

CONTRACT DOCUMENTS
FOR

Ann Arbor Farmers Market

PHASE I
EXISTING CANOPY IMPROVEMENTS



February 6, 2008

BID NO. 3925

PARKS AND RECREATION SERVICES
Administering Department

CITY OF ANN ARBOR
100 North Fifth Avenue
Ann Arbor, Michigan 48104

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ADVERTISEMENT
FOR
Ann Arbor Farmers Market
PHASE 1 – EXISTING CANOPY IMPROVEMENTS AT THE
City of Ann Arbor

BID NO. 3925

Sealed Bids which include two (2) copies of the bid document will be received by the Procurement Office, Finance Services, located on the 5th floor of the Guy Larcom Municipal Building, Ann Arbor, Michigan **on or before 2:00 p.m., Thursday, February 21, 2008** local time for the construction of Ann Arbor Farmers Market, Phase 1 – Existing Canopy Improvements. Bids will be publicly opened and read aloud at this time. Prospective submitters are responsible for timely receipt of their proposal. Late proposals will not be considered.

Bid documents may be obtained on or after February 6, 2008 from the Procurement Office Finance Services, located on the 5th floor of the Guy Larcom Municipal Building, Ann Arbor, Michigan 48104 for a non-refundable fee of \$15.00.

A **mandatory** pre-bid conference for this project will be held on **Friday, February 15, 2008 at 1:30 PM** at the **Farmers Market office, 315 Detroit Street**, Ann Arbor, Michigan. Prospective bidders who do not attend will not be allowed to submit a bid.

Work to be done includes the prep and painting of the existing canopy framework, the replacement of the existing canopy lighting fixtures and incidental electrical work, the repair and replacement of select painted metal gutters and downspouts, miscellaneous canopy repairs and improvements, the installation of a public address system and all related work.

Each proposal shall be accompanied by a certified check, or Bid Bond by a recognized surety, in the amount of 5% of the total of the bid price. A proposal, once submitted, becomes the property of the City. In the sole discretion of the City, the City reserves the right to allow a bidder to reclaim submitted documents provided the documents are requested and retrieved no later than 48 hours prior to the scheduled bid opening.

The successful Bidder will be required to furnish satisfactory performance and labor and material bonds in the amount of 100% of the bid price and satisfactory insurance coverage.

Precondition for entering into a contract with the City of Ann Arbor is compliance with Chapter 112 of Title IX of the Code of the City of Ann Arbor. The successful Bidder may also be required to comply with Chapter 23 of Title I of the Code of the City of Ann Arbor. Further information is outlined in the contract documents.

After the time of opening, no Bid may be withdrawn for a period of 60 days. The City reserves the right to accept any Bid, to reject any or all Bids, to waive irregularities and/or informalities in any Bid, and to make the award in any manner the City believes to be in its best interest.

Any information regarding acquiring documents may be obtained from the Procurement Office, (734) 994-2719. Technical questions or detailed information regarding the project may be directed to Gary Cooper, Cooper Design (734) 769-7007 or Christy Summers, Beckett & Raeder, Inc., (734) 663-2622 of the City's consultant team for the project.

CITY OF ANN ARBOR, MICHIGAN

City of Ann Arbor

**LIVING WAGE ORDINANCE
DECLARATION OF COMPLIANCE**

The Ann Arbor Living Wage Ordinance (Section 1:811-1:821 of Chapter 23 of Title I of the Code) requires that employers providing services to the City or recipients of grants for financial assistance (in amounts greater than \$10,000 in a twelve-month period of time) pay their employees who are working on the City project or grant, a minimum level of compensation known as the **Living Wage**. This wage must be paid to the employees for the length of the contract/project.

Companies employing fewer than 5 persons and non-profits employing fewer than 10 persons are exempt from the Ordinance. If this exemption applies to your firm, please check below:

_____ This company is exempt due to the fact that we employ or contract with fewer than 5 individuals.

_____ This non-profit agency is exempt due to the fact that we employ or contract with fewer than 10 employees.

The Ordinance requires that all contractors/vendors and/or grantees agree to the following terms:

a) To pay each of its employees performing work on any covered contract or grant with the City, no less than the living wage, which is defined as \$10.33/hour when health care is provided, or no less than \$11.96/hour for those employers that do *not* provide health care. It is understood that the Living Wage will be adjusted upward each year on April 30, and covered employers will be required to pay the adjusted amount thereafter. The rates stated above include the adjustment for 2007.

b) Please check the boxes below which apply to your workforce:

Employees who are assigned to *any covered* City project or grant will be paid at or above the applicable living wage without health benefits Yes _____ No _____

OR

Employees who are assigned to *any covered* City project or grant will be paid at or above the applicable living wage with health benefits Yes _____ No _____

c) To post a notice approved by the City regarding the Living Wage Ordinance in every work place or other location in which employees or other persons contracting for employment are working.

d) To provide the City payroll records or other documentation as requested; and,

e) To permit access to work sites to City representatives for the purposes of monitoring compliance, investigating complaints or non-compliance.

The undersigned authorized representative hereby obligates the contractor/vendor or grantee to the above stated conditions under penalty of perjury and violation of the Ordinance.

Company Name

Address City State Zip

Signature of Authorized Representative

Phone (area code)

Type or Print Name and Title

Email address

Date signed

Questions about this form? Please contact:
Procurement Office City of Ann Arbor
Phone: 734/994-2719 Fax:734/994-1795

City of Ann Arbor Procurement Office

INSTRUCTIONS FOR CONTRACTORS

For Completing CONTRACT COMPLIANCE FORM

City Policy

The “non discrimination in contracts” provision of the City Code, (Chapter 112, Section 9:161) requires contractors/vendors/grantees doing business with the City not to discriminate on the basis of actual or perceived race, color, religion, national origin, sex, age, condition of pregnancy, marital status, physical or mental limitations, source of income, family responsibilities, educational association, sexual orientation, gender identity or HIV status against any of their employees, any City employee working with them, or any applicant for employment. It also requires that the contractors/vendors/grantees include a similar provision in all subcontracts that they execute for City work or programs.

This Ordinance further requires that each prospective contractor/vendor submit employment data to the City showing current total employee breakdown by occupation, race and gender. This allows the Human Rights Office to determine whether or not the contractor/vendor has a workforce that is reflective of the availability of women and under-represented minorities within the contractor’s labor recruitment area (the area where they can reasonably be expected to recruit employees). ***This data is provided to the City on the Human Rights Office Contract Compliance Forms (attached).***

To complete the form:

- 1) **If a company has more than one location, then that company must complete 2 versions of the form.**
 - **Form #1** should contain the employment data for the **entire corporation.**
 - **Form #2** should contain the employment data for those employees:
 - who will be working on-site;
 - in the office responsible for completing the contract; or,
 - in the case of non-profit grantees, those employees working on the project funded by the City grant(s).
- 2) If the company has only one location, fill out Form #1 only.
- 3) Complete all data in the upper section of the form including the name of the person who completes the form and the name of the company/organization’s president.
- 4) Complete the Employment Data in the remainder of the form. Please be sure to complete all columns including the Total Columns on the far right side of the form, and the Total row and Previous Year Total row at the bottom of the form.
- 5) Return the completed form(s) to your contact in the City Department for whom you will be conducting the work.

For assistance in completing the form, contact:

Procurement Office of the City of Ann Arbor
734/994-2719

If a contractor is determined to be out of compliance, the Procurement Office will work with them to assist them in coming into compliance.

→ **NEW RATE EFFECTIVE APRIL 30, 2007** ←

LIVING WAGE ORDINANCE – CITY OF ANN ARBOR

\$10.33 per hour **\$11.96** per hour

if the employer provides health
care benefits*

if the employer does **NOT**
provide health care benefits*

*Employers providing services to or for the City of Ann Arbor or recipients of grants or financial assistance from the City of Ann Arbor for a value of more than \$10,000 in a twelve-month period of time **must pay those employees performing work on a City of Ann Arbor contract or grant, the above living wage.***

ENFORCEMENT

The City of Ann Arbor may recover back wages either administratively or through court action for the employees that have been underpaid in violation of the law. Persons denied payment of the living wage have the right to bring a civil action for damages in addition to any action taken by the City.

Violation of this Ordinance is punishable by fines of not more than \$500/violation plus costs, with each day being considered a separate violation. Additionally, the City of Ann Arbor has the right to modify, terminate, cancel or suspend a contract in the event of a violation of the Ordinance.

** Health Care benefits includes those paid for by the employer or making an employer contribution toward the purchase of health care. The employee contribution must not exceed \$.50 an hour for an average work week; and the employer cost or contribution must equal no less than \$1/hr for the average work week.*

The Law Requires Employers to Display This Poster Where Employees Can Readily See It.

For Additional Information or to File a Complaint

Contact:

**Dee Lumpkin, Procurement Assistant
734/994-2719 or dlumpkin@a2gov.org**

**CITY OF ANN ARBOR PROCUREMENT OFFICE
HUMAN RIGHTS CONTRACT COMPLIANCE FORM**

Form #1

Entire Organization (Totals for All Locations where applicable)

Name of Company/Organization _____ Date Form Completed _____

Name and Title of Person Completing this Form _____ Name of President _____

Address _____ (Street address) _____ (City) _____ (State) _____ (Zip) _____ County _____ Phone # _____ (Area Code)

Fax# _____ (Area Code) _____ Email Address _____

EMPLOYMENT DATA

Job Categories	Number of Employees (Report employees in only one category)												
	Male						Female						TOTAL COLUMNS A-M
	White	Black or African American	Asian	Hispanic or Latino	Native Hawaiian or Other Pacific Islander	American Indian or Alaska Native	White	Black or African American	Asian	Hispanic or Latino	Native Hawaiian or Other Pacific Islander	American Indian or Alaska Native	
A	B	C	D	F	G	H	I	J	K	L	M		
Exec./Sr. Level Officials													
Supervisors													
Professionals													
Technicians													
Sales													
Admin. Support													
Craftspeople													
Operatives													
Service Workers													
Laborers/Helper													
Apprentices													
Other													
TOTAL													
PREVIOUS YEAR TOTAL													

**CITY OF ANN ARBOR PROCUREMENT OFFICE
HUMAN RIGHTS CONTRACT COMPLIANCE FORM**
Local Office (Only those employees that will do local or on-site work, if applicable)

Form #2

Name of Company/Organization _____ Date Form Completed _____

Name and Title of Person Completing this Form _____

Fax# _____ Email Address _____
(Area Code)

EMPLOYMENT DATA

Job Categories	Number of Employees (Report employees in only one category)												
	Male						Female						TOTAL COLUMNS A-M
	White	Black or African American	Asian	Hispanic or Latino	Native Hawaiian or Other Pacific Islander	American Indian or Alaska Native	White	Black or African American	Asian	Hispanic or Latino	Native Hawaiian or Other Pacific Islander	American Indian or Alaskan Native	
A	B	C	D	F	G	H	I	J	K	L	M		
Exec/Sr. Level Officials													
Supervisors													
Professionals													
Technicians													
Sales													
Admin. Support													
Craftspeople													
Operatives													
Service Workers													
Laborers/Helper													
Apprentices													
Other													
TOTAL													
PREVIOUS YEAR TOTAL													

NOTICE OF PRE-BID CONFERENCE

BID NO. 3925

A pre-bid conference for this project will be held on **Friday, February 15, 2008 at 1:30 PM** at the **Farmers Market office, 315 Detroit Street**, Ann Arbor, Michigan.

Attendance at this conference is mandatory. Prospective bidders who do not attend will not be allowed to submit a bid.

The project site will be reviewed and administrative and technical questions regarding this project will be answered at this time. If any questions arise whose answers constitute modifications to the bid documents, an addendum will be issued.

INSTRUCTIONS TO BIDDERS

General

Work to be done under this Contract is generally described through the detailed specifications and must be completed fully in accordance with the contract documents. All work to be done under this Contract is located in or near the City of Ann Arbor.

The City shall make available to all prospective Bidders, prior to receipt of the Bids, access to the area in which the work is to be performed. Advance notice should be given to the Administering Service Area/Unit in cases where access to the site must be arranged by the City.

Any proposal which does not conform fully with these instructions may be rejected.

Proposals

Proposals must be submitted on the "Proposal Forms" and "Bid Forms" provided, without removal from the binder, with each blank properly filled in. Sealed proposals will be received by the City of Ann Arbor Purchasing Division, Third Floor, City Hall, Ann Arbor, Michigan, at the time stipulated in the Advertisement, promptly after which proposals will be publicly opened and read aloud. Each proposal must be enclosed in a sealed envelope, endorsed across one end:

BID NO. 3925

Proposal for the Ann Arbor Farmers Market PHASE I – EXISTING CANOPY IMPROVEMENTS

The City intends to award a Contract(s) to the lowest responsible Bidder(s). On multi-divisional contracts, separate divisions may be awarded to separate Bidders. The City may also utilize discounts offered in the Bid Forms, if any, to determine the lowest responsible Bidder on each division, and award multiple divisions to a single Bidder, so that the lowest total cost is achieved for the City. For unit price bids, the contract will be awarded based upon the lump sum and unit prices stated by the bidder for the work items specified in the bid documents, with consideration given to any alternates selected by the City. If the City determines that the unit price for any item is materially different for the work item bid than either other bidders or the general market, the City, in its sole discretion, in addition to any other right it may have, may reject the bid as not responsible or non-conforming.

The acceptability of major subcontractors will be considered in determining if a Bidder is responsible. In comparing proposals, the City will give consideration to alternate proposals for items listed in the forms, or other alternates which the Bidder may wish to submit, but preference will be given to Base Bid Proposals.

The City reserves the right to accept any Bid, to reject any or all Bids, to waive irregularities and/or informalities in any Bid, and to make the award in any manner the City believes to be in its best interest.

Bid Security

Each proposal must be accompanied by a certified check, or Bid Bond by a surety licensed and authorized to do business within the State of Michigan, in the amount of 5% of the total of the bid price.

Withdrawal of Bids

After the time of opening, no Bid may be withdrawn for the period of days specified in the Advertisement.

Contract Time

Time is of the essence in the performance of the work under this Contract. The available time for work under this Contract is indicated on page C-1, Article III of the Contract. If these time requirements can not be met, the Bidder must stipulate on Bid Form Section 3 - Time Alternate its schedule for performance of the work. Consideration will be given to time in evaluating bids.

Liquidated Damages

A liquidated damages clause, as given on page C-2, Article III of the Contract, provides that the Contractor shall pay the City as liquidated damages, and not as a penalty, a sum certain per day for each and every day that the Contractor may be in default of completion of the specified work, within the time(s) stated in the Contract, or written extensions.

Liquidated damages clauses, as given in the General Conditions, provide further that the City shall be entitled to impose and recover liquidated damages for breach of the obligations under Chapter 112 of the City Code.

The liquidated damages are for the non-quantifiable aspects of any of the previously identified events and do not cover actual damages that can be shown or quantified nor are they intended to preclude recovery of actual damages in addition to the recovery of liquidated damages.

Human Rights Information

Section 5, beginning at page GC-3, outlines the requirements for fair employment practices under City of Ann Arbor Contracts. To establish compliance with this Ordinance, the Bidder must complete and return with its bid completed copies of the white and pink Human Rights Division Contract Compliance Forms (copy attached) or an acceptable equivalent.

Wage Requirements

Section 4, beginning at page GC-1, outlines the requirements for payment of prevailing wages or of a "living wage" to employees providing service to the City under this contract. The successful bidder must comply with all applicable requirements and may be required to provide documentary proof of compliance.

Major Subcontractors

The Bidder shall identify each major subcontractor it expects to engage for this Contract if the work to be subcontracted is 15% or more of the bid sum or over \$50,000, whichever is less. The Bidder also shall identify the work to be subcontracted to each major subcontractor.

PROPOSAL

City of Ann Arbor
Guy C. Larcom Municipal Building
Ann Arbor, Michigan 48107

Ladies and Gentlemen:

The undersigned, as Bidder, declares that this Bid is made in good faith, without fraud or collusion with any person or persons bidding on the same Contract; that this Bidder has carefully read and examined the bid documents, including Advertisement, Human Rights Division Contract Compliance Forms, Notice of Pre-Bid Conference, Instructions to Bidders, Proposal, Bid Forms, Contract, Bond Forms, General Conditions, Standard Specifications, Detailed Specifications, all Addenda, and the Plans and understands them. The Bidder declares that it conducted a full investigation at the site and of the work proposed and is fully informed as to the nature of the work and the conditions relating to the work's performance. The Bidder also declares that it has extensive experience in successfully completing projects similar to this one.

The Bidder acknowledges that it has not received or relied upon any representations or warrants of any nature whatsoever from the City of Ann Arbor, its agents or employees, and that this Bid is based solely upon the Bidder's own independent business judgment.

The undersigned proposes to perform all work shown on the plans or described in the bid documents, including any addenda issued, and to furnish all necessary machinery, tools, apparatus, and other means of construction to do all the work, furnish all the materials, and complete the work in strict accordance with all terms of the Contract of which this proposal is one part.

In accordance with these bid documents, and Addenda numbered _____, the undersigned, as Bidder, proposes to perform at the sites in and/or around Ann Arbor, Michigan, all the work included herein for the amounts set forth in the Bid Forms.

The Bidder declares that it has become fully familiar with the liquidated damage clauses for completion times and for compliance with City Code Chapter 112, understands and agrees that the liquidated damages are for the non-quantifiable aspects of non-compliance and do not cover actual damages that may be shown and agrees that if awarded the Contract, all liquidated damage clauses form part of the Contract.

The Bidder declares that it has become fully familiar with the provisions of Chapter 14, Section 1:319 (Prevailing wages) and Chapter 23 (Living Wage) of the Code of the City of Ann Arbor and that it understands and agrees to comply, to the extent applicable to employees providing services to the City under this Contract, with the wage and reporting requirements stated in the City Code

provisions cited. Bidder further agrees that the cited provisions of Chapter 14 and Chapter 23 form a part of this Contract.

The Bidder encloses a certified check or Bid Bond in the amount of 5% of the total of the Bid Price. The Bidder agrees both to contract for the work and to furnish the necessary Bonds and insurance documentation within 10 days after being notified of the acceptance of the Bid.

If this Bid is accepted by the City and the Bidder fails to contract and furnish the required Bonds and insurance documentation within 10 days after being notified of the acceptance of this Bid, then the Bidder shall be considered to have abandoned the Contract and the certified check or Bid Bond accompanying this Proposal shall become due and payable to the City.

If the Bidder enters into the Contract in accordance with this Proposal, or if this Proposal is rejected, then the accompanying check or Bid Bond shall be returned to the Bidder.

In submitting this Bid, it is understood that the right is reserved by the City to accept any Bid, to reject any or all Bids, to waive irregularities and/or informalities in any Bid, and to make the award in any manner the City believes to be in its best interest.

SIGNED THIS _____ DAY OF _____, 200__.

Bidder (s) Name

Official Address

Authorized Signature of Bidder

Telephone Number

(Print Name of Signer Above)

LEGAL STATUS OF BIDDER

(The Bidder shall fill out the appropriate form and strike out the other two.)

Bidder declares that it is:

* A corporation organized and doing business under the laws of the state of _____, for whom _____, bearing the office title of _____, whose signature is affixed to this proposal, is authorized to execute contracts.

* A partnership, list all members and the street and mailing address of each:

Also identify the County and State where partnership papers are filed:

County of _____, State of _____

* An individual, whose signature with address, is affixed to this proposal:
(initial here)

BID FORM

**Ann Arbor Farmers Market
PHASE I – EXISTING CANOPY IMPROVEMENTS
BID NO. 3925**

Section 1 - Schedule of Prices

Base Bid

For the entire work outlined in these documents, complete as specified, using equipment and materials only of the type and manufacturers where specifically named.

_____ Dollars (\$ _____)

Deduct Alternate No. 1

Alternate No. 1 is to include the complete installation of the Public Address System; all work, equipment, and materials associated with installing the system.

Amount to be DEDUCTED from the base bid if this Alternated selected and the work is removed from the project:

_____ Dollars (\$ _____)

Section 2 - Material and Equipment Alternates

The Base Bid proposal price shall include materials and equipment selected from the designated items and manufacturers listed in the bidding documents. This is done to establish uniformity in bidding and to establish standards of quality for the items named.

If the Contractor wishes to quote alternate items for consideration by the City, it may do so under this Section. A complete description of the item and the proposed price differential must be provided. Unless approved at the time of award, substitutions where items are specifically named will be considered only as a negotiated change in Contract Sum.

<u>Item Number</u>	<u>Description</u>	<u>Add/Deduct Amount</u>
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If the Bidder does not suggest any material or equipment alternate, the Bidder **MUST** complete the following statement:

For the work outlined in this request for bid, the bidder does NOT propose any material or equipment alternate under the contract.

Signature of Authorized Representative of Bidder:

BID FORM

Section 3 - Time Alternate

If the Bidder takes exception to the time stipulated in Article III of the Contract, Time of Completion, page C-1, it is requested to stipulate below its proposed time for performance of the work. Consideration will be given to time in evaluating bids.

If the Bidder does not suggest any time alternate, the Bidder **MUST** complete the following statement:

For the work outlined in this request for bid, the bidder does NOT propose any time alternate under the contract.

Signature of Authorized Representative of Bidder:

BID FORM

Section 4 - Major Subcontractors

For purposes of this contract, a Subcontractor is anyone (other than the Contractor) who performs work (other than or in addition to the furnishing of materials, plans or equipment) at or about the construction site, directly or indirectly for or on behalf of the Contractor (and whether or not in privity of contract with the Contractor), but shall not include any individual who furnishes merely the individual's own personal labor or services.

For the work outlined in these documents the Bidder expects to engage the following major subcontractors to perform the work identified:

<u>Subcontractor (Name and Address)</u>	<u>Work</u>	<u>Amount</u>
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If the Bidder does not expect to engage any major subcontractor, the Bidder **MUST** complete the following statement:

For the work outlined in this request for bid, the bidder does NOT expect to engage any major subcontractor to perform work under the contract.

Signature of Authorized Representative of Bidder:

CONTRACT

THIS AGREEMENT is made on the ____ day of _____, 200_, between the CITY OF ANN ARBOR, a Michigan Municipal Corporation, 100 N. Fifth Avenue, Ann Arbor, Michigan 48104 ("City") and _____ ("Contractor")

(An individual/partnership/corporation, include state of incorporation)

(Address)

Based upon the mutual promises below, the Contractor and the City agree as follows:

ARTICLE I - Scope of Work

The Contractor agrees to furnish all of the materials, equipment and labor necessary; and to abide by all the duties and responsibilities applicable to it for the project titled **Ann Arbor Farmers Market, Phase I – Existing Canopy Improvements** in accordance with the requirements and provisions of the following documents, including all written modifications incorporated into any of the documents, which are incorporated as part of this Contract:

- | | |
|--------------------------------|-------------------------|
| Human Rights Division Contract | General Conditions |
| Compliance Forms | Standard Specifications |
| Living Wage Declaration of | Detailed Specifications |
| Compliance Forms | Plans |
| (if applicable) | Addenda |
| Bid Forms | |
| Proposal | |
| Contract and Exhibits | |
| Bonds | |

ARTICLE II - Definitions

Administering Service Area/Unit means ‘Parks and Recreation Services.’

Supervising Professional means Jeffery Dehring or other persons acting under the authorization of the Administrator/Manager of the Administering Service Area/Unit.

Project means Ann Arbor Farmers Market, PHASE 1 – EXISTING CANOPY IMPROVEMENTS, Bid No. 3925.

ARTICLE III - Time of Completion

- (A) The work to be completed under this Contract shall begin immediately after the Contractor’s receipt of a fully executed Contract.
- (B) The entire work for this Contract shall be completed within **ninety** (90) consecutive

calendar days. Shorter completion times for certain portions of the work are specified in the Detailed Specifications.

- (C) Failure to complete all the work within the time specified above, including any extension granted in writing by the Supervising Professional, shall obligate the Contractor to pay the City, as liquidated damages and not as a penalty, an amount equal to _____ for each calendar day of delay in the completion of all the work (see General Conditions). If any liquidated damages are unpaid by the Contractor, the City shall be entitled to deduct these unpaid liquidated damages from the monies due the Contractor.

As an independent requirement, where the Detailed Specifications identify certain portions of the work to be completed within a shorter period of time and the Contractor fails to complete each portion within the shorter period specified for each portion, including any extension granted in writing by the Project Supervisor, the City is entitled to deduct from the monies due the Contractor, as liquidated damages and not as a penalty, the amount identified in the Detailed Specifications for each portion of the work not timely completed for each calendar day of delay in completion of each portion of the work.

The liquidated damages are for the non-quantifiable aspects of any of the previously identified events and do not cover actual damages that can be shown or quantified nor are they intended to preclude recovery of actual damages in addition to the recovery of liquidated damages.

Liquidated damages under this section are in addition to any liquidated damages due under Section 5 of the General Conditions.

ARTICLE IV - The Contract Sum

Option 1 - Lump Sum Contracts

- (A) The City shall pay to the Contractor for the performance of the Contract, the lump sum price as given in the Bid Forms for the estimated total of:

_____ Dollars \$ _____)

- (B) The amount paid shall be equitably adjusted to cover changes in the work ordered by the Supervising Professional but not required by the contract documents. Increases or decreases shall be determined only by written agreement between the City and Contractor.

ARTICLE V - Assignment

This Contract may not be assigned or subcontracted without the written consent of the City.

ARTICLE VI - Choice of Law

This Contract shall be construed, governed, and enforced in accordance with the laws of the State of Michigan. By executing this agreement, the Contractor and the City agree to venue in a court of appropriate jurisdiction sitting within Washtenaw County for purposes of any action arising under this Contract.

Whenever possible, each provision of the contract will be interpreted in a manner as to be effective and valid under applicable law. The prohibition or invalidity, under applicable law, of any provision will not invalidate the remainder of the contract.

ARTICLE VII - Relationship of the Parties

The parties of the Contract agree that it is not a contract of employment but is a contract to accomplish a specific result. Contractor is an independent contractor performing services for the City. Nothing contained in this Contract shall be deemed to constitute any other relationship between the City and the Contractor.

Contractor certifies that it has no personal or financial interest in the project other than the compensation it is to receive under the Contract. Contractor certifies that it is not, and shall not become, overdue or in default to the City for any contract, debt, or any other obligation to the City including real or personal property taxes. City shall have the right to set off any such debt against compensation awarded for services under this agreement.

ARTICLE VIII - Notice

All notices given under this contract shall be in writing, and shall be by personal delivery or by certified mail with return receipt requested to the parties at their respective addresses as specified in the contract documents or other address the Contractor may specify in writing..

ARTICLE IX - Indemnification

To the fullest extent permitted by law, for any loss not covered by insurance under this contract, Contractor shall indemnify, defend and hold harmless the City, its officers, employees and agents harmless from all suits, claims, judgments and expenses including attorney's fees resulting or alleged to result, in whole or in part, from any act or omission, which is in any way connected or associated with this contract, by the Contractor or anyone acting on the Contractor's behalf under this contract. Contractor shall not be responsible to indemnify the City for losses or damages caused by or resulting from the City's sole negligence.

ARTICLE X - Entire Agreement

This Contract represents the entire understanding between the City and the Contractor and it supersedes all prior representations or agreements whether written or oral. Neither party has relied on any prior representations in entering into this Contract. This Contract may be altered, amended or modified only by written amendment signed by the City and the Contractor.

FOR CONTRACTOR

FOR THE CITY OF ANN ARBOR

By _____
Its: _____

By _____
John Hieftje, Mayor

By _____
City Clerk

Approved as to substance

By _____
Roger W. Fraser, City Administrator

By _____
Service Area Administrator

Approved as to form and content

Stephen K. Postema, City Attorney

PERFORMANCE BOND

(1) _____ of _____ (referred to as "Principal"), and _____, a corporation duly authorized to do business in the State of Michigan (referred to as "Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for \$ _____, the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by this bond.

(2) The Principal has entered a written contract with the City dated _____, 200__, for: **Ann Arbor Farmers Market, Phase I – Existing Canopy Improvements** and this bond is given for that contract in compliance with Act No. 213 of the Michigan Public Acts of 1963, as amended, being MCL 129.201 et seq.

(3) Whenever the Principal is declared by the City to be in default under the contract, the Surety may promptly remedy the default or shall promptly:

(a) complete the contract in accordance with its terms and conditions; or

(b) obtain a bid or bids for submission to the City for completing the contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, arrange for a contract between such bidder and the City, and make available, as work progresses, sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which Surety may be liable hereunder, the amount set forth in paragraph 1.

(4) Surety shall have no obligation to the City if the Principal fully and promptly performs under the contract.

(5) Surety agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder, or the specifications accompanying it shall in any way affect its obligations on this bond, and waives notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work, or to the specifications.

SIGNED AND SEALED this _____ day of _____, 200__.

(Name of Surety Company)

(Name of Principal)

By

(Signature)

By

(Signature)

Its

(Title of Office)

Its

(Title of Office)

Name and address of agent:

Approved as to form:

Stephen K. Postema, City Attorney

LABOR AND MATERIAL BOND

(1) _____ of _____, (referred to as "Principal"), and _____, a corporation duly authorized to do business in the State of Michigan, (referred to as "Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for the use and benefit of claimants as defined in Act 213 of Michigan Public Acts of 1963, as amended, being MCL 129.201 et seq., in the amount of \$ _____, for the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by this bond.

(2) The Principal has entered a written contract with the City, dated _____, 200__, for

Ann Arbor Farmers Market, Phase I – Existing Canopy Improvements; and this bond is given for that contract in compliance with Act No. 213 of the Michigan Public Acts of 1963 as amended;

(3) If the Principal fails to promptly and fully repay claimants for labor and material reasonably required under the contract, the Surety shall pay those claimants.

(4) Surety's obligations shall not exceed the amount stated in paragraph 1, and Surety shall have no obligation if the Principal promptly and fully pays the claimants.

SIGNED AND SEALED this _____ day of _____, 200__.

(Name of Surety Company)

(Name of Principal)

By
(Signature)

By
(Signature)

Its
(Title of Office)

Its
(Title of Office)

Approved as to form:

Name and address of agent:

Stephen K. Postema, City Attorney

GENERAL CONDITIONS

Section 1 - Execution, Correlation and Intent of Documents

The contract documents shall be signed in 2 copies by the City and the Contractor.

The contract documents are complementary and what is called for by any one shall be binding. The intention of the documents is to include all labor and materials, equipment and transportation necessary for the proper execution of the work. Materials or work described in words which so applied have a well-known technical or trade meaning have the meaning of those recognized standards.

In case of a conflict among the contract documents listed below in any requirement(s), the requirement(s) of the document listed first shall prevail over any conflicting requirement(s) of a document listed later.

- (1) Addenda in reverse chronological order;
- (2) Detailed Specifications;
- (3) Standard Specifications;
- (4) Plans;
- (5) General Conditions;
- (6) Contract;
- (7) Bid Forms;
- (8) Bond Forms;
- (9) Proposal.

Section 2 - Order of Completion

The Contractor shall submit with each invoice, and at other times reasonably requested by the Supervising Professional, schedules showing the order in which the Contractor proposes to carry on the work. They shall include the dates at which the Contractor will start the several parts of the work, the estimated dates of completion of the several parts, and important milestones within the several parts.

Section 3 - Familiarity with Work

The Bidder or its representative shall make personal investigations of the site of the work and of existing structures and shall determine to its own satisfaction the conditions to be encountered, the nature of the ground, the difficulties involved, and all other factors affecting the work proposed under this Contract. The Bidder to whom this Contract is awarded will not be entitled to any additional compensation unless conditions are clearly different from those which could reasonably have been anticipated by a person making diligent and thorough investigation of the site.

The Bidder shall immediately notify the City upon discovery, and in every case prior to submitting its Bid, of every error or omission in the bidding documents that would be identified by a reasonably competent, diligent Bidder. In no case will a Bidder be allowed the benefit of extra compensation or time to complete the work under this Contract for extra expenses or time spent as a result of the error or omission.

Section 4 - Wage Requirements

Under this Contract, the Contractor shall conform to Chapter 14 of Title I of the Code of the City of Ann Arbor as amended; which in part states "...that all craftsmen, mechanics and laborers employed directly on the site in connection with said improvements, including said employees of subcontractors, shall receive the prevailing wage for the corresponding classes of craftsmen, mechanics and laborers, as determined by statistics for the Ann Arbor area compiled by the United States Department of Labor. At the request of the City, any contractor or subcontractor shall provide satisfactory proof of compliance with the contract provisions required by the Section."

Where the Contract and the Ann Arbor City Ordinance are silent as to definitions of terms required in determining contract compliance with regard to prevailing wages, the definitions provided in the Davis-Bacon Act as amended (40 U.S.C. 278-a to 276-a-7) for the terms shall be used.

Further, to the extent that any employees of the Contractor providing services under this contract are not part of the class of craftsmen, mechanics and laborers who receive a prevailing wage in conformance with Section 1:319 of Chapter 14 of Title I of the Code of the City of Ann Arbor, the Contractor agrees to conform to Chapter 23 of Title I of the Code of the City of Ann Arbor, as amended, which in part states:

1:814. Applicability.

- (1) This Chapter shall apply to any person that is a contractor/vendor or grantee as defined in Section 1:813 that employs or contracts with five (5) or more individuals; provided, however, that this Chapter shall not apply to a non-profit contractor/vendor or non-profit grantee unless it employs or contracts with ten (10) or more individuals.
- (2) This Chapter shall apply to any grant, contract, or subcontract or other form of financial assistance awarded to or entered into with a contractor/vendor or grantee after the effective date of this Chapter and to the extension or renewal after the effective date of this Chapter of any grant, contract, or subcontract or other form of financial assistance with a contractor/vendor or grantee.

1:815. Living Wages Required.

- (1) Every contractor/vendor or grantee, as defined in Section 1:813, shall pay its covered employees a living wage as established in this Section.
 - (a) For a covered employer that provides employee health care to its employees, the living wage shall be \$9.42 an hour, or the adjusted amount hereafter established under Section 1:815(3).
 - (b) For a covered employer that does not provide health care to its employees, the living wage shall be \$10.91 a hour, or the adjusted amount hereafter established under Section 1:815(3).
- (2) In order to qualify to pay the living wage rate for covered employers providing employee health care under subsection 1:815(1)(a), a covered employer shall furnish proof of said

health care coverage and payment therefor to the City Administrator or his/her designee.

- (3) The amount of the living wage established in this Section shall be adjusted upward no later than April 30, 2002, and every year thereafter by a percentage equal to the percentage increase, if any, in the federal poverty guidelines as published by the United States Department of Health and Human Services for the years 2001 and 2002. Subsequent annual adjustments shall be based upon the percentage increase, if any, in the United States Department of Health and Human Services poverty guidelines when comparing the prior calendar year's poverty guidelines to the present calendar year's guidelines. The applicable percentage amount will be converted to an amount in cents by multiplying the existing wage under Section 1.815(1)(b) by said percentage, rounding upward to the next cent, and adding this amount of cents to the existing living wage levels established under Sections 1:815(1)(a) and 1:815(1)(b). Prior to April 1 of each calendar year, the City will notify any covered employer of this adjustment by posting a written notice in a prominent place in City Hall, and, in the case of a covered employer that has provided an address of record to the City, by a written letter to each such covered employer.

Section 5 - Non-Discrimination

The Contractor agrees to comply with the nondiscrimination provisions of Chapter 112 of the Ann Arbor City Code and to take affirmative action to assure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity and tends to eliminate any inequality based upon race, national origin or sex. The Contractor agrees to comply with the provisions of Section 9:161 of Chapter 112 of the Ann Arbor City Code and in particular the following excerpts:

9:161 NONDISCRIMINATION BY CITY CONTRACTORS

- (1) All contractors proposing to do business with the City of Ann Arbor shall satisfy the nondiscrimination administrative policy adopted by the City Administrator in accordance with the guidelines of this section. All contractors shall receive approval from the Director prior to entering into a contract with the City, unless specifically exempted by administrative policy. All City contractors shall take affirmative action to insure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity and tends to eliminate inequality based upon race, national origin or sex.
- (2) Each prospective contractor shall submit to the City data showing current total employment by occupational category, sex and minority group. If, after verifying this data, the Director concludes that it indicates total minority and female employment commensurate with their availability within the contractor's labor recruitment area, i.e., the area from which the contractor can reasonably be expected to recruit, said contractor shall be accepted by the Director as having fulfilled affirmative action requirements for a period of one year at which time the Director shall conduct another review. Other contractors shall develop an affirmative action program in conjunction with the Director. Said program shall include specific goals and timetables for the hiring and promotion of minorities and females. Said goals shall reflect the availability of minorities and females within the contractor's labor recruitment area. In the case of construction contractors, the Director shall use for

employment verification the labor recruitment area of the Ann Arbor-Ypsilanti standard metropolitan statistical area. Construction contractors determined to be in compliance shall be accepted by the Director as having fulfilled affirmative action requirements for a period of six (6) months at which time the Director shall conduct another review.

- (3) In hiring for construction projects, contractors shall make good faith efforts to employ local persons, so as to enhance the local economy.
- (4) All contracts shall include provisions through which the contractor agrees, in addition to any other applicable Federal or State labor laws:
 - (a) To set goals, in conference with the Human Resources Director, for each job category or division of the work force used in the completion of the City work;
 - (b) To provide periodic reports concerning the progress the contractor has made in meeting the affirmative action goals it has agreed to;
 - (c) To permit the Director access to all books, records and accounts pertaining to its employment practices for the purpose of determining compliance with the affirmative action requirements.
- (5) The Director shall monitor the compliance of each contractor with the nondiscrimination provisions of each contract. The Director shall develop procedures and regulations consistent with the administrative policy adopted by the City Administrator for notice and enforcement of non-compliance. Such procedures and regulations shall include a provision for the posting of contractors not in compliance.
- (6) All City contracts shall provide further that breach of the obligation not to discriminate shall be a material breach of the contract for which the City shall be entitled, at its option, to do any or all of the following:
 - (a) To cancel, terminate, or suspend the contract in whole or part and/or refuse to make any required periodic payments under the contract;
 - (b) Declare the contractor ineligible for the award of any future contracts with the City for a specified length of time;
 - (c) To recover liquidated damages of a specified sum, said sum to be that percentage of the labor expenditure for the time period involved which would have accrued to minority group members had the affirmative action not been breached;
 - (d) Impose for each day of non-compliance, liquidated damages of a specified sum, based upon the following schedule:

<u>Contract Amount</u>	<u>Assessed Damages Per Day of Non-Compliance</u>
\$ 10,000 - 24,999	\$ 25.00
25,000 - 99,999	50.00
100,000 - 199,999	100.00
200,000 - 499,999	150.00
500,000 - 1,499,999	200.00
1,500,000 - 2,999,999	250.00
3,000,000 - 4,999,999	300.00
5,000,000 - and above	500.00

(e) In addition the contractor shall be liable for any costs or expenses incurred by the City of Ann Arbor in obtaining from other sources the work and services to be rendered or performed or the goods or properties to be furnished or delivered to the City under this contract.

Section 6 - Materials, Appliances, Employees

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation, and other facilities necessary or used for the execution and completion of the work. Unless otherwise specified, all materials incorporated in the permanent work shall be new, and both workmanship and materials shall be of the highest quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

The Contractor shall at all times enforce strict discipline and good order among its employees, and shall seek to avoid employing on the work any unfit person or anyone not skilled in the work assigned.

Adequate sanitary facilities shall be provided by the Contractor.

Section 7 - Qualifications for Employment

The Contractor shall employ competent laborers and mechanics for the work under this Contract. For work performed under this Contract, employment preference shall be given to qualified local residents.

Section 8 - Royalties and Patents

The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringements of any patent rights and shall hold the City harmless from loss on account of infringement except that the City shall be responsible for all infringement loss when a particular process or the product of a particular manufacturer or manufacturers is specified, unless the City has notified the Contractor prior to the signing of the Contract that the particular process or product is patented or is believed to be patented.

Section 9 - Permits and Regulations

The Contractor must secure and pay for all permits, permit or plan review fees and licenses necessary for the prosecution of the work. These include but are not limited to City building permits, right-of-way permits, lane closure permits, right-of-way occupancy permits, and the like. The City shall secure and pay for easements shown on the plans unless otherwise specified.

The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the contract documents are at variance with those requirements, it shall promptly notify the Supervising Professional in writing, and any necessary changes shall be adjusted as provided in the Contract for changes in the work.

Section 10 - Protection of the Public and of Work and Property

The Contractor is responsible for the means, methods, sequences, techniques and procedures of construction and safety programs associated with the work contemplated by this contract. The Contractor, its agents or sub-contractors, shall comply with the "General Rules and Regulations for the Construction Industry" as published by the Construction Safety Commission of the State of Michigan and to all other local, State and National laws, ordinances, rules and regulations pertaining to safety of persons and property.

The Contractor shall take all necessary and reasonable precautions to protect the safety of the public. It shall continuously maintain adequate protection of all work from damage, and shall take all necessary and reasonable precautions to adequately protect all public and private property from injury or loss arising in connection with this Contract. It shall make good any damage, injury or loss to it's work and to public and private property resulting from lack of reasonable protective precautions, except as may be due to errors in the contract documents, or caused by agents or employees of the City. The Contractor shall obtain and maintain sufficient insurance to cover damage to any City property at the site by any cause.

In an emergency affecting the safety of life, or the work, or of adjoining property, the Contractor is, without special instructions or authorization from the Supervising Professional, permitted to act at its discretion to prevent the threatened loss or injury. It shall also so act, without appeal, if authorized or instructed by the Supervising Professional.

Any compensation claimed by the Contractor for emergency work shall be determined by agreement or in accordance with the terms of Claims for Extra Cost - Section 15.

Section 11 - Inspection of Work

The City shall provide sufficient competent personnel for the inspection of the work.

The Supervising Professional shall at all times have access to the work whenever it is in preparation or progress, and the Contractor shall provide proper facilities for access and for inspection.

If the specifications, the Supervising Professional's instructions, laws, ordinances, or any public authority require any work to be specially tested or approved, the Contractor shall give the Supervising Professional timely notice of its readiness for inspection, and if the inspection is by an authority other than the Supervising Professional, of the date fixed for the inspection. Inspections by the Supervising Professional shall be made promptly, and where practicable at the source of supply. If any work should be covered up without approval or consent of the Supervising Professional, it must, if required by the Supervising Professional, be uncovered for examination and properly restored at the Contractor's expense.

Re-examination of any work may be ordered by the Supervising Professional, and, if so ordered, the work must be uncovered by the Contractor. If the work is found to be in accordance with the contract documents, the City shall pay the cost of re-examination and replacement. If the work is not in accordance with the contract documents, the Contractor shall pay the cost.

Section 12 - Superintendence

The Contractor shall keep on the work site, during its progress, a competent superintendent and any necessary assistants, all satisfactory to the Supervising Professional. The superintendent will be responsible to perform all on-site project management for the Contractor. The superintendent shall be experienced in the work required for this Contract. The superintendent shall represent the Contractor and all direction given to the superintendent shall be binding as if given to the Contractor. Important directions shall immediately be confirmed in writing to the Contractor. Other directions will be confirmed on written request. The Contractor shall give efficient superintendence to the work, using its best skill and attention.

Section 13 - Changes in the Work

The City may make changes to the quantities of work within the general scope of the Contract at any time by a written order and without notice to the sureties. If the changes add to or deduct from the extent of the work, the Contract Sum shall be adjusted accordingly. All the changes shall be executed under the conditions of the original Contract except that any claim for extension of time caused by the change shall be adjusted at the time of ordering the change.

In giving instructions, the Supervising Professional shall have authority to make minor changes in the work not involving extra cost and not inconsistent with the purposes of the work, but otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order by the Supervising Professional, and no claim for an addition to the Contract Sum shall be valid unless the additional work was ordered in writing.

The Contractor shall proceed with the work as changed and the value of the work shall be determined as provided in Claims for Extra Cost - Section 15.

Section 14 - Extension of Time

Extension of time stipulated in the Contract for completion of the work will be made if and as the Supervising Professional may deem proper under any of the following circumstances:

- (1) When work under an extra work order is added to the work under this Contract;
- (2) When the work is suspended as provided in Section 20;
- (3) When the work of the Contractor is delayed on account of conditions which could not have been foreseen, or which were beyond the control of the Contractor, and which were not the result of its fault or negligence;
- (4) Delays in the progress of the work caused by any act or neglect of the City or of its employees or by other Contractors employed by the City;
- (5) Delay due to an act of Government;
- (6) Delay by the Supervising Professional in the furnishing of plans and necessary information;
- (7) Other cause which in the opinion of the Supervising Professional entitles the Contractor to an extension of time.

The Contractor shall notify the Supervising Professional within 7 days of an occurrence or conditions which, in the Contractor's opinion, entitle it to an extension of time. The notice shall be in writing and submitted in ample time to permit full investigation and evaluation of the Contractor's claim. The Supervising Professional shall acknowledge receipt of the Contractor's notice within 7 days of its receipt. Failure to timely provide the written notice shall constitute a waiver by the Contractor of any claim.

In situations where an extension of time in contract completion is appropriate under this or any other section of the contract, the Contractor understands and agrees that the only available adjustment for events that cause any delays in contract completion shall be extension of the required time for contract completion and that there shall be no adjustments in the money due the Contractor on account of the delay.

Section 15 - Claims for Extra Cost

If the Contractor claims that any instructions by drawings or other media issued after the date of the Contract involved extra cost under this Contract, it shall give the Supervising Professional written notice within 7 days after the receipt of the instructions, and in any event before proceeding to execute the work, except in emergency endangering life or property. The procedure shall then be as provided for Changes in the Work-Section 13. No claim shall be valid unless so made.

If the Supervising Professional orders, in writing, the performance of any work not covered by the contract documents, and for which no item of work is provided in the Contract, and for which no unit price or lump sum basis can be agreed upon, then the extra work shall be done on a Cost-Plus-

Percentage basis of payment as follows:

- (1) The Contractor shall be reimbursed for all reasonable costs incurred in doing the work, and shall receive an additional payment of 15% of all the reasonable costs to cover both its indirect overhead costs and profit;
- (2) The term "Cost" shall cover all payroll charges for employees and supervision required under the specific order, together with all worker's compensation, Social Security, pension and retirement allowances and social insurance, or other regular payroll charges on same; the cost of all material and supplies required of either temporary or permanent character; rental of all power-driven equipment at agreed upon rates, together with cost of fuel and supply charges for the equipment; and any costs incurred by the Contractor as a direct result of executing the order, if approved by the Supervising Professional;
- (3) If the extra is performed under subcontract, the subcontractor shall be allowed to compute its charges as described above. The Contractor shall be permitted to add an additional charge of 5% percent to that of the subcontractor for the Contractor's supervision and contractual responsibility;
- (4) The quantities and items of work done each day shall be submitted to the Supervising Professional in a satisfactory form on the succeeding day, and shall be approved by the Supervising Professional and the Contractor or adjusted at once;
- (5) Payments of all charges for work under this Section in any one month shall be made along with normal progress payments. Retainage shall be in accordance with Progress Payments-Section 16.

No additional compensation will be provided for additional equipment, materials, personnel, overtime or special charges required to perform the work within the time requirements of the Contract.

When extra work is required and no suitable price for machinery and equipment can be determined in accordance with this Section, the hourly rate paid shall be 1/40 of the basic weekly rate listed in the Rental Rate Blue Book published by Dataquest Incorporated and applicable to the time period the equipment was first used for the extra work. The hourly rate will be deemed to include all costs of operation such as bucket or blade, fuel, maintenance, "regional factors", insurance, taxes, and the like, but not the costs of the operator.

Section 16 - Progress Payments

The Contractor shall submit each month, or at longer intervals, if it so desires, an invoice covering work performed for which it believes payment, under the Contract terms, is due. The submission shall be to the City's Finance Department - Accounting Division. The Supervising Professional will, within 10 days following submission of the invoice, prepare a certificate for payment for the work in an amount to be determined by the Supervising Professional as fairly representing the acceptable work performed during the period covered by the Contractor's invoice. To insure the proper performance of this Contract, the City will retain a percentage of the estimate in accordance with Act 524, Public Acts of 1980. The City will then, following the receipt of the Supervising Professional's Certificate, make payment to the Contractor as soon as feasible, which is anticipated will be within 15 days.

An allowance may be made in progress payments if substantial quantities of permanent material have been delivered to the site but not incorporated in the completed work if the Contractor, in the opinion of the Supervising Professional, is diligently pursuing the work under this Contract. Such materials shall be properly stored and adequately protected. Allowance in the estimate shall be at the invoice price value of the items. Notwithstanding any payment of any allowance, all risk of loss due to vandalism or any damages to the stored materials remains with the Contractor.

In the case of Contracts which include only the Furnishing and Delivering of Equipment, the payments shall be; 60% of the Contract Sum upon the delivery of all equipment to be furnished, or in the case of delivery of a usable portion of the equipment in advance of the total equipment delivery, 60% of the estimated value of the portion of the equipment may be paid upon its delivery in advance of the time of the remainder of the equipment to be furnished; 30% of the Contract Sum upon completion of erection of all equipment furnished, but not later than 60 days after the date of delivery of all of the equipment to be furnished; and payment of the final 10% on final completion of erection, testing and acceptance of all the equipment to be furnished; but not later than 180 days after the date of delivery of all of the equipment to be furnished, unless testing has been completed and shows the equipment to be unacceptable.

With each invoice for periodic payment, the Contractor shall enclose a Contractor's Declaration - Section 43, and an updated project schedule per Order of Completion - Section 2.

Section 17 - Deductions for Uncorrected Work

If the Supervising Professional decides it is inexpedient to correct work that has been damaged or that was not done in accordance with the Contract, an equitable deduction from the Contract price shall be made.

Section 18 - Correction of Work Before Final Payment

The Contractor shall promptly remove from the premises all materials condemned by the Supervising Professional as failing to meet Contract requirements, whether incorporated in the work or not, and the Contractor shall promptly replace and re-execute the work in accordance with the Contract and without expense to the City and shall bear the expense of making good all work of other contractors destroyed or damaged by the removal or replacement.

If the Contractor does not remove the condemned work and materials within 10 days after written notice, the City may remove them and, if the removed material has value, may store the material at the expense of the Contractor. If the Contractor does not pay the expense of the removal within 10 days thereafter, the City may, upon 10 days written notice, sell the removed materials at auction or private sale and shall pay to the Contractor the net proceeds, after deducting all costs and expenses that should have been borne by the Contractor. If the removed material has no value, the Contractor must pay the City the expenses for disposal within 10 days of invoice for the disposal costs.

The inspection or lack of inspection of any material or work pertaining to this Contract shall not relieve the Contractor of its obligation to fulfill this Contract and defective work shall be made good. Unsuitable materials may be rejected by the Supervising Professional notwithstanding that the work and materials have been previously overlooked by the Supervising Professional and accepted or estimated for payment or paid for. If the work or any part shall be found defective at any time before the final acceptance of the whole work, the Contractor shall forthwith make good the defect in a manner satisfactory to the Supervising Professional. The judgment and the decision of the Supervising Professional as to whether the materials supplied and the work done under this Contract comply with the requirements of the Contract shall be conclusive and final.

Section 19 - Acceptance and Final Payment

Upon receipt of written notice that the work is ready for final inspection and acceptance, the Supervising Professional will promptly make the inspection. When the Supervising Professional finds the work acceptable under the Contract and the Contract fully performed, the Supervising Professional will promptly sign and issue a final certificate stating that the work required by this Contract has been completed and is accepted by the City under the terms and conditions of the Contract. The entire balance found to be due the Contractor, including the retained percentage, shall be paid to the Contractor by the City within 30 days after the date of the final certificate.

Before issuance of final certificates, the Contractor shall file with the City:

- (1) The consent of the surety to payment of the final estimate;
- (2) The Contractor's Affidavit in the form required by Section 44.

In case the Affidavit or consent is not furnished, the City may retain out of any amount due the Contractor, sums sufficient to cover all lienable claims.

The making and acceptance of the final payment shall constitute a waiver of all claims by the City except those arising from:

- (1) unsettled liens;
- (2) faulty work appearing within 12 months after final payment;
- (3) hidden defects in meeting the requirements of the plans and specifications;
- (4) manufacturer's guarantees.

It shall also constitute a waiver of all claims by the Contractor, except those previously made and still unsettled.

Section 20 - Suspension of Work

The City may at any time suspend the work, or any part by giving 5 days notice to the Contractor in writing. The work shall be resumed by the Contractor within 10 days after the date fixed in the written notice from the City to the Contractor to do so. The City shall reimburse the Contractor for expense incurred by the Contractor in connection with the work under this Contract as a result of the suspension.

If the work, or any part, shall be stopped by the notice in writing, and if the City does not give notice in writing to the Contractor to resume work at a date within 90 days of the date fixed in the written notice to suspend, then the Contractor may abandon that portion of the work suspended and will be entitled to the estimates and payments for all work done on the portions abandoned, if any, plus 10% of the value of the work abandoned, to compensate for loss of overhead, plant expense, and anticipated profit.

Section 21 - Delays and The City's Right to Terminate Contract

If the Contractor refuses or fails to prosecute the work, or any separate part of it, with the diligence required to insure completion, ready for operation, within the allowable number of consecutive calendar days specified plus extensions, or fails to complete the work within the required time, the City may, by written notice to the Contractor, terminate its right to proceed with the work or any part of the work as to which there has been delay. After providing the notice the City may take over the work and prosecute it to completion, by contract or otherwise, and the Contractor and its sureties shall be liable to the City for any excess cost to the City. If the Contractor's right to proceed is terminated, the City may take possession of and utilize in completing the work, any materials, appliances and plant as may be on the site of the work and useful for completing the work. The right of the Contractor to proceed shall not be terminated or the Contractor charged with liquidated damages where an extension of time is granted under Extension of Time - Section 14.

If the Contractor is adjudged a bankrupt, or if it makes a general assignment for the benefit of creditors, or if a receiver is appointed on account of its insolvency, or if it persistently or repeatedly refuses or fails except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials, or if it fails to make prompt payments to subcontractors or for material or labor, or persistently disregards laws, ordinances or the instructions of the Supervising Professional, or otherwise is guilty of a substantial violation of any provision of the Contract, then the City, upon the certificate of the Supervising Professional that sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor 3 days written notice, terminate this Contract. The City may then take possession of the premises and of all materials, tools and appliances thereon and without prejudice to any other remedy it may have, make good the deficiencies or finish the work by whatever method it may deem expedient, and deduct the cost from the payment due the Contractor. The Contractor shall not be entitled to receive any further payment until the work is finished. If the expense of finishing the work, including compensation for additional managerial and administrative services exceeds the unpaid balance of the Contract Sum, the Contractor and its surety are liable to the City for any excess cost incurred. The expense incurred by the City, and the damage incurred through the Contractor's default, shall be certified by the Supervising Professional.

Section 22 - Contractor's Right to Terminate Contract

If the work should be stopped under an order of any court, or other public authority, for a period of 3 months, through no act or fault of the Contractor or of anyone employed by it, then the Contractor may, upon 7 days written notice to the City, terminate this Contract and recover from the City payment for all acceptable work executed plus reasonable profit.

Section 23 - City's Right To Do Work

If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this Contract, the City, 3 days after giving written notice to the Contractor and its surety may, without prejudice to any other remedy the City may have, make good the deficiencies and may deduct the cost from the payment due to the Contractor.

Section 24 - Removal of Equipment and Supplies

In case of termination of this Contract before completion, from any or no cause, the Contractor, if notified to do so by the City, shall promptly remove any part or all of its equipment and supplies from the property of the City, failing which the City shall have the right to remove the equipment and supplies at the expense of the Contractor.

The removed equipment and supplies may be stored by the City and, if all costs of removal and storage are not paid by the Contractor within 10 days of invoicing, the City upon 10 days written notice may sell the equipment and supplies at auction or private sale, and shall pay the Contractor the net proceeds after deducting all costs and expenses that should have been borne by the Contractor and after deducting all amounts claimed due by any lien holder of the equipment or supplies.

Section 25 - Responsibility for Work and Warranties

The Contractor assumes full responsibility for any and all materials and equipment used in the construction of the work and may not make claims against the City for damages to materials and equipment from any cause except negligence or willful act of the City. Until its final acceptance, the Contractor shall be responsible for damage to or destruction of the project (except for any part covered by Partial Completion and Acceptance - Section 26). The Contractor shall make good all work damaged or destroyed before acceptance. All risk of loss remains with the Contractor until final acceptance of the work (Section 19) or partial acceptance (Section 26). The Contractor is advised to investigate obtaining its own builders risk insurance.

The Contractor shall guarantee the quality of the work for a period of one year. The Contractor shall also unconditionally guarantee the quality of all equipment and materials that are furnished and installed under the contract for a period of one year. At the end of one year after the Contractor's receipt of final payment, the complete work, including equipment and materials furnished and installed under the contract, shall be inspected by the Contractor and the Supervising Professional. Any defects shall be corrected by the Contractor at its expense as soon as practicable but in all cases within 60 days. Any defects that are identified prior to the end of one year shall also be inspected by the Contractor and the Supervising Professional and shall be corrected by the Contractor at its

expense as soon as practicable but in all cases within 60 days.

The Contractor shall assign all manufacturer or material supplier warranties to the City prior to final payment. The assignment shall not relieve the Contractor of its obligations under this paragraph to correct defects.

Section 26 - Partial Completion and Acceptance

If at any time prior to the issuance of the final certificate referred to in Acceptance and Final Payment - Section 19, any portion of the permanent construction has been satisfactorily completed, and if the Supervising Professional determines that portion of the permanent construction is not required for the operations of the Contractor but is needed by the City, the Supervising Professional shall issue to the Contractor a certificate of partial completion, and immediately the City may take over and use the portion of the permanent construction described in the certificate, and exclude the Contractor from that portion.

The issuance of a certificate of partial completion shall not constitute an extension of the Contractor's time to complete the portion of the permanent construction to which it relates if the Contractor has failed to complete it in accordance with the terms of this Contract. The issuance of the certificate shall not release the Contractor or its sureties from any obligations under this Contract including bonds.

If prior use increases the cost of, or delays the work, the Contractor shall be entitled to extra compensation, or extension of time, or both, as the Supervising Professional may determine.

Section 27 - Payments Withheld Prior to Final Acceptance of Work

The City may withhold or, on account of subsequently discovered evidence, nullify the whole or part of any certificate to the extent reasonably appropriate to protect the City from loss on account of:

- (1) Defective work not remedied;
- (2) Claims filed or reasonable evidence indicating probable filing of claims by other parties against the Contractor;
- (3) Failure of the Contractor to make payments properly to subcontractors or for material or labor;
- (4) Damage to another Contractor.

When the above grounds are removed or the Contractor provides a Surety Bond satisfactory to the City which will protect the City in the amount withheld, payment shall be made for amounts withheld under this section.

Section 28 - Contractor's Insurance

- A. The Contractor shall procure and maintain during the life of this Contract, including the guarantee period and during any warranty work, such insurance policies, including those set forth below, as will protect itself from all claims for bodily injuries, death or property damage which may arise under this Contract; whether the acts were made by the Contractor or by any subcontractor or anyone employed by them directly or indirectly. The following insurance policies are required:
1. Worker's Compensation Insurance in accordance with all applicable state and federal statutes. Further, Employers Liability Coverage shall be obtained in the following minimum amounts:

Bodily Injury by Accident - \$500,000 each accident
Bodily Injury by Disease - \$500,000 each employee
Bodily Injury by Disease - \$500,000 each policy limit
 2. Commercial General Liability Insurance equivalent to, as a minimum, Insurance Services Office form CG 00 01 07 98. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements including, but not limited to: Products and Completed Operations, Explosion, Collapse and Underground coverage or Pollution. Further, the following minimum limits of liability are required:

\$1,000,000 Each occurrence as respect Bodily Injury Liability or Property Damage Liability, or both combined.

\$2,000,000 Per Job General Aggregate

\$1,000,000 Personal and Advertising Injury

\$2,000,000 Products and Completed Operations Aggregate
 3. Motor Vehicle Liability Insurance, including Michigan No-Fault Coverages, equivalent to, as a minimum, Insurance Services Office form CA 00 01 07 97. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements. Coverage shall include all owned vehicles, all non-owned vehicles and all hired vehicles. Further, the limits of liability shall be \$1,000,000 for each occurrence as respects Bodily Injury Liability or Property Damage Liability, or both combined.
 4. Umbrella/Excess Liability Insurance shall be provided to apply excess of the Commercial General Liability, Employers Liability and the Motor Vehicle coverage enumerated above, for each occurrence and for aggregate in the amount of \$1,000,000.
- B. Insurance required under Section A.2 and A.3 of this Contract shall be considered primary as respects any other valid or collectible insurance that the City may possess, including any self-insured retentions the City may have; and any other insurance the City does possess shall be considered excess insurance only and shall not be required to contribute with this insurance. Further, the Contractor agrees to waive any right of recovery by its insurer against the City.

- C. In the case of all Contracts involving on-site work, the Contractor shall provide to the City before the commencement of any work under this Contract documentation demonstrating it has obtained the above mentioned policies. Documentation must provide and demonstrate an unconditional 30 day written notice of cancellation in favor of the City of Ann Arbor. Further, the documentation must explicitly state the following: (a) the policy number; name of insurance company; name and address of the agent or authorized representative; name and address of insured; project name; policy expiration date; and specific coverage amounts; (b) any deductibles or self-insured retentions which shall be approved by the City, in its sole discretion; (c) that the policy conforms to the requirements specified. An original certificate of insurance may be provided as an initial indication of the required insurance, provided that no later than 21 calendar days after commencement of any work the Contractor supplies a copy of the endorsements required on the policies. Upon request, the Contractor shall provide within 30 days a copy of the policy(ies) to the City. If any of the above coverages expire by their terms during the term of this Contract, the Contractor shall deliver proof of renewal and/or new policies to the Administering Service Area/Unit at least ten days prior to the expiration date.
- D. Any Insurance provider of Contractor shall be admitted and authorized to do business in the State of Michigan and shall carry and maintain a minimum rating assigned by A.M. Best & Company's Key Rating Guide of A- Overall and a minimum Financial Size Category of V. Insurance policies and certificates issued by non-admitted insurance companies are not acceptable unless approved in writing by the City.

Section 29 - Surety Bonds

Bonds will be required from the successful bidder as follows:

- (1) A Performance Bond to the City of Ann Arbor for the amount of the bid(s) accepted;
- (2) A Labor and Material Bond to the City of Ann Arbor for the amount of the bid(s) accepted.

Bonds shall be executed on forms supplied by the City in a manner and by a Surety Company satisfactory to the City Attorney.

Section 30 - Damage Claims

The Contractor shall be held responsible for all damages to property of the City or others, caused by or resulting from the negligence of the Contractor, its employees, or agents during the progress of or connected with the prosecution of the work, whether within the limits of the work or elsewhere. The Contractor must restore all property injured including sidewalks, curbing, sodding, pipes, conduit, sewers or other public or private property to not less than its original condition with new work.

Section 31 - Refusal to Obey Instructions

If the Contractor refuses to obey the instructions of the Supervising Professional, the Supervising Professional shall withdraw inspection from the work, and no payments will be made for work performed thereafter nor may work be performed thereafter until the Supervising Professional shall have again authorized the work to proceed.

Section 32 - Assignment

Neither party to the Contract shall assign the Contract without the written consent of the other. The Contractor may assign any monies due to it to a third party acceptable to the City.

Section 33 - Rights of Various Interests

Whenever work being done by the City's forces or by other contractors is contiguous to work covered by this Contract, the respective rights of the various interests involved shall be established by the Supervising Professional, to secure the completion of the various portions of the work in general harmony.

The Contractor is responsible to coordinate all aspects of the work, including coordination of, and with, utility companies and other contractors whose work impacts this project.

Section 34 - Subcontracts

The Contractor shall not award any work to any subcontractor without prior written approval of the City. The approval will not be given until the Contractor submits to the City a written statement concerning the proposed award to the subcontractor. The statement shall contain all information the City may require.

The Contractor shall be as fully responsible to the City for the acts and omissions of its subcontractors, and of persons either directly or indirectly employed by them, as it is for the acts and omissions of persons directly employed by it.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of the General Conditions and all other contract documents applicable to the work of the subcontractors and to give the Contractor the same power to terminate any subcontract that the City may exercise over the Contractor under any provision of the contract documents.

Nothing contained in the contract documents shall create any contractual relation between any subcontractor and the City.

Section 35 - Supervising Professional's Status

The Supervising Professional has the right to inspect any or all work. The Supervising Professional has authority to stop the work whenever stoppage may be appropriate to insure the proper execution of the Contract. The Supervising Professional has the authority to reject all work and materials which do not conform to the Contract and to decide questions which arise in the execution of the work.

The Supervising Professional shall make all measurements and determinations of quantities. Those measurements and determinations are final and conclusive between the parties.

Section 36 - Supervising Professional's Decisions

The Supervising Professional shall, within a reasonable time after their presentation to the Supervising Professional, make decisions in writing on all claims of the City or the Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the contract documents.

Section 37 - Storing Materials and Supplies

Materials and supplies may be stored at the site of the work at locations agreeable to the City unless specific exception is listed elsewhere in these documents. Ample way for foot traffic and drainage must be provided, and gutters must, at all times, be kept free from obstruction. Traffic on streets shall be interfered with as little as possible. The Contractor may not enter or occupy with agents, employees, tools, or material any private property without first obtaining written permission from its owner. A copy of the permission shall be furnished to the Supervising Professional.

Section 38 - Lands for Work

The Contractor shall provide, at its own expense and without liability to the City, any additional land and access that may be required for temporary construction facilities or for storage of materials.

Section 39 - Cleaning Up

The Contractor shall, as directed by the Supervising Professional, remove at its own expense from the City's property and from all public and private property all temporary structures, rubbish and waste materials resulting from its operations unless otherwise specifically approved, in writing, by the Supervising Professional.

Section 40 - Salvage

The Supervising Professional may designate for salvage any materials from existing structures or underground services. Materials so designated remain City property and shall be transported or stored at a location as the Supervising Professional may direct.

Section 41 - Night, Saturday or Sunday Work

No night or Sunday work (without prior written City approval) will be permitted except in the case of an emergency and then only to the extent absolutely necessary. The City may allow night work which, in the opinion of the Supervising Professional, can be satisfactorily performed at night. Night work is any work between 8:00 p.m. and 7:00 a.m. No Saturday work will be permitted unless the Contractor gives the Supervising Professional at least 48 hours but not more than 5 days notice of the Contractor's intention to work the upcoming Saturday.

Section 42 - Sales Taxes

Under State law the City is exempt from the assessment of State Sales Tax on its direct purchases. Contractors who acquire materials, equipment, supplies, etc. for incorporation in City projects are not likewise exempt. State Law shall prevail. The Bidder shall familiarize itself with the State Law and prepare its Bid accordingly. No extra payment will be allowed under this Contract for failure of the Contractor to make proper allowance in this bid for taxes it must pay.

Section 43

CONTRACTOR'S DECLARATION

I hereby declare that I have not, during the period _____, 200____, to _____, 200__, performed any work, furnished any materials, sustained any loss, damage or delay, or otherwise done anything in addition to the regular items (or executed change orders) set forth in the Contract titled **Ann Arbor Farmers Market, Phase I – Existing Canopy Improvements**, for which I shall ask, demand, sue for, or claim compensation or extension of time from the City, except as I hereby make claim for additional compensation or extension of time as set forth on the attached itemized statement. I further declare that I have paid all payroll obligations related to this Contract that have become due during the above period and that all invoices related to this Contract received more than 30 days prior to this declaration have been paid in full except as listed below.

There is/is not (Contractor please circle one and strike one as appropriate) an itemized statement attached regarding a request for additional compensation or extension of time.

Contractor _____ Date _____

By
(Signature)

Its
(Title of Office)

Past due invoices, if any, are listed below.

Section 44

CONTRACTOR'S AFFIDAVIT

The undersigned Contractor, _____, represents that on _____, 20_____, it was awarded a contract by the City of Ann Arbor, Michigan to _____ under the terms and conditions of a Contract titled **Ann Arbor Farmers Market, Phase I – Existing Canopy Improvements**. The Contractor represents that all work has now been accomplished and the Contract is complete.

The Contractor warrants and certifies that all of its indebtedness arising by reason of the Contract has been fully paid or satisfactorily secured; and that all claims from subcontractors and others for labor and material used in accomplishing the project, as well as all other claims arising from the performance of the Contract, have been fully paid or satisfactorily settled. The Contractor agrees that, if any claim should hereafter arise, it shall assume responsibility for it immediately upon request to do so by the City of Ann Arbor.

The Contractor, for valuable consideration received, does further waive, release and relinquish any and all claims or right of lien which the Contractor now has or may acquire upon the subject premises for labor and material used in the project owned by the City of Ann Arbor.

This affidavit is freely and voluntarily given with full knowledge of the facts.

Contractor

By

(Signature)

Its

(Title of Office)

Subscribed and sworn to before me, on this _____ day of _____, 200_____
_____, _____ County, Michigan

Notary Public

My commission expires on:

STANDARD SPECIFICATIONS

All work under this contract shall be performed in accordance with the Public Services Department Standard Specifications in effect at the date of availability of the contract documents stipulated in the Advertisement. All work under this Contract which is not included in these Standard Specifications, or which is performed using modifications to these Standard Specifications, shall be performed in accordance with the Detailed Specifications included in these contract documents.

A copy of the Public Services Department Standard Specifications may be purchased from the Engineering Division, (Fourth Floor, City Hall, Ann Arbor, Michigan), for \$35.00 per copy. In addition, a copy of these Standard Specifications is available for public viewing at the Engineering Division office, for review Monday through Friday between the hours of 8:30 a.m. and 4:00 p.m.

**DETAILED SPECIFICATIONS
FOR
GENERAL REQUIREMENTS**

GENERAL REQUIREMENTS

- A. **PROTECTION:** The Contractor shall erect and maintain fences, guardrails, lights and provide any other necessary safeguards to protect the public, the work and all property from any hazards that are an inherent part of the work under this Contract.
- B. **MARKET OPERATIONS:** The Contractor shall maintain sufficient power and lighting to operate the Market throughout the duration of the project. The following are the Market's normal hours of operation:

Farmers Market	Through May 7th	Saturday 8:00AM – 3:00PM
Farmers Market	After May 7 th	Wednesday 7:00AM – 3:00PM
		Saturday 7:00AM – 3:00PM
Artisans Market	After April 1 st	Sunday 11:00AM – 4:00PM

The Market is open for vendor set-up in advance of the public hours (verify with Owner). Lighting and power to be provided on a temporary basis if necessary.

Access to the Market public and vendor areas is to be maintained throughout the project. This includes access to public and vendor parking. Coordinate operations that disrupt vendor access and parking with the Owner and Architect.

- C. **SEQUENCE OF THE WORK:** Painting operations (prep & painting) will have the most significant impact on the operation of the Market. It will particularly impact paid public and vendor parking. The plans stipulate a sequencing of the painting work that is intended to minimize the loss of paid parking (see drawings) during the project. Coordinate painting work sequencing with the Owner and Architect to minimize disruption of Market operations and parking. Paid parking is the responsibility of the Downtown Development Authority. The Owner will coordinate parking with the DDA.
- D. **MATERIAL AND EQUIPMENT STORAGE:** A location for Contractor material and equipment storage has been indicated on the drawings. The Contractor is to limit the storage of materials and equipment to this designated area. Coordinate storage with the Owner and Architect.
- E. **EMPLOYEE PARKING:** Employee parking during the project cannot be provided on the Market site. The Contractor is responsible for making his/her own arrangements for employee parking off site.

Ann Arbor Farmers Market
PHASE I
EXISTING CANOPY IMPROVEMENTS

TECHNICAL SPECIFICATIONS

February 6, 2008

BID NO. 3925

PARKS AND RECREATION SERVICES
Administering Department

CITY OF ANN ARBOR
100 North Fifth Avenue
Ann Arbor, Michigan 48104

SECTION 099100
CANOPY PAINTING

1.1 GENERAL

- A. This section includes surface preparation, painting, and finishing of exposed exterior items and surfaces.
 - 1. Surface preparation, priming, and finish coats specified are in addition to shop-priming and surface treatments.
- B. Paint exposed surfaces whether or not colors are designated, except where a surface or material is specifically indicated no to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces. If color or finish is not designated, the Architect will select from standard colors or finishes available.
- C. Submittals: Submit the following:
 - 1. Product data for each paint system specified, including primers.
 - a. Provide manufacturer's technical information including label analysis and instructions for handling, storage, and application of each material proposed for use.
 - b. List each material and cross-reference the specific coating, finish system, and application. Identify each material by the manufacturer's catalog number and general classification.
 - c. Certification by the manufacturer that the products supplied complies with the local regulations controlling the use of volatile organic compounds (VOC's).
- D. Applicator Qualifications: Engage an experienced applicator who has completed painting system applications similar in material and extent to those indicated for the project and that have resulted in a construction record of successful in-service performance.
- E. Single-Source Responsibility: Provide primers and undercoat paint produced by the same manufacturer as the finish coats.
- F. Field Samples: On canopy surfaces, duplicate finishes of prepared samples. Provide full-coat finish samples on at least 2 columns and ½ of a canopy bay.
 - 1. Final acceptance of colors will be from the job-applied samples. This requirement WILLNOT be waived. On this project.
- G. Deliver materials to the job site in the manufacturer's original, unopened packages and containers bearing manufacturer's name and label with the product trade name manufacturer's instructions.
- H. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 degrees F. Protect from freezing. Keep storage area neat and orderly. Remove dirty rags and waste daily.
- I. Project Conditions: Do not apply paint in snow, rain, fog, or mist, or when the relative humidity exceeds 85 percent, or at temperatures less than 35 degrees F or above the dew point, or to wet or damp surfaces.
- J. Apply water based paints only when the temperature of surfaces to be painted and

surrounding air temperatures are between 50 degrees F and 90 degrees F.

- K. Architect to provide color chips for matching by the Contractor (custom mixed colors):
 - 1. Paint scheme to be 2 primary colors, 4 accent colors, and 1 gutter color. See drawings for color placement.

1.2 PRODUCTS

- A. Manufacturer: Provide paint and primers by the following manufacturer:
 - 1. Benjamin Moore & Co.
- B. Paint Materials: General: Provide primers and finish coats and related materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by the manufacturer, based on testing and field experience.
- C. Material Quality: Provide the manufacturer's best-quality trade sale paint material of the various coating types specified. Paint material containers not displaying manufacturer's product identification will not be acceptable.

1.3 EXECUTION

- A. Examination: Examine substrates and conditions under which painting will be performed for compliance with requirements. Do not begin application until unsatisfactory conditions have been corrected.
- B. Preparation: Remove signage, mounting hardware, and miscellaneous items not to be painted. Store these items and reinstall at the completion of painting operations.
 - 1. See detailed painting sequencing requirements presented on the drawings.
- C. Cleaning: Clean and prepare surfaces to be painted according to manufacturer's instructions for each particular substrate condition.
 - 1. Ferrous Metals: Clean un-galvanized ferrous-metal surfaces that have not been shop-coated; remove oil, grease, dirt, loose mill scale, existing loose paint, and other foreign substances.
 - a. Pressure wash entire canopy steel frame with minimum 3000PSI orbital sprayer to remove all loose paint and foreign materials, down to bare metal if necessary.
- D. Materials Preparation: Carefully mix and prepare paint materials according to manufacturer's directions:
 - 1. Stir materials before application to produce a mixture of uniform density; stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.
 - 2. Use only thinners approved by the paint manufacturer and only within recommended limits.
- E. Application: Apply paint according to manufacturer's directions. All paint is to be hand applied via brush or roller. Spraying will **NOT** be allowed so as to avoid paint overspray onto the existing pre-painted roof and other materials. Do not paint over dirt, grease, moisture, scuffed surfaces, or conditions detrimental to the formation of a durable paint film.

- F. Scheduling Painting: See drawings for specific sequencing and scheduling of painting operations. Divide the canopy up into parts, start and complete each part before proceeding with next part.
- G. Prime Coats: Provide a prime coat over entire surface to be painted not just areas of bare metal.
- H. Clean-up: At the end of each work day, remove empty paint cans, rags, rubbish, and other discarded materials from the site.
 - 1. During paint prep operations, prevent paint chips and debris from entering the storm sewer system. Collect all paint chips and debris and properly dispose of them as required by local ordinance.
 - 2. After completing painting, clean paint spattered surfaces. Remove spattered paint by washing and/or scraping. Do not damage surfaces to be cleaned.
 - 3. Protect work of other trades and items not to be painted prior to beginning painting operations.

1.4 PAINT SCHEDULE

- A. Ferrous Metal (previously painted and un-painted): Entire Canopy frame:
 - 1. Acrylic Direct-to-Metal Primer (one coat) with a Semi-Gloss Finish Coat (one coat).
 - a. Benjamin Moore & Co., Industrial Maintenance Coatings, M29 D.T.M. (Direct-to-Metal)

END OF SECTION 0099100

SECTION 16100
ELECTRICAL GENERAL REQUIREMENTS

1. PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Attention is directed to Contract Requirements, General Conditions and Division One General Requirements, which are hereby made part of this Section.
- B. All work performed under this Section of the work is subject to all requirements contained under Division 16 specifications.

1.2 INTENT

- A. The Electrical Specifications are, for convenience, divided into the following Sections which contain the requirements applicable to the systems named:
 - Section 16100 - Electrical General Requirements
 - Section 16200 - Basic Materials and Methods
 - Section 16300 - Lighting Systems
 - Section 16400 – Public Address System
- B. The "Electrical General Requirements" contained herein are hereby made a part of all the above named Sections of the Specifications, Division 16.

1.3 CONTENTS

- A. Described herein are the following:
 - Scope of Work
 - Codes, Permits, and Fees
 - Definitions
 - Construction Safety
 - Drawings and Measurements
 - Materials List
 - Approved Manufacturers
 - Alternate Manufacturers
 - Manufacturer's Instructions
 - Grade of Materials and/or Equipment
 - Assembly of Equipment
 - Use of Equipment
 - Equipment Connections
 - Setting Drawings and Templates
 - Equipment Supports
 - Conduit Installation
 - Conduits and Obstructions
 - Phasing
 - Painting
 - Identification and Nameplates
 - Protection, Handling and Cleaning
 - Shop Drawings
 - Parts Receipt
 - Electronic Documents

Record Drawings
Temporary Facilities
Certificate of Approval
Testing, Acceptances and Guarantee

1.4 SCOPE OF WORK

- A. The scope of work as described herein provides a general listing of major work scope items. It is not intended to list all items of work required to complete the construction contract. Refer to all specification sections, including those of other disciplines and sections, electrical drawings and drawings of other disciplines, for a complete understanding of project requirements and scope of work.
- B. Conform to all applicable codes and regulations. Secure all permits and pay all fees.
- C. Throughout the project, implement a safety program to protect both the construction trades and public. Include all safety measures, signage, barricades, etc.
- D. Provide temporary facilities as required to facilitate construction.
- E. Provide electrical demolition of existing lighting and lighting circuits as indicated on plan.
- F. Provide surface mounted light fixtures, conduit, feeders, circuit breakers, enclosures, weatherproof pull boxes, junction boxes, enclosures, etc. as required for a complete and operating lighting system.
- G. Test all new branch circuits for continuity.
- H. Provide all equipment, materials, labor and services necessary to furnish, install and connect the work as required by these specifications and as shown on the drawings, including all incidental items necessary to affect a complete project in every respect.
- I. Provide all low voltage lighting relays and control devices including photocells, control wiring, etc. as required for complete lighting control systems.
- J. Provide labeling of all control equipment, panels, enclosures, relays, light fixtures branch circuits, etc. as specified herein and as indicated on plan.
- K. The work shall be done in accordance with best practice so as to contribute to efficiency of operation and minimum maintenance and shall be installed with proper accessibility. The materials and equipments, including all necessary accessories, shall be put into proper adjustment so that the component parts function together as a workable system.
- L. Submit for approval all equipment shop drawings.
- M. Provide all balancing and adjustments required.
- N. Provide all testing required to ensure that systems are properly installed and operating.
- O. Provide all required owner training of new lighting control system.
- P. Provide record as-built drawings.

1.5 CODES, PERMITS AND FEES

- A. All required permits, licenses, inspections and approvals shall be secured and all fees for same paid by this Contractor.
- B. References to standards, codes, specifications, recommendations, etc., shall mean the latest edition of such publications adopted and published at date of invitation to submit Bid Proposals.
1. Applicable Standards and Codes:
 - a. In addition to requirements shown or specified, comply with the applicable standards, specifications, and codes listed below. Where requirements of the Contract Documents are in excess of these standards or code requirements, the Contract Documents shall govern.
 - b. Listing of associations, codes, standards and abbreviations:

CBM	Certified Ballasts Manufacturers Association
NEC	National Electrical Code
ANSI	American National Standards Institute
IEEE	Institute of Electrical and Electronics Engineers
ASTM	American Society for Testing Materials
IPCEA	Insulated Power Cable Engineers Association
NEMA	National Electrical Manufacturers Association
UL	Underwriters Laboratories, Inc.
NFPA	National Fire Protection Assoc.
ETL	Electrical Testing Laboratories

1.6 DEFINITIONS

- A. In the Electrical Sections of the Specifications, the terms "Electrical Trades", "The Contractor", or "This Contractor" shall mean the Electrical Contractor responsible for the electrical systems.
- B. "Provide" shall mean "furnish and install" or "furnish all labor and materials required for the installation of."

1.7 CONSTRUCTION SAFETY

- A. Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work being performed under the subject contract.
- B. The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:
1. All persons on the work site and all other persons who may be affected thereby.
 2. All the work, materials and equipment to be incorporated therein whether in storage on or off the site, under the care, custody or control of the Contractor.
 3. The property of the Owner or other separate contractors.
 4. The public.

- C. All MDOT safety standards and programs shall be fully implemented by this contractor in order to provide protection of property, workers, the public and all other parties both public and private.
- D. The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury or loss.
- E. The Contractor shall erect and maintain, as required by law, all safeguards for the safety and protection of persons and property, including but not limited to the posting of danger signs and other warnings against hazards, promulgate safety regulations and notify Owner and users of adjacent utilities of potentially dangerous conditions.
- F. The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's site supervisor unless otherwise designated by the Contractor in writing to the Owner and approved by the Owner.
- G. In any emergency affecting the safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, or loss.

1.8 DRAWINGS AND MEASUREMENTS

- A. The Drawings show the general arrangement, general design and location of equipment and surface mounted lighting fixtures. The Drawings are to be considered diagrammatic and are not intended to be scaled for rough-in measurements, or to serve as shop drawings.
- B. Follow the Drawings in laying out the work, consult documents of other trades, to become familiar with all conditions affecting the work. Field measurements shall be taken, where necessary, for ordering materials and fitting the installation to the site conditions.
- C. Refer to architectural drawings for installation location of surface mounted lighting fixtures and PA speakers.
- D. The Drawings are not intended to be scaled for rough-in measurements, or to serve as shop drawings.
- E. Where job conditions require reasonable changes in indicated locations or arrangement, such changes shall be made without extra cost to the Contract.

1.9 MATERIALS LIST

- A. Submit a complete list of all materials and equipment and their manufacturers, for approval within two (2) weeks after award of Contract, prior to submittal of shop drawings.
- B. Shop drawings will not be reviewed until the materials list has been reviewed and approved by the Architect and Engineer.

1.10 APPROVED MANUFACTURERS

- A. Approved manufacturers shall be as indicated herein and in accordance with the requirements of Division 16. All manufacturers shall be subject to the approval of the Engineer. Such approval concerns the manufacturer only and does not, in any way, act to permit any deviation from strict compliance with the requirements of these Specifications.

1.11 ALTERNATE MANUFACTURERS

- A. For purposes of evaluating bids, the project shall be priced using the components specified herein. Any deviation from specified components or materials should be presented as a voluntary alternate price. Prices using alternates should not be included in the Contractor's base bid price. An engineering fee will be used to review any voluntary alternate and will be paid by this contractor.

1.12 MANUFACTURER'S INSTRUCTIONS

- A. Installation of all materials and equipment shall be in accordance with the manufacturers operating instructions, installation instructions, service instructions, etc. If this information is not shipped with the equipment, this Contractor shall obtain said information from the manufacturer at this Contractor's cost.
- B. All operating instructions, installation instructions, service instructions, parts lists, etc. shall be retained and on completion of the work, turned over to the Engineer for the Owner's use. If this information is not shipped with the equipment, this Contractor shall obtain said information from the manufacturer at this Contractors cost.

1.13 GRADE OF MATERIALS AND/OR EQUIPMENT

- A. Do not purchase any used or second-hand material of any kind for use on this project.
- B. All items purchased for this Contract shall be new, unused material and shall be manufacturer's first or specification grade and meet the approval of the Architect/Engineer.
- C. In all instances where materials or methods indicate higher quality than the minimum required by codes, the Plans and Specifications shall govern.
- D. All materials and equipment shall be listed by Underwriter Laboratories, Inc., and shall show their label wherever standards have been established.

1.14 ASSEMBLY OF EQUIPMENT

- A. The Contract Drawings and Specifications make mention of numerous items to be purchased and installed and are noted by a manufacturer's name, catalog number, series and/or brief description.
- B. The catalog number as mentioned may not be complete to designate all the accessory parts and appurtenances required for the particular use or function.
- C. It shall be the responsibility of the Contractor to provide the equipment complete with all accessories as required for a complete and operable system including all special finishes as indicated.

1.15 USE OF EQUIPMENT

A. The use of any equipment or any part thereof for purposes other than testing even with the Owner's consent, shall not be construed to be an acceptance of the work on the part of the Owner, nor to be construed to obligate the Owner in any way to accept improper work or defective materials.

1.16 EQUIPMENT CONNECTIONS

- A. This contractor shall be responsible for final electrical connections to all light fixtures, power distribution equipment and lighting control equipment.
- B. Final connections shall be made in accordance with equipment shop drawings and rough in measurements furnished by the manufacturer of the particular equipment furnished.

1.17 SETTING DRAWINGS AND TEMPLATES

A. Provide all necessary templates, patterns, etc., for installing work. Furnish setting plans and shop details as required. Templates, etc. shall all be furnished in time to meet all construction schedules.

1.18 EQUIPMENT SUPPORTS

- A. The Contractor shall be responsible for the installation and cost of all equipment supports, etc., required for the installation.
- B. Include all inserts, rods, structural steel, frames, brackets, etc. as required.

1.19 CONDUIT INSTALLATION

- A. All wiring shall be installed in conduit. All conduit shall be new.
- B. This project will primarily use the directional bore method of installing conduit however there maybe some locations where conventional trenching or excavating, conduit installation and backfilling, maybe advantageous. Locations where traditional excavating and conduit installation are to be used are at the contractor's discretion.
- C. Conduit and conduit installation shall be subject to the following:
1. All outdoor conduit shall be rigid steel.
 2. All rigid steel conduit shall utilize threaded fittings.
 3. All conduit shall be installed as high as possible within ceiling or canopy truss space.

1.20 CONDUITS AND OBSTRUCTIONS

- A. The installation of conductors or pull wire shall not be made until the raceways are found acceptable.
- B. Arrange with the manufacturer for the purchase of all items required for the complete installation and efficient operation.

1.21 PHASING

- A. Wiring and cable for feeders and branch circuits for shall be identified with a visual color

code as an integral part of the outer jacket or as a printed color coding the entire length of the insulation.

1.22 PAINTING

- A. See architectural drawings and specifications.

1.23 IDENTIFICATION AND NAMEPLATES

- A. Nameplates shall be permanently attached to lighting panels, control equipment, etc.
- B. See nameplate schedule on drawings.

1.24 PROTECTION, HANDLING AND CLEANING

- A. Responsibility for care and protection of electrical work including assigned equipment rests with Electrical Trades until the installation has been accepted.
- B. After delivery, before and after installation, protect equipment and materials against dampness, theft, injury or damage from all causes.
- C. Protect lighting fixtures and other equipment from damage by covering as approved by the Owner.
- D. Provide adequate storage space for all electrical equipment conduit and materials delivered to the job site under a weather protected enclosure. Location of the space will be designed by the Owner representative. Equipment set in place in unprotected areas must be provided with temporary protection.

1.25 SHOP DRAWINGS

- A. Submit for approval, six (6) copies of shop drawings as follows:
 - 1. Lighting Fixtures
 - 2. Photo cell
 - 3. Low Voltage Lighting Controls
 - 4. Equipment Enclosures.
 - 5. Lighting Control Devices.
 - 6. Public Address System
- B. Shop drawings to include descriptions and/or explanatory notes as may be required to give a clear idea of its arrangement and construction.
- C. No apparatus or equipment shall be shipped from stock or fabricated until shop drawings for same have been reviewed by the Engineer and stamped "Accepted" or "Accepted as Noted".
- D. Submit shop drawings with all pertinent data and with identification mark number as specified or scheduled.
- E. Furnish and deliver to the Architect a manual of all shop drawings pertaining to this Contract when work is completed. The manual shall consist of a standard hard cardboard, cloth covered, three ring binder, letter size, 8-1/2" x 11". Shop drawings shall be folded and punched. All items and/or pages shall be numbered and typewritten, with

index inserted at front of manual for ready reference.

- F. Provide four (4) complete operating instructions, operating manuals and repair parts lists for Owner's personnel. Instruct Owner's personnel in the operation of all systems.

1.26 PARTS RECEIPT

- A. Retain all portable and detachable portions of the installations such as keys, tools, manuals, etc., until the completion of the work and turn them over to the Owner and obtain itemized receipt. This receipt shall be attached to the "Final Application" for payment.

1.27 ELECTRONIC DOCUMENTS

- A. Electrical drawings in a cad format will be made available to the electrical contractor for use in preparing layout drawings, shop drawings, as-built drawings, etc. at the cost of \$50.00 per drawing payable to Berbiglia Associates, Inc. (BAI).
- B. The electrical contractor shall include in his/her bid, costs for electronic drawings which they or their vendors, suppliers, etc. will require for the project. Drawings will be provided via email or on compact disc, at the contractor preference in the format and version in which they were prepared. Drawings will include all addendums, bulletins or revisions issued as of the date of transmission or transmittal of the electronic media to the contractor. BAI assumes no responsibility for providing the contractor with future revisions or drawing updates in an electronic format. Vendors or suppliers desiring cad documents should request same from the electrical contractor. Because data stored as electronic media can be modified without Berbiglia Associates, Inc. knowledge, the contractor agrees that BAI will not be held liable for the completeness or correctness of the electronic media after an acceptance period of 10 days after delivery of the electronic files. BAI stands by the accuracy of the hardcopy (prints, etc.) which are included with documents distributed for the project. Any drawings produced from the electronic file(s) provided by BAI shall not be considered property of BAI, nor will BAI be held liable for such drawings. Contractor in using the electronic documents agrees to this provisions of this section. All drawing produced from the electronic files should be checked against the hard copy supplied to ensure accuracy and consistency. Due to the ever increasing complexity and growth of electronic media viruses, it is mandatory that the contractor scan any disk or email received from BAI. While BAI takes great strides in trying to keep our system clean of viruses, occasionally one may be passed undetected. If any virus is detected by the contractor on any media received from BAI, please contact us immediately.

1.28 RECORD DRAWINGS

- A. The Contractor shall keep an accurate record of as-built conditions to record any variations from working, engineering, or shop drawings with reference to the work.
- B. Upon completion of the Work, the Contractor shall deliver to the Architect a set of "Record" drawings on magnetic media compatible with AutoCAD Release 2000 or higher and three red line sets of "Record" drawings. If requested, the architect will supply a set of Contract Drawings on magnetic media that the Contractor may use as a background for the "Record" Drawings.

1.29 TEMPORARY FACILITIES

- A. Provide all power required for construction to accommodate the installation of electrical

systems.

- B. Construction power branch wiring shall be per OSHA Lighting Standard, Subpart D, Rule 1926.56 (a) and (b) for 120 volt lighting and small tool power.
- C. All construction power shall incorporate GFI (ground fault circuit interrupter protection).
- D. Complete installation shall be in compliance with all applicable codes.

1.30 CERTIFICATE OF APPROVAL

- A. Upon completion of the building and/or systems, provide Owner with certificate of approval from electrical inspection authority and Fire Marshal.

1.31 TESTING, ACCEPTANCES AND GUARANTEE

- A. When the systems are completed, the Contractor shall operate equipment as directed by Owner/Engineer/Inspector. Replace all faulty equipment and make necessary adjustments before final acceptance. Upon final acceptance of work, the Contractor shall give the Owner a written guarantee that he will make good, at his own expense, any defects in materials or workmanship which develop within one (1) year from date of final acceptance.
- B. Tests shall include, but shall not be limited to the following:
 - All lighting fixtures
 - All installed wiring
 - Distribution Equipment
 - Grounding System
 - Lighting Controls
 - Public Address System
- C. Provide four (4) complete operating instructions, operating manuals and repair parts list for the Owner's personnel. Instruct Owner's personnel in the operation of all systems.
- D. Perform all tests required by Owner, state, city, county and/or other agencies having jurisdiction.
- E. Provide all materials, equipment etc., and labor required for the tests.

- END OF SECTION -

SECTION 16200
ELECTRICAL BASIC MATERIALS AND METHODS

1. PART – 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Attention is directed to Contract Requirements, General Conditions and Division One General Requirements, which are hereby made part of this Section.
- B. All work performed under this Section of the work is subject to all requirements contained under Division 16.

1.2 CONTENTS

- A. Described herein are the following:

- Scope of Work
- Conduit
- Conductor
- Conductor Terminals
- Contactors
- Testing

1.3 SCOPE OF WORK

- A. Provide all items, articles, materials, operations or methods listed, mentioned or scheduled on Drawings and/or herein, including all labor, materials, equipment and incidentals necessary and required for complete and operating exterior lighting systems.
- B. Furnish and install all light fixtures. Refer to section 16100 "Electrical General Requirements".
- C. Provide complete conduit and raceway systems for all wiring.
- D. Provide all conductors.
- E. Provide all control equipment.
- F. Refer to other specification sections as well as drawings for a complete understanding of the project scope of work.

PART 2. MATERIALS AND INSTALLATION

2.1 CONDUIT SYSTEMS

- A. All wiring shall be installed in new or existing conduit systems.
- B. Conduit shall be subject to the following:
 - 1. Conduit installed above grade shall be rigid steel.
 - 2. All rigid steel conduit shall utilize threaded fittings.
 - 3. All conduits shall be run in parallel to wall and canopy structure.

4. All conduit shall be installed as high as possible within ceiling or canopy truss space.
 - C. Conduit sizes shall be in accordance with NEC for the number and size conductors installed.
 - D. Rigid steel conduit shall conform to Underwriters Laboratories UL-6 Specification, ANSI C80.1 and Federal Specification WW-O581E or latest revision. Intermediate metallic conduit shall conform to proposed Underwriters Laboratories UL-1242 and Federal Specification WW-C-581E or latest revision. Electrical metallic tubing shall conform to Underwriters Laboratories UL-797, ANSI C80.3 and Federal Specification WW-C-563 or latest revision.
 - E. Rigid steel conduit shall be hot-dipped galvanized to provide a corrosion resistant coating. Threaded conduit to be secure to boxes, cabinets, etc., by means of galvanized or sheradized threaded bushings on the inside and bond-type locknuts on the inside and outside of such boxes and cabinets. Fitting shall be watertight and the same material as conduit installed with factory manufactured elbows. Damaged raceways and fittings will not be accepted.
 - F. Minimum size conduit shall be 3/4".
 - G. Locknuts for rigid steel conduit shall be made of malleable iron or steel, zinc or cadmium plated.
 - H. Bushings for steel conduit or smaller shall be plastic. Plastic bushings shall be thermosetting phenolic insulating type, non-burnable. Bushings 1-1/4" and larger shall be made of malleable iron or steel and shall have an insulating insert of thermosetting plastic molded to a locking surface on the bushing ring.
 - I. Fittings for steel conduit shall be cast or malleable iron bodies, cadmium or zinc plated, and with screw attached cover of an appropriate material. Fittings shall be of a type providing maximum wiring space and shall be Appleton Form 35, Crouse Hinds Form 7, Pyle National or approved equal.
 - J. Conduit and Fittings shall conform to the following: Steel conduit, elbows and couplings shall be hot-dipped galvanized and conform to the latest ANSI specification for steel conduit, zinc coated and shall be Pittsburgh, Republic, Triangle, Youngstown or approved equal.

2.2 CONDUCTORS

- A. Wire and cable shall be of copper with 98% conductivity and shall meet the standard specifications and tests established for such materials and construction of ASTM, NEMA, UL, ANSI, AEIC and IPECA where applicable. Material construction data, insulation thickness, jacket thickness test data, and sample shall be submitted for approval upon request. Wire and cable shall be as manufactured by Anaconda, American Steel and Wire, General Cable, General Electric, Okonite, Phelps Dodge, Reynolds, Simplex, Triangle or approved equal.
- B. Wire shall be stranded super; insulation shall be a moisture and heat resistant cross-linked synthetic polymer meeting the UL requirements for Type "THHW", 600 volt, 75 degrees C, wet location.
- C. All cable of the larger size shall be continuously lubricated at the pull-in point of conduit

systems with an approved compound (Y-ER-ESE) or approved equal.

- D. All conductors and cabling shall be marked and measured with UL labeling as required.
- E. Phasing: All feeders and branch circuit wiring shall be color coded per NEC and/or as aforementioned.

2.3 CONDUCTOR TERMINALS

- A. All splices, taps and connections shall be made with split bolt connectors as detailed on plan, Ideal Industries, Inc. or Thomas & Betts Co.
- B. Lugs and/or connectors shall be size and type as required for conductor arrangement, location and individual unit of equipment and as manufactured by National Electric Co., Thomas & Betts Company, IIsco or Burndy Co.
- C. All secondary splices and taps requiring wrapped insulation shall be tapped with six layers, 1/2" plastic tape, as manufactured by the Okonite Co., Minnesota Mining and Manufacturing Co., B.F. Goodrich Co. or Johns-Manville Co.

2.4 CONTACTORS

- A. Individual contactors shall be 250 VAC, 1 phase, electrically operated, mechanically held units with 120 VAC coil, and with auxiliary 2 pole control relay for use with 2 wire pilot device. Contactors shall be Asco 920 series.

2.5 TESTING

- A. After wires and cables are in place and before being connected to devices and equipment, the system shall be tested for shorts and grounds.
- B. All hot wires, if shorted or grounded, shall be removed and replaced.
- C. All meters, cable, connections, equipment or apparatus necessary for making all tests shall be furnished by the Contractor at his own expense.

- END OF SECTION -

SECTION 16300
LIGHTING

1 PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Attention is directed to Contract Requirements, General Conditions and Division One General Requirements, which are hereby made part of this Section.
- B. All work performed under this Section of the work is subject to all requirements contained under Division 16.

1.2 CONTENTS

- A. Described herein are the following:
 - Scope of Work
 - Lamps
 - Ballasts
 - Fusing
 - Luminaries
 - Photo Cell
 - Smart Relays/ Switching (Low Voltage Relay Lighting Controls)
 - General
 - Preparation
 - Installation

1.3 SCOPE OF WORK

- A. Provide all items, articles, materials, operations or methods listed, mentioned or scheduled on Drawings and/or herein, including all labor, materials, equipment and incidentals necessary and required for complete lighting systems.
- B. Furnish and install all surface mounted lighting fixtures.
- C. Provide all labor, materials, equipment, and services required to execute and complete all items of work in connection with furnishing and installing the work as specified in this Section, where and as shown or indicated on the Drawings, also incidental items to effect a finished and complete job even though such items are not shown or particularly mentioned herein.
- D. Provide all lamps, fusing, boxes, conduit, wiring, etc. as required.
- E. Provide all lighting relay control devices.

2. PART 2 - MATERIALS

2.1 LAMPS

- A. Lamps shall be Fluorescent as indicated on plan.

- B. Wattage rating, style and application shall be as indicated in Lighting Fixture Schedule.
- C. Lamps shall be as manufactured by General Electric Co., Phillips, or Sylvania and shall be supplied by the same manufacturer.
- D. All lamps shall be provided by this contractor.

2.2 BALLASTS

- A. Lighting fixtures will be provided complete with ballasts.
- B. Unless noted otherwise in the fixture schedule, T8 fluorescent lamps shall be of the energy saver, multi-phosphor type with a color temperature of 3500 degree K and a CRI of 85 minimum.
- C. Fluorescent ballasts shall be electronic ballasts, programmed rapid start, completely solid state. Hybrid ballasts containing both discrete electronic and core/coil components are not acceptable. Ballasts shall be rated for the specific lamps they are supplying, shall have a maximum crest factor of 1.5, a maximum current total harmonic distortion of 20 percent, and a minimum sound rating of "A". Instant Start Ballasts will not be accepted. Ballasts shall be:
 - Osram Sylvania
 - Advance
 - Valmont
- D. Ballasts shall be rated for the ambient temperatures in which they are located. Outdoor fixtures shall be equipped with ballasts rated for reliable starting to -20 degree F.
- E. See Lighting Fixture Schedule on drawings.

2.3 FUSING

- A. All lighting ballasts shall be fused.
- B. All fusing shall occur within the light fixture.

2.4 LUMINARIES

- A. All luminaries shall be complete with custom mounting brackets and shall be furnished and installed by this contractor. Refer to lighting fixture schedule provided on plan for reference.

2.5 PHOTO CELL

- A. Provide a photo cell control input to the relay based lighting control system.
- B. Photo cell shall be located above the roof.
- C. Photocell shall be compatible with the relay based lighting control system.
- D. Provide all conduit, wiring and connections required for operation of the photo cell and the tie to the relay based lighting control system.

E. Photo cell shall be heavy duty type, stem mounted and completely weatherproof, light level adjustment slide, mounted on a cast box.

F. Photo cell shall be tie into the low voltage relay lighting control panel.

2.5 SMART RELAYS/ SWITCHING (LOW VOLTAGE RELAY LIGHTING CONTROL PANEL)

- A. Furnish and install lighting controls to serve areas as indicated on plan and herein specified. Lighting in areas indicated on plan are to be relay controlled. Relays shall be controlled from either local 24 volt wall switches or through the lighting control system controller.
- B. Relays shall be "smart" relays capable of control from the lighting control system controller. Typical control via the lighting control system controller will be based on time of day controls.
- C. Typical operation will be that the lighting control system will turn lights by photocell control and turned off by system programming or photo cell off as indicating on drawing. At a predetermined time, the lighting control system will turn lights off automatically with the use of local low voltage switches or by using system master programmable controls.
- D. Relays shall respond to the last command given whether it is from local wall switches or the lighting control system controller.
- E. Smart relays shall be capable of control based on real time control function distribution across an Ethernet LAN. Relays shall be capable of interfacing, communicating and data sharing based on CCN, Lonworks, MODBUS, DDE, OPC and BACnet protocols. Include all category 5 or similar control wiring in order to network lighting controls.
- F. Each relay shall be individually programmed. Relay electronics shall, for each relay, communicate back to the lighting controller the position of relay contacts. This will signal the system if lights are on or off for each zone controlled.
- G. All relays shall be located in NEMA one enclosures. Enclosures shall be located adjacent to building lighting panels unless otherwise indicated on plan.
- H. Coordinate all system programming with the Owner. Discuss with the Owner the programmed off times for various areas and work with the temperature control contractor to ensure the system is programmed in accordance with the Owners needs.
- I. Low voltage wall switches shall be similar in appearance to 120 volt line voltage wall switches. Low voltage wall switches shall be toggle type with white color operating handles, two position, momentary contact, return to center. Coverplates used with low voltage switches shall match those used with line voltage switches. Verify color of low voltage switches prior to ordering of devices. All plates shall match line voltage plates. Refer to section 16200.
- J. Low voltage wiring associated with wall switches shall be furnished and installed by the electrical contractor.
- K. Low voltage wiring associated with the networked system shall be furnished and installed by the electrical contractor.
- L. All wiring including low voltage shall be installed in conduit.

- M. Relays shall be 24 volt DC. Relay power supply shall be contained within the relay enclosure or relay panel.
- N. Provide quantity of relays indicated on plan to serve interior and exterior lighting circuits plus enclosure space, mounting provisions, terminals and control wiring for an additional future 10% increase in relays. Adding the additional relays at a latter date shall require mounting of the relays only. All control wiring, mounting brackets, etc. required for the future relays shall be included. Where necessary, utilize two relay enclosures mounted side by side in order to accommodate the number of current and future relays required.
- O. Modular Relay Panels shall be UL listed and consist of the following:
1. NEMA 1 enclosure that can accept an interior sized to accept relays as indicated on plan plus a minimum of two future relays.
 2. Power Supply: Transformers shall include internal overcurrent protection with automatic reset and metal oxide varistor protection against power line spikes.
 3. Relay Panel Interior: Bracket and intelligence board backplane with pre-mounted relays.
 4. Panel shall be provided with an integral DIN rail mounting bar for easy installation of other system components. Terminals shall be included in the interior to accept a data line for the connection of data line switches to the system, or to allow a data line to be run between multiple panels for network communications.
 5. Relays shall be momentary-pulsed mechanically latching contactors with plug in connector. Relays shall have mechanically latching contacts with single moving part design for improved reliability. Relays will have the following characteristics:
 - a. Coil magnetically held, momentary coil activation (50 milliseconds). 2.2 VA max per relay.
 - b. Split coil – ½ for ON, ½ for OFF.
 - c. Power Contacts:

20 amp tungsten and NEMA electronic ballast rated.
Rated for 50,000 ON/OFF cycles at full load.
Support #10 - #14 AWG solid or stranded wire.
120 volt rated.
Standard 1 year warranty.
30 VAC Isolated contacts for status feedback and pilot light indication.
 6. FCC approved for commercial use.
 7. Next to each relay shall be an individual override button and a bi-color LED to indicate status.
 8. Equipment shall be manufactured by LC & D, or approved equal by Watt Stopper, Lutron, Sensorswitch, Leviton, Intelligent lighting Controls, Novitas or Tork or Wattwatcher.
- P. System programming shall be accomplished with a central processor which shall be located within the MTA Suite. In addition the system shall be programmed or controlled through the Owners network. Provide all software required for operating system from the Owners network.

- Q. System programming shall be based on time on day controls. In general lighting control shall allow lights to be turned off or on based on programming or manual commands. Processor shall operate with a key board or programmable pushbuttons and should include a system monitor or LCD readout.
- R. Network Wiring/24 Volt Wiring:
1. Provide all network and 24 volt wiring required to network all relay panels.
 2. Wiring shall be continuous from device to device or relay panel to device or relay panel to relay panel as applicable. Splices are not permitted.
 3. All wire shall be tagged at each end.
 4. All wire shall be color coded.
 5. Wiring shall be installed in conduit. Conduit shall be ½" minimum.
 6. Conduit shall be installed as high as possible within ceiling or truss space.
 7. Wiring shall be installed in accordance with the maximum bending radius requirements as recommended by the manufacturer.
 8. All wiring shall be installed in accordance with the manufacturer's requirements, as well as these specifications.
 9. Wiring color coding shall remain the same throughout the system. Colors used for coding shall be as directed by the system manufacturer.
 10. Coordinate exact wiring requirements with the system manufacturers and include all wiring costs as required to accommodate the system manufacturer not withstanding information provided on plan.
 11. All wire shall be copper and as approved for use with the lighting control system.

3 PART 3 - INSTALLATION

3.1 GENERAL

- A. In general, all lighting fixtures shall be UL listed, complete in every detail, properly wired and connected with conduits supplying same.
- B. Prior to installation and during construction, all fixtures shall be adequately protected against physical damage and damage caused by the elements. Failure to provide said protection will result in provision of new equipment at the cost of the Contractor.
- C. All lighting fixtures shall be securely supported as required. All supports shall be by the Contractor.
- D. At the completion of work, all fixtures shall be clean and free of foreign material and debris. Replace all burned-out or defective lamps, ballasts, fuses, lens, etc.
- E. Site luminaries shall be installed on reinforced concrete pole base as detailed on

Drawings. Provide all reinforcing members, conduit sleeves, anchor bolts, grounding, etc., as detailed for a complete installation.

- F. Determine exact final location of lighting fixtures based on avoiding interference with existing utilities. Locate proposed fixture locations and review in field with Architect prior to installation.

3.2 INSTALLATION

- A. All poles shall be installed vertical.
- B. All fixture arms and brackets shall be carefully installed to avoid errors.
- C. Anchor bolts shall be carefully placed, in the proper rotation, to result in properly orientated fixture arms and brackets.
- D. Refer to the architectural drawings for orientation of fixture arms and brackets.
- E. Any deviation from the intended orientation, in the opinion of the architect, shall be sufficient to require the pole base to be removed and reinstalled.
- F. Verify the orientation with the architect at the site prior to pouring pole bases.
- G. Furnish and install all lamps required.
- H. Install all fixtures, poles, etc. in accordance with the manufactures recommendations and instructions.

- END OF SECTION -

SECTION 16400
PUBLIC ADDRESS SYSTEM

1 PART 1 - GENERAL**1.1 RELATED DOCUMENTS**

- A. DRAWINGS AND GENERAL PROVISIONS of the contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to the work of this section.
- B. All work performed under this Section of the work is subject to all requirements contained under Section 16100, "Electrical General Requirements".

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Installation of a Public address sound system for the Ann Arbor Farmers Market.
 - 2. The system shall consist of components including, but not limited to, the following:
 - a. Floor mounted Sound Rack
 - b. Under Canopy Loudspeakers
 - c. Canopy mounted horn loudspeakers
 - d. Wireless and wired microphone.
 - e. Mixer.
 - f. Amplifier.
 - g. Digital Equalizer.
 - h. Wiring.
 - i. Provisions for future CD Player.
- C. The public address sound system shall be new and shall serve under the canopy and parking areas.

1.3 GENERAL REQUIREMENTS

- A. All bids shall be based on the equipment as specified herein.
- B. The system shall be supplied and installed by qualified sound contractor have a minimum of 5 years in business.
- C. All miscellaneous equipment required for a complete, professional installation shall be included in the base bid. No allowances for any additional equipment, hardware, cabling, or miscellaneous will be considered unless specifically excluded from the base bid.
- D. All work materials shall be removed at the end of the work day and the work area left in the same condition as found.
- E. The work herein specified shall be performed by fully competent workmen, in a thorough manner. All materials furnished by the Contractor shall be new, and all work shall be completed to the satisfaction of the Architect/Engineer.

- F. All equipment, except portable equipment, shall be held firmly in place. This shall include loudspeakers, cables, etc. (The exception to this rigid-mounting clause is, when it is required to use resilient shock mounting to decouple the array from the structure it is being mounted in.) Fastenings and supports shall be adequate to support their loads with a safety factor of at least three (3) times. All switches, connectors, outlets, etc., shall be clearly, logically, and permanently marked during installation.
- G. The Contractor must take such precautions as are necessary to guard against electromagnetic and electrostatic hum, to supply adequate ventilation, and to install the equipment so as to provide maximum safety to the person who operates it.
- H. Care shall be exercised in wiring so as to avoid damage to the cables and to the equipment. All joints and connections shall be made with rosin-core solder or with mechanical connectors approved by the Engineer. All wiring shall be executed in strict adherence to standard broadcast practices.

1.4 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections:
 - 1. Submit equipment prints, inter-panel and intra-panel, full electronic wiring diagrams and specification sheets for each item specified herein. Provide a tabulation of the specification clearly comparing the submitted item with the specified item, being able to refer to all written expressed functions and capabilities. Specification Sheets shall be submitted on all items including cable types.
 - 2. Wiring diagrams, detailing wiring for power, signal, and control, differentiating clearly between manufacturer -installed wiring and field-installed wiring. Identify terminals to facilitate installation, operation and maintenance.
 - 3. Submit wiring diagrams showing typical connections for all equipment.
 - 4. Provide a riser diagram for the system showing in technically accurate detail all connections, interconnections, and all provisions available and made for adaptability of all specified future functions. In addition, riser diagram must include all calculations, charts, and test data necessary to demonstrate that all systems and system components deliver the specified signals, grades, and levels at all required points and locations.
 - 5. Submit a certificate of completion of installation and service training.

1.5 QUALITY ASSURANCE

- A. All items of equipment including wire and cable shall be designed by the manufacturer to function as a complete system and shall be accompanied by the manufacturer's complete service notes and drawings detailing all interconnections.
- B. The contractor shall be an established communications and electronics contractor that has had and currently maintains a locally run and operated business for at least five years. The contractor shall utilize a duly authorized distributor of the equipment supplied for this project location with full manufacturer's warranty privileges.
- C. Electrical Component Standard: Provide work complying with applicable requirements of

NFPA 70 "National Electrical Code" including, but not limited to:

1. Article 250, Grounding.
 2. Article 300, Part A. Wiring Method.
 3. Article 310, Conductors for General Wiring.
 4. Article 725, Remote Control, Signaling Circuits.
 5. Article 800, Communication Systems.
- D. EIA Compliance: Comply with the following Electronics Industries Association Standards:
1. Sound Systems, EIA-160.
 2. Loudspeakers, Dynamic Magnetic Structures, and Impedance, EIA-299-A.
 3. Amplifiers for Sound Equipment, SE-101-A.
 4. Speakers for Sound Equipment, SE-103.
- E. Installation and start up shall be under the direct supervision of a local agency regularly engaged in installation, repair, and maintenance of such systems. The supplier shall be accredited by the proposed equipment manufacturers and be prepared to offer a service contract for system maintenance on completion of the guarantee period and provide the names, locations, and size of ten (10) recent successful installations in the area.
- F. The contractor providing equipment shall be responsible for providing all specified equipment and mentioned services for all equipment as specified herein. The contractor must be a local authorized distributor of all specified equipment for single source of responsibility and shall provide documents proving such. The contractor must provide written proof that the agency is adequately staffed with factory-trained technicians for all of the specified equipment. The agency must have established business for and currently be providing all services for the equipment to be provided for a minimum of five (5) years. Individual parts and complete assemblies shall be in all particulars as specified and as manufactured by Crown, DBX, JBL, Rauland, Shure and Lowell and as distributed by Icomm, Wixom, MI. (248-960-3700 Chuck Oslancl). Substitution of equipment and/or services beyond the alternatives listed herein must be submitted for written approval by the Electrical Contractor ten (10) days prior to the bid date. Upon receipt of approval, such substitute equipment and/or services may be submitted as an additive or deductive alternate. Material and/or services as specified shall constitute the base bid.
- G. The contractor shall guarantee availability of local service by factory-trained personnel of all specified equipment from an authorized distributor of all equipment specified under this section.
- H. The contractor shall, at the owner's request, make available a service contract offering continuing factory authorized service of the system after the initial warranty period.

1.6 PROJECT RECORD DOCUMENTS

- A. Accurately record actual locations of each item of fixed equipment and show interconnecting wiring. A copy of the as-built drawings will be submitted within thirty days of completion of the job. Drawings will indicate location of equipment and tagged circuits. A function block drawing will be required.
- B. Include operator instructions for each required mode of operation, routine troubleshooting procedures, manufacturer's operation and maintenance manual for each item of equipment and accessory, and routine cleaning methods and materials.

1.7 IN-SERVICE TRAINING

- A. The contractor shall provide a minimum of four (4) hours of in-service training with this system. These sessions shall be broken into segments that will facilitate the training of

individuals in the operation of this system. Operators Manuals and Users Guides shall be provided at the time of this training.

1.8 WARRANTY

- A. The contractor shall warrant the equipment to be new and free from defects in material and workmanship, and will, within two (2) years from date of acceptance by owner, repair or replace any equipment found to defective.
- B. Repair: The Manufacturer shall offer factory repair service and/or replacement for all units. The Manufacturer shall provide this service within five working days and provide replacement components shipped to the Owner for installation within the allocated response time.

2 PART 2- PRODUCTS

2.1 PUBLIC ADDRESS SOUND SYSTEM

- A. System Requirements – Canopy public address sound system:
 - 1. The public address sound system shall provide for the pick-up and amplification of local wireless microphones, paging microphone and local program sources.
- B. Equipment and Materials:
 - 1. Install new sound rack and specified components.
 - 2. Provide and install outdoor weather proof loudspeakers.
- C. Materials:
 - 1. Truss Mounted speakers shall be:
 - a. Locations: See drawings
 - b. The loudspeaker shall consist of apolypropylene coated 2-way system installed in a dual ported enclosure.
 - c. Usable frequency range shall be extended fro 55Hz to 15 kHz +-10dB. Unit shall be weather resistant and mounted using stainless security hardware. Unit shall be provided with a 70.7 volt constant voltage transformer.
 - d. Acceptable Products: JBL Control 28CT (B)
 - 2. The system shall consist of the following components:
 - 1.Sound rack Lowell L260-36
 - 2.Master AC strip Middle Atlantic PD915R
 - 3.Crown CDI 2000 power amplifier
 - 4.Crown 28M dual output mic/line mixer
 - 5.Wireless Microphone Shure ULXS124/85 with 2-UA870WB active antennas
 - 6.Tascam CD-01U
 - 7. DBX 200i Digital processor
 - 8.Lowell 35" storage drawer
 - 9.blanks and vent panels as required
 - 10. Mixer Amplifier Biamp MXA75
 - 3. Outdoor horn loudspeakers shall be Rauland 3602, 30 watt 70.7 volt reentrant type. Mount with stainless steel security tamperproof hardware.

D. Wiring Materials

1. Cabling shall be West Penn, exact type, size and style as directed by Icomm.
 - a. Provide all adjusting, balancing and equalizing required for the operation of new speakers.

2.2 WIRING INSTALLATION

A. System wiring shall be subject to the following:

1. Wiring shall be continuous from device to device or control panel to device. Splices are not permitted.
2. All wire shall be tagged at each end.
3. All wire shall be color coded.
4. Wiring may be installed without conduit in areas without ceilings provided wiring is at least 10 feet above the floor. Where conduit is not used provide bridal rings as required for cable support. Bridal rings shall be located as high as possible in the ceiling space and shall be attached to the building structure and not the work of other trades such as mechanical ductwork or supports or the ceiling support system. Bridal rings shall support cables a maximum of six foot on centers. In no case shall cables lay on the ceiling.
5. Wiring may be installed without conduit above lay-in type 2' x 2' or 2' x 4' acoustical ceilings.
6. Wiring shall be installed in conduit above all ceilings other than lay-in type acoustical ceilings.
7. Wiring installed vertically below ceilings shall be installed in conduit. Wiring installed outdoors shall be in rigid ½" conduit.
8. In areas without ceilings, conduit installed below 10 feet AFF or below bottom cord of truss or steel shall be installed in conduit.
9. Wiring shall be installed perpendicular or parallel to lines of building construction (walls, structural steel, etc).
10. Wiring and/or conduit shall be installed as high as possible within ceiling or truss space.
11. Where wiring is not installed in conduit, it shall be supported a maximum of 4 foot on centers. Supports shall be independent of the ceiling system, ceiling system supports or supports serving the work of other trades.
12. Wiring not installed in conduit shall not be installed within 18 inches of light fixture ballasts or within 36 inches of motors or transformers.
13. Wiring shall be installed in accordance with the maximum bending radius requirements as recommended by the manufacturer.
14. All wiring not installed in conduit shall be Teflon insulated plenum type cable and shall be so identified with a continuous marking.
15. All wiring shall be installed in accordance with the manufacturer's requirements,

as well as these specifications.

16. Wiring color coding shall remain the same throughout the system. Colors used for coding shall be as directed by the system manufacturer.
17. Coordinate exact wiring requirements with the system manufacturers and include all wiring costs as required to accommodate the system manufacturer not withstanding information provided on plan.
18. All wire shall be copper.

2.3 WORKMANSHIP

- A. Hardware: All loudspeaker baffles shall be installed with hardware matching the color of the baffle. Baffle color to match ceiling color.
- B. Mounting: All loudspeaker baffles shall be flush against the ceiling and enclosures shall be supported to the structure above. All recessed speakers shall include a speaker backbox.
- C. Mounting: Audio amplifier brackets shall be mounted, square and plumb, at the height recommended by the manufacturer.

2.4 CLEAN-UP

- A. Remove unused materials and debris from the work and storage areas. Leave areas in an undamaged and acceptable condition.

2.5 INSTALLATION CERTIFICATION

- A. The Contractor shall submit in their close-out documents a letter from the Manufacturer stating that the installation has been inspected by the Manufacturer or the Manufacturer's representative. The certification letter must state that the installation has been done in accordance with the manufacturer's requirements and the warranty is in effect.

2.6 TESTING

- A. Before the contract shall be considered completed, the Contractor shall conduct an operating test for approval of all installed systems and for all equipment. The system shall be demonstrated to operate in accordance with the requirements of these specifications as well as the manufacturer's performance specifications. The test shall be performed in the presence of an authorized representative of the Owner. The Contractor shall furnish all equipment and personnel required for the tests.
- B. Should such a demonstration of performance show that the Contractor has not properly balanced the system, the Contractor shall make all necessary changes or adjustments and a second performance demonstration arranged.
- C. Should a second performance demonstration fail, the Contractor agrees to correct the system deficiencies at no cost to the Owner.
- D. Testing shall check each system component for proper operation. Each speaker shall be checked for proper operation including vibration, hum and noise. Adjust tap connections of all speakers where required to provide a properly balanced system with proper sound levels. Measure each speaker output circuit for proper line impedance and check wiring

for shorts, grounds, etc.

- E. Operate all electronic equipment, in each mode of operation and verify proper operation in accordance with the manufacturers operating specifications.

END OF SECTION 16770