

CONTRACT DOCUMENTS
FOR
VETERANS MEMORIAL PARK
POOL SHADE STRUCTURE CONSTRUCTION



Thursday, May 19, 2011

ITB-4166

SYSTEMS PLANNING UNIT
Administering Department

CITY OF ANN ARBOR
301 E. Huron St.
Larcom City Hall
Ann Arbor, Michigan 48104

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ADVERTISEMENT FOR
VETERANS MEMORIAL PARK POOL SHADE STRUCTURE CONSTRUCTION
CITY OF ANN ARBOR, MICHIGAN

BID NO. 4166

Sealed Bids that include an original bid document and one additional proposal section copy will be received by the **Procurement Office, Finance Services, located on the 5th floor of the Guy Larcom Municipal Building, 301 E. Huron St., Ann Arbor, Michigan on or before 2:00 p.m., Thursday, May 19, 2011** local time for Veterans Memorial Park Pool Shade Structure Construction and all associated work as specified and detailed. 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.

Work to be done include procurement and installation of a timber frame structure and fabric panels for shading, and all related work. Work does not include procurement or installation of the solar electric panels shown on the attached drawings.

Bid documents entirely downloadable on the Michigan Governmental Trade/BidNet (MITN) website at www.govbids.org and on the Purchasing page of the City of Ann Arbor's website at www.a2gov.org on or after or after May 9, 2011. The City will not be distributing paper copies of the plan or specifications.

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 45 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 further information on bid documents may be obtained from the Procurement Office, (734) 794-6500 ext.42506.

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 \$11.83/hour when health care is provided, or no less than \$13.19/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 2011/12.

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 - 734/794-6500 fax: 734/994-1795

→ RATE EFFECTIVE MAY 1, 2011-ENDING APRIL 29, 2012 ←

LIVING WAGE ORDINANCE – CITY OF ANN ARBOR

\$11.83 per hour

if the employer provides health care benefits*

\$13.19 per hour

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 include 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
734/794-6576 or dlumpkin@a2gov.org LW-1

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

Fax# _____ Email Address _____
 (Area Code)

EMPLOYMENT DATA

Job Categories	Number of Employees (Report employees in only one category)												TOTAL COLUMNS A-M
	Male						Female						
	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													

CITY OF ANN ARBOR PROCUREMENT OFFICE HUMAN RIGHTS CONTRACT COMPLIANCE FORM

Form #2

Local Office - Only Those Employees that will do Local or On-Site Work, if Applicable

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													

- Effective February 1, 2010-

CITY OF ANN ARBOR RESOLUTION R-09-459
CUB AGREEMENT REQUIREMENT

**NOTICE TO ALL CONTRACTORS AND SUBCONTRACTORS
PERFORMING CONSTRUCTION WORK FOR THE CITY OF ANN
ARBOR ON ANY CITY CONSTRUCTION PROJECT**

Any labor used on a City construction project bid and awarded by the City of Ann Arbor must be governed by the current collective bargaining agreement of the appropriate Local Unions of the Washtenaw County Skilled Building Trades Council (SBTC).

All invitations to bid on construction contracts include, as a condition of award, the requirement that all contractors and subcontractors execute a CUB agreement with the SBTC. Each contractor and subcontractor at all tiers of a project shall, prior to beginning work on the project, become signatory parties to the respective current collective bargaining agreements of the appropriate Local Unions of the SBTC. Alternately, when no other agreement exists, a Contractor may sign a one-time project agreement for the CUB project, covering that construction project only.

All potential bidders and contractors must contact the current CUB representative, Bart Nickerson at 734-944-5317 (office) or 734-320-2227 (cell) for a complete summary of the procedures and requirements pursuant to the CUB Memorandum of Understanding

**CONTRACTORS SHALL DISPLAY THIS NOTICE WHERE EMPLOYEES CAN READILY
SEE IT.**

Questions Contact
D. Lumpkin, Procurement Assistant
dlumpkin@a2gov.org

NOTICE OF PRE-BID CONFERENCE

A pre-bid meeting will be held at Veterans Memorial Park Pool at 10:00 a.m. on Thursday, May 12, 2011. Please park in the parking lot to the east of the pool at 2150 Jackson Rd.

Questions may be emailed to Amy Kuras at akuras@a2gov.org. 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 Department in cases where access to the site must be arranged by the City.

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

Proposals

Proposals must be submitted on the "Proposal Forms" and "Bid Forms" provided, with each blank properly filled in. **Sealed Bids that include a complete original bid document and one additional proposal section copy must be received** by the City of Ann Arbor Procurement Office, Fifth Floor, City Hall, Ann Arbor, Michigan, at the time stipulated in the Advertisement, which promptly thereafter proposals will be publicly opened and read aloud. Each proposal must be enclosed in a sealed envelope, endorsed across one end:

BID #4166, Proposal for VETERANS MEMORIAL PARK POOL SHADE STRUCTURE

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 two pages of 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. In addition Section 4 outlines the requirement for execution of a CUB Agreement with the Washtenaw County Skilled Trades Council (SBTC). The successful bidder must comply with all applicable requirements and may be required to provide documentary proof of compliance when requested.

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 _____, 2011.

Bidder's/Contractor Name

Official Address

Telephone Number

Authorized Signature of Bidder

(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 PROPOSAL FORMS
VETERANS POOL SHADE STRUCTURE
BID #4166

Name of bidder _____

Street Address _____

City, State, Zip _____

Tel/fax _____ Email _____

We, the undersigned, will furnish all labor, materials, equipment, services, facilities and all other items required for the Veterans Memorial Park Pool Shade Structure construction as defined by the Drawings and Specifications prepared by Mitchell and Mouat Architects and as identified by the City of Ann Arbor Bid No. 4166 for the Base Bid Amount of:

_____ dollars \$(_____)
Use words use numbers

A Bid bond (5% of bid amount) in the amount of \$_____ has been attached and forms part of this proposal. The method selected by the bidder for the Bid Bond will be_____

A Performance, Labor and Material Bond will be furnished as indicated in this Invitation to Bid. The premium for the assurance of this project will be \$_____ and is part of the lump sum above.

Signature of Authorized Representative of Bidder _____

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>
--------------------	--------------------	--------------------------

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>
---	-------------	---------------

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 _____ 2011, between the CITY OF ANN ARBOR, a Michigan Municipal Corporation, 100 N. Fifth Avenue, Ann Arbor, Michigan 48104 (“City”) and _____,(company type) _____.

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 “VETERANS MEMORIAL PARK POOL SHADE STRUCTURE” 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
CUB Agreement (if applicable)	
Bid Forms	
Proposal	
Contract and Exhibits	
Bonds	

ARTICLE II - Definitions

Administering Service area means Parks and Recreation Services

Supervising Professional means Sumedh Bahl or other persons acting under the authorization of the Director of the Administering Department.

Project means **VETERANS MEMORIAL PARK POOL SHADE STRUCTURE**
Bid No. 4166

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 60 consecutive calendar days.
- (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 **\$200.00** for each calendar day of delay in the completion of all the work. 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

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

_____ \$ (_____)

- (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.

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

By: _____

Its: _____

FOR THE CITY OF ANN ARBOR

By _____
John Hieftje, Mayor

By _____
Jacqueline Beaudry, City Clerk

Approved as to substance

By _____
Tom Crawford, Interim City Administrator

By _____
Sue F. McCormick,
Public Services Administrator

Approved as to form

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 _____, for: _____ 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 _____, 2011.

(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 _____, for: _____; 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 _____, 2011.

(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) Drawings/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 and CUB Agreement 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 \$11.83 per 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 \$13.19 per 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 therefore 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, 2011, 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 year 2010. 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 its 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 Department 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 _____, 201____, to
_____, 20____, 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

_____,
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 _____.

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 _____, 2011
_____, _____ 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. In addition, a copy of these Standard Specifications is available for public viewing on the City of Ann Arbor Website:

www.a2gov.org/government/publicservices/project_management/privatedev/Pages/Standardspecificationbook.aspx

**DETAILED SPECIFICATIONS
FOR
GENERAL REQUIREMENTS**

GENERAL REQUIREMENTS

- A. INVESTIGATIONS - The Contractor shall have visited the site, consulted all applicable drawings and records of existing utilities in the Contract area and made all other necessary investigation of sub-surface conditions which might affect the work required by this Contract before submission of his/her bid. It shall be understood and agreed that the Contractor assumes all risks involved in performing the excavating work required by this Contract and that his/her bid shall include the cost of all investigations.
- B. SURVEY, MEASUREMENT AND LAYOUT - The Contractor will provide survey work necessary for grading and layout of the project. All layout and staking is subject to approval by the Parks and Recreation Services prior to proceeding with excavation and construction.
- C. MINOR CHANGES - It shall be understood and agreed that should minor changes or deviations from the finished grades shown on the drawings be required by the Landscape Architect, they shall be made by the Contractor at no additional cost therefore.
- D. 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.

SECTION 03732 - CONCRETE REPAIR

PART 1 - GENERAL

1.01 **SECTION INCLUDES:**

- A. This Section is considered as reference for areas of concrete needing repairs to tie into new construction.**
- B. Preparation of concrete and application of repair materials.

1.02 **REFERENCES:**

- A. ASTM A82 - Cold Drawn Steel Wire for Concrete Reinforcement.
- B. ASTM A615/A615M - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
- C. ASTM A616/A616M - Rail-Steel Deformed and Plain Bars for Concrete Reinforcement.
- D. ASTM A617/A617M - Axle-Steel deformed and Plain Bars for Concrete Reinforcement.
- E. ASTM C33 - Specifications for Concrete Aggregates.
- F. ASTM C150 - Portland Cement.
- G. ASTM C404 - Aggregates for Masonry Grouts.
- H. ASTM C882 - Bond Strength of Epoxy Resin Systems Used with Concrete.
- I. ASTM D638 - Test Method for Tensile Properties of Plastic.
- J. ASTM D695 - Compressive Properties of Rigid Plastics.
- K. ASTM D790 - Flexural properties of Plastics and Electrical Insulating Materials.
- L. AWS D1.4 - Structural Welding Code for Reinforcing Steel.

1.03 **SUBMITTALS FOR INFORMATION:**

- A. Section 01300 - Submittals: Procedures for submittals.
- B. Manufacturer's Certificate: Certify that specified products meet or exceed specified requirements.

PART 2 - PRODUCTS

2.01 **PATCHING MATERIALS:**

- A. Epoxy Resin: Two-part epoxy adhesive containing 100 percent solids, meeting the following minimum characteristics:
Characteristic Test method Results
 - 1. Bond Strength ASTM C882 2,700 psi.
 - 2. Tensile Strength ASTM D638 6,600 psi.
 - 3. Elongation ASTM D38 2 percent.
 - 4. Flexural Strength ASTM D790 8,000 psi.
 - 5. Compressive Strength ASTM D695 6,600 psi.
- B. Bonding Agent: Polyvinyl acetate emulsion, dispersed in water while mixing, non-coagulant in mix, water resistant when cured.
- C. Portland Cement: ASTM C150 color as selected.
- D. Sand: ASTM C33; uniformly graded, clean.
- E. Water: Clean and potable.
- F. Cleaning Agent: Commercial Muriatic acid.

2.02 **MIXING CEMENTITIOUS MATERIALS:**

- A. Mix cementitious grout in accordance with manufacturer's instructions for purpose intended.
- B. Include bonding agent as additive to mix.

PART 3 - EXECUTION

- 3.01 EXAMINATION:
- A. Verify that surfaces are ready to receive work.
 - B. Beginning of installation means acceptance of existing surfaces.
- 3.02 PREPARATION:
- A. Clean concrete surfaces of dirt, laitance, corrosion or other contamination; wire brush using acid; rinse surface and allow to dry.
 - B. Flush out cracks and voids with muriatic acid to remove laitance and dirt. Chemically neutralize by rinsing with water.
 - C. Provide temporary entry ports spaced to accomplish movement of fluids between ports; no deeper than the depth of the crack to be filled or port size diameter no greater than the thickness of the crack. Provide temporary seal at concrete surface to prevent leakage of adhesive.
 - D. For areas paved with epoxy mortar, remove broken and soft concrete 1/4 inch deep. Remove corrosion from steel. Clean surfaces mechanically; wash with acid; rinse with water.
 - E. Sandblast clean the exposed reinforcement steel surfaces. Mechanically cut away damaged portions of bar.
- 3.03 REPAIR WORK:
- A. Repair exposed structural, shrinkage, and settled cracks of concrete as indicated on Drawings by the bonding agent and cementitious paste method.
 - B. Repair spalling. Fill voids flush with surface. Apply surface finish.
 - C. Repair reinforcement by welding new bar reinforcement to existing reinforcement with sleeve splices. Strength of welding splices to exceed original stress values.
- 3.04 APPLICATION - CEMENTITIOUS GROUT:
- A. Apply coating of bonding agent to concrete surfaces. Provide full surface coverage.
 - B. Apply cementitious grout by steel trowel to an average thickness of 2 inches. Tamp into place filling voids at spalled areas. Work mix into honeycomb.
 - C. Damp cure cementitious grout for four days.

END OF SECTION 03723

SECTION 05040 - HOT DIP GALVANIZING

PART I - GENERAL

1.01 WORK INCLUDED

This specification covers iron and steel materials to be hot dip galvanized after manufacture or fabrication including, but not limited to:

- A. Fabricated Steel Assemblies.
- B. Fasteners and Miscellaneous Hardware.

1.02 WORK INCLUDED

- A. Hot dip galvanizing of iron and steel materials.

1.03 RELATED WORK SPECIFIED ELSEWHERE:

- A. Steel materials, fabrications, and assemblies are specified to be furnished installed in various other sections.
- B. Section 05500 – Metal Fabrications

1.04 REFERENCES

- A. Publications:
 - 1. American Galvanizers Association (AGA):
 - a. Inspection of Products Hot Dip Galvanized After Fabrication
 - b. The Design of Products to be Hot Dip Galvanized After Fabrication
 - c. Recommended Details of Galvanized Structures
 - 2. Research Council on Structural Connections of the Engineering Foundation:
 - a. Specification for Structural Joints Using ASTM-A325 or A490 bolts
- B. Reference Standards:
 - 1. American Society for Testing and Materials (ASTM):
 - b. A123 Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
 - c. A143 Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement
 - e. A153 Zinc Coating (Hot-Dip) on Iron and Steel Hardware
 - f. A384 Safeguarding Against Warpage and Distortion During Hot-Dip Galvanizing of Steel Articles
 - h. A385 Providing High-Quality Zinc Coatings (Hot-Dip)
 - i. A767 Specification for Zinc-Coated (Hot-Dip Galvanized) Steel Bars for Concrete Reinforcement
 - k. A780 Repair of Damaged Hot-Dip Galvanized Coatings
- C. Federal Specifications:
 - a. DOD-P-21035, Paint, High Zinc Dust Content, Galvanizing Repair
 - b. MIL-P-26915, Primer Coating, Zinc Dust Pigmented

1.05 QUALITY ASSURANCE

- A. Coating Applicator: Company specializing in hot dip galvanizing after fabrication and following the procedures of the Quality Assurance Manual of the American Galvanizers Association.
- B. Company specializing in DUROZINQ® to assure quality and on time guaranteed delivery.
- C. ISO 9002 Certified within the last five years and audited yearly.

1.06 SUBMITTALS

- A. In accordance with provisions of Section 01300, submit an original and two copies of the coating applicator's Certificate of Compliance that the hot dip galvanized coating meets or exceeds the specified requirements of ASTM-A 123 A767 or A153 (as applicable).
- B. Applicator must submit quality assurance certification and ISO 9002 certification, and auditor's yearly report for the past 3 years.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Store and protect products until required to be installed.
- B. Load and store galvanized articles in accordance with accepted industry standards.

PART 2 - PRODUCTS

2.01 ACCEPTABLE COATING APPLICATORS

- A. Applicator must be ISO 9002 certified to assure premier quality standards
- B. American Galvanizing Association members available upon request from the American Galvanizing Association.

2.02 STEEL MATERIALS

- A. Material for galvanizing to be geometrically suitable for galvanizing as described in ASTM-A 384 and A385. Steel materials suitable for galvanizing include structural shapes, pipe, sheet, fabrications and assemblies.
- B. Material to be chemically suitable for galvanizing Steels containing carbon below 0.25 percent, phosphorus below 0.04 percent and manganese below 1.35 percent, either individually or in combination and providing the silicon content is .04 percent or less or a range of 0.15-0.23%, will normally develop a typical coating when conventional galvanizing techniques are applied. In cases where steel is selected for considerations other than galvanizing and the chemistry of the elements (C, Mn, P, and Si) exceeds the limits indicated above, the steel may be galvanizable. The galvanizer must be advised of the variation in advance so that he can determine if the material is galvanizable and whether or not special processing techniques will be required or different appearance and bonding is acceptable. Experience has shown that silicon in the ranges of 0.02 to 0.04% and 0.15 to 0.23% produce coatings of normal integrity and performance. Steels with silicon contents significantly below 0.04% may not achieve the desired minimum coating thicknesses. Steel with silicon above 0.23% can have less bonding and adhesion, as well as, a higher milage and dull appearance. Recommended steel materials for hot dip galvanizing include, but are not limited to:

- 1. Structural shapes and plates: ASTM-A 36, A242 type 2, A283, A441, A500, A501, A529, A572 and A588.

- 2. Steel for fasteners:

<u>General Category</u>	<u>Bolt Material</u>	<u>Nut Material</u>
Carbon Steel	A307 GR A or B	A563 GR A
High Strength	A325 Type I	A563 GR DHor
Tower Bolts	A394	A563 GR A
Quenched & Tempered Carbon Steel Bolts	A449	A563 GR C
Quenched & Tempered Alloy Steel Bolts	A354 GR BC	A563 GR DH

CAUTION. Avoid use of steel with an ultimate tensile strength greater than 150 ksi.

2.03 FABRICATION REQUIREMENTS

- A. Fabricate structural steel in accordance with Class (I), (II), (III) guidelines as described in AGA's; Recommended Details for Galvanized Structures.
- B. Fabrication practices for products to be in accordance with the applicable portions of ASTM-A 143, A384, and A385, except as specified herein. Avoid fabrication techniques, which could cause distortion or embrittlement of the steel.
- C. The Fabricator shall consult with Architect/Engineer and Hot Dip Galvanizer regarding potential problems or potential handling problems during the galvanizing process, which may require modification of design before fabrication proceeds.
- D. Remove all welding slag, splatter, anti-splatter compounds and burrs prior to delivery for galvanizing. When weldments are to be galvanized, avoid the use of a high silicon welding

- rod. (An AGA member can advise on welding rod best suited for architecturally exposed material).
- E. Provide holes and/or lifting lug to facilitate handling during the galvanizing.
 - F. Avoid unsuitable marking paints. Use only water-soluble markers. Consult with the galvanizer about removal of grease, oil paint and other deleterious material prior to fabrication.
 - G. Remove by blast cleaning or other methods surface contaminants and coatings which would not be removable by the normal chemical cleaning process in the galvanizing operation.
 - H. Whenever possible, slip joints should be used to minimize field welding of materials.
 - I. To minimize handling damage, trucking to and from the galvanizer must be the responsibility of the galvanizer utilizing galvanizers company owned truck or by prior written agreement between steel fabricator and galvanizer.

PART 3 - EXECUTION

3.01 SURFACE PREPARATION

- A. Pre-clean steel works in accordance with accepted methods to produce an acceptable surface for quality hot dip galvanizing.

3.02 APPLICATION OF COATING

- A. Galvanize steel members, fabrications, and assemblies after fabrication by the hot dip process in accordance with ASTM-A 123.
- B. Galvanize bolts, nuts, washers, iron and steel hardware components in accordance with ASTM-A 153. For best results this material will be galvanized in a kettle capable of reaching 1000 degrees Fahrenheit.
- C. Safeguard products against steel embrittlement in conformance with ASTM-A 143.
- D. Galvanize reinforcing steel in accordance with ASTM-A 767.
- E. Handle all articles to be galvanized in such a manner as to avoid any mechanical damage and to minimize distortion.
- F. To minimize surface imperfections use of the galvanizing process involving a flux blanket on the kettle (wet method) is prohibited.

3.03 COATING REQUIREMENTS

- A. Coating Weight: conform to paragraph 5.1 of ASTM-A 123, table I of A767, or table I of ASTM-A 153, as appropriate. Special thickness requirements should refer to ASTM-A 123 paragraph 3.1 section 7 and be specified as the minimum average mils of thickness. Extra thick coatings are not always obtainable.
- B. Surface Finish: Continuous, adherent, as smooth and evenly distributed as possible and free from any defect detrimental to the stated end use of the coated article.
- C. Adhesion: Withstand normal handling consistent with the nature and thickness of the coating and normal use of the article.

3.04 TESTS

- A. Inspection and testing of hot dip galvanized coatings shall be done under the guidelines provided in the AGA publication, "Inspection of Products Hot Dip Galvanized after Fabrication".
- B. Include visual examination and tests in accordance with ASTM-A 123, A 767 or A 153 as applicable to determine the thickness of the zinc coating on the metal surface.
- C. Furnish Certificate of Compliance with ASTM Standards and Specifications herein listed. The Certificate must be signed by the galvanizer and contain a detailed description of the material processed. The Certificate shall include information as to the ASTM standard used for the coating.
- D. Furnish a detail description as outlined in the Galvanizer ISO 9002 Quality Compliance certification.

3.05 REPAIR FOR DAMAGED COATING

- A. The maximum area to be repaired is defined in accordance with ASTM-A 123 Section 4.6 current edition.
 - 1. The maximum area to be repaired in the field shall be determined in advance and prior to the start of fabrication by mutual agreement between parties. (galvanizer, fabricator, architect/owner)
- B. Repair areas damaged by welding, flame cutting or during handling, transport or erection by one of the approved methods in accordance with ASTM-A 780 whenever damage exceeds 3/16" in width. Minimum thickness requirements for the repair are those described in ASTM-A 123 section 4. 6 current edition.
- C. **When using the zinc-rich paint method of repair in accordance to ASTM-A 780, the use of aerosol (spray) cans is prohibited. Using a brush applied paint product for touch up of the galvanized surface is the only 'paint' repair acceptable.**

END OF SECTION 05040

SECTION 05500 - METAL FABRICATIONS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK:

A. Section Includes:

1. Loose Bearing and/or leveling plates
2. Miscellaneous metal trim
3. Plates and angles
4. Anchor supports at column bases
5. Welding loose plates together in field for composite angles as indicated.

1.02 RELATED SECTIONS:

- A. Section 05040 – Galvanizing
- B. Section 09900 – Painting

1.03 DEFINITIONS:

- A. Definitions in ASTM E 985 for railing-related terms apply to this section.

1.04 SYSTEM PERFORMANCE REQUIREMENTS:

- A. Structural Performance of Handrails and Railing Systems: Design, engineer, fabricate, and install handrails and railing systems to comply with requirements of ASTM E 985 for structural performance based on testing performed in accordance with ASTM E 894 and E 935.
- B. Structural Performance: Design, engineer, fabricate, and install the following metal fabrications to withstand the following structural loads without exceeding the allowable design working stress of the materials involved, including anchors and connections. Apply each load to produce the maximum stress in each respective component of each metal fabrication.

1.05 QUALITY ASSURANCE:

- A. Fabricator Qualifications: Firms experienced in successfully producing metal fabrications similar to that indicated for this Project, with sufficient production capacity to produce required units without causing delay in the Work.
- B. Installer Qualifications: Arrange for installation of metal fabrications specified in this section by same firm that fabricated them.
- C. Qualify welding processes and welding operators in accordance with AWS D1.1 "Structural Welding Code - Steel," D1.3 "Structural Welding Code - Sheet Steel", and D1.2 "Structural Welding Code - Aluminum."
- D. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.
- E. Engineer Qualifications: Professional engineer licensed to practice in jurisdiction where project is located and experienced in providing engineering services of the kind indicated that have resulted in the successful installation of metal fabrications similar in material, design, and extent to that indicated for this Project.

1.06 SUBMITTALS:

- A. General: Provide a shop drawing for all miscellaneous plates and angles. Indicate plate sizes, configurations, holes and thicknesses.
- B. Product data for products used in miscellaneous metal fabrications, including paint products and grout.
- C. Shop drawings detailing fabrication and erection of each metal fabrication indicated. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide templates for anchors and bolts specified for installation under other sections.

1. Where installed metal fabrications are indicated to comply with certain design loadings, include structural computations, material properties, and other information needed for structural analysis that has been signed and sealed by the qualified professional engineer who was responsible for their preparation.
 - D. Samples representative of materials and finished products as may be requested by Architect.
 - E. Welder certificates signed by Contractor certifying that welders comply with requirements specified under "Quality Assurance" article.
 - F. Qualification data for firms and persons specified in "Quality Assurance" article to demonstrate their capabilities and experience. Include list of completed projects with project name, addresses, names of Architects and Owners, and other information specified.
- 1.07 PROJECT CONDITIONS:
- A. Field Measurements: Check actual locations of walls and other construction to which metal fabrications must fit, by accurate field measurements before fabrication; show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delay of Work.
 1. Coordinate all required holes in wood structure with pre-cut holes in metal fabrications.
- 1.08 INCONSISTENCIES:
- A. Refer to Section 00100 – Instructions to Bidders for General Contractor, Construction Manager, and/or sub contractor responsibilities pertaining to Specification inconsistencies.

PART 2 - PRODUCTS

- 2.01 MATERIALS AND COMPONENTS:
- A. Metal Surfaces, General: For metal fabrications exposed to view upon completion of the Work, provide materials selected for their surface flatness, smoothness, and freedom from surface blemishes. Do not use materials whose exposed surfaces exhibit pitting, seam marks, roller marks, rolled trade names, roughness, and, for steel sheet, variations in flatness exceeding those permitted by reference standards for stretcher-leveled sheet.
 - B. Steel Plates, Shapes, and Bars: ASTM A 36.
 - C. Brackets, Flanges and Anchors: formed metal of the same type material and finish as Concrete Inserts: Threaded or wedge type; galvanized ferrous castings, either malleable iron, ASTM A 47, or cast steel, ASTM A 27. Provide bolts, washers, and shims as required, hot-dip galvanized per ASTM A 153.
 - D. Welding Rods and Bare Electrodes: Select in accordance with AWS
- 2.02 COLUMN ANCHOR SUPPORTS:
- A. Provide a anchor embedment for wood column supports as noted below:
 1. Provide and install assembly **ABU66 manufactured by Simpson Strong-Tie as base/anchors for all columns.**
 2. Set in existing concrete piers with 5/8" dia. threaded rod cored/drilled into existing concrete.
 3. Attached anchors to columns with galvanized, hex-head lag screws and other fasteners as required to achieve load characteristics required of the manufacturer.
- 2.03 GROUT AND ANCHORING CEMENT:
- A. Non-shrink Nonmetallic Grout: Premixed, factory-packaged, non-staining, non-corrosive, nongaseous grout complying with CE CRD-C 621. Provide grout specifically recommended by manufacturer for interior and exterior applications of type specified in this section.
 - B. Erosion-Resistant Anchoring Cement: Factory-prepackaged, non-shrink, non-staining, hydraulic controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is

- resistant to erosion from water exposure without need for protection by a sealer or waterproof coating and is recommended for exterior use by manufacturer.
- C. Products: Subject to compliance with requirements, provide one of the following:
1. Erosion-Resistant Anchoring Cement:
 - a. "Super Por-Rok"; Minwax Construction Products Division.
 - b. Or equal
- 2.04 **FASTENERS:**
- A. General: Provide zinc-coated fasteners for exterior use. Select fasteners for the type, grade, and class required.
 - B. Bolts and Nuts: Regular hexagon head type, ASTM A 307, Grade A.
 - C. Lag Bolts: Square head type, FS FF-B-561.
 - D. Machine Screws: Cadmium plated steel, FS FF-S"92.
 - E. Wood Screws: Regular hexagon head type, galvanized
 - F. Plain Washers: Round, carbon steel, FS FF-W-92 - galvanized.
 - G. Drilled-In Expansion Anchors: Expansion anchors complying with FS FF-S-325, Group VIII (anchors, expansion). Type I (internally threaded tubular expansion anchor); and machine bolts complying with FS FF-B-575, Grade 5.
 - H. Lock Washers: Helical spring type carbon steel, FS FF-W-84.
- 2.05 **PAINT:**
- A. Shop Primer for Ferrous Metal: Manufacturer's or fabricator's standard, fast-curing, lead-free, universal modified alkyd primer selected for good resistance to normal atmospheric corrosion, for compatibility with finish paint systems indicated, and for capability to provide a sound foundation for field-applied topcoats despite prolonged exposure complying with performance requirements of FS TT-P-664D.
 - B. Galvanizing Repair Paint: High zinc dust content paint for re-galvanizing welds in galvanized steel, with dry film containing not less than 94 percent zinc dust by weight, and complying with DOD-P-21 035 or SSPC-Paint-20.
 - C. Zinc Chromate Primer: FS TT -P-645.
- 2.06 **CONCRETE FILL AND REINFORCING MATERIALS:**
- A. Concrete Materials and Properties: Comply with requirements of Division 3 section "Concrete Work" for normal weight, ready-mix concrete with minimum 28-day compressive strength of 2,500 psi, 440 lb. cement per cu. ft. minimum, and WIC ratio of 0.65 maximum, unless higher strengths indicated.
- 2.07 **FABRICATION, GENERAL:**
- A. Form metal fabrications from materials of size, thickness, and shapes indicated but not less than that needed to comply with performance requirements indicated. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of materials indicated or specified for various components of each metal fabrication. Weld corners and seams continuously, grind exposed welds smooth and flush. Comply with AWS recommendations.
 - B. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.
 - C. Allow for thermal movement resulting from the following maximum change (range) in ambient temperature in the design, fabrication, and installation of installed metal assemblies to prevent buckling, opening up of joints, and overstressing of welds and fasteners. Base design calculations on actual surface temperatures of metals due to both solar heat gain and nighttime sky heat loss.
 - D. Temperature Change (Range): 100 deg F (55.5 deg C).
 - E. Shear and punch metals cleanly and accurately. Remove burrs.

- F. Ease exposed edges to a radius of approximately 1/32 inch, unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- G. Remove sharp or rough areas on exposed traffic surfaces.
- H. Weld corners and seams continuously to comply with AWS recommendations and the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and contour of welded surface matches those adjacent.
- I. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts. Locate joints where least conspicuous.
- J. Provide for anchorage of type indicated; coordinate with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use.
- K. Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- L. Cut, reinforce, drill and tap miscellaneous metal work as indicated to receive finish hardware, screws, and similar items.
- M. Fabricate joints that will be exposed to weather in a manner to exclude water, or provide weep holes where water may accumulate.

2.08 MISCELLANEOUS FRAMING AND SUPPORTS:

- A. General: Provide steel framing and supports for applications indicated or which are not a part of structural steel framework, as required to complete work.
 - 1. Metal shapes, and assemblies indicated on the Architectural Drawings and not specified in other sections of the specifications or not indicated on the Structural Drawings, and framing supporting other components of the construction shall be provided in accordance with the provisions of this section and STRUCTURAL STEEL Section.
- B. Fabricate units to sizes, shapes, and profiles indicated and required to receive adjacent other construction retained by framing and supports. Fabricate from structural steel shapes, plates, and steel bars of welded construction using mitered joints for field connection. Cut, drill, and tap units to receive hardware, hangers, and similar items.
 - 1. Equip units with integrally welded anchors for casting into concrete or building into masonry. Furnish inserts if units must be installed after concrete is placed.
 - 2. Except as otherwise indicated, space anchors 24 inches o.c. and provide minimum anchor units in the form of steel straps 1-1/4 inches wide x 1/4 inch x 8 inches long.
- C. Galvanize miscellaneous framing and supports in the following locations:
 - 1. Exterior locations - typical.

2.09 MISCELLANEOUS STEEL TRIM:

- A. Provide shapes and sizes indicated for profiles shown. Unless otherwise indicated, fabricate units from structural steel shapes, plates, and steel bars, with continuously welded joints and smooth exposed edges. Use concealed field splices wherever possible. Provide cutouts, fittings, and anchorages as required for coordination of assembly and installation with other work.
- B. Galvanize miscellaneous framing and supports in the following locations:
 - 1. Exterior locations.

2.10 FINISHES, GENERAL:

- A. Comply with NAAMM “Metal Finishes Manual” for recommendations relative to application and designations of finishes.
- B. Finish metal fabrications after assembly.
- C. Primer selected must be compatible with finish coats of paint specified, coordinate with requirements of Section 09900.
- D. Shop Painting:
 - 1. Prepare surfaces in accordance with the Steel Structure Painting Council's specifications.
 - 2. Shop paint miscellaneous metal work, except members or portions of members to be embedded in concrete or masonry. Apply primer at a rate to provide uniform dry film thickness of 2.0 mils.

2.11 STEEL FINISHES:

- A. Galvanizing: All items shall be galvanized. Apply zinc-coating by the hot-dip process compliance with the following requirements:
 - 1. ASTM A 153 for galvanizing iron and steel hardware.
 - 2. ASTM A 123 for galvanizing both fabricated and unfabricated iron and steel products made of uncoated rolled, pressed, and forged shapes, plates, bars, and strip 0.0299 inch thick and heavier.
- B. Preparation for Shop Priming: Prepare uncoated ferrous metal surfaces to comply with minimum requirements indicated below for SSPC surface preparation specifications and environmental exposure conditions of installed metal fabrications:
 - 1. Exteriors (SSPC Zone 1 B): SSPC-SP6 “Commercial Blast Cleaning.”
 - 2. Interiors (SSPC Zone 1A): SSPC-SP3 “Power Tool Cleaning.”
- C. Apply shop primer to uncoated surfaces of metal fabrications, except those with galvanized finish or to be embedded in concrete, sprayed-on fireproofing, or masonry, unless otherwise indicated. Comply with requirements of SSPC-PA1 “Paint Application Specification No. 1” for shop painting.
 - 1. Stripe paint all edges, corners, crevices, bolts, welds, and sharp edges.

PART 3- EXECUTION

3.01 PREPARATION:

- A. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installation of anchorages, including concrete inserts, sleeves, anchor bolts, and miscellaneous items having integral anchors that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to project site.
- B. Center nosings on tread widths with noses flush with riser faces and tread surfaces.
- C. Set sleeves in concrete with tops flush with finish surface elevations; protect sleeves from water and concrete entry.

3.02 INSTALLATION, GENERAL:

- A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction; include threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, wood screws, and other connectors as required.
- B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installation of miscellaneous metal fabrications. Set metal fabrication accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- C. Provide temporary bracing or anchors in formwork for items that are to be built into concrete masonry or similar construction.

- D. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade the surfaces of exterior units which have been hot-dip galvanized after fabrication, and are intended for bolted or screwed field connections.
- E. Field Welding: Comply with AWS Code for procedures of manual shielded metal-arc welding, appearance and quality of welds made, methods used in correcting welding work, and the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and contour of welded surface matches those adjacent.
- F. Corrosion Protection: Coat concealed surfaces of aluminum that will come into contact with grout, concrete, masonry, wood, or dissimilar metals with a heavy coat of bituminous paint or zinc chromate primer.

3.03 ADJUSTING AND CLEANING:

- A. For galvanized surfaces clean welds, bolted connections and abraded areas and apply galvanizing repair paint to comply with ASTM A780.
- B. Touch-Up Painting: Cleaning and touch-up painting of field welds, bolted connections, and abraded areas of the shop paint on miscellaneous metal is specified in Division 9 Section "Painting" of these specifications.
- C. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting to comply with SSPC-PA 1 requirements for touch-up of field painted surfaces.
 - 1. Apply by brush to provide a minimum dry film thickness of 2.0 mils.
 - 2. Coordinate with Section 09900 - Painting

END OF SECTION - 05500

SECTION 06105 - MISCELLANEOUS CARPENTRY

PART 1 - GENERAL

- A. Shop Drawings: Submit shop drawings for layout of each item in the wood superstructure.
- B. Coordinate all carpentry elements with the metal plate connectors required to construct assembly.
- C. Samples: Submit finished samples of each wood species and cut indicated for transparent finish; of each material indicated for opaque finish; of each color, pattern, and finish of plastic laminate; and of each type of cabinet hardware.

PART 2 - PRODUCTS

- A. Lumber, General: Comply with PS 20 and with applicable grading rules; factory-mark with grade, species, moisture content at time of surfacing, and mill; dressed lumber, S4S.
- B. Exposed Dimension Lumber: As follows:
 - 1. Species: one, or both of the following:
 - a. **Douglas Fir – as required for 2x12 cross-members – 20' long. The entire project may be constructed with Douglas Fir if available.**
 - b. **Western red cedar – typical for columns and as allowed for wood joists.**
 - 2. Moisture Content: S-DRY, KD 19 or MC 19 (19 percent maximum moisture content).
 - 3. Grade: No. 1 or construction grade.
- C. Fasteners: Where miscellaneous carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating steel.

PART 3 - EXECUTION

- A. Cut and fit miscellaneous carpentry accurately and securely fasten. Install members plumb and true to line and level.
- B. Countersink nail and bolt heads on exposed carpentry work and fill holes.
- C. Install wood grounds, nailers, blocking, and sleepers where shown and where required for screeding or attachment of other work.

END OF SECTION 06105

SECTION 06410 - EXTERIOR ARCHITECTURAL WOODWORK

PART 1- GENERAL

- 1.01 DESCRIPTION OF WORK:
- A. Work of this Section
 - B. Carpentry work not specified as part of other Sections.
 - C. Carpentry which is generally exposed to the environment.
 - D. Carpentry for:
 - 1. Framing for Architectural woodwork and construction.
 - 2. Trim required for exterior finishing.
 - E. Provide unique specie of wood(s) as noted of these Documents to be resistant to the environment as required.
- 1.02 RELATED SECTIONS
- A. Section 06105 – Miscellaneous Carpentry
- 1.03 REFERENCES
- A. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 1998.
 - B. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials; 1998.
 - C. UL 723 – Standard for Test for Surface Burning Characteristics of Building Materials; Underwriters Laboratories Inc.; 1996
- 1.04 QUALITY ASSURANCE:
- A. Identification: Factory-mark each piece of lumber and plywood with type, grade, mill and grading agency.
 - B. WIC Quality Standard: Comply with applicable requirements of "Manual of Millwork" by WIC.
 - C. Shop Drawings: Submit shop drawings for each item of architectural woodwork.
 - D. Samples: Submit samples of each wood species and cut indicated for transparent finish; of each material indicated for opaque finish.
 - E. Refer to Section 00100 – Instructions to Bidders for General Contractor, Construction Manager, and/or sub contractor responsibilities pertaining to Specification inconsistencies.

PART 2 - PRODUCTS

- 2.01 GENERAL MATERIAL REQUIREMENTS:
- A. Lumber, General:
 - 1. Nominal sizes are indicated on the Documents. Provide dressed lumber, S4S, with 19% maximum moisture content and time of dressing – typical for most applications.
 - 2. **For cedar and Douglas fir specie receiving an opaque or semi-transparent finish – all lumber shall be 'B Select' or better. All lumber shall be smooth-4-sides (S4S)**
 - B. Framing Lumber (2" through 4" thick):
 - 1. For structural framing (6" and wider and from 2" to 4" thick), provide #1 Douglas Fir which meets or exceeds the following values:
 - a. Fb (minimum extreme fiber stress in bending); 1,200 psi.
 - b. E (minimum modulus of elasticity); 1,500,000 psi.
 - C. End Sealer: Manufacturer's standard, transparent, colorless wood sealer, which is effective in retarding transmission of moisture at cross-grain cuts for all wood not receiving a finish coat of other sealer.
 - D. Penetrating Sealer: Manufacturer's standard, translucent, penetrating wood sealer, which will not interfere when applying wood stain and transparent finish, or paint finish.

2.02 MISCELLANEOUS MATERIALS:

A. Fasteners and Anchorages:

1. Provide size and type recommended by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers and anchoring devices.
2. Provide fasteners with a hot-dip zinc coating (ASTM A153) for treated lumber at a minimum and unless noted otherwise, and where wood is in ground contact, subjected to high relative humidity, or exposed to weather. .

PART 3- EXECUTION

3.01 GENERAL INSTALLATION REQUIREMENTS:

- A. Install exterior woodwork to comply with requirements of AWI Section 1700 "Installation of Woodwork (Interior)" that refer to types of woodwork specified in this section and that apply to the same grade specified in Part 2 of this section.
- B. Fabrication, Framing: Comply with the following.
 1. Fabricate members by cutting and restoring exposed surfaces to match specified surfacing. Pre-drill for fasteners and assembly of units wherever feasible.
 - a. Machine sand exposed surfaces to remove planing or surfacing marks, finishing with No. 80 grit sand paper.
 4. End-Cut Sealing: Immediately after end-cutting each member to final length, and after wood treatment (if any), apply a saturation coat of end sealer to ends and other cross-cut surfaces, keeping surfaces flood-coated for not less than 10 minutes.
- C. Seal Coat: After fabricating and surfacing each unit and end-cut sealing, apply a saturation coat of penetrating sealer on surfaces of each unit, except for treated wood where the treatment included a water repellent.

3.02 ERECTION REQUIREMENTS:

- A. Set carpentry work accurately to required levels and lines, with members plumb and true and accurately cut and fitted.
- B. Securely attach carpentry work to substrate by anchoring and fastening as required by recognized standards. Countersink nail heads on exposed carpentry work and fill holes. Use finishing nails for finish work. Make tight connections between members. Install fasteners without splitting of wood; pre-drill as required.
- C. Wood Framing, General:
 1. Provide framing members of sizes and on spacings shown on the drawings, and frame openings to comply with recommendations of "Manual for House Framing" of National Forest Products Association. Do not splice structural members between supports.
 2. Anchor and nail to comply with "Recommended Nailing Schedule" of "Manual for House Framing" and other recommendations of N.F.P.A. and other recommendations of N.F.P.A.

END OF SECTION 06410

SECTION 09900 - PAINTING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to the work of this section.

1.02 WORK INCLUDED:

- A. General: The terms "paint" or "painting" as used in the Drawings and this Section are general terms which shall, by definition, include surface preparations required of finishes, and the application of fillers, finishes, sealers, primers, stains, paints, and/or varnishes.
- B. Preparation of all surfaces and materials to receive finish.
- C. Painting of all unfinished (i.e. no factory final finish) interior and exterior metal, including:
 - 2. All exposed portions of all shop-primed steel embedded in masonry or other construction.

1.03 ATTIC STOCK:

- A. Leave on premises, one unopened gallon of each color of each type of paint or finish used.
- B. Containers to be unopened after preparation at the factory, tightly sealed, bearing manufacturer's name, type of paint, brand name, color designation, and instructions for mixing and/or reducing.

1.04 DELIVERY, STORAGE AND HANDLING:

- A. Deliver paint materials in sealed original labeled containers, bearing manufacturer's name, type of paint, brand name, color designation and instructions for mixing and/or reducing.
- B. Provide adequate storage facilities. Store paint materials at minimum ambient temperature of 45 degrees F. in a well-ventilated area.
- C. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.05 SUBMITTALS:

- A. Within thirty (30) days after an award of bid, the painting contractor shall submit a statement to the architect indicating both the manufacturer of paint or finish products to be used on the job, and the specific brand name for each usage specified.
- B. The architect reserves the right to request and receive copies of invoices for material purchased for this project from the various manufacturers and/or dealers.
- C. The painting contractor shall provide the architect with (2) complete and current color decks from the select manufacturer to select colors from. One color deck will be retained by the Architect.

1.06 MIXING, THINNING, AND STORAGE:

- A. Store and mix paints only in areas designated and provided with proper protection fro floors and walls.
- B. Mix and thin paints in strict accordance with Manufacturer's recommendations.
- C. Deliver and store paints and related flammable materials in the Manufacturer's original unopened containers, as far as practicable. Keep partially used materials in tightly closed containers.
- D. Do not store oil or paint soaked rags inside the building. Do not store materials in any room containing a direct fired heating unit.

1.07 ENVIRONMENTAL CONDITIONS:

- A. A minimum interior temperature of 65 degree F shall be maintained during the actual application and drying of the paint, and until occupancy of the building occurs. Adequate ventilation shall be maintained at all times to control excessive humidity that will adversely

- affect the curing of coatings. The general contractor is solely responsible for maintaining suitable temperatures and ventilation.
- B. No exterior painting shall be undertaken if air or surface temperatures are below 50 degree F, or if the temperature is expected to drop below that mark before the coating has dried. do not paint during or immediately after foggy, rainy, or frosty weather, or until frost, dew or condensation has evaporated. Ambient air temperature and surface temperature must be minimum 5 degree F above dew point.
 - C. Surfaces shall be dry before any coating is applied. New plaster, masonry and concrete work shall not be primed until it has been determined these substrates have dried sufficiently and are of suitable Ph to safely accept paint. A reliable electronic moisture meter shall be used to make the determination pertaining to moisture.
 - D. Adequate lighting shall be provided in work areas to assure adequate illumination. See Division 1, for temporary electric requirements.
 - E. Do not commence work in spaces until all other trades other than finish work trades have completed their work within the space.
- 1.08 PROTECTION:
- A. Close off the various spaces while painting and exclude dust until finish is dry.
 - B. Adequately protect adjacent surfaces from paint and damage. Repair damage as a result of inadequate or unsuitable protection.
 - C. Furnish sufficient drop cloths, shields, and protective equipment to prevent spray or droppings from fouling surfaces not being painted and in particular, surfaces within storage and preparation area.
 - D. Place cotton waste, cloths and materials that may constitute a fire hazard in closed metal containers and remove daily from site.
 - E. Remove electrical plates, surface hardware, fittings and fastenings, prior to painting operations. These items are to be carefully stored, cleaned and replaced on completion of work in each area. When cleaning hardware, do not use solvent that may remove permanent lacquer finish.
- 1.09 QUALITY ASSURANCE:
- A. General: Work shall be performed by tradesmen with at least (5) five years experience with similar types of preparation and application as required by this Project.
 - B. Refinishing and/or refurbishing woodwork: Work shall be performed by tradesmen with at least (5) five years experience, and who are capable of evaluating wood surfaces, stripping, fine sanding, and refinishing hardwood and softwood surfaces.
- 1.10 INCONSISTENCIES:
- A. Refer to Section 00100 – Instructions to Bidders for General Contractor, Construction Manager, and/or sub contractor responsibilities pertaining to Specification inconsistencies.

PART 2 - PRODUCTS

- 2.01 ACCEPTABLE MANUFACTURERS:
- A. All stain/finishing materials shall be products of:
 - 1. Olympic
 - 2. Cabot's
 - 3. Flood
 - 4. Sherwin Williams
 - 5. Substitutions shall not be made without the architect's prior approval.
 - B. All materials used on the job shall be the manufacturer's highest quality product for each usage specified.

2.02 MATERIALS:

- A. Furnish specified Manufacturer's top quality, first line material, delivered to the job-site in original, unopened, labeled containers.
- B. Acceptance of materials is conditional upon demonstration of washability and abrasion resistance of specified test patch.
- C. Tinted primer shall be used whenever deep tone colors are specified.

2.03 PRODUCTS:

- A. Following are specifications for products for specific applications. Should one or more of the specified manufacturers no longer produce the specified product (due to a change in product line, for example), the Painting Contractor may use another product from the same manufacturer(s) provided the manufacturer warrants that it is substantively similar to the specified product and intended for the specified application.
- B. Exterior Finishes:**
 - 1. Metal plates, connectors and fittings:
 - a. Apply paint or solid-color stain to match wood finishing.
 - 2. Natural Wood structure – **semi-transparent or solid color, stain coating for lumber finishing:**
 - a. First Step:
 - i. Apply a "mill finish remover" similar to WOLMAN Deck & Fence Brightener
 - ii. Use steady, hard stream of water or wide-angled power wash to remove brightener.
 - iii. Let dry for at least 3 days prior to any further applications.
 - b. Second Step:
 - i. Flood's SWF Solid Color Wood Finish.
 - ii. Wolman DuraStain® Solid Color Stain
 - iii. Cabot's solid color decking stain. Oil-based stain and sealer
 - iv. Olympic Maximum solid color stain/sealer.

PART 3 - EXECUTION

3.01 GENERAL:

- A. The painting contractor shall be wholly responsible for the quality of the work and is not to commence any part of it until each surface is in proper condition. All surfaces are to be clean. If for any reason the surface cannot be cleaned, this condition shall be promptly reported to the General Contractor and the Architect prior to commencing with the work.
 - 1. Surfaces shall be properly prepared, dry, and free of any foreign materials such as dirt, dust, oil, grease, rust, scale, mildew, algae, mold, effervescence, release agents, etc., which will adversely affect adhesion or appearance of applied coating.
- B. Examine each surface scheduled to be painted or finished prior to commencing with the work. Report any condition that may potentially affect proper application. **Application of first coat constitutes acceptance of surface as being in fit condition to receive paint.**
- C. To prevent contamination of the substrate, apply the prime coat to each surface as soon as possible after surface preparation has been completed.
- D. Test shop applied primer for compatibility with subsequent cover materials. Report adverse conditions, if any, to the Architect prior to continuing with the work.
- E. The Architect may take samples of materials used on the project for testing purposes. Shall samples not match manufacturer's product specifications, no credit will be given for work covered with the questionable material and any cost of test shall be borne by the painting contractor.
- F. Test moisture content of each surface using a properly calibrated electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
 - 1. Exterior Wood: 15 percent, measured in accordance with ASTM D2016.

- G. Do not apply paints when the temperature of or on the substrate or the temperature of the air in the vicinity of the painting work is below 45 degrees or above 95 degrees Fahrenheit. Application shall proceed only when relative humidity is between 20 and 80 percent. Exterior and interior latex paints shall not be applied below 50 degrees Fahrenheit unless so authorized in writing by the manufacturer. Epoxy paints and other sophisticated coating shall not be applied below 50 degrees Fahrenheit unless otherwise noted on the manufacturer's printed instructions.
- J. Correct surface defects and clean surfaces which affect work of this section. Remove existing coatings that exhibit loose surface defects.
- K. Seal all marks that may bleed through surface finishes with appropriate stain-stopping coating.

3.02 PREPARATION OF NEW SURFACES (NOT PREVIOUSLY FINISHED):

- A. New wood:
 - 1. Scrape any sap drippings from wood.
 - 2. Sand or otherwise remove and trade stamps, burn labels or other markings from the wood to receive a clear or transparent finish.
 - 3. All surfaces must be free of sanding dust, and shall be thoroughly dry.
 - 4. Staining and sealing preparation:
 - a. Apply a "mill finish remover" to allow the wood to receive the finish coat.
 - b. Let the wood completely dry prior to any final finishing.
 - c. Apply the stain/sealer according to manufacturer's instructions. Coordinate with the Architect for exact color or density of stain application with appropriate samples.
 - d. Finish with a clear coat if required by the Documents.

3.03 COATS

- A. All specified products shall be applied at the minimum wet film thickness rate as recommended by the manufacturer.
- B. Do not apply succeeding coats until undercoats are thoroughly dry.
- C. After completion of work, do all necessary touching up of all the Painting and Finishing and leave the work in perfect condition.
- D. Additional coats will be required where finished work is not in complete compliance with all requirements of these specifications, or if complete coverage is not accomplished in the specified number of coats.
- E. All painting materials and installation procedures shall comply with all Federal Regulations.
- F. Coverage and hide shall be complete. When color, stain, dirt or undercoats show through final coat of paint, the surface shall be covered by additional coats until the paint film is of uniform finish, color, appearance and coverage, at no additional cost to the owner.

3.04 SCHEDULE - EXTERIOR SURFACES

- A. Wood – Semi-Transparent or solid-bodied stain:
 - 1. Two coats of stain.
- B. Steel - Galvanized:
 - 1. One coat galvanized primer.
 - 2. Two coats of alkyd enamel, semi-gloss.

3.05 WORKMANSHIP

- A. All painting and finishing work shall be done by thoroughly experienced, skilled, competent mechanics and smoothly flowed on without runs, sags, streaks, wrinkles, shiners, or bush marks. Apply proprietary paint products in strict accordance with manufacturer's instructions.
- B. Except where specifically authorized by the Architect, apply flat or eggshell wall paint by brush or roller; apply gloss or semi-gloss with brush only.

- C. Sanding: In addition to preparatory sanding, fins sand between succeeding coats of all varnish enamel or flat enamel, using sandpaper appropriate to the finish. Use fine production paper between coats.
- D. Painting Contrasting Colors: Cut to meet true lines against contrasting colors. Holidays and restrikes in painted surfaces shall be considered sufficient cause to require recoating of entire surface.
- E. Execute all painting and finishing work strictly as per approved color and finish samples. Commencing work before obtaining said approvals is at the contractor's risk.
- F. Comply with manufacturer's printed directions on labels of all product containers. Primer and finish coats shall be products of the same manufacturer.
- G. All suction spots or "hot spots" in plaster and/or cement after the application of the first coat shall be touched up before applying the second coat.
- K. The architect reserves the right to inspect each coat of paint or other finish before application of succeeding coat or else no credit for said coat will be given and the painting contractor automatically assumes responsibility for recoating work in question. Notify architect when each coat is ready for inspection.

3.06 CLEANING:

- A. At conclusion of work and/or when directed, examine all painting and finishing work. Clean paint spots off glass, plaster, metal, fabric wall coverings, wood and other surfaces. Clean and repair paint finish where dark spots, fingerprints, and similar imperfections appear. Said retouching shall exactly match surrounding surfaces. Refinish entire surface in question in order to attain this result if necessary. Leave all painting and finishing in perfect condition.
- B. During progress of the work keep premises free from accumulations of tools, equipment, surplus materials and debris. At completion of work leave premises neat and clean.

END OF SECTION 09900