



CLACKAMAS COUNTY
NOTICE OF PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

INVITATION TO BID #2017-115
Reroof of Multiple Buildings Project
January 18, 2018

Clackamas County ("County") through its Board of County Commissioners is accepting sealed bids for the **reroof of multiple buildings** Project until **February 27, 2018, 2:00 PM**, Pacific Time, ("Bid Closing") at the following location:

DELIVER BIDS TO: Clackamas County Procurement Division, Attention George Marlton, Director, Clackamas County Public Services Building, 2051 Kaen Road, Oregon City, OR 97045, or via email to procurement@clackamas.us.

Bid packets are available from 7:00 AM to 6:00 PM Monday through Thursday at the above address or may be obtained at the Clackamas County Procurement Website at <http://www.clackamas.us/bids/>.

Contact Information

Procurement Process and Technical Questions: Ryan Rice, 503-742-5446, rrice@clackamas.us.

A **Non-Mandatory Pre-Bid Conference** will be conducted on **February 6, 2018**. Bidders shall meet with County representatives at the following locations and times: Fairgrounds Pavilion Center, 694 NE 4th Ave, Canby Oregon 97013 @ 8:00am – 9:30am; Bowman, 12800 SE 82nd Ave, Clackamas Oregon 97015 @ 10:00am-11:00am; Public Safety Training Center, 12700 SE 82nd Ave, Clackamas Oregon 97015 @ 11:00am-12:00pm; and Silver Oak Building, 1810 Red Soils Court, Oregon City Oregon, 97045 @ 1:00pm-2:30pm. Attendance will be documented through a sign-in sheet prepared by the County representative.

Bids will be opened and publicly read aloud at the above Delivery address after the Bid Closing. Bid results will also be posted to the Clackamas County Procurement Website shortly after the opening.

Prevailing Wage

Prevailing Wage Rates requirements apply to this Project because the maximum compensation for all Owner-contracted Work is more than \$50,000. Contractor and all subcontractors shall comply with the provisions of ORS 279C.800 through 279C.870, relative to Prevailing Wage Rates. The Bureau of Labor and Industries (BOLI) wage rates and requirements set forth in the following BOLI booklet (and any listed amendments to that booklet), which are incorporated herein by reference, apply to the Work authorized under this Agreement:

PREVAILING WAGE RATES for Public Works Contracts in Oregon, January 1, 2018, which can be downloaded at the following web address: http://www.oregon.gov/boli/WHDPWR/Pages/pwr_state.aspx

The Work will take place in Clackamas County, Oregon.



CLACKAMAS COUNTY PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

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CLACKAMAS COUNTY PUBLIC IMPROVEMENT CONTRACT

INSTRUCTIONS TO BIDDERS

Clackamas County Local Contract Review Board Rules ("LCRB Rules") govern this procurement process. LCRB Rules may be found at: <http://www.clackamas.us/code/documents/appendixc.pdf>. The Instructions to Bidders is applicable to the procurement process for Clackamas County, or any component unit thereof identified on the Notice of Public Improvement Contract Opportunity, herein after referred to as the "Owner."

Article 1. Scope of Work

The work contemplated under this contract with the Owner, includes all labor, materials, transportation, equipment and services necessary for, and reasonably incidental to, the completion of all construction work in connection with the project described in the Project Manual which includes, but is not necessarily limited to, the Notice of Public Improvement Contract Opportunity, Instructions to Bidders, Supplemental Instructions to Bidders, Bid Form, Bid Bond, Public Improvement Contract Form, Performance Bond, Payment Bond, Clackamas County General Conditions for Public Improvement Contracts (1/1/2017), Supplemental General Conditions, and Plans, Specifications and Drawings.

Article 2. Examination of Site and Conditions

Before making a Bid, the Bidder shall examine the site of the work and ascertain all the physical conditions in relation thereto. The Bidder shall also make a careful examination of the Project Manual including the plans, specifications, and drawings and other contract documents, and shall be fully informed as to the quality and quantity of materials and the sources of supply of the materials. Failure to take these steps will not release the successful Bidder from entering into the contract nor excuse the Bidder from performing the work in strict accordance with the terms of the contract at the

price established by the Bid.

The Owner will not be responsible for any loss or for any unanticipated costs, which may be suffered by the successful Bidder, as a result of such Bidder's failure to be fully informed in advance with regard to all conditions pertaining to the work and the character of the work required, including site conditions. No statement made by an elected official, officer, agent, or employee of the Owner in relation to the physical or other conditions pertaining to the site of the work will be binding on the Owner, unless covered by the Project Manual or an Addendum.

Article 3. Interpretation of Project Manual and Approval of Materials Equal to Those Provided in the Specifications

If any Bidder contemplating submitting a Bid for the proposed contract is in doubt as to the true meaning of any part of the plans, specifications or forms of contract documents, or detects discrepancies or omissions, such Bidder may submit to the Architect (read "Engineer" throughout in lieu of Architect as appropriate) a written request for an interpretation thereof at least ten (10) calendar days prior to the date set for the Bid Closing.

When a prospective Bidder seeks approval of a particular manufacturer's material, process or item of equal value, utility or merit other than that designated by the Architect in the Project Manual, the Bidder may submit to the Architect a written request for approval of such substitute at least ten (10) calendar days prior to the date set for the Bid Closing. The prospective Bidder submitting the request will be responsible for its prompt delivery.

Requests of approval for a substitution from that specified shall be accompanied by samples, records of performance, certified copies of tests by

impartial and recognized laboratories, and such other information as the Architect may request.

To establish a basis of quality, certain processes, types of machinery and equipment or kinds of materials may be specified in the Project Manual either by description of process or by designating a manufacturer by name and referring to a brand or product designation or by specifying a kind of material. Whenever a process is designated or a manufacturer's name, brand or item designation is given, or whenever a process or material covered by patent is designated or described, it shall be understood that the words "or approved equal" follow such name, designation or description, whether in fact they do so or not.

Any interpretation of the Project Manual or approval of manufacturer's material will be made only by an Addendum duly issued. All Addenda will be posted to the Clackamas County Procurement Website (www.clackamas.us/bid) will become a part of the Project Manual. The Owner will not be responsible for any other explanation or interpretation of the Project Manual nor for any other approval of a particular manufacturer's process or item for any Bidder.

When the Architect approves a substitution by Addendum, it is with the understanding that the Contractor guarantees the substituted article or material to be equal or better than the one specified.

Article 4. Security to Be Furnished by Each Bidder

Each Bid must be accompanied by either 1) a cashier's check or a certified check drawn on a bank authorized to do business in the State of Oregon, or 2) a Bid bond described hereinafter, executed in favor of the Owner, for an amount equal to ten percent (10%) of the total amount Bid as a guarantee that, if awarded the contract, the Bidder will execute the contract and provide a performance bond and payment bond as required. The successful Bidder's check or Bid bond will be retained until the Bidder has entered into a contract satisfactory to Owner and furnished a one hundred percent (100%) performance bond and one hundred

percent (100%) payment bond. The Owner reserves the right to hold the Bid security as described in Article 10 hereof. Should the successful Bidder fail to execute and deliver the contract as provided for in Article 12 hereof, including a satisfactory performance bond and payment bond within twenty (20) calendar days after the Bid has been accepted by the Owner, then the contract award made to such Bidder may be considered canceled and the Bid security may be forfeited as liquidated damages at the option of the Owner. The date of the acceptance of the Bid and the award of the contract as contemplated by the Project Manual shall mean the date of acceptance specified in the Notice of Intent to Award.

Article 5. Execution of Bid Bond

Should the Bidder elect to utilize a Bid bond as described in Article 4 in order to satisfy the Bid security requirements, such form must be completed in the following manner:

- A. Bid bonds must be executed on the County forms, which will be provided to all prospective Bidders by the Owner.
- B. The Bid bond shall be executed on behalf of a bonding company licensed to do business in the State of Oregon.
- C. In the case of a sole individual, the bond need only be executed as principal by the sole individual. In the case of a partnership, the bond must be executed by at least one of the partners. In the case of a corporation, the bond must be executed by stating the official name of the corporation under which is placed the signature of an officer authorized to sign on behalf of the corporation followed by such person's official capacity, such as president, etc. The corporation seal should then be affixed to the bond.
- D. The name of the surety must be stated in the execution over the signature of its duly authorized attorney-in-fact and accompanied by the seal of the surety corporation.

Article 6. Execution of the Bid Form

Each Bid shall be made in accordance with: (i) the sample Bid Form accompanying these instructions; (ii) the appropriate signatures for a sole individual, partnership, corporation or limited liability corporation shall be added as noted in Article 5C above; (iii) numbers pertaining to base Bids shall be stated both in writing and in figures; and (iv) the Bidder's address shall be typed or printed.

The Bid Form relates to Bids on a specific Project Manual. Only the amounts and information asked for on the Bid Form furnished will be considered as the Bid. Each Bidder shall Bid upon the work exactly as specified and provided in the Bid Form. The Bidder shall include in the Bid a sum to cover the cost of all items contemplated by the Contract. The Bidder shall Bid upon all alternates that may be indicated on the Bid Form. When Bidding on an alternate for which there is no charge, the Bidder shall write the words "No Charge" in the space provided on the Bid Form. If one or more alternates are shown on the Bid Form, the Bidder shall indicate whether each is "add" or "deduct."

Article 7. Prohibition of Alterations to Bid

Bids that are incomplete, or contain ambiguities or have differing conditions required by the Bidder, including requested changes or exceptions to the Public Improvement Contract form or other portions of the Project Manual, may be rejected in Owner's sole and absolute discretion.

Article 8. Submission of Bid

Each Bid shall be sealed in an envelope, properly addressed to the Owner, showing on the outside of the envelope the name of the Bidder and the name of the project. Bids will be received at the time and place stated in the Notice of Public Improvement Contract Opportunity.

Article 9. Bid Closing and Opening of Bids

All Bids must be received by the Owner at the place and time set for the Bid Closing. Any Bids received after the scheduled Bid Closing time for receipt of Bids will be rejected.

At the time of opening and reading of Bids, each Bid received will be publicly opened and read aloud, irrespective of any irregularities or informalities in such Bids.

Generally, Bid results will be posted to the Procurement Website within a couple hours of the opening.

Article 10. Acceptance or Rejection of Bids by Owner

Unless all Bids are rejected, the Owner will award a contract based on the lowest responsive Bid from a responsible Bidder. If that Bidder does not execute the contract, it will be awarded to the next lowest responsible Bidder or Bidders in succession.

The Owner reserves the right to reject all Bids and to waive minor informalities. The procedures for contract awards shall be in compliance with the provisions of the LCRB Rules in effect at that time.

The Owner reserves the right to hold the Bid and Bid security of the three lowest Bidders for a period of thirty (30) calendar days from and after the time of Bid opening pending award of the contract. Following award of the contract the Bid security of the three lowest Bidders may be held twenty (20) calendar days pending execution of the contract. All other Bids will be rejected and Bid security will be returned.

In determining the lowest Bidder, the Owner reserves the right to take into consideration any or all authorized base Bids as well as alternates or combinations indicated in the Bid Form.

If no Bid has been accepted within thirty (30) calendar days after the opening of the Bids, each of the three lowest Bidders may withdraw the Bid submitted and request the return of the Bid security.

Article 11. Withdrawal of Bid

At any time prior to the Bid Closing, a Bidder may withdraw its Bid. This will not preclude the submission of another Bid by such Bidder prior to the time set for the Bid Closing.

After the time set for the Bid Closing, no Bidder will be permitted to withdraw its Bid within the time frames specified in Article 10 for award and execution, except as provided for in that Article.

Article 12. Execution of Contract, Performance Bond and Payment Bond

The Owner will provide the successful Bidder with contract forms within seven (7) calendar days after the completion of the award protest period. The Bidder is required to execute the contract forms as provided, including a performance bond and a payment bond from a surety company licensed to do surety business in the State of Oregon, within seven (7) calendar days after receipt of the contract forms. The contract forms shall be delivered to the Owner in the number called for and to the location as instructed by the Owner.

Article 13. Recyclable Products

Contractors will use recyclable products to the maximum extent economically feasible in the performance of the Contract.

Article 14. Clarification or Protest of the Solicitation Document or Specifications

Any request for clarification or protest of the solicitation document or specifications must be submitted in the manner provided for in the applicable section of the LCRB Rules to the Procurement Representative referenced in the Notice of Public

Clackamas Contract Form B-2 (1/2017)

Improvement Contract Opportunity.

A protest of the Solicitation Document must be received within seven (7) business days of the issuance of the Bid or within three (3) business days of issuance of an addendum.

Requests for clarification may be submitted no less than five (5) business days prior to the Bid Closing Date.

Article 15. Protest of Intent to Award

Owner will name the apparent successful Bidder in a "Notice of Intent to Award" letter. Identification of the apparent successful Bidder is procedural only and creates no right in the named Bidder to the award of the contract. Competing Bidders will be notified by publication of the Notice of Intent to Award on the Clackamas County Procurement Website of the selection of the apparent successful Bidder(s) and Bidders shall be given seven (7) calendar days from the date on the "Notice of Intent to Award" letter to review the file at the Procurement Division office and file a written protest of award, pursuant to C-049-0450. Any award protest must be in writing and must be delivered by hand delivery or mail to the Procurement Division Director at: Procurement Division, 2051 Kaen Road, Oregon City, OR 97045.

Article 16. Disclosure of First-Tier Subcontractors

Within two (2) working hours after the Bid Closing, all Bidders shall submit to the County a disclosure form identifying any first-tier subcontractors (those entities that would be contracting directly with the prime contractor) that will be furnishing labor and materials on the contract, if awarded, whose subcontract value would be equal to or greater than: (a) Five percent (5%) of the total contract price, but at least \$15,000; or (b) \$350,000, regardless of the percentage of the total contract price.

Disclosures may be submitted with the Bid or may be hand delivered to the Bid Closing address or emailed to procurement@clackamas.us.



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT**

SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

Project Name: #2017-115 Reroof of Multiple Buildings Project

The following modify the Clackamas County “Instructions to Bidders” for this Project. Where a portion of the Instructions to Bidders has been modified by these Supplemental Instructions to Bidders, the unaltered portions shall remain in effect.

- 1. Non-Mandatory Pre-Bid Conference** will be conducted on **February 6, 2018**. Bidders shall meet with County representatives at the following locations and times:

- Fairgrounds Pavilion Center, 694 NE 4th Ave, Canby Oregon 97013 @ 8:00am – 9:30am;
- Bowman, 12800 SE 82nd Ave, Clackamas Oregon 97015 @ 10:00am-11:00am;
- Public Safety Training Center, 12700 SE 82nd Ave, Clackamas Oregon 97015 @ 11:00am-12:00pm; and
- Silver Oak Building, 1810 Red Soils Court, Oregon City Oregon, 97045 @ 1:00pm-2:30pm.

Attendance will be documented through a sign-in sheet prepared by the County representative.

- 2. Submission of Bids by email:** Complete Bids (including all attachments) may be emailed and must be electronically received by the closing time and date **2:00p.m. Pacific Time, February 27, 2018**. **If emailed, the Bid must be emailed to the following address: Procurement@clackamas.us. The email subject line must be “Bid for #2017-115 Reroof of Multiple Building Project.”** Bidders are **strongly encouraged** to telephone and confirm electronic receipt of the complete emailed document(s) before the above time and date deadline. Bids delayed or lost by email system filtering or failures may be considered at Clackamas County’s sole and absolute discretion.
- 3. Good Faith Effort:** Clackamas County encourages participation in contracts by Historically Underrepresented Businesses. “Historically Underrepresented Businesses” are State of Oregon-certified and self-identified minority, women and emerging small business as well as firms that are certified federally or by another state or entity with substantially similar requirements as the State of Oregon.

Bidders must perform Good Faith Effort (defined below) and submit **Form 1 and Form 2** for the Bidders Bid to be considered responsive. **Form 1 and Form 2** must be submitted within **two (2) hours** after the Closing Date and Time. Form 1 and Form 2 may be submitted by hand delivery to the location the Bid was due or

may email the completed Forms to Procurement@clackamas.us. “Good Faith Effort” is a requirement of a prime contractor to reach out to at least three Historically Underrepresented Business Subcontractors for each division of work that will be subcontracted out and to complete the required forms. If fewer than three Historically Underrepresented Business Subcontractors are reasonably available for a particular division of work, the Bidder must specifically note the reason for there being fewer than three contacts. The outreach should be performed with sufficient time to give the subcontractors at least 5 calendar days to respond to the opportunity. Form 3, which documents the actual amount of subcontractors on the project, must be submitted with the project final pay application. Compliance with the Good Faith Effort and submission of Forms 1, 2 and 3 is a contractual requirement for final payment.

The sufficiency of the documentation or the performance of Good Faith Effort shall be in the sole and absolute determination of Clackamas County. Only those Bidders that Clackamas County has determined have not sufficiently performed Good Faith Effort shall have protest rights of the determination for such Bidder. No Bidder shall have protest rights of the sufficiency of any other Bidder completing Good Faith Effort.

**CLACKAMAS COUNTY
GOOD FAITH EFFORT
SUBCONTRACTOR AND SELF-PERFORMED WORK LIST
(FORM 1)**

Prime Contractor Name:

Total Contract Amount:

Project Name: #2017-115 Reroof of Multiple Buildings Project

PRIME SELF-PERFORMING: Identify below **ALL** GFE Divisions of Work (DOW) to be self-performed. Good Faith Efforts are otherwise required.

DOW BIDDER WILL SELF-PERFORM <i>(GFE not required)</i>	

PRIME CONTRACTOR SHALL DISCLOSE AND LIST ALL SUBCONTRACTORS, including those Minority-owned, Woman-owned, and Emerging Small Businesses ("M/W/ESB") that you intend to use on the project. Hand delivery to Procurement, 2051 Kaen Road, Oregon City, OR 97045 or email to procurement@clackamas.us within 2 hours of the BID/Quote Closing Date/Time


<u>LIST ALL SUBCONTRACTORS BELOW</u> Use <u>correct legal name</u> of Subcontractor (No Assumed Business Names)	Division of Work (Painting, electrical, landscaping, etc.) List ALL DOW performed by Subcontractors	DOLLAR AMOUNT OF SUBCONTRACT	If Certified or self-reporting MBE/WBE/ESB Subcontractor Check box		
			MBE	WBE	ESB
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

GFE SUBCONTRACTOR AND SELF-PERFORMED WORK LIST (FORM 1) cont'd

Prime Contractor Name:

Total Contract Amount:

Project Name: #2017-115 Reroof of Multiple Buildings Project

LIST ALL SUBCONTRACTORS BELOW Use <u>correct legal name</u> of Subcontractor (No Assumed Business Names)	Division of Work (Painting, electrical, landscaping, etc.) List ALL DOW performed by Subcontractors	DOLLAR AMOUNT OF SUBCONTRACT	If Certified or self-reporting MBE/WBE/ESB Subcontractor Check box 		
			MBE	WBE	ESB
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CLACKAMAS COUNTY
GOOD FAITH EFFORT
MMW/ESB CONTACT / BIDS RECEIVED LOG
(FORM 2)

Prime Contractor:
Project: #2017-115 Reroof of Multiple Buildings Project

Prime Contractor must contact or endeavor to contact at least 3 MMW/ESB Subcontractors for each Division of Work. Prime Contractor shall record its contacts with MMW/ESB Subcontractors through use of this log (or equivalent) entering all required information. All columns shall be completed where applicable. Additional forms may be copied if needed.

NAME OF MMW/ESB SUBCONTRACTOR	Divisions of Work (Painting, electrical, landscaping, etc.)	Date Solicitation Letter / Fax Sent	PHONE CONTACT		BID ACTIVITY Check Yes or No			REJECTED BIDS (if bid received & not used)		Notes
			Date of Call	Person Receiving Call	Will Bid	Bid Received	Bid Used	Bid Amount	Reason Not Used (Price, Scope or Other. If Other, explain in Notes>>)	
					<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>			
					<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>			
					<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>			
					<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>			
					<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>			
					<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>			
					<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>			
					<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>			
					<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> No</div>			


**CLACKAMAS COUNTY
GOOD FAITH EFFORT
PROJECT COMPLETION REPORT
(FORM 3)**

Prime Contractor Name:

Total Contract Amount:

Project Name: #2017-115 Reroof of Multiple Buildings Project

Complete this form and submit with your request for final payment upon the project completion. Please list all subcontractors used for the project. Use additional sheets as necessary.

LIST ALL SUBCONTRACTORS BELOW Use <u>correct legal name</u> of Subcontractor (No Assumed Business Names)	Division of Work (Painting, electrical, landscaping, etc.) List ALL DOW performed by Subcontractors	FINAL DOLLAR AMOUNT OF SUBCONTRACT	If Certified or self-reported MBE/WBE/ESB Subcontractor Check box 		
			MBE	WBE	ESB
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

BY SIGNING BELOW, I HEREBY CERTIFY THAT THE ABOVE LISTED FIRMS HAVE BEEN UTILIZED BY OUR COMPANY IN THE AMOUNTS REPRESENTED ABOVE AND THAT THE INFORMATION CONTAINED HEREIN IS COMPLETE AND ACCURATE. .

Authorized Signature of Contractor Representative

Date



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT**

BID BOND

Project Name: #2017-115 Reroof of Multiple Buildings Project

We, _____, as "Principal,"
(Name of Principal)

and _____, an _____ Corporation,
(Name of Surety)

authorized to transact Surety business in Oregon, as "Surety," hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns to pay unto Clackamas County ("Obligee") the sum of (\$_____)

_____ dollars.

WHEREAS, the condition of the obligation of this bond is that Principal has submitted its proposal or bid to an agency of the Obligee in response to Obligee's procurement document (No. _____) for the project identified above which proposal or bid is made a part of this bond by reference, and Principal is required to furnish bid security in an amount equal to ten (10%) percent of the total amount of the bid pursuant to the procurement document.

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, we have caused this instrument to be executed and sealed by our duly authorized legal representatives this _____ day of _____, 20____.

Principal: _____ Surety: _____

By: _____ By: Attorney-In-Fact
Signature

_____ Name
Official Capacity

Attest: _____ Address
Corporation Secretary

_____ City State Zip

_____ Phone Fax



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT**

BID FORM

PROJECT: **#2017-115 Reroof of Multiple Buildings Project**
BID CLOSING: February 27, 2018, 2:00 PM, Pacific Time
BID OPENING: February 27, 2018, 2:05 PM, Pacific Time

FROM: _____
Bidder's Name (must be full legal name, not ABN/DBA)

TO: Clackamas County
Procurement Division – Attention George Marlton, Director
2051 Kaen Road
Oregon City, OR 97045

1. Bidder is (*check one of the following and insert information requested*):

- ____ a. An individual; or
- ____ b. A partnership registered under the laws of the State of _____; or
- ____ c. A corporation organized under the laws of the State of _____; or
- ____ d. A limited liability corporation organized under the laws
of the State of _____;

and authorized to do business in the State of Oregon hereby proposes to furnish all material and labor and perform all work hereinafter indicated for the above project in strict accordance with the Contract Documents for the Basic Bid as follows:

_____ Dollars (\$_____)

and the Undersigned agrees to be bound by the following documents:

- Notice of Public Improvement Contract Opportunity
 - Instructions to Bidders
 - Bid Bond
 - Performance Bond and Payment Bond
 - Supplemental General Conditions
 - Payroll and Certified Statement Form
 - Supplemental Instructions to Bidders
 - Public Improvement Contract Form
 - Clackamas County General Conditions
 - Prevailing Wage Rates
 - Plans, Specifications and Drawings
- ADDENDA numbered _____ through _____, inclusive (*fill in blanks*)

2. The Undersigned proposes to add to or deduct from the Base Bid indicated above the items of work relating to the following Alternate(s) as designated in the Specifications:

ALTERNATE #1: For the **PSTC and Bowman Building** roofs, provide an estimate to remove, haul away and dispose of the existing gravel topping cover. ADD or DEDUCT: \$_____

ALTERNATE #2: Provide estimate to reroof the **Fairgrounds Pavilion Building** as provided for in Detailed Requirements #4 and as per the attached specifications. ADD or DEDUCT: \$_____

ALTERNATE #3: Provide a separate estimate for each building to incorporate a Guardian CB-12 integrated fall protection system manufactured by Guardian Fall Protection, Inc. ADD or DEDUCT: \$_____

3. The Undersigned proposes to add to or deduct from the Base Bid indicated above the items or work relating to the following Unit Price(s) as designated in the Specifications, for which any adjustments in the Contract amount will be made in accordance with Section D of the Clackamas County General Conditions:

4. The work shall be completed within the time stipulated and specified in the Scope of the Project Specifications.

5. Accompanying herewith is Bid Security which is equal to ten percent (10%) of the total amount of the Basic Bid.

6. The Undersigned agrees, if awarded the Contract, to execute and deliver to Clackamas County, within twenty (20) calendar days after receiving the Contract forms, a Contract Form, and a satisfactory Performance Bond and Payment Bond each in an amount equal to one hundred percent (100%) of the Contract sum, using forms provided by the Owner. The surety requested to issue the Performance Bond and Payment Bond will be:

(name of surety company - not insurance agency)

The Undersigned hereby authorizes said surety company to disclose any information to the Owner concerning the Undersigned's ability to supply a Performance Bond and Payment Bond each in the amount of the Contract.

7. The Undersigned further agrees that the Bid Security accompanying the Bid is left in escrow with Clackamas County; that the amount thereof is the measure of liquidated damages which the Owner will sustain by the failure of the Undersigned to execute and deliver the above-named Contract Form, Performance Bond and Payment Bond, each as published, and that if the Undersigned defaults in either executing the Contract Form or providing the Performance Bond and Payment Bond within twenty (20) calendar days after receiving the Contract forms, then the Bid

Security shall become the property of the Owner at the Owner's option; but if the Bid is not accepted within thirty (30) calendar days of the time set for the opening of the Bids, or if the Undersigned executes and timely delivers said Contract Form, Performance Bond and Payment Bond, the Bid Security shall be returned.

8. The Undersigned certifies that: (i) This Bid has been arrived at independently and is being submitted without collusion with and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment or services described in the invitation to bid designed to limit independent bidding or competition; and (ii) the contents of the Bid have not been communicated by the Undersigned or its employees or agents to any person not an employee or agent of the Undersigned or its surety on any Bond furnished with the Bid and will not be communicated to such person prior to the official opening of the Bid.

9. The undersigned ☐ **HAS**, ☐ **HAS NOT** (*check one*) paid unemployment or income taxes in Oregon within the past 12 months and ☐ **DOES**, ☐ **DOES NOT** (*check one*) a business address in Oregon. The undersigned acknowledges that, if the selected bidder, that the undersigned will have to pay all applicable taxes and register to do business in the State of Oregon before executing the Contract Form.

10. The Undersigned agrees, if awarded a contract, to comply with the provisions of ORS 279C.800 through 279C.870 pertaining to the payment of the prevailing rates of wage.

11. Contractor's CCB registration number is _____. As a condition to submitting a bid, a Contractor must be registered with the Oregon Construction Contractors Board in accordance with ORS 701.035 to 701.055, and disclose the registration number. Failure to register and disclose the number will make the bid unresponsive and it will be rejected, unless contrary to federal law.

12. The successful Bidder hereby certifies that all subcontractors who will perform construction work as described in ORS 701.005(2) were registered with the Construction Contractors Board in accordance with ORS 701.035 to 701.055 at the time the subcontractor(s) made a bid to work under the contract.

13. The successful Bidder hereby certifies that, in compliance with the Worker's Compensation Law of the State of Oregon, its Worker's Compensation Insurance provider is _____, Policy No. _____, and that Contractor shall submit Certificates of Insurance as required.

14. Contractor's Key Individuals for this project (supply information as applicable):

Project Executive: _____, Cell Phone: _____,
Project Manager: _____, Cell Phone: _____,
Job Superintendent: _____, Cell Phone: _____,
Project Engineer: _____, Cell Phone: _____.

15. The Undersigned certifies that it has not discriminated against minority, women, or emerging small businesses in obtaining any subcontracts for this project.

REMINDER: Bidder must submit the below First-Tier Subcontractor Disclosure Form.

By signature below, Contractor agrees to be bound by this Bid.

NAME OF FIRM _____

ADDRESS _____

TELEPHONE NO _____

EMAIL _____

SIGNATURE 1) _____
Sole Individual

or 2) _____
Partner

or 3) _____
Authorized Officer or Employee of Corporation

***** **END OF BID** *****

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM
PROJECT: #2017-115 Reroof of Multiple Buildings Project

BID OPENING: February 27 2018, 2:00 PM, Pacific Time

Failure to submit this Form by the disclosure deadline will result in a nonresponsive bid.

INSTRUCTIONS:

This First-Tier Subcontractor Disclosure Form ("Form") must be submitted and received at the location specified in the Notice of Public Improvement Contract Opportunity on the advertised Bid Closing, and within two working hours after the advertised Bid Closing Time.

The Form may be mailed, hand-delivered or emailed to: Procurement@clackamas.us. It is the responsibility of Bidders to submit this Form and any additional sheets with the Project name clearly marked on the envelope or the subject line of the email.

Subcontractor lists may be submitted with the bid in the same envelope or email at the Bid Closing date and time. Subcontractor lists **MUST** be submitted within **two (2) hours** of the Bid Closing date and time.

List below the name of each subcontractor that will be furnishing labor, or labor and materials, for which disclosure is required, the category of work that the subcontractor will be performing, and the dollar value of the subcontract. Enter **"NONE"** if the value of the project bid is less than \$100,000 or there are no subcontractors that need to be disclosed. ATTACH ADDITIONAL SHEETS IF NECESSARY.

	SUBCONTRACTOR NAME	DOLLAR VALUE	CATEGORY OF WORK
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____

The above listed first-tier subcontractor(s) are providing labor, or labor and material, with a Dollar Value equal to or greater than:

- a) 5% of the total Contract Price, but at least \$15,000. If the Dollar Value is less than \$15,000 do not list the subcontractor above; or
- b) \$350,000 regardless of the percentage of the total Contract Price.

Firm Name: _____

Bidder Signature: _____ Phone # _____



CLACKAMAS COUNTY PUBLIC IMPROVEMENT CONTRACT

This Public Improvement Contract (the "Contract"), is made by and between the Clackamas County, a political subdivision of the State of Oregon, hereinafter called "Owner," and Contractor Name (No DBA/ABN), hereinafter called the "Contractor" (collectively the "Parties"), shall become effective on the date this Contract has been signed by all the Parties and all County approvals have been obtained, whichever is later.

Project Name: **#2017-115 Reroof of Multiple Buildings Project**

1. Contract Price, Contract Documents and Work.

The Contractor, in consideration of the sum of _____ Dollars (\$) (the "Contract Price"), to be paid to the Contractor by Owner in the manner and at the time hereinafter provided, and subject to the terms and conditions provided for in the Instructions to Bidders and other Contract Documents (as defined in the Clackamas County General Conditions for Public Improvement Contracts (1/1/2017)) ("General Conditions") referenced within the Instructions to Bidders), all of which are incorporated herein by reference, hereby agrees to perform all Work described and reasonably inferred from the Contract Documents. The Contract Price is the amount contemplated by the Base Bid adjusted for Alternates **Identify accepted Alternates**, as indicated in the accepted Bid.

Also, the following documents are incorporated by reference in this Contract and made a part hereof:

- Notice of Contract Opportunity
- Supplemental Instructions to Bidders
- Public Improvement Contract Form
- Clackamas County General Conditions
- Prevailing Wage Rates
- Plans, Specifications and Drawings
- Instructions to Bidders
- Bid Bond
- Performance Bond and Payment Bond
- Supplemental General Conditions
- Payroll and Certified Statement Form

2. Representatives.

Contractor has named _____ as its' Authorized Representative to act on its behalf. Owner designates, or shall designate, its Authorized Representative as indicted below (check one):

☒ Unless otherwise specified in the Contract Documents, the Owner designates Steven Bloemer as its Authorized Representative in the administration of this Contract. The above-named individual shall be the initial point of contact for matters related to Contract performance, payment, authorization, and to carry out the responsibilities of the Owner.

☐ Name of Owner's Authorized Representative shall be submitted by Owner in a separate writing.

3. Key Persons.

The Contractor's personnel identified below shall be considered Key Persons and shall not be replaced during the project without the written permission of Owner, which shall not be unreasonably withheld. If the Contractor intends to substitute personnel, a request must be given to Owner at least 30 days prior to the intended time of substitution. When replacements have been approved by Owner, the Contractor shall provide a transition period of at least 10 working days during which the original and replacement personnel shall be working on the project concurrently. Once a replacement for any of these staff members is authorized, further replacement shall not occur without the written permission of Owner. The Contractor's project staff shall consist of the following personnel:

Project Executive: shall be the Contractor's project executive, and will provide oversight and guidance throughout the project term.

Project Manager: shall be the Contractor's project manager and will participate in all meetings throughout the project term.

Job Superintendent: shall be the Contractor's on-site job superintendent throughout the project term.

Project Engineer: shall be the Contractor's project engineer, providing assistance to the project manager, and subcontractor and supplier coordination throughout the project term.

4. Contract Dates.

COMMENCEMENT DATE: Upon Issuance of Notice to Proceed

SUBSTANTIAL COMPLETION DATE: September 30, 2018

FINAL COMPLETION DATE: October 31, 2018

Time is of the essence for this Contract. It is imperative that the Work in this Contract reach Substantial Completion and Final Completion by the above specified dates.

5. Insurance Certificates.

In accordance with Section G.3.5 of the General Conditions, Contractor shall furnish proof of the required insurance naming Clackamas County as an additional insured. Insurance certificates may be returned with the signed Contract or may emailed to Procurement@clackamas.us.

6. Tax Compliance.

Contractor must, throughout the duration of this Contract and any extensions, comply with all tax laws of this state and all applicable tax laws of any political subdivision of this state. Any violation of this section shall constitute a material breach of this Contract. Further, any violation of Contractor's warranty in this Contract that Contractor has complied with the tax laws of this state and the applicable tax laws of any political subdivision of this state also shall constitute a material breach of this Contract. Any violation shall entitle County to terminate this Contract, to pursue and recover any and all damages that arise from the breach and the termination of this Contract, and to pursue any or all of the remedies available under this Contract, at law, or in equity, including but not limited to: (A) Termination of this Contract, in whole or in part; (B) Exercise of the right of setoff, and withholding of amounts otherwise due and owing to Contractor, in an amount equal to County's setoff right, without penalty; and (C) Initiation of an action or proceeding for damages, specific performance, declaratory or injunctive relief. County shall be entitled to recover any and all damages suffered as the result of Contractor's breach of this Contract, including but not limited to direct, indirect, incidental and consequential damages, costs of cure, and costs incurred in securing replacement performance. These remedies are cumulative to the extent the remedies are not inconsistent, and County may pursue any remedy or remedies singly, collectively, successively, or in any order whatsoever.

The Contractor represents and warrants that, for a period of no fewer than six calendar years preceding the effective date of this Contract, has faithfully complied with: (A) All tax laws of this state, including but not limited to ORS 305.620 and ORS chapters 316, 317, and 318; (B) Any tax provisions imposed by a political subdivision of this state that applied to Contractor, to Contractor's property, operations, receipts, or income, or to Contractor's performance of or compensation for any work performed by Contractor; (C) Any tax provisions imposed by a political subdivision of this state that applied to Contractor, or to goods, services, or property, whether tangible or intangible, provided by Contractor; and (D) Any rules, regulations, charter provisions, or ordinances that implemented or enforced any of the foregoing tax laws or provisions.

7. Confidential Information.

Contractor acknowledges that it and its employees or agents may, in the course of performing their responsibilities under this Contract, be exposed to or acquire information that is confidential to Owner. Any and all information of any form obtained by Contractor or its employees or agents in the performance of this Contract shall be deemed confidential information of Owner ("Confidential Information"). Contractor agrees to hold Confidential Information in strict confidence, using at least the same degree of care that Contractor uses in maintaining the confidentiality of its own confidential information, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose Confidential Information to third parties or use Confidential Information for any purpose unless specifically authorized in writing under this Contract.

8. Counterparts.

This Contract may be executed in several counterparts, all of which when taken together shall constitute an agreement binding on all Parties, notwithstanding that all Parties are not signatories to the same counterpart. Each copy of the Contract so executed shall constitute an original.

9. Integration.

All provisions of state law required to be part of this Contract, whether listed in the General or Special Conditions or otherwise, are hereby integrated and adopted herein. Contractor acknowledges the obligations thereunder and that failure to comply with such terms is a material breach of this Contract.

The Contract Documents constitute the entire agreement between the parties. There are no other understandings, agreements or representations, oral or written, not specified herein regarding this Contract. Contractor, by the signature below of its authorized representative, hereby acknowledges that it has read this Contract, understands it, and agrees to be bound by its terms and conditions.

In witness whereof, Clackamas County executes this Contract and the Contractor does execute the same as of the day and year first above written.

Contractor DATA:

(Insert Contractor Name & Address)

Contractor CCB # Expiration Date:
Oregon Business Registry # Entity Type: State of Formation:

Payment information will be reported to the IRS under the name and taxpayer ID# provided by the Contractor. Information must be provided prior to contract approval. Information not matching IRS records could subject Contractor to 28 percent backup withholding.

Contractor Name (No DBA/ABN)

Clackamas County Board of County Commissioners

Date

Chair Date

Name / Title Printed

Recording Secretary

APPROVED AS TO FORM

County Counsel Date



CLACKAMAS COUNTY GENERAL CONDITIONS FOR PUBLIC IMPROVEMENT CONTRACTS November 1, 2017

INSTRUCTIONS: The attached **Clackamas County General Conditions for Public Improvement Contracts ("County General Conditions")** apply to all designated Public Improvement contracts. Changes to the County General Conditions (including any additions, deletions or substitutions) should only be made by attaching Public Improvement Supplemental General Conditions. The text of these County General Conditions should not otherwise be altered.

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**CLACKAMAS COUNTY GENERAL CONDITIONS
FOR PUBLIC IMPROVEMENT CONTRACTS
("County General Conditions")**

**SECTION A
GENERAL PROVISIONS**

A.1 DEFINITION OF TERMS

In the Contract Documents the following terms shall be as defined below:

APPLICABLE LAWS, means all federal, state and local laws, codes, rules, regulations and ordinances, as amended applicable to the Work, to the Contract, or to the parties individually.

ARCHITECT/ENGINEER, means the Person appointed by the Owner to make drawings and specifications and, to provide contract administration of the Work contemplated by the Contract to the extent provided herein or by supplemental instruction of Owner (under which Owner may delegate responsibilities to the Architect/Engineer), in accordance with ORS Chapter 671 (Architects) or ORS Chapter 672 (Engineers) and administrative rules adopted thereunder.

AVOIDABLE DELAYS, mean any delays other than Unavoidable Delays, and include delays that otherwise would be considered Unavoidable Delays but that: (a) Could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its Subcontractors; (b) Affect only a portion of the Work and do not necessarily prevent or delay the prosecution of other parts of the Work nor the completion of the whole Work within the Contract Time; (c) Do not impact activities on the accepted critical path schedule; and (d) Are associated with the reasonable interference of other contractors employed by the Owner that do not necessarily prevent the completion of the whole Work within the Contract Time.

BIDDER, means a bidder in connection with Instructions to Bidders or a proposer in connection with a Request for Proposals, or Solicitation Document. May also be referenced as "Offeror," "Quoter" or "Proposer" based on the type of Solicitation Document.

CHANGE ORDER, means a written order which, when fully executed by the Parties to the Contract, constitutes a change to the Contract Documents. Change Orders shall be issued in accordance with the changes provisions in Section D and, if applicable, establish a Contract Price or Contract Time adjustment. A Change Order shall not be effective until executed by both parties.

CLAIM, means a demand by Contractor pursuant to Section D.3 for review of the denial of Contractor's initial request for an adjustment of Contract terms, payment of money, extension of Contract Time or other relief, submitted in accordance with the requirements and within the time limits established for review of Claims in these County General Conditions.

CONTRACT, means the written agreement between the Owner and the Contractor comprised of the Contract Documents which describe the Work to be done and the obligations between the parties.

CONTRACT DOCUMENTS, means the Contract, County General Conditions, Supplemental General Conditions if any, Plans, Specifications, the accepted Offer, Solicitation Document and addenda thereto, Instructions to Offerors, and Supplemental Instructions to Offerors.

CONTRACT PERIOD, as set forth in the Contract Documents, means the total period of time beginning with the full execution of a Contract and, if applicable, the issuance of a Notice to Proceed and concluding upon Final Completion.

CONTRACT PRICE, means the total price reflected in the Contract.

CONTRACT TIME, means any incremental period of time allowed under the Contract to complete any portion of the Work as reflected in the Project schedule.

CONTRACTOR, means the Person awarded the Contract for the Work contemplated.

DAYS, are calendar days, including weekdays, weekends and holidays, unless otherwise specified.

DEFECTIVE WORK, means Work that is not completed in accordance with the Specifications or the requirements of the Contract.

DIRECT COSTS, means, unless otherwise provided in the Contract Documents: the cost of materials, including sales tax and the cost of delivery; cost of labor which shall only include the applicable prevailing wage and fringe benefit (if applicable, and if paid to or on behalf of the employee) rate plus a maximum of a twelve percent (12%) markup on the prevailing wage (but not the fringe benefit) to cover Contractor's labor burden including but not limited to social security, Medicare, unemployment insurance, workers' compensation insurance, sick leave pay; substantiated Project cost increases for specific insurance (including, without limitation, Builder's Risk Insurance and Builder's Risk Installation Floater) or bond premiums; rental cost of equipment, and machinery required for execution of the Work; and the additional costs of field personnel directly attributable to the Work; travel expense reimbursement only if specifically authorized and only to the extent allowable under the County Contractor Travel Reimbursement Policy, hereby incorporated by reference.

FINAL COMPLETION, means the final completion of all requirements under the Contract, including Contract Closeout as described in Section K but excluding Warranty Work as described in Section I.2, and the final payment and release of all retainage, if any.

FORCE MAJEURE, means an act, event or occurrence caused by fire, riot, war, acts of God, terrorism, nature, sovereign, or public enemy, strikes, freight embargoes or any other act, event or occurrence that is beyond the control of the party to the Contract who is asserting Force Majeure.

NOTICE TO PROCEED, means the official written notice from the Owner stating that the Contractor is to proceed with the Work defined in the Contract Documents.

OFFER, means a bid in connection with Instructions to Bidders or a proposal in connection with a Request for Proposals, or Solicitation Document to do the work stated in the Solicitation Document at the price quoted. May also be referenced as "Bid," "Quote," or "Proposal" based on the type of Solicitation Document.

OVERHEAD, means those items which may be included in the Contractor's markup (general and administrative expense and profit) and that shall not be charged as Direct Cost of the Work, including without limitation such Overhead expenses as wages or salary of personnel above the level of foreman (i.e., superintendents and project managers), labor rates and fringe benefits above the applicable prevailing wage and fringe benefit (if applicable, and if paid to or on behalf of the employee), Contractor's labor burden for fringe benefit if paid to the employee, expenses of Contractor's offices and supplies at the Project Site (e.g. job trailer) and at Contractor's principal place of business and including expenses of personnel staffing the Project Site office and Contractor's principal place of business, and Commercial General Liability Insurance and Automobile Liability Insurance.

OWNER, means, Clackamas County or any component unit thereof including Clackamas County Development Agency, Clackamas County Service District No. 1, Surface Water Management Agency of Clackamas County, Tri-City Service District, Water Environment Services, North

Clackamas Parks and Recreation District, Clackamas County Extension & 4-H Service District, Library Service District of Clackamas County, Enhanced Law Enforcement District, and Clackamas County Service District No. 5. Owner may elect, by written notice to Contractor, to delegate certain duties to more than one agent, including without limitation, to an Architect/Engineer. However, nothing in these County General Conditions is intended to abrogate the separate design professional responsibilities of Architects under ORS Chapter 671 or of Engineers under ORS Chapter 672.

PERSON, means a natural person or entity doing business as a sole proprietorship, a partnership, a joint venture, a corporation, a limited liability company or partnership, a nonprofit, a trust, or any other entity possessing the legal capacity to contract.

PLANS, means the drawings which show the location, type, dimensions, and details of the Work to be done under the Contract.

PRODUCT DATA, means illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

PROJECT, means the total undertaking to be accomplished for Owner by architects/engineers, contractors, and other others, including planning, study, design, construction, testing, commissioning, start-up, of which the Work to be performed under the Contract Documents is a part.

PROJECT SITE, means the specific real property on which the Work is to be performed, including designated contiguous staging areas, that is identified in the Plans, Specifications and Drawings.

PUNCH LIST, means the list of Work yet to be completed or deficiencies which need to be corrected in order to achieve Final Completion of the Contract.

RECORD DOCUMENT, means the as-built Plans, Specifications, testing and inspection records, product data, samples, manufacturer and distributor/supplier warranties evidencing transfer of ownership to Owner, operational and maintenance manuals, shop drawings, correspondence, certificate(s) of occupancy, and other documents listed in Subsection B.9.1 of these County General Conditions, recording all Services performed.

SAMPLES, means physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

SHOP DRAWINGS, means drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor (including any subsubcontractor), manufacturer, supplier, or distributor to illustrate some portion of the Work.

SOLICITATION DOCUMENT, means an Invitation to Bid, Request for Proposals, Request for Quotes, or other written document issued by Owner that outlines the required Specifications necessary to submit an Offer.

SPECIFICATION, means any description of the physical or functional characteristics of the Work, or of the nature of a supply, service or construction item included in the Solicitation Document. Specifications may include a description of any requirement for inspecting, testing or preparing a supply, service or construction item for delivery and the quantities or qualities of materials to be furnished under the Contract. Specifications generally will state the results or products to be obtained and may, on occasion, describe the method and manner of doing the Work to be performed. Specifications may be incorporated by reference and/or may be attached to the Contract.

SUBCONTRACTOR, means a Person having a direct contract with the Contractor, or another Subcontractor of any tier, to perform one or more items of the Work.

SUBSTANTIAL COMPLETION, means the date when the Owner accepts in writing the construction, alteration or repair constituting the Work or any designated portion thereof as having reached that state of completion when it may be used or occupied for its intended purpose. Substantial Completion of facilities with operating systems occurs only after thirty (30) continuous Days of successful, trouble-free operation of the operating systems as provided in Section K.3.2.

SUBSTITUTIONS, means items that in function, performance, reliability, quality, and general configuration are the same or better than the product(s) specified. Substitutions also means the performance of the Work by a labor force other than what is submitted in the Offer.

SUPPLEMENTAL GENERAL CONDITIONS, means those conditions that remove from, add to, or modify these County General Conditions. Public Improvement Supplemental General Conditions may be included in the Solicitation Document or may be a separate attachment to the Contract.

UNAVOIDABLE DELAYS, mean delays other than Avoidable Delays that are: (a) to the extent caused by any actions of the Owner, or any other employee or agent of the Owner, or by a separate contractor employed by the Owner; (b) to the extent caused by any Project Site conditions which differ materially from the conditions that would normally be expected to exist and inherent to the construction activities defined in the Contract Documents; or (c) to the extent caused by Force Majeure acts, or events or occurrences.

WORK, means the furnishing of all materials, equipment, labor, transportation, services, incidentals, those permits and regulatory approvals not provided by the owner necessary to successfully complete any individual item or the entire Contract and the carrying out of duties and obligations imposed by the Contract Documents for the Project.

A.2 SCOPE OF WORK

The Work contemplated under the Contract includes all labor, materials, transportation, equipment and services for, and incidental to, the completion of all work in connection with the Project described in the Contract Documents. The Contractor shall perform all Work necessary so that the Project can be legally occupied and fully used for the intended use as set forth in the Contract Documents.

A.3 INTERPRETATION OF CONTRACT DOCUMENTS

A.3.1 Unless otherwise specifically defined in the Contract Documents, words which have well-known technical meanings or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings. Contract Documents are intended to be complementary. Whatever is called for in one, is interpreted to be called for in all. However, in the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following descending order of precedence:

- (a) The Contract and any amendments thereto, including Change Orders, with those of later date having precedence over those of an earlier date;
- (b) The Supplemental General Conditions;
- (c) County General Conditions;
- (d) Plans and Specifications;
- (e) The Solicitation Document, and any addenda thereto.

A.3.2 In the case of an inconsistency between Plans and Specifications or within either document not clarified by addendum, the better quality or greater quantity of Work shall be provided in accordance

with the Owner's interpretation in writing as determined in Owners sole discretion.

A.3.3 If the Contractor finds discrepancies in, or omissions from the Contract Documents, or if the Contractor is in doubt as to their meaning, the Contractor shall at once notify the Owner. Matters concerning and interpretation of requirements of the Contract Documents will be decided by the Owner in the Owner's sole discretion, who may delegate that duty in some instances to the Architect/Engineer. Responses to Contractor's requests for interpretation of Contract Documents will be made in writing by Owner (or the Architect/Engineer) within any time limits agreed upon or otherwise with reasonable promptness. Contractor shall not proceed without direction in writing from the Owner (or Architect/Engineer).

A.3.4 References to standard specifications, manuals, codes of any technical society, organization or association, to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, laws or regulations in effect in the jurisdiction where the Project Site is located on the first published date of the Solicitation Document, except as may be otherwise specifically stated.

A.4 EXAMINATION OF PLANS, SPECIFICATIONS, AND PROJECT SITE

A.4.1 It is understood that the Contractor, before submitting an Offer, has made a careful examination of the Contract Documents; has become fully informed as to the quality and quantity of materials and the character of the Work required; and has made a careful examination of the location and conditions of the Work and the sources of supply for materials. The Owner will in no case be responsible for any loss or for any unanticipated costs that may be suffered by the Contractor as a result of the Contractor's failure to acquire full information in advance in regard to all conditions pertaining to the Work. No oral agreement or conversation with any officer, agent, or personnel of the Owner, or with the Architect/Engineer either before or after the execution of the Contract, shall affect or modify any of the terms or obligations herein contained. Contractor shall at all times be responsible for all utility locates regardless of the ownership of such utility infrastructure or service.

A.4.2 Should the Plans or Specifications fail to particularly describe the materials, kind of goods, or details of construction of any aspect of the Work, Contractor shall have the duty to make inquiry of the Owner and Architect/Engineer as to what is required prior to performance of the Work. Absent Specifications to the contrary, the materials or processes that would normally be used to produce first quality finished Work shall be considered a part of the Contract requirements.

A.4.3 Any design errors or omissions noted by the Contractor shall be reported promptly to the Owner, including without limitation, any nonconformity with Applicable Laws.

A.4.4 If the Contractor believes that adjustments to cost or Contract Time are involved because of clarifications or instructions issued by the Owner (or Architect/Engineer) in response to the Contractor's notices or requests for information, the Contractor must submit a written request to the Owner, setting forth the nature and specific extent of the request, including all time and cost impacts against the Contract as soon as possible, but no later than thirty (30) Days after receipt by Contractor of the clarifications or instructions issued. If the Owner denies Contractor's request for additional compensation, additional Contract Time, or other relief that Contractor believes results from the clarifications or instructions, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process. If the Contractor fails to

perform the obligations of Sections A.4.1 to A.4.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations.

A.4.5 If the Contractor believes that adjustments to cost or Contract Time are involved because of an Unavoidable Delay caused by differing Project Site conditions, the Contractor shall notify the Owner immediately of differing Project Site conditions before the area has been disturbed. The Owner will investigate the area and make a determination as to whether or not the conditions differ materially from either the conditions stated in the Contract Documents or those which could reasonably be expected in execution of this particular Contract. If Contractor and the Owner agrees that a differing Project Site condition exists, any adjustment to compensation or Contract Time will be determined based on the process set forth in Section D.2.2 for adjustments to or deletions from Work. If the Owner disagrees that a differing Project Site condition exists and denies Contractor's request for additional compensation or Contract Time, Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

A.5 INDEPENDENT CONTRACTOR STATUS

The service or services to be performed under the Contract are those of an independent contractor as defined in ORS 670.600. Contractor represents and warrants that it is not an officer, employee or agent of the Owner as those terms are used in ORS 30.265.

A.6 RETIREMENT SYSTEM STATUS AND TAXES

Contractor represents and warrants that it is not a contributing member of the Public Employees' Retirement System and will be responsible for any federal or state taxes applicable to payment received under the Contract. Contractor will not be eligible for any benefits from these Contract payments of federal Social Security, employment insurance, workers' compensation or the Public Employees' Retirement System, except as a self-employed individual. Unless the Contractor is subject to backup withholding, Owner will not withhold from such payments any amount(s) to cover Contractor's federal or state tax obligations.

A.7 GOVERNMENT EMPLOYMENT STATUS

A.7.1 If this payment is to be charged against federal funds, Contractor represents and warrants that it is not currently employed by the Federal Government. This does not preclude the Contractor from holding another contract with the Federal Government.

SECTION B **ADMINISTRATION OF THE CONTRACT**

B.1 OWNER'S ADMINISTRATION OF THE CONTRACT

B.1.1 The Owner shall administer the Contract as described in the Contract Documents throughout the term of the Contract, including the one-year period for correction of Work. The Owner will act as provided in the Contract Documents, unless modified in writing in accordance with other provisions of the Contract. In performing these tasks, the Owner may rely on the Architect/Engineer or other agents to perform some or all of these tasks.

B.1.2 The Owner may visit the Project Site at intervals appropriate to the stage of the Contractor's operations (1) to become generally familiar with and to keep the Owner informed about the progress and quality of the portion of the Work completed, (2) to endeavor to guard the Owner against defects and deficiencies in the Work, and (3) to determine in general if Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. The Owner will not make exhaustive or continuous on-Project Site inspections to check the quality or quantity of the Work. Unless otherwise required in a Change Order, the Owner will neither have control over or charge

of, nor be responsible for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work.

- B.1.3 Except as otherwise provided in the Contract Documents or when direct communications have been specifically authorized, the Owner and Contractor shall communicate with each other within a reasonable time frame about matters arising out of or relating to the Contract. Communications by and with the Architect/Engineer's consultants shall be through the Architect/Engineer. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.
- B.1.4 Based upon the Architect/Engineer's evaluations of the Contractor's Application for Payment, or unless otherwise stipulated by the Owner, the Architect/Engineer will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

B.2 CONTRACTOR'S MEANS AND METHODS; MITIGATION OF IMPACTS

- B.2.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the Project Site safety thereof and, except as stated below, shall be fully and solely responsible for the Project Site safety of such means, methods, techniques, sequences or procedures.
- B.2.2 The Contractor is responsible to protect and maintain the Work during the course of construction and to mitigate any adverse impacts to the Project, including those caused by authorized changes, which may affect cost, schedule, or quality.
- B.2.3 The Contractor is responsible for the actions of all its personnel, laborers, suppliers, agents, and Subcontractors on the Project. The Contractor shall enforce strict discipline and good order among Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of persons who are unfit or unskilled for the tasks assigned to them.

B.3 MATERIALS AND WORKMANSHIP

- B.3.1 The intent of the Contract Documents is to provide for the construction and completion of every detail of the Work described. All Work shall be performed in a professional manner and, unless the means or methods of performing a task are specified elsewhere in the Contract Documents, Contractor shall employ methods that are generally accepted and used by the industry, in accordance with industry standards.
- B.3.2 The Contractor is responsible to perform the Work as required by the Contract Documents. Defective Work shall be corrected at the Contractor's sole expense and within a reasonable time frame.
- B.3.3 Work done and materials furnished may be subject to inspection and/or observation and testing by the Owner to determine if they conform to the Contract Documents. Inspection of the Work by the Owner does not relieve the Contractor of responsibility for the Work in accordance with the Contract Documents.
- B.3.4 Contractor shall furnish adequate facilities, as required, for the Owner to have safe access to the Work including without limitation walkways, railings, ladders, tunnels, and platforms.

Producers, suppliers, and fabricators shall also provide proper facilities and access to their facilities.

- B.3.5 The Contractor shall furnish Samples of materials for testing by the Owner and include the cost of the Samples in the Contract Price.

B.4 PERMITS

Contractor shall obtain and pay for all necessary permits, licenses and fees, except for those specifically excluded in the Supplemental General Conditions, as required for the project. Contractor shall be responsible for all violations of the law. Contractor shall give all requisite notices to public authorities.

B.5 COMPLIANCE WITH GOVERNMENT REGULATIONS

- B.5.1 Contractor shall comply with Applicable Laws, as amended pertaining to the Work and the Contract. Failure to comply with such requirements shall constitute a breach of Contract and shall be grounds for Contract termination. Without limiting the generality of the foregoing, Contractor expressly agrees to comply with the following, as applicable and as may be amended from time to time: (i) Title VI and VII of Civil Rights Act of 1964, as amended; (ii) Section 503 and 504 of the Rehabilitation Act of 1973, as amended; (iii) the Health Insurance Portability and Accountability Act of 1996; (iv) the Americans with Disabilities Act of 1990, as amended; (v) ORS Chapter 659A; as amended; (vi) all regulations and administrative rules established pursuant to any applicable laws; and (vii) all other applicable requirements of federal, state, county or other local government entity statutes, rules and regulations.
- B.5.2 Contractor shall comply with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations, and
- (a) Contractor shall not discriminate against Disadvantaged, Minority, Women or Emerging Small Business enterprises, as those terms are defined in ORS 200.005, or a business enterprise that is owned or controlled by or that employs a disabled veteran, as that term is defined in ORS 408.225, in the awarding of subcontracts.
 - (b) Contractor shall maintain, in current and valid form, all licenses and certificates required by Applicable Laws or the Contract when performing the Work.
- B.5.3 Contractor shall certify that it shall not accept a bid from Subcontractors to perform Work unless such Subcontractors are registered with the Construction Contractors Board in accordance with ORS 701.021 at the time they submit their bids to the Contractor.
- B.5.4 Contractor shall certify that each landscape contracting business, as defined in ORS 671.520(2), performing Work under the Contract holds a valid landscape construction professional license issued pursuant to ORS 671.560.
- B.5.5 The following notice is applicable to Contractors who perform excavation Work. ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the center at (877) 668-4001.
- B.5.6 Failure to comply with any or all of the requirements of B.5.1 through B.5.5 shall be a material breach of Contract and constitute grounds for Contract termination. Damages or costs resulting from such noncompliance shall be the responsibility of Contractor.

B.6 SUPERINTENDENCE

Contractor shall keep on the Project Site, during the progress of the Work, a competent superintendent and any necessary assistants who shall be satisfactory to the Owner and who shall represent the Contractor on the Project Site. Directions given to the superintendent by the Owner shall be confirmed in writing to the Contractor.

B.7 INSPECTION

B.7.1 Owner shall have access to the Work at all times.

B.7.2 Inspection of the Work will be made by the Owner at its discretion. The Owner will have authority to reject Work that does not conform to the Contract Documents in the Owner's sole discretion. Any Work found to be not in conformance with the Contract Documents, in the discretion of the Owner, shall be removed and replaced at the Contractor's expense.

B.7.3 Contractor shall make or obtain at the appropriate time all tests, inspections and approvals of portions of the Work required by the Contract Documents or by Applicable Laws or orders of public authorities having jurisdiction. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work. The Contractor shall give the Owner timely notice of when and where tests and inspections are to be made so that the Owner may be present for such procedures. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Owner.

B.7.4 As required by the Contract Documents, Work done or material used without required inspection or testing and/or without providing timely notice to the Owner may be ordered removed at the Contractor's expense.

B.7.5 If directed to do so by Owner or other permitting authority any time before the Work is accepted, the Contractor shall uncover portions of the completed Work for inspection. After inspection, the Contractor shall restore such portions of Work to the standard required by the Contract. If the Work uncovered is unacceptable or was done without required testing or inspection or sufficient notice to the Owner, the uncovering and restoration shall be done at the Contractor's expense. If the Work uncovered is acceptable and was done with sufficient notice to the Owner, the uncovering and restoration will be paid for pursuant to a Change Order.

B.7.6 If any testing or inspection reveals failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Owner's and Architect/Engineer's services and expenses, shall be at the Contractor's expense.

B.7.7 In Owner's sole discretion, it may authorize other interested parties to inspect the Work affecting their interests or property. Their right to inspect shall not make them a party to the Contract and shall not interfere with the rights of the parties of the Contract. Instructions or orders of such parties shall be transmitted to the Contractor, through the Owner.

B.11 SUBCONTRACTS AND ASSIGNMENT

B.11.1 Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound by the terms and conditions of these General Conditions and

Supplemental General Conditions, and to assume toward the Contractor all of the obligations and responsibilities which the Contractor assumes toward the Owner thereunder, unless (1) the same are clearly inapplicable to the subcontract at issue because of legal requirements or industry practices, or (2) specific exceptions are requested by Contractor and approved in writing by Owner. Where appropriate, Contractor shall require each Subcontractor to enter into similar agreements with sub-subcontractors at any level.

B.11.2 At Owner's request, Contractor shall submit to Owner prior to their execution either Contractor's form of subcontract, or the subcontract to be executed with any particular Subcontractor. If Owner disapproves such form, Contractor shall not execute the form until the matters disapproved are resolved to Owner's satisfaction. Owner's review, comment upon or approval of any such form shall not relieve Contractor of its obligations under this Agreement or be deemed a waiver of such obligations of Contractor.

B.11.3 Contractor shall not assign, sell, or transfer its rights, or delegate its responsibilities under the Contract, in whole or in part, without the prior written approval of the Owner. No such written approval shall relieve Contractor of any obligations of the Contract, and any transferee shall be considered the agent of the Contractor and bound to perform in accordance with the Contract Documents. Contractor shall remain liable as between the original parties to the Contract as if no assignment had occurred.

B.13 OWNER'S RIGHT TO DO WORK

Owner reserves the right to perform other or additional work at or near the Project Site with other agents than those of the Contractor. If such work takes place within or next to the Project Site, Contractor shall coordinate work with the other contractors or agents, cooperate with all other contractors or forces, carry out the Work in a way that will minimize interference and delay for all agents involved, place and dispose of materials being used so as not to interfere with the operations of another, and join the Work with the work of the others in an acceptable manner and perform it in proper sequence to that of the others. The Owner will resolve any disagreements that may arise between or among Contractor and the other contractors over the method or order of doing all work (including the Work). In case of unavoidable interference, the Owner will establish work priority (including the Work) in the Owner's sole discretion.

B.14 OTHER CONTRACTS

In all cases and at any time, the Owner has the right to execute other contracts related to or unrelated to the Work of the Contract. The Contractor of the Contract shall fully cooperate with any and all other contractors without additional cost to the Owner in the manner described in Section B.13.

B.17 ALLOWANCES

B.17.1 The Contractor shall include in the Contract Price all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct.

B.17.2 Unless otherwise provided in the Contract Documents:

- (a) when finally reconciled, allowances shall cover the cost of the Contractor's materials and equipment delivered at the Project Site and all required taxes, less applicable trade discounts;
- (b) Contractor's costs for unloading and handling at the Project Site, labor, installation costs, Overhead, profit and other

expenses contemplated for stated allowance amounts shall be included in the Contract Price but not in the allowances;

- (c) whenever costs are more than or less than allowances, the Contract Price shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (i) the difference between actual costs and the allowances under Section B.17.2(a) and (ii) changes in Contractor's costs under Section B.17.2(b);
- (d) Unless Owner requests otherwise, Contractor shall provide to Owner a proposed fixed price for any allowance work prior to its performance.

B.18 SUBMITTALS, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- B.18.1 The Contractor shall prepare and keep current, for the Architect's/Engineer's approval (or for the approval of Owner if approval authority has not been delegated to the Architect/Engineer), a schedule and list of submittals which is coordinated with the Contractor's construction schedule and allows the Architect/Engineer reasonable time to review submittals. Owner reserves the right to finally approve the schedule and list of submittals. Submittals include, without limitation, Shop Drawings, Product Data, and Samples.
- B.18.2 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required by the Contract Documents the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review of submittals by the Architect/Engineer is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, or for approval of safety precautions or, unless otherwise specifically stated by the Architect/Engineer, of any construction means, methods, techniques, sequences or procedures, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect/Engineer's review of the Contractor's submittals shall not relieve the Contractor of its obligations under the Contract Documents. The Architect/Engineer's approval of a specific item shall not indicate approval of an assembly of which the item is a component. Informational submittals upon which the Architect/Engineer is not expected to take responsive action may be so identified in the Contract Documents. Submittals which are not required by the Contract Documents may be returned by the Architect/Engineer without action.
- B.18.3 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect/Engineer Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect/Engineer without action.
- B.18.4 By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

B.18.5 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect/Engineer.

B.18.6 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect/Engineer's review or approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect/Engineer in writing of such deviation at the time of submittal and (i) the Architect/Engineer has given written approval to the specific deviation as a minor change in the Work, or (ii) a Change Order has been executed by Owner authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect/Engineer's review or approval thereof.

B.18.7 In the event that Owner elects not to have the obligations and duties described under this Section B.18 performed by the Architect/Engineer, or in the event no Architect/Engineer is employed by Owner on the Project, all obligations and duties assigned to the Architect/Engineer hereunder shall be performed by the Owner.

B.19 SUBSTITUTIONS

The Contractor may make Substitutions only with the written consent of the Owner, after evaluation by the Owner and only in accordance with a Change Order. Substitutions shall be subject to the requirements of the Solicitation Document. By making requests for Substitutions, the Contractor represents that the Contractor has personally investigated the proposed substitute product; represents that the Contractor will provide the same warranty for the Substitution that the Contractor would for the product originally specified unless approved otherwise; certifies that the cost data presented is complete and includes all related costs under the Contract including redesign costs, and waives all claims for additional costs related to the Substitution which subsequently become apparent; and will coordinate the installation of the accepted Substitution, making such changes as may be required for the Work to be completed in all respects.

B.20 USE OF PLANS AND SPECIFICATIONS

Plans, Specifications and related Contract Documents furnished to Contractor by Owner or Owner's Architect/Engineer shall be used solely for the performance of the Work under the Contract. Contractor and its Subcontractors and suppliers are authorized to use and reproduce applicable portions of such documents appropriate to the execution of the Work, but shall not claim any ownership or other interest in them beyond the scope of the Contract, and no such interest shall attach. Unless otherwise indicated, all common law, statutory and other reserved rights, in addition to copyrights, are retained by Owner.

SECTION C **WAGES AND LABOR**

C.1 PREVAILING WAGE RATES ON PUBLIC WORKS

Contractor shall comply fully with the provisions of ORS 279C.800 through 279C.870. Pursuant to ORS 279C.830(1)(d), Contractor shall pay workers at not less than the specified minimum hourly rate of wage, and shall include that requirement in all subcontracts. If the Work is subject to both the state prevailing wage rate law and the federal Davis-Bacon Act, Contractor shall pay the higher of the applicable state or federal prevailing rate of wage. Contractor shall provide written notice to all workers of the number of hours per day and days per week such workers may be required to work.

C.2 PAYROLL CERTIFICATION AND FEE REQUIREMENTS

- C.2.1 In accordance with ORS 279C.845, the Contractor and every Subcontractor shall submit written certified statements to the Owner on the form prescribed by the Commissioner of the Bureau of Labor and Industries ("BOLI"), certifying the hourly rate of wage paid each worker which the Contractor or the Subcontractor has employed on the Project and further certifying that no worker employed on the Project has been paid less than the prevailing rate of wage or less than the minimum hourly rate of wage specified in the Contract, which certificate and statement shall be verified by the oath of the Contractor or the Subcontractor that the Contractor or Subcontractor has read the certified statement, that the Contractor or Subcontractor knows the contents of the certified statement, and, that to the Contractor's or Subcontractor's best knowledge and belief, the certified statement is true. The certified statements shall set out accurately and completely the payroll records for the prior week, including the name and address of each worker, the worker's correct classification, rate of pay, daily and weekly number of hours worked, deductions made, and actual wages paid. Certified statements for each week during which the Contractor or Subcontractor has employed a worker on the Project shall be submitted once a month, by the fifth (5th) business day of the following month. The Contractor and Subcontractors shall preserve the certified statements for a period of ten (10) years from the date of completion of the Contract.
- C.2.2 Pursuant to ORS 279C.845(7), the Owner shall retain 25 percent of any amount earned by the Contractor on the Project until the Contractor has filed the certified statements required by section C.2.1. The Owner shall pay to the Contractor the amount retained under this subsection within 14 days after the Contractor files the required certified statements, regardless of whether a Subcontractor has failed to file certified statements.
- C.2.3 Pursuant to ORS 279C.845(8), the Contractor shall retain 25 percent of any amount earned by a first-tier Subcontractor on this Project until the first-tier Subcontractor has filed with the Owner the certified statements required by C.2.1. Before paying any amount retained under this subsection, the Contractor shall verify that the first-tier Subcontractor has filed the certified statement. Within 14 days after the first-tier Subcontractor files the required certified statement the Contractor shall pay the first-tier Subcontractor any amount retained under this subsection.
- C.2.4 In accordance with statutory requirements and administrative rules promulgated by the Commissioner of the Bureau of Labor and Industries, the fee required by ORS 279C.825(1) will be paid by Owner to the Commissioner.

C.3 PROMPT PAYMENT AND CONTRACT CONDITIONS

- C.3.1 As a condition to Owner's performance hereunder, the Contractor shall:
- C.3.1.1 Make payment promptly, as due, to all persons supplying to Contractor labor or materials for the prosecution of the Work provided for in the Contract.
- C.3.1.2 Pay all contributions or amounts due the State Industrial Accident Fund or successor program from such Contractor or Subcontractor incurred in the performance of the Contract.
- C.3.1.3 Not permit any lien or claim to be filed or prosecuted against the Owner on account of any labor or material furnished. Contractor will not assign any claims that Contractor has against Owner, or

assign any sums due by Owner, to Subcontractors, suppliers, or manufacturers, and will not make any agreement or act in any way to give Subcontractors a claim or standing to make a claim against the Owner.

- C.3.1.4 Pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.
- C.3.2 As a condition to Owner's performance hereunder, if Contractor fails, neglects or refuses to make prompt payment of any claim for labor or services furnished to the Contractor of a Subcontractor by any person in connection with the Project as such claim becomes due, the proper officer(s) representing the Owner may pay the claim and charge the amount of the payment against funds due or to become due Contractor under the Contract. Payment of claims in this manner shall not relieve the Contractor or the Contractor's surety from obligation with respect to any unpaid claims.
- C.3.3 Contractor shall include in each subcontract for property or services entered into by the Contractor and a first-tier subcontractor, including a material supplier, for the purpose of performing a construction contract, a payment clause that obligates the Contractor to pay the first-tier Subcontractor for satisfactory performance under its subcontract within ten (10) Days out of such amounts as are paid to the Contractor by the Owner under such contract.
- C.3.4 All employers, including Contractor, that employ subject workers who work under the Contract in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. Contractor shall ensure that each of its Subcontractors complies with these requirements.

C.4 PAYMENT FOR MEDICAL CARE

As a condition to Owner's performance hereunder, Contractor shall promptly, as due, make payment to any person, co-partnership, association or corporation furnishing medical, surgical, and hospital care or other needed care and attention, incident to sickness or injury, to the employees of the Contractor, of all sums of which the Contractor agrees to pay for the services and all moneys and sums that the Contractor collected or deducted from the wages of employees under any law, contract or agreement for the purpose of providing or paying for the services.

C.5 HOURS OF LABOR

As a condition to Owner's performance hereunder, no person shall be employed to perform Work under the Contract for more than ten (10) hours in any one day or forty (40) hours in any one week, except in cases of necessity, emergency or where public policy absolutely requires it. In such instances, Contractor shall pay the employee at least time and a half pay:

- (a) For all overtime in excess of eight (8) hours a day or forty (40) hours in any one week when the work week is five consecutive Days, Monday through Friday; or
- (b) For all overtime in excess of ten (10) hours a day or forty (40) hours in any one week when the work week is four consecutive Days, Monday through Friday; and
- (c) For all Work performed on Saturday and on any legal holiday specified in ORS 279C.540.

This Section C.5 will not apply to Contractor's Work under the Contract to the extent Contractor is currently a party to a collective bargaining agreement with any labor organization.

This Section C.5 shall not excuse Contractor from completion of the Work within the time required under the Contract.

SECTION D

CHANGES IN THE WORK

D.1 CHANGES IN WORK

D.1.1 The terms of the Contract shall not be waived, altered, modified, supplemented or amended in any manner whatsoever, without prior written agreement and then only after any necessary approvals have been obtained. A Change Order is required to modify the Contract, which shall not be effective until its execution by the parties to the Contract and all approvals required by public contracting laws have been obtained.

D.1.2 It is mutually agreed that changes in Plans, quantities, or details of construction may be necessary or desirable during the course of construction. Within the general scope of the Contract, the Owner may at any time, without notice to the sureties and without impairing the Contract, require changes it deems necessary or desirable within the scope of this Project and consistent with this Section D.1. All changes to the Work shall be documented and Change Orders shall be executed under the conditions of the Contract Documents. Such changes may include, but are not limited to:

- (a) Modification of specifications and design.
- (b) Increases or decreases in quantities.
- (c) Increases or decreases to the amount of Work.
- (d) Addition or elimination of any Work item.
- (e) Change in the duration of the Project.
- (f) Acceleration or delay in performance of Work.
- (g) Deductive changes.

Deductive changes are those that reduce the scope of the Work, and shall be made by mutual agreement whenever feasible. In cases of suspension or partial termination under Section J, Owner reserves the right to unilaterally impose a deductive change and to self-perform such Work, for which the provisions of Section B.13 (Owner's Right to Do Work) shall then apply. Adjustments in compensation shall be made under Section D.1.3, in which costs for deductive changes shall be based upon a Direct Costs adjustment together with the related percentage markup specified for profit, Overhead and other indirect costs, unless otherwise agreed to by Owner.

D.1.3 The Owner and Contractor agree that adjustments to or deletions from the Work shall be administered and compensated according to the following:

- (a) **Unit Pricing:** Unit pricing may be utilized at the Owner's option when unit prices or solicitation alternates were provided that established the cost for adjustments to Work, and a binding obligation exists under the Contract on the parties covering the terms and conditions of the adjustment to Work.
- (b) **Fixed Fee:** If the Owner elects not to utilize unit pricing, or in the event that unit pricing is not available or appropriate, fixed pricing may be used for adjustments to or deletions from the Work. In fixed pricing, the basis of payments or total price shall be agreed upon in writing between the parties to the Contract, and shall be established before the Work is done whenever feasible. Notwithstanding the foregoing, the mark-ups set forth in Section D.1.3(c) shall be utilized in establishing fixed pricing, and such mark-ups shall not be exceeded. Cost and price data relating to adjustments to or deletions from the Work shall be supplied by Contractor to Owner upon request, but Owner shall be under no obligation to make such requests.

- (c) **Time and Material:** In the event that unit pricing and fixed pricing are not utilized, then adjustments to or deletions from the Work shall be performed on a cost reimbursement basis for Direct Costs. Such Work shall be compensated on the basis of the actual, reasonable and allowable cost of labor, equipment, and material furnished on the Work performed. The Contractor or Subcontractor who performs the Work shall be allowed to add up to ten percent (10%) markup to the Direct Costs as full compensation for profit, Overhead and other indirect costs for Work performed with the Contractor's or Subcontractor's own agents

Each ascending tier Subcontractor or the Contractor that did not perform the Work, will be allowed to add up to five percent (5%) supplemental markup on the Direct Costs of the Work (but not the above allowable markups) covered by a Change Order. No additional markup shall be permitted for any third tier or greater descending Subcontractor.

Example: \$20,000 of Direct Costs Work performed by a 2nd Tier Subcontractor

	Markup	Allowed Total Fee Plus Markup
General Contractor	5%	\$1,000.00
1 st Tier Sub Contractor	5%	\$1,000.00
2 nd Tier Sub Contractor	10%	\$22,000.00

- (d) Payments made to the Contractor shall be complete compensation for Overhead, profit, and all costs that were incurred by the Contractor or by other agents furnished by the Contractor, including Subcontractors, for adjustments to or deletions from the Work pursuant to a Change Order. Owner may establish a maximum cost for additional Work under this Section D.1.3, which shall not be exceeded for reimbursement without additional written authorization from Owner in the form of a Change Order. Contractor shall not be required to complete such additional Work without additional authorization.

D.1.4 Any necessary adjustment of Contract Time that may be required as a result of adjustments to or deletions from the Work must be agreed upon by the parties before the start of the revised Work unless Owner authorizes Contractor to start the revised Work before agreement on Contract Time adjustment.

Contractor shall submit any request for additional compensation (and additional Contract Time if Contractor was authorized to start Work before an adjustment of Contract Time was approved) as soon as possible but no later than thirty (30) Days after receipt of Owner's request for additional Work. If Contractor's request for additional compensation or adjustment of Contract Time is not made within the thirty (30) Day time limit, Contractor's requests pertaining to that additional Work shall be barred. The thirty (30) Day time limit for making requests shall not be extended for any reason, including without limitation Contractor's claimed inability to determine the amount of additional compensation or adjustment of Contract Time, unless an extension is granted in writing by Owner. If the Owner denies Contractor's request for additional compensation or adjustment of Contract Time, Contractor may proceed to file a Claim under Section D.3, Claims Review Process. No other reimbursement, compensation, or payment will be made, except as provided in Section D.1.5 for impact claims.

D.1.5 If any adjustment to Work under Section D.1.3 causes an increase or decrease in the Contractor's cost of, or the Contract Time required for the performance of any other part of the Work under the Contract, Contractor shall submit a written request to the Owner, setting forth the nature and specific extent of the request, including all time and cost impacts against the Contract as soon as possible, but no later than thirty (30) Days after receipt of Owner's request for adjustments to or deletions from the Work by Contractor.

The thirty (30) Day time limit applies to claims of Subcontractors, suppliers, or manufacturers who may be affected by Owner's request for adjustments to or deletions from the Work and who request additional compensation or an extension of Contract Time to perform; Contractor has responsibility for contacting its Subcontractors, suppliers, or manufacturers within the thirty (30) Day time limit, and including their requests with Contractor's requests. If the request involves Work to be completed by Subcontractors, or materials to be furnished by suppliers or manufacturers, such requests shall be submitted to the Contractor in writing with full analysis and justification for the adjustments to compensation and Contract Time requested. The Contractor shall analyze and evaluate the merits of the requests submitted by Subcontractors, suppliers, and manufacturers to Contractor prior to including those requests and Contractor's analysis and evaluation of those requests with Contractor's requests for adjustments to compensation or Contract Time that Contractor submits to the Owner. Failure of Subcontractors, suppliers, manufacturers or others to submit their requests to Contractor for inclusion with Contractor's requests submitted to Owner within the time period and by the means described in this section shall constitute a waiver of these Subcontractor claims. The Owner will not consider direct requests or claims from Subcontractors, suppliers, manufacturers or others not a party to the Contract. The consideration of such requests and claims under this section does not give any Person, not a party to the Contract the right to bring a claim against Owner, whether in this claims process, in litigation, or in any dispute resolution process.

If the Owner denies the Contractor's request for adjustment to compensation or Contract Time, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

D.1.6 No request or Claim by the Contractor for additional costs or an adjustment of Contract Time shall be allowed if made after receipt of final payment application under the Contract. Final payment application must be made by Contractor within the time required under Section E.6.4.

D.1.7 It is understood that changes in the Work are inherent in construction of this type. The number of changes, the scope of those changes, and the effect they have on the progress of the original Work cannot be defined at this time. The Contractor agrees that it will work in good faith with Owner to undertake changes, when agreed upon by execution of a Change Order. Each change will be evaluated for extension of Contract Time and increase or decrease in compensation based on its own merit.

D.2 DELAYS

D.2.1 Contractor shall not be entitled to additional compensation or additional Contract Time for Avoidable Delays.

D.2.2 In the event of Unavoidable Delays, Contractor may be entitled to the following:

- (a) Contractor may be entitled to additional compensation or additional Contract Time, or both, for Unavoidable Delays described in Section D.2.1.2 (a) and (b).
- (b) Contractor may be entitled to additional Contract Time for Unavoidable Delays described in Section D.2.1.2(c) and (d).

In the event of any requests for additional compensation or additional Contract Time, or both, as applicable, arising under this Section D.2.2 for Unavoidable Delays, other than requests for additional compensation or additional Contract Time for differing Project Site conditions for which a review process is established under Section A.4.5, Contractor shall submit a written notification of the delay to the Owner within two (2) Days of the occurrence of the cause of the delay. This written notification shall state the

cause of the potential delay, the Project components impacted by the delay, and the anticipated additional Contract Time extension or the additional compensation, or both, as applicable, resulting from the delay. Within seven (7) Days after the cause of the delay has been mitigated, or in no case more than thirty (30) Days after the initial written notification, the Contractor shall submit to the Owner, a complete and detailed request for additional compensation or additional Contract Time, or both, as applicable, resulting from the delay. If the Owner denies Contractor's request for additional compensation or adjustment of Contract Time, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

If Contractor does not timely submit the notices required under this Section D.2, Contractor's Claim shall be barred.

D.3 CLAIMS REVIEW PROCESS

D.3.1 All Contractor Claims shall be referred to the Owner for review. Contractor's Claims, including Claims for adjustments to compensation or Contract Time, shall be submitted in writing by Contractor to the Owner within five (5) Days after a denial of Contractor's initial request for an adjustment of Contract terms, payment of money, extension of Contract Time or other relief, provided that such initial request has been submitted in accordance with the requirements and within the time limits established in these County General Conditions. Within thirty (30) Days after the initial Claim, Owner shall receive from Contractor a complete and detailed description of the Claim (the "Detailed Notice") that includes all information required by Section D.3.2. Unless the Claim is made in accordance with these time requirements, it shall be barred.

D.3.2 The Detailed Notice of the Claim shall be submitted in writing by Contractor and shall include all information, records and documentation necessary for the Owner to properly and completely evaluate the claim, including, but not limited to a detailed, factual statement of the basis of the Claim, pertinent dates, Contract provisions which support or allow the Claim, reference to or copies of any documents which support the Claim, the dollar value of the Claim, and the Contract Time adjustment requested for the Claim. If the Claim involves Work to be completed by Subcontractors, the Contractor will analyze and evaluate the merits of the Subcontractor claim prior to forwarding it and that analysis and evaluation to the Owner. The Owner will not consider direct claims from Subcontractors, suppliers, manufacturers, or others not a party to the Contract. Contractor agrees that it will make no agreement, covenant, or assignment, nor will it commit any other act that will permit or assist any Subcontractor, supplier, manufacturer, or other to directly or indirectly make a claim against Owner.

D.3.3 The Owner, through the Architect/Engineer (or other employee or agent assigned by the Owner) will review all Claims and take one or more of the following preliminary actions within ten (10) Days of receipt of the Detailed Notice of a Claim: (1) request additional supporting information from the Contractor; (2) inform the Contractor and Owner in writing of the time required for adequate review and response; (3) reject the Claim in whole or in part and identify the reasons for rejection; (4) recommend approval of all or part of the Claim; (5) arrange a meeting with the Contractor for formal review of the Claim; or (6) propose an alternate resolution.

D.3.4 Once the Engineer or Project Manager determines the Owner is in receipt of a properly submitted claim, the Engineer or Project Manager may arrange a meeting, as agreed by the parties, with the Contractor in order to present the claim for formal review and discussion. A person authorized by the Contractor to execute Change Orders on behalf of the Contractor must be present and attend all claim meetings.

D.3.5 The Owner's decision, through the Architect/Engineer (or other employee or agent assigned by the Owner), shall be final and binding on the Contractor unless appealed by written notice to the Owner within fifteen (15) Days of receipt of the decision. The Contractor must present written documentation supporting the Claim within fifteen (15) Days of the notice of appeal. After receiving the appeal documentation, the Owner, through the appropriate department director, shall review the materials and render a decision within thirty (30) Days after receiving the appeal documents.

D.3.6 If, at any step in the claim decision or review process, the Contractor fails to promptly submit requested information or documentation that the Owner deems necessary to analyze the claim, the Contractor is deemed to have waived its right to further review, and the Claim will not be considered properly filed and preserved.

D.3.7 Both parties agree to exercise their best efforts in good faith to resolve all disputes within sixty (60) Days of the issuance of the appeal in Section D. 3.4 above. If the parties are unable to resolve their issues through mediation or otherwise, either party may seek redress through all available remedies in equity or in law.

D.3.8 Unless otherwise directed by Owner, Contractor shall proceed with the Work while any Claim, or mediation or litigation arising from a Claim, is pending. Regardless of the review period or the final decision of the Owner, the Contractor shall continue to diligently pursue the Work as identified in the Contract Documents. In no case is the Contractor justified or allowed to cease or delay Work, in whole or in part, without a written stop work order from the Owner.

SECTION E PAYMENTS

E.1 SCHEDULE OF VALUES

The Contractor shall submit, by or before the pre-construction conference (as described in Section H.1.3), a schedule of values ("Schedule of Values") for the Contract Work. This schedule shall provide a breakdown of values for the Contract Work and will be the basis for progress payments. The breakdown shall demonstrate reasonable, identifiable, and measurable components of the Work. Unless objected to by the Owner, this schedule shall be used as the basis for reviewing Contractor's applications for payment. If objected to by Owner, Contractor shall revise the schedule of values and resubmit the same for approval of Owner.

E.2 APPLICATIONS FOR PAYMENT

E.2.1 Owner shall make progress payments on the Contract monthly as Work progresses, in accordance with the requirements of this Section E.2 and ORS 279C.570. Applications for payment shall be based upon estimates of Work completed and the Schedule of Values. As a condition precedent to Owner's obligation to pay, all applications for payment shall be approved by the Owner. A progress payment shall not be considered acceptance or approval of any Work or waiver of any defects therein. Owner shall pay to Contractor interest in accordance with ORS 279C.570 for overdue invoices, not including retainage, due the Contractor. Overdue invoices will be those that have not been paid within the earlier of:

- (a) Thirty (30) days after receipt of the invoice; or
- (b) Fifteen (15) days after the payment is approved by the County.

Notwithstanding the foregoing, in instances when an application for payment is filled out incorrectly, or when there is any defect or impropriety in any submitted application or when there is a good faith dispute, Owner shall so notify the Contractor within fifteen

(15) Days stating the reason or reasons the application for payment is defective or improper or the reasons for the dispute. A defective or improper application for payment, if corrected by the Contractor within seven (7) Days of being notified by the Owner, shall not cause a payment to be made later than specified in this section unless interest is also paid. Payment of interest will be postponed when payment on the principal is delayed because of disagreement between the Owner and the Contractor.

Owner reserves the right, instead of requiring the Contractor to correct or resubmit a defective or improper application for payment, to reject the defective or improper portion of the application for payment and pay the remainder of the application for such amounts which are correct and proper.

Owner, upon written notice to the Contractor, may elect to make payments to the Contractor only by means of Electronic Funds Transfers ("EFT") through Automated Clearing House ("ACH") payments. If Owner makes this election, the Contractor shall arrange for receipt of the EFT/ACH payments.

E.2.2 Contractor shall submit to the Owner an application for each payment and, if required, receipts or other vouchers showing payments for materials and labor including payments to Subcontractors. Contractor shall include in its application for payment a schedule of the percentages of the various parts of the Work completed, based on the Schedule of Values which shall aggregate to the payment application total, and shall include, on the face of each copy thereof, a certificate in substantially the following form:

"I, the undersigned, hereby certify that the above bill is true and correct, and the payment therefore, has not been received.

Signed: _____
Dated: _____"

E.2.3 Generally, applications for payment will be accepted only for materials that have been installed. Under special conditions, applications for payment for stored materials will be accepted at Owner's sole discretion. Such a payment, if made, will be subject to the following conditions:

- (a) The request for stored material shall be submitted at least thirty (30) Days in advance of the application for payment on which it appears. Applications for payment shall be entertained for major equipment, components or expenditures only.
- (b) The Contractor shall submit applications for payment showing the quantity and cost of the material stored.
- (c) The material shall be stored in a bonded warehouse and Owner shall be granted the right to access the material for the purpose of removal or inspection at any time during the Contract Period.
- (d) The Contractor shall name the Owner as co-insured on the insurance policy covering the full value of the property while in the care and custody of the Contractor until it is installed. A certificate noting this coverage shall be issued to the Owner.
- (e) Payments shall be made for materials and equipment only. The submitted amount in the application for payment shall be reduced by the cost of transportation from the storage site to the Project Site and for the cost of an inspector to verify delivery and condition of the goods at the storage site. The cost of storage and inspection shall be borne solely by the Contractor.
- (f) Within sixty (60) Days of the application for payment, the Contractor shall submit evidence of payment covering the

material and/or equipment stored and of payment for the storage site.

- (g) Payment for stored materials and/or equipment shall in no way indicate acceptance of the materials and/or equipment or waive any rights under the Contract for the rejection of the Work or materials and/or equipment not in conformance with the Contract Documents.
- (h) All required documentation shall be submitted with the respective application for payment.

E.2.4 The Owner reserves the right to withhold all or part of a payment, or may nullify in whole or part any payment previously made, to such extent as may be necessary in the Owner's opinion to protect the Owner from loss because of:

- (a) Work that is defective and not remedied, or that has been demonstrated or identified as failing to conform with Applicable Laws or the Contract Documents;
- (b) third party claims filed or evidence reasonably indicating that such claims will likely be filed unless security acceptable to the Owner is provided by the Contractor;
- (c) failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment (in which case Owner may issue checks made payable jointly to Contractor and such unpaid persons under this provision, or directly to Subcontractors and suppliers at any level under Section C.3.2);
- (d) reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;
- (e) damage to the Work, Owner or Owner's agent;
- (f) reasonable evidence that the Work will not be completed within the Contract Time required by the Contract, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
- (g) failure to carry out the Work in accordance with the Contract Documents; or
- (h) assessment of liquidated damages, when withholding is made for offset purposes.

E.2.5 Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- (a) Take that portion of the Contract Price properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Price allocated to that portion of the Work in the Schedule of Values, less retainage as provided in Section E.5. Pending final determination of cost to the Owner of changes in the Work, no amounts for changes in the Work can be included in applications for payment until the Contract Price has been adjusted by a Change Order;
- (b) Add that portion of the Contract Price properly allocable to materials and equipment delivered and suitably stored at the Project Site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner pursuant to Section E.2.3, suitably stored off the Project Site at a location agreed upon in writing), less retainage as provided in Section E.5;

(c) Subtract the aggregate of previous payments made by the Owner; and

(d) Subtract any amounts for which the Owner has withheld or nullified payment as provided in the Contract Documents.

E.2.6 Contractor's applications for payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay to a Subcontractor or material supplier.

E.2.7 The Contractor warrants to Owner that title to all Work covered by an application for payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an application for payment all Work for which payments are received from the Owner shall be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided financing, labor, materials and equipment relating to the Work.

E.2.8 If Contractor disputes any determination by Owner with regard to any application for payment, Contractor nevertheless shall continue to expeditiously perform the Work. No payment made hereunder shall be or be construed to be final acceptance or approval of that portion of the Work to which such partial payment relates or shall relieve Contractor of any of its obligations hereunder.

E.3 PAYROLL CERTIFICATION REQUIREMENT

Owner's receipt of payroll certification pursuant to Section C.2 of the Contract shall be a condition precedent to Owner's obligation to pay any progress payments or final payment otherwise due.

E.4 DUAL PAYMENT SOURCES

Contractor shall not be compensated for Work performed under the Contract from any state agency other than the agency that is a party to the Contract.

E.5 RETAINAGE

E.5.1 Retainage shall be withheld and released in accordance with the requirements set forth in Local Contract Review Board Rules or the applicable County standard.

E.5.1.1 Owner may reserve as retainage from any progress payment in an amount not to exceed five percent of the payment. As Work progresses, Owner may reduce the amount of retainage on or may eliminate retainage on any remaining monthly Contract payments after fifty (50) percent of the Work under the Contract is completed if, in the Owner's discretion, such Work is progressing satisfactorily. Elimination or reduction of retainage shall be allowed only upon written application by the Contractor, which application shall include written approval of Contractor's surety; except that when the Work is ninety-seven and a half percent (97.5%) completed in Owner's estimation, the Owner may, at its discretion and without application by the Contractor, reduce the retained amount to hundred (100) percent of the value of the Work remaining to be done. Upon receipt of written application by the Contractor, Owner shall respond in writing within a reasonable time.

E.5.1.2 Contractor may request in writing:

- (a) to be paid amounts which would otherwise have been retained from progress payments where Contractor has deposited acceptable bonds and securities of equal value with Owner or in a custodial account or other mutually agreed account satisfactory to Owner, with an approved bank or trust company to be held in lieu of the cash retainage for the benefit of Owner;

- (b) for construction projects over \$1,000,000, that retainage be deposited in an interest bearing account, established through the County Treasurer for county agencies, in a bank, savings bank, trust company or savings association for the benefit of Owner, with earnings from such account accruing to the Contractor; or
- (c) that the Owner allow Contractor to deposit a surety bond for the benefit of Owner, in a form acceptable to Owner, in lieu of all or a portion of funds retained, or to be retained. Such bond and any proceeds therefrom shall be made subject to all claims in the manner and priority as set forth for retainage.

When the Owner has accepted the Contractor's election of option (a) or (b), Owner may recover from Contractor any additional costs incurred through such election by reducing Contractor's final payment. Where the Owner has agreed to Contractor's request for option (c), Contractor shall accept like bonds from Subcontractors and suppliers on the Project from which Contractor has required retainages.

- E. 5.1.3 The retainage held by Owner shall be included in and paid to the Contractor as part of the final payment of the Contract Price. The Owner shall pay to Contractor interest at the rate of two thirds of one percent per month on the final payment due Contractor, interest to commence forty-five (45) Days after the date which Owner receives Contractor's final approved application for payment and Work under the Contract has been completed and accepted and to run until the date when final payment is tendered to Contractor. The Contractor shall notify Owner in writing when the Contractor considers the Work complete and deliver to Owner its final application for payment and Owner shall, within fifteen (15) Days after receiving the written notice and the application for payment, either accept the Work or notify the Contractor of Work yet to be performed on the Contract. If Owner does not within the time allowed notify the Contractor of Work yet to be performed to fulfill contractual obligations, the interest provided by this subsection shall commence to run forty-five (45) Days after the end of the fifteen (15) Day period.
- E.5.1.4 Owner will reduce the amount of the retainage if the Contractor notifies the Owner that the Contractor has deposited in an escrow account with a bank or trust company, in a manner authorized by the Owner, bonds and securities of equal value of a kind approved by the Owner and such bonds and securities have in fact been deposited.
- E.5.1.5 Contractor agrees that if Contractor elects to reserve a retainage from any progress payment due to any Subcontractor or supplier, such retainage shall not exceed five percent of the payment, and such retainage withheld from Subcontractors and suppliers shall be subject to the same terms and conditions stated in Subsection E.5 as apply to Owner's retainage from any progress payment due to Contractor.

E.6 FINAL PAYMENT

- E.6.1 Upon completion of all the Work under the Contract, the Contractor shall notify the Owner, in writing, that Contractor has completed Contractor's obligations under the Contract and shall prepare its application requesting final payment. The amount of final payment will be the difference between the total amount due the Contractor pursuant to the Contract Documents and the sum of all payments previously made. Upon receipt of such notice and application for payment, the Owner will inspect the Work, and, if acceptable, submit to Contractor a recommendation as to acceptance of the completed Work and the final estimate of the amount due the Contractor. If the Work is not acceptable, Owner will notify Contractor within fifteen (15) Days of Contractor's request for final payment. Upon approval of this final application

for payment by the Owner and compliance by the Contractor with provisions in Section K, and Contractor's satisfaction of other provisions of the Contract Documents as may be applicable, the Owner shall pay to the Contractor all monies due under the provisions of these Contract Documents.

- E.6.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner (1) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least thirty (30) Days' prior written notice has been given to the Owner, (2) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (3) consent of surety, if any, to final payment and (4), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien.
- E.6.3 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final application for payment.
- E.6.4 Contractor agrees to submit its final payment application within ninety (90) Days after Substantial Completion, unless written extension is granted by Owner. Contractor shall not delay final payment application for any reason, including without limitation nonpayment of Subcontractors, suppliers, manufacturers or others not a party to the Contract, or lack of resolution of a dispute with Owner or any other person of matters arising out of or relating to the Contract. If Contractor fails to submit its final payment application within ninety (90) Days after Substantial Completion, and Contractor has not obtained written extension by Owner, all requests or Claims for additional costs or an extension of Contract Time shall be barred.

SECTION F PROJECT SITE CONDITIONS

F.1 USE OF PREMISES

Contractor shall confine equipment, storage of materials and operation of Work to the limits indicated by Contract Documents, Applicable Laws, permits or directions of the Owner. Contractor shall follow the Owner's instructions regarding use of premises, if any.

F.2 PROTECTION OF WORKERS, PROPERTY AND THE PUBLIC

- F.2.1 Contractor shall maintain continuous and adequate protection of all of the Work from damage and shall protect the Owner, workers and property from injury or loss arising in connection with the Contract. Contractor shall remedy acceptably to the Owner any damage, injury, or loss, except such as may be directly due to errors in the Contract Documents or caused by authorized representatives or personnel of the Owner. Contractor shall adequately protect adjacent property as provided by law and the Contract Documents.
- F.2.2 Contractor shall take all necessary precautions for the safety of all personnel on the Project Site or otherwise engaged in the undertaking of the Work and shall comply with the Contract Documents, best practices and all applicable provisions of federal,

state and municipal safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the premises where the Work is being performed. Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for protection of workers and the public against any hazards created by construction. Contractor shall designate a responsible employee or associate on the Project Site, whose duty shall be the prevention of accidents. The name and position of the person designated shall be reported to the Owner. The Owner has no responsibility for Project Site safety. Project Site safety shall be the responsibility of the Contractor.

- F.2.3 Contractor shall not enter upon private property without first obtaining permission from the property owner or its duly authorized representative. Contractor shall be responsible for the preservation of all public and private property along and adjacent to the Work contemplated under the Contract and shall use every precaution necessary to prevent damage thereto. In the event the Contractor damages any property, the Contractor shall at once notify the property owner and make, or arrange to make, full restitution. Contractor shall, immediately and in writing, report to the Owner, all pertinent facts relating to such property damage and the ultimate disposition of the claim for damage.
- F.2.4 Contractor shall be responsible for protection of adjacent work areas including impacts brought about by activities, equipment, labor, utilities, vehicles and materials on the Project Site.
- F.2.5 Contractor shall at all times direct its activities in such a manner as to minimize adverse effects on the environment. Handling of all materials shall be conducted so no release will occur that may pollute or become hazardous.
- F.2.6 In an emergency affecting the safety of life or limb or of the Work or of adjoining property, the Contractor, without special instruction or authorization from the Owner, shall act reasonably to prevent threatened loss or injury, and shall so act, without appeal, if instructed by the Owner. Any compensation claimed by the Contractor on account of emergency work shall be determined in accordance with section D.
- F.2.7 Contractor shall comply with all Owner safety rules and regulations, if applicable. Prior to commencement of any Work, Contractor and Subcontractors shall be required to complete an Owner Contractor Safety Orientation and submit all Owner required safety plans.
- F.2.8 Contractor shall demonstrate that an employee drug testing program is in place.

F.3 CUTTING AND PATCHING

- F.3.1 If applicable, Contractor shall be responsible for coordinating all cutting, fitting, or patching of the Work to make its several parts come together properly and fit to receive or be received by work of other contractors or Subcontractors shown upon, or reasonably implied by, the Contract Documents.
- F.3.2 If applicable, Contractor shall be responsible for restoring all cut, fitted, or patched surfaces to an original condition; provided, however, that if a different condition is specified in the Contract Documents, then Contractor shall be responsible for restoring such surfaces to the condition specified in the Contract Documents.

F.4 CLEANING UP

From time to time as may be prudent or ordered by the Owner and, in any event, immediately after completion of the Work, the Contractor shall, at its own expense, clean up and remove all refuse and unused materials of any kind resulting from the Work. If Contractor fails to do so within

twenty-four (24) hours after notification by the Owner the work may be done by others and the cost charged to the Contractor and deducted from payment due the Contractor.

F.5 ENVIRONMENTAL CONTAMINATION

F.5.1 Contractor shall be held responsible for and shall indemnify, defend (with counsel of Owner's choice), and hold harmless Owner from and against any costs, expenses, damages, claims, and causes of action, or any of them, resulting from all spills, releases, discharges, leaks and disposal of environmental pollution, including storage, transportation, and handling during the performance of the Work or Contractor's obligations under the Contract which occur as a result of, or are contributed by, the negligence or actions of Contractor or its personnel, agents, or Subcontractors or any failure to perform in accordance with the Contract Documents (except to the extent otherwise void under ORS 30.140). Nothing in this section F.5.1 shall limit Contractor's responsibility for obtaining insurance coverages required under Section G.3 of the Contract, and Contractor shall take no action that would void or impair such coverages.

- F.5.1.1 Contractor agrees to promptly dispose of such spills, releases, discharge or leaks to the satisfaction of Owner and regulatory agencies having jurisdiction in a manner that complies with Applicable Laws. Cleanup shall be at no cost to the Owner and shall be performed by properly qualified and, if applicable, licensed personnel.
- F.5.1.2 Unless otherwise approved in the Solicitation Document, Contractor shall obtain the Owner's written consent prior to bringing onto the Project Site any (i) environmental pollutants or (ii) hazardous substances or materials, as the same or reasonably similar terms are used in any Applicable Laws. In any event, Contractor shall provide prior written notice to Owner when hazardous materials are brought on to the Project Site. The Contractor, at all times, shall:
- (a) properly handle, use and dispose of all environmental pollutants and hazardous substances or materials on the Project Site, in accordance with all Applicable Laws;
 - (b) be responsible for any and all spills, releases, discharges, or leaks of (or from) environmental pollutants or hazardous substances or materials which Contractor has brought onto the Project Site; and
 - (c) promptly clean up and remediate, without cost to the Owner, such spills, releases, discharges, or leaks to the Owner's satisfaction and in compliance with all Applicable Laws.

F.5.2 Contractor shall report all reportable quantity releases, as such releases are defined in Applicable Laws. Upon discovery, regardless of quantity, Contractor must verbally report all releases to the Owner in a prompt manner. A written follow-up report shall be submitted to Owner within 48 hours of the telephonic report. Such written report shall contain, as a minimum:

- (a) Description of items released (identity, quantity, manifest numbers, and any and all other documentation required by law).
- (b) Whether amount of items released is EPA/DEQ reportable, and, if so, when reported.
- (c) Exact time and location of release, including a description of the area involved.
- (d) Containment procedures initiated.

- (e) Summary of communications about the release between Contractor and State, local or federal officials other than Owner. Any communication to the press will be done by Owner and Contractor will defer to Owner.
- (f) Description of cleanup procedures employed or to be employed at the Project Site, including disposal location of spill residue.
- (g) Personal injuries, if any, resulting from, or aggravated by, the release.

F.6 ENVIRONMENTAL CLEAN-UP

- F.6.1 Unless disposition of environmental pollution is specifically a part of the Contract, or was caused by the Contractor (reference F.5 Environmental Contamination), Contractor shall immediately notify Owner of any hazardous substance(s) which Contractor discovers or encounters during performance of the Work required by the Contract. "Hazardous substance(s)" means any hazardous, toxic and radioactive materials and those substances defined as "hazardous substances," "hazardous materials," "hazardous wastes," "toxic substances," or other similar designations in any federal, state, or local law, regulation, or ordinance, including without limitation asbestos, polychlorinated biphenyl ("PCB"), or petroleum, and any substances, materials or wastes regulated by 40 CFR, Part 261 and defined as hazardous in 40 CFR S 261.3. In addition to notifying Owner of any hazardous substance(s) discovered or encountered, Contractor shall immediately cease working in any particular area of the Project where a hazardous substance(s) has been discovered or encountered if continued work in such area would present a risk or danger to the health or wellbeing of Contractor's or any Subcontractor's work force, property or the environment.
- F.6.2 Upon being notified by Contractor of the presence of hazardous substance(s) on the Project Site, not brought on to the Project Site by Contractor, Owner shall arrange for the proper disposition of such hazardous substance(s).

SECTION G INDEMNITY, BONDING, AND INSURANCE

G.1 RESPONSIBILITY FOR DAMAGES / INDEMNITY

- G.1.1 Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay that may be caused by, or result from, the carrying out of the Work to be done under the Contract, or from any act, omission or neglect of the Contractor, its Subcontractors, employees, guests, visitors, invitees and agents.
- G.1.2 To the fullest extent permitted by law, Contractor shall indemnify, defend (with counsel approved by Owner) and hold harmless the Owner and its elected officials, officers, directors, agents, and employees (collectively "Indemnitees") from and against all liabilities, damages, losses, claims, expenses, demands and actions of any nature whatsoever which arise out of, result from or are related to: (a) any damage, injury, loss, expense, inconvenience or delay described in this Section G.1; (b) any accident or occurrence which happens or is alleged to have happened in or about the Project Site or any place where the Work is being performed, or in the vicinity of either, at any time prior to the time the Work is fully completed in all respects; (c) any failure of the Contractor to observe or perform any duty or obligation under the Contract Documents which is to be observed or performed by the Contractor, or any breach of any agreement, representation or warranty of the Contractor contained in the Contract Documents or in any subcontract; (d) the negligent acts or omissions of the Contractor, a Subcontractor or anyone directly or indirectly

employed by them or any one of them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder (except to the extent otherwise void under ORS 30.140); and (e) any lien filed upon the Project or bond claim in connection with the Work. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section G.1.2.

G.1.3 In claims against any person or entity indemnified under Section G.1.2 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section G.1.2 shall not be limited on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

G.2 PERFORMANCE AND PAYMENT SECURITY; PUBLIC WORKS BOND

- G.2.1 When the Contract Price is \$50,000 or more, the Contractor shall furnish and maintain in effect at all times during the Contract Period a performance bond in a sum equal to the Contract Price and a separate payment bond also in a sum equal to the Contract Price. Contractor shall furnish such bonds even if the Contract Price is less than the above thresholds if otherwise required by the Contract Documents.
- G.2.2 Bond forms furnished by the Owner and notarized by Contractor's surety company authorized to do business in Oregon are the only acceptable forms of performance and payment security, unless otherwise specified in the Contract Documents.
- G.2.3 Before execution of the Contract, the Contractor shall file with the Construction Contractors Board, and maintain in full force and effect, the separate public works bond required by Oregon Revised Statutes, Chapter 279C.830 and 279C.836, unless otherwise exempt under those provisions. The Contractor shall also include in every subcontract a provision requiring the Subcontractor to have a public works bond filed with the Construction Contractors Board before starting Work, unless otherwise exempt, and shall verify that the Subcontractor has filed a public works bond before permitting any Subcontractor to start Work.

G.3 INSURANCE

- G.3.1 Primary Coverage: Insurance carried by Contractor under the Contract shall be the primary coverage. The coverages indicated are minimums unless otherwise specified in the Contract Documents.
- G.3.2 Workers' Compensation: All employers, including Contractor, that employ subject workers who work under the Contract in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. This shall include Employer's Liability Insurance with coverage limits of not less than the minimum amount required by statute for each accident. Contractors who perform the Work without the assistance or labor of any employee need not obtain such coverage if the Contractor certifies so in writing. Contractor shall ensure that each of its Subcontractors complies with these requirements. The Contractor shall require proof of such Workers' Compensation coverage by receiving and keeping on file a certificate of insurance from each Subcontractor or anyone else directly employed by either the Contractor or its Subcontractors.
- G.3.3 Builder's Risk Insurance:
- G.3.3.1 Builder's Risk: During the term of the Contract, for new construction the Contractor shall obtain and keep in effect

Builder's Risk insurance on an all risk forms, including earthquake and flood, for an amount equal to the full amount of the Contract, plus any changes in values due to modifications, Change Orders and loss of materials added. Such Builder's Risk shall include, in addition to earthquake and flood, theft, vandalism, mischief, collapse, transit, debris removal, and architect's fees "soft costs" associated with delay of Project due to insured peril. Any deductible shall not exceed \$50,000 for each loss, except the earthquake and flood deductible which shall not exceed 2 percent of each loss or \$50,000, whichever is greater. The deductible shall be paid by Contractor. The policy will include as loss payees Owner, the Contractor and its Subcontractors as their interests may appear.

G.3.3.2 Builder's Risk Installation Floater: For Work other than new construction, Contractor shall obtain and keep in effect during the term of the Contract, a Builder's Risk Installation Floater for coverage of the Contractor's labor, materials and equipment to be used for completion of the Work performed under the Contract. The minimum amount of coverage to be carried shall be equal to the full amount of the Contract. The policy will include as loss payees Owner, the Contractor and its Subcontractors as their interests may appear. Owner may waive this requirement at its sole and absolute discretion.

G.3.3.3 Such insurance shall be maintained until Owner has occupied the facility.

G.3.3.4 A loss insured under the Builder's Risk insurance shall be adjusted by the Owner and made payable to the Owner as loss payee. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner. The Owner shall have power to adjust and settle a loss with insurers.

G.3.4 General Liability Insurance:

G.3.4.1 Commercial General Liability: Upon execution of a Contract, Contractor shall obtain, and keep in effect at Contractor's expense for the term of the Contract, Commercial General Liability Insurance ("CGL") covering bodily injury and property damage in the amount of not less than \$1,000,000 per claim and \$2,000,000 per occurrence in a form satisfactory to Owner. This insurance shall include personal injury liability, products and completed operations, and contractual liability coverage for the indemnities provided under the Contract (to the extent contractual liability coverage for the indemnity is available in the marketplace), and shall be issued on an occurrence basis written on ISO Form GC 00 01 (12 04 or later) or an equivalent form approved in advance by Owner. The CGL shall provide separation of insured language. The policy or policies obtained by Contractor for purposes of fulfilling the requirements of this section shall be primary insurance with respect to the Owner. Any insurance or self-insurance maintained by the County shall be excess and shall not contribute to it.

G.3.4.2 Automobile Liability: Contractor shall obtain, at Contractor's expense, and keep in effect during the term of the Contract, Automobile Liability Insurance covering owned, and/or hired vehicles, as applicable. The coverage may be written in combination with the Commercial General Liability Insurance. Contractor shall provide proof of insurance of not less than \$1,000,000 per claim and \$2,000,000 per occurrence. Contractor and its Subcontractors shall be responsible for ensuring that all non-owned vehicles maintain adequate Automobile Liability insurance while on Project Site.

G.3.4.3 Owner may adjust the insurance amounts required in Section G.3.4.1 and G.3.4.2 based upon institution specific risk

assessments through the issuance of Supplemental General Conditions and a Contract.

G.3.4.4 To the extent that the Contract Documents require the Contractor to provide professional design services, design-build, or certifications related to systems, materials, or equipment, the Contractor shall (1) purchase and maintain professional liability/errors-and-omissions insurance with limits of not less than \$1,000,000 for each claim and \$2,000,000 general annual aggregate and (2) cause those Subcontractors (of any tier) who are providing professional design services including any design-build services to procure and maintain professional liability/errors-and-omissions insurance with limits of not less than \$1,000,000 for each claim and \$2,000,000 general annual aggregate. This policy shall be for the protection of the Owner, its elected officials, officers, agents and employees against liability for damages because of personal injury, bodily injury, death, or damage to property, including loss of use thereof, and damages because of negligent acts, errors and omissions in any way related to the Contract. The Owner, at its option, may require a complete copy of the above policy.

G.3.4.5 "Tail" Coverage: If any of the required liability insurance is arranged on a "claims made" basis, "tail" coverage will be required at the completion of the Contract for a duration of 36 months or the maximum time period available in the marketplace if less than 36 months. Contractor shall furnish certification of "tail" coverage as described or continuous "claims made" liability coverage for 36 months following Final Completion. Continuous "claims made" coverage will be acceptable in lieu of "tail" coverage, provided its retroactive date is on or before the effective date of the Contract. Owner's receipt of the policy endorsement evidencing such coverage shall be a condition precedent to Owner's obligation to make final payment and to Owner's final acceptance of Work or services and related warranty (if any).

G.3.4.6 Umbrella Liability (if required by Owner through issuance of Supplemental General Conditions): Contractor shall obtain, at Contractor's expense, and keep in effect during the term of the Contract, Umbrella liability Insurance over and above the general liability, automobile liability and workers' compensation coverage if required by Owner in specified limits at time of requirement.

G.3.4.7 Pollution Liability may be required by Owner through issuance of Supplemental General Conditions.

G.3.5 Additional Insured: The general liability insurance coverage, automobile liability, umbrella, and pollution liability if required, shall include the Owner as additional insureds but only with respect to the Contractor's activities to be performed under the Contract. The additional-insured endorsement for CGL insurance must be written on ISO Form CG 20 10 (10 01) and CG 20 37 (10 01), or their equivalent, but shall not use either of the following forms: CG 20 10 (10 93) or CG 20 10 (03 94). Proof of insurance must include a copy of the endorsement showing "Clackamas County, its elected officials, agents, officers, and employees" as scheduled insureds.

If Contractor cannot obtain an insurer to name the Owner as additional insureds, Contractor shall obtain at Contractor's expense, and keep in effect during the term of the Contract, Owners and Contractors Protective Liability Insurance, naming the Owner as additional insureds with not less than a \$2,000,000 limit per occurrence. This policy must be kept in effect for 36 months following Final Completion. As evidence of coverage, Contractor shall furnish the actual policy to Owner prior to execution of the Contract.

G.3.6 Notice of Cancellation or Change: If the Contractor receives a non-renewal or cancellation notice from an insurance carrier affording coverage required herein, or receives notice that coverage no longer complies with the insurance requirements herein, Contractor agrees to notify Owner by fax within five (5) business days with a copy of the non-renewal or cancellation notice, or written specifics as to which coverage is no longer in compliance. When notified by Owner, the Contractor agrees to stop Work pursuant to the Contract at Contractor's expense, unless all required insurance remain in effect. Any failure to comply with the reporting provisions of this insurance, except for the potential exhaustion of aggregate limits, shall not affect the coverages provided to the Owner and its institutions, divisions, officers, and employees.

Owner shall have the right, but not the obligation, of prohibiting Contractor from entering the Project Site until a new certificate(s) of insurance is provided to Owner evidencing the replacement coverage. The Contractor agrees that Owner reserves the right to withhold payment to Contractor until evidence of reinstated or replacement coverage is provided to Owner.

G.3.7 Certificate(s) of Insurance/Insurance Carrier Qualification: As evidence of the insurance coverage required by the Contract, the Contractor shall furnish certificate(s) of insurance to the Owner prior to execution of the Contract. The certificate(s) will specify all of the parties who are additional insureds or loss payees for the Contract. A renewal certificate shall be sent to Owner at least 10 days prior to coverage expiration. Insurance coverage required under the Contract shall be obtained from insurance companies or entities acceptable to the Owner and that are eligible to provide such insurance under Oregon law. Eligible insurers include admitted insurers that have been issued a certificate of authority from the Oregon Department of Consumer and Business Services authorizing them to conduct an insurance business and issue policies of insurance in the state of Oregon, and certain non-admitted surplus lines insurers that satisfy the requirements of applicable Oregon law and which are subject to approval by the Owner. The Contractor shall be financially responsible for all deductibles, self-insured retentions and/or self-insurance included hereunder. Any deductible, self-insured retention and/or self-insurance in excess of \$50,000 shall be subject to approval by the Owner in writing and shall be a condition precedent to the effectiveness of any Contract.

SECTION H

SCHEDULE OF WORK

H.1 CONTRACT PERIOD

H.1.1 Time is of the essence. The Contractor shall at all times carry on the Work diligently, without delay and punctually fulfill all requirements herein.

H.1.2 Notice to Proceed. Unless otherwise directed in the Contract Documents, Contractor shall commence Work on the Project Site within fifteen (15) Days of the Notice to Proceed. Notwithstanding the Notice to Proceed, Contractor shall not be authorized to proceed with the Work until all initial Contract requirements, including the Contract, performance bond and payment bond, and certificates of insurance, have been fully executed and submitted in a form acceptable to Owner.

H.1.3 Unless otherwise not required in the Construction Documents, Contractor shall participate in a pre-construction conference with the Owner's representative and designated design team. The purpose of this pre-construction conference is to review the Contractor's proposed Schedule of Values and to review any other Project logistics to be coordinated between the parties.

H.1.4 Unless specifically extended by a Change Order, all Work shall be complete by the date contained in the Contract Documents. The Owner shall have the right to accelerate the completion date of the Work, which may require the use of overtime. Such accelerated Work schedule shall be an acceleration in performance of Work under Section D.1.2(f) and shall be subject to the provisions of Section D.1.

H.1.5 The Owner shall not waive any rights under the Contract by permitting the Contractor to continue or complete in whole or in part the Work after the date described in Section H.1.2 above.

H.2 SCHEDULE

H.2.1 Contractor shall provide, by or before the pre-construction conference, the initial as-planned schedule for review and acceptance by the Owner. The submitted schedule must illustrate Work by Project components, labor trades, and long lead items broken down by building and/or floor where applicable. If Owner shall so elect, Contractor shall provide the schedule in CPM format showing the graphical network of planned activities, including i) a reasonably detailed list of all activities required to complete the Work; ii) the time and duration that each activity will take to completion; and iii) the dependencies between the activities. Schedules lacking adequate detail, or unreasonably detailed, will be rejected. The schedule shall include the following: Notice to Proceed or the date the Work commences, if no Notice to Proceed is issued by Owner, Substantial Completion, and Final Completion. Schedules shall be updated monthly, unless otherwise required by the Contract Documents, and submitted with the monthly application for payment. Acceptance of the Schedule by the Owner does not constitute agreement by the Owner as to the Contractor's sequencing, means, methods, or durations. Any positive difference between the Contractor's scheduled completion and the Contract completion date is float owned by the Owner. Owner reserves the right to negotiate the float if it is deemed to be in Owner's best interest to do so. In no case shall the Contractor make a claim for delays if the Work is completed within the Contract Time but after Contractor's scheduled completion.

H.2.2 All Work shall be completed during normal weekdays (Monday through Friday) between the hours of 7:00 a.m. and 5:00 p.m. unless otherwise specified in the Contract Documents. Unless otherwise specified in the Contract Documents, no Work shall be performed during the following holidays:

- New Year's Day
- Martin Luther King Day
- Memorial Day
- Independence Day
- Labor Day
- Veterans Day
- Thanksgiving Day
- Christmas Day
- President's Day

When a holiday falls on a Sunday, the following Monday shall be recognized as a legal holiday. When a holiday falls on Saturday, the preceding Friday shall be recognized as a legal holiday.

H.3 PARTIAL OCCUPANCY OR USE

The Owner may occupy or use any completed or partially completed portion of the Work at any stage, provided such occupancy or use is consented to by public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have reasonably accepted in writing the responsibilities assigned to each of them. Approval by

the Contractor to partial occupancy or use shall not be unreasonably withheld. Immediately prior to such partial occupancy or use, the Owner and Contractor shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work. Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

SECTION I CORRECTION OF WORK

I.1 CORRECTION OF WORK BEFORE FINAL PAYMENT

The Contractor warrants to the Owner that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects, and that the Work will conform to the requirements of the Contract Documents. Work failing to conform to these requirements shall be deemed defective. Contractor shall promptly remove from the premises and replace all defective materials and equipment as determined by the Owner, whether incorporated in the Work or not. Removal and replacement shall be without loss or expense to the Owner, and Contractor shall bear the cost of repairing all Work destroyed or damaged by such removal or replacement. Contractor shall be allowed a period of no longer than thirty (30) Days after Substantial Completion for completion of defective (Punch List) work. At the end of the thirty-day period, or earlier if requested by the Contractor, Owner shall arrange for inspection of the Work by the Architect/Engineer. Should the work not be complete, and all corrections made, the costs for all subsequent reinspections shall be borne by the Contractor. If Contractor fails to complete the Punch List work within the thirty (30) Day period, Owner may perform such work and Contractor shall reimburse Owner all costs of the same within ten (10) Days after demand without affecting Contractor's obligations.

I.2 WARRANTY WORK

I.2.1 Neither the final certificate of payment nor any provision of the Contract Documents shall relieve the Contractor from responsibility for Defective Work and, unless a longer period is specified, Contractor shall correct all defects that appear in the Work within a period of one year from the date of issuance of the written notice of Substantial Completion by the Owner except for latent defects which will be remedied by the Contractor at any time they become apparent. The Owner shall give Contractor notice of defects with reasonable promptness. Contractor shall perform such warranty work within a reasonable time after Owner's demand and at Contractor's sole expense. If Contractor fails to complete the warranty work within such period as Owner determines reasonable, or at any time in the event of warranty work consisting of emergency repairs, Owner may perform such work and Contractor shall reimburse Owner all costs of the same within ten (10) Days after demand, without affecting Contractor's obligations. The Contractor shall perform the warranty Work by correcting defects within twenty-four (24) hours of notification by Owner, unless otherwise specified in the Contract Documents. Should the Contractor fail to respond within the specified response time, the Owner may, at its option, complete the necessary repairs using another contractor or its agents. If Owner completes the repairs using Owner's agent, Contractor shall pay Owner at the rate of one and one-half (1½) times the standard hourly rate of Owner's agent, plus related overhead and any direct non-salary costs. If Owner completes the repairs using another contractor, Contractor shall pay Owner the amount of Owner's direct costs billed by the other contractor for the work, plus the direct salary costs and related overhead and direct non-salary expenses of Owner's agents who are required to monitor that contractor's work. Work performed by Owner using Owner's own agents or those of another contractor shall not affect the Contractor's contractual duties under these provisions, including warranty provisions.

I.2.2 Nothing in this Section I.2 provision shall negate guarantees or warranties for periods longer than one year including without limitation, such guarantees or warranties required by other sections of the Contract Documents for specific installations, materials, processes, equipment or fixtures.

I.2.3 In addition to Contractor's warranty, manufacturer's warranties shall pass to the Owner and shall not take effect until such portion of the Work covered by the applicable warranty has been accepted in writing by the Owner.

I.2.4 The one-year period for correction of Work shall be extended with respect to portions of Work performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of the Work, and shall be extended by corrective Work performed by the Contractor pursuant to this Section, as to the Work corrected. The Contractor shall remove from the Project Site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

I.2.5 Nothing contained in this Section I.2 shall be construed to establish a period of limitation with respect to other obligations which the Contractor might have under the Contract Documents. Establishment of the period for correction of Work as described in this Section I.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

I.2.6 If the Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Price will be reduced as appropriate and equitable as determined by Owner. Such adjustment shall be effected whether or not final payment has been made.

SECTION J SUSPENSION AND/OR TERMINATION OF THE WORK

J.1 OWNER'S RIGHT TO SUSPEND THE WORK

J.1.1 The Owner has the authority to suspend portions or all of the Work due to the following causes:

- (a) Failure of the Contractor to correct unsafe conditions;
- (b) Failure of the Contractor to carry out any provision of the Contract;
- (c) Failure of the Contractor to carry out orders;
- (d) Conditions, in the opinion of the Owner, which are unsuitable for performing the Work;
- (e) Time required to investigate differing Project Site conditions; or
- (f) Any reason considered to be in the public interest.

J.1.2 The Owner shall notify Contractor and the Contractor's Surety in writing of the effective date and time of the suspension, and Owner shall notify Contractor and Contractor's surety in writing to resume Work.

J.2 CONTRACTOR'S RESPONSIBILITIES

- J.2.1 During the period of the suspension, Contractor is responsible to continue maintenance at the Project just as if the Work were in progress. This includes, but is not limited to, protection of completed Work, maintenance of access, protection of stored materials, temporary facilities, and clean-up.
- J.2.2 When the Work is recommenced after the suspension, the Contractor shall replace or renew any Work damaged during the suspension, remove any materials or facilities used as part of temporary maintenance, and complete the Work in every respect as though its prosecution had been continuous and without suspension.

J.3 COMPENSATION FOR SUSPENSION

Depending on the reason for suspension of the Work, the Contractor or the Owner may be due compensation by the other party. If the suspension was required due to acts or omissions of Contractor, the Owner may assess the Contractor actual costs of the suspension in terms of administration, remedial work by the Owner's agents or another contractor to correct the problem associated with the suspension, rent of temporary facilities, and other actual costs related to the suspension, and any liquidated damages arising from the delay. If the suspension was caused by acts or omissions of the Owner, the Contractor may be due compensation which shall be defined using Section D, Changes in Work. If the suspension was required through no fault of the Contractor or the Owner, neither party shall owe the other for the impact.

J.4 OWNER'S RIGHT TO TERMINATE CONTRACT

- J.4.1 The Owner may, without prejudice to any other right or remedy, and after giving Contractor seven (7) Days' written notice and an opportunity to cure, terminate the Contract in whole or in part under the following conditions:
- (a) If Contractor should, voluntarily or involuntarily, seek protection under the United States Bankruptcy Code and Contractor as debtor-in-possession or the Trustee for the estate fails to assume the Contract within a reasonable time;
 - (b) If Contractor should make a general assignment for the benefit of Contractor's creditors;
 - (c) If a receiver should be appointed on account of Contractor's insolvency;
 - (d) If Contractor should repeatedly refuse or fail to supply an adequate number of skilled workers or proper materials to carry on the Work as required by the Contract Documents, or otherwise fail to perform the Work in a timely manner;
 - (e) If Contractor should repeatedly fail to make prompt payment to Subcontractors or for material or labor, or should disregard laws, ordinances or the instructions of the Owner;
 - (f) If Contractor is otherwise in breach of any part of the Contract; or
 - (g) If Contractor is in violation of Applicable Laws, either in the conduct of its business or in its performance of the Work.
- J.4.2 At any time that any of the above occurs, Owner may exercise all rights and remedies available to Owner at law or in equity, and, in addition, Owner may take possession of the premises and of all materials and appliances and finish the Work by whatever method it may deem expedient. In such case, the Contractor shall not be entitled to receive further payment until the Work is completed. If the Owner's cost of finishing the Work exceeds the unpaid balance

of the Contract Price, Contractor shall pay the difference to the Owner.

J.5 TERMINATION FOR CONVENIENCE, NONAPPROPRIATION OF FUNDS, OR FORCE MAJEURE

- J.5.1 Owner may terminate the Contract in whole or in part whenever Owner determines: (a) that termination of the Contract is in the best interest of Owner or the public; (b) that the Owner failed to receive funding, appropriations, allocations or other expenditure authority as contemplated by Owner's budget and Owner determines, in its sole determination, and its assessment and ranking of the policy objectives explicit or implicit in Owner's budget, Owner may determine it is necessary to and may terminate the Contract; or (c) in the event of Force Majeure.
- J.5.2 The Owner shall provide the Contractor with seven (7) Days prior written notice of a termination for Owner's or for public convenience. After such notice, the Contractor shall provide the Owner with immediate and peaceful possession of the premises and materials located on and off the premises for which the Contractor received progress payment under Section E. Compensation for Work terminated by the Owner under this provision will be according to Section E. In no circumstance shall Contractor be entitled to lost profits for Work not performed due to termination. If the Contract is terminated for public convenience, neither the Contractor nor its Surety shall be relieved of liability for damages or losses suffered by the Owner as a result of defective, unacceptable or unauthorized Work completed or performed.

J.6 ACTION UPON TERMINATION

- J.6.1 Upon receiving a notice of termination, and except as directed otherwise by the Owner, Contractor shall immediately cease placing further subcontracts or orders for materials, services, or facilities. In addition, Contractor shall terminate all subcontracts or orders to the extent they relate to the Work terminated and, with the prior written approval of the Owner, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts and orders.
- J.6.2 As directed by the Owner, Contractor shall, upon termination, transfer title and deliver to the Owner all Record Documents, information, and other property that, if the Contract had been completed, would have been required to be furnished to the Owner.
- J.6.3 Upon Owner's notice of termination pursuant to either Section J.4 or J.5, if Owner shall so elect, Contractor shall assign to the Owner such subcontracts and orders as Owner shall specify. In the event Owner elects to take assignment of any such subcontract or order, Contractor shall take such action and shall execute such documents as Owner shall reasonably require for the effectiveness of such assignment and Contractor shall ensure that no contractual arrangement between it and its subcontractors or suppliers of any tier or sub-tier shall prevent such assignment.

SECTION K CONTRACT CLOSE OUT

K.1 RECORD DOCUMENTS

As a condition of final payment (refer also to section E.6), Contractor shall comply with the following: Contractor shall provide Record Documents for the entire Project to Owner. Record Documents shall depict the Project as constructed and shall reflect each and every change, modification, and deletion made during the construction. Record Documents are part of the Work and shall be provided prior to the Owner's issuance of final payment. Record Documents include all modifications to the Contract Documents unless otherwise directed.

K.2 OPERATION AND MAINTENANCE MANUALS

As part of the Work, Contractor shall submit two completed operation and maintenance manuals ("O & M Manuals") for review by the Owner prior to submission of any pay request for more than 75% of the Work. Owner's receipt of the O & M Manuals shall be a condition precedent to any payment thereafter due. The O & M Manuals shall contain a complete set of all submittals, all product data as required by the specifications, training information, telephone list and contact information for all consultants, manufacturers, installer and suppliers, manufacturer's printed data, record and shop drawings, schematic diagrams of systems, appropriate equipment indices, warranties and bonds. The Owner shall review and return one O & M Manual for any modifications or adjustments required. Prior to submission of its final pay request, Contractor shall deliver two (2) complete and approved sets of O & M Manuals in paper form and one (1) complete and approved set in electronic form to the Owner and Owner's receipt of the O & M Manuals shall be a condition precedent to Owner's obligation to make final payment.

K.3 COMPLETION NOTICES

K.3.1 Contractor shall provide Owner written notice of both Substantial and Final Completion. The certificate of Substantial Completion shall state the date of Substantial Completion, the responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and the time within which the Contractor shall finish all items on the Punch List accompanying the Certificate. Both completion notices must be signed and notarized by the Contractor and signed by the Architect/Engineer (if applicable) and Owner to be valid. The Owner shall provide the final signature on the notices. The notices shall take effect on the date they are signed by the Owner.

K.3.2 Substantial Completion of a facility with operating systems (e.g., mechanical, electrical, HVAC) shall be that degree of completion that has provided a minimum of thirty (30) continuous Days of successful, trouble-free operation, which period shall begin after all performance and acceptance testing has been successfully demonstrated to the Owner. All equipment contained in the Work, plus all other components necessary to enable the Owner to operate the facility in the manner that was intended, shall be complete on the Substantial Completion date. The Contractor may request that a Punch List be prepared by the Owner with submission of the request for the Substantial Completion notice.

K.4 TRAINING

As part of the Work, and prior to submission of the final application for payment, the Contractor shall schedule with the Owner training sessions for all equipment and systems as required by the Contract Documents. Contractor shall schedule training sessions at least two weeks in advance of the date of training to allow Owner to provide its personnel with adequate notice. If assignments arise because of termination under Section J.4, then such assignments shall not relieve Contractor of liability hereunder. The O & M Manual shall be used as a basis for training. In addition to any off-Project Site training required by the Contract Documents, training shall include a formal session conducted at the Project Site after the equipment and/or system is completely installed and operational in its normal operating environment.

K.5 EXTRA MATERIALS

As part of the Work, Contractor shall provide spare parts, extra maintenance materials, and other materials or products in the quantities specified in the Contract Documents prior to final payment. Delivery point for extra materials shall be designated by the Owner.

K.6 ENVIRONMENTAL CLEAN-UP

As part of the Final Completion notice, or as a separate written notice submitted with or before the notice of Final Completion, the Contractor shall notify the Owner that all environmental and pollution clean-up, remediation and closure have been completed in accordance with all Applicable Laws and pursuant to the authority of all agencies having jurisdiction, and Contractor shall provide Owner with any and all documentation related to the same, including but not limited to directives, orders, letters, certificates and permits related to or arising from such environmental pollution. The notice shall reaffirm the indemnification given under Section F.5.1 above. Contractor's completion of its obligations under this Section K.6 and Owner's receipt of documents evidencing such completion shall be a condition precedent to Owner's obligation to make final payment.

K.7 CERTIFICATE OF OCCUPANCY

Owner's receipt of an unconditioned certificate of occupancy from the appropriate state and/or local building officials shall be a condition precedent to Owner's obligation to make final payment, except to the extent failure to obtain an unconditional certificate of occupancy is due to the fault or neglect of Owner.

K.8 OTHER CONTRACTOR RESPONSIBILITIES

The Contractor shall be responsible for returning to the Owner all property of Owner issued to Contractor during construction such as keys, security passes, Project Site admittance badges, and all other pertinent items. Upon notice from Owner, Contractor shall be responsible for notifying the appropriate utility companies to transfer utility charges from the Contractor to the Owner. The utility transfer date shall not be before Substantial Completion and may not be until Final Completion, if the Owner does not take beneficial use of the facility and the Contractor's agents continue with the Work.

The Owner's property is drug free and weapons free areas and the use of tobacco products is only allowed in designated areas. Contractor shall be required to ensure that its employees, Subcontractors and agents shall comply with these requirements.

K.9 SURVIVAL

All warranty and indemnification provisions of the Contract, and all of Contractor's other obligations under the Contract that are not fully performed by the time of Final Completion or termination, shall survive Final Completion or any termination of the Contract.

SECTION L GENERAL PROVISIONS

L.1 NO THIRD PARTY BENEFICIARIES

Owner and Contractor are the only parties to the Contract and are the only parties entitled to enforce its terms. Nothing in the Contract gives, is intended to give, or shall be construed to give or provide any benefit or right, whether directly, indirectly, or otherwise, to third persons unless such third persons are individually identified by name herein and expressly described as intended beneficiaries of the terms of the Contract.

L.2 SEVERABILITY

If any provision of the Contract is declared by a court to be unenforceable, illegal, or in conflict with any law, the validity of the remaining terms and provisions shall not be affected and the rights and obligations of the parties shall be construed and enforced as if the Contract did not contain the particular provision held to be invalid.

L.3 ACCESS TO RECORDS

L.3.1 Contractor shall keep, at all times on the Project Site, one record copy of the complete Contract Documents, including the Plans, Specifications, addenda, and Change Orders (if any) in good order

and marked currently to record field changes and selections made during construction, and one record copy of Shop Drawings, Product Data, Samples and similar submittals, and shall at all times give the Owner access thereto.

- L.3.2 Contractor shall retain and the Owner and its duly authorized representatives shall have access, for a period not less than ten (10) years, to all Record Documents, financial and accounting records, and other books, documents, papers and records of Contractor which are pertinent to the Contract, including records pertaining to Overhead and indirect costs, for the purpose of making audit, examination, excerpts and transcripts. If for any reason, any part of the Work or the Contract shall be subject to litigation, Contractor shall retain all such records until all litigation is resolved and Contractor shall continue to provide Owner and/or its agents with full access to such records until such time as all litigation is complete and all periods for appeal have expired and full and final satisfaction of any judgment, order or decree is recorded and Owner receives a record copy of documentation from Contractor.

L.4 WAIVER

Failure of the Owner to enforce any provision of the Contract shall not constitute a waiver or relinquishment by the Owner of the right to such performance in the future nor of the right to enforce any other provision of the Contract.

L.5 SUCCESSORS IN INTEREST

The provisions of the Contract shall be binding upon and shall accrue to the benefit of the parties to the Contract and their respective permitted successors and assigns.

L.6 GOVERNING LAW

The Contract shall be governed by and construed in accordance with the laws of the State of Oregon without giving effect to the conflict of law provisions thereof.

L.7 APPLICABLE LAW

Contractor hereto agrees to comply in all ways with applicable local, state and federal ordinances, statutes, laws and regulations.

L.8 NON-EXCLUSIVE RIGHTS AND REMEDIES

Except as otherwise expressly provided herein, the rights and remedies expressly afforded under the provisions of the Contract shall not be deemed exclusive, and shall be in addition to and cumulative with any and all rights and remedies otherwise available at law or in equity. The exercise by either Party of any one or more of such remedies shall not preclude the exercise by it, at the same or different times, of any other remedies for the same default or breach, or for any other default or breach, by the other Party.

L.9 INTERPRETATION

The titles of the sections of the Contract are inserted for convenience of reference only and shall be disregarded in construing or interpreting any of its provisions.

L.10 DEBT LIMITATION

The Contract is expressly subject to the debt limitation of Oregon counties set forth in Article XI, Section 10, of the Oregon Constitution, and is contingent upon funds being appropriated therefore. Any provisions herein which would conflict with law are deemed inoperative to that extent.

L.11 LITIGATION

Any Claim between Owner and Contractor that arises from or relates to the Contract and that is not resolved through the Claims Review Process

in Section D.3 shall be brought and conducted solely and exclusively within the Circuit Court of Clackamas County for the State of Oregon; provided, however, if a Claim must be brought in a federal forum, then it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. In no event shall this section be construed as a waiver by the County of any form of defense or immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise, from any claim or from the jurisdiction of any court. CONTRACTOR, BY EXECUTION OF THE CONTRACT, HEREBY CONSENTS TO THE IN PERSONAM JURISDICTION OF THE COURTS REFERENCED IN THIS SECTION.



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
SUPPLEMENTAL GENERAL CONDITIONS**

PROJECT: #2017-115 Reroof Multiple Buildings Project

The following modifies the November 1, 2017 Clackamas County General Conditions for Public Improvement Contracts (“County General Conditions”) for this Contract. Except as modified below, all other terms and conditions of the County General Conditions shall remain in effect.

1. Good Faith Effort

As a condition of Contractor being awarded a Contract for this Project, Contractor must complete Good Faith Effort outreach and documentation as described in the Supplemental Instructions to Bidders of the Solicitation Document.

The Contractor may not change who is performing each Division of Work identified in Form 1 of the Good Faith Effort without the express written advance approval of Owner. This includes substituting identified subcontractors, self-performance of a Division of Work that was identified to be performed by a subcontractor, or the Contractor subcontracting a Division of Work that was identified to be self-performed by the Contractor.

Contractor shall be required to submit the completed Form 3 with its final pay application as a condition of final payment.



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
PERFORMANCE BOND**

Bond No.: _____

Solicitation: 2017-115

Project Name: Reroof of Multiple Buildings Project

(Surety #1)	Bond Amount No. 1:	\$ _____
(Surety #2)*	Bond Amount No. 2:*	\$ _____
	Total Penal Sum of Bond:	\$ _____

** If using multiple sureties*

We, _____ as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto Clackamas County, the sum of (Total Penal Sum of Bond) _____ (Provided, that we the Sureties bind ourselves in such sum “jointly and severally” as well as “severally” only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety); and

WHEREAS, the Principal has entered into a contract with Clackamas County, along with the plans, specifications, terms and conditions of which are contained in the above-referenced Solicitation; and

WHEREAS, the terms and conditions of the contract, together with applicable plans, standard specifications, special provisions, schedule of performance, and schedule of contract prices, are made a part of this Performance Bond by reference, whether or not attached to the contract (all hereafter called “Contract”); and

WHEREAS, the Principal has agreed to perform the Contract in accordance with the terms, conditions, requirements, plans and specifications, and all authorized modifications of the Contract which increase the amount of the work, the amount of the Contract, or constitute an authorized extension of the time for performance, notice of any such modifications hereby being waived by the Surety:

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal herein shall faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, and shall well and truly and fully do and perform all matters and things undertaken by Contractor to be performed under the Contract, upon the terms set forth therein, and within the time prescribed therein, or as extended as provided in the Contract, with or without notice to the Sureties, and shall defend, indemnify, and save harmless Clackamas County and its elected officials, officers, employees and agents, against any direct or indirect damages or claim of every kind and description that shall be suffered or claimed to be suffered in connection with or

arising out of the performance of the Contract by the Principal or its subcontractors, and shall in all respects perform said contract according to law, then this obligation is to be void; otherwise, it shall remain in full force and effect for so long as any term of the Contract remains in effect.

If the County determines that any of the above conditions have not been met, the County may require payment under this bond at its sole and absolute discretion and Surety shall issue prompt payment of the full value of this bond without set-off or dispute or requirement for an opportunity to cure.

Nonpayment of the bond premium will not invalidate this bond nor shall Clackamas County, be obligated for the payment of any premiums.

This bond is given and received under authority of Oregon Revised Statutes Chapter 279C and the Clackamas County Local Contractor Review Board Rules, the provisions of which hereby are incorporated into this bond and made a part hereof.

IN WITNESS WHEREOF, WE HAVE CAUSED THIS INSTRUMENT TO BE EXECUTED AND SEALED BY OUR DULY AUTHORIZED LEGAL REPRESENTATIVES.

Dated this _____ day of _____, 20_____.

PRINCIPAL: _____

By: _____

Signature

Official Capacity

Attest: _____

Corporation Secretary

SURETY: _____

[Add signatures for each if using multiple bonds]

BY ATTORNEY-IN-FACT:

[Power-of-Attorney must accompany each bond]

Name

Signature

Address

City

State

Zip

Phone

Fax



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT**

PAYMENT BOND

Bond No.: _____

Solicitation: 2017-115

Project Name: Reroof of Multiple Buildings Project

_____ (Surety #1)	Bond Amount No. 1:	\$ _____
_____ (Surety #2)*	Bond Amount No. 2:*	\$ _____
* <i>If using multiple sureties</i>	Total Penal Sum of Bond:	\$ _____

We, _____, as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto Clackamas County, the sum of (Total Penal Sum of Bond) _____ (Provided, that we the Sureties bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety); and

WHEREAS, the Principal has entered into a contract with Clackamas County, along with the plans, specifications, terms and conditions of which are contained in above-referenced Solicitation; and

WHEREAS, the terms and conditions of the contract, together with applicable plans, standard specifications, special provisions, schedule of performance, and schedule of contract prices, are made a part of this Payment Bond by reference, whether or not attached to the contract (all hereafter called "Contract"); and

WHEREAS, the Principal has agreed to perform the Contract in accordance with the terms, conditions, requirements, plans and specifications, and schedule of contract prices which are set forth in the Contract and any attachments, and all authorized modifications of the Contract which increase the amount of the work, or the cost of the Contract, or constitute authorized extensions of time for performance of the Contract, notice of any such modifications hereby being waived by the Surety:

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal shall faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, and shall well and truly and fully do and perform all matters and things by it undertaken to be performed under said Contract and any duly authorized modifications that are made, upon the terms set forth therein, and within the time prescribed therein, or as extended therein as provided in the Contract, with or without notice to the Sureties, and shall defend, indemnify, and save harmless Clackamas County and its elected officials, officers, employees and agents, against any claim for direct or indirect damages of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the Contract by the Contractor or its subcontractors, and shall promptly pay all persons supplying labor, materials or both to the Principal or its subcontractors for prosecution of the work provided in the Contract; and shall promptly pay all contributions due the State Industrial Accident Fund and the State Unemployment Compensation Fund from the Principal or its subcontractors in connection with the performance of the Contract; and shall pay over to the Oregon Department of Revenue all sums required to be deducted and retained from the wages of employees of the Principal and its subcontractors pursuant to ORS 316.167, and

shall permit no lien nor claim to be filed or prosecuted against Clackamas County on account of any labor or materials furnished; and shall do all things required of the Principal by the laws of this State, then this obligation shall be void; otherwise, it shall remain in full force and effect for so long as any term of the Contract remains in effect.

If the County determines that any of the above conditions have not been met, the County may require payment under this bond at its sole and absolute discretion and Surety shall issue prompt payment of the full value of this bond without set-off or dispute or requirement for an opportunity to cure.

Nonpayment of the bond premium will not invalidate this bond nor shall Clackamas County be obligated for the payment of any premiums.

This bond is given and received under authority of Oregon Revised Statutes Chapter 279C and the Clackamas County Local Contractor Review Board Rules, the provisions of which hereby are incorporated into this bond and made a part hereof.

IN WITNESS WHEREOF, WE HAVE CAUSED THIS INSTRUMENT TO BE EXECUTED AND SEALED BY OUR DULY AUTHORIZED LEGAL REPRESENTATIVES:

Dated this _____ day of _____, 20____.

PRINCIPAL: _____

By: _____
Signature

Official Capacity
Attest: _____
Corporation Secretary

SURETY: _____
[Add signatures for each if using multiple bonds]

BY ATTORNEY-IN-FACT:
[Power-of-Attorney must accompany each bond]

Name

Signature

Address

City State Zip

Phone Fax



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
PROJECT INFORMATION, PLANS, SPECIFICATIONS AND DRAWINGS

PROJECT: # 2017-115 Reroof of Multiple Buildings Project

Project Completion: All Basic Bid Work may begin as soon as the Notice to Proceed (“NTP”) is issued and all Work must be fully completed prior to October 31, 2018.

Engineers Estimate:

Silver Oak Building: \$460,000.00

Bowman Building: \$134,000.00

Public Safety Training Center: \$165,000.00

Fairgrounds Pavilion Center: \$150,000.00

Project Scope:

This project is for the reroofing of up to four (4) County owned buildings:

- The Silver Oak building located at 1810 Red Soils Ct. Oregon City, OR 97045;
- The Bowman Building located at 12800 SE 82nd Ave., Clackamas, OR 97015;
- The Public Safety Training Center Building (“PSTC”) located at 12700 SE 82nd Ave., Clackamas, OR 97015;
- Additive alternate, the Clackamas County Fairgrounds Pavilion Center located at 694 NE 4th Ave., Canby OR 97013.

**One contractor will be selected to perform all work by the lowest aggregate bid.*

The contractor shall supply all materials and labor to complete their portion of the project in compliance with all local codes and regulations according to specifications and detailed requirements.

The awarded contract will cover permits and the supply and installation of single ply membrane roofing, recover boards, flashing and coping, fall restraint system and all incidentals needed or required to deliver a complete, cohesive roof system at each location.

Note: There are three (3) Additive Alternates for this Project.

Additive alternate #1: For the **PSTC and Bowman Building** roofs, provide an estimate to remove, haul away, and dispose of the existing gravel topping cover.

Additive alternate #2: Provide estimate to reroof the **Fairgrounds Pavilion Building** as provided for in detailed Requirements #4 and as per the attached specifications.

Additive alternate #3: Provide a separate estimate for each building to incorporate a Guardian CB-12 integrated fall protection system manufactured by Guardian Fall Protection, Inc.

The Scope further includes the following Plans, Specifications and Drawings:

- SINGLE PLY MEMBRANE REROOF PROJECTS – PROJECT SPECIFICATIONS
- SILVER OAK BUILDING ORIGINAL SUBMITTALS
- CLACKAMAS COUNTY JUSTICE COURT DRAWING SHEET S1.4 (17 OF 19 SHEETS)
- PUBLIC SAFETY CENTER DRAWING SHEET A1.6
- SILVER OAK BUILDING REROOF PROJECT DRAWING SHEET SITE PLAN A000



Jeff Jorgensen
Manager

FACILITIES MANAGEMENT

CENTRAL UTILITY PLANT

1710 Red Soils Court, #200 \ Oregon City, OR 97045

SINGLE PLY MEMBRANE REROOF PROJECTS

FOR CLACKAMAS COUNTY BUILDINGS

PROJECT SPECIFICATIONS

PROJECT OVERVIEW

The scope of this bid is for the reroofing of up to four (4) County owned buildings: The Silver Oak building located at 1810 Red Soils Ct. Oregon City, OR 97045, The Bowman and PSTC Buildings located at 12800 and 12700 SE 82nd Ave., Clackamas, OR 97015 and as an additive alternate, the Clackamas County Fairgrounds Pavilion Center at 694 NE 4th Ave., Canby OR 97013. Each building will have a separate bid schedule with one Contractor selected to perform all work by the lowest aggregate quote.

TECHNICAL INQUIRIES

Questions relating to materials in the Bid Proposal, the Standard Specifications and Special Provisions and the Plans and Drawings shall be addressed to:

Ryan Rice

Contract Analyst

503-742-5446 or via email at rrice@clackamas.us

LICENSING

Subcontractors must be currently licensed in good standing with the Oregon Construction Contractor's Board and have or obtain a Metro or City of Oregon City license to bid on this project.

BOLI WAGES

This contract falls under BOLI requirements. The Subcontractor shall be required to follow the Prevailing Wage Rate Law and pay the appropriate hourly rates as found in the 'Prevailing Wage Rates for Public Works Contracts in Oregon Effective July 1, 2017 book. The Subcontractor and their subcontractors if any, are required to have a public works bond on file with the Oregon Construction Contractors Board before starting any work unless exempt. **Copies of the certified wage reports must be submitted before final labor invoices can be paid as per the Public Contracting Code - ORS 279C.845 and ORS 279.555.**

SCOPE

The contractor shall supply all materials and labor to complete their portion of the project in compliance with all local codes and regulations according to specifications and detailed requirements specified below.

This contract will cover permits and the supply and installation of single ply membrane roofing, recover boards, flashing and coping, fall restraint system and all incidentals needed or required to deliver a complete, cohesive roof system at each location. All work under this bid shall be completed by 31st of October, 2018.

GENERAL REQUIREMENTS

1. Quotations must be submitted as specified above, or they will not be considered.
2. Each location shall be open for a non-mandatory pre-bid inspection. Dates and times will be provided in a separate attachment.
3. The Contractor shall apply and pay for all necessary permits to perform the work associated with or described in this Bid. Contractor must obtain and pay for performance and payment bonds which shall be a required part of the Contract.
4. It is understood that work to be performed by the Contractor is based upon the specified structures in the existing locations and conditions, and that Clackamas County assumes no responsibility and makes no guarantee or representation as to the condition thereof prior to, or subsequent to, the execution of the contract.
5. Work hours for the Bowman, Silver Oak and Pavilion Buildings are Monday through Friday 6:30am to 5:30pm. Work hours for the PSTC Building are varied: This is an active training and public shooting range with Monday and Tuesday closures, and Thursday and Friday early afternoon openings. Additionally, police training may be scheduled on closed days. No work will be permitted while the range is open over the range roof area. The County proposes full standard hour work days during complete range closures, and an early start and end time on other days. Specific times will be discussed and approved at the pre-con meeting.
6. Clackamas County will provide potable water access and 120v power supply for Contractor's operations. Any additional requirements or needs of the Contractor shall be included in the bid proposal.
7. Selected Contractor shall convene a pre-construction meeting after contract award and before ordering materials or commencing any work. The Contractor shall provide a duration schedule for each roof including anticipated delivery dates of materials. The pre-con shall be held at a mutually agreed upon location and may include all projects in one meeting.

DETAILED REQUIREMENTS

1. The Contractor shall be responsible for supplying, fabricating, delivering and installing all required materials and labor to include incidentals to complete the scope of work detailed in these specifications and as directed by the County.
2. The **Silver Oak Building** had a partial reroof project completed in 2016 which covers approximately 25% of the roof area. This building's reroof project will require the use of a compatible TPO to be tied into and welded to the existing membrane roof, as well as recover board and insulation panels that are of the same make and manufacturer, or similar in grade and performance to the previously installed components.

The remainder of the existing roof consists of a built up roof (BUR) installed over a wood framed and sheathed deck. The insulation and recover boards shall be installed over the BUR roof, with the TPO mechanically fastened in place. All parapet flashings to be replaced shall be similar in grade, performance and appearance to the flashings replaced during the 2016 partial reroof. The 2016 project submittals shall be included with the bid documents as a reference.

3. The **PSTC and Bowman Buildings** roofs consist of a BUR roof over a wood framed and sheathed deck. These roofs may be bid with any single ply material (PVC, TPO, Etc) and recover board that meets the required specifications. A portion of the PSTC's current roof is built over a firearm range, which has a positive pressure system that can and has affected the existing roof. The Contractor shall provide and install a minimum of 10 roof vents, each no less than 6" in diameter over the range roof to help eliminate the pressures the new membrane roof will be subject to.

Additive alternate #1: For the **PSTC and Bowman Building** roofs, provide an estimate to remove, haul away and dispose of the existing gravel topping cover.

4. The Clackamas County **Fairgrounds Pavilion Building** consists of a traditional wood framed structure with a mix of rafters and manufactured trusses originally built in 1924. The existing roofs are a mix of TPO, high-ribbed rolled metal, architectural composition shingles and hot mop asphalt. This project will be a reroof of the existing membrane and hot mop asphalt roofs comprised of an overlay only, leaving existing roofs in place. The existing metal roof shall remain in place with no work performed.

Additive alternate #2: Provide estimate to reroof the **Fairgrounds Pavilion Building** as provided for in Detailed Requirements #4 and as per the attached specifications.

Additive alternate #3: Provide a separate estimate for each building to incorporate a Guardian CB-12 integrated fall protection system manufactured by Guardian Fall Protection, Inc.

BUILDING SPECIFICATIONS

SILVER OAK BUILDING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Complete adhered thermoplastic polyolefin (TPO) membrane roofing system with insulation and recovery board mechanically fastened to existing roof sheathing, and PMMA interfacing flashing between two roof systems, using manufacturer's standard details throughout unless otherwise indicated.
- B. Disposal of demolition debris and construction waste in manner complying with applicable federal, state, and local regulations.

1.02 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D1079 for definition of terms related to roofing work not otherwise defined in the section.
- B. LTTR: Long Term Thermal Resistance, as defined by CAN-ULC S770.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Conference: See General Requirements #7. Before start of roofing work, Contractor shall hold a meeting to discuss the proper installation of materials and requirements to achieve the warranty.
 - 1. Require attendance with all parties directly influencing the quality of roofing work or affected by the performance of roofing work.

1.04 SUBMITTALS

- A. Provide the following information in PDF form to the County for review and approval after contract ratification and before ordering materials or commencing work.
- B. Product Data:
 - 1. Provide membrane manufacturer's printed data sufficient to show that all components of roofing system, including insulation and fasteners, comply with the specified requirements and with the membrane manufacturer's requirements and recommendations for the system type specified; include data for each product used in conjunction with roofing membrane.
- C. Shop Drawings: Provide the roof membrane manufacturer's standard details customized for this project for all relevant conditions, including flashing types and conditions, base tie-ins, roof edges, terminations, expansion joints, penetrations, and drains.
 - 1. For tapered insulation, provide project-specific layout and dimensions for each board.
- D. Specimen Warranty: Submit prior to starting work.
- E. Installer Qualifications: Letter from manufacturer attesting that the roofing installer meets the specified qualifications.
- F. Pre-Installation Notice: Copy to show that manufacturer's required Pre Installation Notice (PIN) has been accepted and approved by the manufacturer.
- G. Executed Warranty.

1.05 QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual for roofing system.
- B. Manufacturer Qualifications: Company specializing in manufacture of thermoplastic polyolefin (TPO) membrane roofing systems with ten years of experience without a membrane failure.
- C. Installer Qualifications: Company specializing in installation of thermoplastic polyolefin (TPO) membrane roofing systems with five years of experience with this manufacturer's product and with written approval as successfully passing installation training program from this manufacturer.
- D. Pre-installation Conference: See General Requirement #7
- E. Manufacturer's Technical Representative:
 - 1. Visit site not less than three times, or more if required, to review technical aspects critical to roofing application, and installation procedures.
 - a. Pre-installation meeting.
 - b. Substrate suitability approval for application of roofing Installation.
 - c. Observation of completed installation.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact and legible.
- B. Store materials clear of ground and moisture with weather protective covering.
- C. Keep combustible materials away from ignition sources.

1.07 WARRANTY

- A. Comply with all warranty procedures required by manufacturer, including notifications, scheduling, and inspections.
- B. Warranty: Warranty covering membrane, roof insulation, and other indicated components of the system, for the term of 20 years.
 - 1. Limit of Liability: No dollar limitation.
 - 2. Scope of Coverage: Repair leaks in the roofing system caused by:
 - a. Ordinary wear and tear of the elements.
 - b. Manufacturing defect in materials.
 - c. Defective workmanship used to install these materials.
 - d. Damage due to winds up to 55 mph.
 - 3. Not Covered:
 - a. Damage due to winds in excess of 55 mph.
 - b. Damage due hurricanes or tornadoes.
 - c. Hail.
 - d. Intentional damage.
 - e. Unintentional damage due to normal rooftop inspections, maintenance, or service.

PART 2 PRODUCTS**201 MANUFACTURERS**

- A. Design Basis Manufacturer: Carlisle Roofing Systems, Inc; www.carlisle-syntec.com.
- B. Acceptable Manufacturers pending conformance to Design Basis manufacturer:
- C. Manufacturer of Insulation and Cover Boards: Same manufacturer as roof membrane.
- D. Substitutions: Submit products that are directly compatible with Carlisle product for review.

202 ROOFING SYSTEM DESCRIPTION

- A. Roofing System: Thermoplasticolefin (TPO) single-ply membrane.

203 MEMBRANE MATERIALS

- A. Membrane: Flexible, heat weldable sheet composed of thermoplastic polyolefin polymer and ethylene propylene rubber; complying with ASTM D6878, with polyester weft inserted reinforcement and the following additional characteristics:
 - 1. Thickness: 0.080 inch plus/minus 10 percent, with coating thickness over reinforcement of 0.030

inch plus/minus 10 percent.

2. Sheet Width: Provide sheets of width necessary to accommodate batten spacing required by manufacturer for project conditions.
 3. Puncture Resistance: 415 lbf, minimum, when tested in accordance FTM 101C Method 2031.
 4. Solar Reflectance: 0.84, minimum, when tested in accordance with ASTM C1549.
- B. Insulation Fasteners: Type and size as required by roof membrane manufacturer for roofing system attachment to existing plywood roof sheathing through existing built-up roof system and warranty to be provided; use only fasteners furnished by roof membrane manufacturer.
- C. Curb and Parapet Flashing: Same material as membrane, with encapsulated edge which eliminates need for seam sealing the flashing-to-roof splice; precut to 18 inches wide.
- D. Formable Flashing: Non-reinforced, flexible, heat weldable sheet, composed of thermoplastic polyolefin polymer and ethylene propylene rubber.
1. Thickness: 0.060 inch plus/minus 10 percent.
 2. Tensile Strength: 1550 psi, minimum, when tested in accordance with ASTM D638 after heat aging.
 3. Elongation at Break: 650 percent, minimum, when tested in accordance with ASTM D638 after heat aging.
 4. Tearing Strength: 12 lbf, minimum, when tested in accordance with ASTM D1004 after heat aging.
 5. Color: White.
 6. Acceptable Product: TPO Flashing by Carlisle.
- E. Tape Flashing: 5-1/2 inch nominal wide TPO membrane laminated to cured rubber polymer seaming tape, overall thickness 0.065 inch nominal; TPO Flashing by Carlisle.
- F. Pourable Sealer: Two-part polyurethane, two-color for reliable mixing; Pourable Sealer by Carlisle.
- G. Termination Bars: Aluminum bars with integral caulk ledge; 1.3 inches wide by 0.10 inch thick; Termination Bar by Carlisle.
- H. Cut Edge Sealant: Synthetic rubber-based, for use where membrane reinforcement is exposed; Cut Edge Sealant by Carlisle.
- I. General Purpose Sealant: EPDM-based, one part, white general purpose sealant; TPO General Purpose Sealant by Carlisle.
- J. Molded Flashing Accessories: Unreinforced TPO membrane pre-molded to suit a variety of flashing details, including pipe boots, inside corners, outside corners, etc.; TPO Small and Large Pipe Flashing by Carlisle.
- K. Water Block Seal: Butyl rubber sealant for use between two surfaces, not exposed; Water Block Seal by Carlisle.
- L. Roof Walkway Pads: Non-reinforced TPO walkway pads, 0.130 inch by 30 inches by 40 feet long with patterned traffic bearing surface; TPO Walkway Pads by Carlisle.
- M. PMMA flashing at termination of TPO to built-up roofing where TPO will not cover built-up roofing. Verify compatibility of PMMA flashing to both roofing materials prior to proceeding with PMMA flashing application.

204 ROOF INSULATION AND COVER BOARDS

- A. Polyisocyanurate Board Insulation: Closed cell polyisocyanurate foam with black glass reinforced mat laminated to faces, complying with ASTM C1289 Type II Class 1, with the following additional characteristics:
1. Thickness: Not less than 80mil on deck and 60mil on parapet
 2. Size: 48 inches by 96 inches, nominal.
 3. Exception: Insulation to be attached using adhesive or asphalt may be no larger than 48 inches by 48 inches, nominal.
 4. R-Value (LTTR): R = 6.0/inch, minimum.
 5. Compressive Strength: 20 psi when tested in accordance with ASTM C1289.
 6. Ozone Depletion Potential: Zero; made without CFC or HCFC blowing agents.

7. Recycled Content: 19 percent post-consumer and 15 percent post-industrial, average.
- B. High Density Polyisocyanurate Recover Board: Non-combustible, water resistant, high density closed cell polyisocyanurate core with coated glass mat facers, with the following characteristics:
 1. Size: 48 inches by 96 inches, nominal.
 2. Thickness: 1/4 inch.
 3. Thermal Value: R-value of 2.5, when tested in accordance with ASTM C518 and ASTM C177.
 4. Surface Water Absorption: 3 percent, maximum, when tested in accordance with ASTM C209.
 5. Compressive Strength: 120 psi, when tested in accordance with ASTM D1621.
 6. Density: 5 pcf, when tested in accordance with ASTM D1622.
 7. Factory Mutual approved for use with FM 1-60 and 1-90 rated roofing assemblies.
 8. Mold Growth Resistance: Passing ASTM D3273.
- C. Insulation Fasteners: Type and size as required by roof membrane manufacturer for roofing system and warranty to be provided; use only fasteners furnished by roof membrane manufacturer.

PART 3 INSTALLATION

301 DEMOLITION

- A. Neatly, provide precision removal of portions of the existing roof system and flashings at perimeters as necessary to allow for installation of roofing membrane manufacturer's standard details customized for this project in accordance with roofing manufacturer's published instructions and recommendations for the specified roofing system. Comply with federal, state, and local regulations.
- B. Remove all demolished items and clean all contaminants generated by demolition work from building and surrounding areas, including bitumen, adhesives, sealants, and coatings.
- C. Do not start new roof system work until manufacturer's technical representative reviews substrate and determine substrate condition satisfactory for roofing installation

302 EXAMINATION

- A. Examine roof deck to determine that it is sufficiently rigid to support installers and their mechanical equipment and that deflection will not strain or rupture roof components or deform deck.
- B. Verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work.
- C. Examine roof substrate to verify that it is properly sloped to drains and will not create ponding, especially at areas where new roof cover-over meets existing roof not being covered over.
- D. Verify that the specifications and drawing details are workable and not in conflict with the roofing manufacturer's recommendations and instructions; start of work constitutes acceptable of project conditions and requirements.

303 GENERAL

- A. Install roofing, insulation, flashings, and accessories in accordance with roofing manufacturer's published instructions and recommendations for the specified roofing system. Where manufacturer provides no instructions or recommendations, follow good roofing practices and industry standards. Comply with federal, state, and local regulations.
- B. Obtain all relevant instructions and maintain copies at project site for duration of installation period.
- C. Do not start work until Pre-Installation Notice has been submitted to manufacturer as notification that this project will require a manufacturer's warranty.
- D. Perform work using competent and properly equipped personnel.
- E. Temporary closures, which ensure that moisture does not damage any completed section of the new roofing system, are the responsibility of the applicator. Completion of flashings, terminations, and temporary closures shall be completed as required to provide a watertight condition.
- F. Install roofing membrane only when surfaces are clean, dry, smooth and free of snow or ice; do not apply roofing membrane during inclement weather or when ambient conditions will not allow proper application; consult manufacturer for recommended procedures during cold weather. Do not work with sealants and adhesives when material temperature is outside the range of 60 to 80 degrees F.
- G. Protect adjacent construction, property, vehicles, and persons from damage related to roofing work; repair or restore damage caused by roofing work.

1. Protect from spills and overspray from bitumen, adhesives, sealants and coatings.
 2. Particularly protect metal, glass, plastic, and painted surfaces from bitumen, adhesives, and sealants within the range of wind-borne overspray.
 3. Protect finished areas of the roofing system from roofing related work traffic and traffic by other trades.
- H. Until ready for use, keep materials in their original containers as labeled by the manufacturer.
- I. Consult membrane manufacturer's instructions, container labels, and Material Safety Data Sheets (MSDS) for specific safety instructions. Keep all adhesives, sealants, primers and cleaning materials away from all sources of ignition.

304 PREPARATION

- A. Take appropriate measures to ensure that fumes from adhesive solvents are not drawn into the building through air intakes.
- B. Prior to proceeding, prepare roof surface so that it is clean, dry, and smooth, and free of sharp edges, fins, roughened surfaces, loose or foreign materials, oil, grease and other materials that may damage the membrane.
- C. Fill all surface voids in the immediate substrate that are greater than 1/4 inch wide with fill material acceptable insulation to membrane manufacturer.
- D. Seal, grout, or tape deck joints, where needed, to prevent bitumen seepage into building.

305 INSULATION AND RECOVER BOARD INSTALLATION

- A. Install recover board over existing roof surface in configuration and with attachment method required by roofing manufacturer to separate existing and new systems and provide a suitable substrate for system insulation installation specified in PART 2, under Roofing System.
- B. Install insulation in configuration and with attachment method(s) specified in PART 2, under Roofing System.
- C. Install only as much insulation as can be covered with the completed roofing system before the end of the day's work or before the onset of inclement weather.
- D. Lay roof insulation in courses parallel to roof edges.
- E. Neatly and tightly fit insulation to all penetrations, projections, and nailers, with gaps not greater than 1/4 inch. Fill gaps greater than 1/4 inch with acceptable insulation. Do not leave the roofing membrane unsupported over a space greater than 1/4 inch.

306 SINGLE-PLY MEMBRANE INSTALLATION

- A. Beginning at low point of roof, place membrane without stretching over substrate and allow to relax at least 30 minutes before attachment or splicing; in colder weather allow for longer relax time.
- B. Lay out the membrane pieces so that field and flashing splices are installed to shed water.
- C. Install membrane without wrinkles and without gaps or fishmouths in seams; bond and test seams and laps in accordance with membrane manufacturer's instructions and details.
- D. Adhered Membrane: Bond membrane sheet to substrate using membrane manufacturer's recommended bonding material, application rate, and procedures.
 1. Do not apply bonding material to fleece backing or to seaming area of membrane.
- E. Edge Securement: Secure membrane at all locations where membrane terminates or goes through an angle change greater than 2 in 12 inches using mechanically fastened reinforced perimeter fastening strips, plates, or metal edging as indicated or as recommended by roofing manufacturer.
 1. Exceptions: Round pipe penetrations less than 18 inches in diameter and square penetrations less than 4 inches square.
 2. Metal edging is not merely decorative; ensure anchorage of membrane as intended by roofing manufacturer.

307 FLASHING AND ACCESSORIES INSTALLATION

- A. Install flashings, including laps, splices, joints, bonding, adhesion, and attachment, as required by membrane manufacturer's recommendations and details.

- B. Metal Accessories: Install metal edgings, gravel stops, and copings in locations indicated on the drawings, with horizontal leg of edge member over membrane and flashing over metal onto membrane.
1. Follow roofing manufacturer's instructions.
 2. Remove protective plastic surface film immediately before installation.
 3. Install water block sealant under the membrane anchorage leg.
 4. Flash with manufacturers recommended flashing sheet unless otherwise indicated.
 5. Where single application of flashing will not completely cover the metal flange, install additional piece of flashing to cover the metal edge.
 6. If the roof edge includes a gravel stop and sealant is not applied between the laps in the metal edging, install an additional piece of self-adhesive flashing membrane over the metal lap to the top of the gravel stop; apply seam edge treatment at the intersections of the two flashing sections.
 7. When the roof slope is greater than 1:12, apply seam edge treatment along the back edge of the flashing.

308 FINISHING AND WALKWAY INSTALLATION

- A. Install walkways at access points to the roof, around rooftop equipment that may require maintenance, and existing walkway locations, or as directed by the County.
- B. Walkway Pads: Adhere to the roofing membrane, spacing each pad at minimum of 1.0 inch and maximum of 3.0 inches from each other to allow for drainage.
1. If installation of walkway pads over field fabricated splices or within 6 inches of a splice edge cannot be avoided, adhere another layer of flashing over the splice and extending beyond the walkway pad a minimum of 6 inches on either side.
 2. Prime the membrane, remove the release paper on the pad, press in place, and walk on pad to ensure proper adhesion.

309 FIELD QUALITY CONTROL

- A. Inspection by Manufacturer: Provide final inspection of the roofing system by a Technical Representative employed by roofing system manufacturer specifically to inspect installation for warranty purposes (i.e. not a sales person).
- B. Perform all corrections necessary for issuance of warranty.

310 CLEANING

- A. Clean all contaminants generated by roofing work from building and surrounding areas, including bitumen, adhesives, sealants, and coatings.
- B. Repair or replace building components and finished surfaces damaged or defaced due to the work of this section; comply with recommendations of manufacturers of components and surfaces.
- C. Remove leftover materials, trash, debris, equipment from project site and surrounding areas.

311 PROTECTION

- A. Where construction traffic must continue over finished roof membrane, provide durable protection and replace or repair damaged roofing to original condition.

END OF SECTION

PSTC, BOWMAN AND FAIRGROUNDS PAVILION BUILDINGS**PART 4 GENERAL****401 SECTION INCLUDES**

- A. Mechanically fastened single ply membrane roofing system with recovery board mechanically fastened to existing roof sheathing or framing, and PMMA interfacing flashing between two roof systems, using manufacturer's standard details throughout unless otherwise indicated.
- B. Disposal of demolition debris and construction waste in manner complying with applicable federal, state, and local regulations.

402 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D1079 for definition of terms related to roofing work not otherwise defined in the section.
- B. LTTR: Long Term Thermal Resistance, as defined by CAN-ULC S770.

403 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Conference: See General Requirements #7. Before start of roofing work, Contractor shall hold a meeting to discuss the proper installation of materials and requirements to achieve the warranty.
 - 1. Require attendance with all parties directly influencing the quality of roofing work or affected by the performance of roofing work.

404 SUBMITTALS

- A. Provide the following information in PDF form to the County for review and approval after contract ratification and before ordering materials or commencing work.
- B. Product Data:
 - 1. Provide membrane manufacturer's printed data sufficient to show that all components of roofing system, including insulation and fasteners, comply with the specified requirements and with the membrane manufacturer's requirements and recommendations for the system type specified; include data for each product used in conjunction with roofing membrane.
- C. Shop Drawings: Provide the roof membrane manufacturer's standard details customized for this project for all relevant conditions, including flashing types and conditions, base tie-ins, roof edges, terminations, expansion joints, penetrations, and drains.
- D. Specimen Warranty: Submit prior to starting work.
- E. Installer Qualifications: Letter from manufacturer attesting that the roofing installer meets the specified qualifications.
- F. Pre-Installation Notice: Copy to show that manufacturer's required Pre Installation Notice (PIN) has been accepted and approved by the manufacturer.
- G. Executed Warranty.

405 QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual for roofing system.
- B. Manufacturer Qualifications: Company specializing in manufacture of single ply membrane roofing systems with ten years of experience without a membrane failure.
- C. Installer Qualifications: Company specializing in installation of single ply membrane roofing systems with five years of experience with this manufacturer's product and with written approval as successfully passing installation training program from this manufacturer.
- D. Pre-installation Conference: See General Requirement #7. Review requirements for roofing system preparation and installation, including surface preparation that may be specified under other Sections, substrate condition and pretreatment, procedures for forecasted weather conditions, special details and flashings, installation procedures, testing and inspection procedures, and protection and repairs.
- E. Manufacturer's Technical Representative:
 - 1. Visit site not less than three times, or more if required, to review technical aspects critical to

roofing application, and installation procedures.

- a. Pre-installation meeting.
 - b. Substrate suitability approval for application of roofing Installation.
 - c. Observation of completed installation.
2. Document site visits in writing with copy to Architect.

406 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact and legible.
- B. Store materials clear of ground and moisture with weather protective covering.
- C. Keep combustible materials away from ignition sources.

407 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Comply with all warranty procedures required by manufacturer, including notifications, scheduling, and inspections.
- C. Warranty: Warranty covering membrane, roof insulation, and other indicated components of the system, for the term of 20 years.
 1. Limit of Liability: No dollar limitation.
 2. Scope of Coverage: Repair leaks in the roofing system caused by:
 - a. Ordinary wear and tear of the elements.
 - b. Manufacturing defect in materials.
 - c. Defective workmanship used to install these materials.
 - d. Damage due to winds up to 55 mph.
 3. Not Covered:
 - a. Damage due to winds in excess of 55 mph.
 - b. Damage due hurricanes or tornadoes.
 - c. Hail.
 - d. Intentional damage.
 - e. Unintentional damage due to normal rooftop inspections, maintenance, or service.

PART 5 PRODUCTS

501 MANUFACTURERS

- A. Design Basis Manufacturer: Carlisle Roofing Systems, Inc; www.carlisle-syntec.com.
- B. Acceptable Manufacturers pending conformance to Design Basis manufacturer:
- C. Manufacturer of Insulation and Cover Boards: Same manufacturer as roof membrane.
- D. Substitutions: Submit a single ply membrane that matches the design basis in performance, thickness, warranty coverage and application.

502 ROOFING SYSTEM DESCRIPTION

- A. Roofing System: Single-ply membrane.

503 MEMBRANE MATERIALS

- A. Membrane: Flexible, heat weldable sheet composed of thermoplastic polyolefin polymer and ethylene propylene rubber; complying with ASTM D6878, with polyester weft inserted reinforcement and the following additional characteristics:
 1. Thickness: 0.080 inch plus/minus 10 percent, with coating thickness over reinforcement of 0.030 inch plus/minus 10 percent.
 2. Sheet Width: Provide sheets of width necessary to accommodate batten spacing required by manufacturer for project conditions.
 3. Puncture Resistance: 415 lbf, minimum, when tested in accordance FTM 101C Method 2031.
 4. Solar Reflectance: 0.84, minimum, when tested in accordance with ASTM C1549.
- B. Insulation Fasteners: Type and size as required by roof membrane manufacturer for roofing system attachment to existing plywood roof sheathing through existing built-up roof system and warranty to be provided; use only fasteners furnished by roof membrane manufacturer.

- C. Curb and Parapet Flashing: Same material as membrane, with encapsulated edge which eliminates need for seam sealing the flashing-to-roof splice; precut to 18 inches wide.
- D. Formable Flashing: Non-reinforced, flexible, heat weldable sheet, composed of thermoplastic polyolefin polymer and ethylene propylene rubber.
 - 1. Thickness: 0.060 inch plus/minus 10 percent.
 - 2. Tensile Strength: 1550 psi, minimum, when tested in accordance with ASTM D638 after heat aging.
 - 3. Elongation at Break: 650 percent, minimum, when tested in accordance with ASTM D638 after heat aging.
 - 4. Tearing Strength: 12 lbf, minimum, when tested in accordance with ASTM D1004 after heat aging.
 - 5. Color: White.
 - 6. Acceptable Product: TPO Flashing by Carlisle.
- E. Tape Flashing: 5-1/2 inch nominal wide TPO membrane laminated to cured rubber polymer seaming tape, overall thickness 0.065 inch nominal; TPO Flashing by Carlisle.
- F. Pourable Sealer: Two-part polyurethane, two-color for reliable mixing; Pourable Sealer by Carlisle.
- G. Termination Bars: Aluminum bars with integral caulk ledge; 1.3 inches wide by 0.10 inch thick; Termination Bar by Carlisle.
- H. Cut Edge Sealant: Synthetic rubber-based, for use where membrane reinforcement is exposed; Cut Edge Sealant by Carlisle.
- I. General Purpose Sealant: EPDM-based, one part, white general purpose sealant; TPO General Purpose Sealant by Carlisle.
- J. Molded Flashing Accessories: Unreinforced TPO membrane pre-molded to suit a variety of flashing details, including pipe boots, inside corners, outside corners, etc.; TPO Small and Large Pipe Flashing by Carlisle.
- K. Water Block Seal: Butyl rubber sealant for use between two surfaces, not exposed; Water Block Seal by Carlisle.
- L. Roof Walkway Pads: Non-reinforced TPO walkway pads, 0.130 inch by 30 inches by 40 feet long with patterned traffic bearing surface; TPO Walkway Pads by Carlisle.
- M. PMMA flashing at termination of TPO to built-up roofing where TPO will not cover built-up roofing. Verify compatibility of PMMA flashing to both roofing materials prior to proceeding with PMMA flashing application.

504 ROOF RECOVER BOARDS

- A. High Density Polyisocyanurate Recover Board: Non-combustible, water resistant, high density closed cell polyisocyanurate core with coated glass mat facers, with the following characteristics:
 - 1. Size: 48 inches by 96 inches, nominal.
 - 2. Thickness: 1/4 inch.
 - 3. Thermal Value: R-value of 2.5, when tested in accordance with ASTM C518 and ASTM C177.
 - 4. Surface Water Absorption: 3 percent, maximum, when tested in accordance with ASTM C209.
 - 5. Compressive Strength: 120 psi, when tested in accordance with ASTM D1621.
 - 6. Density: 5 pcf, when tested in accordance with ASTM D1622.
 - 7. Factory Mutual approved for use with FM 1-60 and 1-90 rated roofing assemblies.
 - 8. Mold Growth Resistance: Passing ASTM D3273.
- B. Insulation Fasteners: Type and size as required by roof membrane manufacturer for roofing system and warranty to be provided; use only fasteners furnished by roof membrane manufacturer.

PART 6 INSTALLATION

601 DEMOLITION

- A. Neatly, provide precision removal of portions of the existing roof system and flashings at perimeters as necessary to allow for installation of roofing membrane manufacturer's standard details customized for this project in accordance with roofing manufacturer's published instructions and recommendations for the specified roofing system. Comply with federal, state, and local regulations.

- B. Remove all demolished items and clean all contaminants generated by demolition work from building and surrounding areas, including bitumen, adhesives, sealants, and coatings.
- C. Do not start new roof system work until manufacturer's technical representative reviews substrate and determine substrate condition satisfactory for roofing installation

602 EXAMINATION

- A. Examine roof deck to determine that it is sufficiently rigid to support installers and their mechanical equipment and that deflection will not strain or rupture roof components or deform deck.
- B. Verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work.
- C. Examine roof substrate to verify that it is properly sloped to drains and will not create ponding, especially at areas where new roof cover-over meets existing roof not being covered over.
- D. Verify that the specifications and drawing details are workable and not in conflict with the roofing manufacturer's recommendations and instructions; start of work constitutes acceptance of project conditions and requirements.

603 GENERAL

- A. Install roofing, insulation, flashings, and accessories in accordance with roofing manufacturer's published instructions and recommendations for the specified roofing system. Where manufacturer provides no instructions or recommendations, follow good roofing practices and industry standards. Comply with federal, state, and local regulations.
- B. Obtain all relevant instructions and maintain copies at project site for duration of installation period.
- C. Do not start work until Pre-Installation Notice has been submitted to manufacturer as notification that this project will require a manufacturer's warranty.
- D. Perform work using competent and properly equipped personnel.
- E. Temporary closures, which ensure that moisture does not damage any completed section of the new roofing system, are the responsibility of the applicator. Completion of flashings, terminations, and temporary closures shall be completed as required to provide a watertight condition.
- F. Install roofing membrane only when surfaces are clean, dry, smooth and free of snow or ice; do not apply roofing membrane during inclement weather or when ambient conditions will not allow proper application; consult manufacturer for recommended procedures during cold weather. Do not work with sealants and adhesives when material temperature is outside the range of 60 to 80 degrees F.
- G. Protect adjacent construction, property, vehicles, and persons from damage related to roofing work; repair or restore damage caused by roofing work.
 - 1. Protect from spills and overspray from bitumen, adhesives, sealants and coatings.
 - 2. Particularly protect metal, glass, plastic, and painted surfaces from bitumen, adhesives, and sealants within the range of wind-borne overspray.
 - 3. Protect finished areas of the roofing system from roofing related work traffic and traffic by other trades.
- H. Until ready for use, keep materials in their original containers as labeled by the manufacturer.
- I. Consult membrane manufacturer's instructions, container labels, and Material Safety Data Sheets (MSDS) for specific safety instructions. Keep all adhesives, sealants, primers and cleaning materials away from all sources of ignition.

604 PREPARATION

- A. Take appropriate measures to ensure that fumes from adhesive solvents are not drawn into the building through air intakes.
- B. Prior to proceeding, prepare roof surface so that it is clean, dry, and smooth, and free of sharp edges, fins, roughened surfaces, loose or foreign materials, oil, grease and other materials that may damage the membrane.
- C. Fill all surface voids in the immediate substrate that are greater than 1/4 inch wide with fill material acceptable insulation to membrane manufacturer.
- D. Seal, grout, or tape deck joints, where needed, to prevent bitumen seepage into building.

605 INSULATION AND RECOVER BOARD INSTALLATION

- A. Install recover board over existing roof surface in configuration and with attachment method required by roofing manufacturer to separate existing and new systems and provide a suitable substrate for system insulation installation specified in PART 2, under Roofing System.

606 SINGLE-PLY MEMBRANE INSTALLATION

- A. Beginning at low point of roof, place membrane without stretching over substrate and allow to relax at least 30 minutes before attachment or splicing; in colder weather allow for longer relax time.
- B. Lay out the membrane pieces so that field and flashing splices are installed to shed water.
- C. Install membrane without wrinkles and without gaps or fishmouths in seams; bond and test seams and laps in accordance with membrane manufacturer's instructions and details.
- D. Mechanically attached membrane: Use attachment means and methods as required by the membrane manufacturer's installation instructions and details.
 - 1. Use recommended spacing of seams and terminations.
 - 2. Use manufacturer's required type, diameter, length and spacing of anchors as determined by the roof framing, substrate or other attachment point.
- E. Edge Securement: Secure membrane at all locations where membrane terminates or goes through an angle change greater than 2 in 12 inches using mechanically fastened reinforced perimeter fastening strips, plates, or metal edging as indicated or as recommended by roofing manufacturer.
 - 1. Exceptions: Round pipe penetrations less than 18 inches in diameter and square penetrations less than 4 inches square.
 - 2. Metal edging is not merely decorative; ensure anchorage of membrane as intended by roofing manufacturer.

607 FLASHING AND ACCESSORIES INSTALLATION

- A. Re-install existing flashings replacing pieces damaged beyond reuse during removal at no cost to the County. Replacement sheet metal to closely match existing color and style. Use the membrane manufacturer's recommendations and details.
- B. Metal Accessories: Install metal edgings, gravel stops, and copings in locations indicated on the drawings when applicable, with horizontal leg of edge member over membrane and flashing over metal onto membrane.
 - 1. Follow roofing manufacturer's instructions.
 - 2. Remove protective plastic surface film immediately before installation.
 - 3. Install water block sealant under the membrane anchorage leg.
 - 4. Flash with manufacturers recommended flashing sheet unless otherwise indicated.
 - 5. Where single application of flashing will not completely cover the metal flange, install additional piece of flashing to cover the metal edge.
 - 6. If the roof edge includes a gravel stop and sealant is not applied between the laps in the metal edging, install an additional piece of self-adhesive flashing membrane over the metal lap to the top of the gravel stop; apply seam edge treatment at the intersections of the two flashing sections.
 - 7. When the roof slope is greater than 1:12, apply seam edge treatment along the back edge of the flashing.

608 FINISHING AND WALKWAY INSTALLATION

- A. Install walkways at access points to the roof, around rooftop equipment that may require maintenance, and existing walkway locations, or as directed by the County.
- B. Walkway Pads: Adhere to the roofing membrane, spacing each pad at minimum of 1.0 inch and maximum of 3.0 inches from each other to allow for drainage.
 - 1. If installation of walkway pads over field fabricated splices or within 6 inches of a splice edge cannot be avoided, adhere another layer of flashing over the splice and extending beyond the walkway pad a minimum of 6 inches on either side.
 - 2. Prime the membrane, remove the release paper on the pad, press in place, and walk on pad to ensure proper adhesion.

609 FIELD QUALITY CONTROL

- A. Inspection by Manufacturer: Provide final inspection of the roofing system by a Technical Representative employed by roofing system manufacturer specifically to inspect installation for warranty purposes (i.e. not a sales person).
- B. Perform all corrections necessary for issuance of warranty.

610 CLEANING

- A. Clean all contaminants generated by roofing work from building and surrounding areas, including bitumen, adhesives, sealants, and coatings.
- B. Repair or replace building components and finished surfaces damaged or defaced due to the work of this section; comply with recommendations of manufacturers of components and surfaces.
- C. Remove leftover materials, trash, debris, equipment from project site and surrounding areas.

611 PROTECTION

- A. Where construction traffic must continue over finished roof membrane, provide durable protection and replace or repair damaged roofing to original condition.

END OF SECTION

SECTION 07227 - FALL PROTECTION DEVICES**PART 7 – GENERAL****701 SUMMARY**

- A. Section Includes: Roof tie-down system of fall restraint and fall arrest for worker safety.
- B. Design and engineering of system shall be based upon roofing substrate on each building.

701 REFERENCES

- A. American Society for Testing and Materials (ASTM)
- B. American National Standard Institute (ANSI)
 - 1. ANSI Z359.1-2007 – Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components
 - 2. ANSI Z359.6-2009 – Specifications and Design Requirements for Active Fall Protection Systems
- C. Occupational Health And Safety Administration (OSHA)
 - 1. OSHA 1926.502 – Fall Prevention Systems Criteria and Practices

702 SYSTEM DESCRIPTION

- A. General: Provide structural fall restraint and fall arrest system capable of withstanding loads and stresses within limits and under conditions specified in OSHA and other applicable safety codes. Provide fall protection anchors permanently attached to roof structure.
- B. Design Requirements: Anchors and accessories comprising system of following types:
 - 1. Guardian CB Anchors, spaced as indicated by manufacturer, for safety snap connection by individual workers capable of withstanding a 5,000 pound load or safety factor of 2 meeting the requirements of OSHA 1926.502(d)(8).
- C. Performance Requirements: System and components tested for the resistance of the following loads:
 - 1. Fall Restraint: 1 User
 - 2. Fall Arrest: 1 User
 - 3. Design fall protection anchors to resist a 5,000 pound load applied in any direction at maximum anchor height or provide engineered system designed meeting the requirements of OSHA 1926.502(d)(8).

703 SUBMITTALS

- A. Product Data: For each type of device specified, including manufacturer's standard fabrication details and installation instructions.
- B. Shop Drawings: Show layout, profiles, and anchorage details. Shop drawings & calculations to be stamped by a Professional Engineer registered in the State in which the project is located.
- C. Maintenance Data: Written instructions for maintenance of fall prevention safety devices to be included in the operation and maintenance manual.
- D. In-house Test Reports: Indicate anchor fabrication compliance with performance requirements.
- E. Signage: Provide laminated sign showing system layout and usage notes, to be installed at roof access locations.

704 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Firm having at least 10 years continuous experience in manufacturing fall safety equipment similar to systems specified and exhibiting records of successful in-service acceptability and performance. Firm must employ personnel dedicated to provide regularly scheduled Authorized and Competent Person Training courses as mandated by OSHA 1926 and 1910 for owner's authorized safety personnel.
- B. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the jurisdiction where the Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of roof anchors that are similar to those indicated for this Project in material, design and extent.

- C. OSHA Standards: Comply with Occupational Safety and Health Administration Standards for the Construction Industry 29 CFR § 1926.500 Subpart M (Fall Protection), and with applicable State Administrative Code safety standards for Fall Restraint and Fall Arrest.
- D. Source Limitations: Obtain all roof anchors through one source from a single manufacturer.
- E. Testing: Perform quality control tests for each system per manufacturer's requirements.

705 COORDINATION

- A. Contractor to coordinate installation of structural deck to meet requirements of roof anchor manufacturer.
 - 1. Concrete Deck: Minimum concrete strength, $F_c = 2,000$ psi. Minimum 6" thickness for adhesive anchor connection; minimum 4" thickness for mechanical anchor connection.
 - 2. Metal Deck: Minimum 18 gauge thickness, or provided with additional deck reinforcing per manufacturer's instructions.
 - 3. Wood Deck: Minimum 3/4" CDX plywood, or provided with additional deck reinforcing per manufacturer's instructions.
 - 4. Structural beam for weld-on or backer plate connection: structure must be capable of supporting a 5,000 pound ultimate load.
 - 5. Concrete or composite metal deck for backer plate or toggle anchor connection: Deck must be capable of supporting a 5,000 pound ultimate load.
 - 6. Other structural decks not listed above shall be approved by a Qualified Person.
- B. Contractor to coordinate installation of structural deck reinforcements and anchorages to receive fall protection anchors.
- C. Contractor to coordinate placement of roofing system, insulation and flashing to ensure water-tight integrity to roof.

706 WARRANTY

- A. Provide manufacturer's standard warranty to guarantee products will be free from defects for a period of 12 months. Warranty period shall become effective on date of substantial completion.

PART 8 – PRODUCTS**801 MANUFACTURER**

- A. Provide fall protection system manufactured by Guardian Fall Protection Inc., 6305 South 231st Street Kent, WA, phone 800-466-6385, fax 800-670-7892, or equal.

802 MATERIALS

- A. CB Anchor post: 2-1/2" schedule 80 pipe, galvanized steel (size as necessary for height).
- B. CB Anchor U-bar: 5/8" diameter U-bar, galvanized steel.
- C. CB Anchor base plate: galvanized steel.

803 MANUFACTURED ASSEMBLIES

- A. Guardian CB-12 or CB-18 Galvanized Roof Anchors.

804 FABRICATION

- A. Fabricate work true to dimension, square, plumb, level, and free from distortions or defects detrimental to appearance and performance.
- B. Prepare, treat and coat galvanized metal to comply with manufacturer's written instructions. Prepare galvanized metal by removing grease, dirt, oil, flux, and other foreign matter.

PART 9 – EXECUTION**901 EXAMINATION**

- A. Examine framing and substrate and verify conditions comply with structural requirements for proper system performance.
- B. Proceed with installation of roof anchors only after verifying conditions are satisfactory.

902 INSTALLATION

- A. General: Installation of Anchor Posts to be performed by contractor according to manufacturer's instructions and recommendations.

903 FIELD QUALITY CONTROL

- A. Testing: Test on site 100% of anchors relying upon chemical adhesive fasteners using load cell test apparatus in accordance with manufacturer's written recommendations.

904 ADJUSTMENT AND INSPECTION

- A. Ensure all manufactured anchors have been installed in accordance with fall protection manufacturer's engineering documentation and specifications.
- B. Provide plan drawings with any deviations in anchor locations as installed.

END OF SECTION

SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM**PART 10 GENERAL****10.01 SECTION INCLUDES**

- A. Fabricated sheet metal items, including flashings, counter flashings, and other items indicated in Schedule.

10.02 REFERENCE STANDARDS

- A. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels; 2013.
- B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2013.
- C. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2010.
- D. ASTM D2178/D2178M - Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing; 2013a.
- E. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2012)e1.

10.03 ADMINISTRATIVE REQUIREMENTS

- A. Pre-installation Meeting: Convene one week before starting work of this section.

10.04 SUBMITTALS

- A. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
 - 1. Three dimensional axonometric views of flashings, pans and sheet metal details.
- B. Samples: Submit two samples 6 by 6 inch in size illustrating metal finish color.

10.05 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA Architectural Sheet Metal Manual and CDA Copper in Architecture Handbook requirements and standard details, except as otherwise indicated.
- B. Maintain one copy of each document on site.
- C. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 10 years of documented experience.

10.06 PRE-INSTALLATION CONFERENCE

- A. Convene one week before starting work of this section.

10.07 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials that could cause discoloration or staining.

PART 11 PRODUCTS**11.01 SHEET MATERIALS**

- A. Pre-Finished Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 0.02 inch thick base metal, shop pre-coated with modified silicone coating.
 - 1. Modified Silicone Polyester Coating: Pigmented Organic Coating System, AAMA 2603; baked enamel finish system.
 - 2. PVDF (Polyvinylidene Fluoride) Coating: Superior Performance Organic Finish, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system; color as scheduled.

- B. Stainless Steel: ASTM A666 Type 304, soft temper, 0.015 inch thick; smooth No. 4 finish.

11.02 ACCESSORIES

- A. Fasteners: Stainless steel, with soft neoprene washers.
- B. Underlayment: ASTM D2178, glass fiber roofing felt.
- C. Flexible Flashing Underlayment: Product specified in Section 07 25 00 or 07 27 00.
- D. Slip Sheet: Rosin sized building paper.
- E. Primer: Zinc chromate type.
- F. Protective Backing Paint: Zinc molybdate alkyd.
- G. Plastic Cement: ASTM D4586, Type I.

11.03 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Form pieces in longest possible lengths.
- C. Hem exposed edges on underside 1/2 inch; miter and seam corners.
- D. Form material with flat lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- E. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.
- F. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.
- G. Fabricate flashings to allow toe to extend 2 inches over roofing gravel. Return and brake edges.

11.04 ROOF PENETRATIONS

- A. Comply with NRCA and SMACNA requirements.
- B. Roof Drains and Vents: Lead.
- C. Posts, pipes, and Conduit: Prefinished galvanized steel cone shape and counter flashing with draw-band and top sealant channel.
- D. Equipment Pads: Galvanized steel.

PART 12 EXECUTION**12.01 EXAMINATION**

- A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.
- B. Verify roofing termination and base flashings are in place, sealed, and secure.

12.02 PREPARATION

- C. Install starter and edge strips, and cleats before starting installation.
- D. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil.

12.03 INSTALLATION

- E. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.
- F. Apply plastic cement compound between metal flashings and felt flashings.
- G. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- H. Seal metal joints watertight.

1204 FIELD QUALITY CONTROL

- I. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

1205 SCHEDULE

- J. Miscellaneous Trim:
 - 1. Thickness: 0.0239 inch
 - 2. Finish: Preprimed for field finish
- K. Coping, Cap, Parapet, Sill and Fascia Flashings:
 - 1. Thickness: 0.0396 inch
 - 2. Finish: Prefinished in two separate custom colors
- L. Flashings Associated with Shingle Roofing, including Cricket, Eave, and Gutter Drip
 - 1. Thickness: 0.0239 inch
 - 2. Finish: Prefinished in custom color.
- M. Flashings Associated with all other types of Roofing
 - 1. Thickness: 0.0239 inch
 - 2. Finish: Prefinished in custom color.

END OF SECTION

Sure-Weld™ (TPO) Adhered Roofing System Underwriters Laboratories Approvals

Membrane Type: .045" or .060" Sure-Weld Standard Reinforced Membrane (White, Gray or Tan)
 .045" or .060" Sure-Weld HS Reinforced Membrane (White, Gray or Tan)
 .072" or .080" Sure-Weld EXTRA Reinforced Membrane (White, Gray or Tan)

UL Class "A"						
Deck Type	Insulation (1)(2)	Thickness	Bonding Adhesive	Maximum Slope		
				Standard Sure-Weld	Sure-Weld HS	Sure-Weld EXTRA
Non-Combustible and Combustible (For combustible decks, gypsum board must be installed beneath the insulations listed) (3)(4)(5)	Carlisle Polyiso HP-H, SecurShield	Any	Sure-Weld Bonding Adhesive (SW) or Low VOC Bonding Adhesive (LV)	1/8"	1/2"	1/8"
			Aqua Base 120 (AQ 120)	3/8"	1/2"	3/8"
	APA Rated Oriented Strand Board (OSB)	7/16" Min.	SW/LV	1-1/2"	1"	1/4" (3/4" for Class B)
	Carlisle HP Recovery Board Carlisle HP Recovery Board/Polyiso Carlisle HP Recovery Board/Polystyrene (8)	1/2" - 3" 1/2" Min/Any 1/2" Min/Any	SW/LV	1-1/2"	1"	1/4"
			AQ 120	1/2"	1"	1/2"
Combustible (5)(7)	Dens-Deck Prime (6) Dens-Deck Prime or Securock /Polyiso Dens-Deck Prime or Securock /Polystyrene	1/4" (6)	SW/LV	3"	Unlimited*	2-1/2"
		1/4"/Any	AQ 120	1"	1" (3" for Class B)	1"
	Carlisle Polyiso SecurShield (5)	3" Min.	SW/LV	1/8"	1/2"	1/8"
			AQ 120	3/8"	1/2"	3/8"
	Polyiso listed above over 2 layers of Carlisle FR Base Sheet 1S	Any / 2-layers	SW/LV	1/8"	1/2"	1/8"
			AQ 120	3/8"	1/2"	3/8"
Structural Concrete or Approved Ltwt. Ins. Conc.	N/A	N/A	SW/LV	3"	Unlimited	2"
			AQ 120	1"	1" (3" for Class B)	1"

* - Maximum slope with Securock is 3" per foot

Notes:

- (1) When multiple insulation layers are listed (i.e., HP Recovery Board/Polyisocyanurate), the insulation listed first (HP Recovery Board) is directly under the membrane.
- (2) Insulation may be mechanically fastened, attached with FAST Adhesive, Type III or IV asphalt or UL approved cold adhesive.
- (3) Minimum 1/2" thick gypsum board can be a classified or unclassified material with a minimum weight of 1.84 pounds per square foot. 1/4" thick Carlisle/Georgia Pacific Dens-Deck or Georgia Pacific Sound Deadening Board with a minimum weight of 1.09 pounds per square foot may be substituted for 1/2" thick gypsum board.
- (4) On **Retrofit/No Tearoff projects**, where the **existing roof is Class A** rated, the **gypsum board may be eliminated**. Existing Class B or C rated roofs will require the use of gypsum board to achieve a Class A rating, otherwise, the new roofing system will retain existing UL rating.
- (5) Insulation joints (bottom layer) are to be staggered a minimum of 6" from joints in wood deck.
- (6) Dens-Deck Prime cannot be installed directly over an existing roofing membrane.
- (7) Combustible deck ratings can be used on non-combustible decks.
- (8) Assembly not permitted on combustible decks, even with gypsum board underneath. Dens-Deck Prime glass faced gypsum board must be installed over insulation as identified in combustible deck listing.



Georgia-Pacific

DensDeck Prime®

Roof Board

Technical Service Hotline 1.800.225.6119 or

www.densdeck.com

Manufacturer

Georgia-Pacific Gypsum LLC
133 Peachtree Street, 8th floor, Atlanta, GA 30303
Technical Service Hotline 1-800-225-6119 or www.densdeck.com

Description

DensDeck Prime® Roof Board is an exceptional fire barrier, thermal barrier and recovery board used in various commercial roofing systems. The product features a pre-primed surface to make the bond even stronger. The patented DensDeck design employs glass mat facings front and back that are embedded into a water resistant and moisture-resistant treated core, providing excellent fire resistance, moisture resistance and wind uplift properties. The unique construction of DensDeck Prime provides superior flute spanning and will help stiffen and stabilize the roof deck. Additionally, DensDeck Prime has been shown to withstand delamination, deterioration, warping and jobsite damage more effectively than roofing membrane substrates such as paper-faced gypsum board, fiberboard and perlite insulation. DensDeck Prime resists the growth of mold and mildew per ASTM D 3273.

Primary Uses

Roof system manufacturers and designers have found DensDeck Prime Roof Board to be compatible with many types of roofing systems, including: modified asphalt, single-ply, metal systems, recover board, as well as an overlayment for polyisocyanurate and polystyrene insulation. DensDeck Prime can also be used as a form board for poured gypsum concrete deck in roof applications as well as a substrate for spray foam roofing systems. 1/2" and 5/8" DensDeck Prime may also be used in vertical applications as a backer board or liner for the roof side of parapet walls.

DensDeck Prime Roof Board allows the bonding of cold mastic modified bitumen and torching directly to the surface. **Consult with the system manufacturer for recommendations on this application.** System manufacturers and designers have found DensDeck Prime to be compatible with bonding adhesives for fully adhered single-ply membrane applications and has been shown to extend the adhesive usage.

DensDeck Prime Roof Board's exceptional moisture resistance make it the preferred substrate for vapor retarders. An excellent fire barrier, DensDeck Prime features a noncombustible core and inorganic surface that offers greater fire protection than other conventional commercial roofing products when applied over combustible roof decks and steel decks.

Limitations

DensDeck Prime Roof Board is designed to act with a properly designed roof system. The actual use of DensDeck Prime as a roofing component is the responsibility of the roofing system's designing authority. Georgia-Pacific does not offer roofing system design services.

Consult membrane manufacturer for specific system installation instructions.

Conditions beyond the control of Georgia-Pacific such as weather conditions, dew, application temperatures and techniques may cause adverse effects with adhered roofing systems. Always consult roofing manufacturers for their specific instructions on applying their products to DensDeck Prime Roof Board.

Panels must be kept dry before, during and after installation. Apply only as much DensDeck Prime Roof Board as can be covered by a roof membrane system in the same day.

Accumulation of water due to leaks or condensation in or on DensDeck Prime Roof Board must be avoided during construction and after construction. Avoid over-use of non-vented direct-fired heaters during winter months. Avoid application of DensDeck Prime during rains, heavy fogs and other conditions that may deposit moisture on the surface.

The need for a separator sheet between the DensDeck Prime Roof Board and the roofing membrane shall be determined by the roof membrane manufacturer or roofing systems designer.

When applying solvent-based adhesives or primers, allow sufficient time for the solvent to flash off to avoid damage to roofing components.

Maximum flute span is 2-5/8" for 1/4" DensDeck Prime; 5" for 1/2" DensDeck Prime; and 8" for 5/8" DensDeck Prime Fireguard® Type X.

DensDeck roof board products may have temporary factory-applied packaging (plastic wrap) that must be removed upon receipt to prevent accumulation or entrapment of condensation or moisture which may cause application problems. Provide other suitable breathable weather protection for storage to keep DensDeck products dry.

Submittal Approvals

Job Name _____

Contractor _____

Technical Data Flame spread 0, smoke developed 0, when tested in accordance with ASTM E 84 or CAN/ULC-S102. Noncombustible when tested in accordance with ASTM E 136.

DensDeck Prime Fireguard: UL Classified when tested in accordance with ASTM E 119.

1/4" DensDeck Prime has been tested in Georgia-Pacific sponsored tests with Factory Mutual for 60 psf and 90 psf wind uplift for BUR, EPDM, thermoplastics and modified bitumen roof systems. Higher wind uplift ratings have been achieved by numerous membrane manufacturers using DensDeck Prime in their FMRC approved construction designs.

DensDeck Prime is FM tested and approved as the only 1/2" gypsum product to meet the calorimeter requirements for conventionally insulated decks.

Miami-Dade County, Florida NOA 07-0124.02.

Properties	1/4"	1/2"	5/8"
Thickness, nominal	1/4" + 1/16"	1/2" ± 1/32"	5/8" ± 1/32"
Width, standard	4' ± 1/8"	4' ± 1/8"	4' ± 1/8"
Length, standard	4' and 8' ± 1/4"	4' and 8' ± 1/4"	4' and 8' ± 1/4"
Weight, lbs./sq. ft., nominal	1.15	1.975	2.55
Surfacing	Fiberglass mat with non-asphaltic coating	Fiberglass mat with non-asphaltic coating	Fiberglass mat with non-asphaltic coating
Flexural Strength ¹ , parallel, lbs. min.	40	80	100
Flute Spanability ²	2-5/8"	5"	8"
Permeance ³ , perms	50	35	32
"R" Value ⁴	.28	.56	.67
Linear Variation with Change in Temp., in/in °F	8.5x10 ⁻⁶	8.5x10 ⁻⁶	8.5x10 ⁻⁶
Linear Variation with Change in Moisture, in/in %RH	6.25x10 ⁻⁶	6.25x10 ⁻⁶	6.25x10 ⁻⁶
Water Absorption ⁵ , % max	10.0	10.0	10.0
Compression Strength, psi nominal	500 - 900	500 - 900	500 - 900
Surface Water Absorption ⁵ , grams, nominal	≤ 2.0	≤ 2.0	≤ 2.0
Flame Spread, Smoke Developed (ASTM E 84)	0/0	0/0	0/0
Fire Classification	FM CLASS 1 (as overlayment)	FM Class 1 (FM 4450)	FM Class 1 (FM 4450)
	UL 1256, ULC S-126 UL Class A (UL 790) ULC S-107	UL 1256, ULC S-126 UL Class A (UL 790) ULC S-107	UL 1256, ULC S-126 UL Class A (UL 790) ULC S-107
Mold Resistance per ASTM D 3273 ⁶	Mold resistant	Mold resistant	Mold resistant
ASTM Standard	C 1177	C 1177	C 1177
Uplift Standards and Testing	ANSI/UL 1897 ASCE 7 FM 4470	ANSI/UL 1897 ASCE 7 FM 4470	ANSI/UL 1897 ASCE 7 FM 4470
Bending Radius	5'	8'	12'

1. Tested in accordance with ASTM C 473.

2. Tested in accordance with ASTM E 661 (400 lb. conc. load only for 1/2" and 5/8").

3. Tested in accordance with ASTM E-96 (dry cup method).

4. Tested in accordance with ASTM C 518 (heat flow meter).

5. ASTM C 1177 minimums.

6. When tested as manufactured in accordance with ASTM D 3273.



SALES INFORMATION AND ORDER PLACEMENT

U.S.A. Midwest: 1-800-876-4746 West: 1-800-824-7503
South: 1-800-327-2344 Northeast: 1-800-947-4497

CANADA Canada Toll Free: 1-800-387-6823
Quebec Toll Free: 1-800-361-0486

Georgia-Pacific Gypsum Technical Hotline

U.S.A. and Canada: 1-800-225-6119
Mon.-Fri., 8 a.m. - 5 p.m.
ET

TRADEMARKS

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UPDATES AND CURRENT INFORMATION

The information in this document may change without notice. Visit our Web site for updates and current information.

LIMITATION OF REMEDIES AND DAMAGES

Unless otherwise stated in our written limited warranty for this product, our sole liability for any product claim shall be limited to reimbursement of the cost of repair or replacement of the affected product, up to a maximum amount of two times the original purchase price for the affected product. We shall not be responsible under any circumstances for lost profits, damage to a structure or its contents, or indirect, incidental, special or consequential damages. Claim shall be deemed waived if



Georgia-Pacific
SILVER OAK BUILDING ORIGINAL SUBMITTALS
DensDeck Prime[®]
they are not submitted in accordance with their original discovery.

Roof Board

PAGE 4

SAFETY CAUTION: This product contains fiberglass. Fibers and dust may be released from this product during normal handling and may result in skin, eye and respiratory irritation. Avoid breathing dust and contact with the skin and eyes. Follow these standard work practices: Wear a loose-fitting, long-sleeved shirt and long pants, protective gloves and eye protection (goggles or safety glasses with side shields). Wear a dust mask when sanding. Additional protection may be needed when very dusty. Do not use a power saw. For Material Safety Data Sheet or additional information, call 1-800-225-6119 or visit our Web site.

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**CARLISLE'S
SURE-WELD®**

G U I D E - S P E C

Sure-Weld® Fully ADHERED ROOFING SYSTEM

April 2006

This GUIDE-SPEC is a brief outline of Carlisle's Sure-Weld Fully Adhered Roofing System requirements and is intended for use as a submittal with a bid package. Specifiers and Carlisle Authorized Roofing Applicators must comply with the "Design Criteria" and "Application" sections of Carlisle's Specifications prior to design or bid.

PART I GENERAL

101 DESCRIPTION

This Sure-Weld Adhered Roofing System incorporates maximum 12' wide, white, gray or tan 45, 60, 72 or 80-mil thick scrim-reinforced Sure-Weld Thermoplastic Polyolefin (TPO) membrane. Carlisle Insulation is typically mechanically fastened to the roof deck with fasteners and plates or secured with FAST™ Adhesive, OlyBond 500® or VersiGrip® Insulation Adhesive and the membrane is fully adhered to the insulation with Sure-Weld Bonding Adhesive. Adjoining sheets of membrane are overlapped approximately 2" and joined together with a minimum 1-1/2" wide hot air weld.

102 QUALITY ASSURANCE

- A. This roofing system must be installed by a Carlisle Authorized Applicator in compliance with shop drawings as approved by Carlisle. There must be no deviations made without the **PRIOR WRITTEN APPROVAL** of Carlisle.
- B. Upon completion of the installation, an inspection will be conducted by a Field Service Representative of Carlisle to ascertain the membrane roofing system has been installed according to Carlisle's published specifications and details applicable at the time of bid.
- C. This roofing system meets Underwriters Laboratories (UL) and Factory Mutual (FM) requirements. For specific code approvals achieved with this roofing system, refer to the Sure-Weld Code Approval Guide, Factory Mutual Approval Guide or Underwriters Fire Resistance and roofing Materials and Systems Directories.

103 SUBMITTALS

- A. To ensure compliance with Carlisle's warranty requirements, the following projects should be sent to Carlisle for review prior to installation, preferably prior to bid.
 - 1. Projects where a wind speed warranty coverage greater than 55 mph peak gust wind speed is specified.
 - 2. Projects where the building height exceeds 250'.

- 3. Air pressurized buildings, canopies and buildings with large openings where the total wall opening exceeds 10% of the total wall area where openings are located.
- 4. Cold storage buildings and freezer facilities.
- 5. Projects where the membrane is expected to come in direct contact with petroleum based products or other chemicals.

- B. Along with the project submittals (shop drawing and Request for Warranty), when fastener pullout values do not meet the requirements listed in the Carlisle specification, test results with the appropriate Carlisle fastener must be submitted by the roofing contractor for review.
- C. For all projects (prior to project inspection by Carlisle) a final shop drawing must be approved and assigned a number by Carlisle.

104 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the job site in the original, unopened containers labeled with the manufacturer's name, brand name and installation instructions.
- B. Store Sure-Weld membrane in original undisturbed plastic wrap.
- C. Job site storage temperatures in excess of 90° F may affect shelf life of curable materials (i.e., adhesives and sealants).
- D. When liquid adhesives and sealants are exposed to lower temperatures, restore to a minimum of 60° F before use.
- E. Do not store adhesive containers with opened lids due to loss of solvent which will occur from flash off.
- F. Insulation and underlayment must be stored so it is kept dry and is protected from the elements. Store insulation on a skid and completely cover with a breathable material such as tarp or canvas. If the insulation is lightweight, it should be weighted to prevent possible wind damage.

105 JOB CONDITIONS

- A. There are no maximum slope restrictions for application of this roofing system. When the roof slope exceeds 5" per horizontal foot, use of an automatic welding machine may be more difficult. A hand held welder should be specified.
- B. Existing roofing material

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must be investigated by the specifier and all wet material must be removed.

- C. Existing phenolic insulation and sprayed-in-place urethane roofs must be removed prior to installation of this system.
- D. The use of a vapor retarder to protect insulation and reduce moisture accumulation within an insulated roofing assembly should be investigated by the specifier. Consult the latest publications by ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.) and NRCA (National Roofing Contractors Association).
- E. Coordination between trades is essential to avoid unnecessary rooftop traffic over sections of the roof and to prevent subsequent damage to the membrane system.

1.06 WARRANTY

All warranties are available for commercial projects only.

- A. A **5 or 10-year Membrane System Warranty** with a wind speed coverage of up to 55 mph is available for a charge.
- B. A **10 or 15-year Golden Seal™ Total System Warranty** is available for a charge on projects which utilize all components manufactured or marketed by Carlisle. These projects will receive a standard maximum peak gust wind speed coverage up to 55 miles per hour.

Roofing systems may be eligible for a Total System Warranty with a peak gust wind speed coverage greater than 55 mph. For criteria required to obtain such coverage, refer to the 10 or 15-year Extended Wind Speed Criteria Attachment in the Sure-Weld Roofing System "Design Criteria" Specification.

- C. A **20-year Total System Warranty** is available for a charge for projects utilizing minimum 60-mil thick Sure-Weld membrane and incorporating additional design enhancements as outlined in "Attachment IV", 20-Year Warranty Design Enhancements, in the Sure-Weld Design Criteria Specification.

PART II PRODUCTS

2.01 GENERAL

The components of this roofing system are to be products of Carlisle or accepted by Carlisle as compatible. The installation, performance or integrity of products by others, **when selected by the specifier and accepted by Carlisle**, is not the responsibility of Carlisle and is **expressly disclaimed** by the Carlisle Warranty.

2.02 MEMBRANE

Sure-Weld, white or gray, reinforced 45 or 60-mil thick Thermoplastic Polyolefin (TPO) membrane is used for this roofing system. Membrane is available in widths of 12', 10' or 8' and lengths of 100'. For membrane physical properties, refer to page 4.

2.03 RELATED MATERIALS

Sure-Weld Non-Reinforced or Reinforced Flashing, Bonding Adhesive, Cut Edge Sealant, EP-95 Splicing Cement, Water Cut-Off Mastic, PT-304 Sealant, Weathered Membrane Cleaner,

Molded Pocket Sealant, Heat Weldable Walkway Pads, Pre-Molded Inside/Outside Corners, Pipe Flashings, Curb Wraps and Sealant Pockets.

PART III EXECUTION

3.01 GENERAL

- A. When feasible, begin the application at the highest point of the highest roof level and work to the lowest point to prevent moisture infiltration and to minimize construction traffic on completed sections. This will include completion of all flashings, terminations and daily seals.
- B. Follow criteria outlined in the "Design Criteria" section to prepare the roof deck or the existing substrate prior to application of the new roofing system.

3.02 ROOF DECK CRITERIA

- A. The proper substrate shall be provided by the building owner. The structure shall be sufficient to withstand normal construction loads and live loads.
- B. Defects in the roof deck must be reported and documented to the specifier, general contractor and building owner for assessment. The Carlisle Authorized Applicator shall not proceed with installation unless the defects are corrected.
- C. Acceptable decks and applicable Carlisle Fasteners:
 1. **Steel, 22 gauge or heavier** - Carlisle HP or HP-X Fasteners are required; minimum pullout of 360 pounds per fastener.
 2. **Steel less than 22 gauge** - Carlisle HP or HP-X Fasteners are required; minimum pullout of 300 pounds per fastener.
 3. **Structural Concrete, rated 3,000 psi or greater** - Carlisle CD-10 or HD 14-10 Fastener are required; minimum pullout of 800 pounds per fastener.
 4. **Wood Plank or minimum 15/32" thick Plywood** - Carlisle HP or HP-X Fasteners are required; minimum pullout of 360 pounds per fastener.
 5. **Oriented Strand Board (OSB), minimum 7/16" thick** - Carlisle HP or HP-X Fasteners are required; minimum pullout of 250 pounds.
 6. **Gypsum and Cementitious Wood Fiber** - Carlisle HP-NTB Fasteners are required; minimum pullout of 300 pounds per fastener into gypsum and 225 pounds per fastener into cementitious wood fiber.

3.03 SUBSTRATE PREPARATION

- A. On retrofit-recover projects, cut and remove wet insulation, as identified by the specifier, and fill all voids with new insulation so it is relatively flush with the existing surface.
- B. For all projects, substrate must be even without noticeable high spots or depressions, and must be free of accumulated water, ice or snow.

- C. Clear the substrate of debris and foreign material. Fresh bitumen based roof cement must be removed or concealed.

304 INSTALLATION

Refer to the applicable Material Safety Data Sheets and Technical Data Bulletins for cautions and warnings.

A. Insulation Attachment

1. Carlisle Insulation shall be mechanically fastened to the roof deck at a minimum rate of 1 every 2 square feet except as follows.
 - a. When a single or top layer of **minimum 1-1/2" thick Carlisle Polyisocyanurate** Insulation is specified, Carlisle Insulation may be mechanically fastened at the minimum rate of 1 every **3.2 square feet** (10 fasteners per 4' x 8' board). Refer to Detail SWA-27D for requirements.
 - b. When a single or top layer of **minimum 2" thick Carlisle Polyisocyanurate** Insulation is specified, Carlisle Insulation may be mechanically fastened at the minimum rate of 1 every **4 square feet** (8 fasteners per 4' x 8' board). Refer to Detail SWA-27B for requirements.
2. When an approved oriented strand board (OSB) is specified as the membrane underlayment, it must be mechanically fastened to the roof deck with 17 fasteners per 4' x 8' board in accordance with Carlisle Detail SWA-27C.
3. Carlisle Insulation Fastening Plates, nominal 3" diameter, must be used with the appropriate Carlisle Fastener for insulation attachment.
4. When mechanical attachment of the insulation is not desired, an alternate insulation attachment method may be specified which incorporates the use of Carlisle FAST Adhesive, OlyBond 500, VersiGrip Adhesive or a solid mopping of hot asphalt.

B. Membrane Installation and Hot Air Welding

1. Sweep loose debris from the substrate.
2. Position Sure-Weld Membrane over acceptable substrate and fold membrane back so half the underside is exposed.
3. Apply Sure-Weld Bonding Adhesive to the exposed underside of the membrane and the corresponding substrate area with a plastic core medium nap paint roller at a coverage rate of approximately 60 square feet per gallon per finished surface (includes coverage on both membrane and substrate).
4. Allow adhesive to dry until tacky and roll coated membrane into coated substrate and avoid wrinkling.
5. Brush down the bonded section of membrane

immediately with a soft bristle push broom.

6. Fold back the unbonded half of the sheet and repeat the bonding procedure.
7. Install adjoining membrane sheets in the same manner, overlapping edges a minimum of 2" to provide for a minimum 1-1/2" hot air weld. It is recommended that all splices be shingled to avoid bucking of water.
8. Hot air weld the membrane sheets a minimum of 1-1/2" with an Automatic Hot Air Welding Machine.
9. Membrane that has been exposed to the elements for approximately 7 days must be prepared with Weathered Membrane Cleaner. Wipe the surface where Weathered Membrane Cleaner has been applied with a clean, dry HP Splice Wipe or other white rag to remove cleaner residue prior to hot air welding.

C. Additional Membrane Securement

The membrane must be secured at the perimeter of each roof level, roof section, expansion joint, curb, skylight, interior wall, penthouse, etc., at any angle change which exceeds 2" per horizontal foot and at all other penetrations in accordance with Carlisle's published details.

D. Membrane Flashing

1. Flash all walls and curbs with Sure-Weld reinforced membrane. Non-Reinforced membrane shall be limited to inside and outside corners, field fabricated pipe seals, scuppers and Sealant Pockets where the use of pre-molded accessories are not practical. Terminate the flashing in accordance with an appropriate Carlisle SW-9 Termination Detail.
2. On vertical surfaces, such as walls, curbs and pipes, Bonding Adhesive is not required when flashing height is 12" or less and membrane is terminated under a metal counterflashing (nailed). When a coping or termination bar is used for vertical terminations, Bonding Adhesive may be eliminated for flashing heights 18" or less.

E. Other Related Work

1. **Walkways** are required for all traffic concentration points (i.e., roof hatches, access doors, rooftop ladders, etc.), regardless of traffic frequency. Walkways are also required if regular maintenance (once a month or more) is necessary to service rooftop equipment. Walkways are considered a maintenance item and are excluded from the Carlisle Warranty.
2. Sure-Weld Heat Weldable Walkway Rolls are required when walkway pads are specified and are heat welded to the Sure-Weld Membrane. When concrete pavers are used, they shall be loose laid and installed in conjunction with a slip sheet of reinforced membrane or two layers of HP Protective Mat. Concrete pavers are not recommended when the roof slope is greater than 2" per horizontal foot.

Carlisle Interlocking Pavers™, 24" X 24" X 2",

weighing approximately 6 pounds per square foot, may be interlocked and loose laid directly over the membrane. Installation instruction sheets are available from Carlisle.

moisture from entering the roofing system or building.

Attach copies of the applicable Carlisle Details which pertain to the individual project to complete a bid package submittal.

3. **Copings, counterflashing and other metal work**, not supplied by Carlisle, shall be fastened to prevent metal from pulling free or buckling and sealed to prevent

Membrane Physical Properties

Property (Metric-SI Units)	Test Method	Property of Unaged Sheet 45 or 60-mil		Property After Aging (1) 28 days @ 240° F 45 or 60-mil	
Tolerance on Nominal Thickness, %	ASTM D 751	±10			
Thickness Over Scrim, min, in. (mm)	ASTM D 4637 Optical Method	45-mil 0.015 (0.381) ±10	60-mil 0.020 (0.508) ±10		
Solar Reflectance (albedo X 100), % (Min. for ENERGY STAR® approval is 65%)	Solar Spectrum Reflectometer	White - 87 Typ. Tan - 68 Typ.			
Emittance, infrared	ASTM E 408	0.92 Typ.			
Breaking Strength, min, lbf (kN)	ASTM D 751 Grab Method	45-mil 225 (1.0) Min. 320 (1.4) Typ.	60-mil 250 (1.1) Min. 360 (1.6) Typ.	45-mil 225 (1.0) Min. 320 (1.4) Typ.	60-mil 250 (1.1) Min. 360 (1.6) Typ.
Elongation at Break of Fabric, min, %	ASTM D 751	25 Typ.		25 Typ.	
Tearing Strength, min, lbf (N) 8" by 8" speciman	ASTM D 751 B Tongue Tear	55 (245) Min. 130 (578) Typ.		55 (245) Min. 130 (578) Typ.	
Brittleness Point, max, °F (°C)	ASTM D 2137	-40 (-40) Min. -50 (-46) Typ.			
Linear Dimensional Change (shrinkage), %	ASTM D 1204	+/- .05 max. -0.2 Typ.			
Ozone Resistance, 100 pphm, 168 hours	ASTM D 1149	No Cracks		No Cracks	
Resistance to Water Absorption After 7 days immersion @ 158°F (70°C) Change in mass, max, %	ASTM D 471	4.0 Max. 2.0 Typ.			
Resistance to microbial surface growth, rating (1 is very poor, 10 is no growth)	ASTM D 3274 2 yr. S. Florida	9 – 10 Typ.			
Field seam strength, lbf/in. (kN/m) Seam tested in peel	ASTM D1876	25 (4.4) Min. 60 (10.5) Typ.			
Water vapor permeance, Perms	ASTM E 96	0.10 Max. 0.05 Typ.			
Puncture resistance, lbf (N)	FTM 101C Method 2031	45-mil 250 (1.1) Min. 325 (1.4) Typ.	60-mil 300(1.3) Min. 350 (1.6) Typ.		
Resistance to xenon-arc Weathering (2) Xenon-Arc, 10,080 kJ/m total radiant exposure, Visual condition at 10X	ASTM G 155 0.70 W/m 80°C B.P.T.	No Cracks No loss of breaking or tearing strength			
(1) Aging conditions are 28 days at 240° F (116° C) equivalent to 400 days at 176° F (80° C) for breaking strength, elongation, tearing strength, linear dimensional change, ozone and puncture resistance.					
(2) Approximately equivalent to 8000 hours exposure at 0.35W/m.					

Note: For Physical Properties of the 72 and 80-mil Sure-Weld membrane, refer to the Sure-Weld Design Criteria Specification, Attachment I.

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VersiGrip is a Trademark of Versico Incorporated.
Olybond 500 is a Trademark of OMG, Inc.

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Carlisle, PA 17013
Phone: 800-479-6832
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ProductData

CARLISLE HP-H POLYISO

2.6" = R15



HP-H THERMAL VALUES		
THICKNESS (INCHES) (MM)	LTTR R-VALUE*	FLUTE SPANABILITY
1.00" 25	6.00	2 5/8"
1.50" 38	9.00	4 3/8"
1.60" 41	9.60	4 3/8"
1.70" 43	10.30	4 3/8"
1.80" 46	10.90	4 3/8"
2.00" 51	12.10	4 3/8"
2.50" 64	15.30	4 3/8"
2.70" 69	16.60	4 3/8"
3.00" 76	18.50	4 3/8"
3.10" 79	19.10	4 3/8"
3.30" 84	20.40	4 3/8"
3.50" 89	21.70	4 3/8"
3.60" 91	22.40	4 3/8"
3.70" 94	23.00	4 3/8"
4.00" 102	25.00	4 3/8"

* Long Term Thermal Resistance Foam Core Values are based on ASTM C1289-06 and CAN/ULC S770 which provides for a 15-year time-weighted average. All PIMA members have adopted this advanced standard for R-values measurement as of 1/1/03.

PRODUCT DESCRIPTION

HP-H is a rigid roof insulation panel composed of a closed-cell polyisocyanurate foam core bonded on each side to fiber-reinforced facers.

FEATURES AND BENEFITS

- HP-H polyiso insulation provides the highest R-value per inch of commercially available insulation products.
- Environmentally friendly construction with 0% ozone-depleting components and CFC free
- Approved for direct application to steel decks

PANEL CHARACTERISTICS

- Available in 4'x4' (1220mm x 1220mm) and 4'x8' (1220mm x 2440mm) panels in thickness of 1" (25mm) to 4.0" (102mm)
- Available in two grades of compressive strengths per ASTM C1289-05a, Type II, Class 1, Grade 2 (20 psi), Grade 3 (25 psi)

APPLICATIONS

- Constructions requiring FM Class 1 and UL Class A ratings
- Single-Ply Roof Systems (Ballasted, Mechanically Attached, Fully Adhered)

INSTALLATION

BALLASTED SINGLE-PLY SYSTEMS

- Each HP-H panel is loosely laid on the roof deck. Butt edges and stagger joints of adjacent panels. Install the roof membrane according to the manufacturer's specifications.

MECHANICALLY ATTACHED SINGLE-PLY SYSTEMS

- Each HP-H panel must be secured to the roof deck with fasteners and plates (appropriate to the deck type). Butt edges and stagger joints of adjacent panels. Install the roof membrane according to the manufacturer's specifications.

FULLY ADHERED SINGLE PLY

- Each HP-H panel must be secured to the roof deck with fasteners and plates (appropriate to deck type). Butt edges and stagger joints of adjacent panels. Install the roof membrane according to manufacturer's specifications.
- HP-H 4' x 8' panels can be secured to the roof deck with Carlisle's FAST adhesive technology.
- HP-H 4' x 4' (metric) panels may be adhered to prepared concrete deck with a full mopping of Type III or IV asphalt.

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HP-H

POLYISO

HP-H CODES AND COMPLIANCES

- ASTM C1289-06, Type II, Class 1, Grade 2 (20 psi), Grade 3 (25 psi)
- International Building Code (IBC) Section 2603

NOTE: Please be aware the Federal Specification HH-I-1972/GEN has been replaced.

UNDERWRITERS LABORATORIES, INC.

- Component of Class A Roof Systems (UL 790)
- Hourly Rated P series roof assemblies (UL 263) P 225, 230, 259, 302, 303, 508, 510, 514, 519, 701, 710, 713, 717, 718, 719, 720, 722, 723, 727, 728, 729, 730, 732, 734, 735, 739, 741, 742, 743, 818, 819, 824, 827, 828
- Insulated metal deck assemblies - (UL 1256) nos. 120, 123, 292
- H-Shield classified by ULC
- R18846

FACTORY MUTUAL RESEARCH

- FM Class 1 approval for steel roof-deck constructions, (FM 4450)
- FM 4470

(Subject to the conditions of approval described in Roofnav.com)

FLORIDA BUILDING CODE APPROVAL FL#1296 MIAMI-DADE COUNTY, FLORIDA NOA NO: 04-1018.01

WARNINGS AND LIMITATIONS

Insulation must be protected from open flame and kept dry at all times. Install only as much insulation as can be covered the same day by completed roof-covering material. Carlisle will not be responsible for specific building and roof design by others, for deficiencies in construction or workmanship, for dangerous conditions on the job site or for improper storage and handling. Technical specifications shown in this literature are intended to be used as general guidelines only and are subject to change without notice. Call Carlisle for more specific details, or refer to PIMA Technical Bulletin No. 109: Storage & Handling Recommendations for Polyiso Roof Insulation.

TYPICAL PHYSICAL PROPERTY DATA CHART POLYISO FOAM CORE ONLY

PROPERTY	TEST METHOD	VALUE
Compressive Strength	ASTM D 1621 ASTM 1289-06	20 psi* minimum (138kPa, Grade2)
Dimensional Stability	ASTM D 2126	2% linear change (7 days)
Moisture Vapor Transmission	ASTM E 96 12.10	< 1 perm ((57.5ng/(Pa*s*m²))
Water Absorption	ASTM C 209	< 1% volume
Flame Spread (foam core)	ASTM E 84	< 50
Service Temperature		-100° to 250°F (-73°C to 122°C)
* Also available in 25 psi minimum, Grade 3		

OTHER POLYISO PRODUCTS BY CARLISLE:

- SECURSHIELD POLYISO BONDED TO COATED GLASS FACER
- HP-CG POLYISO BONDED TO COATED GLASS FACER
- HP-F POLYISO BONDED TO FOIL
- HP-NB POLYISO BONDED TO ORIENTED STRAND BOARD
- HP-WF POLYISO BONDED TO WOOD FIBERBOARD
- TAPERED HP-CG TAPERED POLYISO BONDED TO COATED GLASS FACER
- TAPERED HP-H TAPERED POLYISO
- TAPERED HP-H-WF TAPERED POLYISO BONDED TO WOOD FIBERBOARD



Foamed plastic as roof deck construction material with resistance to an internal fire exposure only for use in construction no.(s) 120 and 123. See UL Directory of Products Certified for Canada and UL Roofing Materials and Systems Directory. 99DL.



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Carlisle SynTec

CARLISLE

MEMBRANE MATERIAL WARRANTY

DATE OF ISSUE:

SAMPLE

Subject to the following terms and conditions, Carlisle Roofing Systems, Inc., (CARLISLE) warrants to the Buyer that the membrane material (MEMBRANE) sold to the Buyer will be free from manufacturing defects at the time of its delivery to the job site.

If upon inspection by Carlisle, the membrane evidences manufacturing defects, Carlisle's liability and Buyer's remedies are limited, at Carlisle's option, to the repair or replacement of the defective membrane at the F.O.B. point in the original contract of sale.

Carlisle further warrants that the Membrane material will not prematurely deteriorate to the point of failure because of weathering for a period of **20 yrs** from the date of sale if properly installed, maintained and used for the purpose for which Carlisle intended.

Buyer shall give Carlisle notice of a claim under this warranty within thirty (30) days of discovering the premature deterioration of the Membrane.

If upon inspection by Carlisle, the Membrane shows premature deterioration because of weathering within the () year period stated herein, Carlisle's liability and Buyer's remedies are limited at Carlisle's option to the providing of repair material for the original Membrane or credit to be applied towards the purchase of a new Membrane, the value of these remedies being determined by Carlisle based upon the number of remaining months of the unexpired warranty used to pro-rate at the current prices for the Membrane. The maximum pro-rated value allowed by Carlisle for repair or credit shall not exceed the original Membrane purchase price.

This warranty refers to the membrane material only. Flashings, adhesives and other accessories contained in a membrane system are not covered by this warranty.

Carlisle shall not be responsible for the cleanliness or discoloration of the membrane material caused by environmental conditions including, but not limited to, dirt, pollutants or biological agents.

NO REPRESENTATIVE OF CARLISLE HAS AUTHORITY TO MAKE ANY REPRESENTATIONS OR PROMISES EXCEPT AS STATED HEREIN.

THERE ARE NO WARRANTIES EITHER EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH EXTEND BEYOND THE WARRANTIES CONTAINED IN THIS DOCUMENT. CARLISLE SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES, INCLUDING BUT NOT LIMITED TO, LOSS OF PROFITS OR DAMAGES TO THE STRUCTURE OR ITS CONTENTS ARISING UNDER ANY THEORY OF LAW WHATSOEVER.

Product Data

CARLISLE'S



SURE-WELD® REINFORCED TPO MEMBRANE



Overview

Carlisle Sure-Weld membrane is a premium heat-weldable single-ply thermoplastic polyolefin (TPO) sheet designed for new roof construction and re-roofing applications. Sure-Weld High Slope (HS) membrane is formulated with additional flame retardant (compared to Standard) for higher-slope fire code approvals. Sure-Weld EXTRA is 72- and 80-mil thicknesses for significantly higher strength and weatherability.

Carlisle's Sure-Weld TPO membrane is based on advanced polymerization technology that combines the flexibility of ethylene-propylene (EP) rubber with the heat weldability of polypropylene. All Sure-Weld TPO membranes include OctaGuard XT™, an industry-leading, state-of-the-art weathering package. OctaGuard XT technology enables Sure-Weld TPO to withstand extreme weatherability testing intended to simulate exposure to severe climates.

Physical properties of the membrane are enhanced by a strong polyester fabric that is encapsulated between the TPO-based top and bottom plies. The combination of the fabric and TPO plies provides Sure-Weld reinforced membranes with high breaking strength, tearing strength and puncture resistance. The relatively smooth surface of Sure-Weld membrane produces a total surface fusion weld that creates a consistent, watertight monolithic roof assembly. The membrane is environmentally friendly and safe to install.

Sure-Weld Standard and HS products are available in highly reflective white, tan and gray, in both 45-mil and 60-mil thicknesses. Sure-Weld EXTRA products (including HS) are available in 72-mil and 80-mil thicknesses in white, gray and tan. Sixteen special colors are also available (see Carlisle's TPO Color Palette brochure). Available widths are 4-, 5- and 6-ft perimeter sheets and 8-, 10- and 12-ft field sheets.

Carlisle's Sure-Weld tan and white TPO membrane can contribute toward LEED® (Leadership in Energy and Environmental Design) credits. Tan and white Sure-Weld are ENERGY STAR®-qualified and California Title 24 compliant.

Features and Benefits

- Outstanding puncture resistance
- Chlorine-free with no halogenated flame retardants
- Plasticizer-free; does not contain liquid or polymeric plasticizers
- Excellent low temperature impact resistance
- Excellent chemical resistance to acids, bases and restaurant exhaust emissions
- Exceptional resistance to heat, solar UV, ozone and oxidation
- Low water vapor permeance and water absorption
- Hot-melt extrusion processed for complete scrim encapsulation
- Warp-knitted fabric (not woven) for smooth surface and greater thickness over scrim
- Sure-Weld is 100% recyclable (refer to Carlisle's Recyclability Statement)

Installation

Sure-Weld Roofing Systems are quick to install as minimal labor and few components are required. The systems may be installed utilizing labor-saving devices that make sheet welding fast, clean, consistent and easy to learn, while reducing strain on the roofing technician.

The Carlisle Mechanically Fastened Roof System installation starts with the insulation fastened with a minimum of 5 fasteners per 4 by 8 ft. board. The Sure-Weld reinforced membrane is mechanically fastened to the deck using HP-X™ Fasteners and Piranha Plates™ or HP-XTRA Fasteners and Piranha XTRA Plates. Adjoining sheets of Sure-Weld membrane are overlapped over the fasteners and plates and joined together with a minimum 1½-inch-(4 cm) wide hot-air weld.

The Carlisle Fully Adhered Roofing System application begins with the insulation fastened at the required density (max. 1 every 2 sq ft) necessary to resist the appropriate wind load. The substrate and membrane are coated with an appropriate Sure-Weld Bonding Adhesive and the membrane is rolled into place.

- * CONSULT CARLISLE SPECIFICATIONS FOR COMPLETE INSTALLATION INFORMATION.

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CARLISLE'S SURE-WELD REINFORCED TPO MEMBRANE

Precautions

1. Sunglasses that filter out ultraviolet light are strongly recommended as tan and white surfaces are highly reflective. Roofing technicians should dress appropriately and wear sunscreen to protect skin.
2. Surfaces may become slippery due to frost and ice buildup. Exercise caution during cold conditions to prevent falls.
3. Care must be exercised when working close to a roof edge when surrounding area is snow-covered as the roof edge may not be clearly visible.
4. Use proper stacking procedures to ensure sufficient stability of the rolls.
5. Exercise caution when walking on wet membrane. Membranes may be slippery when wet.
6. Store Sure-Weld membrane in the original undisturbed plastic wrap in a cool, shaded area and cover with light-colored, breathable, waterproof tarpaulins. Sure-Weld membrane that has been exposed to the weather must be prepared with Weathered Membrane Cleaner prior to hot-air welding.

Curb and walls

Field

Sure-Weld Reinforced TPO Membrane

Typical Properties and Characteristic *

Physical Property	ASTM D6878 Requirement	45-mil	60-mil	72-mil EXTRA	80-mil EXTRA
Tolerance on nominal thickness, % ASTM D751 test method	+15, -10	10	10	10	10
Thickness over scrim, in. (mm) ASTM D6878 optical method, average of 3 areas	0.012 min (0.305)	0.018 typ (0.457)	0.024 typ (0.610)	0.030 typ (0.762)	0.034 typ (0.864)
Breaking strength, lbf (kN) ASTM D751 grab method	220 (976N) min	225 (1.0) min 320 (1.4) typ	250 (1.1) min 360 (1.6) typ	350 (1.6) min 400 (1.8) typ	350 (1.6) min 425 (1.9) typ
Elongation break of reinforcement, % ASTM D751 grab method	15 min	15 min 25 typ	15 min 25 typ	15 min 25 typ	15 min 25 typ
Tearing strength, lbf (N) ASTM D751 proc. B 8 in. x 8 in.	55 (245) min	55 (245) min 130 (578) typ	55 (245) min 130 (578) typ	55 (245) min 130 (578) typ	55 (245) min 130 (578) typ
Brittleness point, F (C) ASTM D2137	-40 (-40) max	-40 (-40) max -50 (-46) typ	-40 (-40) max -50 (-46) typ	-40 (-40) max -50 (-46) typ	-40 (-40) max -50 (-46) typ
Linear dimensional change, % ASTM D1204, 6 hours at 158 F	1 max	1 max -0.2 typ	± 1 max -0.2 typ	± 1 max -0.2 typ	± 1 max -0.2 typ
Ozone Resistance, no cracks 7X ASTM D1149, 100pphm, 168hrs	PASS	PASS	PASS	PASS	PASS
Water absorption resistance, mass % ASTM D471 top surface only 166 hours at 158 F water	3.0 max	3.0 max 2.0 typ	3.0 max 2.0 typ	3.0 max 2.0 typ	3.0 max 2.0 typ
Factory seam strength, lbf/in (kN/m) ASTM D751 grab method	66 (290) min	66 (290) min	66 (290) min	66 (290) min	66 (290) min
Field seam strength, lbf/in (kN/m) ASTM D1876 tested in peel	No requirement	25 (4.4) min 50 (8.8) typ	25 (4.4) min 60 (10.5) typ	40 (7.0) min 65 (11.4) typ	40 (7.0) min 70 (12.3) typ
Water vapor permeance, perms ASTM E96 proc. B	No requirement	0.10 max 0.05 typ	0.10 max 0.05 typ	0.10 max 0.05 typ	0.10 max 0.05 typ
Puncture resistance, lbf (kN) FTM 101C, method 203 (see supplemental section)	No requirement	250 (1.1) min 325 (1.4) typ	300 (1.3) min 350 (1.6) typ	350 (1.6) min 400 (1.8) typ	400 (1.8) min 450 (2.0) typ
Properties after heat aging ASTM D573, 670 hours @ 240 F					
Breaking strength, % retained	90 min	90 min	90 min	90 min	90 min
Elongation reinf., % retained	90 min	90 min	90 min	90 min	90 min
Tearing strength, % retained	60 min	60 min	60 min	60 min	60 min
Weight change, %	1.0 max	1.0 max	± 1.0 max	± 1.0 max	± 1.0 max
Typical Weights		0.23 lb/ft ² (1.1 kg/m ²)	0.29 (1.4)	0.35 (1.7)	0.40 (2.0)

* Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product.

This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

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Product Data

CARLISLE'S

SURE-WELD REINFORCED
TPO MEMBRANE

Extreme Testing For Severe Climates

ASTM Standard D6878 is the material specification for Thermoplastic Polyolefin Based Sheet Roofing. It covers material property requirements for TPO roof sheet and includes initial and aged properties after heat and xenon-arc exposure. As stated in the scope of the standard, "the tests and property limits used to characterize the sheet are values intended to ensure minimum quality for the intended purpose." Carlisle's goal is to produce TPO that ensures maximum performance for the intended purpose of roofing membranes. Maximum performance requires the membrane to far exceed the requirements of ASTM D6878. For severe climates like Miami, FL and Phoenix, AZ, EXTREME testing is required.

Heat Aging accelerates the oxidation rate that roughly doubles for each 10°C (18°F) increase in roof membrane temperature. Oxidation (reaction with oxygen) is one of the primary chemical degradation mechanisms of roofing materials.

Carlisle Extreme Testing – Heat Aging

	ASTM REQUIREMENT		SURE-WELD REQUIREMENT
ASTM TEST	240 F	60 hours or 4 weeks	5,376 hours or 32 weeks*
Carlisle	275 F		
Extreme Test		N/A	1,344 hours or 8 weeks

*Comparable to 1,024 weeks (20 yrs) at 185 F for 6 hrs/day.

- Test specimen is 1" by 4" piece of 45-mil membrane unbacked, placed in circulating hot-air oven.
- Criterion – no visible cracks after bending aged test specimen around 0.25"-diameter mandrel.

Xenon-Arc exposes the membrane samples to the combined effect of ultraviolet, visible and infrared radiation as well as ozone, heat and water spray, to greatly accelerate the effects of outdoor weathering. The radiation dose is measured in kilojoules per square meter (kJ/m²) at 340 nm machine UV wavelength. The irradiance power of the xenon-arc lamp is measured in Watts per square meter (W/m²).

Carlisle Extreme Testing – Xenon-Arc

	SURE-WELD RESULTS				
ASTM TEST	ASTM D6878 REQUIREMENT	60-MIL	80-MIL	45-MIL	72-MIL
kJ/m ² at 340 nm	10,080	20,160	27,720	17,640	25,200

- Test specimen is 2.75" by 5.5" piece of membrane, unbacked, weathering side facing arc lamp.
- Criterion – no visible cracks viewed under 10x magnification while wrapped around 3"-diameter mandrel.

Environmental Cycling subjects the membrane to repeated cycles of heat aging, hot-water immersion or acid fog followed by xenon-arc exposure. The acid fog accelerates acid etching that may occur from acid rain if the roof membrane is not resistant to acidic conditions.

- ASTM requirement – none
- Carlisle EXTREME test*
 - 10 days heat aging at 240°F (116°C) followed by
 - 5 days water immersion at 158°F (70°C) or with another specimen set
 - 5 eight-hour cycles in Kesternich sulfur dioxide chamber (sulfurous acid fog) followed by
 - 5040 kJ/m² (2000 hrs at 0.70 W/m² irradiance) xenon-arc exposure

*Test specimen is 2.75" by 5.5" piece of membrane with edges sealed.

*Criterion – after 3 complete cycles, test specimens shall remain flexible and not have any cracking under 10x magnification while wrapped around a 3"-diameter mandrel.

CARLISLE'S



SURE-WELD REINFORCED TPO MEMBRANE

Supplemental Approvals, Statements and Characteristics:

1. Sure-Weld TPO meets or exceeds the requirements of ASTM D6878 Standard Specification for Thermoplastic Polyolefin Based Sheet Roofing.

2 **Radiative Properties** for ENERGY STAR, Cool Roof Rating Council (CRRC) and LEED.

		White TPO	Tan TPO	Gray TPO
ENERGY STAR initial solar reflectance	Solar Spectrum Reflectometer	0.87	0.68	N/A
ENERGY STAR initial solar reflectance after 3 years	Solar Spectrum Reflectometer (after cleaning)	0.83	0.64	N/A
CRRC initial solar reflectance	ASTM C1549	0.79	0.7	0.46
CRRC solar reflectance after 3 years	ASTM C1549 (uncleaned)	0.70	0.64	0.43
CRRC initial thermal emittance	ASTM C137	0.90	0.86	0.90
CRRC thermal emittance after 3 years	ASTM C1371 (uncleaned)	0.86	0.87	0.88
LEED thermal emittance	ASTM E408	0.95	0.95	0.95
SR (Solar Reflectance Index)	ASTM E1980	110	88	55

Solar Reflectance Index (SRI) is calculated per ASTM E1980. The SRI is a measure of the roof's ability to reject solar heat, as shown by a small temperature rise. It is defined so that a standard black (reflectance 0.05, emittance 0.90) is 0 and a standard white (reflectance 0.80, emittance 0.90) is 100. Materials with the highest SRI values are the coolest choices for roofing. Due to the way SRI is defined, particularly hot materials can even take slightly negative values and particularly cool materials can even exceed 100

LEED Info

Pre-consumer Recycled Content	10%
Post-consumer Recycled Content	0%
Manufacturing Location	Senatobia, MS Tooele, UT
Solar Reflectance Index	110

3. Sure-Weld TPO membranes conform to requirements of the U.S.E.P.A. **Toxic Leachate Test** (40 CFR part 136) performed by an independent analytical laboratory.
4. Sure-Weld reinforced TPO was tested for **dynamic puncture resistance** per ASTM D5635-04 using the most recently modified impact head. 45-mil was watertight after an impact energy of 12.5 J (9.2 ft-lbf) and 60-mil was watertight after 22.5 J (16.6 ft-lbf). Both 72-mil and 80-mil EXTRA products were watertight after an impact energy of 30.0 J (22.1 ft-lbf).

Investing in Roofing Solutions for Over 45 Years

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ENERGY STAR is a registered trademark owned by the U.S. Government. LEED is a trademark of the U.S. Green Building Council.
ENERGY STAR qualification is only valid in the U.S.
REPRINT CODE: 6005 5 - "Sure-Weld Reinforced TPO Membrane Product Data Sheet" - 0505 1 © 20 1 Carlisle

CARLISLE
Carlisle SynTec

TENANT IMPROVEMENT FOR:

△	DESCRIPTION	DATE
	PERMIT	02/6/12
FILE		
JOB		
DWN	CHK	

S1.4

17 OF 19 SHEETS



PLAN NOTES
1. FROM RECORD DRAWINGS

- ① (E) 2x6 @ 16"oc EXTERIOR WALL FRAMING
- ② (E) 19' T.J.L.X @ 48"oc
- ③ (E) 27' T.J.W @ 32"oc
- ④ (E) 19' T.J.L.X @ 48"oc
- ⑤ (E) 27' T.J.W @ 48"oc
- ⑥ (E) 14' T.J.I/35C
- ⑦ (E) 22' T.J.L.X @ 48"oc
- ⑧ (E) H89 4x4 4 MECH EQUIP SCREEN WALL
- ⑨ (E) SHEAR WALLS BELOW



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.....
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- ROOF PLAN LEGEND**
- 15'-0" - TOP OF STRUCTURAL DECK AND TOP OF CURB AT PARAPETS - (T.O.P.) ELEVATION IN FEET 4 INCHES ABOVE FLOOR SLAB.
 - S - DIRECTION OF SLOPE ALONG ROOF.
 - MECH. EQUIP. - SEE MECH. CONTRACT WATER/TIGHT - TYP.
- KEY NOTES SHEET A1.6**
- 3 1/4" DOWNSPOUT
 - 65 LEADER BOX
 - 61 TRANSLUCENT SKYLIGHT
 - 68 TRANSLUCENT PYRAMID SKYLIGHT UNIT
 - 12 ROOF FRAMING - SEE STRUCTURAL DRAWINGS
 - 78 ROOFING SYSTEM OVER CONCRETE TOPPING SLAB OVER METAL DECK
 - 79 ROOFING SYSTEM OVER ELYXWOOD SHEATHING AND INSTALLED BY OWNER
 - 85 MECHANICAL EQUIPMENT - FURNISHED AND INSTALLED BY OWNER
 - 86 MECHANICAL UNIT
 - 15 ALUMINUM LADDER
 - 116 EXHAUST FOR TRAP SYSTEM (FURNISHED AND INSTALLED BY OWNER)
 - 18 ROOF HATCH
 - 71 SCUPERS
 - 200 3'-0" x 3'-0" SUMP AREA AT ROOF DRAIN
 - 21 KIDK PADS
 - 26 GYPSUM BOARD
 - 193 METAL EDGE
 - 220 BASE FLASHING
 - 227 GANT STRIP
 - 228 ROOFING SYSTEM INCLUDES 1/2" COVER BOARD OVER R-4 RIGID INSULATION
 - 226 5 COURSE
 - 217 ALUMINUM PERIMETER FRAME
 - 222 ALUMINUM WINDOW FRAME
 - 224 PREFINISHED SHEET METAL FLASHING
 - 302 SEALANT

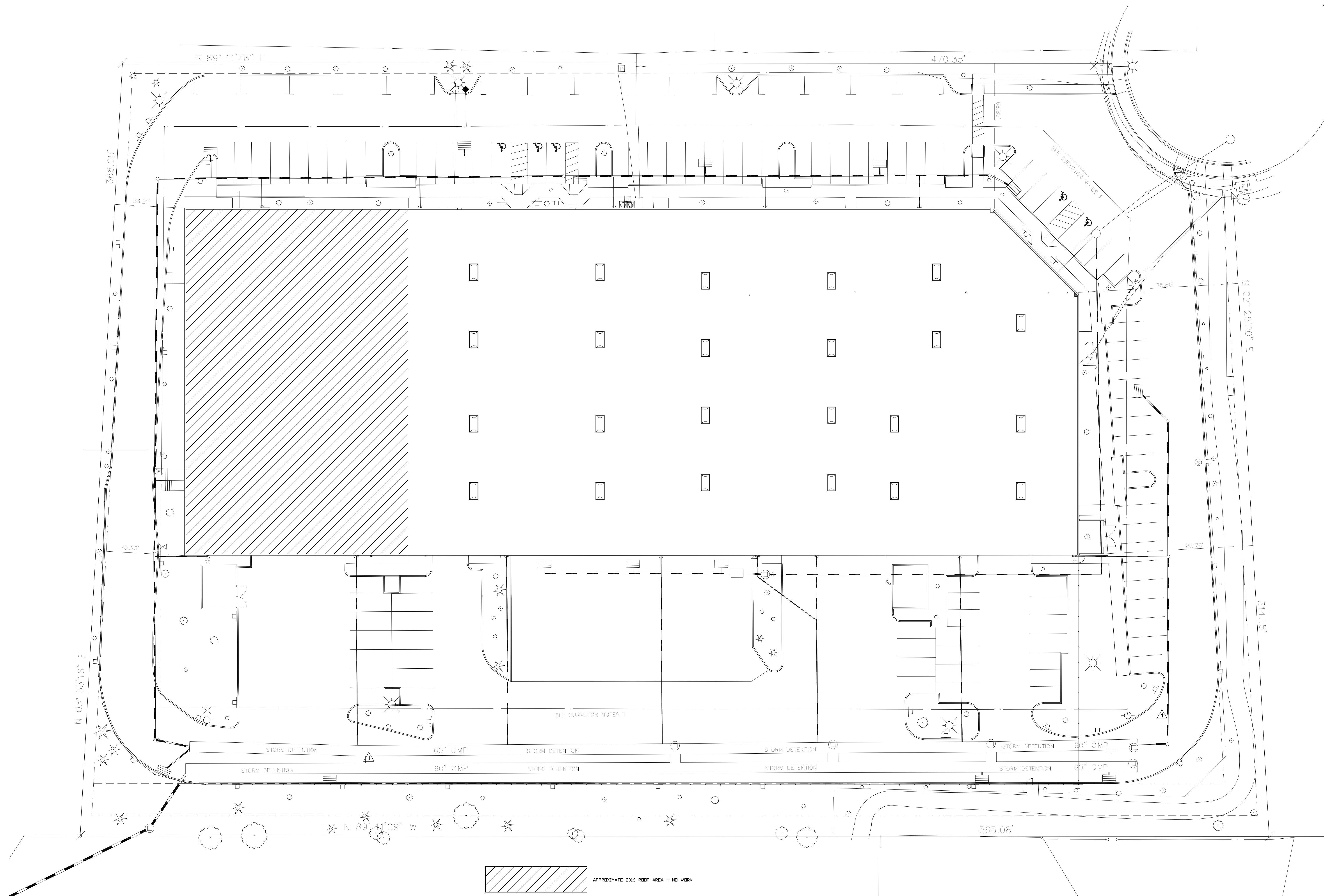
1 SKYLIGHT DETAIL
DIRSKY02 3" = 1'-0"

2 SKYLIGHT DETAIL
DIRSKY03 3" = 1'-0"

ROOF PLAN

1/8" = 1'-0"

ARAI-6RT



SITE PLAN 1
1" = 20'-0"

SILVER OAK BUILDING REROOF PROJECT

CLACKAMAS COUNTY
1810 RED SOILS COURT OREGON CITY, OR 97045

CHECKED BY:
ISSUE DATE: 2014.10.31
PROJECT NO.: 100010

SITE PLAN
A000

CONSTRUCTION DOCUMENTS