturer' standard seam tape on top of all hat channels.
  - 8. Fasten the first manufactured wall panel vertically plumb and fasten every six (6) inches o.c.
  - 9. Install adjoining panels by engaging the opposing interlocking seam and fastening as described above.
  - 10. Complete inside and outside corners by installing pre-fabricated corners or job site braking a full width panel to accommodate the corner so that the sides engage the lock of the panels to the corner areas.
  - 11. Trim excess seam tape and seam raw edges with manufacturer's recommended sealant.
- V. Expansion Joint Detail No. MBH-30:
  - 1. Minimum curb height is eight (8) inches above finished roof height. Chamfer top of curb. Prime vertical curb at a rate of one hundred (100) square feet per gallon and allow to dry.

- 2. Mechanically attach wood cant to expansion joint nailers. Run all field plies over cant a minimum of two (2) inches (50mm).
- 3. Install compressible insulation in neoprene cradle.
- 4. Install base flashing ply covering curb set in bitumen with six (6) inches (152mm) on to field of the roof.
- 5. Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine (9) inches on to the field of the roof. Attach top of membrane to top of curb and nail at eight (8) inches o.c. Apply a three-course application of aluminized mastic and mesh at all vertical seams.
- 6. Install pre-manufactured **pyramid** metal expansion joint cover. Fasten sides at twelve (12) inches o.c. with fasteners and neoprene washers. Furnish all joint cover laps with butyl tape between metal covers.
- W. Area Divider Detail No. MBH-31:
  - 1. Minimum curb height is eight (8) inches above finished roof height. Prime vertical curb at a rate of one hundred (100) square feet per gallon and allow to dry.
  - 2. Set cant in bitumen. Run all field plies over cant a minimum of two (2) inches.
  - 3. Install base flashing ply covering curb set in bitumen with six (6) inches (on to field of the roof.
  - 4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine (9) inches on to the field of the roof. Attach top of membrane to top of curb and nail at eight (8) inches o.c. Apply a three-course application of aluminized mastic and mesh at all vertical seams.
  - 5. Install pre-manufactured cover. Fasten sides at twenty four (24) inches o.c. with fasteners and neoprene washers through slotted holes. Furnish all joint cover laps with butyl tape between metal covers.
- X. Equipment Support Detail No. MBH-32:
  - 1. Minimum curb height is eight (8) inches above finished roof height. Prime vertical at a rate of one hundred (100) square feet per gallon and allow to dry.
  - 2. Set cant in bitumen. Run all field plies over cant a minimum of two (2) inches.
  - 3. Install base flashing ply covering curb set in bitumen with six (6) inches on to field of the roof.
  - 4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine (9) inches on to the field of the roof. Attach top of membrane to top of curb and nail at eight (8) inches o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
  - 5. Install pre-manufactured cover. Fasten sides at twenty four (24) inches o.c. with fasteners and neoprene washers. Furnish all joint cover laps with butyl tape between metal covers.
  - 6. Set equipment on neoprene pad and fasten as required by equipment manufacturer.
- Y. Curb Detail/Air Handling Station Detail No. MBH-33:
  - 1. Minimum curb height is eight (8) inches above finished roof height. Prime vertical at a rate of one hundred (100) square feet per gallon and allow to dry.

- 2. Set cant in bitumen. Run all field plies over cant a minimum of two (2) inches.
- 3. Install base flashing ply covering curb set in bitumen with six (6) inches on to field of the roof.
- 4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, nine (9) inches on to the field of the roof. Apply a three-course application of aluminized mastic and mesh at all vertical seams and allow to cure and aluminize.
- 5. Install pre-manufactured counterflashing with fasteners and neoprene washers or per

manufacturer's recommendations.

- 6. Set equipment on neoprene pad and fasten as required by equipment manufacturer.
- Z. Pre-manufactured Curb For Equipment Support Detail No. MBH-35:
  - 1. Minimum curb height is eight (8) inches above finished roof height. Prime vertical at a rate of one hundred (100) square feet per gallon and allow to dry.
  - 2. Run all field plies over cant of the pre-manufactured equipment support a minimum of two (2) inches.
  - 3. Install base flashing ply covering pre-manufactured curb with six (6) inches on to field of the roof.
  - 4. Install a second ply of modified flashing ply installed over the base flashing ply, nine (9) inches on to field of the roof. Attach top of membrane to top of wood curb and nail at eight (8) inches o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
  - 5. Install pre-manufactured cover. Fasten sides at twenty four (24) inches o.c. with fasteners and neoprene washers. Furnish all joint cover laps with butyl tape between metal covers.
  - 6. Set equipment on neoprene pad and fasten as required by equipment manufacturer.
- AA. Exhaust Fan Detail No. MBH-36:
  - 1. Minimum curb height is eight (8) inches above finished roof height. Prime vertical at a rate of one hundred (100) square feet per gallon and allow to dry.
  - 2. Set cant in bitumen. Run all plies over cant a minimum of two (2) inches.
  - 3. Install base flashing ply covering curb with six (6) inches on to field of the roof.
  - 4. Install a second ply of modified flashing ply installed over the base flashing ply, nine (9) inches on to field of the roof. Attach top of membrane to top of wood curb and nail at eight (8) inches o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
  - 5. Install metal exhaust fan over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendation.

- BB. Passive Vent/Air Intake Detail No. MBH-37:
  - 1. Minimum curb height is eight (8) inches above finished roof height. Prime vertical at a rate of one hundred (100) square feet per gallon and allow to dry.
  - 2. Set cant in bitumen. Run all plies over cant a minimum of two (2) inches.
  - 3. Install base flashing ply covering curb with six (6) inches on to the field of the roof.
  - 4. Install a second ply of modified flashing ply installed over the base flashing ply, nine (9) inches on to field of the roof. Attach top of membrane to top of wood curb and nail at eight (8) inches o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
  - 5. Install passive vent/air intake over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendations.
- CC. Roof Drain Detail No. MBH-40:
  - 1. Plug drain to prevent debris from entering plumbing.
  - 2. Taper insulation to drain minimum of twenty four (24) inches from center of drain.
  - 3. Run roof system plies over drain. Cut out plies inside drain bowl.
  - 4. Set lead/copper flashing (thirty (30) inch square minimum) in <sup>1</sup>/<sub>4</sub> inch bed of mastic. Run lead/copper into drain a minimum of two (2) inches. Prime lead/copper at a rate of one

hundred (100) square feet per gallon and allow to dry.

- 5. Install base flashing ply forty (40) inch square minimum in bitumen.
- 6. Install clamping ring and assure that all plies are under the clamping ring. Install copper gravel stop around outer perimeter of drain sump per current N.R.C.A. standards.
- 7. Remove drain plug and install CAST IRON strainer. <u>Note</u>: No plastic or polyethylene strainers are allowed. If original strainer is missing install new matching cast iron strainer.
- 8. Install copper gravel stop around perimeter of sump basin.
- DD. Plumbing Stack Detail No. MBH-50:
  - 1. Minimum stack height is twelve (12) inches.
  - 2. Run roof system over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.

- 3. Prime flange of new sleeve. Install properly sized sleeves set in <sup>1</sup>/<sub>4</sub> inch bed of roof cement.
- 4. Install base flashing ply in bitumen.
- 5. Install modified membrane in bitumen.
- 6. Caulk the intersection of the membrane with elastomeric sealant.
- 7. Insulate inside of sleeve to prevent condensation.
- 8. Turn sleeve a minimum of one (1) inch down inside of stack.
- EE. Heat Stack Detail No. MBH-51:
  - 1. Minimum stack height is twelve (12) inches.
  - 2. Run roof system over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
  - 3. Prime flange of new sleeve. Install properly sized sleeves set in <sup>1</sup>/<sub>4</sub> inch bed of roof cement.
  - 4. Install base flashing ply in bitumen.
  - 5. Install modified membrane in bitumen.
  - 6. Caulk the intersection of the membrane with elastomeric sealant.
  - 7. Install new collar over cape. Weld collar or install stainless steel draw brand.
- FF. Pitch Pocket Detail No. MBH-52:
  - 1. Run all plies up to the penetration.
  - 2. Place the pitch pocket over the penetration and prime all flanges.
  - 3. Strip in flange of pitch pocket with one (1) ply of base flashing ply. Extend six (6) inches onto field of roof.
  - 4. Install second layer of modified membrane extending nine (9) inches onto field of the roof.
  - 5. Fill pitch pocket half full with non-shrink grout. Let this cure and top off with pourable sealant.
  - 6. Caulk joint between roof system and pitch pocket with roof cement.
  - GG. Pitch Pocket Umbrella Detail No. MBH-53:
    - 1. Run all plies up to the penetration.

- 2. Place the pitch pocket over the penetration and prime all flanges.
- 3. Strip in flange of pitch pocket with one (1) ply of base flashing ply. Extend six (6) inches onto field of roof.
- 4. Install second layer of modified membrane extending nine (9) inches onto field of the roof.
- 5. Fill pitch pocket half full with non-shrink grout. Let this cure and top off with pourable sealant.
- 6. Caulk joint between roof system and pitch pocket with roof cement.
- 7. Place a watershedding type bonnet over the top of the pitch pocket and clamp the top with a drawband collar. Caulk the upper edge of the band with an elastomeric sealant.

# 3.12 APPLICATION OF SURFACING

- A. Aggregate Surfacing:
  - 1. Apply slag aggregate at the rate of five hundred (500) lbs. per square. Uniformly embed aggregate in a flood coat of bitumen at a rate of sixty (60) to seventy (70) lbs per square coverage after felt flashings, tests, repairs, and corrective actions have been completed and approved.
- B. Aluminum Coating:
  - 1. All vertical laps will be stripped in with a three (3) course application of Aluminized fibrated mastic and fiberglass membrane.
  - 2. Paint all asphalt tracking or spills on mineral-surfaced flashing and raised roofing with manufacturer's non-fibrated aluminum paint installed at a rate of one-half gallon per square per coat. This shall be a two-coat application with the finished stroke in one direction. All black marks or spill must be completely covered with aluminum paint so that no bleed through can be seen.
- C. Mineral Surfaced Membrane System: While bleed out from the side and end laps are still hot, hand broadcast minerals into asphalt bleed out for a monolithic appearance. Apply mineral lap sealant to any areas of improper adherence of minerals and rebroadcast minerals while coating is still wet.

# 3.13 FIELD QUALITY CONTROL

- A. Perform daily field inspection of each roof project.
- B. Note defects and have the Roofing Contractor correct defects or irregularities discovered during field inspection.
- C. Require attendance of roofing materials manufacturers' representatives at site during installation of the roofing system. A copy of the specification should also be on site at all times.

### 3.14 CLEANING

- A. Remove bitumen adhesive drippings from all walls, windows, floors, ladders and finished surfaces.
- B. In areas where finished surfaces are soiled by asphalt or any other sources of soiling caused by work of this section, consult manufacturer of surfaces for cleaning instructions and conform to their instructions.
- C. Repair or replace defaced or disfigured finishes caused by work of this section.

#### 3.15 CONSTRUCTION WASTE MANAGEMENT

A. Remove and properly dispose of waste products generated during roofing procedures. Comply with requirements of authorities having jurisdiction

#### 3.16 FINAL INSPECTION

- A. At completion of roofing installation and associated work, meet with the Roofing Contractor, installer of associated work, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of roofing system.
- B. Walk roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of punch list to each party in attendance.
- C. The roofing system manufacturer reserves the right to request a thermographic scan of the roof during final inspection to determine if any damp or wet materials have been installed. The thermographic scan shall be provided by the **Roofing** Contractor.
- D. If core cuts verify the presence of damp or wet materials, the Roofing Contractor shall be required to replace the damaged areas at his own expense.
- E. Repair or replace deteriorated or defective work found at time above inspection as required to a produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- F. Notify the **Owner** upon completion of corrections.
- G. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.
- H. Immediately correct roof leakage during construction. If the Contractor does not respond within twenty four (24) hours, the Owner will exercise rights to correct the Work under the terms of the Conditions of the Contract.

#### 3.17 DEMONSTRATION AND TRAINING

- A. At a time and date agreed to by the Owner, instruct the Owner's facility manager, or other representative designated by the Owner, on the following procedures:
  - 1. Roof troubleshooting procedures.
  - 2. Notification procedures for reporting leaks or other apparent roofing problems.
  - 3. Roofing maintenance.
  - 4. The Owner's obligations for maintaining the roofing warranty in effect and force.
  - 5. The Manufacturer's obligations for maintaining the roofing warranty in effect and force

# END OF SECTION

# TROY SCHOOL DISTRICT 2007 ROOF REPLACEMENT SPECIFICATION

# SECTION 07562

# GRAVEL SURFACE BUILT-UP ROOF RESTORATION

#### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

A. Restoration system over the properly prepared gravel surfaced built-up roof system.

# 1.2 RELATED SECTIONS

A. SECTION 07 55 00.001 Modifed Bitumious Membrane Roofing – Hot Applied

#### 1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM):
  - 1. ASTM D41-06, Specification for Asphalt Primer Used in Roofing, Dampproofing and Waterproofing.
  - 2. ASTM D451, Test Method for Sieve Analysis of Granular Mineral Surfacing for Asphalt Roofing Products.
  - 3. ASTM D1079, Terminology Relating to Roofing, Waterproofing and Bituminous Materials.
  - 4. ASTM D1227, Specification for Emulsified Asphalt Used as a Protective Coating for Roofing.
  - 5. ASTM D1863, Specification for Mineral Aggregate Used as a Protective Coating for Roofing.
  - 6. ASTM D2822, Specification for Asphalt Roof Cement.
  - 7. ASTM D2824, Specification for Aluminum-Pigmented Asphalt Roof Coating.
  - 8. ASTM D4601, Specification for Asphalt Coated Glass Fiber Base Sheet Used in Roofing.
  - 9. ASTM D5147, Test Method for Sampling and Testing Modified Bituminous Sheet Materials.
  - 10. ASTM D6162, Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements.
  - 11. ASTM D6163, Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.
  - 12. ASTM E108, Test Methods for Fire Test of Roof Coverings.
- B. Factory Mutual Research (FM):
  - 1. Roof Assembly Classifications.
- C. National Roofing Contractors Association (NRCA):
  - 1. Roofing and Waterproofing Manual.
- D. Underwriters Laboratories, Inc. (UL):
  - 1. Fire Hazard Classifications.

## E. Warnock Hersey (WH):

1. Fire Hazard Classifications.

#### 1.4 SYSTEM DESCRIPTION

A. It is the intent of this specification to install a long-term, quality restoration system that meets or exceeds all current NRCA guidelines as stated in the most recent edition of the NRCA Roofing and Waterproofing Manual. Please discuss any concerns with the Architect and Roofing System Manufacturer.

# 1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Provide manufacturer's technical product data for each type of roofing product specified. Include data substantiating that materials comply with specified requirements.
- C. Samples: Submit two (2) samples of each product specified.
- D. Manufacturer's Installation Instructions: Submit installation instructions and recommendations indicating special precautions required for installing the membrane.
- E. Manufacturer's Certificate: Certify that roof system furnished is approved by Factory Mutual, Underwriters Laboratories, Warnock Hersey or approved third party testing facility in accordance with ASTM E108, Class 1A for external fire.
- F. Manufacturer's Certificate: Certify that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- G. Manufacturer's Certificate: Submit a certified copy of the roofing manufacturer's ISO 9001 compliance certificate.
- H. Test Reports: Submit test reports, prepared by an independent testing agency, for all modified bituminous sheet roofing, indicating compliance with ASTM D5147.
- I. Submit a copy of an unexecuted manufacturer's warranty for review.
- J. Submit a sample of roofing aggregate for review.

#### 1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum twelve (12) years documented experience and have ISO 9001 certification.
- B. Installer: Company specializing in roof restoration with a minimum 5 years experience and certified by roofing system manufacturer as qualified to install manufacturer's roofing materials.

- C. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work and at any time roofing work is in progress. Maintain proper supervision of workmen. Maintain a copy of the specifications in the possession of the Supervisor/Foremen and on the roof at all times.
- D. Immediately correct roof leakage during construction. If the Contractor does not respond within twenty four (24) hours, the Owner has the right to hire a qualified contractor and backcharge the original contractor.
- E. Insurance Certification: Assist Owner in preparation and submittal of roof installation acceptance

certification as may be necessary in connection with fire and extended coverage insurance on roofing

and associated work.

#### 1.7 PRE-INSTALLATION CONFERENCE

- A. Pre-Roofing Conference: Convene a pre-roofing conference approximately two (2) weeks before scheduled commencement of restoration system application and associated work.
- B. Require attendance of installer of each component of associated work, installers of deck or substrate construction to receive roofing work, installers of rooftop units and other work in and around roofing which must precede or follow roofing work (including mechanical work if any), Architect, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of the Work, including (where applicable) Owner's insurers, testing agencies and governing authorities.
- C. Objectives of conference to include:
  - 1. Review foreseeable methods and procedures related to roofing work.
  - 2. Tour representative areas of roofing substrates (decks), inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work performed by others.
  - 3. Review structural loading limitations of deck and inspect deck for loss of flatness and for required required attachment.
  - 4. Review roofing system requirements (drawings, specifications and other contract documents).
  - 5. Review required submittals both completed and yet to be completed.
  - 6. Review and finalize construction schedule related to roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
  - 7. Review required inspection, testing, certifying and material usage accounting procedures.
  - 8. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not mandatory requirement).
  - 9. Record discussion of conference including decisions and agreements (or disagreements) reached and furnish copy of record to each party attending. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.
  - 10. Review notification procedures for weather or non-working days.

# 1.8 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site with seals and labels intact, in manufacturer's original containers, dry and undamaged.
- B. Store and handle roofing sheets in a dry, well-ventilated, weather-tight place to ensure no possibility of significant moisture exposure. Store rolls of felt and other sheet materials on pallets or other raised surface. Stand all roll materials on end. Cover roll goods with a canvas tarpaulin or other breathable material (not polyethylene).
- C. Do not leave unused materials on the roof overnight or when roofing work is not in progress unless protected from weather and other moisture sources.
- D. It is the responsibility of the contractor to secure all material and equipment on the job site. If any material or equipment is stored on the roof, the contractor must make sure that the integrity of the deck is not compromised at any time. Damage to the deck caused by the contractor will be the sole responsibility of the contractor and will be repaired or replaced at his expense.

#### 1.9 MANUFACTURER'S INSPECTIONS

- A. When the project is in progress, the roofing system manufacturer will provide the following:1. Keep the Owner informed as to the progress and quality of the work as observed.
  - 2. Provide job site inspections a minimum of three days a week.
  - 3. Report to the Owner in writing any failure or refusal of the Contractor to correct unacceptable practices called to the Contractor's attention.
  - 4. Confirm after completion that manufacturer has observed no applications procedures in conflict with the specifications other than those that may have been previously reported and corrected.

## 1.10 PROJECT CONDITIONS

- A. Weather Condition Limitations: Do not apply roofing membrane during inclement weather or when a 40% chance of precipitation is expected.
- B. Materials shall be stored at room temperature until immediately prior to application when the ambient temperature is 40 F or below. Discontinue the application if the material can not be stored at a temperature, which permits even distribution during application.
- C. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.
- D. Proceed with roofing work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.
- E. When applying materials with spray equipment, take precautions to prevent over spray from damaging or defacing surrounding walls, building surfaces, vehicles or other property.
- F. Avoid inhaling spray mist; take precautions to ensure adequate ventilation.
- G. Protect completed roof sections from foot traffic until fully cured.

- H. Take precautions to ensure that materials do not freeze.
- I. Minimum temperature for application is 40 F and rising.
- J. Do not apply materials if rain is imminent.

## 1.11 SEQUENCING AND SCHEDULING

- A. Sequence installation of restoration system with related units of work specified in other sections to ensure that roof assemblies including roof accessories, flashing, trim and joint sealers are protected against damage from effects of weather, corrosion and adjacent construction activity.
- B. Fully complete all roofing field assembly work each day. Phased construction will not be accepted.

#### 1.12 WARRANTY

- A. Upon completion of installation, and acceptance by the Owner, the manufacturer will supply to the Owner the appropriate warranty.
- B. Installer will submit a minimum of a five (5) year warranty plus a five (5) year renewable warranty to the membrane manufacturer with a copy directly to Owner.
- C. Membrane manufacturer will provide an annual inspection for the life of the warranty.

#### 1.13 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. Any material submitted as an equal to the specified material must include a list of three (3) projects where the proposed material has been used in a similar roofing system as that which is specified and is located within a one hundred mile radius from the location of the project. In addition, the three projects must be at least three (3) years old and be available for inspection by the Owner or Owner's Representative.
- B. Any deficiencies in performance, warranty terms or improper submittal procedure will constitute grounds for immediate rejection of substitution.

#### PART 2 PRODUCTS

#### 2.1 ACCEPTABLE MANUFACTURERS

- A. When a particular trade name or performance standard is specified it shall be indicative of a standard required.
- B. Provide products as manufactured by The Garland Company. Submit substitutions under provisions of Section 01600.
- C. Any item or materials submitted as a substitution to the manufacturer specified must comply in all respects as to the quality and performance of the brand name specified. The Architect/Owner shall be the sole judge as to whether or not an item submitted as a substitute is truly equal. Should the Contractor choose to submit a substitute product, he shall assume all monetary or other risk involved, should the Architect/Owner find the substitution unacceptable.

## 2.2 DESCRIPTION

- A. Restoration work including but not limited to:
  - 1. WeatherScreen: A rubberized, heavy bodied fibered reinforced, fire-rated restoration treatment designed to restore the weathering surface of gravel surfaced BUR and modified membrane systems.
- B. Base flashing ply:
  - 1. Base Flashing Ply: One (1) ply of 40 mil SBS base flashing ply covered by an additional layer of modified bitumen membrane and set in mastic.
- C. Top Flashing ply:
  - Top Flashing Ply Modified Membrane: STRESSPLY EUV Mineral; 155 mil SBS and SIS (Styrene-Butadiene-Styrene and Styrene-Isoprene-Styrene) rubber modified membrane incorporating post consumer recycled rubber and reinforced with a super strong fiberglass and polyester composite scrim. Surfaced with the highly reflective Starburst<sup>TM</sup> white mineral. This top flashing ply covers the base ply backer sheet in the 2-ply flashing system.

# 2.3 BITUMINOUS MATERIALS

- A. Asphalt Primer: V.O.C. compliant, ASTM D41.
- B. Asphalt Roofing Mastic: V.O.C. compliant, ASTM D2822, Type II.

## 2.4 SHEET MATERIALS

- B. Base Flashing Ply:
  - 1. SBS modified membrane with woven fiberglass scrim reinforcement with the following minimum

performance requirements according to ASTM D-5147.

Properties (Finished Membrane):

Tensile Strength (ASTM D5147)		
2 in/min. @73.4 ± 3.6°F	MD 205 lbf/in	CMD 220 lbf/in
Tear Strength (ASTM D-5147)		
$2 \text{ in/min.} @ 73.4 \pm 3.6^{\circ}\text{F}$	MD 325 lbf	CMD 325 lbf
Elongation at Maximum Tensile (ASTM D-5147)		
2 in/min. @ 73.4 ± 3.6°F	MD 4.0%	CMD 4.0%
## C. Modified Flashing Ply:

#### 1. STRESSPLY EUV MINERAL; ASTM D-6162, Type III Grade G

Tensile St	trength (ASTM	D-5147)		
2 in/min. @ 73.4	3.6°F	MD 700 lbf/in	CMD 750 lbf/in	
Tear Strength (AS	ГМ D-5147)			
2 in/min. @ 73.4	3.6°F	MD 1300 lbf	CMD 1400 lbf	
Elongation at Maximum Tensile (ASTM D-5147)				
2 in/min. @ 73.4	3.6°F	MD 6.0%	CMD 6.0%	
Low Temperature	Flexibility (AST	<sup>C</sup> M D-5147):	Passes -30°F	

Reflectivity (DNS Method)

45-50%

#### 2.5 SURFACING MATERIALS

A. Slag

## PART 3 EXECUTION

#### 3.1 EXAMINATION

A. Examine substrate surfaces to receive coating and associated work and conditions under which roofing will be installed. Do not proceed with roofing until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

### 3.2 GENERAL INSTALLATION REQUIREMENTS

- A. Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing the roof system.
- B. Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.
- C. Protect other work from spillage of roofing materials and prevent materials from entering or clogging drains and conductors. Replace or restore other work damaged by installation of the modified bituminous roofing system.
- D. Coating shall be applied per manufacturers application instructions for the type of coating used.
- E. Apply roofing materials as specified herein unless recommended otherwise by manufacture's instructions. Keep roofing materials dry and during application. Do not permit phased construction.

## 3.3 CLEANING AND SURFACE PREPARATION

A. All defects such as deteriorated roof decks, saturated insulation board, etc. must be repaired or replaced per Garland specifications prior to application of the restoration materials.

- B. Wet Vacuum the entire roof and remove all loose roofing gravel, dirt and foreign debris from the roof surface.
- C. Do not damage roof membrane in cleaning process.
- D. All surface defects (cracks, blisters, tears) must be repaired:
- E. Blister Repair
  - 1. Spud all gravel back twelve (12) inches around the blister, clean and prime the area.
  - 2. All blisters must be cut and opened down to the solidly adhered plies of the existing roof system. Use a roofer's knife to open the blister with an "X" or "H" cut. Fold the flaps and remove any existing moisture. Permit the area to dry before applying repair materials.
  - 3. Apply a liberal coating of bituminous material into the blister. Firmly press the flaps into the bituminous material and trim the edges to ensure proper fit.
  - 4. Apply a coating of bituminous material over the repaired area extending a minimum of eight (8) inches beyond the cuts. Embed a strip of fabric into the bituminous material and brush or roll firmly. Apply a second coat of bituminous material over the fabric and onto the roof surface.
  - F. Edge Detail Repair
  - 1. Spud back all gravel and built-up bitumen twelve (12) inches onto the roof.
  - 2. Remove all loose dirt and debris along the edge detail and prime with an asphalt primer.
  - 3. Secure all loose metal to the wood nailer.
  - 4. Install a bond breaker at moving joints.
  - 4. Apply a liberal coat of mastic over the prepared area and embed fabric into the mastic.
  - 5. Apply a liberal coat of mastic over the fabric. Sufficiently cover the fabric to obliterate the weave from sight.
  - 6. Apply surfacing to the repair.
- G. Pitch Pocket Repair
  - 1. Fill the pitch pocket with an elastomeric roof cement. Taper the mastic at the edge of the pitch pocket to ensure water run-off.
  - 2. Spud back all gravel and heavy built-up areas of bitumen eighteen (18) inches onto the field of the roof, clean and prime the area with an asphalt primer.
  - 3. Apply a liberal coating of mastic around the pitch pocket extending a minimum of twelve (12) inches onto the horizontal roofing surface.
  - 4. Cut four (4) strips of fabric. Each strip should be twelve (12) inches wide and be of sufficient length so as to extend a minimum of twelve (12) inches beyond the pitch pan.
  - 5. Embed a strip into the mastic along each side of the pitch pocket. Brush or roll the fabric into place to ensure proper embedment.
  - 6. Top dress the area with mastic.
  - 7. Install rain bonnet, draw band and caulk.

#### 3.4 FELT PLY INSTALLATION

- A. Prepare all walls, penetrations and expansion joints to be flashed and where shown on the drawings, with asphalt primer at the rate of one hundred (100) square feet per gallon. Allow primer to dry tack free.
- B. All plies will be adhered with one of the following:
  - 1. With mastic. The modified membrane will be used as the flashing and nailed off 8" O.C. at all vertical surfaces.
- C. The entire sheet of flashing membrane must be solidly adhered to the substrate.

- D. Seal all vertical laps of flashing membrane with a three-course application of Silver-Flash Aluminized mastic fiberglass mesh.
- E. Seal junction of flashing membrane and roof with a three-course application of Flashing Bond and mesh.
- F. Counterflashing, cap flashings, expansion joints and similar work to be coordinated with roofing work are specified in other sections.
- G. Roof accessories, miscellaneous sheet metal accessory items, including piping vents and other devices to be coordinate with the roofing work are in other sections.

## 3.5 COATING APPLICATION

- A. Wet vacuum gravel off roof surface and make necessary repairs as specified in 3.3.D.
- B. Apply primer to roof surface at a rate of one (1) gallon per one hundred (100) square feet.
- C. Brush, spray or squeegee the restoration material onto the roof surface at a rate of not less than eight (8) gallons per one hundred (100) square feet.
- D. Immediately embed aggregate conforming to ASTM D-1863 at a nominal rate of five hundred (500) pounds per one hundred (100) square feet.

## 3.6 FIELD QUALITY CONTROL

- A. Perform field inspection of construction.
- B. Correct defects or irregularities discovered during field inspection.
- C. Require attendance of roofing materials manufacturers' representatives at site during installation of the roofing system.

## 3.7 CLEANING

- A. Remove bitumen adhesive drippings from all walls, windows, floors, ladders and finished surfaces.
- B. In areas where finished surfaces are soiled by asphalt or any other sources of soiling caused by work of this section, consult manufacturer of surfaces for cleaning instructions and conform to their instructions.
- C. Repair or replace defaced or disfigured finishes caused by work of this section.

#### 3.8 FINAL INSPECTION

- A. At completion of roofing installation and associated work, meet with Contractor, installer, installer of associated work, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of roofing system.
- B. Walk roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.

- C. The roofing system manufacturer reserves the right to request a thermographic scan of the roof during final inspection to determine if any damp or wet materials have been installed. The thermographic scan shall be provided by the Troy School District.
- D. If core cuts verify the presence of damp or wet materials, the [Roofing] Contractor shall be required to replace the damaged areas at his own expense.
- E. Repair or replace deteriorated or defective work found at time above inspection as required to a produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- F. Notify the Owner upon completion of corrections.
- G. Following the final inspection, provide written notice of acceptance of the installation from the roofing

system manufacturer.

END OF SECTION



ALL PLIES SET IN BITUMEN SEE SPECIFICATIONS FOR SURFACING



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Since 1895 THE GARLAND COMPANY UK, LTD



## ROOFING BID PROPOSAL FORM

To: Troy School District 4400 Livernois, Troy, Michigan 48098

# The undersigned declares that he has carefully examined the instructions and Specifications dated March 29, 2007 and will furnish these items with such Specifications for the price set forth in this bid.

The undersigned has checked carefully the bid figures and understands that he shall be responsible for any error of omission in this bid offer and is in receipt of all addenda as issued.

It is understood and agreed that all items bid will be delivered f.o.b. job site and remain firm for at least forty-five (45) days from date of bid opening. It is further understood and agreed that the Troy School District Board of Education reserves the right to reject any or all bids, or parts of bids, or to split awards by items or to accept bids, which will best serve the interests of the Board of Education.

#### FIRM BIDS FOR ROOF REPLACEMENT:

#### 1. BAKER MIDDLE SCHOOL (OLD)

ITEM 1: Tear-Off and Replace roof area "A" with a new HPR modified roof with slag aggregate cover. The firm bid for the total sum of \$\_\_\_\_\_

(\_\_\_\_\_)

\_\_\_\_\_)

- ITEM 2: Tear-Off and Replace roof area "B" with a new HPR modified roof with slag aggregate cover. The firm bid for the total sum of \$\_\_\_\_\_
- ITEM 3: Tear-Off and Replace roof area "C" with a new HPR modified roof with slag aggregate cover. The firm bid for the total sum of \$\_\_\_\_\_
  - (\_\_\_\_\_)
- ITEM 4: Tear-Off and Replace roof area "D" with a new HPR modified roof with slag aggregate cover. The firm bid for the total sum of \$\_\_\_\_\_

(\_\_\_\_\_)

ITEM 5: Tear-Off and Replace roof area "E" with a new HPR modified roof with slag aggregate cover. The firm bid for the total sum of \$\_\_\_\_\_

(\_\_\_\_\_\_

)

ITEM 6: Tear-Off and Replace roof area "F" with a new HPR modified roof with slag aggregate cover. The firm bid for the total sum of \$\_\_\_\_\_

)

## 2007 TROY SCHOOLS ROOFING BID PROPOSAL FORM (CONTINUED)

ITEM 7: SUM TOTAL OF ALL ITEMS 1, 2, 3, 4, 5 AND 6 ON BAKER MIDDLE SCI THE FIRM BID OF \$	HOOL (OLD)
(	)
2. <u>HAMILTON ELEMENTARY SCHOOL</u>	
ITEM 8: Peel-Off existing coal tar pitch BUR and replace with HPR modified roof. The firm bid for the total sum of \$	
(	)
3. <u>HILL ELEMENTARY SCHOOL</u>	
ITEM 9: Tear-Off and Replace the 1986 modified roof over the original 1967 school w The firm bid for the total sum of \$	with a HPR modified roof.
(	)
ITEM 10: Tear-Off leaking roof section between 1971 addition octagon roof and attac The firm bid for the total sum of \$	ched washroom area.
(	)
ITEM 11: SUM TOTAL OF ALL ITEMS 1 AND 2 ON HILL ELEMENTARY SCH THE FIRM BID OF \$	OOL
(	)
4. <u>NILES COMMUNITY HIGH SCHOOL</u>	
ITEM 12: Tear-Off and Replace roof areas #1, #5, #6, #7 & #8 with new HPR modifi The firm bid for the total sum of \$	ed roof and slag.
(	)
ITEM 13: Total Roof and Flashing Restoration of Roof Areas #2 & #9. The firm bid for the total sum of \$	
(	)
ITEM 14: Spot repairs to roof areas #3 & #4. The firm bid for the total sum of \$	
(	)

## 2007 TROY SCHOOLS ROOFING BID PROPOSAL FORM (CONTINUED)

THE FIRM BID OF \$\_\_\_\_\_ (\_\_\_\_\_) 5. SCHROEDER ELEMENTARY SCHOOL ITEM 16: Tear-Off and replace the 1986 modified roof over the original 1970 school with a HPR modified roof. THE FIRM BID OF \$\_\_\_\_\_ ( ) SMITH MIDDLE SCHOOL ITEM 17: Tear-Off and replace roof area "A" with a new HPR modified roof with slag aggregate cover. THE FIRM BID OF \$\_\_\_\_\_ ) 7. TROY UNION ELEMENTARY SCHOOL ITEM 18: Tear-Off and Replace the 1982 modified roof over the east side of the original 1971 school with a HPR modified roof. The firm bid for the total sum of \$\_\_\_\_\_ ) ITEM 19: Tear-Off and Replace the 1986 modified roof over the west side of the original 1971 school with a HPR modified roof. The firm bid for the total sum of \$\_\_\_\_\_ \_\_\_\_\_) ITEM 20 : SUM TOTAL OF ALL ITEMS 1 AND 2 ON TROY UNION ELEMENTARY SCHOOL THE FIRM BID OF \$ )

ITEM 15: SUM TOTAL OF ALL ITEMS 9, 10, AND 11 ON NILES COMMUNITY HIGH SCHOOL
# ROOFING PROPOSAL SUPPLEMENT FOR UNIT PRICES ROOFING PROJECTS

The unit prices listed below shall be submitted with bid. The unit prices shall be utilized in conjunction with minor additions or deletions to the work of this contract, or for work required due to unforeseen conditions. 2007 TROY SCHOOLS ROOFING BID PROPOSAL FORM (CONTINUED)

# ROOFING PROPOSAL SUPPLEMENT FOR UNIT PRICES ROOFING PROJECTS (CONTINUED)

The unit prices listed will also be used in awarding miscellaneous repairs to various schools. Unit prices submitted shall include all cost of materials, labor, insurance, taxes, bond premiums, overhead and profit.

#### UNIT PRICES

The cost of work, added to or omitted from this contract, shall be computed at the prices listed below:

1.	Gypsum Deck Replacement\$	(Per Sq. Ft.)
2.	.Steel Deck Replacement	(Per Sq. Ft.)
3.	Tectum Deck Replacement	(Per Sq. Ft.)
4.	Wood Deck Replacement\$	(Per Sq. Ft.)
5.	New 4" cast iron drain and Installation /no additional piping\$	(Each)
6.	Reset Existing Drain/reinforce sump basin\$	(Each)
7.	2" x 4" wood nailers installed	(Per Lin. Ft.)
8.	2" x 6" wood nailers installed\$	(Per Lin. Ft.)
9.	2" x 8" wood nailers installed	(Per Lin. Ft.)
10.	2" x 10" wood nailers installed\$	(Per Lin. Ft.)
11.	Reinforced Flashing Membrane Repair curbs or walls up to 12" high\$	(Per Lin. Ft.)
12.	Reinforced Flashing Membrane Repair curbs or walls up to 18" high\$	(Per Lin. Ft.)
13.	Reinforced Flashing Membrane Repair curbs or walls up to 24" high\$	(Per Lin. Ft.)
14.	Reinforced Flashing Membrane Repair curbs or walls up to 30" high\$	(Per Lin. Ft.)
15.	2-ply Modified backer sheet and Mineral Cap Sheet Flashing Replacement.\$	(Per Sq. Ft.)
16.	Flat gravel stop reinforcement (9-3/4" quarter sheet)\$	(Per Lin. Ft.)
17.	Raised gravel stop reinforcement (19-1/2" half sheet)\$	(Per Lin. Ft.)
18.	Pitch pocket restoration including metal bonnet\$	(Each)
19.	Soil stack target flashing\$	(Each)
20.	Round stack target flashing\$	(Each)

21.	Paint rusted metal roof units with rust paint\$	(Per Sq. Ft.)
22.	Roof Assembly repair/replacement of	(Per Sq. Ft.)

# 2007 TROY SCHOOLS ROOFING BID PROPOSAL FORM (CONTINUED)

## ROOFING PROPOSAL SUPPLEMENT FOR UNIT PRICES ROOFING PROJECTS (CONTINUED)

23. Over gypsum decks. Removal and replacement of existing roofs with matching insulation:

1-5 squares......\$\_\_\_\_(Per Sq. Ft.)

6-20 squares......\$\_\_\_\_(Per Sq. Ft.)

> 20 squares......\$\_\_\_(Per Sq. Ft.)

24. Over steel decks. Removal and replacement of existing roofs with matching insulation:

- 1-5 squares......\$\_\_\_\_(Per Sq. Ft.)
- 6-20 squares......\$\_\_\_\_(Per Sq. Ft.)
- > 20 squares......\$\_\_\_\_(Per Sq. Ft.)

25. Over Tectum decks. Removal and replacement of existing roofs with matching insulation:

- 1-5 squares......\$\_\_\_\_(Per Sq. Ft.)
- 6-20 squares......\$\_\_\_\_(Per Sq. Ft.)
- > 20 squares......\$\_\_\_(Per Sq. Ft.)

26. Over wood decks. Removal and replacement of existing roofs with matching insulation:

		1-5 squares\$	(Per Sq. Ft.)
		6-20 squares\$	(Per Sq. Ft.)
		> 20 squares\$	(Per Sq. Ft.)
27. Labor Rate for r	oof repairs	\$	(Per Man Hour)
28. Mark-up percen	tage including overhead	d and profit	%
Proposal Guarantee Bid Bo	nd Certified	l Check	
Name of Company			<u> </u>
Signature and Title of Representative			<u> </u>
Address			
Telephone		Fax Number	
Start Date	Terms	Date	<u> </u>
Estimated Time of Completio	ondays		

# REQUIREMENTS OF

# MICHIGAN PUBLIC ACT 166 OF 1965, PREVAILING WAGES ON STATE PROJECTS

The Michigan Department of Labor & Economic Growth determines prevailing rates pursuant to the Prevailing Wage Law, Act 166, P.A. of 1965. The purpose of establishing prevailing rates is to provide rates of pay for 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 attached 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. The prevailing rate may be satisfied by payment in cash or payment in cash and credit for fringe benefits paid in cash or on behalf of a worker or fringe benefits provided to a worker.

# State of Michigan responsibilities under the law:

 The department establishes the prevailing rate for each classification of construction mechanic <u>requested by a</u> <u>contracting agent</u> 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 redetermination of rates must be requested by the contracting agent.
- Rates for classifications needed but not provided on the Prevailing Rate Schedule, including rates for registered
  apprentices, <u>must</u> be obtained <u>prior</u> 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 of wages and fringe benefits 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 wage and fringe benefit rates prescribed in a contract.
- Every contractor and subcontractor shall keep an accurate record showing the name and occupation of and the actual wages and benefits paid to each construction mechanic employed by him in connection with said contract. 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 <u>shall only</u> 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 and Hour Division. The department will investigate and attempt to resolve the complaint informally.

Executive Order Number 2003-001 requires that contractors doing business with the State of Michigan be in compliance with state

and federal law. A violation of Act 166 of 1965, as amended, the Prevailing Wages on State Projects act or Act 390 of 1978, as

amended, the Payment of Wages and Fringe Benefits Act, may result in the <u>debarment</u> of a contractor from being awarded a contract

for the provision of goods and services to the State of Michigan for a period of up to eight (8) years.

# State of Michigan

**Department of Labor and Economic Growth** 

Wage and Hour Division

6546 Mercantile Way, Suite 5 PO Box 30476 Lansing, MI 48909-7976 Telephone: 517-335-0400 Fax: 517-335-0077 www.michigan.gov/wagehour

Official Request 477 Requestor: TROY SCHOOL DISTRICT

Project Description: ROOFING Project Number: VARIOUS BUILDINGS

# **Oakland County**

# Official 2007 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 4/5/2007

<b>O</b>	- 4 1			7/1/0007
Contract mu	st de awa	raea by		1/4/2007
		Dama 4 a	6 0 0	

		Page 1 of 20				
Cla	ssification		Straight	Time and	Double	
Name	Description		Hourly	a Half	Time =======	Overtime Provision
Asbesto	os & Lead Abatement Laborer					
Asbesto	s & Lead Abatement Laborer	MLDC	\$31.30	\$41.83	\$52.35	нннхххх р ү
Asbesto	os & Lead Abatement, Hazardous Material Handle	er				
Asbesto	s and Lead Abatement, Hazardous Material Handler	AS207	\$31.30	\$43.13	\$54.95	X X X X X X X D Y
Boilerm	aker					
Boilerma	aker	BO169	\$48.71	\$68.13	\$87.54	HHDHDDDY
	Apprentice Rat	es:				
	1st 6 months		\$37.07	\$50.67	\$64.26	
	2nd 6 months		\$38.03	\$52.10	\$66.18	
	3rd 6 months		\$39.00	\$53.56	\$68.12	
	4th 6 months		\$39.97	\$55.02	\$70.06	
	5th 6 months		\$40.58	\$56.11	\$71.64	
	6th 6 months		\$42.88	\$59.38	\$75.88	
	7th 6 months		\$44.83	\$62.31	\$79.78	
	8th 6 months		\$46.77	\$65.21	\$83.66	
Bricklay	/er					
Bricklaye	er, stone mason, pointer, cleaner, caulker	BR1	\$47.76	\$71.64	\$95.52	HHDHDDDDN
	Apprentice Rat	es:				
	First 6 months		\$30.33	\$45.50	\$60.66	
	2nd 6 months		\$32.21	\$48.32	\$64.42	
	3rd 6 months		\$34.10	\$51.15	\$68.20	
	4th 6 months		\$35.98	\$53.97	\$71.96	
	5th 6 months		\$37.86	\$56.79	\$75.72	
	6th 6 months		\$39.73	\$59.60	\$79.46	

Official Request #: 477 Requestor: TROY SCHOOL DISTRICT Project Description: ROOFING Project Number: VARIOUS BUILDINGS County: Oakland

# **Official Rate Schedule**

**Issue Date:** 4/5/2007

Contract must be awarded by

7/4/2007

			Page 2 of 20				
Cla	ssification		-	Straight	Time and	Double	
Name	Description			Hourly	a Half	Time =======	Overtime Provision
Carpent	er						
Carpet a	nd Resilient Floor Layer, (do	pes not include	CA1045	\$40.22	\$56.42	\$72.61	ннннооом
installati	on of prefabricated formica	& parquet flooring					
which is	to be paid carpenter rate)						
		Apprentice Ra	tes:				
		1st 6 months		\$20.93	\$25.25	\$31.05	
		2nd 6 months		\$24.02	\$31.26	\$39.07	
		3rd 6 months		\$25.64	\$33.59	\$42.17	
		4th 6 months		\$27.26	\$35.95	\$45.33	
		5th 6 months		\$28.87	\$38.28	\$48.43	
		6th 6 months		\$30.50	\$40.64	\$51.57	
		7th 6 months		\$32.11	\$42.96	\$54.67	
		8th 6 months		\$33.73	\$45.30	\$57.79	
Carpente	er, piledriver		CA687Z1	\$44.37	\$62.97	\$81.56	ннрнррру
		Apprentice Ra	tes:				
		1st Year		\$27.63	\$37.85	\$48.08	
		3rd 6 months		\$29.49	\$40.65	\$51.80	
		4th 6 months		\$31.34	\$43.42	\$55.50	
		5th 6 months		\$33.21	\$46.23	\$59.24	
		6th 6 months		\$35.08	\$49.03	\$62.98	
		7th 6 months		\$36.92	\$51.79	\$66.66	
		8th 6 months		\$38.80	\$54.61	\$70.42	
Cement	Mason						
Cement	Mason		CE514	\$42.63	\$60.13	\$77.63	ннрнннри
		Apprentice Ra	tes:				
		1st 6 months		\$24.90	\$33.67	\$42.43	
		2nd 6 months		\$26.65	\$36.28	\$45.92	
		3rd 6 months		\$30.15	\$41.55	\$52.93	
		4th 6 months		\$33.66	\$46.80	\$59.94	
		5th 6 months		\$35.40	\$49.43	\$63.44	
		6th 6 months		\$38.92	\$54.70	\$70.47	
Drvwall							
Drywall	Taper		PT-22-D	\$38 45	\$50.90	\$63.35	ннонором
Di jivan	lapor	Annrentice Ra	tes:	<b>\$60.10</b>	<i><b>4</b>00.00</i>	φ00.00	
		First 2 months		¢26.00	¢20.02	¢20 45	
		Flist 3 months	ha	\$20.00	⊅3∠.∠3 ¢25.00	Φ30.45 ¢40.40	
		Second 5 month	lið he	\$28.49 \$20.09	930.90 \$30.60	Ф43.43 ¢10 11	
		Second 6 month	115	\$30.98 \$30.98	\$39.69 \$43.43	ቅ4୪.41 ¢⊊୨.୨୦	
		Ath 6 months		333.41 \$31.71	⊅43.43 ¢45 20	903.39 ©55 07	
		40101000005		<del>۵</del> 34.71	φ4 <u></u> 3.29	<b>⊅</b> ິບວ.໐/	

Official Request #: 477 Requestor: TROY SCHOOL DISTRICT Project Description: ROOFING Project Number: VARIOUS BUILDINGS County: Oakland

# **Official Rate Schedule**

Issue Date: 4/5/2007

7/4/2007

		Contract must be awarded by	7/4/2007			
		Page 3 of	f 20			
Cla	ssification	C	Straight	Time and	Double	
Name	Description		Hourly	a Half	Time	Overtime Provision
Electric						
	Viroman		¢46.99	\$64.00	¢01 12	חחחחחחש
Inside v	Vileman	Apprentice Pates:	φ40.00	φ04.00	φ01.13	
		Apprentice Rates.	¢06.00	¢22.40	¢10.02	
		1000 2000 hours	\$20.33 \$29.04	\$33.10 \$25.75	\$40.03 \$42.45	
		2000-2500 hours	\$20.04 \$20.75	\$38.31	\$46.87	
		3500-5000 hours	\$31.47	\$40.90	\$50.31	
		5000-6500 hours	\$34.89	\$46.03	\$57.15	
		6500-8000 hours	\$38.32	\$51.17	\$64.01	
<b>•</b> •			<b>\$22.00</b>	<b>*</b> 4 4 6 6	<b>*</b> =0.00	
Sound a	ind Communication I	nstaller/Technician EC-58-SC	\$29.33	\$41.30	\$53.26	нннннном
		Apprentice Rates:	<b>•</b> • <b>-</b> • •	<b>*</b> ** * *		
		Period 1	\$17.16	\$23.04	\$28.93	
		Period 2	\$18.38	\$24.88	\$31.37	
		Period 3	\$19.59	\$26.69	\$33.79	
		Period 4	\$20.81	\$28.53 ¢20.22	\$30.23 \$20.65	
		Pellou 5 Poriod 6	\$ZZ.UZ \$22.02	\$30.33 \$22.17	\$30.00 \$41.00	
		Penod 6	<b>ΦΖ</b> 3.Ζ4	<b>Ф</b> 32.17	<b>5</b> 41.09	
Elevato	r Constructor					
Elevator	Constructor	EL 36	\$47.71		\$81.45	DDDDDDDY
Elevator	Constructor		• · · · · ·			
		Apprentice Rates:				
		1st Year Apprentice	\$31.14		\$49 70	
		2nd Year Apprentice	\$34.82		\$56.75	
		3rd Year Apprentice	\$36.66		\$60.28	
		4th Year Apprentice	\$40.34		\$67.33	
01						
Glazier		GI -357	\$41.56	\$55.41		ннннннн
Cluziol		Apprentice Rates:	¢11.00	φ00.11		
		1st 6 months	\$28.36	\$35.20		
		2nd 6 months	\$29.82	\$37.44		
		3rd 6 months	\$32.72	\$41 72		
		4th 6 months	\$34,18	\$43.87		
		5th 6 months	\$35.64	\$46.03		
		6th 6 months	\$37.09	\$48.17		
		7th 6 months	\$38.54	\$50.31		
		8th 6 months	\$41.46	\$54.62		
Hoat an	d Frost Insulator					
Sprav Ir	nsulation	A\$25\$	\$20 14	\$29 14		нннннни
շթ. սյ п	isalation		ψ20.14	Ψ20.14		
<b>.</b>					al Dat	o Sobodulo
Officia	al Request #: 477			Unici	ai Rai	e Schedule
	Requestor: TROY	SCHOOL DISTRICT				

Project Description: ROOFING

Project Number: VARIOUS BUILDINGS County: Statewide

# Official 2007 Prevailing Wage Rates for State Funded Projects Issue Date: 4/5/2007

	Contra	act must be a	awarded by	7/4/2007			
			Page 4 of 20				
<u>Classi</u> Name	<u>ification</u> Description			Straight Hourly	Time and a Half	Double Time	Overtime Provision
Heat and I	======================================	======================================				=======	
Heat and F	rost Insulators and Asbestos V	Vorkers	AS25	\$48.20	\$62.86	\$77.52	ннннннрү
inout und i		Apprentice R	ates:	\$ 10. <u></u> 20	<i><b>Q</b></i> <b>0100</b>	<b>\$01</b>	
		1st Voor		\$29.59	\$37.66	\$45.72	
		2nd Year		\$37.60	\$47.00 \$47.13	\$56.66	
		3rd Year		\$39.40	\$49.66	\$59.92	
		4th Year		\$42.34	\$54.07	\$65.80	
Ironworke	r						
Fence Fred	ting		IR-25-F	\$30.87	\$59 58	\$79.29	нноннноох
T CHUC LICC	ang		117-23-1	ψ00.07	ψ00.00	ΨΙ 5.25	
Glazing			IR-25-GZ1	\$48.48	\$72.64	\$96.65	нноннооү
Mesh Iron	Work		IR-25-MR	\$42.25	\$60.43	\$78.60	ннрнррррм
				•			
Pre-engine	ered Metal Work		IR-25-PE-Z1-Z2	\$39.88	\$50.38	\$60.88	нннхххх р ү
		Apprentice R	ates:				
		1st level		\$22.79	\$27.88	\$32.97	
		2nd level		\$24.01	\$29.61	\$35.21	
		3rd level		\$25.25	\$31.36	\$37.47	
		4th level		\$26.47	\$33.08	\$39.70	
		5th level		\$27.70	\$34.83	\$41.95	
		6th level		\$28.93	\$36.56	\$44.20	
Reinforced	Iron Work		IR-25-RF	\$47.46	\$68.09	\$88.71	ННДНДДДЛ
Rigging Wo	ork		IR-25-RIG	\$52.48	\$78.56	\$104.64	нннннном
Siding & D	ecking		IR-25-SD	\$45.10	\$67.43	\$89.75	ННДНННДДҮ
Structural	ornomental conveyor welder	and pro cost		¢50.64	¢70.60	¢104 77	
Apprentice glazing, rei	rates apply to structural, conv inforced, rigging, & siding deck	eryor, fence, king	IR-20-31R	\$ <u>5</u> 2.01	φ70.09	\$104.77	זטטחחחטז
		Apprentice R	ates:				
		Level 1		\$26.51	\$39.54	\$52.57	
		Level 2		\$29.12	\$43.46	\$57.79	
		Level 3		\$31.73	\$47.37	\$63.01	
		Level 4		\$34.34	\$51.29	\$68.23	
		Level 5		\$36 Q1	\$55 10	\$73.42	
				¢30.54	\$50.13	\$78 60	
				\$33.37 \$40.46	¢63.13	\$22.09 \$22.07	
				\$44.78	\$66.95	\$80.07 \$80.11	
		LEVEL O		<i>ф</i> <del>44</del> .70	ψ00.90	ψ09.11	
	Paguast #: 177				Offici	al Rat	e Schedule
Cincial R	Request #. 477	ISTRICT				arna	
Project De	escription: ROOFING			Every contract	ctor and sub	ocontracto	or shall keep posted
,	•			on the constr	uction site,	in a cons	picuous place, a

Project Number: VARIOUS BUILDINGS County: Oakland

copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Issue Date: 4/5/2007 Contract must be awarded by

7/4/2007

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<u>Classification</u>	-	Straight	Time and	Double	
Name Description		Hourly	a Half	Time	Overtime Provision
Industrial Door erection & construction	IR-25-STR-D	\$34.69	\$46.09	\$57.48	ННДНННДДҮ
Laborer					
Construction Laborer, Mason Tender, Carpenter Tender, Drywall Handler, Cement Finisher tender, concrete chute and concrete Bucket Handler, Concrete Laborer, Demolition Laborer	L1076-A-A	\$36.48	\$51.89	\$67.29	H H D H D D D V
Apprentice Rat	es:				
0-1,000 work ho	ours	\$30.91	\$43.53	\$56.15	
1,001-2,000 wo	rk hours	\$32.02	\$45.20	\$58.37	
2,001-3,000 wo	rk hours	\$33.14	\$46.88	\$60.61	
3,001-4,000 wo	rk hours	\$35.37	\$50.23	\$65.07	
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	\$36.74	\$52.28	\$67.81	H H D H D D D V
Lansing Burner, Blaster & Powder Man	L1076-A-C	\$37.23	\$53.01	\$68.79	ННДНДДДУ
Furnance battery heater tender, burning bar & oxy- acetylene gun, expediter man, top man and/or bottom man (blast furnace work)	L1076-A-D	\$36.98	\$52.64	\$68.29	H H D H D D D V
Cleaner/ sweeper laborer, furniture laborer	L1076-A-E	\$31.03	\$43.71	\$56.39	ННДНДДДДҮ
Plasterer Tender, Plastering Machine Operator	LPT-1	\$37.86	\$53.96	\$70.05	ННДНДДДЛ
Apprentice Rat	es:				
0 - 1,000 hours		\$30.91	\$43.53	\$56.15	
1,001 - 2,000 hc	ours	\$32.02	\$45.20	\$58.37	
2,001 - 3,000 hc	ours	\$33.14	\$46.88	\$60.61	
3,001 - 4,000 hc	ours	\$35.37	\$50.23	\$65.07	

Official Request #: 477 Requestor: TROY SCHOOL DISTRICT Project Description: ROOFING

Project Number: VARIOUS BUILDINGS County: Oakland

# **Official Rate Schedule**

Issue Date: 4/5/2007 Contract must be awarded by

7/4/2007

			Page 6 of 20				
<u>Clas</u> Name	<u>ssification</u> Description		U	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Laborer							
Class A L preparati removal, substance equipme laborer p handling when use required.	aborer - performing work in conju- ion and other preliminary work pri handling, or containment of haza es not requiring use of personal p nt required by state or federal reg performing work in conjunction wit , or containment of hazardous was ed of personal protective equipme	Inction with site or to actual rdous waste rotective ulations; or a h the removal, ste substances nt level "D" is	LHAZ-Z2-A	\$36.48	\$51.89	\$67.29	Н Н Н Н Н Н Н D Y
		Apprentice Rate	es:				
		0-1,000 work ho 1,001-2,000 wor 2,001-3,000 wor 3,001-4,000 wor	urs k hours k hours k hours	\$30.91 \$32.02 \$33.14 \$35.37	\$43.53 \$45.20 \$46.88 \$50.23	\$56.15 \$58.37 \$60.61 \$65.07	
Class B L removal, substanc levels "A	aborer - performing work in conju handling, or containment of haza es when the use of personal prote ", "B" or "C" is required.	nction with the rdous waste ective equipment	LHAZ-Z2-B	\$37.48	\$53.39	\$69.29	Н Н Н Н Н Н Н D Y
		Apprentice Rate	es:				
		0-1,000 work ho 1,001-2,000 wor 2,001-3,000 wor 3,001-4,000 wor	urs k hours k hours k hours	\$31.66 \$32.82 \$33.99 \$36.32	\$44.66 \$46.40 \$48.15 \$51.65	\$57.65 \$59.97 \$62.31 \$66.97	
l aborer	Underground - Tunnel, Shaft &	Caisson					
Class I - shanty m watchma	Tunnel, shaft and caisson laborer, nan, hog house tender, testing ma	, dump man, n (on gas), and	LAUCT-Z1-1	\$32.54	\$43.21	\$53.88	Н Н Н Н Н Н Н D Y
		Apprentice Rate	es:				
		0-1,000 work ho 1,001-2,000 wor 2,001-3,000 wor 3,001-4,000 wor	urs k hours k hours k hours	\$27.70 \$28.67 \$29.64 \$31.57	\$35.95 \$37.40 \$38.86 \$41.76	\$44.20 \$46.14 \$48.08 \$51.94	
Class II - tender, guard ra	<ul> <li>Manhole, headwall, catch basin b mortar man, material mixer, fence il builder.</li> </ul>	ouilder, bricklayer e erector, and	LAUCT-Z1-2	\$32.65	\$43.38	\$54.10	Н Н Н Н Н Н Н D Y
		Apprentice Rate	es:				
		0-1,000 work ho 1,001-2,000 wor 2,001-3,000 wor 3,001-4,000 wor	urs k hours k hours k hours	\$27.79 \$28.76 \$29.73 \$31.68	\$36.08 \$37.54 \$39.00 \$41.92	\$44.38 \$46.32 \$48.26 \$52.16	

Official Request #: 477 Requestor: TROY SCHOOL DISTRICT Project Description: ROOFING Project Number: VARIOUS BUILDINGS

County: Oakland

# **Official Rate Schedule**

**Issue Date:** 4/5/2007

Contract must be awarded by

7/4/2007

		Page 7 of 20				
<u>Classification</u> Name Description			Straight Hourly	Time and a Half	Double Time	Overtime Provision
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 h.p.).		LAUCT-Z1-3	\$32.71	\$43.47	\$54.22	Н Н Н Н Н Н Н Д Ү
	Apprentice Rat	es:				
	0-1,000 work ho	ours	\$27.83	\$36.14	\$44.46	
	1,001-2,000 wor	'k hours	\$28.81	\$37.62	\$46.42	
	2,001-3,000 wor	k hours	\$29.78	\$39.07	\$48.36	
	3,001-4,000 Wor	rk nours	\$31.73	\$42.00	\$52.26	
Class IV - Tunnel, shaft and caisson mucker, bracer man, liner plate man, long haul dinky driver and well point man.		LAUCT-Z1-4	\$32.89	\$43.74	\$54.58	нннннн рү
	Apprentice Rat	es:				
	0-1,000 work ho	urs	\$27.97	\$36.36	\$44.74	
	1,001-2,000 wor	rk hours	\$28.95	\$37.82	\$46.70	
	2,001-3,000 wor	k hours	\$29.94	\$39.31	\$48.68	
	3,001-4,000 wor	rk hours	\$31.91	\$42.26	\$52.62	
Class V - Tunnel, shaft and caisson miner, o keyboard operator, power knife operator, ro or mesh man (e.g. wire mesh, steel mats, o	drill runner, einforced steel dowel bars)	LAUCT-Z1-5	\$33.14	\$44.11	\$55.08	н н н н н н н р ү
	Apprentice Rat	es:				
	0-1,000 work ho	urs	\$28.16	\$36.64	\$45.12	
	1,001-2,000 wor	rk hours	\$29.15	\$38.12	\$47.10	
	2,001-3,000 wor	rk hours	\$30.15	\$39.62	\$49.10	
	3,001-4,000 wor	rk hours	\$32.14	\$42.61	\$53.08	
Class VI - Dynamite man and powder man		LAUCT-71-6	\$33 47	\$44 61	\$55 74	ннннннру
	Apprentice Rat	es:	¢00111	<b></b>	çcon i	
	0-1.000 work ho	urs	\$28.40	\$37.00	\$45.60	
	1,001-2,000 wor	'k hours	\$29.42	\$38.53	\$47.64	
	2,001-3,000 wor	rk hours	\$30.43	\$40.04	\$49.66	
	3,001-4,000 wor	rk hours	\$32.46	\$43.09	\$53.72	

Official Request #: 477 Requestor: TROY SCHOOL DISTRICT Project Description: ROOFING Project Number: VARIOUS BUILDINGS County: Oakland

# **Official Rate Schedule**

**Issue Date:** 4/5/2007

7/4/2007

Р	ade	8	of	20
	490	~	•••	~~

Contract must be awarded by

<u>Cla</u>	assification		-	Straight	Time and	Double	
Name	Description			Hourly	a Half	Time	Overtime Provision
Class VI cutting, property boxes a	I - Restoration laborer, seeding, sode mulching and topsoil grading and th y such as replacing mail boxes, wood nd flagstones.	\$26.75	\$34.53	\$42.30	Н Н Н Н Н Н Н О Ү		
		Apprentice Rate	s:				
		0-1,000 work hou	rs	\$23.36	\$29.44	\$35.52	
		1,001-2,000 work	hours	\$24.04	\$30.46	\$36.88	
		2,001-3,000 work	hours	\$24.72	\$31.48	\$38.24	
		3,001-4,000 work	hours	\$26.07	\$33.50	\$40.94	
Landsc	ape Laborer						
Landsca equipmo	pe specialist includes; air, gas, and c ent operator, lawn sprinkler installer.	diesel	LLAN-Z1-A	\$23.38	\$32.46	\$41.54	ХХНХХХНDҮ
Landsca sprinkle	pe laborer; small power tool operato r installer helper, material mover, tru	or, lawn ick driver.	LLAN-Z1-B	\$19.16	\$26.13	\$33.10	ххнхххндү
Marble	Finisher						
Marble	Finisher		TT32-MF	\$38.37	\$48.46	\$58.54	HHDHDDDN
		Apprentice Rate	s:				
		Level 1		\$18.73	\$24.22	\$29.71	
		Level 2		\$19.79	\$25.81	\$31.83	
		Level 3		\$23.93	\$30.38	\$36.83	
		Level 4		\$25.23	\$32.33	\$39.43	
		Level 5		\$26.56	\$33.85	\$41.14	
		Level 6		\$27.99 \$20.48	\$35.64 \$37.17	\$43.28 \$44.85	
		Level 8		\$30.80	\$38.73	\$46.65	
Marble	Mason						
Marble	Mason		TT32-MM	\$44.26	\$57.29	\$70.32	ннрнрррр
		Apprentice Rate	S:	•••===		<b>*</b> ····-	
		l evel 1		\$24,21	\$31.14	\$38.06	
		Level 2		\$26.93	\$34.56	\$42.20	
		Level 3		\$29.70	\$37.59	\$45.48	
		Level 4		\$32.10	\$40.83	\$49.56	
		Level 5		\$34.18	\$43.17	\$52.16	
		Level 6		\$37.52	\$48.11	\$58.71	
				\$38.55	\$49.53	\$60.51	
		Level 8		\$39.18	\$50.47	\$61.77	
Operati	ng Engineer						
Crane w	vith boom & jib or leads 120' or longe	er	EN-324-A120	\$47.81	\$64.26	\$80.70	HHDHDDDY
					<b>0</b> #!+!		
Officia		PICT			UTTICI	ai kai	le Scheaule
	Requestor. TROT SCHOOL DIST						

Project Number: VARIOUS BUILDINGS County: Oakland

Project Description: ROOFING

# Official 2007 Prevailing Wage Rates for State Funded Projects Issue Date: 4/5/2007 Contract must be awarded by 7/4/2007 Page 9 of 20

	Page 9 of 20				
Classification Name Description	-	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Crane with boom & jib or leads 140' or longer	EN-324-A140	\$48.63	\$65.49	\$82.34	нн D H D D D V
Crane with boom & jib or leads 220' or longer	EN-324-A220	\$48.93	\$65.94	\$82.94	ННДНДДДДҮ
Crane with boom & jib or leads 300' or longer	EN-324-A300	\$50.43	\$68.19	\$85.94	ННДНДДДДҮ
Crane with boom & jib or leads 400' or longer	EN-324-A400	\$51.93	\$70.44	\$88.94	ННОНОООУ
Compressor or welding machine	EN-324-CW	\$36.96	\$47.98	\$59.00	ННДНДДДДҮ
Forklift, lull, extend-a-boom forklift	EN-324-FL	\$44.27	\$58.95	\$73.62	ННДНДДДДҮ
Fireman or oiler	EN-324-FO	\$35.93	\$46.44	\$56.94	ННДНДДДДҮ
Regular crane, job mechanic, concrete pump	EN-324-RC	\$46.95	\$62.97	\$78.98	ННДНДДДДҮ
Regular engineer, hydro-excavator, remote controlled concrete breaker	EN-324-RE	\$45.98	\$61.51	\$77.04	ННДНДДДДҮ
Annrentice Rat					
Apprentice Rat		¢06.47	¢47.04	¢50.00	
Period 1 Deried 2		300.47 \$29.02	\$47.34 \$40.67	\$00.22 ¢61.22	
Period 3		\$30.02 \$30.57	\$49.07 \$52.00	\$61.32 \$61.42	
Period 4		\$39.37 \$41.12	\$52.00 \$54.32	\$67.52	
Period 5		\$42.68	\$56.66	\$70.64	
Period 6		\$44.23	\$58.99	\$73.74	
Operating Engineer - Marine Construction		¢40.20	¢c4 74	¢90.40	V V II II II II II D V
Divervivet render, Engineer (nydradiic dredge)	GLF-1	<b>\$49.29</b>	<b>Φ04.74</b>	<i>ф</i> о0.19	
Holidays paid at \$95.64 per hour					
Subdivision of county all Great Lakes, islands ther	ein, & connecting & tr	ibutary waters			
Crane/Backhoe Operator, Mechanic/Welder, Assistant Engineer (hydraulic dredge), Leverman (hydraulic dredge), Diver Tender	GLF-2	\$47.79	\$62.49	\$77.19	ХХНННННОҮ
Holidays paid \$91.89 per hour	roin 8 connecting 8 tr	ibutory waters			
Subdivision of county All Great Lakes, Islands the		ibulary waters			
Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs. or more), Tug/Launch Operator, Loader, Dozer and like equipment on Barge, Breakwater Wall, Slip/Doc or Scow, Deck Machinery	GLF-3	\$44.59	\$57.69	\$70.79	ХХНННННОҮ
Holidays paid at \$83.89 per hour					
			<b>\u</b> :~:		o Cohodula
Official Request #: 477			Unici	ai Rai	e Scheaule
Requestor: TROY SCHOOL DISTRICT Project Description: ROOFING		Every contrac	tor and sub	contracto	or shall keen posted
		on the constr	uction site.	in a consi	picuous place, a
Project Number: VARIOUS BUILDINGS County: Statewide		copy of all pro prescribed in	evailing wag a contract.	e and frir	nge benefit rates

# Official 2007 Prevailing Wage Rates for State Funded Projects Issue Date: 4/5/2007

Contract must be awarded by 7/4/2007

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<u>Cla</u> Name	<u>ssification</u> Descriptio	n ====================================			Straight Hourly	Time and a Half	Double Time	Overtime Provision
Subo	division of co	unty All Great L	akes, islands there	ein, & connecting & t	tributary waters			
Deck Eq equipme Crane M weighing	uipment Ope ent units or m aintenance 5 g 115,000 lbs	rator, (Machineryman/ nore), Deck Hand, Dec 0 ton capacity and und or less, Assistant Tug	Fireman), (4 k Engineer, & der or Backhoe Operator	GLF-4	\$40.19	\$51.09	\$61.99	ХХНННННОҮ
Holidays Subo	paid at \$72. division of col	89 per hour unty All Great L	akes, islands there	ein, & connecting & t	tributary waters			
Operati	na Engineer	Hazardous Waste Cl	200					
Level A pressure supplied available	- Fully encap e demand, ful air respirato e level of resp	sulating chemical resist l face piece SCBA or p r w/ escape SCBA. Th piratory, skin and eye p	ass i stant suit w/ ressure demand e highest protection.	EN-324-HWCI-Z1A	\$46.22	\$61.89	\$77.55	нннннн рү
		5 5.	Apprentice Rate	s:				
			1st 6 months 2nd 6 months 3rd 6 months 4th 6 months 5th 6 months 6th 6 months		\$36.62 \$38.18 \$39.75 \$41.31 \$42.89 \$44.45	\$47.58 \$49.92 \$52.28 \$54.62 \$56.99 \$59.33	\$58.55 \$61.67 \$64.81 \$67.93 \$71.09 \$74.21	
Level B or press w/chem purifying clothing	& C protectio ure demand nical resistant g canister-equ	n. B - Pressure demai supplied air respirator clothing. C - Full face upped respirator w/ch	nd, full face SCBA w/ escape SCBA e piece, air emical resistant	EN-324-HWCI-Z1B	\$45.27	\$60.46	\$75.65	Н Н Н Н Н Н Н О Ү
			Apprentice Rate	s:				
			1st 6 months 2nd 6 months 3rd 6 months 4th 6 months 5th 6 months 6th 6 months		\$35.95 \$37.48 \$39.00 \$40.52 \$42.04 \$43.56	\$46.59 \$48.88 \$51.16 \$53.44 \$55.72 \$58.00	\$57.21 \$60.27 \$63.31 \$66.35 \$69.39 \$72.43	
Level D aoaales	<ul> <li>Coveralls, s</li> <li>and hard hat</li> </ul>	afety boots, glasses or s.	chemical splash	EN-324-HWCI-Z1D	\$43.97	\$58.51	\$73.05	н н н н н н н р ү
3-33			Apprentice Rate	s:				
			1st 6 months 2nd 6 months 3rd 6 months 4th 6 months 5th 6 months 6th 6 months		\$35.05 \$36.51 \$37.95 \$39.42 \$40.86 \$42.32	\$45.23 \$47.43 \$49.58 \$51.79 \$53.95 \$56.13	\$55.41 \$58.33 \$61.21 \$64.15 \$67.03 \$69.95	
Officia	l Request #:	477				Offici	al Rat	e Schedule
Project	Requestor: Description:	TROY SCHOOL DIS ROOFING	TRICT		Every contrac	tor and sub	contracto	or shall keep posted
Proj	ect Number: County:	VARIOUS BUILDING Oakland	S		on the constr copy of all pro prescribed in	evailing wag a contract.	e and frin	nge benefit rates

**Issue Date:** 4/5/2007

7/4/2007

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Contract must be awarded by

<u>Cla</u> Name	<u>ssification</u> Description		Straight Hourly	Time and a Half	Double Time	Overtime Provision
Level D	When Capping Landfill Coveralls, safety boots, or chemical splash goggles and hard hats.	EN-324-HWCI-Z1DCL	\$43.72	========= \$58.14	\$72.55	нннннрү
	Apprentice Rate	s:				
	1st 6 months		\$34.87	\$44.96	\$55.05	
	2nd 6 months		\$36.31	\$47.12	\$57.93	
	3rd 6 months		\$37.76	\$49.30	\$60.83	
	4th 6 months		\$39.20	\$51.45	\$63.71	
	5th 6 months		\$40.63	\$53.60	\$66.57	
	6th 6 months		\$42.08	\$55.78	\$69.47	
Operati	ng Engineer Hazardous Waste Class II					
Level A - pressure supplied available	Fully encapsulating chemical resistant suit w/ demand, full face piece SCBA or pressure demand air respirator w/ escape SCBA. The highest level of respiratory, skin and eye protection.	EN-324-HWCII-Z1A	\$41.99	\$55.54	\$69.09	Н Н Н Н Н Н Н В Ү
Level B a or press w/chem purifying clothing.	& C protection. B - Pressure demand, full face SCBA ure demand supplied air respirator w/ escape SCBA ical resistant clothing. C - Full face piece, air canister-equipped respirator w/chemical resistant	EN-324-HWCII-Z1B	\$41.04	\$54.12	\$67.19	Н Н Н Н Н Н Н D Y
Level D goggles	<ul> <li>Coveralls, safety boots, glasses or chemical splash and hard hats.</li> </ul>	EN-324-HWCII-Z1D	\$39.74	\$52.17	\$64.59	нннннн рү
Level D glasses o	When Capping Landfill Coveralls, safety boots, or chemical splash goggles and hard hats.	EN-324-HWCII-Z1DCL	\$39.49	\$51.79	\$64.09	Н Н Н Н Н Н Н D Y
Operatio	ng Engineer Hazardous Waste Crane w/ Boom & J	lib				
		EN 004 1044 40 74 4	<b>•</b> • • • • <b>-</b>	<b>*</b> • <b>-</b> ••	<b>000 05</b>	
Level A pressure supplied available	erully encapsulating chemical resistant suit w/ demand, full face piece SCBA or pressure demand air respirator w/ escape SCBA. The highest level of respiratory, skin and eye protection.	EN-324-HW140-21A	\$48.87	\$65.86	\$82.85	нннннрү
Level B a or press w/chem purifying clothing.	& C protection. B - Pressure demand, full face SCBA ure demand supplied air respirator w/ escape SCBA ical resistant clothing. C - Full face piece, air canister-equipped respirator w/chemical resistant	EN-324-HW140-Z1B	\$47.92	\$64.44	\$80.95	Н Н Н Н Н Н Н D Y
Level D goggles	Coveralls, safety boots, glasses or chemical splash and hard hats.	EN-324-HW140-Z1D	\$46.62	\$62.49	\$78.35	ннннн р ү
Level D glasses o	When Capping Landfill Coveralls, safety boots, or chemical splash goggles and hard hats.	EN-324-HW140-Z1DCL	\$46.37	\$62.11	\$77.85	ннннн р ү

Official Request #: 477 Requestor: TROY SCHOOL DISTRICT Project Description: ROOFING Project Number: VARIOUS BUILDINGS County: Oakland

# **Official Rate Schedule**

# Official 2007 Prevailing Wage Rates for State Funded Projects Issue Date: 4/5/2007 Contract must be awarded by 7/4/2007 Page 12 of 20

ssue Date:	4/5/200
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Classification Name Description		Straight Hourly	Time and a Half	Double Time	Overtime Provision
Operating Engineer Hazardous Waste Crane w/ Boom &	Jib				
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	\$49.17	\$66.31	\$83.45	Н Н Н Н Н Н Н Д Ү
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	\$48.22	\$64.89	\$81.55	Н Н Н Н Н Н Н D Y
Level D Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW220-Z1D	\$46.92	\$62.94	\$78.95	Н Н Н Н Н Н Н D Y
Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW220-Z1DCL	\$46.67	\$62.56	\$78.45	Н Н Н Н Н Н Н D Y
Operating Engineer Hazardous Waste Regular Crane, Jol Mechanic, Dragline Operator, Boom Truck Operator, and Concrete Pump with Boom Operator	b				
Level D - Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWRC-Z1D	\$44.94	\$59.97	\$74.99	Н Н Н Н Н Н Н D Y
Operating Engineer Hazardous Waste Regular Crane, Jol Mechanic, Dragline Operator, Boom Truck Operator, Pow Shovel Operator and Concrete Pump with boom	b ver				
Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWRC-Z1DCL	\$44.07	\$58.66	\$73.25	Н Н Н Н Н Н Н D Y
Operating Engineer Hazardous Waste Regular Crane, Jol Mechanic, Dragline Operator, Boom Truck Operator, Pow Shovel Operator and Concrete Pump with booms	b ver				
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	\$46.24	\$61.92	\$77.59	Н Н Н Н Н Н Н D Y
Operating Engineer Hazardous Waste Regular Crane, Jol Mechanic, Dragline Operator, Boom Truck Operator, Pow Shovel Operators and Concrete Pump with booms	b ver				
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	\$47.19	\$63.34	\$79.49	Н Н Н Н Н Н Н D Y
Operating Engineer Steel Work					
Crane w/ 120' boom or longer	EN-324-SW120	\$51.51	\$69.80	\$88.08	Н Н В Н Н Н В В Ү
Official Request #: 477			Offici	al Rat	e Schedule
Requestor: IROY SCHOOL DISTRICT Project Description: ROOFING Project Number: VARIOUS BUILDINGS County: Oakland		Every contract on the constru- copy of all pre- prescribed in	tor and sub uction site, evailing wag a contract.	contracto in a consj je and frir	or shall keep posted picuous place, a nge benefit rates

Issue Date: 4/5/2007 Contract must be awarded by

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<u>Cla</u> Name	<u>ssification</u> Description		-	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Crane w	/ 120' boom or longer w/ Oiler		EN-324-SW120-O	\$52.51	\$71.30	\$90.08	ННДНННДДҮ
Crane w	/ 140' boom or longer		EN-324-SW140	\$52.69	\$71.57	\$90.44	ННДНННДДҮ
Crane w	/ 140' boom or longer W/ Oiler		EN-324-SW140-O	\$53.69	\$73.07	\$92.44	ННДНННДДҮ
Boom &	Jib 220' or longer		EN-324-SW220	\$52.96	\$71.97	\$90.98	ННДНННДДҮ
Crane w	/ 220' boom or longer w/ Oiler		EN-324-SW220-O	\$53.96	\$73.47	\$92.98	ННДНННДДҮ
Boom &	Jib 300' or longer		EN-324-SW300	\$54.46	\$74.22	\$93.98	ННДНННДДҮ
Crane w	/ 300' boom or longer w/ Oiler		EN-324-SW300-O	\$55.46	\$75.72	\$95.98	ННДНННДДҮ
Boom &	Jib 400' or longer		EN-324-SW400	\$55.96	\$76.47	\$96.98	ННДНННДДҮ
Crane w	/ 400' boom or longer w/ Oiler		EN-324-SW400-O	\$56.96	\$77.97	\$98.98	ННДНННДДҮ
Crane O	perator & Job Mechanic		EN-324-SWCO	\$51.15	\$69.26	\$87.36	ННДНННДДҮ
		Apprentice Rate	es:				
		0-999 hours		\$40.04	\$52.72	\$65.39	
		1,000-1,999 hou	rs	\$41.85	\$55.43	\$69.01	
		2,000-2,999 hou	rs	\$43.66	\$58.14	\$72.63	
		3,000-3,999 hou	rs	\$45.48	\$60.88 ¢co.50	\$/6.2/ ¢70.07	
		4,000-4,999 hou 5,000 hours	rs	\$47.28 \$49.10	\$66.31	\$79.87 \$83.51	
Crane w	/ Oiler		EN-324-SWCO-O	\$52.15	\$70.76	\$89.36	ННДНННДДҮ
Compres	ssor or Welder Operator		EN-324-SWCW	\$43.70	\$58.08	\$72.46	ННДНННДДҮ
Hoisting	Operator		EN-324-SWHO	\$50.51	\$68.30	\$86.08	ННДНННДДҮ
Oiler			EN-324-SWO	\$42.29	\$55.97	\$69.64	ННДНННДДҮ
Tower Crane & Derrick where work is 50' or more above first level		EN-324-SWTD50	\$52.24	\$70.89	\$89.54	ННДНННДДҮ	
Tower Crane & Derrick 50' or more w/ Oiler where work		EN-324-SWTD50-O	\$53.24	\$72.39	\$91.54	ННДНННДДҮ	

Official Request #: 477 Requestor: TROY SCHOOL DISTRICT Project Description: ROOFING Project Number: VARIOUS BUILDINGS County: Oakland

# **Official Rate Schedule**

# Official 2007 Prevailing Wage Rates for State Funded Projects Issue Date: 4/5/2007

Contract must be awarded by

7/4/2007

			Page 14 of 20				
<u>Clas</u> Name ======	<u>ssification</u> Description			Straight Hourly	Time and a Half	Double Time	Overtime Provision
Operatin	g Engineer Underground						
Class I E	quipment		EN-324A1-UC1	\$43.72	\$58.11	\$72.50	н н н н н н н р ү
		Apprentice Rate	es:				
		0-999 hours		\$34.89	\$44.97	\$55.04	
		1.000-1.999 hou	rs	\$36.33	\$47.13	\$57.92	
		2,000-2,999 hou	rs	\$37.76	\$49.27	\$60.78	
		3,000-3,999 hou	rs	\$39.21	\$51.45	\$63.68	
		4,000-4,999 hou	rs	\$40.65	\$53.61	\$66.56	
		5,000-5,999 hou	rs	\$42.09	\$55.77	\$69.44	
Class II E	Equipment		EN-324A1-UC2	\$38.99	\$51.02	\$63.04	ннннннрү
Class III	Equipment		EN-324A1-UC3	\$38.26	\$49.92	\$61.58	ННННННРҮ
Class IV	Equipment		EN-324A1-UC4	\$37.69	\$49.07	\$60.44	ННННННРҮ
Master M	lechanic		EN-324A1-UMM	\$43.97	\$58.49	\$73.00	ННННННРҮ
Painter							
Painter (8 be paid	8 hours of repaint work per time & one half rate)	formed on Sunday shall	PT-22-P	\$38.01	\$50.24	\$62.47	ННДНДДДЛИ
		Apprentice Rate	es:				
		First 6 months		\$25.78	\$31.89	\$38.01	
		Second 6 month	s	\$29.45	\$37.40	\$45.35	
		Third 6 months		\$30.67	\$39.23	\$47.79	
		Fourth 6 months		\$31.89	\$41.06	\$50.23	
		Fifth 6 months		\$33.12	\$42.91	\$52.69	
		Final 6 months		\$34.34	\$44.73	\$55.13	
Sandblasting & spraywork performed, on highway bridges, overpases, tanks or steel, OR spraywork & sandblasting done with a scaffold height of 40' above the floor level		PT-22-S	\$38.81	\$51.44	\$64.07	H H D H D D D D N	

Official Request #:	477	Official Ra
Requestor:	TROY SCHOOL DISTRICT	
Project Description:	ROOFING	Every contractor and subcontractor and subcont
Project Number: County:	VARIOUS BUILDINGS Oakland	copy of all prevailing wage and fr prescribed in a contract.

# ate Schedule

ctor shall keep posted hspicuous place, a ringe benefit rates prescribed in a contract.

**Issue Date:** 4/5/2007

Contract must be awarded by

7/4/2007

		Page 15 of 2	20		
<u>Cla</u> Name	<u>issification</u> Description		Straight Hourly	Time and a Half	Double Time Overtime Provision
Pipefitte	er				
Pipefitte	r	PF-636	\$51.46	\$66.44	<b>\$81.41</b> H H D H D D D D N
		Apprentice Rates:	,		• -
		1st & 2nd periods	\$26.23	\$33.23	\$40.23
		3rd period	\$28.23	\$36.23	\$44.23
		4th period	\$29.48	\$38.11	\$46.73
		5th period	\$30.73	\$39.98	\$49.23
		6th period	\$31.98	\$41.85	\$51.73
		7th period	\$33.23	\$43.73	\$54.23
		8th period	\$34.23	\$45.23	\$56.23
		9th period	\$35.23	\$46.73	\$58.23
		10th period	\$36.66	\$48.87	\$61.09
Plaster	er				
Plastere	r	BR1P	\$41.92	\$62.88	<b>\$83.84</b> H H H H H H H D N
		Apprentice Rates:			
		1st 6 months	\$21.61	\$32.41	\$43.22
		2nd 6 months	\$25.00	\$37.50	\$50.00
		3rd 6 months	\$28.39	\$42.59	\$56.78
		4th 6 months	\$31.83	\$47.75	\$63.66
		5th 6 months	\$35.16	\$50.94	\$67.92
		6th 6 months	\$38.53	\$57.80	\$77.06
Plastere	r	PL67	\$41.92	\$57.03	<b>\$72.14</b> H H H X D D D D N
		Apprentice Rates:			
		1st 6 months	\$23.71	\$29.72	\$35.72
		2nd 6 months	\$26.81	\$34.36	\$41.92
		3rd 6 months	\$29.83	\$38.90	\$47.96
		4th 6 months	\$32.85	\$43.42	\$54.00
		5th 6 months	\$35.88	\$47.97	\$60.06
		6th 6 months	\$38.90	\$52.50	\$66.10

Official Request #: 477 Requestor: TROY SCHOOL DISTRICT Project Description: ROOFING Project Number: VARIOUS BUILDINGS County: Oakland

# **Official Rate Schedule**

**Issue Date:** 4/5/2007

Contract must be awarded by

7/4/2007

			Page 16 of 20				
<u>Cla</u>	ssification		-	Straight	Time and	Double	
Name ======	Description			Hourly	a Half ==========	l ime =======	Overtime Provision
Plumbe	r						
Plumber			PL-98	\$51.88	\$68.40	\$84.91	ннрнррру
		Apprentice Ra	tes:		·		
		Period 1		\$17 11	\$23.41	\$29.71	
		Period 2		\$17.11	\$23.41	\$29.71	
		Period 3		\$26.78	\$35.13	\$43.47	
		Period 4		\$27.41	\$36.07	\$44.73	
		Period 5		\$28.57	\$37.81	\$47.05	
		Period 6		\$29.72	\$39.53	\$49.35	
		Period 7		\$30.87	\$41.26	\$51.65	
		Period 8		\$32.04	\$43.01	\$53.99	
		Period 9		\$33.19	\$44.74	\$56.29	
		Period 10		\$34.35	\$46.48	\$58.61	
Roofer							
Commer	cial Roofer		RO-149-WOM	\$45.01	\$58.72	\$72.42	ННОНННООN
Straight (40) ho	time is not to exceed ten urs per week.	(10) hours per day or fort	у				
		Apprentice Ra	tes:				
		Apprentice 1		\$29.78	\$36.88	\$44.64	
		Apprentice 2		\$33.80	\$41.54	\$49.52	
		Apprentice 3		\$35.16	\$43.50	\$52.14	
		Apprentice 4		\$36.15	\$44.94	\$54.06	
		Apprentice 5		\$37.33	\$46.64	\$56.32	
		Apprentice 6		\$38.67	\$48.58	\$58.90	
Sheet M	letal Worker						
Sheet M	etal Worker		SHM-80	\$51.82	\$69.04	\$86.25	ННОНОООУ
		Apprentice Ra	tes:				
		First Year		\$34.61	\$43.22	\$51.83	
		Second Year		\$35.98	\$45.27	\$54.57	
		Third Year		\$37.36	\$47.34	\$57.33	
		Fourth Year		\$40.11	\$51.47	\$62.83	
		Fifth Year		\$42.86	\$55.59	\$68.33	
Siding &	Decking		SHM-80-SD	\$34.58	\$46.03	\$57.48	ннннннрү

Official Request #:	477
Requestor:	TROY SCHOOL DISTRICT
Project Description:	ROOFING
Project Number:	VARIOUS BUILDINGS
County:	Oakland

# **Official Rate Schedule**

**Issue Date:** 4/5/2007

Contract must be awarded by

7/4/2007

Page 17 of 20					
<u>Classification</u> Name Description		Straight Hourly	Time and a Half	Double Time	Overtime Provision
Sprinkler Fitter					
Sprinkler Fitter	SP 704	\$54.02	\$72.89	\$91.75	ННОНОООУ
	Apprentice Rates:				
	1st Period	\$31.38	\$38.93	\$46.47	
	2nd Period	\$33.27	\$41.76	\$50.25	
	3rd Period	\$35.15	\$44.58	\$54.01	
	4th Period	\$37.04	\$47.41	\$57.79	
	5th Period	\$38.93	\$50.25	\$61.57	
	6th Period	\$40.81	\$53.07	\$65.33	
	7th Period	\$42.70	\$55.91	\$69.11	
	8th Period	\$44.59	\$58.74	\$72.89	
	9th Period	\$46.47	\$61.56	\$76.65	
	10th Period	\$48.36	\$64.39	\$80.43	
Terrazzo					
Terrazzo Finisher	TT32-TRF	\$38.77	\$49.06	\$59.34	HHDHDDDN
	Apprentice Rates:				
	Level 1	\$19.72	\$25.71	\$31.69	
	Level 2	\$20.39	\$26.71	\$33.03	
	Level 3	\$23.86	\$30.27	\$36.69	
	Level 4	\$25.16	\$32.23	\$39.29	
	Level 5	\$26.49	\$33.74	\$41.00	
	Level 6	\$27.92	\$35.33	\$42.74	
	Level 7	\$29.41	\$37.18	\$44.96	
	Level 8	\$30.73	\$38.74	\$46.76	
Terrazzo Worker	TT32-TRW	\$43.79	\$56.59	\$69.38	ННДНДДДЛ
	Apprentice Rates:				
	Level 1	\$24.11	\$30.98	\$37.86	
	Level 2	\$26.83	\$34.42	\$42.00	
	Level 3	\$29.60	\$37.44	\$45.28	
	Level 4	\$32.00	\$40.68	\$49.36	
	Level 5	\$34.08	\$43.15	\$52.21	
	Level 6	\$37.34	\$47.85	\$58.35	
	Level 7	\$38.42	\$49.33	\$60.25	
	Level 8	\$39.25	\$50.58	\$61.91	

Official Request #:	477
Requestor:	TROY SCHOOL DISTRICT
Project Description:	ROOFING
Project Number:	VARIOUS BUILDINGS
County:	Oakland

# **Official Rate Schedule**

**Issue Date:** 4/5/2007

Page 18 of 20           Name         Description         Straight         Time and Houry         Time and Time         Overtime Provision           The           Tile           Tile           Level 1         \$38.39         \$48.49         \$58.58         H H D H D D D D D N           Level 1         \$22.66         \$31.63         \$24.07         \$29.51           Level 1         \$22.83         \$30.23         \$36.63         \$32.18         \$30.23         \$36.63         \$24.07         \$29.51         \$24.64         \$30.23         \$36.63         \$24.07         \$29.51         \$24.64         \$30.23         \$36.63         \$24.06         \$33.70         \$44.45         \$44.65         \$30.23         \$36.63         \$24.64         \$30.23         \$36.63         \$24.64         \$30.23         \$36.63         \$24.64         \$30.23         \$36.63         \$34.46.5         \$37.66         \$37.70         \$44.46.5         \$44.65         \$44.65         \$44.65         \$44.65         \$44.65         \$44.65         \$44.65         \$44.65         \$45.64         \$45.76         \$46.45         \$44.65         \$44.65         \$44.65         \$45.64         \$45.76         \$46.45         \$4		Contra	act must be	awarded by	7/4/2007			
Classification         Straight         Time and Hourty         Double           Name         Description         Hourty         a Hait         Time         Overtime Provision           Tile         T132-TF         \$38.39         \$48.49         \$58.58         H D H D D D D D M           Level 1         \$18.63         \$24.07         \$29.51         \$29.51           Level 1         \$18.63         \$24.07         \$29.51           Level 2         \$19.69         \$25.66         \$31.83           Level 3         \$23.83         \$30.23         \$36.63           Level 4         \$22.18         \$37.08         \$39.23           Level 5         \$27.59         \$33.48         \$43.09           Level 6         \$27.89         \$35.71         \$40.94           Level 7         \$29.38         \$37.70         \$40.94           Level 8         \$30.70         \$38.57         \$46.45           Tile Layer         TT32-TL         \$43.69         \$56.44         \$59.18         H D H D D D D D D           Apprentice Rates:         Level 4         \$30.70         \$38.57         \$46.45           Level 8         \$33.70         \$40.94         \$51.86         \$49.95           Le				Page 18 of 20				
Table         Todary         a Tab         Title           Tile         Ti32-TF         \$38.39         \$48.49         \$58.58         H H D H D D D D D N           Apprentice Rates:         Level 1         \$18.63         \$24.07         \$29.51           Level 2         \$19.69         \$25.66         \$31.63         Level 3           Level 3         \$22.38         \$30.23         \$36.63           Level 4         \$25.13         \$32.48         \$30.23           Level 5         \$26.46         \$33.70         \$40.94           Level 6         \$27.98         \$37.01         \$44.65           Level 7         \$29.38         \$37.01         \$44.65           Level 8         \$30.70         \$38.57         \$46.45           Tile Layer         TT32-TL         \$43.69         \$56.44         \$69.18         H H D H D D D D D N           Apprentice Rates:         Level 8         \$30.70         \$38.57         \$46.45         \$22.00         \$40.68         \$43.36           Level 8         \$32.00         \$40.68         \$43.96         \$37.48         \$45.28           Level 1         \$22.47.77         \$58.25         \$56.44         \$69.16           Level 3         \$32.00	<u>Cl</u>	assification Description		-	Straight	Time and	Double	Overtime Provision
Tile       Ti3-TF       \$38.39       \$48.49       \$58.58       H H D H D D D D D D D         Apprentice Rates:         Level 1       \$19.69       \$25.66       \$31.63         Level 2       \$19.69       \$25.66       \$31.63         Level 3       \$20.37       \$40.94       \$32.23       \$36.63         Level 4       \$25.13       \$32.18       \$32.23       \$36.63         Level 5       \$26.46       \$33.70       \$40.94       \$43.08         Level 7       \$29.38       \$37.01       \$44.65       \$43.08         Level 7       \$29.38       \$37.44       \$45.28       \$45.28         Level 7       \$29.38       \$37.44       \$45.28       \$45.28         Level 1       \$24.47       \$30.98       \$37.86       \$43.86         Level 2       \$28.68       \$34.42       \$42.00       \$45.88       \$44.45         Level 1       \$29.68       \$37.29       \$47.77       \$58.25       \$58.16         Level 2       \$29.68       \$37.29       \$47.77       \$58.25       \$59.15         Level 3       \$37.86       \$38.77       \$58.16       \$18.64       \$18.64       \$18.64         Level 4       \$32.08<	======					a i iaii =========	=======	
Tile Finisher       T132-TF       \$38.39       \$48.49       \$58.58       H H D H D D D D D M         Level 2       \$18.63       \$24.07       \$29.51       \$29.51         Level 2       \$19.69       \$25.66       \$31.63       \$24.07       \$29.51         Level 3       \$23.83       \$30.23       \$36.63       \$31.63         Level 4       \$28.83       \$32.218       \$39.23       \$36.63         Level 5       \$26.46       \$33.70       \$40.94       \$44.65         Level 6       \$30.70       \$38.57       \$46.45       \$44.65         Level 6       \$30.70       \$38.57       \$46.45       \$44.65         Level 7       \$29.38       \$37.01       \$44.65       \$42.00         Level 8       \$30.70       \$43.69       \$57.44       \$46.54       \$42.00         Level 1       \$20.06       \$37.44       \$45.28       \$42.00       \$46.44       \$49.36         Level 1       \$20.06       \$37.44       \$45.28       \$42.00       \$48.91       \$49.36         Level 3       \$32.00       \$40.81       \$49.36       \$58.15       \$58.16       \$45.98       \$58.16         Level 4       \$32.00       \$40.77       \$58.25	Tile							
Apprentice Rates:         No.           Level 1         \$18.63         \$24.07         \$29.51           Level 2         \$19.69         \$25.66         \$31.63           Level 3         \$23.83         \$30.23         \$36.63           Level 4         \$25.66         \$33.70         \$40.94           Level 5         \$26.46         \$33.70         \$40.94           Level 6         \$27.89         \$35.48         \$43.08           Level 6         \$27.89         \$35.48         \$44.65           Level 7         \$28.36         \$37.01         \$44.65           Level 8         \$30.70         \$38.57         \$46.45           Tile Layer         T132-TL         \$43.69         \$56.44         \$69.18         H H D H D D D D D N           Apprentice Rates:         224.11         \$30.98         \$37.46         \$42.20           Level 1         \$28.63         \$34.42         \$42.00         \$40.93           Level 3         \$20.60         \$37.44         \$45.28         \$40.93           Level 4         \$32.08         \$37.44         \$45.28         \$49.36           Level 5         \$34.03         \$42.94         \$51.86         \$49.96           Level 6	Tile Fin	isher		TT32-TF	\$38.39	\$48.49	\$58.58	ннрнррри
Level 1       \$18.63       \$24.07       \$29.51         Level 2       \$19.69       \$25.66       \$31.63         Level 3       \$23.83       \$30.23       \$36.63         Level 4       \$25.13       \$32.18       \$39.23         Level 5       \$27.89       \$35.48       \$40.94         Level 6       \$27.89       \$35.48       \$40.94         Level 7       \$29.38       \$37.01       \$44.65         Level 7       \$29.38       \$37.01       \$44.65         Level 7       \$29.61       \$30.70       \$38.57       \$46.45         Tile Layer       T132-TL       \$43.69       \$56.44       \$69.18 H H D H D D D D D M         Appentice Rates:       Level 1       \$30.70       \$38.57       \$46.45         Level 8       >       \$30.70       \$38.57       \$46.45         Tile Layer       T132-TL       \$43.69       \$56.44       \$69.18 H H D H D D D D D M         Level 1       \$29.60       \$37.44       \$45.28       \$20.00       \$37.44       \$45.28         Level 5       \$37.67       \$48.51       \$59.15       \$20.60       \$37.47       \$50.81         I evel 6       \$37.29       \$47.77       \$50.81       H H H H H			Apprentice	Rates:				
Level 2       \$19.69       \$25.66       \$31.63         Level 3       \$22.83       \$30.23       \$36.63         Level 4       \$22.13       \$32.24       \$30.63         Level 5       \$26.46       \$33.70       \$40.94         Level 6       \$27.89       \$35.48       \$43.08         Level 7       \$29.38       \$37.01       \$44.45         Level 8       \$30.70       \$38.57       \$46.45         Tile Layer       T132.7L       \$43.69       \$56.44       \$69.18       H H D H D D D D D N         Apprentice Rates:       Level 1       \$20.98       \$37.46       \$37.86         Level 1       \$20.00       \$37.44       \$45.28       \$45.38         Level 4       \$32.00       \$40.68       \$49.36         Level 5       \$37.29       \$47.77       \$58.25         Level 6       \$37.29       \$47.77       \$58.25         Level 7       \$33.66       \$33.76       \$48.51       \$59.15         Level 8       `37.87       \$48.51       \$59.15       \$59.15         Level 7       \$37.87       \$48.51       \$59.15       \$59.15         Level 7       \$33.70       \$33.76       \$36.31       `H H H H H H H			Level 1		\$18.63	\$24.07	\$29.51	
Level 3       \$30,23       \$30,23       \$36,63         Level 4       \$25,13       \$32,18       \$39,23         Level 5       \$26,46       \$37,00       \$40,94         Level 6       \$27,89       \$35,48       \$43,08         Level 7       \$29,38       \$37,01       \$44,65         Tile Layer       TT32-TL       \$43,69       \$56,44       \$69,18       H H D H D D D D D N         Apprentice Rates:       1       \$22,683       \$34,42       \$42,00         Level 1       \$26,683       \$34,42       \$42,00       \$42,00         Level 2       \$26,60       \$37,44       \$45,28         Level 3       \$20,60       \$37,44       \$45,28         Level 4       \$22,00       \$40,68       \$49,36         Level 5       \$34,03       \$42,94       \$51,86         Level 4       \$32,00       \$40,68       \$49,36         Level 5       \$37,87       \$48,51       \$59,15         Level 6       \$37,29       \$47,77       \$58,25         Level 7       \$33,767       \$48,51       \$59,15         Level 7       \$33,767       \$48,51       \$59,15         Level 8       \$33,777       \$48,51			Level 2		\$19.69	\$25.66	\$31.63	
Level 4       \$25.13       \$32.18       \$39.23         Level 5       \$26.46       \$33.70       \$40.94         Level 6       \$27.80       \$35.48       \$43.08         Level 7       \$29.38       \$37.01       \$44.65         Sign 70       \$38.57       \$46.45         Tile Layer       T132-TL       \$43.69       \$56.44       \$69.18       H H D H D D D D D N         Apprentice Rates:       Level 1       \$30.70       \$38.57       \$46.45         Level 2       \$26.83       \$34.42       \$42.00         Level 3       \$29.60       \$37.44       \$45.28         Level 4       \$29.60       \$37.44       \$45.28         Level 3       \$29.60       \$37.44       \$45.28         Level 4       \$32.00       \$40.68       \$49.36         Level 5       \$34.03       \$42.94       \$51.86         Level 6       \$37.79       \$48.51       \$59.15         Level 7       \$37.87       \$48.51       \$59.15         Level 8       TM-RB1       \$33.66       \$35.99       H H H H H H H M         on all trucks of 8 cubic yard capacity or less       TM-RB1A       \$33.61       \$36.36       H H H H H H H M         On e			Level 3		\$23.83	\$30.23	\$36.63	
Level 5 Level 6 Level 7 Level 7 Level 8       \$26.46 \$37.01       \$34.09 \$44.65         Tile Layer       TI32.TL Level 8       \$43.69 \$30.70       \$56.44       \$69.18       H H D H D D D D D N         Apprentice Rates:       22.01 \$22.01       \$44.65       \$30.70       \$37.86         Level 1 			Level 4		\$25.13	\$32.18	\$39.23	
Level 6       \$27.89       \$35.48       \$43.08         Tile Layer       T132-TL       \$43.69       \$44.65         Apprentice Rates:       \$24.11       \$30.98       \$37.86         Level 1       \$26.83       \$34.42       \$42.00         Level 2       \$26.83       \$34.42       \$42.00         Level 3       \$20.08       \$37.86       \$48.51         Level 4       \$22.00       \$37.44       \$45.28         Level 5       \$34.03       \$42.94       \$45.18         Level 6       \$37.87       \$48.51       \$59.15         Level 8       \$37.87       \$48.51       \$59.15         Level 8       \$33.76       \$33.76       \$36.81         Level 8       \$37.87       \$48.51       \$59.15         Level 8       \$33.78       \$44.93       \$45.28         Level 8       \$33.76       \$36.14       H H H H H H H H H H H H         on all trucks of 8 cubic yard capacity or over       TM-RB1A       \$33.36       \$36.14       H H H H H H H H H H H H H H H H H H H			Level 5		\$26.46	\$33.70	\$40.94	
Level 7 Level 8       \$29.38 \$30.70       \$38.57       \$44.65 \$46.45         Tile Layer       T132-TL       \$43.69       \$56.44       \$69.18       H H D H D D D D D N         Apprentice Rates:       Level 1       \$20.83       \$37.44       \$44.200         Level 2       \$26.83       \$34.42       \$42.00         Level 3       \$29.60       \$37.44       \$45.28         Level 4       \$32.00       \$40.68       \$49.36         Level 5       \$34.03       \$42.94       \$51.86         Level 6       \$37.29       \$47.77       \$58.25         Level 7       \$37.87       \$48.51       \$59.15         Level 8       \$37.86       \$35.78       \$48.51         Status 7       \$48.51       \$59.15       \$50.81         Track Driver         on all trucks of 8 cubic yard capacity or less       TM-RB1       \$33.76       \$36.14       H H H H H H H H H H H         on euclid type equipment       TM-RB1B       \$33.91       \$36.36       H H H H H H H H H H H H       TH H H         Underground Laborer Open Cut, Class I       \$30.70       \$32.39       \$42.99       \$53.58       H H H H H H H H H H H H H H         On euclid type equipment       TM-RB1B       \$			Level 6		\$27.89	\$35.48	\$43.08	
Level 8       \$30.70       \$38.57       \$46.45         Tile Layer       TT32-TL       \$43.69       \$69.18       H H D H D D D D D D N         Apprentice Rates:       Level 1       \$30.70       \$38.57       \$69.18       H H D H D D D D D N         Level 1       \$20.60       \$37.46       \$42.00       \$49.36       \$49.36         Level 2       \$26.63       \$34.42       \$42.00       \$40.68       \$49.36         Level 3       \$20.60       \$37.44       \$45.28       \$49.36         Level 4       \$32.00       \$40.68       \$49.36       \$49.36         Level 5       \$34.03       \$42.94       \$51.86       \$49.36         Level 6       \$37.87       \$48.51       \$59.15       \$50.81         Level 7       \$33.76       \$36.44       H H H H H H H H H H H H       \$49.75         of all trucks of 8 cubic yard capacity or over       TM-RB1A       \$33.76       \$36.14       H H H H H H H H H H H H H H H H H H H			Level 7		\$29.38	\$37.01	\$44.65	
Tile Layer       T132-TL       \$43.69       \$56.44       \$69.18       H H D H D D D D D M         Apprentice Rates:       Level 1       \$30.98       \$37.86       \$37.86         Level 2       \$26.83       \$34.42       \$42.00         Level 3       \$29.60       \$37.44       \$45.28         Level 4       \$29.60       \$37.44       \$45.28         Level 5       \$34.03       \$42.94       \$51.86         Level 6       \$37.29       \$47.77       \$58.25         Level 7       \$37.87       \$48.51       \$59.15         Level 8       TM-RB1       \$33.66       \$35.99       H H H H H H H H H H M         of all trucks of 8 cubic yard capacity or over       TM-RB1A       \$33.76       \$36.14       H H H H H H H H H H M         of all trucks of 8 cubic yard capacity or over       TM-RB1A       \$33.76       \$36.14       H H H H H H H H H H M       M         On euclid type equipment       TM-RB1B       \$33.91       \$36.36       H H H H H H H H H H H H M       M         Construction Laborer Open Cut, Class I       LuC-Z1-1       \$32.39       \$42.99       \$53.58       H H H H H H H H H M D         Oright trucks of 8 cubic yand capacity or over       TM-RB1A       \$33.91       \$36.36       H H H H H H			Level 8		\$30.70	\$38.57	\$46.45	
Apprentice Rates:       Level 1       \$24.11       \$30.98       \$37.86         Level 2       \$26.83       \$34.42       \$42.00         Level 2       \$29.60       \$37.44       \$45.28         Level 4       \$32.00       \$40.68       \$49.36         Level 5       \$34.03       \$42.94       \$51.86         Level 6       \$37.29       \$47.77       \$58.25         Level 7       \$38.70       \$49.75       \$60.81         Level 7       \$38.70       \$49.75       \$60.81         Level 7       \$33.66       \$35.99       H H H H H H H H H M         of all trucks of 8 cubic yard capacity or less       TM-RB1       \$33.76       \$36.14       H H H H H H H H H M         of all trucks of 8 cubic yard capacity or over       TM-RB1B       \$33.91       \$36.36       H H H H H H H H H H M       M         On euclid type equipment       TM-RB1B       \$33.91       \$36.36       H H H H H H H H H M       M         Underground Laborer Open Cut, Class I       LuUC-Z1-1       \$32.39       \$42.99       \$53.58       H H H H H H H H D       M         On struction Laborer       LuUC-Z1-1       \$32.39       \$42.99       \$53.58       H H H H H H H D       M         On (00 work hours	Tile Lay	/er		TT32-TL	\$43.69	\$56.44	\$69.18	ннрнррри
Level 1       \$24.11       \$30.98       \$37.86         Level 2       \$26.83       \$34.42       \$42.00         Level 3       \$29.60       \$37.44       \$45.28         Level 4       \$32.00       \$40.68       \$49.36         Level 5       \$34.03       \$42.94       \$51.86         Level 6       \$37.29       \$47.77       \$58.25         Level 7       \$33.87       \$48.51       \$59.15         Level 8       \$38.70       \$49.75       \$60.81         Truck Driver         on all trucks of 8 cubic yard capacity or less       TM-RB1       \$33.66       \$35.99       H H H H H H H H H         on euclid type equipment       TM-RB1A       \$33.76       \$36.14       H H H H H H H H H       Yes         Construction Laborer Open Cut, Class I       Construction Laborer Open Cut, Class I       Yes       Yes <td>-</td> <td></td> <td>Apprentice</td> <td>Rates:</td> <td></td> <td></td> <td></td> <td></td>	-		Apprentice	Rates:				
Level 2       \$26.83       \$34.42       \$42.00         Level 3       \$29.60       \$37.44       \$45.28         Level 4       \$32.00       \$40.68       \$49.36         Level 5       \$34.03       \$42.94       \$51.86         Level 6       \$37.29       \$47.77       \$58.25         Level 7       \$38.70       \$49.75       \$60.81         Truck Driver         on all trucks of 8 cubic yard capacity or less       TM-RB1       \$33.66       \$35.99       H H H H H H H H H         of all trucks of 8 cubic yard capacity or over         TM-RB1A       \$33.76       \$36.14       H H H H H H H H H       M         on euclid type equipment       TM-RB1B       \$33.91       \$36.36       H H H H H H H H       M         Underground Laborer Open Cut, Class I         Construction Laborer       LAUC-Z1-1       \$32.39       \$42.99       \$53.58       H H H H H H H D       M         Apprentice Rates:         0-1,000 work hours       \$22.55       \$37.22       \$45.90         1,001-2,000 work hours       \$28.55       \$37.22       \$45.90			l evel 1		\$24 11	\$30.98	\$37.86	
Level 3       \$29.60       \$37.44       \$45.28         Level 4       \$32.00       \$40.68       \$49.36         Level 5       \$34.03       \$42.94       \$51.86         Level 6       \$37.29       \$47.77       \$58.25         Level 7       \$38.70       \$49.75       \$60.81         Truck Driver         on all trucks of 8 cubic yard capacity or less       TM-RB1       \$33.66       \$35.99       H H H H H H H H H H         of all trucks of 8 cubic yard capacity or over       TM-RB1A       \$33.76       \$36.14       H H H H H H H H H       H         on euclid type equipment       TM-RB1B       \$33.91       \$36.36       H H H H H H H H H       H         Underground Laborer Open Cut, Class I         Construction Laborer       LAUC-Z1-1       \$32.39       \$42.99       \$53.58       H H H H H H H D       H         Apprentice Rates:       0-1,000 work hours       \$27.59       \$35.78       \$43.98         0.1,000 work hours       \$28.55       \$37.22       \$45.90			Level 2		\$26.83	\$34.42	\$42.00	
Level 4       \$32.00       \$40.68       \$49.36         Level 5       \$34.03       \$42.94       \$51.86         Level 6       \$37.29       \$47.77       \$58.25         Level 7       \$37.87       \$48.51       \$59.15         Level 8       \$33.66       \$35.99       H H H H H H H H H H         of all trucks of 8 cubic yard capacity or less       TM-RB1       \$33.66       \$36.14       H H H H H H H H H         of all trucks of 8 cubic yard capacity or over       TM-RB1A       \$33.76       \$36.14       H H H H H H H H H       Y         on euclid type equipment       TM-RB1B       \$33.91       \$36.36       H H H H H H H H H       Y         Underground Laborer Open Cut, Class I       Construction Laborer       LAUC-Z1-1       \$32.39       \$42.99       \$53.58       H H H H H H H H D Y         Apprentice Rates:       0-1,000 work hours       \$27.59       \$35.78       \$43.98         1,001-2,000 work hours       \$28.55       \$37.22       \$45.90			Level 3		\$29.60	\$37.44	\$45.28	
Level 5       \$34.03       \$42.94       \$51.86         Level 5       \$37.29       \$47.77       \$58.25         Level 7       \$38.70       \$49.75       \$60.81         Truck Driver         on all trucks of 8 cubic yard capacity or less       TM-RB1       \$33.66       \$35.99       H H H H H H H H H H         of all trucks of 8 cubic yard capacity or over       TM-RB1A       \$33.76       \$36.14       H H H H H H H H H       H         on euclid type equipment       TM-RB1B       \$33.91       \$36.36       H H H H H H H H H       H         Underground Laborer Open Cut, Class I       Construction Laborer       LAUC-Z1-1       \$32.39       \$42.99       \$53.58       H H H H H H H H D Y         On on work hours       \$27.59       \$35.78       \$43.98       \$43.98       \$45.99       \$53.58       H H H H H H H D Y			Level 4		\$32.00	\$40.68	\$49.36	
Level 6       \$37.29       \$47.77       \$58.25         Level 6       \$37.87       \$48.51       \$59.15         Level 8       \$38.70       \$49.75       \$60.81         Truck Driver         on all trucks of 8 cubic yard capacity or less       TM-RB1       \$33.66       \$35.99       H H H H H H H H H H         of all trucks of 8 cubic yard capacity or over       TM-RB1A       \$33.76       \$36.14       H H H H H H H H H       H         on euclid type equipment       TM-RB1B       \$33.91       \$36.36       H H H H H H H H H       H         Underground Laborer Open Cut, Class I       Construction Laborer       LAUC-Z1-1       \$32.39       \$42.99       \$53.58 H H H H H H H H D M         Apprentice Rates:       0-1,000 work hours       \$27.59       \$35.78       \$43.98         0.1,001-2,000 work hours       \$28.55       \$37.22       \$45.90			Level 5		\$34.03	\$42.94	\$51.86	
Level 7       \$37.87       \$48.51       \$59.15         Level 8       \$38.70       \$49.75       \$60.81         Truck Driver         on all trucks of 8 cubic yard capacity or less       TM-RB1       \$33.66       \$35.99       H H H H H H H H H H         of all trucks of 8 cubic yard capacity or over       TM-RB1A       \$33.76       \$36.14       H H H H H H H H H       H         on euclid type equipment       TM-RB1B       \$33.91       \$36.36       H H H H H H H H       H         Underground Laborer Open Cut, Class I         Construction Laborer       LAUC-Z1-1       \$32.39       \$42.99       \$53.58       H H H H H H H H D Y         Apprentice Rates:       0-1,000 work hours       \$27.59       \$35.78       \$43.98         1,001-2,000 work hours       \$28.55       \$37.22       \$45.90			Level 6		\$37.29	\$47 77	\$58.25	
Level 8       \$38.70       \$49.75       \$60.81         Truck Driver       on all trucks of 8 cubic yard capacity or less       TM-RB1       \$33.66       \$35.99       H H H H H H H H H H         of all trucks of 8 cubic yard capacity or over       TM-RB1A       \$33.76       \$36.14       H H H H H H H H H       H H         on euclid type equipment       TM-RB1B       \$33.91       \$36.36       H H H H H H H H H       H H         Underground Laborer Open Cut, Class I       Construction Laborer       LAUC-Z1-1       \$32.39       \$42.99       \$53.58       H H H H H H H H D M         Apprentice Rates:       0-1,000 work hours       \$27.59       \$35.78       \$43.98			Level 7		\$37.87	\$48.51	\$59.15	
Truck Driver       TM-RB1       \$33.66       \$35.99       H H H H H H H H H H H H H H H H H H H			Level 8		\$38.70	\$49.75	\$60.81	
on all trucks of 8 cubic yard capacity or lessTM-RB1\$33.66\$35.99H H H H H H H H H H H H H H H H H H H	Truck	Driver						
of all trucks of 8 cubic yard capacity or over       TM-RB1A       \$33.76       \$36.14       H H H H H H H H H H H H H H H H H H H	on all t	rucks of 8 cubic yard capacity or le	ess	TM-RB1	\$33.66	\$35.99		ннннннн
on euclid type equipment       TM-RB1B       \$33.91       \$36.36       H H H H H H H H H H H H H H H H H H H	of all tr	ucks of 8 cubic yard capacity or ov	ver	TM-RB1A	\$33.76	\$36.14		ннннннн
Underground Laborer Open Cut, Class I         LAUC-Z1-1         \$32.39         \$42.99         \$53.58         H H H H H H H D Y           Construction Laborer         LAUC-Z1-1         \$32.39         \$42.99         \$53.58         H H H H H H D Y           Apprentice Rates:         0-1,000 work hours         \$27.59         \$35.78         \$43.98           1,001-2,000 work hours         \$28.55         \$37.22         \$45.90	on eucl	id type equipment		TM-RB1B	\$33.91	\$36.36		ннннннн
Construction Laborer         LAUC-Z1-1         \$32.39         \$42.99         \$53.58         H H H H H H H D Y           Apprentice Rates:         0-1,000 work hours         \$27.59         \$35.78         \$43.98           1,001-2,000 work hours         \$28.55         \$37.22         \$45.90	Underg	ground Laborer Open Cut, Class	1					
Apprentice Rates:0-1,000 work hours\$27.59\$35.78\$43.981,001-2,000 work hours\$28.55\$37.22\$45.90	Constru	action Laborer		LAUC-Z1-1	\$32.39	\$42.99	\$53.58	ннннннр
0-1,000 work hours \$27.59 \$35.78 \$43.98 1,001-2,000 work hours \$28.55 \$37.22 \$45.90			Apprentice	Rates:				
1,001-2,000 work hours \$28.55 \$37.22 \$45.90			0-1 000 wor	chours	\$27 50	\$35.78	\$43.08	
			1 001-2 000	work hours	\$28.55	\$37.22	\$ <u>45</u> 00	
2 (1)1-3 (1)0 work hours \$29.51 \$38.66 \$47.82			2 001-3 000	work hours	\$29.50	\$38.66	\$47.82	
3,001-4,000 work hours \$31,43 \$41,54 \$51,66			3.001-4.000	work hours	\$31.43	\$41.54	\$51.66	

Official Request #:	477
Requestor:	TROY SCHOOL DISTRICT
Project Description:	ROOFING
Project Number:	VARIOUS BUILDINGS
County:	Oakland

# **Official Rate Schedule**

Issue Date: 4/5/2007st be awarded by 7/4/2007

		Issue	Date: 4/5/200	(			
		Contract must be av	warded by	7/4/2007	•		
			Page 19 of 20				
Cla	<u>ssification</u>			Straight	Time and	Double	
Name	Description			Hourly	a Half	Time	Overtime Provision
Underg	round Laborer Open Ci	ut Class II					
Mortar a	nd material mixer conc	rete form man signal man		\$32.50	\$43.15	\$53.80	нннннни
well poir guard ra builder a	nt man, manhole, headw ail builders, headwall, se and fence erector.	vall and catch basin builder, eawall, breakwall, dock	LAUG-21-2	ψ <b>32.</b> 30	ψ+0.10	ψ00.00	
		Apprentice Ra	tes:				
		0-1.000 work ho	ours	\$27.68	\$35.92	\$44.16	
		1,001-2,000 wo	rk hours	\$28.64	\$37.36	\$46.08	
		2,001-3,000 wo	rk hours	\$29.60	\$38.80	\$48.00	
		3,001-4,000 wo	rk hours	\$31.54	\$41.71	\$51.88	
Underg	round Laborer Open C	ut, Class III					
Air, gasc drillers, j reinforce dowel ba boring m concrete man, ar	pline and electric tool op pump man, tar kettle op ed steel or mesh man (e. ars, etc.), cement finishe nan, wagon drill and air t saw operator (under 40 nd directional boring man	erator, vibrator operator, erator, bracers, rodder, .g. wire mesh, steel mats, er, welder, pipe jacking and track operator and 0 h.p.), windlass and tugger n.	LAUC-Z1-3	\$32.55	\$43.23	\$53.90	Н Н Н Н Н Н Н D Y
	Ū	Apprentice Ra	tes:				
		0-1 000 work br	ours	\$27 71	\$35.96	\$44 22	
		1 001-2 000 wo	rk hours	\$28.68	\$37.42	\$46.16	
		2 001-3 000 wo	rk hours	\$29.65	\$38.88	\$48.10	
		3,001-4,000 wo	rk hours	\$31.58	\$41.77	\$51.96	
Underg	round Laborer Open C	ut, Class IV					
Trench c	or excavating grade man	I.	LAUC-Z1-4	\$32.63	\$43.35	\$54.06	нннннн р ү
	0.0	Apprentice Ra	tes:				
		0-1 000 work bo	nurs	\$27 77	\$36.06	\$44.34	
		1 001-2 000 wo	rk hours	\$28.74	\$37.51	\$46.28	
		2.001-3.000 wo	rk hours	\$29.72	\$38.98	\$48.24	
		3,001-4,000 wo	rk hours	\$31.66	\$41.89	\$52.12	
Undera	round Laborer Open C	ut. Class V					
Pipe Lav	er	,	LAUC-Z1-5	\$32.69	\$43.44	\$54.18	ннннннрү
	-	Apprentice Ra	tes:	<i>+</i>	÷	÷=	
		0-1 000 work be	ours	\$27.82	\$36.13	\$44 44	
		1 001-2 000 wo	rk hours	\$28.79	\$37.58	\$46.38	
		2,001-3,000 wo	rk hours	\$29.77	\$39.06	\$48.34	
		3.001-4.000 wo	rk hours	\$31.72	\$41.98	\$52.24	
		0,001 1,000 WO		φ01.72	Ψ11.00	ΨSEIE T	

Official Request #: 477 Requestor: TROY SCHOOL DISTRICT Project Description: ROOFING Project Number: VARIOUS BUILDINGS County: Oakland

# **Official Rate Schedule**

# Official 2007 Prevailing Wage Rates for State Funded Projects Issue Date: 4/5/20 Contract must be awarded by Page 20 of 20

7/4/2007

\$26.08

\$33.52

\$40.96

		Page 20 of 20				
<u>Cla</u>	ssification		Straight	Time and	Double	
Name	Description		Hourly	a Half =========	l ime	Overtime Provision
Underg	round Laborer Open Cut, Class VI					
Grouting operation closed c relining	g man, top man assistant, audio visual televi ns and all other operations in connection wit ircuit television inspection, pipe cleaning and work.	sion LAUC-Z1-6 th d pipe	\$30.14	\$39.61	\$49.08	Н Н Н Н Н Н Н D Y
	Appren	tice Rates:				
	0-1,000	work hours	\$25.90	\$33.25	\$40.60	
	1,001-2	,000 work hours	\$26.75	\$34.52	\$42.30	
	2,001-3	,000 work hours	\$27.60	\$35.80	\$44.00	
	3,001-4	,000 work hours	\$29.29	\$38.34	\$47.38	
Underg	round Laborer Open Cut, Class VII					
Restorat mulching property boxes, f	ion laborer, seeding, sodding, planting, cutt g and topsoil grading and the restoration of y such as replacing mail boxes, wood chips, plagstones etc.	ing, LAUC-Z1-7 planter	\$26.76	\$34.54	\$42.32	Н Н Н Н Н Н Н D Y
	Appren	tice Rates:				
	0-1,000	work hours	\$23.37	\$29.46	\$35.54	
	1,001-2	,000 work hours	\$24.05	\$30.48	\$36.90	
	2,001-3	,000 work hours	\$24.73	\$31.50	\$38.26	

3,001-4,000 work hours

Official Request #: 477 Requestor: TROY SCHOOL DISTRICT Project Description: ROOFING

Project Number: VARIOUS BUILDINGS County: Oakland

# **Official Rate Schedule**

# ENGINEERS - CLASSES OF EQUIPMENT LIST

# **UNDERGROUND ENGINEERS**

# CLASS I

Backfiller Tamper, Backhoe, Batch Plant Operator, Clam-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.

# **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), Sweeper (Wayne type and similar equipment), Tractor (pneu-tired, other than backhoe or front end loader), Trencher (8' digging capacity and smaller).

# 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).

CLASS IV Boiler, Concrete Saw (40HP or over), Curing

# HAZARDOUS WASTE ABATEMENT ENGINEERS

# CLASS I

Backhoe, Batch Plant Operator, Clamshell, 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, Loader, Pug Mill, Pumpcrete Machines, Pump Trucks, Roller, Scraper (self-propelled or tractor drawn), Side Boom Tractor, Slip Form Paver, Slop 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.

# 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, and Welding Machine.

Regular Crane Operators rate shall include: Mechanics, Crane Operators, Dragline Operators, Boom Truck Operators, Power Shovel Operators and Concrete Pumps with booms.

Revised: 09/07/06

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).





MICHIGAN DEPARTMENT OF LABOR & ECONOMIC GROWTH

# WAGE & HOUR DIVISION

# **OVERTIME PROVISIONS for MICHIGAN PREVAILING WAGE RATE 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
First 8 Hours		4	
9th Hour	1	5	8
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

The last character indicates if an optional 4-day 10-hour per day workweek can be worked without paying overtime after 8 hours worked.

- 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:

HHHHHHDN - This example shows that the  $1\frac{1}{2}$  rate must be used for time worked after 8 hours Monday thru Friday (*characters 1 - 3*); for all hours worked on Saturday,  $1\frac{1}{2}$  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.

XXXHHHHDY - This example shows that the  $1\frac{1}{2}$  rate must be used for time worked after 40 hours are worked Monday thru Friday (*characters 1-3*); for hours worked on Saturday,  $1\frac{1}{2}$  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 05/07/04)

#### 2007 ROOF REPLACEMENT AND/OR RESTORATION

#### SCOPE OF WORK

#### 1. BAKER MIDDLE SCHOOL (OLD)

ITEM 1: Tear-Off and Replace roof area "A" with a new HPR modified roof with slag aggregate cover.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace tectum and gypsum decking as necessary.
- 3. Install 43# base sheet over prepared deck with approved fasteners
- 4. Install a base course of 2" Polyisocyanurate insulation mopped to the base sheet in hot asphalt.
- 5. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>" slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 6. Install top layer of 1/2" high-density fiberboard insulation over the base layer on flat areas.
- 7. Install tapered Polyisocyanurate/fiberboard tapered insulation system over tapered areas, provided by Triangle Design. Note: The tapered insulation will be tapered to all existing drains, scuppers and new scupper locations.
- 8. Install new HPR modified built-up roof assembly.
- 9. Install new roof scupper and downspout on southeast corner next to pool area.
- 10. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 11. Flood coat roof in hot steep asphalt and cover with new roofing slag.

ITEM 2: Tear-Off and Replace roof area"B" with a new HPR modified roof with slag aggregate cover.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace tectum and gypsum decking as necessary.
- 3. Install 43# base sheet over prepared deck with approved fasteners
- 4. Install a base course of 2" Polyisocyanurate insulation mopped to the base sheet in hot asphalt.
- 5. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>" slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 6. Install top layer of 1/2" high-density fiberboard insulation over the base layer on flat areas.
- 7. Install new HPR modified built-up roof assembly.
- 8. Install new roof scupper and downspout on southeast corner next to pool area.
- 9. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 10. Flood coat roof in hot steep asphalt and cover with new roofing slag.

#### 2007 ROOF REPLACEMENT AND/OR RESTORATION

#### SCOPE OF WORK - CONTINUED

ITEM 3: Tear-Off and Replace roof area "C" with a new HPR modified roof with slag aggregate cover.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace tectum and gypsum decking as necessary.
- 3. Install 43# base sheet over prepared deck with approved fasteners
- 4. Install a base course of 2" Polyisocyanurate insulation mopped to the base sheet in hot asphalt.
- 5. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 6. Install top layer of 1/2" high-density fiberboard insulation over the base layer on flat areas.
- 7. Install new HPR modified built-up roof assembly.
- 8. Install new roof scupper and downspout on southeast corner next to pool area.
- 9. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 10. Flood coat roof in hot steep asphalt and cover with new roofing slag.

ITEM 4: Tear-Off and Replace roof area"D" with a new HPR modified roof with slag aggregate cover.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace steel decking as necessary.
- 3. Install insulation with approved fasteners.
- 4. Install a base course of 2" Polyisocyanurate insulation mopped to the base sheet in hot asphalt.
- 5. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 6. Install top layer of 1/2" high-density fiberboard insulation over the base layer on flat areas.
- 7. Install new HPR modified built-up roof assembly.
- 8. Install new roof scupper and downspout on southeast corner next to pool area.
- 9. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 10. Flood coat roof in hot steep asphalt and cover with new roofing slag.

ITEM 5: Tear-Off and Replace roof area"E" with a new HPR modified roof with slag aggregate cover.

1. Tear-Off all roofing, insulation and flashing down to the deck.

#### 2007 ROOF REPLACEMENT AND/OR RESTORATION

#### SCOPE OF WORK - CONTINUED

- 2. Repair or replace steel decking as necessary.
- 3. Install insulation with approved fasteners.
- 4. all a base course of 2" Polyisocyanurate insulation mopped to the base sheet in hot asphalt.
- 5. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 6. Install top layer of 1/2" high-density fiberboard insulation over the base layer on flat areas.
- 7. Install new HPR modified built-up roof assembly.
- 8. Install new roof scupper and downspout on southeast corner next to pool area.
- 9. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 10. Flood coat roof in hot steep asphalt and cover with new roofing slag.

ITEM 6: Tear-Off and Replace roof area"F" with a new HPR modified roof with slag aggregate cover.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace steel decking as necessary.
- 3. Install insulation with approved fasteners.
- 4. Install a base course of 2" Polyisocyanurate insulation mopped to the base sheet in hot asphalt.
- 5. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 6. Install top layer of 1/2" high-density fiberboard insulation over the base layer on flat areas.
- 7. Install new HPR modified built-up roof assembly.
- 8. Install new roof scupper and downspout on southeast corner next to pool area.
- 9. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 10. Flood coat roof in hot steep asphalt and cover with new roofing slag.

ITEM 7: Combination of Items: 1, 2, 3, 4, 5 & 6 above.

#### 2. HAMILTON ELEMENTARY SCHOOL

ITEM 1: Peel-Off existing coal tar pitch BUR and replace with HPR modified roof.

1. Remove loose slag and Peel-Off existing coal tar pitch BUR leaving the original 3.5" Perlite/Urethane insulation in place.

#### 2007 ROOF REPLACEMENT AND/OR RESTORATION

#### SCOPE OF WORK – CONTINUED

- 2. Remove or replace steel deck and insulation all areas defined wet by the infrared survey and damaged/wet areas discovered from peel-off with matching steel decking and insulation.
- 3. Mechanically fasten new <sup>1</sup>/<sub>2</sub>"H.D. fiberboard insulation to repaired existing insulation following

F.M. 1-60 fastening pattern.

- 4. Install second layer of <sup>1</sup>/<sub>2</sub>"H.D. fiberboard insulation over base layer in hot asphalt.
- 5. Install new HPR modified BUR to top insulation course in hot asphalt.
- 6. Install 2-ply HPR modified flashing system to all walls, curbs and perimeters.
- 7. Install all penetration flashing with current N.R.C.A. approved details.
- 8. Install all other flashing and sheet metal work following enclosed N.R.C.A. details.
- 9. Install flood coat of hot asphalt and slag.

#### 3. HILL ELEMENTARY SCHOOL

ITEM 1: Tear-Off and Replace the modified roof over roof areas #1, #2, #3 and #4 with a HPR modified roof.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace metal decking as necessary.
- 3. Install a base course of 2" Polyisocyanurate insulation mopped to the base sheet in hot asphalt.
- 4. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 5. Install tapered Polyisocyanurate/fiberboard tapered insulation system over tapered areas (Roof Area #1), provided by Triangle Design. Note: The tapered insulation will be tapered to all existing drain locations.
- 6. Enlarge the 5 drains sump area to 48" X 48" on Roof Area #1 only.
- 7. Install top layer of 1/2" high-density fiberboard insulation over the base layers.
- 8. Install new HPR modified built-up roof assembly.
- 9. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 10. Flood coat roof in hot steep asphalt and cover with new roofing slag.

ITEM 2: Tear-Off leaking roof section (roof area #5) between 1971 octagon roof and attached washroom area.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace metal decking as necessary.
- 3. Install a base course of 2" Polyisocyanurate insulation screwed to the deck following F.M 1-60 fastening pattern.
- 4. Install tapered Polyisocyanurate/fiberboard tapered insulation system over tapered areas (Roof Area #5), provided by Triangle Design. Note: The tapered insulation will be tapered to all existing drain locations.

#### 2007 ROOF REPLACEMENT AND/OR RESTORATION

## SCOPE OF WORK - CONTINUED

- 5. Enlarge the 2 drains sump area to 48" X 48".
- 6. Install new HPR modified built-up roof assembly.
- 7. Install new 2-ply modified flashing and metal work at perimeter including raised gravel stops, roof sumps, etc.
- 8. Flood coat roof in hot steep asphalt and cover with new roofing slag.

# 4. NILES COMMUNITY HIGH SCHOOL

ITEM 1: Tear-Off and Replace roof areas #1, #5, #6, #7 & #8 with new HPR modified roof and slag.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Install rosin sheet dry on wood deck and nail 43# base sheet over tectum and wood decks.
- 3. Install 2" Polyisocyanurate insulation base layer over the base sheet in hot asphalt and install the second layer of ½" H.D. fiberboard insulation over the base layer in hot asphalt.
- 4. Install 1/8" tapered Polyisocyanurate/fiberboard insulation to 42'X30' area noted on roof plan.
- 5. Install HPR modified roof and flashing to tear-off areas. Install slag on flat areas and mineral-surfaced on sloped areas.
- 6. Install all new gutters, coping, gravel stop, scuppers and other metal work to new roof.
- 7. Install flood coat of hot asphalt and slag aggregate cover to flat areas.

#### ITEM 2: TOTAL ROOF AND FLASHING RESTORATION OF ROOF AREAS #2 & #9.

- 1. Wet vacuum all loose gravel, dirt and debris off of roof.
- 2. Tear-off and replace identified wet areas.
- 3. Spud-Off gravel from base of all flashings and gravel stops and prime cleaned roof.
- 4. Install new HPR modified flashing over all flashing and gravel stops.
- 5. Inspect and patch all defects in the roof field with membrane and mastic.
- 6. Apply WeatherScreen polymer coating to roof at 8 gallons per square and cover with 500# of slag.

ITEM 3: Spot repairs to roof areas #3 & #4.

- 1. Repair flashing, gutter edge, roof penetration etc.
- 2. Wet vacuum loose gravel off of ponded areas and replace damaged roofing including all wet or damaged insulation.
- 3. Reinforce ponded area on #3 and low trough area on #4 with Black Knight Cold CTP Elastomeric Coating and Slag.

#### 2007 ROOF REPLACEMENT AND/OR RESTORATION

# SCOPE OF WORK - CONTINUED

#### 5. SCHROEDER ELEMENTARY SCHOOL

ITEM 1: Tear-Off and replace the 1986 modified roof over the original 1970 school with a HPR modified roof.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace metal decking as necessary.
- 3. Install a base course of 2.5" Polyisocyanurate insulation screwed through the metal deck to F. M. 1-60.
- 4. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>" slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 5. Install top layer of 1/2" high-density fiberboard insulation over the base layers.
- 6. Install new HPR modified built-up roof assembly.
- 7. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 8. Flood coat roof in hot steep

#### 6. SMITH MIDDLE SCHOOL

ITEM 1: Tear-Off and replace roof area "A" with a new HPR modified roof with slag aggregate cover.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace tectum and steel decking as necessary.
- 3. Install 43# base sheet over tectum deck with approved fasteners.
- 4. Install a base course of 2" Polyisocyanurate insulation over tectum areas mopped to the base sheet in hot asphalt.
- 5. Install a base course of 2" Polyisocyanurate insulation over steel areas screwed to the metal deck to meet F.M. 1-60 fastening pattern.
- 6. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>" slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 7. Install top layer of  $\frac{1}{2}$ " high-density fiberboard insulation over the base layer on flat and saddled areas.
- 8. Install tapered Polyisocyanurate/fiberboard tapered insulation system over the two (2) designated tapered areas, provided by Triangle Design. Note: The tapered insulation will be tapered to all existing drain locations.
- 9. Install new HPR modified built-up roof assembly.
- 10. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 11. Flood coat roof in hot steep asphalt and cover with new roofing slag.

#### 2007 ROOF REPLACEMENT AND/OR RESTORATION

# SCOPE OF WORK - CONTINUED

#### 7. TROY UNION ELEMENTARY SCHOOL

ITEM 1: Tear-Off and Replace the 1982 modified roof over the east side of the original 1971 school with a HPR modified roof.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace metal decking as necessary.
- 3. Install a base course of 2.5" Polyisocyanurate insulation screwed through the metal deck to F. M. 1-60.
- 4. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 5. Install top layer of 1/2" high-density fiberboard insulation over the base layers.
- 6. Install new HPR modified built-up roof assembly.
- 7. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 8. Flood coat roof in hot steep asphalt and cover with new roofing slag.

9.

ITEM 2: Tear-Off and Replace the 1986 modified roof over the west side of the original 1971 school with a HPR modified roof.

- 1. Tear-Off all roofing, insulation and flashing down to the deck.
- 2. Repair or replace metal decking as necessary.
- 3. Install a base course of 2.5" Polyisocyanurate insulation screwed through the metal deck to F. M. 1-60.
- 4. Install new fiberboard roof saddles between the drains and the drains and outside walls with a <sup>1</sup>/<sub>2</sub>"slope to drains. The tapered fiberboard overlayment roof saddles between roof drains shall be designed so that the saddle width is equal to <sup>1</sup>/<sub>4</sub> their length.
- 5. Install top layer of 1/2" high-density fiberboard insulation over the base layers.
- 6. Install new HPR modified built-up roof assembly.
- 7. Install new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stack, raised gravel stops, roof sumps, etc.
- 8. Flood coat roof in hot steep asphalt and cover with new roofing slag.








# TROY UNION ELEMENTARY SCHOOL - PARTIAL ROOF PLAN



# 2007 SCOPE OF WORK:

ITEM 1: Tear-off and Replace the 1982 modified roof over the East side of the original 1971 school with a HPR Modified Roof.

NORTH

- ITEM 2: Tear-off and Replace the 1982 modified roof over the West side of the original 1971 school with a HPR Modified Roof.
- 1. Tear-Off all roofing, insulation and flashing down to the metal deck.
- 2. Repair or replace metal deck as necessary.
- 3. Install a base course of 2.5"Polyisocyanurate insulation screwed through the metal deck to F.M. 1-60.
- 4. Install new fiberboard roof saddles beween the drains and the drains and the outside walls with a 1/2"slope to the drains. The tapered fiberboard overlayment roof saddles between the roof drains shal be designed so that the saddle width is equal to 1/4 their length.
- 5. Install top layer of 1/2"high-density fiberboard insulation over the base layers.
- 6. Install new HPR modified built-up roof assembly.
- 7. Instal new 2-ply modified flashing and metal work at perimeter including counter-flashing, reglets, soil stacks, new coping, roof sumps, etc.
- 8. Flood coat roof in hot asphalt and cover with new roofing slag.







#### ROOFING BID PROPOSAL FORM

To: Troy School District 4400 Livernois, Troy, Michigan 48098

The undersigned declares that he has carefully examined the instructions and Specifications dated March 29, 2007 and will furnish these items with such Specifications for the price set forth in this bid.

The undersigned has checked carefully the bid figures and understands that he shall be responsible for any error of omission in this bid offer and is in receipt of all addenda as issued.

It is understood and agreed that all items bid will be delivered f.o.b. job site and remain firm for at least forty-five (45) days from date of bid opening. It is further understood and agreed that the Troy School District Board of Education reserves the right to reject any or all bids, or parts of bids, or to split awards by items or to accept bids, which will best serve the interests of the Board of Education.

#### FIRM BIDS FOR ROOF REPLACEMENT:

#### 1. BAKER MIDDLE SCHOOL (OLD)

- ITEM 1: Tear-Off and Replace roof area "A" with a new HPR modified roof with slag aggregate cover. The firm bid for the total sum of \$\_\_\_\_\_\_
- ITEM 2: Tear-Off and Replace roof area "B" with a new HPR modified roof with slag aggregate cover. The firm bid for the total sum of \$\_\_\_\_\_\_
  - (\_\_\_\_\_)

)

- ITEM 3: Tear-Off and Replace roof area "C" with a new HPR modified roof with slag aggregate cover. The firm bid for the total sum of \$\_\_\_\_\_\_
- ITEM 4: Tear-Off and Replace roof area "D" with a new HPR modified roof with slag aggregate cover. The firm bid for the total sum of \$\_\_\_\_\_
- ITEM 5: Tear-Off and Replace roof area "E" with a new HPR modified roof with slag aggregate cover. The firm bid for the total sum of \$\_\_\_\_\_\_
- ITEM 6: Tear-Off and Replace roof area "F" with a new HPR modified roof with slag aggregate cover. The firm bid for the total sum of \$\_\_\_\_\_\_

ITEM 7: SUM TOTAL OF ALL ITEMS 1, 2, 3, 4, 5 AND 6 ON BAKER MIDDLE SCHOOL (OLD) THE FIRM BID OF \$\_\_\_\_\_

PAGE ONE OF FIVE

2007 TROY SCHOOLS ROOFING BID PROPOSAL FORM (CONTINUED)

## 2. <u>HAMILTON ELEMENTARY SCHOOL</u>

	ITEM 8: Peel-Off existing coal tar pitch BUR and replace with HPR modified roof. The firm bid for the total sum of \$
	()
3.	HILL ELEMENTARY SCHOOL
	<u>ITEM 9</u> : Tear-Off and Replace the modified roof over roof areas #1, #2, #3 and #4 with a HPR modified roof. The firm bid for the total sum of \$
	()
	ITEM 10: Tear-Off leaking roof section (roof area #5) between 1971 octagon roof and attached washroom area. The firm bid for the total sum of \$
	()
	ITEM 11: SUM TOTAL OF ALL ITEMS 9 AND 10 ON HILL ELEMENTARY SCHOOL THE FIRM BID OF \$
	()
4.	NILES COMMUNITY HIGH SCHOOL
	ITEM 12: Tear-Off and Replace roof areas #1, #5, #6, #7 & #8 with new HPR modified roof and slag. The firm bid for the total sum of \$
	()
	ITEM 13: Total Roof and Flashing Restoration of Roof Areas #2 & #9. The firm bid for the total sum of \$
	()
	ITEM 14 Spot repairs to roof areas #3 & #4. The firm bid for the total sum of \$
	()
	ITEM 15: SUM TOTAL OF ALL ITEMS 12, 13, AND 14 ON NILES COMMUNITY HIGH SCHOOL
	THE FIRM BID OF \$
	()
20	<u>PAGE TWO OF FIVE</u> 07 TROY SCHOOLS ROOFING BID PROPOSAL FORM (CONTINUED)

## 5. SCHROEDER ELEMENTARY SCHOOL

ITEM 16: Tear-Off and replace the 1986 modified roof over the original 1970 school with a HPR modified roof.

THE FIRM BID OF \$					
(	)				
6. <u>SMITH MIDDLE SCHOOL</u>					
ITEM 17: Tear-Off and replace roof area "A" with a new HPR modified roof with s THE FIRM BID OF \$	lag aggregate cover.				
(	)				
7. TROY UNION ELEMENTARY SCHOOL					
ITEM 18: Tear-Off and Replace the 1982 modified roof over the east side of the ori HPR modified roof. The firm bid for the total sum of \$	ginal 1971 school with a				
(	)				
<u>ITEM 19</u> : Tear-Off and Replace the 1986 modified roof over the west side of the o HPR modified roof. The firm bid for the total sum of \$	riginal 1971 school with a				
(	)				
ITEM 20: SUM TOTAL OF ALL ITEMS 18 AND 19 ON TROY UNION ELEMENTHE FIRM BID OF \$	NTARY SCHOOL				
(	)				
ROOFING PROPOSAL SUPPLEMENT FOR UNIT PRICES ROOFING PROJECTS					
The unit prices listed below shall be submitted with bid. The unit prices shall be utilized in conjunction with minor additions or deletions to the work of this contract, or for work required due to unforeseen conditions. The unit prices listed will also be used in awarding miscellaneous repairs to various schools. Unit prices submitted shall include all cost of materials, labor, insurance, taxes, bond premiums, overhead and profit.					
<u>UNIT PRICES</u> The cost of work, added to or omitted from this contract, shall be computed at the prices listed below:					
1. Gypsum Deck Replacement\$(Per Sq. Ft.)					
2. Steel Deck Replacement	(Per Sq. Ft.)				
<u>PAGE THREE OF FIVE</u> 2007 TROY SCHOOLS ROOFING BID PROPOSAL FORM (CONTINUED)					
3. Tectum Deck Replacement\$	(Per Sq. Ft.)				

4.	Wood Deck Replacement	\$	(Per Sq. Ft.)
5.	New 4" cast iron drain and Installation /no additional piping	\$	(Each)
6.	Reset Existing Drain/reinforce sump basin 3-course rubber mastic and membrane.	\$	(Each)
7.	2" x 4" wood nailers installed	\$	(Per Lin. Ft.)
8.	2" x 6" wood nailers installed	\$	_(Per Lin. Ft.)
9	2" x 8" wood nailers installed	\$	_(Per Lin. Ft.)
10.	2" x 10" wood nailers installed	\$	_(Per Lin. Ft.)
11.	Reinforced Flashing Membrane Repair curbs or walls up to 12" high	\$	_(Per Lin. Ft.)
12.	Reinforced Flashing Membrane Repair curbs or walls up to 18" high	\$	_(Per Lin. Ft.)
13	Reinforced Flashing Membrane Repair curbs or walls up to 24" high	\$	_(Per Lin. Ft.)
14.	Reinforced Flashing Membrane Repair curbs or walls up to 30" high	\$	(Per Lin. Ft.)
15.	2-ply Modified backer sheet and Mineral Cap Sheet Flashing Replaceme	ent.\$	(Per Sq. Ft.)
16.	Flat gravel stop reinforcement (9-3/4" quarter sheet)	\$	(Per Lin. Ft.)
17.	Raised gravel stop reinforcement (19-1/2" half sheet)	\$	(Per Lin. Ft.)
18.	Pitch pocket restoration including metal bonnet	\$	(Each)
19.	Soil stack target flashing	\$	(Each)
20.	Round stack target flashing	\$	(Each)
21.	Paint rusted metal roof units with rust paint	\$	(Per Sq. Ft.)
22.	Roof Assembly repair/replacement of roof membrane only with 5-course mastic and membrane repair (blisters, splits, etc.)	\$	(Per Sq. Ft.)
23.	Over gypsum decks. Tear-Off and replace existing roof system and insta flashing system with matching thickness insulation:	ll HPR modified	gravel roof and

1-5 squares......\$\_\_\_\_(Per Sq. Ft.) 6-20 squares......\$\_\_\_\_(Per Sq. Ft.)

> 20 squares......\$\_\_\_\_(Per Sq. Ft.)

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### TROY SCHOOLS ROOFING BID PROPOSAL FORM (CONTINUED) ROOFING PROPOSAL SUPPLEMENT FOR UNIT PRICES ROOFING PROJECTS

24.	Over steel decks - Tear-Off and replace existing roof system and install HPR modified gravel roof and flashing system with matching thickness insulation:						
	1-5 squares\$	(Per Sq. Ft.)	6-20 squares\$	(Per Sq. Ft.)			
			> 20 squares\$	(Per Sq. Ft.)			
25.	Over Tectum decks - Tear-Off and replace existing roof system and install HPR modified gravel roof and flashing system with matching thickness insulation:						
	1-5 squares\$	(Per Sq. Ft.)	6-20 squares\$	(Per Sq. Ft.)			
			> 20 squares\$	(Per Sq. Ft.)			
26.	Over wood decks - Tear-Off and replace existing roof system and install HPR modified gravel roof and flashing system with matching thickness insulation:						
	1-5 squares\$	(Per Sq. Ft.)	6-20 squares\$	(Per Sq. Ft.)			
			> 20 squares\$	(Per Sq. Ft.)			
27.	Removal of existing 3.5" in insulation with 3.5" of Poly	sulation (wet or damaged) isocyanurate insulation to	) from Hamilton School and replace match height of existing insulation	ing the removed			
1-5	squares\$	(Per Sq. Ft.)	6-20 squares\$	(Per Sq. Ft.)			
			> 20 squares\$	(Per Sq. Ft.)			
28.	Labor Rate for roof repairs		\$	(Per Man Hour)			
29.	Mark-up percentage includi	ng overhead and profit		%			
Pro	posal Guarantee Bid Bond	Certified Cho	eck				
Na	me of Company			<u> </u>			
Sig of l	nature and Title Representative			<u></u>			
Ad	dress			<u></u>			
Tel	ephone	Fax	x Number				
Sta	rt Date	Terms	Date	<u>.</u>			
Est	imated Time of Completion	days					

PAGE FIVE OF FIVE

TROY SCHOOL DISTRICT	Gordon North Roofing Co.         Schreiber Corp.         Port Huron Roofing         Lutz Roofing Co.         Stephenson Roofing		Stephenson Roofing	Royal Roofing Co.	Fisher Roofing Co.		
Bid 9410 Roof Repair	Affidavit Bid Bond of Bidder Cost	Affidavit Bid Bond of Bidder Cost	Affidavit Bid Bond of Bidder Cost	Affidavit Bid Bond of Bid Cost	Affidavit Bid Bond of Bidder Cost	Affidavit Bid Bond of Bidder Cost	Affidavit Bid Bond of Bidder Cost
	Yes	yes yes	yes yes	yes yes	yes yes	yes yes	yes yes
1. <u>BAKER MIDDLE SCHOOL (OLD)</u> <u>ITEM 1</u> : Tear-Off and Replace roof area "A" with a new HPR modified roof with slag aggregate cover	NO BID	NO BID	332,300.00	356,780.00	NO BID	303,000.00	315,680.00
ITEM 2: Tear-Off and Replace roof area "B" with a new HPR modified roof with slag aggregate cover	NO BID	NO BID	41,500.00	45,000.00	NO BID	34,500.00	38,000.00
ITEM 3: Tear-Off and Replace roof area "C" with a new HPR modified roof with slag aggregate cover	NO BID	NO BID	64,000.00	69,690.00	NO BID	60,000.00	82,800.00
ITEM 4: Tear-Off and Replace roof area "D" with a new HPR modified roof with slag aggregate cover	NO BID	NO BID	9,700.00	11,000.00	NO BID	4,950.00	6,000.00
ITEM 5: Tear-Off and Replace roof area "E" with a new HPR modified roof with slag aggregate cover	NO BID	NO BID	49,500.00	53,870.00	NO BID	47,500.00	52,000.00
ITEM 6: Tear-Off and Replace roof area "F" with a new HPR modified roof with slag aggregate cover	NO BID	NO BID	49,300.00	53,600.00	NO BID	48,000.00	52,000.00
ITEM 7: Combination of items 1 thru 6	NO BID	NO BID	546,300.00	588,000.00	NO BID	497,950.00	546,480.00
<u>2. HAMILTON ELEMENTARY SCHOOL</u> <u>ITEM 8</u> : Peel-Off existing coal tar pitch BUR and replace     with HPR modified roof with slag aggregate cover	542,870.00	625,180.00	467,000.00	439,290.00	495,000.00	497,640.00	536,000.00
<ol> <li>HILL ELEMENTARY SCHOOL <u>ITEM 9</u>: Tear-Off and Replace the 1986 modified roof over areas #1, #2, #3 AND #4 with a HPR modified roof.</li> </ol>	NO BID	NO BID	229,000.00	245,750.00	NO BID	234,440.00	218,400.00
ITEM 10: Tear-Off leaking roof section (roof area #5) between 1971 octagon roof and attached washroom area	NO BID	NO BID	31,000.00	35,600.00	NO BID	21,600.00	21,400.00
ITEM 11: Combination of items 9 and 10	NO BID	NO BID	260,000.00	280,000.00	NO BID	256,040.00	239,800.00
<ol> <li>MILES COMMUNITY HIGH SCHOOL <u>ITEM 12</u>: Tear-Off and Replace roof areas #1, #5, #6, #7 &amp; #8 with HPR modified roof with slag aggregate cover</li> </ol>	NO BID	NO BID	200,500.00	* 215,900.00	NO BID	NO BID	216,000.00
ITEM 13: Total Roof and Flashing Restoration of Roof Areas #2 &	#9 NO BID	NO BID	73,000.00	63,360.00	NO BID	NO BID	64,950.00
ITEM 14: Spot repairs to roof areas #3 & #4.	NO BID	NO BID	15,000.00	36,000.00	NO BID	NO BID	4,800.00
ITEM 15: Combination of items 12, 13, AND 14	NO BID	NO BID	293,500.00	315,250.00	NO BID	NO BID	285,750.00
<ol> <li><u>SCHROEDER ELEMENTARY SCHOOL</u></li> <li><u>ITEM 16</u>: Tear-Off and replace the 1986 modified roof over the 1970 school with a HPR modified roof.</li> </ol>	497,420.00	569500	435,600.00	425,525.00	445,000.00	458,220.00	494,000.00
<ol> <li><u>SMITH MIDDLE SCHOOL</u></li> <li><u>ITEM 17</u>: Tear-Off and replace roof area "A" with a new HPR modified roof with slag aggregate cover</li> </ol>	NO BID	1,059,767.00	722,600.00	898,678.00	829,000.00	733,520.00	724,000.00
<ol> <li><u>TROY UNION ELEMENTARY SCHOOL</u></li> <li><u>ITEM 18</u>: Tear-Off and Replace the 1982 modified roof over the east side of 1971 school with a HPR modified roof.</li> </ol>	197,955.00	NO BID	172,000.00	169,869.00	202,000.00	174,630.00	189,800.00
<u>TEM 19</u> : Tear-Off and Replace the 1986 modified roof over the west side of 1971 school with a HPR modified roof.	209,577.00	NO BID	171,000.00	178,222.00	199,000.00	177,410.00	174,714.00
ITEM 20 : Combination of items 18 and 19	402,656.00	NO BID	343,000.00	343,700.00	401,000.00	352,040.00	364,514.00

LaDuke Roofing - Bid Incomplete T.F.Beck Roofing - NO RESPONSE Schena Roofing - NO RESPONSE \*Electrical conduit is suspect to be on top of the tectum with 1" wood fiber insulation Lutz cannot be held responsible for any conduit.